



United States Department of the Interior  
Bureau of Land Management

WINNEMUCCA FIELD OFFICE



JAMES HARDIE BUILDING PRODUCTS, INC  
KRAMER HILL QUARTZITE QUARRY

**PRELIMINARY**  
Environmental Assessment  
NV-020-06-EA-22  
DECEMBER 11, 2006

File: N-80629

## **MISSION STATEMENT**

The Bureau of Land Management is responsible for the stewardship of our public lands. It is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people for all times.

Management is based upon the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wildlife, wilderness, air and scenic, scientific and cultural resources.

**ENVIRONMENTAL ASSESSMENT**  
**NV-020-06-EA-22**  
**Kramer Hill Quartzite Quarry**

**TABLE OF CONTENTS**

---

<b>1.0 INTRODUCTION.....</b>	<b>1</b>
1.1 PURPOSE AND NEED .....	2
1.2 PLAN CONFORMANCE.....	3
1.3 RELATIONSHIP TO LAWS, REGULATIONS, AND OTHER PLANS .....	3
1.4 ISSUES .....	4
<b>2.0 DESCRIPTION OF PROPOSED ACTION &amp; ALTERNATIVES.....</b>	<b>4</b>
2.1 PROPOSED ACTION .....	5
2.1.1 Quartzite Quarry.....	5
2.1.2 Equipment.....	5
2.1.3 Product Stockpile Areas .....	6
2.1.4 Access Road .....	6
2.1.5 Operation Schedule and Work Force.....	6
2.1.6 Environmental Protection Measures and Monitoring .....	6
2.2 ALTERNATIVE A: PUBLIC LAND OPTION .....	9
2.2.1 Quartzite Quarry.....	9
2.2.2 Equipment.....	10
2.2.3 Product Stockpile Area.....	10
2.2.4 Access Road .....	10
2.2.5 Operation Schedule and Work Force.....	10
2.2.6 Environmental Protection Measures and Monitoring .....	10
2.3 NO ACTION ALTERNATIVE .....	10
2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS .....	11
<b>3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT.....</b>	<b>11</b>
3.1 AIR QUALITY .....	12
3.1.1 Proposed Action .....	12
3.1.2 Alternative A .....	13
3.1.3 No Action Alternative .....	13
3.2 CULTURAL RESOURCES.....	13
3.2.1 Proposed Action .....	13
3.2.2 Alternative A .....	14
3.2.3 No Action Alternative .....	14
3.3 INVASIVE NON-NATIVE SPECIES.....	14

---

3.3.1	Proposed Action .....	14
3.3.2	Alternative A .....	14
3.3.3	No Action Alternative .....	14
3.4	MIGRATORY BIRDS .....	14
3.4.1	Proposed Action .....	14
3.4.2	Alternative A .....	15
3.4.3	No Action Alternative .....	15
3.5	NATIVE AMERICAN RELIGIOUS CONCERNS .....	15
3.5.1	Proposed Action .....	15
3.5.2	Alternative A .....	16
3.5.3	No Action Alternative .....	16
3.6	GEOLOGY AND MINERALS .....	16
3.6.1	Proposed Action .....	16
3.6.2	Alternative A .....	18
3.6.3	No Action Alternative .....	19
3.7	SOILS .....	19
3.7.1	Proposed Action .....	19
3.7.2	Alternative A .....	21
3.6.3	No Action Alternative .....	21
3.8	VEGETATION RESOURCES .....	21
3.8.1	Proposed Action .....	21
3.8.2	Alternative A .....	22
3.7.3	No Action Alternative .....	22
3.9	WILDLIFE RESOURCES .....	22
3.9.1	Proposed Action .....	22
3.9.2	Alternative A .....	27
3.9.3	No Action Alternative .....	28
3.10	RANGE RESOURCES .....	28
3.10.1	Proposed Action .....	28
3.10.2	Alternative A .....	28
3.10.3	No Action Alternative .....	28
3.11	RECREATION .....	28
3.11.1	Proposed Action .....	28
3.11.2	Alternative A .....	28
3.11.3	No Action Alternative .....	29
3.12	NOISE .....	29
3.12.1	Proposed Action .....	29
3.12.2	Alternative A .....	29
3.12.3	No Action Alternative .....	29
3.13	VISUAL .....	29

---

3.13.1	Proposed Action .....	29
3.13.2	Alternative A .....	30
3.13.3	No Action Alternative .....	31
3.14	<b>SOCIAL AND ECONOMIC VALUES .....</b>	<b>31</b>
3.14.1	Proposed Action .....	31
3.14.2	Alternative A .....	33
3.14.3	No Action Alternative .....	33
<b>4.0</b>	<b>ENVIRONMENTAL CONSEQUENCES .....</b>	<b>33</b>
4.1	<b>AIR QUALITY .....</b>	<b>33</b>
4.1.1	Proposed Action .....	33
4.1.2	Alternative A .....	34
4.1.3	No Action Alternative .....	34
4.2	<b>CULTURAL RESOURCES .....</b>	<b>34</b>
4.2.1	Proposed Action .....	34
4.2.2	Alternative A .....	34
4.2.3	No Action Alternative .....	34
4.3	<b>INVASIVE NON-NATIVE SPECIES .....</b>	<b>34</b>
4.3.1	Proposed Action .....	34
4.3.2	Alternative A .....	35
4.3.3	No Action Alternative .....	35
4.4	<b>MIGRATORY BIRDS .....</b>	<b>35</b>
4.4.1	Proposed Action .....	35
4.4.2	Alternative A .....	35
4.4.3	No Action Alternative .....	35
4.5	<b>NATIVE AMERICAN RELIGIOUS CONCERNS .....</b>	<b>35</b>
4.5.1	Proposed Action .....	35
4.5.2	Alternative A .....	36
4.5.3	No Action Alternative .....	36
4.6	<b>GEOLOGY AND MINERALS .....</b>	<b>36</b>
4.6.1	Proposed Action .....	36
4.6.2	Alternative A .....	36
4.6.3	No Action Alternative .....	36
4.7	<b>SOILS .....</b>	<b>36</b>
4.7.1	Proposed Action .....	36
4.7.2	Alternative A .....	37
4.7.3	No Action Alternative .....	37
4.8	<b>VEGETATION RESOURCES .....</b>	<b>37</b>
4.8.1	Proposed Action .....	37
4.8.2	Alternative A .....	37
4.8.3	No Action Alternative .....	37

---

4.9	WILDLIFE RESOURCES.....	38
4.9.1	Proposed Action .....	38
4.9.2	Alternative A .....	39
4.9.3	No Action Alternative .....	39
4.10	RANGE RESOURCES.....	39
4.10.1	Proposed Action .....	39
4.10.2	Alternative A .....	40
4.10.3	No Action Alternative .....	40
4.11	RECREATION .....	40
4.11.1	Proposed Action .....	40
4.11.2	Alternative A .....	40
4.11.3	No Action Alternative .....	40
4.12	NOISE.....	40
4.12.1	Proposed Action .....	40
4.12.2	Alternative A .....	41
4.12.3	No Action Alternative .....	41
4.13	VISUAL.....	41
4.13.1	Proposed Action .....	41
4.13.2	Alternative A .....	42
4.13.3	No Action Alternative .....	42
4.14	SOCIAL AND ECONOMIC VALUES .....	42
4.14.1	Proposed Action .....	42
4.14.2	Alternative A .....	42
4.14.3	No Action Alternative .....	42
<b>5.0</b>	<b>CUMULATIVE IMPACTS ANALYSIS .....</b>	<b>43</b>
5.1	PAST AND PRESENT ACTIONS .....	43
5.1.1	Mineral Exploration and Mining .....	43
5.1.2	Grazing .....	43
5.1.3	Recreation.....	43
5.1.4	Residential Development.....	43
5.1.5	Road Construction and Maintenance.....	44
5.2	REASONABLY FORESEEABLE FUTURE ACTIONS .....	44
5.2.1	Mineral Exploration and Mining .....	44
5.2.2	Grazing .....	44
5.2.3	Recreation.....	44
5.2.4	Residential Development.....	44
5.2.5	Road Construction and Maintenance.....	44
5.3	CUMULATIVE IMPACTS FOR THE PROPOSED ACTION, ALTERNATIVE, AND NO ACTION ALTERNATIVE .....	45
5.3.1	Air Quality.....	45

5.3.2 Cultural Resources..... 46

5.3.3 Invasive Non-native Species..... 47

5.3.4 Migratory Birds ..... 48

5.3.5 Native American Religious Concerns..... 49

5.3.6 Geology and Minerals ..... 50

5.3.7 Soils ..... 50

5.3.8 Vegetation Resources ..... 51

5.3.9 Wildlife Resources ..... 52

5.3.10 Range Resources ..... 53

5.3.11 Recreation..... 54

5.3.12 Noise..... 55

5.3.13 Visual..... 56

5.3.14 Social and Economic Values ..... 56

**6.0 PROPOSED MITIGATION AND MONITORING ..... 57**

**7.0 CONSULTATION AND COORDINATION ..... 58**

7.1 PUBLIC NOTICE AND AVAILABILITY..... 58

7.2 LIST OF PREPARERS ..... 58

7.2.1 BLM Personnel..... 58

7.2.2 Ecological Land Services, Inc. .... 58

7.2.3 Bennett Consulting, PLLC..... 58

7.2.4 James Hardie Building Products, Inc. .... 58

7.3 PERSONS, GROUPS, OR AGENCIES CONSULTED ..... 59

**8.0 REFERENCES ..... 59**

**LIST OF TABLES**

Table 1–1. Federal, state, and local permits and approvals. .... 4

Table 3–1. Critical elements of the human environment and other biological, physical, and human resources..... 11

Table 3–2. Silica stockpile chemical analysis for sampling between April and June 2005. .... 18

Table 3–3. Potential special status species in or within the vicinity of the project area.. 25

**LIST OF FIGURES**

Figure 1 Vicinity Map

Figure 2 Proposed Action Site Map

Figure 3 Proposed Action Post Mining Topography Map

Figure 4 Alternative A Site Map

Figure 5 Alternative A Post Mining Topography Map

Figure 6 Regional Geology Map

Figure 7 Soil Survey Map

Figure 8 Cumulative Impact Assessment Area Map

## **LIST OF APPENDICES**

Appendix A Nevada Natural Heritage Program Species Information

Appendix B U.S. Fish and Wildlife Service Species Information

Appendix C Visual Contrast Rating Worksheets

Appendix D BLM Recommended Seed Mix

Appendix E Media Distribution List



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## ACRONYMS AND ABBREVIATIONS

ACECs	Areas of Critical Environmental Concern
BLM	Bureau of Land Management
BMP	Best Management Practices
CFR	Code of Federal Regulations
FLPMA	Federal Land Policy and Management Act
James Hardie	James Hardie Building Products, Inc.
LOI	Loss on Ignition
MFP	Management Framework Plan
NEPA	National Environmental Policy Act
NDEP	Nevada Division of Environmental Protection
NDOA	Nevada Department of Agriculture
NDOW	Nevada Department of Wildlife
NPDES	National Pollutant Discharge Elimination System
NNHP	Nevada Natural Heritage Program
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
TSP	Total Suspended Particulates
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management

## **1.0 INTRODUCTION**

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James Hardie Building Products, Inc. (James Hardie) proposes to expand an existing quartzite quarry located in Township 35 North, Range 40 East, section 8, Mt. Diablo Base Line and Meridian. This is approximately 1.5 miles south of the town of Golconda in Humboldt County, Nevada. This expansion is needed to obtain high purity silica quartzite used for building products (Figure 1). James Hardie has submitted a Plan of Operation for the Kramer Hill Quartzite Quarry to the Winnemucca Field Office of the U.S. Bureau of Land Management (BLM). The BLM must comply with the National Environmental Policy Act (NEPA) of 1969 to analyze the impacts that the Proposed Action and possible alternatives would have on the human environment. This Environmental Assessment follows the Council of Environmental Quality regulations for implementing NEPA (40 CFR 1500-1508) and the BLM guidelines for implementing NEPA (BLM 1988).

Mining at Kramer Hill began shortly after the discovery of gold there in 1907. The first ore removed from the site was processed in Golconda. Later a 20-stamp mill was constructed at the site that processed 25,000 to 30,000 tons of ore. Recorded production from these early efforts, which are thought to have ended by 1917, was \$96,000 in gold. This mining was done by underground methods, and prospecting continued in the area after idling of the mine. This prospecting consisted of prospect pits, trenches, and in later years, drilling.

By the mid-1970s, extensive ground disturbance had taken place at the site. In the late 1980s, Pinson Mining Company obtained interests in the property and began additional exploration and disturbance at the site. Their work led to a geologic database that included such works as photogrammetry control surveys, geochemical surveys, metallurgical testing, and engineering studies. In the early 1990s, Pinson Mining Company developed a small open-pit gold mine in the area where underground mining had taken place. About 0.33 million tons of low-grade gold ore was mined from a pit that measures approximately 925 feet long by 200 to 300 feet wide by 175 feet deep. Developments for the mine included a 1.5-mile-long access road, a coarse ore stockpile area, and a waste-rock dump. No processing of material occurred at the site; the ore was transported to other facilities for processing. When these activities ceased, the open pit was fenced, and the waste-rock dump and other areas were reclaimed. Available information indicates that hazardous material has never been stored on-site.

After prospecting the site and conducting drilling under a prospecting permit, James Hardie proceeded to enter into a mineral materials sale through the BLM Winnemucca Field Office. James Hardie began operations in April 2005 for a small-scale, less than 5 acres, categorically excluded quartzite quarry on the south trending ridge descending from the summit of Kramer Hill. Under the Department of the Interior Departmental Manual 516, Chapter 11.5 No. F(10), categorical exclusions are allowed for “disposal of mineral materials such as sand, stone, gravel pumice, pumicite, cinders, and clay, in

amounts not exceeding 50,000 cubic yards or disturbing more than 5 acres, except in riparian areas” (2004). In the existing quarry, topsoil was stripped from the area and stockpiled mainly along its eastern perimeter. The exposed rock was drilled on an approximately 8- by 8-foot pattern, the holes were loaded with explosive, and shot. Following the shot, a stockpile and staging area were leveled and a portable crusher set up. A stockpile of crushed quartzite was then prepared for transport to the James Hardie manufacturing plant in McCarran, Nevada. After transport and processing at McCarran, the material was found to be suitable for use in the production of James Hardie’s products.

James Hardie’s operations to date have been the result of two mineral-materials sales totaling 100,000 tons (50,000 cubic yards), and disturbance of 5 acres or less of public land.

### **1.1 PURPOSE AND NEED**

James Hardie has now submitted an application for a noncompetitive mineral material sale under the provisions of 43 CFR 3600. This application, if approved, would be for a period of up to five years or 200,000 CY (which would equate to 400,000 tons) of material, whichever occurs first. A one-year extension would be allowed, if needed, but would still be limited to the 400,000 tons of material. The timeframe under this application could be up to six years.

The purpose of expanding the existing quartzite quarry is to provide a continuous supply of high-grade silica to the James Hardie plant in McCarran, Nevada for manufacturing fiber cement building products for up to 20 years and a projected 4,000,000 (four million) tons of material.

