

LAWRENCE COUNTY CONDITIONAL USE PERMIT APPLICATION

DEADWOOD STANDARD PROJECT

LAWRENCE COUNTY, SOUTH DAKOTA

Prepared for:

Lawrence County Planning and Zoning Commission  
90 Sherman Street  
Deadwood, SD

May, 2020

Revised: September 4, 2020

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## INTRODUCTION

This request is for an Extractive Industry Conditional Use Permit (CUP) for Lawrence County, pursuant to Chapter 20, Extractive Industry Conditional Use Permits, Buffer Zones and Waivers of the Lawrence County Zoning Ordinances. The proposed CUP addresses the Deadwood Standard Project, which is located in Sections 29, 30, 31, 32 and 33, Township 5 North, Range 2 East, Black Hills Meridian.

The Deadwood Standard Project lies on lode mining claims patented under the General Mining Law of 1872. Lands within the project area were initially operated by the Spearfish Mining Company, the Deadwood Standard Mining and Milling Co. and others in the late 1800's and early 1900's. Exploration was conducted on the property during the 1980's and 1990's by companies including Homestake Mining Company, Minerva Explorations, and LAC Minerals (USA) Inc. A gold resource is defined on the property based on over 900 exploration drill holes, ore metallurgical studies and engineering analyses.

VMC LLC holds a valid state of South Dakota Large Scale Mining Permit for the project. Mine Permit 416 authorizes mining 870,000 tons of gold ore from 14 small surface quarries ranging in size from ½ acre to 5.2 acres. Permit 416 also authorizes ancillary activities such as topsoil stockpiling, overburden stockpiling, crushing, and ore haulage. Mine Permit 416 does not authorize onsite mineral processing. This CUP application requests county approval of mining at the Deadwood Standard Project as currently authorized by Mine Permit 416. Importantly, no onsite mineral processing using cyanide or other chemical reagents would be authorized in the CUP, which is consistent with Mine Permit 416.

In 2012, VMC LLC requested a CUP for a significantly larger proposal for the Deadwood Standard Project, which included onsite mineral processing. VMC LLC decided that onsite mineral processing is not practical, and processing will not be conducted onsite. This proposal requests county authorization to mine 870,000 tons of ore, consistent with Mine Permit 416, which results in a smaller proposed disturbance area as compared to our 2012 proposal to Lawrence County.

VMC LLC respectfully requests your favorable consideration to this CUP Application for its proposed mining operation.

## **Section 1**

**PROPERTY INFORMATION:**

Property Address: 7 Miles West of Lead, SD City: \_\_\_\_\_ Zip: \_\_\_\_\_  
General Location: Sections 29, 30, 31, 32, T5N, R2E, BHM Parcel #: \_\_\_\_\_  
Legal Description (this must be the exact legal description to be used for the purpose of the CUP requested):

SEE ATTACHED EXHIBITS A & B

S-T-R: \_\_\_\_\_ Subdivision: \_\_\_\_\_ Acreage: \_\_\_\_\_

**OWNER/PETITIONER INFORMATION:**

Owner's Name: SEE ATTACHED EXHIBIT C  
Address \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Petitioner Name: VMC, LLC  
Address 1110 Crestridge Court City: Rapid City State: SD Zip: 57701  
Phone: (970) 846-6040 Email: valentine383@aol.com

**ZONING:**

Current Property Zoning:  A-1  A-2  PF  RR  SRD  GC  RC  HSC  C/LI  I-1  PUD  
Surrounding Property Zoning :  A-1  A-2  PF  RR  SRD  GC  RC  HSC  C/LI  I-1  PUD

**CONDITIONAL USE REQUESTED:**

**EXTRACTIVE INDUSTRY CONDITIONAL USE PERMIT**

The OWNER, APPLICANT, OR AUTHORIZED AGENT, ACKNOWLEDGES: That he/she has read and received a copy of the instruction sheet and this application form concerning the filing and hearing of this matter; that he/she authorizes the Lawrence County Planning Department staff and designees to enter onto and inspect the above-described property; and that he/she has been advised of the fee requirements and they have been paid.

X \_\_\_\_\_ Date \_\_\_\_\_ X Julia R. Funderborn 3/16/2020  
Signature of Property Owner Date Signature of Petitioner or Authorized Agent Date

**FOR OFFICE USE ONLY:**

CUP # \_\_\_\_\_

Fee of \$ \_\_\_\_\_ for \_\_\_\_\_ Paid on \_\_\_\_/\_\_\_\_/\_\_\_\_ by Cash or Check

# \_\_\_\_\_  
Fee for Sign Deposit \$100 Paid on \_\_\_\_/\_\_\_\_/\_\_\_\_ by Cash or Check # \_\_\_\_\_

**Meeting Dates and Times:**

# **Exhibit A**

## **Legal Descriptions of Parcels located within Proposed CUP Permit Area**

### Lands Owned by VMC LLC

Hermitage, Hermitage Fraction, Hermitage No. 2, Hermitage No. 3, Hermitage No. 4 Lodes of Mineral Survey 1334 located in sections 29, 30, 31 and 32, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Spearfish Falls and White Ridge Lodes of Mineral Survey 1435 located in Section 31, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Snowy Day, Black, Friar Hill and Morton Lodes of Mineral Survey 1464 located in Sections 31 and 32, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Metallic Streak No. 1 Lode of Mineral Survey 1486 located in Sections 29 and 30, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Gold Brick No. 1, Gold Brick Fraction and Gold Brick No. 2 Lodes of Mineral Survey 1527 located in Section 32, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Hesitation Lode of Mineral Survey 1560 located in Section 32, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Lee No. 10, Lee No. 11, and Puritan No. 12 Lodes of Mineral Survey 1609 located in Section 31, Township 5 North, Range 2 East, and Sections 5 and 6, Township 4 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Belmont No. 1, Black Diamond, Black Diamond Fraction, Ella, McKinley and William Penn No. 1 Lodes of Mineral Survey 1651 located in Sections 31 and 32 Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Betty and Donna Lodes of Mineral Survey 2111 located in Section 31, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Pay Streak and Ben Hur Fraction Lodes of Mineral Survey 1528 located in Section 31, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4.

Lands owned by Atlas Development (Paul Bradsky) (25 percent), Ms. Nancy Bradsky (25 percent), Mr. Keith Smith (25 percent) and Louise Chafee Revocable Trust (25 percent)

Kuna, Transfer Gold Fraction, Olga, Otava No. 1, Sacramento, Transfer Gold No. 1, Vodopich Fraction, Zanzibar and Zanzibar Fraction Lodes of Mineral Survey 1637 located in Section 32, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4.

Lands owned by G & L Properties now known as Limestone LLC (100 percent surface and 50 percent minerals) and the Aye Family Trust (50 percent minerals) within the proposed buffer zone

Sarah Fraction and Sofia Lodes of Mineral Survey 1491 located in Section 32, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4;

Moda Fraction, Dom Fraction, Dom No. 1, Dom No.2, Dom No. 3, Dom No. 4, Hanshka No 1, and Hanshka No. 2 Lodes of Mineral Survey 1504 located in Sections 31 and 32, Township 5 North, Range 2 East, and Section 5, Township 4 North, Range 2 East, Black Hills Meridian as shown on Map 4;

John No. 2 and John No. 3 Lodes of Mineral Survey 1631 located in Section 32, Township 5 North, Range 2 East, Black Hills Meridian as shown on Map 4.



## **Exhibit B- Deleted**

## **Exhibit C**

### **Ownership List for Deadwood Standard Project**

VMC LLC

G & L properties now known as Limestone LLC (100 percent surface and 50 percent minerals) and the Ayes Family Trust (50 percent minerals).

Atlas Development (Paul Bradsky) (25 percent), Ms. Nancy Bradsky (25 percent), Mr. Keith Smit Smith (25 percent), and Louise Chafee Revocable Trust (25 percent).

**From:** dvbender@aol.com,  
**To:** DVBender@aol.com,  
**Subject:** Johnson Gulch Gold Land  
**Date:** Thu, May 14, 2020 12:33 pm

---

**From:** "Paul J. Bradsky" <pbradsky@aol.com>  
**Date:** April 24, 2020 at 10:58:21 AM MDT  
**To:** John Frederickson <John@deadwoodlawyer.com>  
**Cc:** "kirkchaffee@me.com" <kirkchaffee@me.com>, "krsmmit@rushmore.com" <krsmmit@rushmore.com>, "msbradsky@gmail.com" <msbradsky@gmail.com>, "tbradsky@aol.com" <tbradsky@aol.com>  
**Subject:** Johnson Gulch Gold Land

John,

Please be advised that VMC, LLC, its agents or representatives, are hereby allowed to represent Atlas Development, LLC et al. regarding VMC's Conditional Use Permit application for the permitting required for the Deadwood Standard Project in Lawrence County, SD.

Let me know if you have any questions or require anything else.

Paul J. Bradsky  
Bradsky, Bradsky & Bradsky, P.C.  
927 Main St. Rapid City, SD 57701

(cell) 605-431-3160  
(fax) 605-342-8504  
e-mail: pbradsky@aol.com

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Melanie Sieveke

---

m: Gary Salmen <glsalmen@gmail.com>  
Tuesday, November 12, 2019 10:16 AM  
To: John Frederickson  
Subject: Fwd: LIMESTONE LLC GARY SALMEN

----- Forwarded message -----

From: Gary Salmen <glsalmen@gmail.com>  
Date: Tue, Sep 24, 2019 at 10:37 AM  
Subject: LIMESTONE LLC GARY SALMEN  
To: <avogt@lawrence.sd.us>

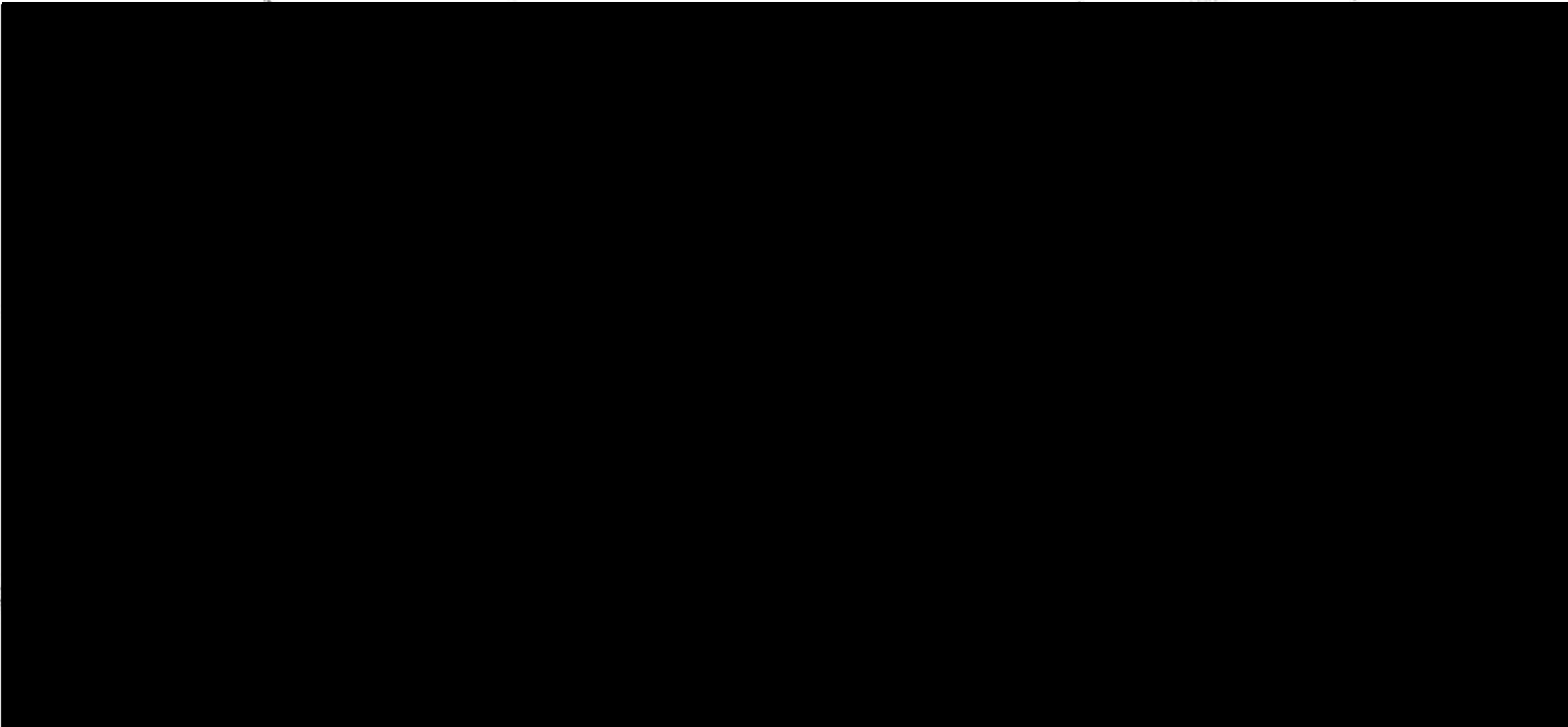
**Amber,**

**Please be advised that Don Valentine, his Agents and Representatives will be representing Limestone LLC regarding the conditional use permit 416.**

**Sincerely,**

**Gary Salmen**

**Managing Member of Limestone LLC**



## Section 2

## Section 2

### II-20.005 Site Plans, Maps and Other Information

#### (A) Maps (II-20.005 (A))

The following maps are provided:

- **Map 1** is a topographic map of the site location showing the proposed permit area, buffer zone, and existing public and National Forest System roads that would be used to access the site (II-20.005 (A)(2), II-20.005 (A)(3), II-20.005 (A)(7), II-20.005 (A)(7)).
- **Map 2** is an aerial photo of the site location (II-20.005 (A)(6)).
- **Map 3** is a mine plan map, which identifies the proposed permit and disturbance area; access roads: haul roads, waste disposal sites, material storage areas, proposed structures, proposed and existing grading, drainage patterns, and proposed improvements (II-20.005 (A)(2), II-20.005 (A)(3), II-20.005 (A)(4)), II-20.005 (A)(8), II-20.005 (A)(9), II-20.005 (A)(11), II-20.005 (A)(12), II-20.005 (A)(13)).
- **Map 4** is a land status map, which identifies landowners in the proposed permit area and buffer zone (II-20.005 (A)(18)).
- **Map 5** is a reclamation map (II-20.005 (A)(6)).
- **Map 6** is a map showing existing groundwater monitoring wells. No new wells are proposed (II-20.005 (A)(15)).

There are no proposed lots, septic systems or drain fields associated with the project (II-20.005 (A)(15), II-20.005 (A)(16)).

The following sections provide additional discussion regarding the information conveyed on the maps.

*(A)1 Adjacent landowners within 500 feet of the proposed permit area*

The land status map (Map 4) identifies adjacent landowners within 500 ft. of the proposed permit area (i.e. the 500 ft. buffer zone). Lands within the buffer zone consist of private lands owned by Paisley, Atlas Development, and Limestone LLC and public lands administered by the Forest Service. Legal descriptions of lands within the 500 ft. buffer zone are presented in Appendix B.

*(A)2 Proposed permit and disturbance areas*

The proposed permit area is shown on Maps 1, 2 and 3. Maps 1 and 2 show the location of the proposed permit area in relation to adjacent lands. Map 3 provides additional detail and shows mining-related disturbance that would occur within the permit area. The permit and disturbance areas are consistent with the areas authorized by Permit 416.

The proposed permit area includes four individual permit areas:

- **Zone 1** is located on the north end of the project area. The Zone 1 permit area is 2.9 acres in size and includes one small pit and an overburden stockpile.
- **Zone 2** is 4.1 acres in size and includes one pit, an overburden stockpile and a topsoil stockpile.



- **Zone 3** is the largest permit area. It is 89 acres in size and includes 11 pits, three overburden stockpile, and five topsoil stockpiles.
- **Zone 4** is 25.6 acres in size and includes one pit, two overburden stockpiles and a topsoil stockpile.

Overall, 14 pits would be excavated over the life of the mine affecting a total area of 31 acres. The size of the individual pits ranges from ½ acre to 5.2 acres. Seven overburden stockpiles would be constructed over the life of the mine affecting 18.2 acres, and 8 topsoil stockpiles would be constructed affecting 8.2 acres.

Individual pits would be mined in a generally sequential manner, and reclamation would be conducted concurrently with mining. Accordingly, the disturbance area at any one time during the mining operation would be significantly smaller than the overall disturbance area. Mining disturbance at any one time during the operation would be approximately 10 acres.

### *(A)3 Access Roads*

The mining operation will be accessed using existing roads as currently authorized by Permit 416:

*Approximately two miles of road will be upgraded leading into the mine area. All upgrading will be done in accordance with conventional section, rolling dip, and turnout design specifications. Road upgrading and widening will be minimized, with proper drainage and crown surfacing being critical (Permit 416 Section 5.1.6).*

Existing roads that will be used to access the project are shown on maps 1, 2 and 3. In addition, several temporary access roads authorized by Permit 416 would be constructed to support the project as shown on the Mine Plan Map (Map 3).

A Forest Service (USFS) Special Use Permit is necessary to facilitate use of a section of the existing road located in Sections 32 and 33. On December 14, 2011, VMC secured a Special Use Permit for use of the road. The Special Use Permit is identified as SFN488. The route is identified by the Forest Service as road U050132. The section of the existing road covered by the Special Use Permit was identified as running only through Section 33, T5N, R2E, in Lawrence County. Special Use Permit SFN488 was issued for ten (10) years until December 2021. It was discovered that the legal description for the Special Use Permit did not include a short stretch of U050132 in Section 32, T5N, R2E, in Lawrence County. The USFS is in the process of modifying the road use authorization to include this short stretch of existing road in Section 32. (See March 13, 2020 email from District Ranger Steve Kozel, Exhibits D1 to D3).

In Section 33, the existing road crosses private property owned by Malsem and Wharf Resources. VMC holds easements that provide for use of this portion of the existing road.

#### *(A)4 Haul Roads*

The Deadwood Standard Project would include mining of ore from four geographically distinct zones (Zone 1 through 4), and haulage of the ore to a centralized course ore stockpile located in Zone 3. Ore would be hauled primarily on existing roads. In addition, several temporary access roads would be constructed as shown on Map 3.

These temporary access roads were designed to provide access to specific pits, overburden stockpiles and topsoil stockpiles within the permit area. All ore haulage would be conducted in accordance with Mine Safety and Health Administration (MSHA) regulations.

*(A)5 Buffer Zones*

The proposed 500' buffer zone is shown on Map 4.

*(A)6 Aerial Photo of Site Location*

An aerial photo of the site location is shown on Map 2.

*(A)7 Topographic map of site location*

The Topographic map of the site location is shown on Maps 1 and 3.

*(A)8 Waste Disposal Sites*

There are no proposed waste disposal sites on the property. All waste or garbage generated through or by the mining operations would be collected and disposed of in standard portable waste disposal receptacles and hauled off the property to an approved and licensed disposal site.

*(A)9 Material Storage Areas*

Material storage areas including overburden stockpiles and topsoil stockpiles are shown on Map 3. All material storage areas will be removed during concurrent and final

reclamation. Stockpiled overburden would be used to backfill pits, and stockpiled topsoil would be used as growth media for reclamation.

*(A)10 Setbacks*

VMC LLC would not construct any permanent structures. Portable toilet facilities would be placed close to active work areas and would be serviced by a local sanitary service. The location of these facilities would change depending on which mining area is active at any given time. There would be no need for setbacks.

*(A)11 Existing and proposed structures, dimensions, design specifications, and location of all facilities (i.e., pump stations, gas tanks, and the like)*

VMC does not propose to construct any structures.

*(A)12 Proposed and existing grading, drainage patterns, and landscaping*

The Mine Plan Map (Map 3) and Reclamation Map (Map 6) provide information regarding proposed ground disturbing activities associated with the project. VMC will conduct grading and maintenance of existing roads utilized by the project and temporary access roads constructed to access specific pits, overburden stockpiles or topsoil stockpiles. VMC will also conduct minor grading associated with stormwater management structures as required to comply with state water quality regulations.

*(A)13 Proposed and existing improvements, including sewer and water facilities, parking, and roads*

There are no proposed or existing sewer and water facilities, or other improvements associated with this project. Temporary parking for mining equipment and employees would occur within the permit boundary for the duration of activities in a specific mining area. No permanent parking areas or roads are proposed to be constructed.

*(A)14 All property lines and dimensions of the lot(s)*

The Land Status Map (Map 4) provides this information.

*(A)15 Proposed and existing wells*

VMC LLC maintains a network of surface water and groundwater quality monitoring stations associated with the project and has collected baseline water quality data for surface water and groundwater. Seven groundwater monitoring wells are present in the vicinity of the project area as shown on Map 5.

*(A)16 Proposed and existing septic systems and drain fields*

There are no existing septic systems or drain fields within the permit area. No septic systems or drain fields will be constructed or used for the mining operation. Portable toilets will be used, which will be serviced through a local sanitary service company.

*(A)17 Access to public roads and intersections of public roads*

Access to public roads and intersections of public roads is shown on Map1 and Map 2. The project would not affect access to public roads and intersections of public roads.

*(A)18 Proposed reclamation map*

Map 6 is the proposed reclamation map. All pits constructed during the project would be backfilled using overburden from the overburden stockpiles. After the pits have been backfilled, a layer of topsoil would be placed over the backfilled material, and the area would be revegetated. In addition, the footprint of the former overburden and topsoil stockpiles will be reclaimed, and temporary access roads that were constructed to access specific pits, overburden stockpiles and topsoil stockpiles would be reclaimed. Existing roads used by the project would be left in a condition acceptable to the private landowner, or in the case of the Forest System Lands, as required by terms and conditions of the Forest Service Special Use Permit.

*(B) Written Summary (II-20.005 (B))*

*(1) Proposed Method of Operating and Processing (II-20.005 (B)(1))*

The proposed method of operating and processing is based on specific activities currently authorized by Mine Permit 416. Fourteen individual pits ranging in size from 1/2 acre to 5.2 acres would be mined sequentially. Initially, only one pit would be developed, but as the project advances, several small pits may be worked concurrently to provide for blending of ore types and scheduling of topsoil stockpiling, overburden

removal, ore removal, and reclamation stages at the various pits. The Mine Plan Map (Map 4) depicts the proposed location of pits, topsoil stockpiles and overburden stockpiles. The mine plan map also depicts proposed access to the various pits and stockpiles, and the location of a proposed crusher and ore stockpile.

The following description of the Method of Operating and Processing includes excerpts from Section 5 of Mine Permit 416. In this CUP application, VMC LLC is requesting authorization from Lawrence County to mine at the Deadwood Standard project as currently authorized by Permit 416. Accordingly, the descriptions of the mining process included in Permit 416 are applicable to this application. Language that has been excerpted from Permit 416 is depicted in *italics* with the associated reference.

#### *Timber and Topsoil Removal*

VMC LLC proposes to conduct timber and topsoil removal as currently authorized in Permit 416:

*Development operations would begin with timber clearing using a logging contractor. Stump removal would be undertaken by the mining contractor during topsoil removal. Generally, most of the ore blocks in the Johnson Gulch area contain 1-3 feet of topsoil and subsoil, and 20-30 feet of waste overburden. Topsoil and subsoil horizons would be removed and stockpiled adjacent to the pits, on the upslope side if possible. Sediment collection ditches would be utilized where necessary to minimize losses by erosion (Permit 416, Section 5.1.2).*

#### *Overburden Removal*

VMC LLC proposes to conduct overburden removal as currently authorized in Permit 416:

*Waste overburden would be removed to a predetermined plane immediately above the ore horizon by ripping and shooting. Ripper-dozers, air-track drills, and wheel loaders of 3-6 yd<sup>3</sup> capacity would be utilized to excavate the overburden waste rock. ANFO blasting agents and cap-sensitive water gel and emulsion explosives would be used to loosen the waste overburden rocks. All mining and blasting operations would be done in accordance with applicable Federal Metal and Nonmetallic Mine Safety and Health Regulations.*

*Generally, an 8-12% haulage decline would be established during ripping operations to facilitate overburden removal. In some cases, overburden removal would be interrupted in order to selectively mine intermediate, marginal ore horizons. Surveyors and a geologist would be present during all phases of development and production to assist and guide the contractor in maintaining grade control.*

*A small track loader (1 yd<sup>3</sup> capacity) or backhoe would be used to remove the remaining waste overburden in the concave undulations between the ripping plane and the top of the ore horizon. In most instances, the waste undulations will be removed in one continuous operation across the pit bottom prior to initiating ore production. Generally, the waste-cleaning operation would be guided primarily by accurate survey control based on drill-hole intercepts, visual geologic control, and production sampling (Permit 416, Section 5.1.3).*



## *Sampling*

VMC LLC proposes to conduct sampling as currently authorized in Permit 416:

*Because of the limited amount of primary sampling (core drilling) within the Johnson Gulch ore areas, supplementary fill-in drilling with core or rotary, reverse-circulation drills would be required on patterns such as 50 x 50 ft. All holes not mined would be plugged according to ARSD 74:11:08:04 "Minimal Acceptable Plugging Method" or ARSD 74:11:08:07 "Plugging Artesian Wells". In the event that temporary plugging is necessary in order to reopen a hole, a four-foot length of wooden post or steel pipe would be installed in the collar and clearly marked to indicate its presence. This type of secondary, fill-in sampling would be done on an ongoing basis in the planned mining areas prior to pit development. Sampling techniques used within a producing pit would include collecting bottom (floor) samples, blasthole drill samples, and face pick samples.*

## *Ore Removal*

The gold mineralization occurs in two shallow, approximately horizontal layers or "horizons". Excavation depths would range from 2 feet (ft) to 72 feet (ft) with an average depth of approximately 24 ft. Seventy-five percent of the ore lies at a depth of less than 35 feet with the shallowest ore located in areas relatively closer to the canyon.

VMC LLC proposes to conduct ore removal as currently authorized in Permit 416:

*Access to the ore horizon would be obtained by means of the haulage decline established during the overburden removal phase. This*

*decline would generally be driven to the bottom of the ore horizon, thence along the lower boundary of the ore horizon. In most cases, the haulageway would cross one axis of the pit and extend to the opposite side, dividing the pit into two opposing vertical ore faces.*

*Because of the generally erratic, undulating nature of the ore horizon (usually 2-5 ft. thick), a combination of ore removal techniques would be employed. In areas where the ore horizon is relatively uniform and continuous, ripping techniques would be utilized. In uniform areas where ripping is impractical, an air-track drill would be used to drill vertical holes (H - 3i in. dia.) from the upper boundary of the ore horizon. These holes would be slashed to a vertical face using ANFO blasting agents and cap sensitive water gel or emulsion explosives.*

*To maximize ore grade control, no more than two or three rows of holes would be drilled and blasted beyond the existing vertical ore face. Similarly, a concerted effort would be made to minimize rock displacement (heave) during blasting due to grade control considerations. Wheel loaders of 3-6 yd 3 capacity would then muck the blasted ore, loading into trucks situated in the pit, or at the top of the ramp, depending on the size of the pit. If excessive ore dilution results from the use of wheel loaders, the ore would be mucked using a backhoe situated on top of the ore horizon above the final pit floor (Mine Permit 416, Section 5.1.5).*

In late 2012, VMC LLC conducted an investigation of noise, which characterized baseline sound-levels in Spearfish Canyon and measured noise generated by heavy

equipment operation, equipment back-up alarms and blasting. The reports of these investigations, *Background Sound-level Study for the Deadwood Standard Mine Project* (Kliche, 2013a) and *Sound-Level and Vibration Monitoring In and Above Spearfish Canyon for the Deadwood Standard Mining Company* (Kliche, 2013b) are available for review upon request. The baseline sound-level assessment found that the dominant source of noise in Spearfish Canyon is traffic including cars, pick-up trucks and louder vehicles such as logging trucks and motorcycles. Natural sounds such as the gurgling of Spearfish Creek and the sound of waterfalls also contribute to baseline sound-levels. The sound-level monitoring found that noise associated with equipment operation, equipment back-up alarms and blasting at production scale were not audible in Spearfish Canyon and were not detectable by sensitive sound-level monitoring instruments set up in the canyon.

Blast vibration was measured during test blasts conducted for the noise study. Very low levels of blast vibration were detected at the canyon rim during two of the three test blasts. However, the maximum values were well below accepted damage criteria levels established by the U.S. Bureau of Mines (Sinkind et al., 1989). No blast vibrations were detected at a monitoring station within Spearfish Canyon.

### *Crushing and Hauling*

Permit 416 authorizes mining of ore at the Deadwood Standard Project with haulage to the Homestake Mill in Lead, SD for mineral processing. The mineral processing facility in Lead, SD is no longer present, and accordingly, mineral processing at the Homestake Mill is not possible. This application for a Lawrence County Conditional Use Permit differs from Permit 416 in that we are requesting authorization

by the county of mining at the Deadwood Standard Project with processing at an unspecified offsite facility. Additional discussion of mineral processing is presented in the following section. Pertinent sections of Permit 416, which relate to crushing and hauling of ore, are provided below.

*Ore would be loaded into off-road trucks and transported to a centrally located crushing plant on site. The ore would then be crushed to minus 3/8 inch and re-loaded into highway trucks for transport to (an approved offsite processing facility). Approximately two miles of road would be upgraded leading into the Johnson Gulch mine area. All upgrading would be done in accordance with conventional section, rolling dip, and turnout design specifications. Road upgrading and widening would be minimized, with proper drainage and crown surfacing being critical. Haul roads would be treated as necessary to control dust during the summer months. Typical highway trucks utilized would be 15-ton capacity, tandem axle end-dump units (Permit 416, Section 5.1.6).*

VMC proposes to conduct crushing and haulage as currently authorized by Mine Permit 416.

### *Mineral Processing*

VMC LLC is examining options for an off-site mineral processing facility. Mineral processing may occur at an existing mineral processing facility, or at a new mineral processing facility. A new facility could be constructed to process gold ore specifically for the Deadwood Standard Project, or as a toll-milling facility that would receive ore

from the Deadwood Standard Project and other gold mining projects in the northern Black Hills.

Design, permitting and construction of a mineral processing facility requires significant investment of capital, and it is therefore important to first have county authorization for mining of ore from the Deadwood Standard Project prior to investing in a mineral processing facility. Additionally, county authorization is necessary to facilitate negotiations for mineral processing at an existing facility.

VMC requests that the County approve this proposed CUP with a condition that would allow pre-mining activities, but not allow mining until an offsite mineral processing facility has been selected by VMC LLC and authorized by the state. Pre-mining activities may include activities such as surveying, road improvements, ore delineation, and ore metallurgical analysis.