Under the terms of a noncompetitive sales contract, limiting the amount to 400,000 tons, James Hardie would need to continually apply for a renewal of the noncompetitive sales contract in order to meet their projection of four million tons of material for the 20-year project mine life. Each renewal of a noncompetitive sales contract would be subject to NEPA and the CEQ regulations. James Hardie, could, at any time, request the BLM to make available through the competitive bidding process any amount in excess of the limitations imposed under the regulatory authorities in place for noncompetitive sales contracts.

James Hardie’s goal is to operate and reclaim the project area in an efficient, environmentally responsible, and safe manner.

The BLM’s purpose and need for this environmental analysis is to comply with the National Environmental Policy Act (NEPA), and to evaluate the potential environmental consequences of the Proposed Action and Alternatives. Additionally, a subsidiary purpose of the analysis is to determine if there are reasonable mitigation measures that can be implemented to protect the natural environment from any potential impacts that

may be identified. The EA will serve as a decision-making instrument to assist the BLM in its determination to approve, modify or reject the Proposed Action or Alternatives.

## **1.2 PLAN CONFORMANCE**

The Proposed Action would occur on public lands administered by the BLM following the *Sonoma-Gerlach Management Framework Plan* (MFP) (BLM 1982). The proposed mineral resource conforms to Objectives M-1 and M-3 of the Sonoma-Gerlach MFP, which are as follows:

- **Objective M-1.** Make all public lands and other federally owned minerals available for the exploration and development of mineral and material commodities.
- **Objective M-3.** Provide sand, gravel, and other mineral materials as needed for construction purposes to federal, state, local government, private industries and individuals.

## **1.3 RELATIONSHIP TO LAWS, REGULATIONS, AND OTHER PLANS**

BLM's authority to dispose of sand, gravel, and other mineral and vegetative materials that are not subject to mineral leasing or location under the mining laws is the Materials Act of July 31, 1947, as amended, and the Federal Land Policy and Management Act of 1976 (FLPMA), as amended. The Proposed Action complies with the regulations under 43 CFR 3600, Mineral Materials Disposal. To comply with NEPA, the BLM follows the Department of Interior Departmental Manual 516 Chapter 11 (May 2004).

The project area and its vicinity are zoned M-3 Open Land Use District by Humboldt County. Mining and mineral processing are allowed in the M-3 open space district by conditional use.

The Proposed Action and Alternative described and analyzed in this document are consistent with federal, state, and local laws, regulations, and policies to the maximum extent possible (Table 1-1).

**Table 1–1. Federal, state, and local permits and approvals.**

<b>Permit/Approval</b>	<b>Granting Agency</b>
<b>Federal</b>	
Use of BLM-administered Land	U.S. Department of the Interior, Bureau of Land Management, State Office
Notification of Commencement of Operation	U.S. Department of Labor, Northern Nevada-Mine Safety and Health Administration
<b>State</b>	
Air Quality Operating Permit	Nevada Division of Environmental Protection, Bureau of Air Pollution Control
Annual Status and Production Report	Nevada Commission on Mineral Resources, Division of Minerals
Historic Preservation	Department of Cultural Affairs, Nevada State Historic Preservation Office
Opening and Closing Mines	Nevada Division of Industrial Relations, State Inspector of Mines
Stormwater General Permit Notice of Intent	Nevada Division of Environmental Protection, Bureau of Water Pollution Control
<b>County</b>	
Conditional Use Permit	Humboldt County

## 1.4 ISSUES

Through the public scoping process and internal meetings, the BLM has identified the following issues as important to the public and to state and federal agencies and will be addressed further in the document.

- Air quality;
- Invasive non-native species; and
- Migratory birds.

## 2.0 DESCRIPTION OF PROPOSED ACTION & ALTERNATIVES

The proposed Kramer Hill Quartzite Quarry, generally referred to as the project area in the subsequent text, is located approximately 1.5 miles south of Golconda in Humboldt County, Nevada, in T. 35N, R. 40E, W<sup>1</sup>/<sub>2</sub> sec. 8, Mount Diablo Meridian.

The project area is located along the southwest flank of Kramer Hill at an elevation of about 5,100 feet. The site is accessed by traveling south 1.7 miles on the gravel, county-maintained, Pumpnickel Valley Road from Exit 194-Golconda off Interstate 80, then approximately 1 mile southwest on Pole Creek Road (BLM Road 2079), which is located on public and private land, and then northwest and northeast on a mine access road, which lies on public land. The town of Golconda, with a population of slightly over 400, is separated from the project area by Interstate 80 (Figure 1).

The proposal is divided into three options described below: the Proposed Action, Alternative A, and a No Action Alternative.

## **2.1 PROPOSED ACTION**

James Hardie's Proposed Action includes both public and private lands with an estimated maximum reserve of up to approximately 4,000,000 (four million tons) of material for a projected 20-year mine life.

### **2.1.1 Quartzite Quarry**

The footprint of the existing quarry would be expanded to the north and northwest to develop a 33.3-acre quartzite quarry within a 53.3-acre footprint comprised of both private and BLM public land (Figure 2). The Proposed Action would be comprised of both BLM public land (20.9 acres) and privately owned land (32.4 acres). Included within the total footprint would be two private stockpile areas, totaling approximately 20.0 acres.

Under the Proposed Action, the proposed quarry area would be segmentally stripped and topsoil stockpiled along the perimeter of the cleared areas. The exposed rock would be drilled to a depth and in a pattern based on conditions and experience from previous blasting, charged with explosive, and shot. Following the shot, the material would be trucked to the selected stockpile area and crushed with a portable crusher. Blasting would occur at a rate of two to four events per year. Current quarry operations include crushing and stockpiling and do not use or produce hazardous materials.

The quarry would be developed by lowering the elevation of the ridge along the south side of Kramer Hill, with the final quarry floor at about the 5,040-foot elevation and open to the south (Figure 3).

Although James Hardie does not currently have permission to either mine or stockpile material on the private lands, formal agreements between James Hardie and the private landowners are being negotiated.

### **2.1.2 Equipment**

During active mining, equipment at the site would consist of a rock drill, bulldozer, loader, excavator, water truck, dump trucks, and portable crushing/stockpiling equipment. Only a loader, for loading highway transport trucks, and a water truck, for maintaining

dust control, would remain active on-site once the stockpile is complete after each mining campaign (campaigns would occur approximately once every six months and last for a period of weeks). The portable crusher would be maintained on-site; all other equipment would be serviced off-site. Part of the portable crushing equipment is a 2,000 gallon double-walled diesel tank that directly supplies the crusher. It would be filled by off-site fuel trucks. No permanent structures would be built. A portable toilet serviced by a local contractor and a travel trailer for a watchman would also be temporarily on-site.

### **2.1.3 Product Stockpile Areas**

Under the Proposed Action, an adjacent 9.9-acre area on private land at the base of the hill to the west of the existing quarry and a 10.1-acre area on private land south of the existing quarry would be developed as the product stockpile area (Figure 2). Development of the area would consist of stripping and storing topsoil for use in later reclamation. Material would then be extracted from the quarry and transported to the stockpile area, where it would be crushed, and then either shipped or stockpiled. Once a 6-month to 1-year advance supply of crushed material has been stockpiled, the portable crusher and most of the equipment would be removed from the site. Equipment needed for loading the material into trucks and dust abatement would remain on-site and active.

### **2.1.4 Access Road**

On-site road improvements would include applying rock as needed on the existing access road to the existing quarry to improve the running surface and control drainage and dust, and installing a culvert near the junction of Pole Creek Road (BLM Road 2079) and the access road (Figure 2). Dust abatement and drainage improvements will also be applied to Pole Creek Road (BLM Road 2079) on the portion used for access. A cattle guard was installed on private land at the junction of Pole Creek and Pumpnickel Valley Roads. Pole Creek Diversion Fence, installed in 1955 (BLM project #520697), roughly parallels the Pumpnickel Valley Road through much of privately owned section 9. During peak demand, approximately 48 trucks (including highway transport trucks and water trucks) and 10 passenger vehicles per day would be entering and leaving the site.

### **2.1.5 Operation Schedule and Work Force**

The quarry would operate between the hours of 7:00 am and 7:00 pm with up to five workers employed during a crushing campaign. Approximately ten drivers would be contracted to drive highway transport trucks to and from the McCarran plant. A watchman would be employed to provide security of the site and equipment for the quarry. Some of the workers would be local residents.

### **2.1.6 Environmental Protection Measures and Monitoring**

Environmental protection measures and monitoring for the Proposed Action would include reclamation, cultural resources protection, spill response and control, dust control and air quality management, weed management, sediment control and surface water management, and wildlife and livestock protection.

### *2.1.6.1 Reclamation*

Reclamation would be focused on stabilization, soils management, and protection from soil erosion through the use of recontouring, and revegetation activities where appropriate to meet the reclamation objectives outlined in the BLM Solid Waste Minerals Reclamation Handbook #H-3042-1 (1992).

Reclamation would be done concurrently with the quarrying operation where possible. Topsoil (overburden) would be stockpiled for later application as growth medium after the recontouring of areas where such recontouring is feasible. Necessary measures would be taken to control erosion and water runoff issues brought about by disturbance at the site. Revegetation would be addressed by seeding the reclaimed area with a seed mix approved by the BLM. Monitoring for erosion, runoff, and successful revegetation would be conducted according to provisions of the mineral materials sales contract.

The project area would be reclaimed to prevent invasive annual species, such as cheatgrass, from competing with and allowing for native plants to establish. Following replacement of topsoil, the disturbed area would be seeded with a seed mix recommended by BLM (Appendix D). To begin a successional process that would promote reestablishment of sagebrush at this site, a seed mixture of native and introduced seeds would be used. The seed mixture is best planted in October and November – dragging is recommended to avoid burying seed too deep in the fine-textured soil.

### *2.1.6.2 Cultural Resources Protection and Unanticipated Historic Properties Discovery*

In the event that any cultural resources that may qualify as historic properties are discovered during project construction, potentially destructive activities in the vicinity of the find would be stopped immediately. James Hardie would notify the BLM by telephone, followed by written confirmation of the situation. James Hardie would protect the resources and not proceed with operation in the vicinity of the find until BLM has made an assessment, developed mitigation if needed, and issued a notice to proceed.

Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), James Hardie would stop activities in the immediate vicinity of the discovery and protect it from further activities for 30 days or until notified to proceed by the authorized officer.

### *2.1.6.3 Spill Response and Control*

No fuel or hazardous materials would be stored on the project area. The amount of petroleum products stored on-site would be limited to what is contained in the mobile equipment, such as the portable crusher's 2,000 gallon double-walled diesel tank. Trucks and passenger vehicles would be fueled and lubricated at a service station where preventative leak maintenance and checks would be performed. If leaks or drips are



discovered, they would be repaired immediately. If a vehicle accident occurs on-site that could involve a fuel or oil spill or if a fuel spill from the refilling of mobile mine equipment occurs, the procedure described in the on-site Emergency Response Plan would be followed. James Hardie would be responsible for implementing the Emergency Response Plan and for educating quarry personnel in emergency response procedures. Additionally, as a component of the National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit, a Spill Prevention and Control Plan would be developed and implemented to prevent spills from happening.

#### *2.1.6.4 Dust Control and Air Quality Management*

James Hardie's mine contractor, Good, Inc., has obtained an Air Quality Operating Permit issued by the Nevada Division of Environmental Protection (NDEP) Bureau of Air Pollution Control to operate aggregate preparation and transfer equipment at the existing quarry (Location Approval #2016). James Hardie would ensure that all subcontractors obtain all necessary permits. James Hardie's mine contractor, Good, Inc., would continue to follow the conditions of the permit under the Proposed Action and would renew location approval as necessary to remain in compliance. To control fugitive dust, water would be applied to the existing access road and quarry operation with a water truck, using water obtained from the town of Golconda. The portable rock crusher currently operating on-site, in conjunction with the mineral materials sale agreement with the BLM, has been issued a Class II General Air Quality Operating Permit by the NDEP Bureau of Air Pollution Control (No. AP1442-1530). Reclamation would occur concurrently where possible during the life of the mining activity to limit disturbed areas and further reduce fugitive dust. Cleared areas would be stabilized with permanent, native vegetation or beneficial non-native vegetation as each mining area is completed, as possible, to reduce the disturbed soil's susceptibility to wind erosion. The dirt roads and stockpile area would be monitored and preventative measures taken, as necessary, to control fugitive dust. Additionally, the portable crusher would use sprayed water to limit dust from crushing activities. Mining and crushing currently are suspended during high-wind periods, and this practice would continue, as conditions dictate, as the operations move further downslope.

#### *2.1.6.5 Weed Management*

It is expected some invasive non-native species would establish themselves on disturbed areas. The BLM's recommended seed mix used in reclamation would contain species that would eventually out-compete the invasive species (Appendix D). Any noxious weeds would be dealt with in a method approved by the BLM to prevent their establishment and spread. Any noxious weeds would be controlled following applicable federal and state regulations. The on-site weed management would follow BLM and state requirements, including:

- Implementing a weed control program to control noxious weeds (NDOA 2005) if found during mining and/or after the project area is reclaimed;
- Using certified weed-free straw for erosion control as necessary; and

- Using a BLM-approved and certified weed-free seed mix for reclamation.

#### *2.1.6.6 Sediment Control and Surface Water Management*

Stormwater management would follow the erosion control measures, structural controls, maintenance program, and additional Best Management Practices (BMPs) in the Stormwater Pollution Prevention Plan prepared and implemented prior to proposed operations under the Proposed Action. The plan would be prepared prior to the submission of the Notice of Intent in the process of obtaining the Stormwater General Permit from the NDEP, Bureau of Water Pollution Control, and would be revised as the project progresses.

Methods used to control the displacements of sediments would include, but would not be limited to:

- Seeding berms and other diversion structures that would be in place for sustained periods with a BLM-approved seed mixture (Appendix D);
- Reclaiming disturbed areas concurrently, where possible, as each area is mined;
- Stabilizing reclaimed areas with a BLM-approved seed mixture (Appendix D);
- Constructing roads and conducting maintenance to limit and control the amount of run-on/run-off associated with the roadway;
- Installing diversionary features to divert and diffuse run-off into surrounding, undisturbed areas; and
- Installing sediment basins, silt fences, and/or straw bale dams in areas requiring additional sediment and erosion control.

#### *2.1.6.7 Wildlife Habitat and Livestock Protection*

Impacts to habitat and forage would be minimized with concurrent reclamation, where possible, and by utilizing existing roads and previously disturbed surfaces to the most practical extent possible. Off-road vehicle use would be discouraged in the project area to prevent unnecessary additional loss of habitat.

The Diamond S Allotment authorizes 201 cattle. Livestock use of the project area would be minimal; steeper slopes and work activities would restrict livestock access to the project area.

## **2.2 ALTERNATIVE A: PUBLIC LAND OPTION**

### **2.2.1 Quartzite Quarry**

If James Hardie is not able to obtain permission from the private landowner (which includes the mineral estate), the proposed mining operations would be limited to public lands as shown on Figure 4. The footprint of the existing quarry would be expanded primarily to the north to develop an approximately 30.1-acre quartzite quarry within an approximately 40.8-acre footprint, located entirely on public land (Figures 4 and 5). Included within the total footprint would be one public stockpile area, totaling approximately 10.7 acres.