#### *Reclamation*

VMC LLC proposes to conduct site reclamation as currently authorized by Permit 416:

*All overburden and topsoil stockpiles would be returned to mined areas on an ongoing basis, using conventional earth-moving and compaction equipment. In most cases all overburden would be returned to mined areas within one to three months after production completion. In some instances, mined areas would be backfilled by directly transferring waste overburden from developing pits. Final overburden contouring would be designed to best approximate the original surface topography.*

*Any newly constructed roads would be built to blend with the landscape. After mining activities requiring their use are complete, the*

*roadways would be ripped and reseeded to stabilize the area and minimize erosion.*

*Areas to be reclaimed would be worked with a disk and packed to create a firm seedbed. Seeding would be done with a special grass drill equipped with packer wheels, depth bands and agitators. Seed would be broadcast if areas to be seeded are small or if the terrain is too rough for equipment. Seed application rates would be doubled for broadcast seeding. After seeding and fertilizing, the area would be mulched, as discussed above (Permit 416, Section 6.4).*

Permit 416 provides a seed mixture along with fertilization and mulching protocols to facilitate successful revegetation. After seeding, VMC would also conduct weed and erosion control activities until the reclamation is deemed complete by the South Dakota Department of Environment and Natural Resources. The state would administer a reclamation bond for the project, which would be released only after site reclamation is complete and the reclaimed areas are functioning in accordance with the post-mining land use.

### *Environmental Protection Measures*

Because mineral processing would be conducted offsite, the proposed Deadwood Standard Project would most closely resemble a limestone quarry. Accordingly, common environmental protection measures typical for quarries are appropriate. In addition, VMC LLC has developed several proposed environmental protection measures (EPMs) specific to the Deadwood Standard Project and incorporated recommendations developed by the county during 2012, which are

relevant to the current application. VMC proposes that the following EPMs be included in the CUP as conditions of approval.

General:

EPM-1: In May of each year, Deadwood Standard Project/VMC LLC shall file a written annual report with the Lawrence County Planning and Zoning Administrator, setting forth Deadwood Standard Project compliance with the terms, requirements, and conditions of the Conditional Use Permit as well as an update on the general operations and reclamation of its mining operations. Such report shall address selected key socioeconomic information such as employment, payroll, work force, residency, taxes, anticipated activities, impacts on adjacent lands (that is, drilling, blasting, noise, dust, traffic, etc.) and any additional areas as may be determined by the Lawrence County Commission.

EPM-2: The owner and operator shall comply with all applicable county ordinances, and state and federal laws and regulations.

EPM-3: All excavations, extraction of materials and minerals, and open pits shall conform to the approved operating plans and permit conditions of the South Dakota Department of Environment and Natural Resources (DENR) and any applicable United States Environment Protection Agency (EPA) water discharge permit standards.

EPM-4: Copies of any Notices of Violations sent to Deadwood Standard Project from the DENR or EPA shall be transmitted to the Lawrence County Planning and Zoning Administrator within ten (10) days of receipt.

EPM-5: Deadwood Standard Project/VMC LLC shall cooperate with Lawrence County in regulating employees', contractors', service person's and supplier's vehicle speeds and the observance of traffic signs on all public roads in the vicinity of Deadwood Standard Project Mining Operation.

EPM-6: Deadwood Standard Project/VMC LLC shall schedule, if reasonably possible, normal off-site heavy truck weekday deliveries during daylight hours.

EPM-7: Deadwood Standard Project/VMC LLC shall provide hazard training and work cooperatively with Lawrence County Emergency Management Office to ensure county emergency responders are properly trained to manage any hazard situations that may arise.

Mineral Processing:

EPM-8: Mining and haulage of ore from the permit area shall not occur until an off-site mineral processing facility is selected by VMC LLC and authorized by the state.

EPM-9: Pre-mining activities may occur prior to selection and authorization of the mineral processing facility such as surveying, road improvements, ore delineation, and ore metallurgical analysis.



Reclamation:

EPM-10: Mined areas shall be reclaimed and shaped to control erosion and eliminate hazards to domestic animals and wildlife, to protect public health and safety and the environment, and to provide for appropriate future beneficial land use. Temporary silt fences and retention berms will be used to control erosion until a final vegetative cover has been established.

EPM-11: All disturbed areas shall be regraded, landscaped, and revegetated in such way as agreed upon by VMC LLC and the local conservation district, to establish a diverse, effective, and long-lasting vegetative cover. For any future land use, the revegetation shall be capable of self-regeneration and at least equal in extent of cover to the pre-existing, natural vegetation of the surrounding area.

EPM-12: Where necessary to remove overburden in order to mine the ore, topsoil shall be removed from the affected area and segregated from other spoil. If such topsoil is not replaced on a backfill area within a time short enough to avoid deterioration of the topsoil, vegetative cover or other means shall be employed so that the topsoil is preserved from wind and water erosion, remains free of any contamination, and is in a usable condition for regenerating and sustaining vegetation when restored during the reclamation.

EPM-13: Reclamation of the land shall conform with the rules, approved reclamation plans and permit conditions of the DENR and in consultation

with the Natural Resources and Conservation Service (NRCS).

Reclamation will proceed in a timely and orderly fashion as determined by the DENR and the NRCS. All state required annual reclamation reports shall be made available for review by the public upon request.

Noxious Weeds:

EPM-14: All noxious weeds shall be controlled pursuant to the Lawrence County Invasive Species Department regulations and applicable state law.

Water Quality:

EPM-15: Any disturbance to the prevailing hydrologic balance of the affected land and of the surrounding area and to the quality and quantity of water in surface and groundwater systems both during and after the mining operation and during reclamation shall be minimized. Operations shall be conducted to protect all waters from pollution by siltation, waste, debris, and toxic fluids or materials.

EPM-16: All surface areas of disturbed or affected land, including spoil piles, shall be stabilized and protected so as to effectively control erosion and air and water pollution.

EPM-17: Deadwood Standard Project shall monitor groundwater and surface water quality during mining. Collected data shall be provided to DENR and Lawrence County on an annual basis. If any water quality samples show an exceedance of state water quality standards, DENR and Lawrence County

shall be notified within twenty-four (24) hours. Results of the water quality monitoring program shall be made available for review by the public upon request.

EPM-18: Deadwood Standard Project/VMC, LLC shall immediately report the release of fuel or chemicals at or in excess of any “reportable quantity” or in quantities that will be harmful to the groundwater, the public health or the environment or that will contaminate surface water supplies in any way to the DENR, the Lawrence County Commission Chairman, the Lawrence County Planning and Zoning Administrator and the Lawrence County Emergency Management Director pursuant to the Lawrence County Hazardous Materials Emergency Response Plan. If the Lawrence County Emergency Management Director is not available, the Lawrence County Sheriff’s Dispatch Center shall be contacted.

EPM-19: If an overburden disposal area will affect drainage, Deadwood Standard Project shall install a surface water quality monitoring station below the disposal areas and shall comply with applicable Surface Water Discharge Permit requirements. Any confirmed evidence of discharges beyond the DENR’s and EPA’s standards shall be reported to the DENR and the Lawrence County Planning and Zoning Office within twenty-four (24) hours. Follow-up correspondence shall be forwarded to the EPA as required by Deadwood Standard Project/VMC, LLC Surface Water Discharge Permits.

Dust:

EPM-20: Deadwood Standard Project/VMC, LLC shall utilize standard accepted dust suppression methods to control dust during its mining operations. If complaints arise regarding dust and further investigation is merited, appropriate response measures may be established by the County, and Deadwood Standard Project shall increase its dust suppression activities on affected roads and increase air quality surveillance to ensure compliance with state and federal regulations.

Noise:

EPM-21: All excavation, hauling and crushing shall occur during daylight hours unless it can be shown that noise is not at an unreasonable level within the Canyon above the baseline noise within the Canyon.

EPM-22: Deadwood Standard Project/VMC, LLC shall conduct blasting operations during daylight hours only.

Blasting:

EPM-23: Blasting parameters shall be consistent with the Bureau of Mines Report of Investigation 8507 (Siskind et al. 1989), unless superseded by more recent requirements which establish other applicable seismic disturbance and air blast limits.

EPM-24: If the County receives material complaints as to the blasting, the County, in consultation with DENR and VMC LLC, may require additional

monitoring. The County, in consultation with DENR and Deadwood Standard Project, may order appropriate measures to address these complaints.

### Light

EPM-25: All lighting/illumination shall be governed by Mine Safety and Health Administration regulations. All lighting shall be “down throw” lighting, if permitted.

### Solid Waste:

EPM-26: All refuse from the mining operation shall be disposed of in a manner so as to create the least amount of unsightliness and unproductive areas and to not pollute surface or groundwater. All machinery, equipment and materials will be removed from the property upon completion of final reclamation. Portable dumpsters and porta-pottys will be used during all mining and reclamation operations.

*(2) Address and Telephone Number of Operator and Authorized Local Representative*

*(II-20.005 (B)(2))*

Operator: VMC LLC, 1110 Crestridge Court, Rapid City, SD 57701, 605-222-6235,

Local Representative: Dana Bender, 605-222-6235, [dvbender@aol.com](mailto:dvbender@aol.com)

*(3) Proposed Land Uses (II-20.005 (B)(3))*

*Land Use during Mine Development and Operation*

During mine development and operation, the proposed land use is extraction of gold resources in a manner consistent with county ordinances, conditions of Mine Permit 416, conditions of the CUP, and state and federal environmental laws and regulations.

*Post-Mining Land Use*

The proposed post-mining land use is livestock grazing, wildlife and recreation, which is consistent with Permit 416 and current land uses.

*(4) Proposed and existing signs and locations (II-20.005 (B)(4))*

Before mining activities commence, signage would be placed at the entrance of the property with the company name, phone number, and safety requirements. Additional signage would be installed as required by Mine Safety and Health Administration regulations and guidelines.

*(5) Proposed timeline for completion of operation (II-20.005 (B)(5))*

Development activities such as surveying, road improvements, ore delineation, and ore metallurgical analysis are anticipated to begin within 12 months of CUP approval and require approximately two years. This work would lead to an operations phase of approximately five years.

During the operations phase, ore would be produced at the mine and transported to an offsite mineral processing facility. Reclamation of the individual pits and stockpiles would be conducted concurrently with mining; however, some reclamation would be required at the end of the operations phase.

Final reclamation would be conducted immediately after the operations phase and require approximately 12 months to complete followed by a period of reclamation maintenance, weed control, and erosion control for a period of three to five years. The project would cease at the time the state of South Dakota determines that the reclamation meets to post-mining land use and releases the state reclamation bond. The total duration of the project including the development, operations and reclamation phases is expected to be 10 to 12 years.

*(6) Parking and loading plans pursuant to Chapter 7 of this zoning title ((II-20.005 (B)(6))*

Parking and loading plans would be consistent with mining activities authorized by Permit 416. Fourteen individual pits located in four geographically distinct zones are authorized for mining as shown on the Mine Plan Map (Map 3). Temporary parking for mining equipment and employees would occur within the permit boundary for the duration of mining activities in a specific area. No permanent parking areas are proposed.

Loading of ore for transport to an off-site mineral processing facility would occur in a centralized location. Off-highway trucks would haul the ore to the centralized location for stockpiling and crushing prior to loading into highway dump trucks for transportation to the mineral processing facility.

*(7) Relationship of the proposed operations to the surrounding area (II-20.005 (B)(7))*

The proposed operations are surrounded by undeveloped land including federal land managed by the Forest Service and private land owned by several landowners as shown on the Land Status Map (Map 4). Current land uses include timber harvest and

recreation. Gold mining and exploration have been a periodic land use at the project site over a period of approximately 120 years, with major gold exploration drilling projects last occurring in the 1980's and 1990's. The Wharf Mine is located approximately 1½ miles east of the project site. Spearfish Canyon lies to the west of the project site, with current land uses including residential homes, vacation homes, and tourism-related businesses.

*(8) Provision for access to adjacent lands during active mining operation and reclamation (II-20.005 (B)(8))*

Adjacent lands west of the mine include federal land managed by the US Forest Service and private land owned by Paisley and Dunkle. Access to these properties by the Forest Service and private landowners would be maintained during the mining operation.

*(9) Potential impacts to public roads (II-20.005 (B)(9))*

Roads leading into the proposed permit areas are existing roads, which have been in place since at least 1978 based on US Geological Survey topographical maps. Roads between the western edge of the Wharf Permit Boundary and the project area are currently used to support US Forest Service management activities, to provide access to various private lands, and to provide access for recreationists using both public and private lands in the area. The project would provide beneficial impacts to these roads by facilitating needed road maintenance. Road maintenance on the portion of the road crossing National Forest System lands would be conducted in accordance with stipulations of a Forest Service Special Use Permit. Road maintenance on private



lands would be conducted in accordance with existing easements and consultation with landowners.

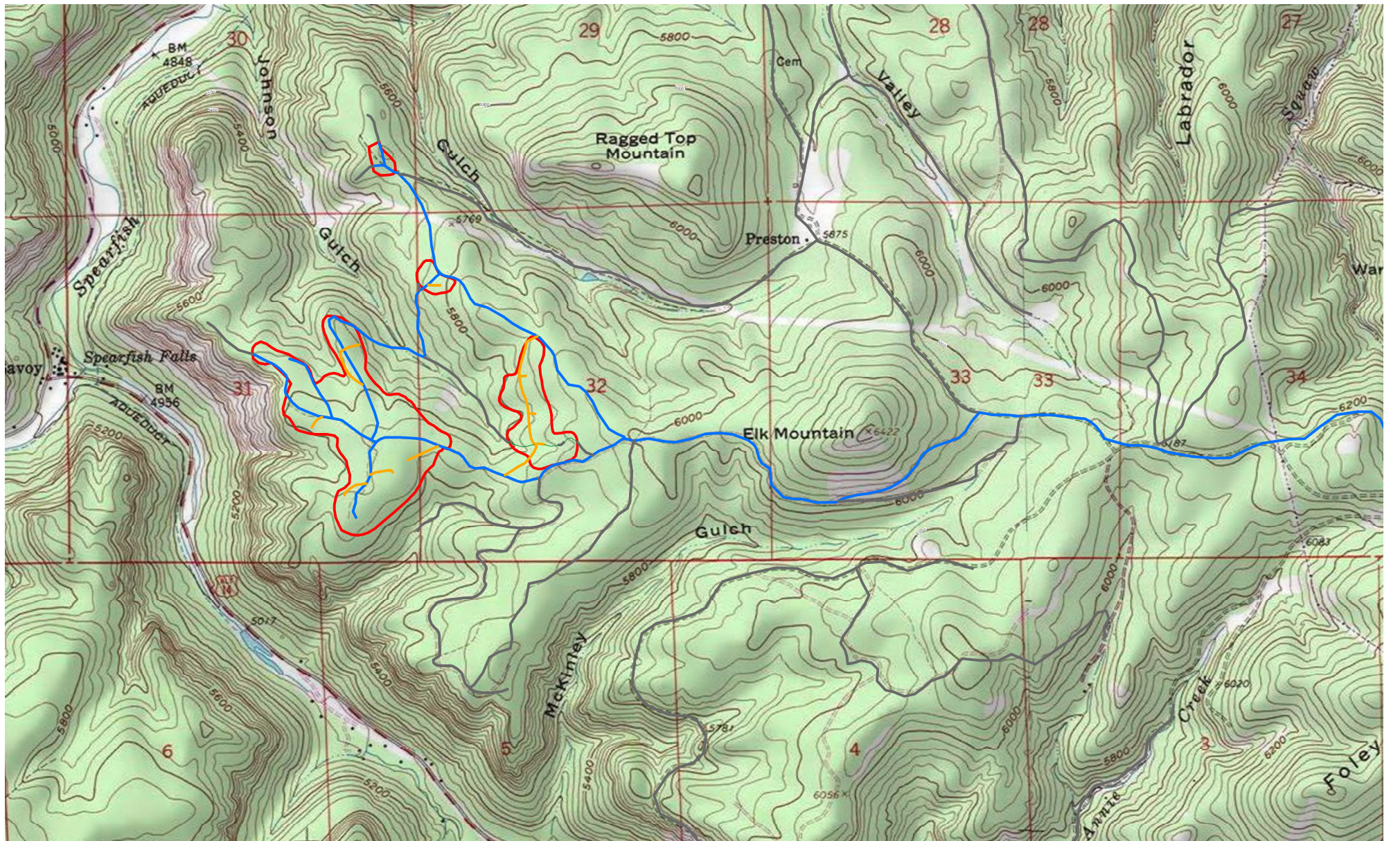
Potential impacts to other public roads would be negligible, because transportation to and from the mine would be conducted using highway vehicles in accordance with county and state requirements.

## References





Kliche, C., 2013a, Sound-level and vibration monitoring in and above Spearfish Canyon for Deadwood Standard Mining Company.

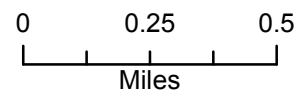
Kliche, C., 2013a, Background sound-level study for the Deadwood Standard Mine Project.

Siskind, D.E., Stagg, M. S., Kopp, J.W., and Dowling, C.H., 1989, Structure response and damage produced by ground vibration from surface mine blasting, Report of Investigations 8507, US Bureau of Mines.



### Legend

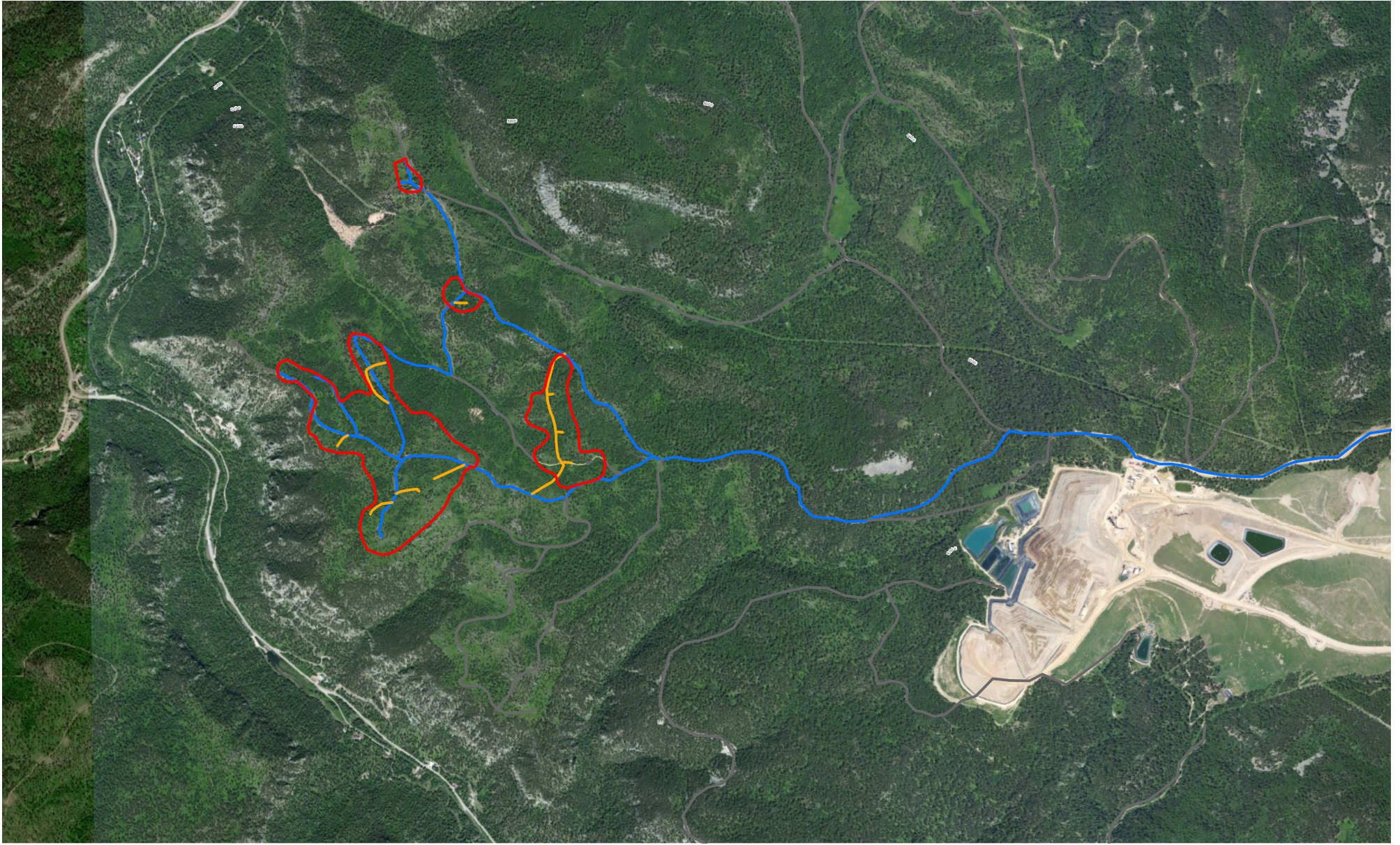
-  Existing Road
-  Mine access on existing road
-  New temporary access road
-  CUP Disturbance Area/  
State Permit Clearing Limit



Project Location: Sections 29, 30, 31, 32  
Township 5 North, Range 2 East  
Black Hills Meridian

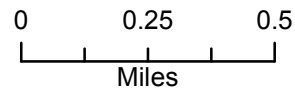
### Map 1

### Site Location Map



### Legend

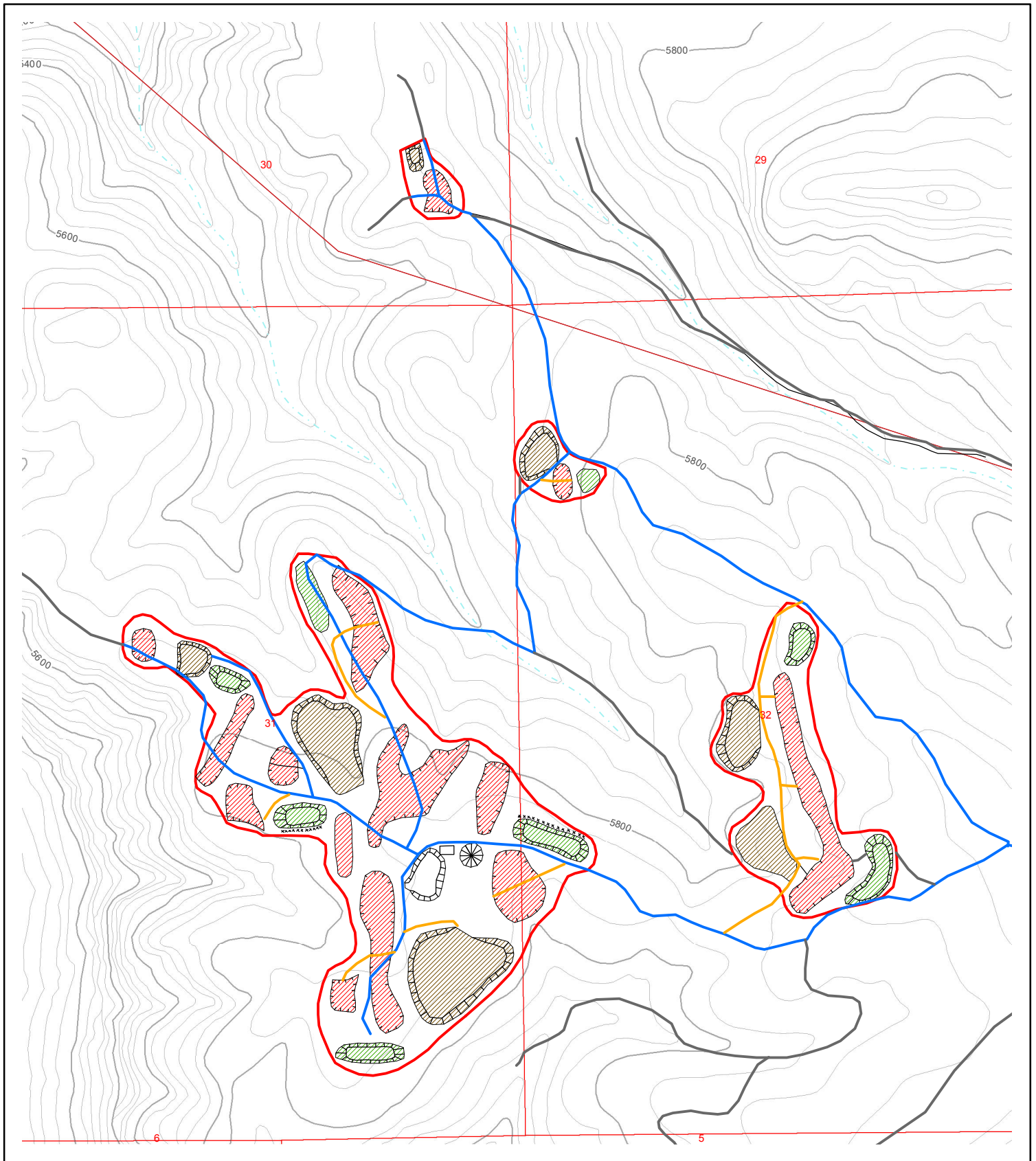
- Existing Road
- Mine access on existing road
- New temporary access road
- CUP Disturbance Area/  
State Permit Clearing Limit



Project Location: Sections 29, 30, 31, 32, 33  
Township 5 North, Range 2 East  
Black Hills Meridian

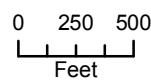
### Map 2

### Aerial Photo of Project Location



### Legend

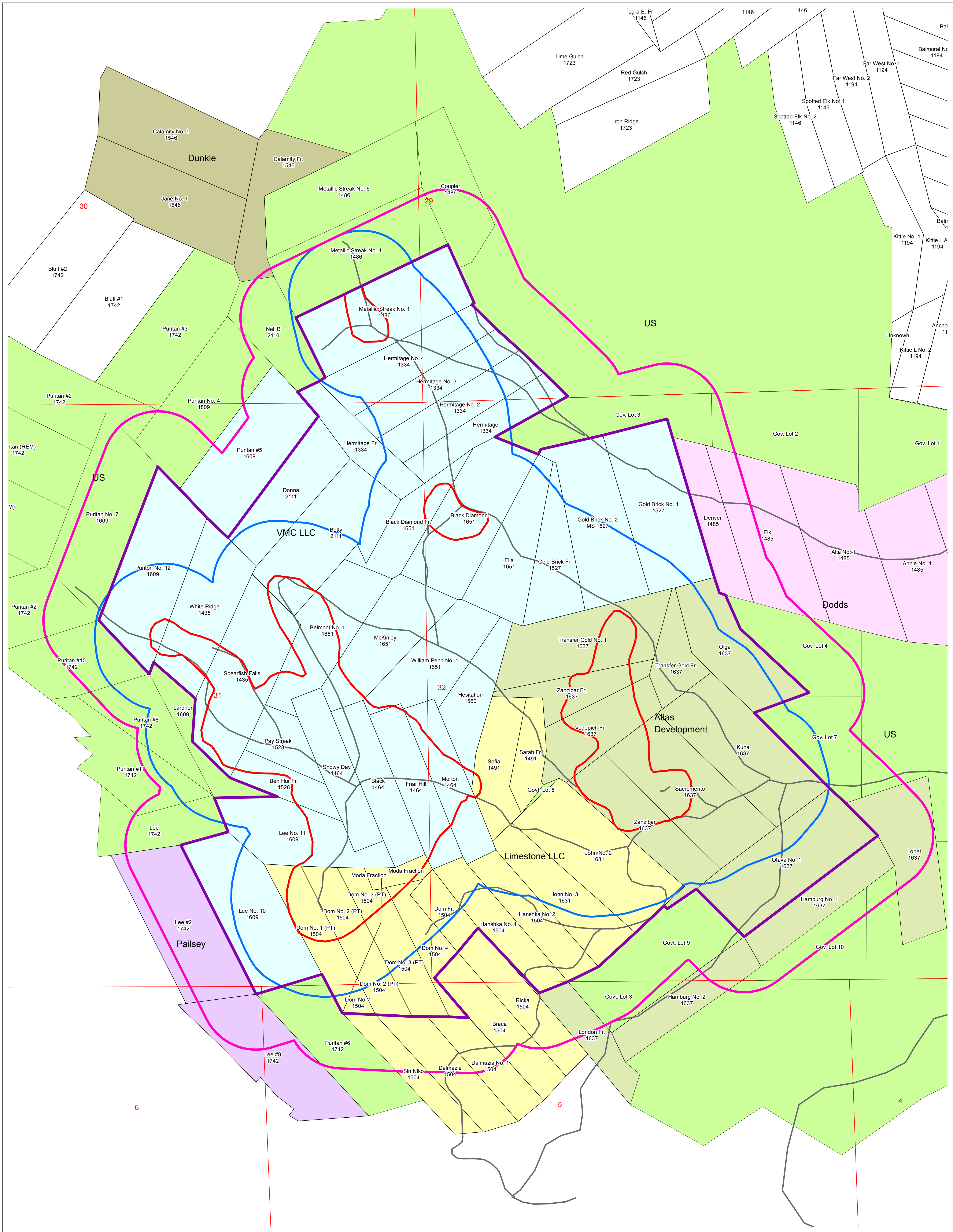
- Existing road
- Mine access on existing road
- New temporary access road
- CUP Disturbance Area/  
State Permit Clearing Limit
- Overburden
- Pit
- Topsoil



Location: Sections 29, 30, 31, 32  
Township 5 North, Range 2 East  
Black Hills Meridian

### Map 3

### Mine Plan Map



**Legend**

**Disturbance**

- Existing Roads
- 500-ft. Buffer Zone
- CUP Disturbance Area/ State Permit Clearing Limit

**Ownership**

- CUP Permit Area
- Notification Bndry.