In Alternative A, the proposed quarry area would be segmentally stripped and topsoil stockpiled along the perimeter of the cleared areas. The exposed rock would be drilled to a depth and in a pattern based on conditions and experience from previous blasting, charged with explosive, and shot. Following the shot, the material would be trucked to the stockpile area on public lands and crushed with a portable crusher. Current quarry operations include crushing and stockpiling and do not use or produce hazardous materials.

### **2.2.2 Equipment**

The equipment for Alternative A would be the same as that described under the Proposed Action.

### **2.2.3 Product Stockpile Area**

Alternative A would develop a 10.7-acre product stockpile area on BLM land, to the west of the existing quarry (Figure 4). Development of the stockpile area would consist of stripping and storing topsoil for use in later reclamation. Material would then be extracted from the quarry and transported to the stockpile area, where it would be crushed, and then either shipped or stockpiled. Once a 6-month to 1-year supply of crushed material has been stockpiled, the portable crusher and most of the equipment would either be removed from the site or idled. Equipment needed for loading the material into trucks and dust abatement would remain on-site and active.

### **2.2.4 Access Road**

On-site road improvements for Alternative A would be the same as described under the Proposed Action.

### **2.2.5 Operation Schedule and Work Force**

The quarry operations and work force for Alternative A would be the same as described under the Proposed Action.

### **2.2.6 Environmental Protection Measures and Monitoring**

The environmental protection measures and monitoring would include those described under the Proposed Action.

## **2.3 NO ACTION ALTERNATIVE**

Under the No Action Alternative, currently permitted activities would cease and the existing quarry would be fully reclaimed per BLM regulations. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## 2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

James Hardie considered the possibility of trying to construct a quarry completely on the private land within the patented claims in the area. Difficulties and delays in obtaining the mining rights to the property and the lack of access for exploration left James Hardie unable to determine if this alternative would provide suitable material in the quantity needed.

## 3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

The following section describes the affected physical, biological, and human resources within the project area. Fifteen critical elements of the human environment must be considered in the Proposed Action and alternatives in all environmental assessments according to the BLM NEPA Handbook (1988) and applicable statutes, regulations, executive orders, or state guidelines. Table 3-1 lists the critical elements and whether they are present and affected or not affected within the project area.

**Table 3–1. Critical elements of the human environment and other biological, physical, and human resources.**

Critical Element	Not Present	Present Not Affected	Present Affected	Reference Sections
Air Quality			Present Affected	3.1, 4.1, 5.3.1
Areas of Critical Environmental Concern (ACECs)	Not Present			Not applicable
Cultural Resources			Present Affected	3.2, 4.2, 5.3.2
Environmental Justice	Not Present			Not applicable
Floodplains	Not Present			Not applicable
Invasive Non-native Species			Present Affected	3.3, 4.3, 5.3.3
Migratory Birds			Present Affected	3.4, 4.4, 5.3.4
Native American Religious Concerns		Present Not affected		3.5, 4.5, 5.3.5
Prime or Unique Farmlands	Not Present			Not applicable
Threatened and Endangered Species	Not Present			Not applicable

Hazardous or Solid Wastes	Not Present	Not applicable
Water Quality (Surface and Ground)	Present Not affected	During the exploration of the project, groundwater has not been encountered and is not anticipated to be encountered during the life of the project.
Wetlands and Riparian Zones	Not Present	Not applicable
Wild and Scenic Rivers	Not Present	Not applicable
Wilderness	Not Present	Not applicable
<b>Other Resources</b>		
Geology and Minerals	Present Affected	3.6, 4.6, 5.3.6
Soils	Present Affected	3.7, 4.7, 5.3.7
Vegetation Resources	Present Affected	3.8, 4.8, 5.3.8
Wildlife Resources	Present Affected	3.9, 4.9, 5.3.9
Range Resources	Present Affected	3.10, 4.10, 5.3.10
Recreation	Present Affected	3.11, 4.11, 5.3.11
Noise	Present Affected	3.12, 4.12, 5.3.12
Visual	Present Affected	3.13, 4.13, 5.3.13
Social and Economic Values	Present Affected	3.14, 4.14, 5.3.14

### 3.1 AIR QUALITY

#### 3.1.1 Proposed Action

The project area is characterized as semi-arid with cool and dry winters (after Köppen’s classification system). The average total precipitation is approximately 7 inches in nearby Golconda, mostly accumulating during the winter and spring months (WRCC 2006). The average annual temperature is 50°F, and ranges from an average low of 34.3°F to a high of 65.7°F. Wind speed averages about 10 mph and is generally from the north (Pinson Mining Company 1990).

The existing air quality within the project area and its vicinity is typical of the large undeveloped regions of the western United States. Total suspended particulates (TSP)

are the main pollutant of air quality concern. The Nevada standard for ambient air is consistent with the national standard at 150 micrograms/m<sup>3</sup> averaged over a 24-hour period. Data from the Battle Mountain monitoring station show no TSP concentration exceedances from anthropogenic causes between 1992 and 2003 according to the 2003 State of Nevada Bureau of Air Quality Planning Trend Report. High winds can naturally increase TSP levels as they blow across the desert landscape and dry playas. Both natural and anthropogenic causes of surface disturbance can also increase TSP levels. Increased wind speeds combined with surface disturbance further elevates TSP concentrations. Agricultural operations, most active during the spring and fall, and traffic along unpaved roads are common sources of anthropogenic surface disturbance. Hydrocarbons are considered negligible as a pollutant because of the small number of emission sources in the area – principally vehicular emissions. Operations within the current BLM mineral sale are active quarrying and crushing of quartzite that complies with air quality standards. These existing operations, including stockpiles, are located on the crest of the ridge south of the summit of Kramer Hill where they are subject to cross winds. Under the Proposed Action, stockpiles and all crushing activities would leave the ridge crest and move downslope to more protected areas.

### **3.1.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.1.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.2 CULTURAL RESOURCES**

### **3.2.1 Proposed Action**

MACTEC Engineering and Consulting, Inc. staff conducted a Class III inventory as defined by BLM guidelines (Barker 1990) of the project area during August and September 2005 (MACTEC 2006). In the course of the inventory, six isolated cultural resources were encountered. The six isolates include four 5-gallon utility cans (two found together); one small, worn horseshoe; one small, hand-dug prospect; and one metamorphic stone bifacial core. This last artifact is a prehistoric object of unknown age; the others are historic in age and probably date from the early to middle twentieth century. One of the utility cans is stamped “ELAINE,” suggesting the can held oil or kerosene. Another of the cans is stamped with a large design on the bottom, but it is unidentified as to maker.

In addition to the six isolates of prehistoric or historic age, seven modern-era prospect trenches were encountered within the project area. These were scattered near the top of the hill, on the west flank, and all are long narrow trenches that have been machine dug. They range in length from 12 to 50 feet, in width from 3 to 7 feet, and in depth from 2 to 4 feet, with berms along one or two sides. An 18- by 18- by 3- foot machine-dug prospect was located in the private product stockpile area south of the proposed quarry.

### **3.2.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.2.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.3 INVASIVE NON-NATIVE SPECIES**

### **3.3.1 Proposed Action**

No noxious weeds per the State Noxious Weed List (NDOA 2005) were observed in the project area during the botanical surveys. Common noxious weeds in the vicinity of the project area include Russian knapweed (*Acroptilon repens*) and hoary cress (*Cardaria draba*), which are Category B weeds on the State Noxious Weed List, and perennial pepperweed (*Lepidium latifolium*), which is a Category C weed (Messmer 2005; NDOA 2005). Invasive non-native species, but none identified as noxious weeds, are present within the project area.

### **3.3.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.3.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.4 MIGRATORY BIRDS**

### **3.4.1 Proposed Action**

The project area has vegetative communities characterized by salt desert shrub and/or sagebrush species. Migratory birds associated with these vegetative communities may include: black-throated sparrow (*Amphispiza bilineata*), Brewer's blackbird (*Euphagus*

*cycnocephalus*), Brewer's sparrow (*Spizella breweri*), burrowing owl (*Athene cunicularia*), canyon wren (*Catherpes mexicanus*), gray flycatcher (*Empidonax wrightii*), green-tailed towhee (*Pipilo chlorurus*), loggerhead shrike (*Lanius ludovicianus*), rock wren (*Salpinctes obsoletus*), sage sparrow (*Amphispiza belli*), sage thrasher (*Oreoscoptes montanus*), western meadowlark (*Sturnella neglecta*), and vesper sparrow (*Pooecetes gramineus*) (50 CFR 10.13).

Raptors that the NDOW has mapped and/or located within 5 miles of the project area include: prairie falcon (*Falco mexicanus*), golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginianus*), and two *accipiter* species (Cooper's hawk and Northern goshawk), which are most likely to be found closer to the foothills of the Sonoma Range to the west of Pole Creek (Phenix 2005). Common ravens (*Corvus corax*) are a resident species of the Great Basin and a pair has been observed nesting in the cliffs of the former Pinson open-pit gold mine on private land claims adjacent to the proposed project area.

The prairie falcon, Northern goshawk, golden eagle, burrowing owl, loggerhead shrike and vesper sparrow have been designated BLM sensitive species.

Migratory birds are protected and managed under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703 *et seq.*), which prohibits the disturbance of nests with eggs or young and the killing of these species, and by Executive Order 13186, which directs federal agencies to promote the conservation of migratory bird populations. A complete migratory bird inventory has not been undertaken for the Proposed Action (Detweiler 2005).

### **3.4.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.4.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.5 NATIVE AMERICAN RELIGIOUS CONCERNS**

### **3.5.1 Proposed Action**

Kramer Hill is located in the traditional territory of Northern Paiute and Western Shoshone peoples. Available ethnographic data does not indicate this is an area of significant native American traditional or religious importance. A notification letter was sent to the Battle Mountain Band Council and the Winnemucca Tribal Council describing the Proposed Action and inviting them to express concerns. In response to the



notification letter, the Battle Mountain Band Council requested a site visit, which was conducted on September 29, 2005. While the council did not identify the area as having traditional or religious importance, they expressed concerns about possible negative effects to air quality and the use of non-native species, particularly forage kochia, in the proposed reclamation seed recipe. The impacts to air quality and associated mitigation measures have been discussed under the Description of Proposed Action.

### **3.5.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action.

### **3.5.3 No Action Alternative**

Under the No Action Alternative, current activities would cease and the existing quarry would be reclaimed.

## **3.6 GEOLOGY AND MINERALS**

### **3.6.1 Proposed Action**

Kramer Hill is an isolated rise that is the southwestern projection of the Osgood Mountains, a northeast trending range that lies principally northeast of the town of Golconda and north of Interstate 80 (Figure 6). Kramer Hill is underlain by the Osgood Mountains quartzite (Com), which is of lower Cambrian age, (550 million years old) and is the oldest stratigraphic formation exposed in this part of Northern Nevada. This unit is primarily pure quartzite that is white to light gray, with shades of pale green, brown or purple depending on impurities, principally hematite. The quartzite is fine-to-medium grained, uniform in composition, and thin bedded to massive. Cross bedding is common, as are greenish micaceous partings up to 10 cm thick. The depositional environment of the Osgood Mountains Quartzite is interpreted as an ancient near shore marine/beach environment with a deeply weathered/winnowed source area similar to the geologic environment along the coastline of the southeastern U.S. today.

The uppermost portion of the Osgood Mountains Quartzite is called the Twin Canyon Member (Ctc), which is a discontinuous unit of interbedded phyllitic shale and impure quartzite. The quartzite beds are thicker and more abundant in the lower part of the Twin Canyon and give way to phyllite dominating the upper part. This feature suggests that this unit is transitional between the main part of the Osgood Mountains Quartzite and the overlying Preble Formation of Middle Cambrian age. The thickness of the combined Osgood Mountain Formation is unknown as its base is not exposed. The thickness in the Golconda quadrangle, however, has been estimated at more than 5,000 feet, with the Twin Canyon member up to 1,500 feet thick (Hotz and Wilden 1964).

The Preble Formation (Cp) overlies the Osgood Mountain Formation and consists of dark gray phyllitic shale with limestone interbeds of upper Cambrian to lower Ordovician age (500 million years old), and is interpreted to represent a deepening of the sedimentary environment. The Twin Canyon member likely represents the change to a gradually

encroaching sea and gradually sinking seafloor, which culminated in the deposition of the Preble Formation shales.

Also encountered in the project area are much younger volcanic rocks including local welded and non welded quartz diorite tuffs (Tt) and (Tr) of Miocene age (15 million years old) that underlie areas to the west and Kramer Hill. Pliocene age (3 million years old) basalt flows (Tb) occur southeast of Kramer Hill, which consist both of vesicular units and dense, black, olivine bearing flows.

Along the flanks of Kramer Hill are fan-gravel deposits of Pleistocene age (Qg) (10,000 to 2,000,000 years old) and within the drainages is Recent alluvium (less than 10,000 years old) composed of silt, sand, and clay that occurs along the Humboldt River floodplain and its tributaries.

### *3.6.1.1 Structure*

The geologic environment that led to the deposition of a thick wedge of marine sediments (Osgood Mountains and Preble Formations) changed in late Devonian time (360 million years ago) when crustal compression during the Antler Orogeny created an upland in the area. This compression and subsequent crustal compression during the Permian/Triassic Sonoma Orogeny (240 million years ago) created large-scale thrust sheets where older deep marine sediments were thrust atop younger shallow marine units. The crustal shortening and thrust faulting created the highly folded and contorted sedimentary beds now observed in the Osgood Mountains Quartzite and may account for its thickness. As a result of thrust faulting, the Paleozoic marine sediments in northern Nevada were transported several tens of miles from the west to east. Thus, the quartzite now present on Kramer Hill was actually deposited several tens of miles to the west of its current location.

Beginning in late Eocene time (40 million years ago), crustal extension began to take place, which led to the creation of the present day basin and range physiography. Widespread volcanic activity also began, not only as a result of extension but also by subduction of oceanic plates beneath the North American plate, and in northern Nevada, by motion of the crust over the Yellowstone hot spot in the mantle. Numerous precious metal ore deposits formed at this time as a result of hydrothermal activity related to the volcanism. The present day configuration of the Kramer Hill quartzite deposit is thus the result of both crustal compression, which created a contorted highly folded deposit, followed by crustal extension, which exposed this occurrence in the isolated knob formed by Kramer Hill.

### *3.6.1.2 Mineralogy and Chemistry*

The existing and proposed excavation activities would be within the Osgood Mountains quartzite, which consists of nearly pure quartz with minor accessory minerals. Microscopic examination shows that in typical specimens more than 90 percent of the grains are quartz with rare grains of chert and feldspar. Other primary constituents are

limited to a few detrital grains of “heavy” minerals including most commonly zircon and tourmaline with some sphene. Approximately 10 percent of the grains are feldspar, most commonly orthoclase with less albite. The feldspar grains are partly replaced by sericite and some muscovite is also present. The clastic grains are bonded by secondary quartz with some sericite and hematite in the groundmass (Hotz and Wilden 1964).

Sericite and chlorite also replace quartz in the groundmass as well as hematite in some samples. The thin shaly or phyllitic partings between quartzite beds are composed of angular to subrounded quartz grains loosely packed in a matrix of sericite, chlorite and silica, which probably was original silty material (Hotz and Wilden 1964).