**Ownership**

- Atlas Development
- Dodds
- Dunkle
- Paisley
- Limestone LLC
- US
- VMC LLC

N

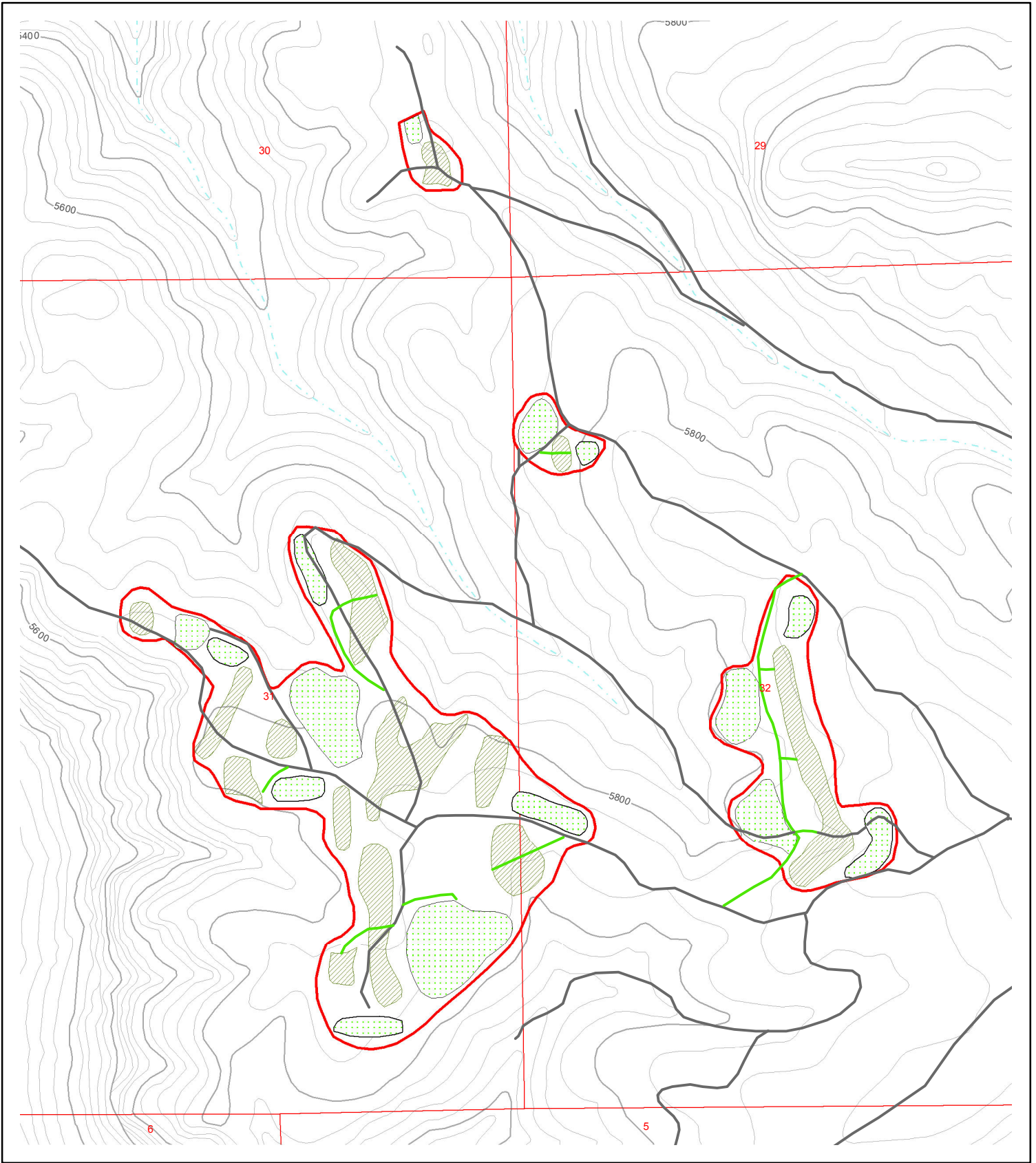
0 250 500 1,000

Feet

Location: Sections 29, 30, 31, 32  
Township 5 North, Range 2 East  
Black Hills Meridian

**Map 4**

**Land Status Map**



**Legend**

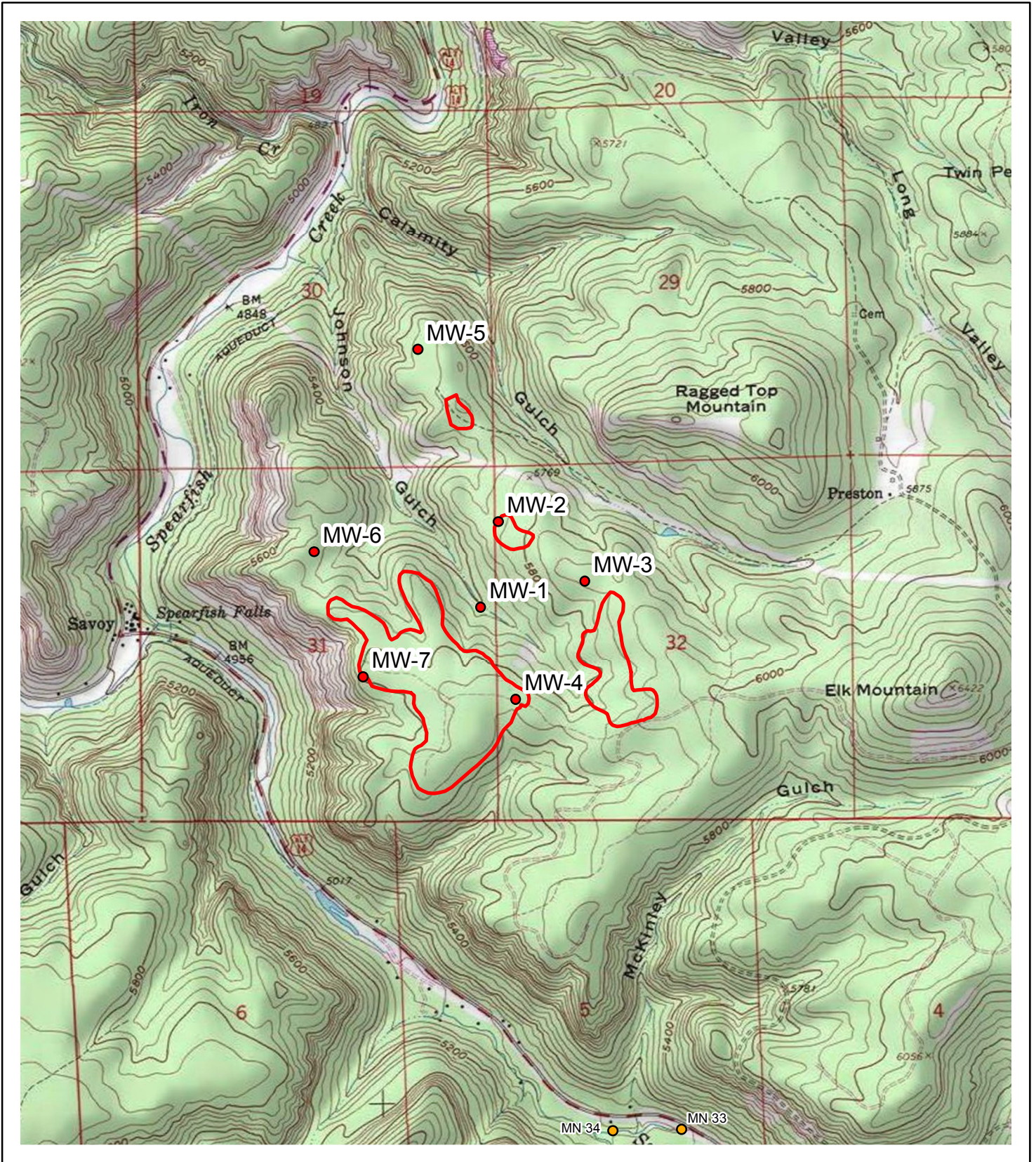
- Existing Roads
- Reclaimed temporary access roads
- ▨ Backfilled and reclaimed pit
- ▤ Reclaimed stockpile area
- ▭ CUP Disturbance Area/  
State Permit Clearing Limit



**Map 5**

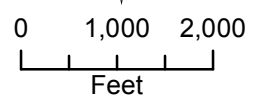
**Reclamation Map**

Location: Sections 29, 30, 31, 32  
Township 5 North, Range 2 East  
Black Hills Meridian



**Legend**

- Existing Monitoring Well
- CUP Disturbance Area/  
State Permit Clearing Limit



**Map 6**

**Well Location Map**

Location: Sections 29, 30, 31, 32  
Township 5 North, Range 2 East  
Black Hills Meridian



## **Exhibit D**



File Code: 2720

Date: April 27, 2020

Dana Bender  
Permitting Agent  
VMC, LLC.  
1110 Crestridge Court  
Rapid City, SD 57701

Dear Mr. Bender,

We have officially accepted your request to update the existing authorization SFN488 which permitted VMC, LLC. use on an unclassified road across Black Hills National Forest System (NFS) lands to access VMC, LLC. property. Errors in the legal land description and permitted area existed in this authorization. The Northern Hills Ranger District proposed a new authorization to replace SFN488 that will capture the correct information for the permitted area.

The road authorized for use is an unclassified road, known as U050090, and is approximately 1.1 miles long and located at T. 5 N., R. 2 E., Sections 32 and 33, Black Hills Meridian, Lawrence County, South Dakota. The new authorization, SFN730, will authorize VMC, LLC. use, maintenance, and commercial hauling along U050090 with a proposed permitted width of 66 feet (33 feet on either side of centerline), totaling to 8.8 acres of permitted NFS lands. This permit, when authorized, will be valid for five years to December 31, 2024.

According to Federal regulations at 36 CFR § 251.58, the Forest Service must be reimbursed for the agency's costs of processing applications for special use authorizations. Cost recovery fees are separate and distinct from land use rental fees, which represent the market value of the land use and occupancy privileges or rights granted under a special use authorization. Cost recovery fees are intended to offset Forest Service administrative costs of processing special use applications and monitoring. Processing fees cover a portion of the agency costs associated with review and evaluation of the application, meeting with the applicant, conducting environmental analyses, site visits, technical and financial capability reviews, and preparing documentation of analyses, decisions, and authorizations. Cost recovery fees are retained by the collecting unit of the Forest Service.

We estimate that Forest Service actions involved in processing the application will take approximately 5 hours. Therefore, the processing fee category for your application is Category 1 and the processing fee will be **\$130**. See the attached Cost Recovery Processing Fee Category Determination Worksheet which also explains procedures for disputing the fee.

Enclosed is the processing cost recovery bill, due by **June 1, 2020**. Payment may be performed, through the mail or paid online at [www.fs.fed.us/billpay](http://www.fs.fed.us/billpay). Payment at Forest Service Offices is currently suspended as all Black Hills National Forest Offices are closed due to the COVID-19




pandemic. Once the payment is posted in our system as paid in full, we will begin processing the new permit.

If you are unwilling to pay the cost recovery fees and do not want the Forest Service to begin processing the permit, please respond by June 1, 2020 whether you are withdrawing your application, or disputing the cost recovery fee. If you reply that you are withdrawing your application, I will close the file. If you dispute the cost recovery fee, follow the procedure described on the enclosed fee determination worksheet. **Once paid, cost recovery fees are non-refundable** regardless if you decide to withdraw your application at a later date or it is discovered through National Environmental Policy Act (NEPA) evaluations that your proposal is not in the best interest of the Forest Service.

This cost recovery fee is separate from the annual land use fee that is required for all permitted special uses. If you have any questions regarding this process, feel free to contact my staff, Callie Ackerman-Jasper, Lands Specialist, at the Northern Hills Ranger District via phone at (605) 443-3077 or via email at [callie.ackerman-jasper@usda.gov](mailto:callie.ackerman-jasper@usda.gov).

Sincerely,



STEVE KOZEL  
Northern Hills District Ranger

Enclosures: Bill BF020308AA127 and Cost Recovery Processing Fee Category Determination Worksheet

## **Section 3**

## Section 3

### 11-20.006 Socioeconomic Impact Study

Dr. Michael Madden prepared the original Socioeconomic Assessment for VMC, LLC, and the Deadwood Standard Project in 2012. VMC requested Dr. Madden prepare an update or addendum to that Assessment to support this application. Dr. Madden prepared the Addendum in March 2020, which is included herein in support of this CUP Application.

**ADDENDUM**

**UPDATE TO:**

**SOCIOECONOMIC ASSESSMENT  
VMC, LLC AND THE DEADWOOD  
STANDARD PROJECT - 2012**

Prepared by Dr. Michael K. Madden

ADDENDUM PREPARED BY,  
Dr. Michael K. Madden

March 2020

## **ADDENDUM**

### **ADDENDUM BACKGROUND**

In 2012 a gold mining operation was proposed by VMC, LLC in Lawrence County the specific location of the project is described on Page 2 of the original 2012 socioeconomic study which is attached to this addendum.

The mining project as envisioned in 2012 was to be a complete surface mining operation including the extraction and processing of ore within the original 829 acre project. Comments and concerns were raised at the time primarily related to on-site processing. Subsequently, the Lawrence County Planning Commission tabled the permit application.

Presently, a new mining application is proposed that *excludes* the construction and operation of a processing facility but does include extracting ore from the parcel and transporting it to be processed elsewhere. The new mining plan is similar in many ways to a sand and gravel operation where product is removed and utilized off the premises of the quarry itself.

This revised mine plan brings substantial changes to the life of the project as well as the day to day operation itself. Workers will be engaged in extracting, loading and transporting ore off of the parcel to be processed off the mine site.

In short, the project will encompass a shorter duration with far fewer employees reducing the ultimate socioeconomic impacts. Specifically, only 3 to 5 employees will be working during the mining, and also during reclamation after the extraction phase has been completed. In addition, there is no startup construction requiring the erection of processing facilities. However, there are fiscal benefits to the state in added severance tax revenue and potential revenue from the net profits in connection with the recovered gold.

### **METHODOLOGY**

The method of updating the socioeconomic study will simply involve relevant adjustments of the 2012 study. Any changes and updates appearing in the addendum will be referenced by page number in the 2012 socioeconomic study. Because of the comparative low additions to county employment generated by the new mine plan, complete updates in such statistics as school enrollment, county personal income, employment by sector and many others will not be made.

### **Section II, 2012 Study: Lawrence County Infrastructure**

Page 5:

The estimated population in Lawrence County in 2018 the latest year available is 25,741 which is a 6.8 percent increase over the 2010 census year population of 24,097.

Page 7:

Mining employment in Lawrence County was found to be 262 in 2009, it is now 362 the latest year for which data is available. However it should be noted that, since the 2012 study was completed, the employment sector that includes mining has been generalized to include oil and gas, and various quarrying positions.

Page 8:

Total employment in Lawrence County was 18,639 in 2018 , which is about 11 percent higher than in 2009. Most of the increase is concentrated in the leisure and travel industries over this time frame.

Page 9:

From 2009 to 2018 personal income has grown substantially from \$811 million to \$1,293,000 in 2018.

Page 10:

From 2009 to 2018 per capita personal income has grown from \$34,960 to \$50,232, an increase of more than 40 percent.

Page 12:

Average wage per worker for all occupations has risen from \$25,779 in 2009 to \$37,070 in 2018 in Lawrence County. The average annual wage for workers in the mining, quarrying and oil and gas sector was \$62,561 in 2018. (SD Labor Market Information Center)

Page 14:

In calendar year 2019, taxable sales taking place in Lawrence County totaled \$584,478,370 which represents a 44 percent increase over total taxable sales in 2010.

### **Section III 2012 Study: Economic Impacts, Construction, and Mine Life**

Page 15 - 17

Employment and Earnings

Because of the change in the mine plan from what was envisioned in 2012, far fewer employees are expected during the life of the mine. In addition, since the current plan calls for processing all ore off site no construction of processing facilities is envisioned.

Three to five employees are anticipated from the time of inception of the mine until the completion of reclamation. During the period of ore extraction, these workers will be engaged in haul truck driving, dozing and loading. The total life of the project is expected to extend from five to eight years.



The average wage is assumed to lie within the range of \$60,000 to \$65,000 per worker given prevailing wages for mine workers in 2018 according to data compiled by the South Dakota Labor Market Information Center.

**Table 1 (Addendum)**

<b>EMPLOYMENT, WAGES AND EARNINGS, DEADWOOD STANDARD PROJECT</b>			
<b>Years</b>	<b>Employment</b>	<b>Ann. Wages</b>	<b>Earnings Life of Mine</b>
5 to 8	3 to 5	\$62,500	\$937,500 to- \$2,500,000

Page 18

#### Mine Capital and Operational Expenditure

Because the scope of mine activity in connection with the project is limited to extracting surface ore from the surface, loading and hauling the ore off premises, it is expected that capital expenditures would be limited to rolling stock, excavation equipment and ancillary purchases. Project decision makers will presumably either purchase or lease equipment to be used in these activities. Either leasing or purchasing this capital equipment will provide some economic impact to the Black Hills region. The overall expenditure expected, however, will be smaller and unrelated to expenditure levels anticipated in the 2012 Socioeconomic Report,

Page 19

#### Fiscal Impacts to the State and Local Governments

The present level of detail in the operational plans at this point does not allow for an accurate estimate of sales and property taxes that will be associated with the project and its employees. Based on the broadness of the South Dakota sales tax system and the fact that property taxes pertaining to mining projects are based on the value of production, these amounts will be substantial, however.

A major source of revenue to the state will consist of the gold severance tax. The rate of the severance tax at today's gold price is \$8 per ounce. Assuming that the project will generate the same level of production over the life of the mine as was the case in 2012, there will be approximately 198,000 mined over an estimated 4 years. This would amount to 396,000 per year for four years. The severance tax raised over the life of the mine is estimated to be \$1,584,000 for the expected life of the mine.

Another source of state revenue relates to a net profits tax of ten percent of net profits. It is not possible to estimate net profits over the life of the mine because of the myriad of variables that affect net profits.

#### **Section IV, 2012 Study: Social and Community Impacts**

The social and community impacts most typically impacted by employees and their families are not expected to be significant because of the very low labor inputs now anticipated with the mine plan. Since only 3 to 5 employees are envisioned, social services related to education, public safety and health services will experience no measurable impacts. Likewise housing and related public services such as utilities will experience no significant impacts.

Other potential community impacts, such as access and egress from the mine location, due to the temporary mining activity will be mitigated according to specifications delineated in connection with the mine permitting process.

Page 29-30

### **Post Mining Use**

Although a formal reclamation plan has not been developed in connection with the present mining plan, it is expected that the most appropriate subsequent uses of the associated land is for livestock grazing and outdoor recreation. The reuses are discussed in more detail on pages 29 and 30 of the 2012 socioeconomic study. The present plan envisions post-mining reuses similar to what was contemplated in 2012.

### **Section V - Summary of Findings**

This Addendum summarizes the important changes in economic and social impacts that the new mine plan which includes off-site processing of gold ore. This is the major difference in the 2020 plan and what was envisioned in the 2012 plan. Off site processing minimizes impacts on the mine property itself and eliminates any risk of environmental impacts that could be traced to on-site processing facilities.

Generally speaking it can be concluded that the current plan involves far fewer employees and also less social impacts than what was envisioned in 2102. The fiscal impacts, however, are especially positive due to the higher price of gold existing today as opposed to gold prices in 2012.

**SOCIOECONOMIC ASSESSMENT**

**VMC, LLC AND THE**

**DEADWOOD STANDARD PROJECT**

**Prepared in Connection with Proposed Mining Permit Application**

**Prepared by:**  
**Dr. Michael K. Madden**

**2012**

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## **SECTION I INTRODUCTION**

### PURPOSE OF STUDY

The purpose of this study is to document the economic, fiscal and social impacts likely to be associated with a proposed state mining permit for a new mine contemplated in Lawrence County, SD. This type of impact study is also required under Chapter 20, Section 1.6 of the Lawrence County Zoning Ordinance. Both the county and state governments utilize this work product and other submittals in deliberating such applications.

This ordinance, in part, states “Each large-scale application shall be accompanied by a socio-economic impact study which identifies the potential impact of the development on the following areas, and mitigation measures proposed to address those impacts.”

This regulation further details subject areas to be addressed in socioeconomic studies, and also provides discretionary authority to tailor the contents of the assessment to concerns associated with a specific project. Topics which are generically required include demographic factors such as population impacts, economic issues like employment and income and expenditures, and a myriad of social considerations related to education, public safety and utility services as well as quality-of-life issues including health, parks and recreation.

### NEW MINE APPLICATION

Although a mine permit has been issued for much of the subject property under different ownership during the mid nineteen-nineties, it was based on a heap leach technology. Since that time, new technology that is more efficient and less environmentally invasive has been developed. This new technology is envisioned for the parcel currently and thus warrants a new permitting application. Unlike a new permit that simply extends the boundaries of an existing mine thereby extending the life of the mine, a new mine application is associated with new economic activity. In other words, rather than focusing on continuing employment levels in the case of a already operating mine, a new mine such as envisioned by VMC, LLC will add new jobs to the local economy that do not exist presently. Accordingly the inferences arrived at in this document will involve estimates of new economic activity as well as any new social impacts that may occur.

The study also briefly examines issues regarding adjacent land use as they exist presently and potential land uses of the parcel after mining is complete.

The pending permit application will involve the development of ore reserves owned or controlled by the company. The active operation of the mine is expected to extend for a period of eight to ten years beyond the start date extractive activity. Accordingly, the estimated socioeconomic impacts developed in this document will capture this eight to ten year period. For example, if the mine operation begins in 2013, the period encompassed in this study will cover the decade of 2013 to 2023. Of course the estimate of mine life identified here is somewhat tentative until ore testing and mine engineering operation plans are further clarified.

### PROJECT LOCATION

The central core of the proposed mining operation lies in parts of Sections 29, 30, 31 and 32, T5N, R2E B.H.M and is located in Lawrence County. This parcel is owned by the company and consists of approximately 460 acres. In addition several adjacent parcels now owned by others are in various stages of purchase or lease and are being incorporated into the mine plan. When all of these parcels are ultimately added, the project will total 829 acres. However, the actual area to be disturbed is expected to be little more than 25 percent of the total acreage since the mineable ore bodies are basically shallow deposits found on the parcel's flat plateaus.

The name of the mine development will be the Deadwood Standard Project and developed by the corporate entity, VMC, LLC.

Generally described, the property is situated west of the present Wharf Resources mining operation and east of Spearfish Canyon in the vicinity of Savoy. The area to be considered for mining is separated by a buffer strip around the eastern lip of Spearfish Canyon. Much of the acreage consists of old mine workings. A side-benefit of this project is the opportunity to reclaim and improve all of the previous mine disturbance and return the land to much of its original contour.

## AREA MINING HISTORY

The mine properties considered here consist of predominately old patented mining claims around the Ragged Top mining area of Lawrence County, South Dakota. Gold ore was discovered in the area in 1896 and various degrees of mining activity has occurred in the area off and on during much of the nineteen hundreds.

Exploration in more modern times took place beginning in the nineteen eighties. Homestake Mining Company, Freeport Minerals, Naneco Resources, Ltd., and FRM Minerals have drilled at least 850 test holes over this period.

In 2001 an arrangement was established between mining interests and the Spearfish Canyon Foundation Land Trust and the U. S. Forest Service to create a 'halo of claims' that provides a protection or buffer zone separating mining activity from the Canyon. In return for the establishment of the zone the Foundation agreed not to object to future land uses that comply with county state and federal laws. (Source: VMC, LLC Plan, Internal Document Prepared by VMC, LLC and 2001 correspondence between Naneco and Spearfish Canyon Foundation.)

## BALANCE OF THIS STUDY

An abbreviated summary outline of the remaining sections of this report is presented below:

### Section 2. Review of Current Lawrence Infrastructure.

- Brief Economic History
- Population
- Employment by sector and recent changes
- Personal income and trends
- Wages
- Local Tax Structure

### Section 3. Economic Impacts, Construction and Mine Life.

- Employment
- Income
- Non Labor Expenses
- Fiscal benefits.

### Section 4. Social Impacts Associated with Proposed Permit.

- Public Safety - Law Enforcement - Fire Protection - Emergency Services
- Public Utilities - Water - Sewer - Solid Waste
- County Roads and Highways
- Recreation
- Schools
- Housing
- Adjacent Land Use Issues
- Reclamation Options

### Section 5. Summary



## SECTION II CURRENT LAWRENCE COUNTY INFRASTRUCTURE

### BRIEF ECONOMIC HISTORY

The last two decades have brought significant changes in the economy of Lawrence County. Some of these changes are unprecedented in terms of rapidity and magnitude. Some of the more salient changes are briefly summarized below.

1. In late 1989, limited gaming became legal in the City of Deadwood. This event set in motion a series of dramatic changes in the local, if not regional, economic structure. After many years of gradual decline in business activity in that city, the economy changed substantially in volume and in focus.
2. The new local business sector was oriented toward the tourism industry and was supplemented by regional gaming enthusiasts on a year around basis. The rapid expansion of the gaming industry brought about an increased demand for labor virtually over a few short months. By 1991, the number of new workers in Deadwood exceeded 1,000 and has continued to grow by at least that amount again over a more gradual span of years. For the first time in decades Lawrence County became a significant net importer of workers from other Counties. In gaming related jobs alone, more than 30 percent of the employees came from outside Lawrence County.
3. At the same time, gold extraction using surface mining technology was ramping up in employment, the number of companies and in production volume. Although limited surface mining occurred prior to 1989, it was in the 1990 decade that the industry grew to five separate mining firms. During the same span of years underground mining began contracting, but the associated reductions in underground mining was absorbed by growth in surface mining thereby maintaining relatively constant mining employment levels - at least until the later part of the decade.
4. A significant shift in retail activity to Spearfish occurred in the 1990's as retail space in Deadwood was displaced by gaming establishments that could afford the escalating rents. A lesser retail stimulus took place in Lead, but the magnitude was dampened by a 1995 mud slide that caused an abrupt slowdown in this expansion. The town of Lead was also limited in attracting modern retail development because of transportation and terrain challenges. Large flat land areas are preferred for building larger shopping centers that are accessible on a regular basis by their customer base.
5. The second half of this most recent twenty year period saw a transition into one of softening of employment numbers in the mining industry as the surface mines exhausted their ore bodies. From a total of 1,938 mining sector employees in 1993 the gradual

decline in mining activity reduced employment in 2008 to 181 workers with some of this count reflected in mining operations other than reclamation and gold extraction such as rock quarrying.

6. Despite the disappearance of most mining jobs in the 2000 decade, total private employment grew significantly, not only in the travel and entertainment industry, but also finance, real estate and information technology sectors as well as the Spearfish retail sector.

Although the Lawrence County infrastructure has many facets, this section focuses on population, employment, income and expenditures as measured by taxable sales.

### POPULATION

As shown below in Table 1, the population of Lawrence County has steadily grown, but by varying degrees during the fifty years since 1960.

**TABLE 1**

<b>POPULATION TRENDS, LAWRENCE COUNTY</b>		
<b>Year</b>	<b>Population</b>	<b>Percent Change</b>
1960	17,075	
1970	17,453	2.2%
1980	18,339	5.1%
1990	20,665	12.7%
2000	21,802	5.5%
2010	24,097	10.5%

Unlike many rural and smaller counties in South Dakota, Lawrence County has experienced increased population over the last fifty years. As populations in many smaller counties have migrated from farms and ranches, the diversified economic base of in Lawrence County has sustained itself and in fact grown. The Lawrence County population in recent decades has increased at a higher rate than has the state in recent decades. Many of these changes can be traced to movements in employment patterns in the mining and tourism sectors, but an additional population impact took place recently as more retired and semi-retired households were formed in the Black Hills and Spearfish.

Compared to the state as a whole, a number of other demographic comparisons are of interest over recent decades. The proportion of people more than 64 years old in South Dakota has been historically higher than is found nationally. Lawrence County's percentage of people over 64 is equal to 16.6 which is even higher than the state's 14.3 percent. On the other end of the spectrum, Lawrence County's population aged under 18 years is only 19.6 percent compared to the state's 24.9 percent. Thus, Lawrence County, with fewer young people and more older residents, generates a median population age higher than South Dakota as whole.

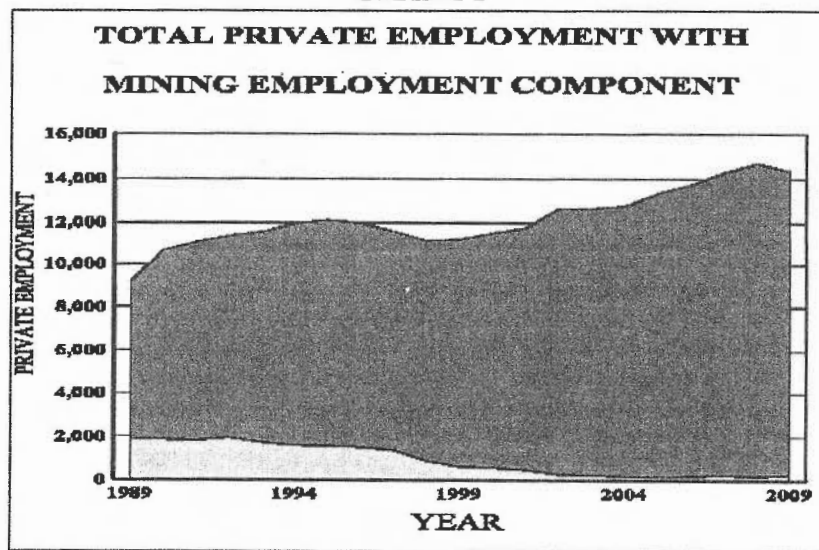
Lawrence County can also be characterized as being more educated. Significantly higher percentages of both high school and college graduates reside in the county than is found generally in South Dakota. It is also more retail and tourist oriented with per capita expenditures in these sectors being four or five times higher than the state average.

Being located in the Black Hills, average housing values are higher than most other locations in South Dakota. Yet median household income is now less than the state average due to the large employment growth in service industries. This is in contrast to earlier decades before the dramatic growth in the gaming industry and the concurrent contraction of higher paying mining employment over the past two decades. (Source: Bureau of the Census)

EMPLOYMENT

The narrative presented at the beginning of this section provides some insight concerning secular movements in both population and employment over the past twenty years. The accompanying graph provides further illumination regarding the trends that have been experienced in the local economy. In 1989, mining employment accounted for

GRAPH 1



Source: Bureau of Economic analysis

about 1,900 jobs out of 9,200 in total private employment or about 20 percent. However, because of the relatively high wages earned by miners, this twenty percent of employment individuals accounted for more than 44 percent of private worker earnings in the county. The graph also illustrates the period beginning in 1996 in which substantial drops in private employment occurred primarily because of the scaling back of underground mining. During the ensuing years some surface mines were scaling back as well so that by 2002, most gold mining employment was traced exclusively to Wharf Resources. Since that time, private employment has grown in Lawrence County. Much of this growth was traced to the travel industry, but significant jobs were also added in finance, real estate and various technology service sectors that each benefitted by new tourism volume. In 2009, total private employment in the county equated to 14,359 with about 262 being employed in the mining sector. Mining accounted for just over 3 percent of total private earnings that year.

The most recent data shows that some impact has occurred to total employment in the economy due to slow national economic conditions.

The following table provides sector detail regarding changes in employment experienced in Lawrence County. As would perhaps be expected, retail workers and others working in accommodations and food services accounted for much of the absolute growth. However, the real estate, professional workers, finance and insurance sectors also grew by large relative amounts.

The reduction in mining employment is significant in the table since this span of years coincided with the phasing out of Homestake. Agriculture has also seen drops in employment, a trend found in all regions of the state.

In summary, the transformation of the basic economy of Lawrence County is mirrored very clearly in employment numbers and is no doubt more pronounced here than any other county in the state since over the span of twenty years one sector (mining) contracted dramatically.