The chemistry of the quartzite that has been mined to date is displayed on Table 3-2. Typically the material averages about 94 percent SiO<sub>2</sub>, 2.5 percent Al<sub>2</sub>O<sub>3</sub>, 1.0 percent K<sub>2</sub>O, 1.0 percent Fe<sub>2</sub>O<sub>3</sub>, 1.0 percent loss on ignition (LOI), and about 0.5 percent other trace oxides. This is consistent with the reported microscopic analysis as nearly all of the rock is composed of quartz and quartz cement; the Al<sub>2</sub>O<sub>3</sub>, K<sub>2</sub>O, and LOI, would be tied up in sericite and muscovite, and the Fe<sub>2</sub>O<sub>3</sub>, would occur as hematite as reported. The other trace elements are also consistent with the trace elements observed microscopically.

The quartzite material is virtually devoid of pyrite or other sulphide minerals, reported as SO<sub>3</sub> in the geochemical analyses. The lack of sulphide minerals indicates that this material has a negligible potential for acid rock drainage and thus lacks a vehicle for heavy metal dispersion, if any were present. The typical purity of the quartzite material is a requirement in the James Hardie manufacturing process, and thus only this type of material would be mined and processed (Table 3-2).

**Table 3–2. Silica stockpile chemical analysis for sampling between April and June 2005<sup>1</sup>.**

Average Percent (%)											Average ppm <sup>2</sup>	LOI <sup>3</sup>	Sum of Conc.
SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	MgO	SO <sub>3</sub>	Na <sub>2</sub> O	K <sub>2</sub> O	TiO <sub>2</sub>	Mn <sub>2</sub> O <sub>3</sub>	P <sub>2</sub> O <sub>5</sub>	Cr <sub>2</sub> O <sub>3</sub>		
93.93	2.39	1.03	0.40	0.10	0.00	0.27	0.84	0.10	0.017	0.02	533	0.89	100.02

<sup>1</sup> Chemical analysis based on 15 samples of silica collected between April 30 and June 20, 2005 for a total of 22,335.6 tons of silica.

<sup>2</sup> ppm – parts per million

<sup>3</sup> LOI – loss on ignition

### 3.6.2 Alternative A

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite

material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.6.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.7 SOILS**

### **3.7.1 Proposed Action**

In general, soils occurring within and around the project area are well-drained and often dry. Most are derived from old alluvial fan deposits, except for the Soughe-Hoot association (mapping unit 655) that formed from residuum and colluvium of metamorphic and volcanic rocks. Most textures are fine sandy loam with some silt loams. Nearly all soils in each association are gravelly or cobbly to some degree.

The soils mapped on the project area and its vicinity are (Figure 7; USDA 2002):

- Beeox-Oxcorel association (mapping unit 190)
- Soughe-Hoot association (mapping unit 655)
- Sodhouse-Golconda association (mapping unit 690)
- Snapp-Oxcorel association (mapping unit 750)

#### *Beeox-Oxcorel association (mapping unit 190)*

This association is found in the remnants of old fan deposits. Beeox Series consists of very deep, moderately well-drained soils that formed in alluvium of mixed rock source, loess, and volcanic ash. In this association, the Beeox is a cobbly silt loam on slopes of 2 to 4 percent and it makes up about 50 percent of the map unit. The Oxcorel Series consists of very deep, well-drained soils that formed in alluvium of mixed rock source and loess. In this association, the Oxcorel is a gravelly silt loam on slopes of 2 to 4 percent and it makes up about 35 percent of the map unit. The remaining 15 percent is composed of various inclusions of different soils that are similar in origin and characteristics.

Both Beeox and Oxcorel are usually dry, but may be moist in late winter and early spring. The Beeox-Oxcorel association is not suited for crops or pasture and has a limitation rating of “poorly suited” for rangeland seeding because it is too arid and has an excess of sodium. The wind erosion hazard is moderate and the water erosion hazard is slight.

#### *Soughe-Hoot association (mapping unit 655)*

This association is found in mountains occupying summits and backslopes. Soughe Series consists of shallow, well-drained soils that formed in residuum and colluvium from metamorphic and volcanic rocks. In this association, the Soughe is an extremely gravelly fine sandy loam on slopes of 15 to 50 percent and it makes up about 60 percent of the map unit. The Hoot Series consists of shallow, well-drained soils that formed in

residuum and colluvium from metamorphic and volcanic rocks. In this association, the Hoot is a very cobbly loam on slopes of 15 to 50 percent and it makes up about 25 percent of the map unit. The remaining 15 percent is composed of various inclusions of different soils that are similar in origin and characteristics.

Both Soughe and Hoot are usually dry, but may be moist in winter and early spring. The Soughe-Hoot association is not suited for crops or pasture and has a limitation rating of “poorly suited” for rangeland seeding because it is too arid, droughty, and contains stones. The wind erosion hazard is slight and the water erosion hazard is slight or moderate.

*Sodhouse-Golconda association (mapping unit 690)*

This association is found in the remnants of old fan deposits. Sodhouse Series consists of shallow to duripan, well-drained soils that formed in alluvium of mixed rock source with some influence from loess and volcanic ash. In this association, the Sodhouse is very stony very fine sandy loam on slopes of 2 to 8 percent and it makes up about 45 percent of the map unit. The Golconda Series consists of moderately deep to duripan, well-drained soils that formed in mixed alluvium with a mantle of loess high in volcanic ash. In this association, the Golconda is a very fine sandy loam on slopes of 2 to 8 percent and it makes up about 40 percent of the map unit. The remaining 15 percent is composed of various inclusions of different soils that are similar in origin and characteristics.

Sodhouse is usually dry, but may be moist in winter and early spring. Golconda is moist in winter and spring and dry from May to October. The Sodhouse-Golconda association is not suited for crops or pasture and has a limitation rating of “poorly suited” for rangeland seeding because it is too arid, droughty, and has excess sodium and other salts. The wind erosion hazard is moderate and the water erosion hazard is slight.

*Snapp-Oxcorel association (mapping unit 750)*

This association is found in the remnants of old fan deposits. Snapp Series consists of very deep, well-drained soils that formed in alluvium of mixed rock. In this association, the Snapp is very fine sandy loam on slopes of 2 to 8 percent and it makes up about 50 percent of the map unit. The Oxcorel Series consists of very deep, well-drained soils that formed in alluvium of mixed rock with some influence from loess. In this association, the Oxcorel is a gravelly very fine sandy loam on slopes of 2 to 8 percent and it makes up about 40 percent of the map unit. The remaining 10 percent is composed of various inclusions of different soils that are similar in origin and characteristics.

Both Snapp and Oxcorel are usually dry, but may be moist in winter and early spring. The Snapp-Oxcorel association is not suited for crops or pasture and has a limitation rating of “poorly suited” for rangeland seeding because it is too arid, has excess sodium, and has a poor rooting depth. The wind erosion hazard is moderate and the water erosion hazard is slight.

### 3.7.2 Alternative A

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### 3.6.3 No Action Alternative

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## 3.8 VEGETATION RESOURCES

### 3.8.1 Proposed Action

The project area is located within the Basin and Range Physiographic Province and is characterized by two shrub communities—one dominated by saltbrush and another dominated by sagebrush. The project area has been previously disturbed by past mining and reclamation. The western slope of Kramer Hill is more heavily disturbed by the previous mining activities. The structure and composition of the two plant communities are described below.

The saltbrush community is located along the lower western slope of Kramer Hill, in an area that is more heavily disturbed than other portions of the project area. The saltbrush community is dominated by shadscale saltbrush (*Atriplex confertifolia*) and Sandberg bluegrass (*Poa secunda*). Shadscale saltbrush is more common in the reclaimed areas, due to it being a component of the reclamation mixture. Yellow rabbitbrush (*Chrysothamnus viscidiflorus*), Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), and spiny hopsage (*Grayia spinosa*) are subordinant, but important shrubs within the shadscale community. Bud sagebrush (*Picrothamnus desertorum*, formerly *Artemisia spinescens*) and horsebrush (*Tetradymia* sp.) are infrequent shrubs throughout the saltbrush community. Except for Sandberg bluegrass, grasses and forbs are randomly distributed and primarily consist of cheatgrass (*Bromus* sp.), bottlebrush squirreltail (*Elymus elymoides*), bur buttercup (*Ranunculus testiculatus*), fiddleneck (*Amsinckia* sp.), tansy mustard (*Descurainia* sp.), and clasping pepperweed (*Lepidium perfoliatum*).

The sagebrush community more prevalent on the upper western and southeastern slopes of Kramer Hill and the proposed stockpile areas are dominated by Wyoming big sagebrush and Sandberg bluegrass. Spiny hopsage and shadscale saltbrush are subordinant, but important shrubs within the sagebrush community. Yellow rabbitbrush, bud sagebrush, and Mormon tea (*Ephedra* sp.) are infrequent shrubs throughout this community. Yellow rabbitbrush is common along the ridge within the proposed quarry area. Infrequent grasses and forbs within the sagebrush community include cheatgrass, bottlebrush squirreltail, tansy mustard, clasping pepperweed, fiddleneck, and Indian

paintbrush (*Castilleja* sp.). Bur buttercup and clasping pepperweed are common herbaceous species in the proposed stockpile areas.

Previous reclamation of 21 acres of west-facing slopes by Pinson Mining Company utilized a mixture (12 pounds per acre) of Siberian wheatgrass (*Agropyron fragile*), fourwing saltbrush, Nezapar Indian rice grass (*Achnatherum hymenoides*), yellow blossom sweet clover (*Melilotus* sp.), globemallow (*Sphaeralcea* sp.) and shadscale. Bond release was obtained in 1997. Vegetative surveys of this area in May and August of 2005 indicate poor survival of all but shadscale saltbrush and invasion of the reclaimed area by annual cheatgrass.

The Major Lands Resource Area data (NRCS 2003) describes the potential native vegetation of the project area as comprised of the following plant communities:

1. Wyoming big sagebrush-spiny hopsage/Thurber's needlegrass-Indian ricegrass;
2. spiny hopsage-bud sagebrush/desert needlegrass-bottlebrush squirreltail;
3. shadscale-bud sagebrush/Indian ricegrass; and/or
4. Wyoming big sagebrush/Thurber's needlegrass.

Although the plant communities within the project area have been previously disturbed and portions reclaimed, they are best described as plant communities #1 and #2 above.

No federal or state sensitive plant species are documented as occurring within or in the vicinity of the project area based on the Nevada Natural Heritage Program information (Appendix A; NNHP 2005) and on-site botanical surveys in May and August 2005.

### **3.8.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.7.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.9 WILDLIFE RESOURCES**

### **3.9.1 Proposed Action**

#### *3.9.1.1 Wildlife Habitat*

Wildlife habitat associated with the project area consists of shafts, adits, and highwalls from previous mining operations and saltbrush and sagebrush communities typical of the region. Water availability is a primary limiting factor for wildlife in the project area.

### 3.9.1.2 *Special-Status Species*

The U.S. Fish and Wildlife Service (USFWS) did not identify any listed, proposed, or candidate species within the project area, although bald eagles are discussed below because the project area could provide foraging habitat as they migrate through the area (Table 3-3; Appendix B; USFWS 2005). Bureau of Land Management Special Status Species addressed are: sage grouse, Western small-footed myotis, pallid bat, Townsend's big-eared bat, and pygmy rabbit. The NNHP Species of Concern addressed is the Nevada viceroy.

#### *Sage grouse*

Greater sage grouse (*Centrocercus urophasianus*), a BLM-sensitive species also protected by the state of Nevada under Nevada Revised Statutes (NRS) 501, has documented occurrences in the vicinity of the project area (Table 3-3; NDOW 2005; Phenix 2005). The sage grouse is a sagebrush obligate species meaning that it requires large contiguous sagebrush communities both for primary nesting cover and for leaves as food supply (Willis *et al.* 1993). Although sagebrush is crucial to the survival of the species, sage grouse use a variety of habitats for breeding, nesting, brood rearing, and wintering (NDOW 2004). Sagebrush occupies portions of the project area and is most prevalent on the southeastern and upper western slopes of Kramer Hill where Wyoming big sagebrush and Sandberg bluegrass dominate. The sagebrush communities in these areas appear less dense as compared with the more vigorous growth in the surrounding landscape. A long history of previous mining disturbance on these slopes may have resulted in changes to the native plant populations and distributions. The availability of a mosaic of sagebrush vegetation types and canopy heights is, however, beneficial to sage grouse over the course of a year's changing habitat needs (NDOW 2004). BLM maps indicate winter habitat for sage grouse throughout the project area (Detweiler 2005). Although topographic relief, canopy cover, and a diversity of sagebrush heights are all important in determining the quality of winter habitat (BLM 2000), the sagebrush communities that are mapped in the northwestern and southeastern slopes of Kramer Hill do not appear to provide the 20 to 35 percent sagebrush cover that represents the ideal winter-habitat range (Nevada Wildlife Federation 2002). Wildlife biologists at NDOW have confirmed that the project area is only marginally suitable as winter habitat for sage grouse (Neill 2006; Partee 2006).

The project area is located outside of but adjacent to sage grouse nesting habitat. There is no sage grouse nesting habitat mapped within the vicinity of the project (none in section 8) and identified nesting habitat in adjacent areas (southwest corner of section 7) is only marginally suitable (Detweiler 2006; Partee 2006). The nearest known leks (established breeding habitat) are a group of three located 3.5-to-4 miles southwest of the project area.

#### *Bald eagle*

The only species listed as endangered or threatened by the USFWS (under the Endangered Species Act of 1973, as amended) that might be found in the vicinity of the



Proposed Action is the bald eagle (*Haliaeetus leucocephalus*). Bald eagles may occasionally forage while migrating through the general area (Phenix 2005), but they are not expected to breed in the project area based on the lack of trees to provide suitable nesting habitat. There is no bald eagle habitat within 5 miles of the project area as indicated on the NDOW maps (Table 3-3; Phenix 2005).

### *Bat*

Two special-status mammal species (BLM Sensitive Species) – Townsend’s big-eared bat and western small-footed myotis – are identified by NDOW and NNHP as potentially occurring at the project area (Table 3-3).

According to an August 2002 survey funded by BLM and conducted by Brown-Berry Biological Consulting, both Townsend’s big-eared bat (*Corynorhinus townsendii*) and western small-footed myotis (*Myotis ciliolabrum*) were present in an abandoned, and subsequently gated, adit on BLM land. The portal of the adit is approximately 0.22 miles north of the Proposed Action’s northern boundary (Brown 2005). The pallid bat (*Antrozous pallidus*), another BLM Sensitive Species, was also identified acoustically on the 8-13-02 out-flight survey (Table 3-3). Based on the 2002 survey by Brown and Berry, the gated adit, whose portal is approximately 0.22 miles north of the project area, may provide habitat for the Townsend’s big-eared bat, western small-footed myotis, and pallid bat.

Townsend’s big-eared bat is found throughout Nevada, from low desert to high mountain regions. They are year-round residents that hibernate through the winters. The Townsend’s big-eared bat is one of the bat species most highly dependent on mines and caves, as they will not roost in open settings. The distribution of this species is therefore regulated by the availability of cave-like roosting sites, and the majority of roosts are in mines. They prefer caves or shafts that have multiple openings, allowing for air circulation. They also prefer caves or shafts to be at least 100 feet long with a ceiling 4 feet high. Maternity colonies will roost within 2 miles of a water source. Brown and Berry (2002) found that mines near riparian areas in the arid West were more likely to harbor bats. This species has experienced serious population declines in the past 40 years in parts of the western U.S. and is highly sensitive to disturbance at roost sites (Nevada Bat Working Group 2005).