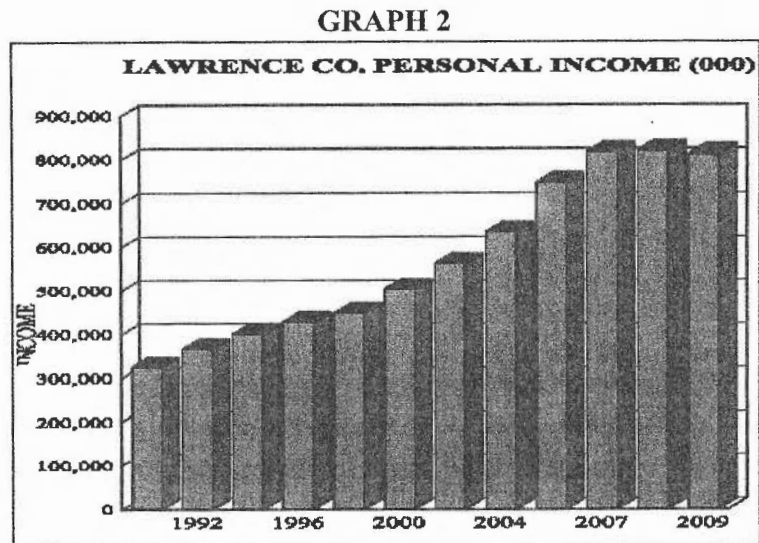
TABLE 2

<b>LAWRENCE COUNTY EMPLOYMENT TRENDS AND % CHANGE 2001 AND 2009</b>			
	2001	2009	% CHANGE
Total employment	14,199	16,726	17.8%
Wage and salary employment	10,683	12,405	16.1%
Proprietors employment	3,516	4,321	22.9%
Farm proprietors employment	276	* 250	-9.4%
Nonfarm proprietors employment	3,240	4,071	25.6%
Farm employment	309	278	-10.0%
Nonfarm employment	13,890	16,448	18.4%
Private employment	11,980	14,359	19.9%
Forestry, fishing	163	167	2.5%
Mining	484	262	-45.9%
Utilities	47	37	-21.3%
Construction	948	1,201	26.7%
Manufacturing	599	700	16.9%
Wholesale trade	121	158	30.6%
Retail trade	1,684	1,873	11.2%
Transportation and warehousing	245	286	16.7%
Finance and insurance	598	1,052	75.9%
Real estate and rental and leasing	540	939	73.9%
Prof., Admin., Mgmt, Info.	1,096	1,430	30.5%
Health care and social assistance	1,335	1,511	13.2%
Arts, entertainment, and recreation	1,522	1,395	-8.3%
Accommodation and food services	1,858	2,621	41.1%
Other services	778	727	-6.6%
Government	1,910	2,089	9.4%
Federal	333	340	2.1%
State and local	1,577	1,749	10.9%

Source: Regional Economic Information System, Bureau of Economic Analysis, US Department of Commerce

INCOME

Income has been growing in Lawrence County over long periods of time. In 1989, total income from all sources was about \$290 million. By 2008 it had grown to \$820 million, but had fallen slightly to \$811 million which is no doubt related to the current economic slowdown. The pattern of change appears in the adjacent graph.

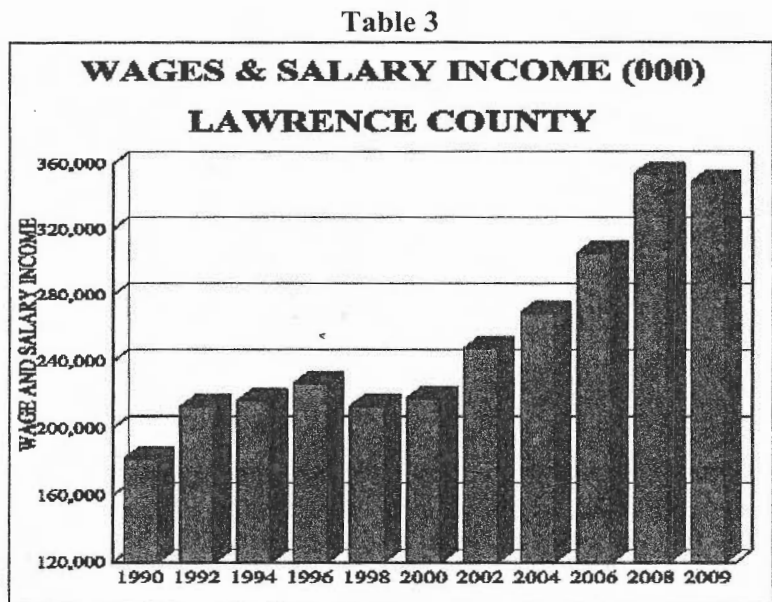


Source: Bureau of Economic analysis

The change in income was significant subsequent to the enactment of legal gaming in 1989. A leveling off of the growth rate happened in the late 1990s because of the reduction of mining activity and the loss of relatively high paying jobs. In the 2000 decade income increased again at a quite rapid rate until very recently.

The rate of growth for Lawrence County is quite comparable to that which occurred in the entire state of South Dakota. Over this span of time, statewide income grew by 200 percent while Lawrence county income grew by 150 percent.

Wage and salary income is a subset of total personal income, the latter of which also includes interest, dividends, proprietor's income, pensions and other transfer payments. The importance of the contribution of mining sector earnings is quite apparent when isolating wage and salary income



Source: Bureau of Economic analysis

from total county income. This is shown in the following graph.

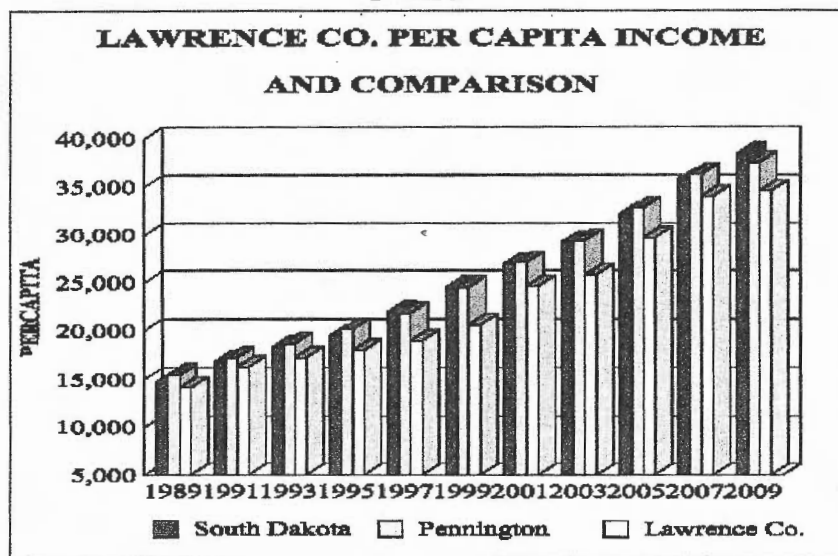
Wage in salary income reached a peak at the time in 1996 and then dropped off significantly in following years due to the reduction in gold mining activity. This loss in income spilled over into other sectors as the multiplier impact in sectors supported by the mining industry took effect. Wage and salary income did not recover to 1996 levels until five years later in 2001. From 2001 to 2008 income arising from wages and salaries rose significantly each year.

Interesting comparisons can be obtained by examining the trends in *per capita* income for Lawrence County and comparing these trends to Pennington County and the State of South Dakota as a whole. The accompanying graph provides such comparison.

Historically, per capita income in Lawrence County was approximately 95 per cent of the state average.

Even though mining and its relatively high wage rates was a boost to overall per capita earnings in the county, a large component of the work force has been involved in lower paying service sectors. When mining employment dropped in the mid to late 1990s, per capita earnings in the county fell to near 80 percent of the state average.

GRAPH 4



With growth in other sectors of the economy per capita wages relative to the state have rebounded to their historic level of 95 percent of the state average in 1997, but slipped back again in 2009 because of the recent economic slowdown.

The following table provides sector detail concerning changes in earnings during the 2000 decade. The sectors that have contributed to the improvement in earnings relative to the entire state over this decade are those whose percentages are largest in the accompanying table. They include wholesale trade, finance, insurance real estate and some service sectors.

TABLE 3

<b>LAWRENCE COUNTY NONFARM EARNINGS BY INDUSTRY CLASS, (1,000)</b>			
<b>2001 &amp; 2009 AND PERCENT CHANGE</b>			
	2001	2009	% Change
Non Farm Earnings	347,545	504,499	45.2%
Private Earnings	286,362	412,073	43.9%
Forestry, Fishing	3,400	3,992	17.4%
Mining	25,872	13,750	-46.9%
Utilities	2,784	3,304	18.7%
Construction	21,670	50,790	134.4%
Manufacturing	47,033	34,936	-25.7%
Wholesale Trade	2,741	6,779	147.3%
Retail Trade	29,348	46,382	58.0%
Transportation, Warehousing	5,788	9,618	66.2%
Information	2,632	6,717	155.2%
Finance and Insurance	13,851	35,130	153.6%
Real Estate	2,679	5,410	101.9%
Professional, Admin., Management	10,294	47,257	359.1%
Educational Services	2,085	895	-57.1%
Health Care and Social Assistance	37,758	71,777	90.1%
Arts, Entertainment, and Recreation	38,173	69,946	83.2%
Accommodation and Food Services	22,828	50,868	122.8%
Other Services	11,645	20,805	78.7%
Repair and Maintenance	5,596	8,456	51.1%
Government	61,183	92,426	51.1%
Federal	13,148	20,870	58.7%
State and Local	48,035	71,556	49.0%

Source: Bureau of Economic analysis

The reader can compare this table with Table 1 to gain inferences regarding the change in employment levels with changes in sector income. The greater the variation in these percentages, the greater is the change in per capita income.

Source: Bureau of Economic analysis



AVERAGE WAGE PER JOB

The most significant factor that separates mining employment from other from other jobs in the Lawrence County economy is that the wage per mining job is substantially higher than that found in all other business sectors. This is illustrated in data appearing in Table 4.

TABLE 4

<b>AVERAGE WAGE PER WORKER RANKED BY SELECTED SECTORS, 2009</b>	
<b>Economic Sector</b>	<b>Annual Wage</b>
Mining, quarrying, and oil and gas	\$55,885
Construction	34,361
Manufacturing	31,417
Wholesale trade	31,978
Retail trade	24,062
Transportation and warehousing	20,250
Real estate and rental and leasing	19,555
Professional, scientific, and technical	30,608
Administrative and Support and Waste	17,799
Educational services	8,517
Arts, entertainment, and recreation	17,938
Accommodation and food services	18,367
Other services (except public	18,401
Total	25,779

Source: County Business Patterns, US Census Bureau, 2009

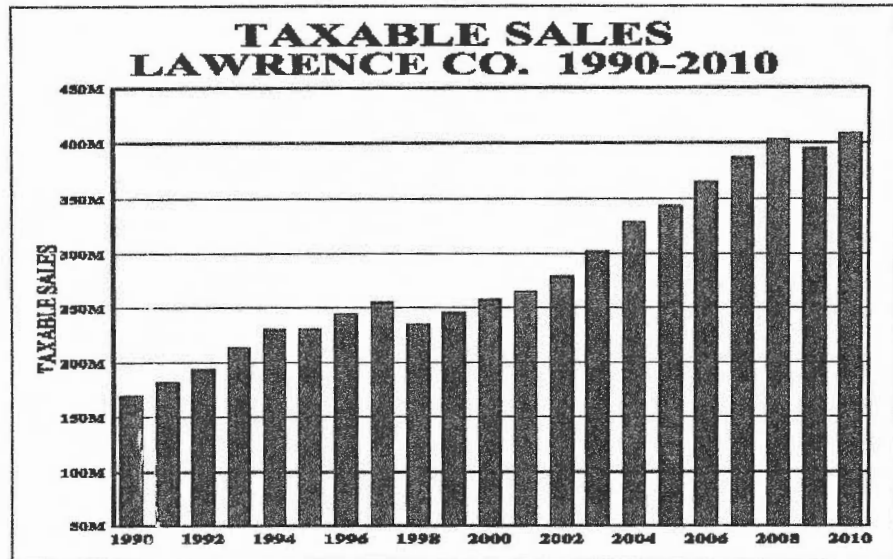
Wages in the mining sector were more than twice as high as the overall county average among retail workers and all private employment in 2009 and sector and 3 times higher than accommodation and food service workers. Mining jobs are of such a pay level that workers can support a family without an additional part time job or relying on the employment of other family members.

## TAXABLE SALES

The adjacent graph tracks total taxable sales for Lawrence County for the past two decades.

Taxable sales are used here to identify trends in expenditures. The application of the sales tax in South Dakota is among the broadest in the United States so it serves as a good barometer of general business activity for all types of commerce in the county.

GRAPH 5



Source: South Dakota Sales and Use Tax Report

Changes shown in taxable sales mirror closely the increases in personal income and employment discussed earlier. The economic infrastructure of commercial activity in the county is such that more than 88 percent of all taxable sales are now accounted for by retail sales and services. It is noted that the substantial growth in taxable sales can largely be traced to the advent of gaming in Deadwood. The drop in taxable sales that first occurred in 1998 (and did not recover to 1997 levels until 2000) was due to the contraction of the mining industry - again pointing to the importance of employment in that sector to the health of the overall business environment in the county. The drop in taxable sales that year was equal to 8 percent. During this time span the only year in addition to 1998 that experienced a drop in year-over-year taxable sales was in 2009, which is explained by the current national recession that has lessened vacation travel. Over the entire time period considered in the graph, taxable sales grew by an average annual rate that is just under 5 percent.

In recent years, Spearfish has accounted for about two-thirds of all taxable sales generated in the county. This percentage has been gradually rising from the 55 percent range that was typical in the mid 1990s.

SECTION SUMMARY

The above discussion provides a brief overview of the Lawrence County economy. Mining has historically been a dominating factor in terms of income, employment and spending. There are a number of significant changes that have allowed the local economy to thrive during the reduction in mining jobs in the county. There have been three developments that stand out most in this diversification effort. One concerns the development and continued growth of gaming and the associated growth of the vacation travel industry. Major inroads are also expected to occur in business and convention business with the recent development of expanded facilities tailored to that purpose. A second impact involves the transformation of the City of Spearfish into a major shopping and service location in the Northern Black Hills region: This region extends well into Wyoming and perhaps into some sparsely populated areas of Southeast Montana. A third development in the early stages of producing economic benefit to the area is the conversion of part of the underground Homestake mine to a scientific lab. This development has the potential to increase employment opportunities in the skilled and higher salaried job positions. It is too early to measure economic potential from this latest development, however.

Nevertheless, it has been shown that mining jobs will continue to serve as an important source of income for families in the Northern Black Hills that are likely to be very much needed in the region as other new economic opportunities continue to develop.

### SECTION III

## ECONOMIC IMPACTS, CONSTRUCTION AND MINE LIFE

Economic impacts considered here are focused on direct effects that the development and operation of the Deadwood Standard project will directly produce. There are complex indirect and induced positive effects that transcend what is analyzed in here.

The impacts included in this section deal with the added employment, capital and operational expenditures and fiscal benefits. As will be shown, basic industries expanding and growing in a moderate sized economy such as Lawrence County is substantial.

### EMPLOYMENT AND EARNINGS

#### **Employment**

Anticipated Employment levels are based on initial mine planning work that has been accomplished at this time. Labor inputs are classified into three segments as part of this plan. The first segment involves work in preparing the site for mining. It is intended that these services be acquired via a contractor. Such tasks as building an access road as well as haul routes on the permitted acreage, removal and transplanting trees for future reclamation, erosion control, topsoil removal and slash burning will all be required before mining commences. Because the mine plan for this operation calls for reclamation of mined areas soon after mining, there will be an ongoing requirement for this category of labor inputs throughout the life of the mine. The manpower crew of 4 to 5 workers will be employed for this type of work.

The construction of the on-site mill and processing facility including all other related improvements will take approximately one year and will involve expenditures ranging from \$20 to \$30 million. (Source: VMC, LLC working document) Assuming construction can be completed within a one year time period, the required labor inputs will be expected to range between 150 and 250 workers. (Source: Labor Requirements are determined by using Regional Input-Output Modeling System (RIMS))

The remaining classification of labor inputs involves the years in which actual mining activity takes place. The mine plan envisions two entities, each having a defined area of responsibility. One entity will be responsible for extracting and preparing ore for processing. The second is

responsible for operating the processing facility as well as overall management and administration of the business operation.

The first entity will be a contractor that is qualified and capable of loading, hauling and crushing ore. The anticipated labor requirements for this operation totals about 13 workers that will be employed each year of mining operation.

The company itself will have responsibility for the day to day operation of the processing facility and general mine management. Such jobs as plant operators, professionals such as engineers and geologists as well as accountants are included. The total number of employees for this entity will approximate 23.