The western small-footed myotis inhabits a variety of habitats throughout the state and is a year-round resident that hibernates, usually solitarily, through the winter. These bats roost in caves, mines, and trees, and have been recorded as occupying cliff-face crevices, erosion cavities, and cavities beneath rocks (Holloway and Barclay 2001). They will hibernate with Townsend’s big-eared bat (Holloway and Barclay 2001). Females may form small maternity colonies, generally with fewer than 30 individuals. This species is widespread and regionally common in the state of Nevada (Nevada Bat Working Group 2005).

The pallid bat also was identified (from its acoustic signature) in the out-flight survey conducted in August 2002 at the now-gated adit site, whose portal is approximately 0.22 miles north of the Proposed Action’s northern boundary (Brown 2005). This species, a year-round resident in Nevada, is found in habitats ranging from low desert to coniferous forest. It will roost in a variety of locations, including trees, man-made structures, and mines and caves, but is intolerant of roost sites with temperatures above 40°C and is sensitive to roost disturbance. The pallid bat will forage in and among vegetation and on the ground surface (Nevada Bat Working Group 2005).

*Nevada viceroy*

A special-status insect species that could possibly be present on-site or in the general vicinity is the Nevada viceroy (*Limenitus archippus lahontani*), a butterfly listed as critically imperiled by the NNHP (Table 3-3). This butterfly is largely associated with the willowy fringes and muddy banks of riparian areas primarily because it depends on willow (or apples, cherries, and poplars) as a larval host species (Pyle 2002). There is no riparian/willow habitat on the project area. The nearest perennial riparian habitat (Pole Creek) is located between 0.75- to 1-mile west of the project area and has a riparian plant community dominated by Fremont cottonwood (*Populus fremontii*) and willow species.

*Other species*

The pygmy rabbit, (*Brachylagus idahoensis*), a BLM designated sensitive species and a sagebrush obligate, has not been recorded for the project area, and NDOW has not identified the project area or surrounding area (sections 4-9 and 17) as potential habitat for this species. The pygmy rabbit typically occupies tall, dense stands of big sagebrush with deep, friable, loamy-textured soils. Such high quality habitat sites are considered rare and are not characteristic of the project area or the adjacent shrub-steppe. Big sagebrush at the project area is not found in tall, dense stands and the soils are too shallow and/or rocky for excavation of burrows (Detweiler 2006). There does not appear to be potential habitat for the pygmy rabbit in the project area.

**Table 3–3. Potential special status species in or within the vicinity of the project area.**

Species	Federal Status <sup>1</sup>	BLM Status <sup>2</sup>	State Status	Potential Occurrence in the Project Vicinity
<b>Birds</b>				
Sage grouse <i>Centrocercus urophasianus</i>	None	Sensitive	State protected game bird	Mapped winter habitat (all of section 8). Documented leks approx. 3.5-4 miles SW of proposed project boundaries.

Species	Federal Status <sup>1</sup>	BLM Status <sup>2</sup>	State Status	Potential Occurrence in the Project Vicinity
Bald eagle <i>Haliaeetus leucocephalus</i>	Threatened	None	State protected	No mapped habitat.
<b>Mammals</b>				
Western small-footed myotis <i>Myotis ciliolabrum</i>	None	Sensitive	Not protected	Observed in vicinity: 8-13-02 survey
Pallid bat <i>Antrozous pallidus</i>	None	Sensitive	Not protected	Identified in vicinity: 8-13-02 survey
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	None	Sensitive	Not protected	Observed in vicinity: 8-13-02 survey
<b>Invertebrates</b>				
Nevada viceroy <i>Limenitus archippus lahontani</i>	None	None	NNHP <sup>3</sup> Critically Imperiled	Potential habitat in riparian area 0.75- to 1-mile west of the project area.

<sup>1</sup> Designated by the U.S. Fish and Wildlife Service

<sup>2</sup> Sensitive species are taxa that are not already included as BLM Special Status Species under (1) Federally listed, or candidate species; or (2) State of Nevada listed species. BLM policy is to provide these species with the same level of protection as provided for candidate species in BLM Manual 6840.06 C, which states "ensure that actions authorized, funded, or carried out do not contribute to the need for the species to become listed."

<sup>3</sup> NNHP – Nevada Natural Heritage Program

### 3.9.1.3 Mammals

Large mammal species known to occur within the general vicinity of the mine include mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), and mountain lion (*Felix concolor*) (Phenix 2005). The Sonoma-Gerlach MFP (BLM 1982) indicates that the Diamond S Allotment is a potential reintroduction area for California bighorn, but no bighorn currently occupy the project area and there are no immediate plans for their release in the area of the project (Detweiler 2006).

Mule deer, like other deer species, are browsers. Their diet can be quite varied and shift from season to season. In winter, especially when grasses and forbs are covered with snow, their entire diet may consist of shrubby species such as those found in the vicinity of the project area. NDOW maps show winter concentrations of mule deer in the project area and vicinity.

Pronghorn antelope occupy the basins of the basin-and-range topography that typifies much of Nevada. They are sagebrush obligates, using the sagebrush community for both cover and forage, but also use salt desert scrub communities during spring and late winter. NDOW maps show pronghorn may be present year-round in the project area and surrounding sections (Phenix 2005), but they are not common in or near the project area (Detweiler 2006). BLM's Sonoma-Gerlach MFP (1982) does not allocate any forage for antelope in the Diamond S allotment that includes the area proposed for the quarry expansion.

Small mammals that could be expected to occur in the project vicinity are coyote, kit fox, badger, desert cottontail rabbits, jack rabbits, striped skunk, ground and rock squirrels, desert woodrats (packrats), and canyon and deer mice. Stick nests of the desert woodrat (*Neotoma lepida*) were observed in May 2005 in an adit immediately east of the proposed project area.

#### 3.9.1.4 Birds

Non-migratory birds known to exist in the region are the sage grouse and chukar (*Alectoris chukar*) – an introduced game species. The chukar prefers rocky hillsides and mountain slopes and is normally found only at higher elevations, such as those of the Sonoma Range. This species is generally not found at lower elevations, such as those of the proposed project area, except in extreme winter conditions that occur infrequently (Partee 2006). The sage grouse is discussed under subsection 3.8.1.2.

#### 3.9.1.5 Invertebrates

A variety of butterflies, centipedes, beetles, spiders, grasshoppers, and a spring cyclical abundance of Mormon crickets provide critical forage for various resident and migrating birds. The Sonoma-Gerlach MFP (BLM 1982) includes a recommendation (RM 1.6) for the control of abnormal insect (mainly grasshopper and Mormon cricket) populations.

#### 3.9.1.6 Fisheries

Water availability is a primary limiting factor for wildlife in the project area. There is no water source or perennial stream on-site, and therefore, no fisheries resource is present. Pole Creek is located approximately 0.75- to 1-mile west and Rock Creek is located approximately 0.3-mile southeast of the project area. Pole Creek is perennial in its upper reaches. Rock Creek is intermittent along its entire reach and was dry during May and August 2005 field investigations. Tributaries to these streams in the vicinity of the project area are intermittent dry washes and lack fish habitat.

### 3.9.2 Alternative A

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land. The gated adit's portal would be approximately 0.14 miles from the northern project area boundary.

### **3.9.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.10 RANGE RESOURCES**

### **3.10.1 Proposed Action**

The project area is located in the eastern portion of the approximately 33,665-acre Diamond S Allotment (18,625 public acres, 15,040 private acres). The current grazing permit authorized for the Diamond S Allotment allows for 210 cattle between April 1 and September 15. Some grazing takes place in the area around Kramer Hill in the spring, but the cattle move to portions of the allotment at higher elevations during the summer. Cattle do water and spend time in the area of Pole Creek, located between 0.75 and 1 mile from the project area (Clark 2005; Sheeler 2005). Pole Creek Diversion Fence installed in 1955 (BLM project #520697) roughly parallels the Pumpernickel Valley Road through much of privately owned section 9. A cattle guard was installed at the boundary between the Diamond S Allotment and the Pumpernickel Allotment to the east of Kramer Hill at the junction of Pole Creek and Pumpernickel Valley Roads, which maintains the integrity of the fence between the two allotments.

### **3.10.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.10.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.11 RECREATION**

### **3.11.1 Proposed Action**

The Pole Creek drainage to the west and southwest of the site is utilized in small numbers by the public for hunting, trapping, off-road vehicle use, and other outdoor pursuits. There is no formal recreation designation other than that the land is open to public access. There are multiple access points to the area, both within and outside the vicinity of the existing quarry and Proposed Action.

### **3.11.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.11.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.12 NOISE**

### **3.12.1 Proposed Action**

The proposed quarry expansion is located in a sparsely populated area about 1.5 miles south of the four-lane Interstate 80. Rural 5-acre parcels are being developed to the northwest, on the opposite side of Pole Creek, about 4 miles from Kramer Hill. A single dwelling to the northwest is within the 1.5-mile impact assessment area radius (as defined by the BLM). The town of Golconda, with a population of slightly over 400, is separated from the project area by Interstate 80. Current noise levels in the vicinity of Golconda and Pole Creek are unknown, but can be expected to be most influenced by the highway traffic and by wind, and by other quarry operations adjacent to Interstate 80.

Noise from the current quarry operation on Kramer Hill is generated by equipment (rock drill, bulldozer, loader, excavator, water truck, dump trucks, and portable rock crusher/stockpiling equipment) that is part of the existing mineral materials sales. Noise from the current level of active mining, including crushing, was not perceptible to field reconnaissance personnel at a distance of approximately 500 feet from operations on a clear-day site visit in August 2005. Blasting for the Proposed Action would occur at a rate of two to four events per year.

### **3.12.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.12.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.13 VISUAL**

### **3.13.1 Proposed Action**

The Bureau of Land Management initiated the Visual Resource Management (VRM) process to manage the quality of landscapes on public land and to evaluate the potential impacts to visual resources resulting from development activities. VRM class designations are determined by assessing the scenic value of the landscape, viewer sensitivity to the scenery, and the distance of the viewer to the subject landscape. These management classes identify various permissible levels of landscape alteration, while

protecting the overall visual quality of the region. They are divided into four levels (Classes I, II, III, and IV). Class I is the most restrictive and Class IV is the least restrictive (BLM 1986).

Visual Resource Management objectives corresponding to the various management classes provide standards for analyzing and evaluating projects. Projects are evaluated using a Contrast Rating System described in Bureau Manual Section 8431. The Contrast Rating System provides a systematic way to evaluate a proposed project to determine if it meets VRM objects as established in the Winnemucca District.

The project area is located in a VRM Class III area (Appendix C). The Class III objective provides for: 1) management activities that may attract attention, but do not dominate the view of the casual observer; and 2) a level of change that could be moderate, but partially retain the existing character of the landscape. However, every attempt should be made to minimize impacts of activities by repeating the basic elements found in the natural features (form, line, color, and texture) of the landscape.

West-bound travelers on Interstate 80 constitute the majority of those that would obtain a view of the proposed project area. The project area is in view over a 3-mile stretch. The speed limit on this section of the interstate is 75 mph and the approximate viewing time is 2.5 minutes. The project area is not visible from the town of Golconda (Carmosino 2006).

In general, the area surrounding the Interstate 80 corridor could be described as the 'classic' panoramic Nevada landscape characterized by vast and open spaces and a back drop of tall jagged mountains. Predominant vegetation in this area consists of sagebrush and grasses with areas of exposed soil and rock. Dominant natural features in both the fore ground and middle ground (the project area) consists of low rolling hills. Man-made structures include the interstate highway and associated right-of-way, fence lines, transmission lines, and structures associated with the town of Golconda (Carmosino 2006).

The site is immediately adjacent to the Pinson Mining operation left from the early 1990s, which remained consistent with BLM management objectives for the area as an open pit and bare highwall. The scar is visible from a large area west of the site, including Interstate 80, west Golconda, and the Pole Creek watershed.

### **3.13.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.13.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **3.14 SOCIAL AND ECONOMIC VALUES**

### **3.14.1 Proposed Action**

James Hardie, the largest siding manufacturer in the United States, opened a 370,000-square-foot plant in McCarran, Nevada, east of Reno, in late 2004 (Group C Communications, Inc. 2005). At the close of fiscal year 2004, the plant employed 125 workers (Nevada Commission on Economic Development 2005). The company has plans to add additional capacity at the McCarran plant in the future. The Proposed Action is within 1.5 miles of a major transportation route (Interstate 80) that facilitates transporting the material to the manufacturing plant with reduced haul times, as compared to other sites with high quality silica resource potential in northern Nevada.

The town of Golconda, with a population of 400+, and the incorporated city of Winnemucca, with a 2004 population of 7,249 (Nevada State Demographer's Office 2004) are both easily accessible from the project area via Interstate 80. A county-maintained gravel road (Pumpnickel Valley Road) connects with Interstate 80 at the Golconda Interchange and provides access to a portion of improved dirt road (Pole Creek Road; BLM Road 2079) that intersects the project stockpile area to the south of the proposed quarry expansion. Total haul distance from the stockpile area to Interstate 80 is slightly over 2 miles.

The mining operations would potentially employ up to five workers on-site and an additional ten drivers would be contracted to drive the highway transport trucks to and from the McCarran plant. Some of the workers would be local residents.

Although tourism connected with the gaming industry has increased in economic importance in the past few years, Humboldt County remains economically dependent on the mining industry. According to a 1993 Nevada Bureau of Mines and Geology Special Publication (#15), direct employment by the mining industry at that time accounted for one-third of the county's labor force. Indirectly, the mining industry also provided over half of the economic activity and three-quarters of the county's total income (Tingley *et al.* 1993). As of 2001, the mining industry's share of the county's labor force had declined to 20 percent (and the population of Winnemucca had declined to its lowest since 1995). A review of Humboldt County data for the previous decade reveals a pattern of decline in all other employment sectors and in population following a decline in mining activity (Humboldt County Regional Master Plan 2001). A recent increase in the price of gold has resulted in a surge in mining activity and associated employment. Statistics for this increase are not yet available.



Vehicles would access the project area by traveling south from Interstate 80, Exit 194, 1.7 miles on the gravel, county-maintained, Pumpnickel Valley Road, then southwest approximately 1 mile on Pole Creek Road (BLM Road 2079), and then northwest and northeast on an access road that lies on public land. The Proposed Action is expected to generate approximately 48 truck trips per day. A “truck trip” is one-way travel – therefore a single truck arriving on site empty and leaving with a load accounts for two truck trips. Approximately 40 of the 48 truck trips would be highway transport trucks with a 45-ton carrying capacity. The remaining approximately eight truck trips would be water trucks with a 4,000-gallon carrying capacity. The rate of truck trips throughout a normal day would vary depending on the rate at which the McCarran plant requires product. Additionally, the Proposed Action is expected to generate no more than 20 passenger vehicle trips per day (up to 10 passenger trucks) during the seasonal mining campaigns that would occur periodically for several weeks duration throughout the life of the quarry.

Nine-axle, highway transport trucks of 129,000-pound maximum gross weight capable of transporting up to 45 tons would be used to transport the product from the project area to the James Hardie manufacturing plant in McCarran. The water trucks hold 4,000 gallons of water and would resupply in Golconda as needed. Additionally, a portable crusher would be moved from the site with a fifth-wheel truck at the end of each mining and processing campaign.

Interstate 80 is a four-lane, divided freeway with a posted speed limit of 75 miles per hour (mph) in the vicinity of the project area. The interchange at Exit 194 provides access to Golconda and surrounding areas to the north and Pumpnickel Valley Road to the south. The east-bound ramp, used by vehicles traveling to the project area, is approximately 300 feet in length and terminates at the Interstate 80 overpass (inventory no. 754), which is a short distance south to Pumpnickel Valley Road. The west-bound ramp, used by vehicles leaving the project area, is accessed by traveling over Interstate 80 and then west approximately 700 feet on State Highway 789. The Golconda Interchange complies with all American Association of State Highway and Transportation Officials and Federal Highway Administration standards for interstate highway interchanges (Wilson 2005).

Pumpnickel Valley Road is a two-lane, gravel road maintained by Humboldt County, which provides access to residential areas west of the project area and private land to the south of the project area. A cattle guard is located at the junction between Pumpnickel Valley Road and the Interstate 80 overpass (inventory no. 754). The posted speed limit is 40 mph. Traffic volumes along Pumpnickel Valley Road appear to be low, although traffic count data were not available. The road is typical of rural roads in the area and does not experience delays in traffic movement.

Pole Creek Road (BLM Road 2079) is an approximately 30-foot-wide, dirt road that is part of the BLM transportation system and provides access to public and private land

south and southwest of the project area. A cattleguard is located on private land at the junction of Pole Creek and Pumpnickel Valley Roads. Pole Creek Road (BLM Road 2079) has no posted speed limit, but vehicles typically travel between 15 and 25 mph. Traffic volumes along Pole Creek Road (BLM Road 2079) appear to be low, although traffic count data were not available. Traffic appears mostly due to truck traffic associated with the existing quartzite quarry. Like Pumpnickel Valley Road, Pole Creek Road (BLM Road 2079) does not experience delays in traffic movement.

### **3.14.2 Alternative A**

The description of the affected environment for Alternative A would be the same as that for the Proposed Action, except that the area available for selective mining of quartzite material would be restricted to approximately 30.1 acres of public land and the stockpile area would be limited to an approximately 10.7-acre area on public land.

### **3.14.3 No Action Alternative**

Under the No Action Alternative, currently exempt activities would cease and the existing quarry would be reclaimed. The proposed surface quarry expansion would not be developed and the project area would remain in its existing condition.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

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Through the scoping process, the following critical elements have been identified as present and potentially affected by the Proposed Action: air quality, cultural resources, invasive non-native species, and migratory birds. These critical elements are analyzed below. The remaining critical elements – areas of critical environmental concern, environmental justice, floodplains, prime or unique farmlands, threatened and endangered species, hazardous or solid wastes, water quality, wetlands and riparian zones, wild and scenic rivers, and wilderness – have been analyzed and are either not present or are present but would not be affected by the Proposed Action and do not warrant further analysis.

Additionally, the following biological, physical, and human resources have been identified as present and potentially affected by the Proposed Action: geology and minerals, soils, vegetation resources, wildlife resources, range resources, noise, visual, and social and economic values.

### **4.1 AIR QUALITY**

#### **4.1.1 Proposed Action**

The proposed quarry expansion may directly affect air quality from increased fugitive dust through mining, processing activities, and vehicle traffic along the dirt haul roads. The air quality impacts would be limited seasonally to the mining campaigns when mining and processing activities are occurring and the area would be restored to its pre-mining air-quality conditions once the mining is completed. Fewer preventative

measures (as described in subsection 2.1.6.4) should be necessary as crushing and stockpiling are moved downslope. No indirect impacts have been identified.

#### **4.1.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.1.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to air quality. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.2 CULTURAL RESOURCES**

#### **4.2.1 Proposed Action**

None of the six prehistoric and historic isolates or seven modern prospects is eligible for the National Register of Historic Places (NRHP). While these resources could be displaced or destroyed by the quarrying operation, they do not convey sufficient significance to warrant protective or other mitigation measures. As noted in the *State Protocol Agreement between the Bureau of Land Management and the Nevada State Historic Preservation Office* (1999), isolated artifacts and features are categorically ineligible for listing on the NRHP. No cultural resources from the Kramer Hill inventory are considered eligible to the NRHP and therefore, the proposed quartzite quarry project should have no impacts, direct or indirect, on historic properties.

#### **4.2.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.2.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to cultural resources. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.3 INVASIVE NON-NATIVE SPECIES**

#### **4.3.1 Proposed Action**

The disturbance and other activity of the proposed quarry expansion would create the possibility of the spread of invasive non-native species, as well as noxious weeds (NDOA 2005). Many invasive non-native species are already found at the site, having established there as a result of previous disturbances. Disturbed surfaces provide an environment that enhances the growth of invasive species. Trucks and equipment may transport the seeds of these species and weeds to the site, and the road surface material imported from other sites may contain seeds of these species and weeds. A gravel source used for road improvement for access to the existing quarry has been identified as a potential source for noxious weeds (Messmer 2005). Direct impacts would be therefore likely, and short-

term indirect impacts (less forage and habitat value for livestock and wildlife) may also be expected.

#### **4.3.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.3.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no new vector for the spread of invasive non-native species. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.4 MIGRATORY BIRDS**

#### **4.4.1 Proposed Action**

Direct impacts of the proposed quarry expansion to migratory birds would be avoided with pre-disturbance nest surveys conducted by a BLM-designated wildlife biologist at any time ground-clearing disturbance is proposed during the peak breeding and nesting season (April 15 to July 15). The Proposed Action may, however, indirectly impact migratory birds through temporary reduction in habitat area, which would be restored to meet or exceed its existing conditions through reclamation. Migratory birds could ultimately benefit from the forage and nesting opportunities provided by revegetation of reclaimed areas with a mixture of grasses, forbs, and shrubs.

#### **4.4.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.4.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to migratory birds. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.5 NATIVE AMERICAN RELIGIOUS CONCERNS**

#### **4.5.1 Proposed Action**

In response to the notification letter, the Battle Mountain Band Council requested a site visit which was conducted on September 20, 2005. While the council did not identify the area as having traditional or religious importance, they expressed concerns about possible adverse effects to air quality and the use of non-native species, particularly forage kochia, in the proposed reclamation seed mixture.

Air quality concerns have been identified in sections 3.1, 4.1 and 5.3.1 of this document. Concerns related to the use of forage kochia have been discussed in section 4.8.1

#### **4.5.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action, except that approximately 40.8 acres of existing vegetation would be disturbed for Alternative A, as opposed to 53.3 acres for the Proposed Action.

#### **4.5.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to Native American religious concerns.. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.6 GEOLOGY AND MINERALS**

#### **4.6.1 Proposed Action**

The proposed quarry expansion would directly affect the site geology where rock extraction would be taking place. The non-renewable resource would be permanently removed and would no longer be available. No indirect impacts to site geology have been identified.

#### **4.6.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.6.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to geology and minerals. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.7 SOILS**

#### **4.7.1 Proposed Action**

The proposed quarry expansion would directly affect the soils on the site where quarrying activities, e.g. rock extraction, product stockpiling, would occur. These soils, however, would be salvaged and stockpiled for use as growth media in post-quarrying reclamation. In the short-term, the soil would not exist on the disturbed portions of the site. In the long-term, the soil would be restored. Indirect effects such as modification of chemical and physical properties would undoubtedly occur, e.g. soil structure loss, permeability loss, and loss of water retention capacity, but these properties would return over time after reclamation.

Potential for accelerated erosion could occur during the life of the mine due to construction of roads, denuded stockpile areas and topsoil stockpiles. However, these impacts would be mitigated, as described in section 2.1.6 of this document. In addition, James Hardie must receive a Storm Water Control Permit from the State of Nevada.

#### **4.7.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.7.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to soils. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.8 VEGETATION RESOURCES**

#### **4.8.1 Proposed Action**

The proposed quarry expansion would directly impact approximately 53.3 acres of existing vegetation, comprised of saltbush and sagebrush communities. The existing vegetation has been previously disturbed through mining, and reclamation. Consequently, the existing vegetation is more disturbed and less representative of the native plant communities than other areas surrounding the project area. No indirect impacts have been identified.

The seed mixture is a mixture of both native and non-native species (Refer to Appendix D). During consultation with the Battle Mountain Band Council, concerns were expressed regarding the non-native species in the seed mixture, particularly forage kochia. Forage kochia (*Kochia prostrata*), a non-native species, is included in the seed mix because of its drought tolerance, palatability, and ability to compete with annuals. It is a non-invasive perennial sub-shrub that remains semi-evergreen at the base. The permanent above-ground structure provided by this plant creates over-wintering habitat for insect species that game birds, such as sage grouse, and many small mammals depend on as a major component of their diet. It also provides dependable, fire-resistant forage for large mammals. The forage kochia should not be confused with its annual, weedy cousin, *Kochia scoparia*, which is an invasive and undesirable rangeland species with none of the benefits of forage kochia.

#### **4.8.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action, except that approximately 40.8 acres of existing vegetation would be disturbed for Alternative A.

#### **4.8.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to vegetation resources. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

## **4.9 WILDLIFE RESOURCES**

### **4.9.1 Proposed Action**

#### *4.9.1.1 Wildlife Habitat*

The proposed quarry expansion would directly impact approximately 53.3 acres of saltbrush and sagebrush habitat in the short-term. The small scale of the proposal should result in impacts that are minimal and recoverable with reclamation once mining ceases.

#### *4.9.1.2 Special-Status Species*

##### *Sage grouse*

Based on NDOW and BLM habitat mapping and personal communication with NDOW biologists (Neill 2006; Partee 2006), there would be no direct or indirect impacts to sage grouse leks or brood areas. Sage grouse winter habitat mapped within the project area is not of a quality to be significant and adjacent nesting habitat, located outside of the project area, is only marginally suitable (Neill 2006; Partee 2006). Direct impacts to sage grouse would be unlikely and short-term indirect impacts (less winter habitat value) should not negatively affect the species.

##### *Bald eagle*

Bald eagles would not likely to be directly or indirectly affected because there is no mapped bald eagle habitat within 5 miles of the project area or suitable nesting habitat within or in the vicinity of the project area. Any use of the project area by bald eagles is likely limited to foraging while the species is migrating through the general area.

##### *Bat*

A gated adit, with documented bat presence in 2002, is located approximately 0.22 miles north of the Proposed Action's northern boundary. One survey was not sufficient to determine if the adit was used as a maternity/rearing site, as a winter hibernaculum, or both. The adit may continue to provide suitable bat habitat, and consequently, the proposal may cause indirect effects to bats through noise impacts. The noise impact, however, is likely to be attenuated over the approximately 0.22-mile distance between the northern boundary of the Proposed Action and the adit's portal. If the gated adit still provides bat habitat, potential indirect noise impacts to bats could be mitigated by avoiding blasting during maternity (May-July) and winter hibernating periods. The winter hibernating period varies depending on the length of the season and would be determined annually by a qualified biologist, if necessary. There are no caves or mine shafts/adits within the boundaries of the project area, and those located in the vicinity but outside the project boundaries would not be directly affected (backfilled or collapsed) by the Proposed Action.

### *Nevada viceroy*

The nearest perennial riparian habitat is located 0.75- to 1-mile west of the project area. Because there is no suitable habitat within the project area for either the Nevada viceroy, the species would not likely be directly or indirectly affected.

#### *4.9.1.3 Mammals*

Although mule deer and pronghorn and other mammals may avoid the project area during periods when mineral extraction is occurring, the size of the project means that little displacement would occur relative to the overall size of the species' range. There is also increasing residential use of former ranchland in the vicinity of the project, which makes the mapped habitat less significant. Both the Winnemucca and Fallon offices of NDOW have stated they have no concerns in connection with these species related to this proposal (Neill 2006; Partee 2006) and no direct or indirect affects would be anticipated.

#### *4.9.1.4 Birds*

No direct or indirect impacts to non-migratory birds would be anticipated. NDOW biologists have indicated that the chukar is not a species likely to occupy the project area and that sage grouse habitat is marginal (Neill 2006; Partee 2006). The sage grouse is discussed under subsection 4.8.1.2.

#### *4.9.1.5 Invertebrates*

Based on current knowledge of those species known to occupy or visit the project area, no direct or indirect impacts to invertebrates would be expected.

#### *4.9.1.6 Fisheries*

Because there is no fish habitat within the project area and because no water will be withdrawn from local streams, there would be no direct or indirect impacts to fisheries resources.

### **4.9.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action, except that approximately 40.8 acres of saltbrush and sagebrush habitat would be impacted in the short-term and the distance from the northern project area boundary to the gated adit's portal to would be approximately 0.14 miles.

### **4.9.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to wildlife resources. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

## **4.10 RANGE RESOURCES**

### **4.10.1 Proposed Action**

The overall impact of the project (approximately 53.3 acres of disturbance) on the Diamond S Allotment (approximately 33,665 acres) and its management of livestock are



expected to be low. For the duration of quarry operations, the direct impact would be a nominal reduction in acreage accessible to grazing livestock. Upon completion of the project, the site will have been reclaimed and the original acreage restored as a range resource. The proposed project would not compromise the integrity of the fences between the Diamond S Allotment and the Pumpnickel Allotment because a cattle guard was installed on private ground at their shared border where Pole Creek Road (BLM Road 2079) intersects Pumpnickel Valley Road. The cattle guard is located along the Pole Creek Diversion Fence, installed in 1955 (BLM project #520697), which roughly parallels the Pumpnickel Valley Road through much of privately owned section 9. No other potential indirect impacts have been identified.

#### **4.10.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action, except that Alternative A would disturb a total of approximately 40.8 acres on the Diamond S Allotment.

#### **4.10.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to range resources. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.11 RECREATION**

#### **4.11.1 Proposed Action**

Recreational use in the project area is relatively low compared to other areas in the Winnemucca District (Carmosino 2005). Off-highway vehicle use, auto-touring, hunters, and rock and mineral collecting are the area's dominant recreational activities, with the majority of visitors being residents of Humboldt County. Direct impact would be a temporary reduction in acreage available for these recreational uses within the Winnemucca District. No indirect impacts have been identified.

#### **4.11.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.11.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to recreation. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.12 NOISE**

#### **4.12.1 Proposed Action**

Primary noise sources at the proposed quarry expansion would be from the use of heavy equipment, the rock crusher, and from truck traffic. The direct impacts of noise from these sources could be expected to vary based on wind conditions and air inversions. The

noise generated by the mobile mining equipment is currently, and would remain, cyclical based on seasonal campaigns to stockpile sufficient material for year-round supply needs.

All trucks and mobile mining equipment are fitted with mufflers. Blasting for the Proposed Action would continue at a rate of 2 to 4 events per year. All activity except for the loading of highway trucks would cease once the stockpiled product is sufficient for a six-month to one-year supply. Approximately 48 truck trips (40 highway transport truck trips and 8 water truck trips) and 10 passenger vehicle trips per day would be made at the site during peak periods of material transport. Truck traffic entering and leaving Interstate 80 at Exit 194 is not expected to increase beyond what has already been generated intermittently in the transport of test materials to the McCarran plant. Nevada Department of Transportation Average Annual Daily Traffic data (1995-2004) for the Golconda Interchange westbound on-ramp shows a drop in average traffic counts beginning in the year 2000. Counts for 2004 (480) were lower than the counts in 1999 (680) and 2000 (520). Noise levels associated with quarry reclamation activity, which would employ much of the same mobile equipment, would differ from the levels associated with the mining of the quarry itself only given that the crusher would not be operating concurrently.

The impact area for the quarry expansion does not include the town of Golconda, or Interstate 80, but does include one rural residence to the northwest of Kramer Hill located between the quarry site and Interstate 80. It is shielded from mining activity, including noise, by its position at the base of the slope on the unmined side of the hill.

The isolated nature of the quarry site, with widely scattered rural residences (all but one beyond the 1.5-mile impact assessment area) that are confined to the north-facing unmined slopes, plus the seasonal plan of operations as proposed would combine to minimize noise effects to levels not requiring mitigation. Potential indirect noise impacts to wildlife over the life of the mine have been addressed in subsection 4.8.

#### **4.12.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.12.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to noise. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.13 VISUAL**

#### **4.13.1 Proposed Action**

The mining activities within the proposed quarry expansion would continue to remain consistent with BLM management objectives for a Class III management area. During mining operations, the Proposed Action would provide a visual contrast with surrounding

undisturbed land, but would be no more prominent than the adjacent, pre-existing open-pit gold mine. At the completion of quarrying, all disturbance would be reclaimed to meet Class III objectives. No indirect impacts have been identified.

#### **4.13.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.13.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action or Alternative A would not take place, and therefore, there would be no impact to visual resources. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

### **4.14 SOCIAL AND ECONOMIC VALUES**

#### **4.14.1 Proposed Action**

The proposed quarry expansion would likely employ local truck drivers and would benefit local businesses in Golconda and Winnemucca for a projected 20 years. Employees, contractors, and consultants would need food, lodging, fuel, and other supplies that would be purchased in the Golconda/Winnemucca area, resulting in positive indirect benefits over the life of the mine.

Humboldt County Regional Master Plan (2001) data suggest that a decline in mining activity during the 1990s led to a concomitant decline in all other employment sectors. Since 2001, as gold prices have risen, increased mining in the area has boosted activity in other sectors. Although these figures can be seen as a need for employment diversification, they also suggest social as well as economic benefits associated with a 20-year-duration Kramer Hill mining operation, particularly for the Golconda/Winnemucca area.

Existing traffic volumes in the vicinity of the project area are low and motorists do not experience delays. Consequently, traffic would not be impacted, either directly or indirectly, by the Proposed Action and no mitigation is necessary. James Hardie maintains the portion of Pole Creek Road (BLM Road 2079) used for access to the existing quarry and would continue to maintain the road under the Proposed Action.

#### **4.14.2 Alternative A**

The description of the environmental consequences for Alternative A would be the same as that for the Proposed Action.

#### **4.14.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action and Alternative A would not take place, and therefore, there would be no impact to social and economic values. The existing exempt activities would cease and the existing quarry would be fully reclaimed.

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## **5.0 CUMULATIVE IMPACTS ANALYSIS**

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The Proposed Action and Alternative A have been assessed for cumulative impacts to the project area and its surroundings. This impact assessment area is designated as an approximately 1.5-mile radius from the summit of Kramer Hill, except that the area terminates north at the Interstate 80 interchange and east at Pumpnickel Valley Road (Figure 8). The impact assessment area is 3,373 acres, approximately 42 percent public BLM land and 58 percent private landowners. Cumulative impacts are those effects on resources caused by the incremental impact of the Proposed Action or Alternative A when added to other past, present, and Reasonably Foreseeable Future Actions. Cumulative impacts can result from individually minor, but collectively significant, actions occurring over time.

### **5.1 PAST AND PRESENT ACTIONS**

The past and present actions within the project impact area include mineral exploration and mining, grazing, recreation, residential development, and road construction/maintenance. These activities would continue regardless of whether the Proposed Action or Alternative A is approved.

#### **5.1.1 Mineral Exploration and Mining**

Mineral exploration and gold mining have occurred historically at Kramer Hill; these past activities are described in more detail in Chapter 1.0. An existing quartzite quarry, which is intended to be expanded under the Proposed Action or Alternative A, is currently active. A second active surface mine within the impact assessment area is a gravel pit operated by the State of Nevada located south of Interstate 80 at the Golconda Interchange.

#### **5.1.2 Grazing**

The impact assessment area lies within the Diamond S Allotment, which supports 210 head of cattle during the spring-summer. Grazing generally occurs at higher elevations, south and west of Kramer Hill.

#### **5.1.3 Recreation**

The area receives light recreational use by off-road or four-wheel-drive vehicles on land in the vicinity of Pole Creek. The primary recreational uses are hunting, trapping, off-road vehicle use, and other outdoor pursuits.

#### **5.1.4 Residential Development**

Residential development is currently limited to the area northwest of Kramer Hill, west of the Golconda Interchange, where ranchettes supporting single-family residences and appurtenant structures have been developed. Pumpnickel Valley Road and other county-maintained dirt roads provide access to the residential area.

### **5.1.5 Road Construction and Maintenance**

Pumpnickel Valley Road is maintained by Humboldt County and is re-graded every four-to-six weeks and re-graveled infrequently. Pole Creek Road (BLM Road 2079) is located within the county right-of-way but is not maintained, except for a small portion currently maintained by James Hardie.

## **5.2 REASONABLY FORESEEABLE FUTURE ACTIONS**

Like the Past and Present Actions, mineral exploration and mining, grazing, recreation, residential development, and road construction/maintenance are the Reasonably Foreseeable Future Actions that may occur within the impact assessment area.

### **5.2.1 Mineral Exploration and Mining**

Mineral exploration and mining are potential future mineral actions within the impact assessment area. Because of its location near active gold mines and particularly its history of gold production, it is likely the area would continue to be the focus of mineral exploration in the future, especially at times of high gold prices. A review of BLM LR2000 data reveals the public land in section 8 has been staked and re-staked with unpatented claims by various parties since Pinson dropped their claims in 1994. At this time, James Hardie does not anticipate conducting any additional mineral activities in the impact assessment area beyond the scope of the Proposed Action or Alternative A. The State of Nevada gravel pit located across Interstate 80 from Golconda will likely be used for ongoing construction/maintenance of the interstate and other state projects.

### **5.2.2 Grazing**

The Diamond S Allotment would likely continue to support cattle grazing at its current rate of 210 head of cattle between April 1 and September 15 despite temporary and minor reductions in acreage (due to both mining and post-mining reclamation) should the Proposed Action or Alternative A be approved.

### **5.2.3 Recreation**

Recreation use in the impact assessment area would likely continue at its current rate.

### **5.2.4 Residential Development**

The area to the northwest of Kramer Hill, in the northwest portion of the impact assessment area, is being subdivided for ranchettes and would likely continue residential growth in the future.

### **5.2.5 Road Construction and Maintenance**

The existing dirt roads may be further improved to provide access to the residential area or for future mineral exploration or mining activities.

### **5.3 CUMULATIVE IMPACTS FOR THE PROPOSED ACTION, ALTERNATIVE, AND NO ACTION ALTERNATIVE**

The impact of past, present, and Reasonably Foreseeable Future Actions is largely due to ground-disturbing activities and primarily may affect the following critical elements and other resources: air quality, cultural resources, invasive non-native species, migratory birds, geology and minerals, soils, vegetation resources, wildlife resources, range resources, recreation, noise, visual, and social and economic values.

#### **5.3.1 Air Quality**

##### *5.3.1.1 Past and Present Actions*

Ground-disturbing activities from mining, residential development, and road construction/maintenance have generated low air quality effects in the impact assessment area. The past and present air quality impacts are short-term and cease once the ground-disturbing activity is completed. Mineral exploration, grazing, and recreational activities have generated little to no impact to air quality within the impact assessment area.

##### *5.3.1.2 Reasonably Foreseeable Future Actions*

Increased ground-disturbing activities from mining, residential development, and road construction/maintenance would contribute a low impact to air quality within the impact assessment area; however, these anticipated impacts would be short-term and would cease once the ground-disturbing activity is completed. Additional traffic and therefore additional long-term impacts to air quality can be expected from residential development and the associated construction of new roads.

##### *5.3.1.3 Proposed Action*

The Proposed Action would incrementally disturb approximately 53.3 acres, and, combined with the processing activities and increased vehicle traffic along unpaved roads, may moderately affect the air quality within the impact assessment area during the seasonal mining campaigns over the life of the quarry. Air quality would return to pre-mining conditions once the project is complete. The air quality would be regulated by adherence to conditions of the existing Air Quality permit issued by the NDEP Bureau of Air Pollution Control and following appropriate BMPs to minimize fugitive dust.

##### *5.3.1.4 Alternative A*

Alternative A would incrementally disturb approximately 40.8 acres, and, combined with the processing activities and increased vehicle traffic along unpaved roads, may moderately affect the air quality within the impact assessment area during the seasonal mining campaigns over the life of the quarry. Air quality would return to pre-mining conditions once the project is complete. The air quality would be regulated by adherence to conditions of the existing Air Quality permit issued by the NDEP Bureau of Air Pollution Control and following appropriate BMPs to minimize fugitive dust.

#### *5.3.1.5 Cumulative Impact*

Air quality within the impact assessment area has been slightly impacted through time largely by ground-disturbing activities such as mining, residential development, and road construction/maintenance. Even with the development of the Proposed Action or Alternative A, impacts to air quality would likely remain equally low into the foreseeable future.

#### *5.3.1.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for air quality as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.2 Cultural Resources**

#### *5.3.2.1 Past and Present Actions*

Ground-disturbing activities from mineral exploration and mining, residential development, and road maintenance/construction may have impacted cultural resources, if present, within the impact assessment area.

#### *5.3.2.2 Reasonably Foreseeable Future Actions*

Future mineral exploration and mining, residential development, and road construction/maintenance within the impact assessment area could impact cultural resources, if present, within the impact assessment area.

#### *5.3.2.3 Proposed Action*

A cultural resources survey was performed and no cultural resources were identified that were determined eligible for National Register of Historic Places; therefore, the Proposed Action would have little to no impact on cultural resources.

#### *5.3.2.4 Alternative A*

A cultural resources survey was performed and no cultural resources were identified that were determined eligible for National Register of Historic Places; therefore, Alternative A would have little to no impact on cultural resources.

#### *5.3.2.5 Cumulative Impact*

Collectively, ground-disturbing activities from mineral exploration and mining, residential development, and road construction/maintenance could impact cultural resources, if present, within the impact assessment area, regardless of whether the Proposed Action or Alternative A is approved.

#### *5.3.2.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for cultural resources as described for past and present actions above. Future actions would likely include mineral exploration and mining, residential development, and road

maintenance/construction as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.3 Invasive Non-native Species**

#### *5.3.3.1 Past and Present Actions*

Ground-disturbing activities from mineral exploration and mining, grazing, recreational activities, and road construction/maintenance provide exposed surfaces upon which invasive non-native species and noxious weeds may establish. Mining and road building have generated a low past and present impact within the impact assessment area. The other past and present actions have generated little to no impact.

#### *5.3.3.2 Reasonably Foreseeable Future Actions*

Increased ground-disturbing activities from mining, residential development, and road construction/maintenance may expose substrates where weeds can become established. These same activities may help spread invasive non-native species and noxious weeds, and thereby contribute a low impact within the impact assessment area. Disturbances from mineral exploration, grazing, and recreational uses are unlikely to change from the past and present conditions regardless of whether the Proposed Action or Alternative A is approved.

#### *5.3.3.3 Proposed Action*

The Proposed Action would incrementally disturb approximately 53.3 acres. With mitigation measures, including concurrent reclamation, where possible, and the implementation of a weed monitoring and control plan if necessary, the Proposed Action is unlikely to substantially increase invasive non-native species or noxious weeds and would generate a low impact.

#### *5.3.3.4 Alternative A*

Alternative A would incrementally disturb approximately 40.8 acres. With mitigation measures, including concurrent reclamation, where possible, and the implementation of a weed monitoring and control plan if necessary, Alternative A is unlikely to substantially increase invasive non-native species or noxious weeds and would generate a low impact.

#### *5.3.3.5 Cumulative Impact*

Collectively, invasive non-native species and noxious weeds have spread and would likely continue to invade newly exposed areas within the impact assessment area, regardless of whether the Proposed Action or Alternative A is approved. Cumulative impacts from invasive non-native species is anticipated to be low given the small projected area of ground disturbance compared to the 3,373-acre impact assessment area.

#### *5.3.3.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for invasive non-native species as described for past and present actions above. Future actions would



likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.4 Migratory Birds**

#### *5.3.4.1 Past and Present Actions*

Ground-disturbing activities and water appropriations have displaced migratory birds and potentially impacted their habitat within the impact assessment area. Mineral exploration and mining and recreation have contributed to short-term, temporary impacts; ranching, residential development and road construction/maintenance have caused long-term, permanent impacts. The overall impact of past and present actions is judged to be low given the small relative area of disturbances compared to the 3,373-acre impact assessment area.

#### *5.3.4.2 Reasonably Foreseeable Future Actions*

Future ground-disturbing activities and increasing water consumption, largely through residential development and road construction, could be expected to have a moderate impact on migratory birds and their habitat within the impact assessment area. If water withdrawal from Pole Creek increases, then impacts to migratory birds would likely increase. Mining may cause temporary, short-term impacts. Any portions of the site currently utilized as nesting areas by migratory birds should be restored once the areas are reclaimed. Impacts from mineral exploration, grazing and recreational uses are unlikely to change from the past and present conditions.

#### *5.3.4.3 Proposed Action*

The Proposed Action would incrementally disturb about 53.3 acres, which would be concurrently reclaimed where possible. The Proposed Action would have a temporary impact on migratory bird habitat, but would not directly impact the birds themselves. Any clearing activities within the disturbance boundary would be surveyed by a BLM-designated wildlife biologist if proposed during the nesting season (April 15-July 15). If active nests are found, work within these areas would cease until nestlings are fledged. The Proposed Action would not impact the migratory bird habitat within and adjacent to the Pole Creek riparian area due to its 0.75- to 1-mile distance from the project area.

#### *5.3.4.4 Alternative A*

Alternative A would incrementally disturb about 40.8 acres, which would be concurrently reclaimed where possible. Alternative A would have a temporary impact on migratory bird habitat, but would not directly impact the birds themselves. Any clearing activities within the disturbance boundary would be surveyed by a BLM-designated wildlife biologist if proposed during the nesting season (April 15-July 15). If active nests are found, work within these areas would cease until nestlings are fledged. Alternative A would not impact the migratory bird habitat within and adjacent to the Pole Creek riparian area due to its 0.75- to 1-mile distance from the project area.

#### *5.3.4.5 Cumulative Impact*

Collectively, continued ground-disturbing activities and water consumption, largely due to residential development and road construction/maintenance, would have a low-to-moderate impact on migratory birds and their habitat within the impact assessment area, regardless of whether the Proposed Action or Alternative A is approved.

#### *5.3.4.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for migratory birds as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.5 Native American Religious Concerns**

#### *5.3.5.1 Past and Present Actions*

Concerns were expressed by the Battle Mountain Band regarding air quality and the use of non-native species for reclamation as a component of present and past actions.

#### *5.3.5.2 Reasonably Foreseeable Future Actions*

Like the Past and Present Actions, mineral exploration and mining, grazing, recreation, residential development, and road construction and maintenance are the Reasonably Foreseeable Future Actions that may occur within the impact assessment area. It is anticipated that the Battle Mountain Band would continue to express concerns regarding air quality and the use of non-native seed mixtures. Depending on any future actions within the cumulative impacts assessment area, additional concerns could be expressed such as water quality and wildlife issues.

#### *5.3.5.3 Proposed Action*

Concerns were expressed by the Battle Mountain Band regarding air quality and the use of non-native species, specifically forage kochia, for reclamation within the Proposed Action.

#### *5.3.5.4 Alternative A*

Concerns would be the same as for the Proposed Action.

#### *5.3.5.5 Cumulative Impact*

It seems unlikely, with current information, that the collective impacts would be significant, either positive or negative, on resources used by Native Americans within the cumulative impacts assessment area.

#### *5.3.5.6 No Action Alternative*

Under the No Action Alternative, mining on the non-competitive sales contract currently issued to James Hardie would cease and reclamation would still occur. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

## **5.3.6 Geology and Minerals**

### *5.3.6.1 Past and Present Actions*

Ground-disturbing activities from mineral exploration and mining have moderately impacted the geology and minerals within the impact assessment area. Grazing, recreational uses, residential development, and road construction/maintenance have not impacted the geology or mineral resources.

### *5.3.6.2 Reasonably Foreseeable Future Actions*

Future mining within the impact assessment area would continue to moderately impact the geology and mineral resources.

### *5.3.6.3 Proposed Action*

For the proposed 20-year mine life, approximately 4,000,000 tons (2,000,000 cubic yards) of mineral resources would be permanently removed.

### *5.3.6.4 Alternative A*

Impacts would be expected to be the same as the Proposed Action. This would be dependent upon the noncompetitive sales contract being renewed as needed over the projected 20-year mine life.

### *5.3.6.5 Cumulative Impact*

Collectively, mining would likely continue to permanently remove and moderately impact the geology and mineral resources within the impact assessment area, regardless of whether the Proposed Action is approved.

### *5.3.6.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for geology and minerals as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

## **5.3.7 Soils**

### *5.3.7.1 Past and Present Actions*

Ground-disturbing activities have moderately affected the soil resources within the impact assessment area. An adjacent open-pit gold mine, residential development, and road construction/maintenance have contributed more to greater past and present soil impacts than current mineral exploration, grazing, and recreational activities.

### *5.3.7.2 Reasonably Foreseeable Future Actions*

Future ground-disturbing activities from mining, residential development, and road construction/maintenance would continue to moderately impact the soils within the impact assessment area. Future mines are anticipated to be reclaimed to meet current

laws and regulations. Impacts from mineral exploration, grazing, recreational uses are unlikely to change from past and present conditions.

#### *5.3.7.3 Proposed Action*

The Proposed Action would strip and stockpile topsoil, which would be re-applied over the site as growth media as the site is concurrently reclaimed where possible. With reclamation measures, the Proposed Action would have a low impact on soil resources over the long-term.

#### *5.3.7.4 Alternative A*

Alternative A would strip and stockpile topsoil, which would be re-applied over the site as growth media as the site is concurrently reclaimed where possible. With reclamation measures, Alternative A would have a low impact on soil resources over the long-term.

#### *5.3.7.5 Cumulative Impact*

Collectively, continued ground-disturbing activities, largely due to mining, residential development, and road construction/maintenance, would continue to moderately impact soils within the impact assessment area, regardless of whether the Proposed Action or Alternative A is approved.

#### *5.3.7.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for soils as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.8 Vegetation Resources**

#### *5.3.8.1 Past and Present Actions*

Ground-disturbing activities have affected the vegetation resources within the impact assessment area through clearing for mines, residences, roads, grazing, dispersed camp sites, and off-road vehicle tracks. The impacts to vegetation from ground-disturbing activities impacts have been low given the relatively small areas of impact compared to 3,373-acre impact assessment area.

#### *5.3.8.2 Reasonably Foreseeable Future Actions*

Future ground-disturbing activities are anticipated to have a low affect on the vegetation resources within the impact assessment area. Impacts from grazing and recreational uses are unlikely to change from past and present conditions. Mineral exploration, mining, residential development, and road construction/maintenance may increase and cause low impacts to vegetation resources in the foreseeable future.

#### *5.3.8.3 Proposed Action*

The Proposed Action would disturb about 53.3 acres, which would be concurrently reclaimed as possible with species approved by the BLM. With reclamation and mitigation measures, the Proposed Action would have a low short-term impact and no

negative effect on vegetation resources in the long-term and may encourage, through natural successional processes, the reestablishment of a diverse, native plant community.

#### *5.3.8.4 Alternative A*

Alternative A would disturb about 40.8 acres, which would be concurrently reclaimed as possible with species approved by the BLM. With reclamation and mitigation measures, Alternative A would have a low short-term impact and no negative effect on vegetation resources in the long-term and may encourage, through natural successional processes, the reestablishment of a diverse, native plant community.

#### *5.3.8.5 Cumulative Impact*

Collectively, ground-disturbing activities would continue to have a low impact to the vegetation resource within the impact assessment area, regardless of whether the Proposed Action or Alternative A is approved given the relatively small proposed area of disturbance compared to the 3,373-acre impact assessment area.

#### *5.3.8.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for vegetation resources as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.9 Wildlife Resources**

#### *5.3.9.1 Past and Present Actions*

Ground-disturbing activities have displaced wildlife species and potentially impacted wildlife habitat within the impact assessment area. Mining, grazing, and recreation have contributed to short-term, temporary impacts; residential development, road construction, and un-reclaimed mining activities have caused long-term, permanent impacts. The overall impact within the assessment area is low.

#### *5.3.9.2 Reasonably Foreseeable Future Actions*

Future ground-disturbing activities, largely through residential development and road construction, would continue to have a low impact to wildlife species. Mining may cause short-term impacts, but the wildlife resources should be restored once the areas are reclaimed. Impacts from grazing and recreational uses are unlikely to change from the past and present conditions.

#### *5.3.9.3 Proposed Action*

The Proposed Action would disturb about a 53.3-acre footprint, but would be reclaimed concurrently where possible. With proposed reclamation measures, the Proposed Action would have a low effect in the short-term and would not negatively impact wildlife resources in the long-term because the final mine slopes will be recontoured to blend with the natural topography and seeded with a seed mix recommended by the BLM. The

Proposed Action may help establish a more diverse, native plant community than presently exists.

#### *5.3.9.4 Alternative A*

Alternative A would disturb about a 40.8-acre footprint, but would be reclaimed concurrently where possible. With reclamation measures, Alternative A would have a low effect in the short-term and would not negatively impact wildlife resources in the long-term. Alternative A may help establish a more diverse, native plant community than presently exists.

#### *5.3.9.5 Cumulative Impact*

Continued ground-disturbing activities, such as residential development and road construction, would continue to collectively have a low impact on wildlife resources within the impact assessment area, regardless of whether the Proposed Action or Alternative A is approved. Although roads and housing development result in permanent habitat loss, the acreage potentially affected by such development within the 3,373-acre impact assessment area is relatively low resulting in a projected low cumulative impact to wildlife resources.

#### *5.3.9.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for wildlife resources as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.10 Range Resources**

#### *5.3.10.1 Past and Present Actions*

Mining, grazing, and recreation have contributed to short-term, temporary impacts; residential development and road construction have caused long-term, permanent impacts throughout the Diamond S Allotment, which includes both private and public land. A small area (exposed rock topography) has sustained permanent impact from mining. The overall impact on the public land within the assessment area is low.

#### *5.3.10.2 Reasonably Foreseeable Future Actions*

Future ground-disturbing activities, largely due to residential development and road construction, would continue to have a low impact on range resources. Mining may cause short-term impacts, but the rangeland should recover once the areas are reclaimed. Impacts from grazing and recreational uses are unlikely to change from the past and present conditions.

#### *5.3.10.3 Proposed Action*

Range resources would not be affected by the Proposed Action except for a short-term, minor reduction in acreage available for grazing (less than 54 acres out of approximately

33,665 acres, or 0.2 percent of the Diamond S Allotment). With reclamation measures, the Proposed Action would have no long-term impact on range resources.

#### *5.3.10.4 Alternative A*

Range resources would not be affected by Alternative A except for a short-term, minor reduction in acreage available for grazing (less than 41 acres out of approximately 33,665 acres, or 0.1 percent of the Diamond S Allotment). With reclamation measures, Alternative A would have no long-term impact on range resources.

#### *5.3.10.5 Cumulative Impact*

Collectively, continued ground-disturbing activities, largely due to residential development and road construction, would continue to have a low impact on rangeland resources within the impact assessment area, regardless of whether the Proposed Action or Alternative A is approved.

#### *5.3.10.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for range resources as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.11 Recreation**

#### *5.3.11.1 Past and Present Actions*

Past and present actions have had a low impact on recreation within the impact assessment area.

#### *5.3.11.2 Reasonably Foreseeable Future Actions*

Reasonably foreseeable future actions are anticipated to have a low impact on recreation. Reasonably foreseeable future actions such as increased development and road improvements may serve to increase the level and accessibility of recreational use.

#### *5.3.11.3 Proposed Action*

There would be no negative effects to recreational uses from the Proposed Action and there may be a slightly positive post-mining effect due to road improvements.

#### *5.3.11.4 Alternative A*

There would be no negative effects to recreational uses from Alternative A and there may be a slightly positive post-mining effect due to road improvements.

#### *5.3.11.5 Cumulative Impact*

Cumulatively, the overall impact on recreation would be low and perhaps positive, regardless of whether the Proposed Action or Alternative A is approved.

#### *5.3.11.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for recreation as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.12 Noise**

#### *5.3.12.1 Past and Present Actions*

Mining, residential development, and road construction/maintenance have generated low noise impacts within the impact assessment area. Noise impacts from mining and road construction/maintenance are temporary and cease once the activity is completed. Residential development and associated traffic causes permanent noise impacts. Mineral exploration, grazing, and recreational activities have not generated identifiable noise impacts within the impact assessment area.

#### *5.3.12.2 Reasonably Foreseeable Future Actions*

Increased mining, residential development, and road construction/maintenance would contribute to collectively low noise impacts within the impact assessment area. Noise impacts from mining and road construction/maintenance would be temporary and would cease once the activity is completed. Residential development would cause permanent noise impacts. Impacts from mineral exploration, grazing, and recreational activities would not increase in the foreseeable future.

#### *5.3.12.3 Proposed Action*

The mining and processing activities would generate moderate noise impacts that would be restricted to the truck traffic and seasonal mining campaigns and would cease once the project is completed.

#### *5.3.12.4 Alternative A*

The mining and processing activities would generate moderate noise impacts that would be restricted to the truck traffic and seasonal mining campaigns and would cease once the project is completed.

#### *5.3.12.5 Cumulative Impact*

Collectively, noise within the impact assessment area has been and is likely to remain low, regardless of whether the Proposed Action or Alternative A is approved. Except for residential development, all of the other activities within the impact assessment area have only temporary noise impacts.

#### *5.3.12.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for noise as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.



### **5.3.13 Visual**

#### *5.3.13.1 Past and Present Actions*

Ground-disturbing activities, largely due to mining, residential development, and road construction, have moderately altered the visual resources of the impact assessment area. Mineral exploration, grazing, and recreation have not affected the visual resources. The current Proposed Action or Alternative A is subject to VRM Class III management objectives.

#### *5.3.13.2 Reasonably Foreseeable Future Actions*

Future ground-disturbing activities from mining, residential development, and road construction would continue to moderately impact the assessment area's visual resources and activity on the public land within the assessment area would be subject to VRM Class III management objectives. Mining on public lands would be mitigated by reclaiming the disturbed areas to meet VRM Class III management objectives.

#### *5.3.13.3 Proposed Action*

The Proposed Action would have a moderate, short-term impact to visual resources. With reclamation measures, the Proposed Action would not affect visual resources in the long-term.

#### *5.3.13.4 Alternative A*

Alternative A would have a moderate, short-term impact to visual resources. With reclamation measures, Alternative A would not affect visual resources in the long-term.

#### *5.3.13.5 Cumulative Impact*

Continued ground-disturbing activities from mining, residential development, road construction would collectively continue to moderately impact the visual resources within the impact assessment area, regardless of whether the Proposed Action or Alternative A is approved.

#### *5.3.13.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for visual resources as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

### **5.3.14 Social and Economic Values**

#### *5.3.14.1 Past and Present Actions*

The impact assessment area surrounding the project is sparsely populated and traffic levels have been and are currently low. Railroad and highway construction have brought economic benefits to the surrounding area that has been historically dependent on mining and ranching, but residential development is still not a major factor in local economics.

#### *5.3.14.2 Reasonably Foreseeable Future Actions*

Cumulative impacts to socio-economics can be expected to change as the area becomes more residential and less resource extraction oriented or vice versa. Future residential development in the immediate vicinity of Kramer Hill would depend on water resources and employment and recreational opportunities. Given the rural character of the impact assessment area, traffic levels are likely to remain low into the foreseeable future, even with some expectation of increased development.

#### *5.3.14.3 Proposed Action*

The Proposed Action is projected to have moderately positive effects on the local economy with additional local employment and benefit to local business and service industries over the projected 20-year life of the project. Traffic levels would increase moderately as a result of the Proposed Action, with the greatest increases occurring during the seasonal mining campaigns over the life of the mine.

#### *5.3.14.4 Alternative A*

Alternative A would be the same as the Proposed Action, however, the positive effects on the local economy could only be projected in five-year increments, subject to renewal of the noncompetitive sales contract over the projected 20-year life of the project. Traffic levels would increase moderately as a result of Alternative A, with the greatest increases occurring during the seasonal mining campaigns over the life of the mine.

#### *5.3.14.5 Cumulative Impact*

The cumulative impacts to socio-economics are expected to be positive during the short-term life of the quarry. A longer-term economic perspective requires a diversification of employment in the area to avoid dependence on ranching and mining as the primary, but cyclically variable, sources of income. Cumulatively, traffic levels are anticipated to remain low within the impact assessment area.

#### *5.3.14.6 No Action Alternative*

Under the No Action Alternative, the cumulative impacts would be the same for social and economic values as described for past and present actions above. Future actions would likely include mining as a factor regardless of whether the Proposed Action or Alternative A is approved.

## **6.0 PROPOSED MITIGATION AND MONITORING**

No additional mitigation has been identified outside of the Proposed Action or Alternative A. The Winnemucca Field Office BLM would be responsible for monitoring the Proposed Action or Alternative A to assure compliance with 43 CFR Section 3809 and to oversee the contractual obligations for reclamation and to monitor for successful post-mining establishment of the prescribed vegetation under 43 CFR Section 3602.

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## **7.0     CONSULTATION AND COORDINATION**

### **7.1     PUBLIC NOTICE AND AVAILABILITY**

The BLM mailed information about the proposed Kramer Hill Quartzite Quarry Expansion Plan of Operation on August 19, 2005 to interested parties. Additionally, the BLM sent a public news release on August 29, 2005 to the Humboldt Sun, Associated Press (Reno), Battle Mountain Bugle, Elko Daily Free Press, and local radio stations. See Appendix E for the complete media distribution list. The Plan of Operation is available for review at the BLM Winnemucca Field Office.

Letters were also submitted to the Battle Mountain Band Council and the Winnemucca Tribal Council to initiate the consultation process.

### **7.2     LIST OF PREPARERS**

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