### **Wages**

The planners of the mining operation have a firm goal to recruit their workforce from the local labor pool and they expect to set wages according to those prevailing in Lawrence County. They also intend to focus on acquiring contractors locally. Local labor market conditions suggest that this is easily obtainable. In recent years the unemployment rate has been relatively low, ranging from four to five percent in the Black Hills region. However, a closer examination gives some indication of underemployment generally in the region, but specifically to Lawrence County. The South Dakota Labor Market Information Center regularly tracks labor supply for each county in the state. Labor supply is defined as the number of workers that are available to assume a new employment position, because they are unemployed or are for a variety of reasons interested in changing jobs. The latter group includes those from neighboring counties that would be willing to travel a reasonable distance to a new work location. In December of 2011, the Labor Market Information Center has estimated the available labor supply in Lawrence County at about 2,500. (Source: Labor Market Information Center, Aberdeen, SD)

Wage estimates for this analysis are accordingly based on prevailing pay levels existing for like employment positions in the local economy. For the workers employed by contractors performing work in preparing the mine acreage and building processing and other facilities, wages in the construction sector are utilized. For workers employed by contractors for extracting, hauling and crushing ore to be processes, prevailing mining sector wages are used. Company employees in the processing facility, engineers and administrative personnel will also be assumed experience earnings similar to what now exists in the local mining sector.

In 2012 dollars average construction sector annual wages paid in the county are estimated to be \$38,636. Similarly, mining employees are reported to average \$52,447. (Source: SD Labor Market Information Center in cooperation with the Bureau of Labor Statistics.) Both of these estimates are derived from 2010 sampling data and are updated into 2012 dollars. The average mining employee wage cited here appears reasonable when compared to what today's update would be of the average wage of \$46,600 paid Wharf Resources about four years ago.

### Earnings

The following table provides the earnings that would be generated in connection with the Deadwood Standard Project. The aggregate earnings do not include employer provided fringe benefits and other mandated labor expenses, that could range from 25 to 35 percent of payroll.

**TABLE 5**

<b>EMPLOYMENT, WAGES AND EARNINGS, DEADWOOD STANDARD PROJECT</b>			
<b>Year</b>	<b>Employment</b>	<b>Ann. Wages</b>	<b>Earnings</b>
Yr. 1	155 - 255	\$38,836	\$6,019,580 - \$9,903,180
Yrs. 2 - 9	41	52,447	2,150,327
			<b>\$23,222,196 - \$27,105,796</b>

The reader is reminded that the assumed life of the mine is 8 years, a number that well could be larger, but not likely to be less. Also the amount of time for preparing the site and constructing improvements in connection with the mine may be more or less than one year. No assumption is made concerning annual improvements in wages during the mine life. Increases in pay are determined by labor market conditions, productivity gains and rates of price inflation, all of which are not easily projected during the current economic environment.

Another important aspect of sustaining mining jobs over the extended life of the mine afforded by the pending permit is the maintenance of induced employment increments in the region. Induced employment occurs because basic employment in the mining industry generates a positive incremental employment impact throughout the regional economy. This is explained because of increased local demand on goods and services generated by the expenditures made by newly-employed mine workers and by purchases of supplies and materials of the mining operation itself.

This so called multiplier effect is technically the result of the spending of wage income by the Deadwood Standard Project employees and also the local non-labor expenditures of the mining operation itself. The ratio of the change in total employment to the change in basic employment is known as the employment multiplier. The size of the multiplier is, of course, not directly observable, but rather is analytically measured using various econometric techniques. Two past examples of multipliers suggest an estimated value of 1.7 and 2.3 respectively. (Sources: Socioeconomic Assessment, Golden Reward Project, Lawrence County, SD, 1987, Economic Impact Analysis of the Mining Industry in South Dakota, Michael K. Madden, June 1995.) These two estimates are probably viewed by most as being a lower and upper limit to a reasonable multiplier for surface mining projects such as is discussed here. A midpoint multiplier value of 2.0 would imply that one job outside the mining sector is induced for each job within the mining sector. This means that the existence of 41 jobs within the mining sector would induce another 41 jobs throughout the balance of the economy elsewhere in the private and public sector. Annual earnings of these induced jobs would mirror the overall average for area jobs which is between \$30,000 and \$35,000 per year.

#### MINE CAPITAL AND OPERATIONAL EXPENDITURES

In addition to capital expenditures to prepare and construct mine facilities discussed earlier in this section, ongoing purchases of goods and services for the operation of the mine will also positively impact the local, state and regional economy during its entire mine life. It is not possible to accurately forecast future annual purchases of capital goods, professional services, and supplies during the operational years of the mine. The project and its contractors, however, will make considerable outlays locally and elsewhere in the state and nation as do all similar businesses. Information regarding these expenditures can be broadly inferred by looking at somewhat similar operations. Public data is available regarding these purchases with respect to the nearby Wharf Resources operation.

Over four recent years, outlays for these type of operational costs averaged \$11,457,000 for this mining company. Further, about 6 percent took place with Lawrence County businesses, 24 percent originated in the Rapid City area, 26 percent took place elsewhere in South Dakota and another 44 percent occurred outside South Dakota. (Source: Socioeconomic Assessment, Wharf Mining Co., August 2010.)

As a rough approximation, the rate of production for the Wharf mine averaged about three times the early production projections of the Deadwood Standard Project. Assuming these annual expenditures are approximately in proportion to rates of production, this would mean that about \$3.82 million could be spent during an average year for these purchases in connection with the project. Over the 8 year projected life of the mine, about \$1.8 million could be expected to be spent for goods and services in Lawrence County. Rapid City and the balance of the state would experience \$7.3 and \$7.9 million respectively in new business volume and the balance would be spent outside South Dakota.

### FISCAL IMPACTS TO LOCAL GOVERNMENTS

Projecting the fiscal implications of a new mine involves various challenges. It is recalled that the major interactions that gold mines have with the state and local tax structures are through the sales tax, property tax and the severance tax on precious metals.

The projection of the state sales tax is straightforward once expenditure amounts have been established. The state sales tax rate is 4 percent in South Dakota. It is also widely known that South Dakota possesses one of the broadest applications of the sales tax as is found in the nation. Most professional services are taxed as are the majority of equipment purchases, the latter of which the sales or the use tax is applied. It is recalled that about 56 per cent of purchases of goods and services are made in South Dakota. Fifty six percent of the \$3.82 million in these types of purchases equates to about \$2.2 million. If all of these expenditures were taxable the amount of sales and use taxes would add to \$320,000 annually. However, the reader is reminded that some purchases would not be subject to state sales taxes which suggests that this figure is likely an over-estimate.

Another method of estimating sales taxes paid by the Deadwood Standard Project is to recall that purchases of goods and services are expected to be about one-third of that experienced by the Wharf mine. Recent years have seen sales taxes paid by Wharf to the state \$786,000 per year. This would suggest that the project would pay \$262,000 assuming purchasing patterns and levels compare to what Wharf has experienced.

Property taxes are more difficult to forecast. Property tax levies are based on the value of the expected ore body permitted to be mined. Important inputs into the valuation formula involve the



price of gold and the quantity of recoverable precious metal reserves associated with the acreage. In addition to that, the property tax rate in South Dakota experiences changes from year to year.

In the case of Wharf Resources when recoverable gold reserves were near their highest level, property taxes to school districts and Lawrence County government reached a maximum of about \$540,000 when gold prices were around \$400. It is in fact the case now that gold carries a market price approximately four or more times that level at \$1,600 to \$1,800 per ounce. The use of a straight extrapolation from years past is likely to result in a projection that is too low since it is quite certain that over much of the expected life of the mine, gold is in all likelihood, going to be of higher unit value than has ever been experienced.. Even considering that the net cost of recovering gold is going to be higher than in years past, it is still safe and perhaps conservative expect that annual property taxes for the proposed smaller Deadwood Standard Project will amount to \$500,000 and possibly much more during its expected 8-year life. It is also noted that during the last segment of this time span, property taxes will be expected to decline as the amount of recoverable gold reserves near exhaustion.

The state tax on gold mines is actually made up of two components. One component is a flat \$4.00 per ounce severance tax on mined gold, but this tax rises to \$8.00 if the market price of gold exceeds \$800. If one assumes that the level of gold produced per year averages 22,000 ounces, this component of the tax is straightforwardly estimated to be \$176,000.

The other component of the state tax on mined gold is actually a form of an income tax. This tax is a flat 10 percent of net profits generated by the company each year. It is far beyond the scope of this report to predict company profits over the life of the project. This means that for any given year, for every \$10 million in net profit generated the state's ten percent tax would generate \$1,000,000. If one were to assume that gold prices were to remain in the \$1,700 per ounce range once deductions are made for the current expenditures outlined above plus a significant deduction for debt service, it is very plausible that annual profits could range between \$10 and \$20 million which would imply a tax from this component of between \$1 and \$2 million.

## SUMMARY

In all, the annual and cumulative economic impacts are substantial to potential employees, to the business sector and also to local governments and the State of South Dakota. The prospect of adding employees connected to eight years operation of the Deadwood Standard Project will maintain jobs that are important to the local economy.

The impacts discussed in this section can be summarized in the following table:

TABLE 6

<b>ECONOMIC IMPACT ASSOCIATED WITH EXTENDED MINE LIFE</b>		
<b>Type of impact</b>	<b>Annual</b>	<b>Cumulative 7 Yrs.</b>
Startup Capital Investments.	\$20M - \$30MM	
Direct Employment (Const. Year)	155- 255	155 - 255
Direct Employment	41	328*
Indirect Employment	41	328*
Indirect Earnings	\$1,332,500	\$17,202,616
Direct Earnings	\$2,150,327	\$23,222,196 - \$27,105,796
Non Labor Expenditures	\$3.82 MM	\$30,560,000
Local Gov. Prop. Taxes	\$500,000 +	\$4,000,000
State Sales Tax	\$262,000	\$2,096,000
State Severance & Income	\$1.176 - \$2.176MM	\$9.4 - \$17.408MM

\* (Interpreted as man-years of employment..(= Employment x number of years employed)

The reader is cautioned that most of these estimates are quite tentative for reasons discussed earlier in this section. The conclusion one can reach irrespective of their provisional nature is that the economic benefits are substantial for the general Black Hills region.

## SECTION IV SOCIAL AND COMMUNITY IMPACTS

The issues considered in this section concern public services, housing, recreation, and various adjacent land use considerations. Public services as a group includes public safety functions such as fire and law enforcement and emergency response services. Common public utilities such as water, sewer, solid waste and local road maintenance are also included. Many of these individual social impacts interrelate with many other social and economic effects. For example, most police, fire and emergency services rely on local tax revenue for support - the amount of which is partly determined by the tax base provided by private industries such as mining. Likewise, it is not easy to separate a social impact on the housing market without considering the health of the local labor market.

Along with housing in general, the social makeup of a community is impacted by the availability and overall quality of the education system. This section deals briefly with the current and expected future impact of a prospective enterprise such as the Deadwood Mining Project on the public education system.

An important aspect to consider when evaluating social and community impacts due to a prospective new business is the size of its required labor force relative to the existing population base of the community. A second consideration concerns the expected degree to which new labor requirements are anticipated to be new families in-migrating as opposed to being hired from the existing population of unemployed or underemployed workers already residing in the region.

In the case of the proposed Deadwood Standard Project, the relative population impact is not large. The Lawrence County population in the 2010 census is 24,097. The level of non-farm employment in 2009 was 16,448. (Source: Census Bureau, 2011.) In contrast, it is expected that the number of full time workers at the Deadwood Standard Project mine will be 41. Since the average number of person per household in the county is 2.4, this means that less than 100 of the people of Lawrence County population of 24,000 would belong to a household with a family member working at the proposed mine.

It is also the company's goal to focus on the local labor market for filling positions at the mine. As an example, local contractors will be used in much of the day to day extraction of ore and preparation of land for mining. It is quite obvious that local contractors presently utilize local labor inputs.

The important conclusion from this is that there will be few, if any noticeable impacts on public services due to employees working for the Deadwood Standard Project. It is likely that sales, property and various other local taxes and fees paid by the mine and their employees will have a positive impact on the means of financing many of these services.

## EDUCATION

There are two main school districts in Lawrence County. The Lead-Deadwood school district and the Spearfish school district. The Lead-Deadwood district is much smaller with 2011 enrollment slightly over 800 the larger Spearfish district contains between 1,900 and 2,000 enrollment. The Lead-Deadwood district has been declining in enrollment, while the Spearfish District has been rising very moderately. Given the geographic location of the proposed Deadwood Standard Project, it is likely that workers will reside in both school districts. Recent years experience at the Wharf mine shows that the distribution of school-age children to be 55 percent Spearfish and 45 percent Lead-Deadwood. Also, over the same years, it has been shown that about .5 school-age children are associated with each Wharf worker on average. If this holds approximately true for employees at the Deadwood Standard Project, it would imply that a total of about 20 school-age children would originate from their labor force. If the split between the two districts was also similar there would be an average of only about one child per grade from families with a parent working at the Deadwood Standard Project. To the degree that these employees are already living in the area, the school enrollment impact would be negligible.

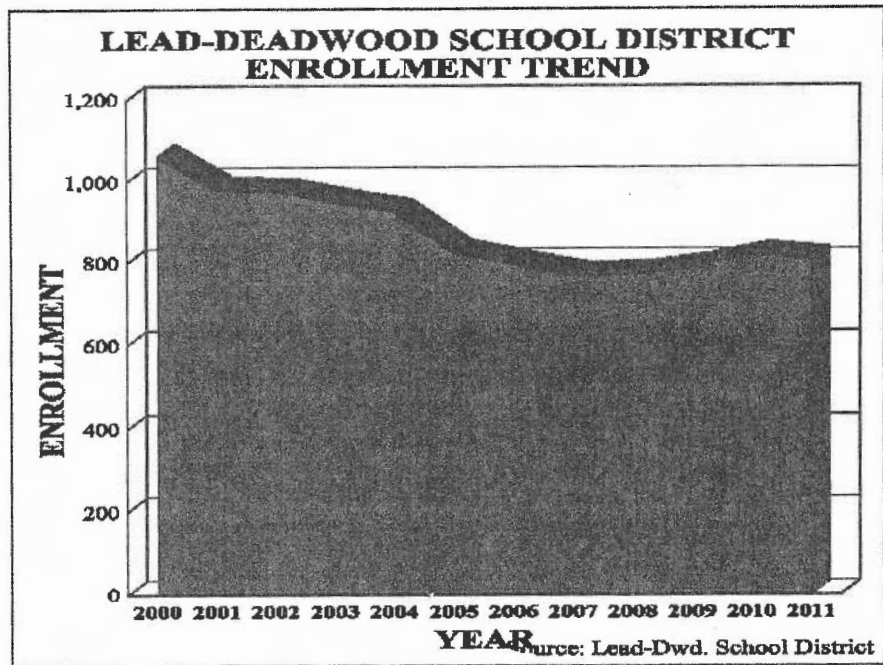
School administrators in the Lead-Deadwood district strongly feel that increases in enrollments are net positive impacts to the school district and drops are considered negative impacts. Much of this opinion is formed by the intricacies of the state education formula that dictates total budget allowances on a per-pupil basis. In this formula, drops in available funding are directly proportionate to decreases in enrollment. This policy, in effect, leaves the fixed costs of the school district under-funded each time enrollment falls.

The following graph illustrates the change in enrollment in the Lead-Deadwood school district since 2000. Peak enrollment over the last twenty years was 1,500 students and occurred in 1991. By 2000, as the graph shows, enrollment was at less than 1,100. Generally enrollment has

continued to slide, but has now apparently leveled off and has actually grown slightly from the recent low point of 767 reached in 2007.

The Spearfish School District is so large relative to the number of students that could conceivably migrate to the district that the consequence is only a fraction of any impact that could occur to the much smaller Lead-Deadwood district.

GRAPH 6



HOUSING

A general barometric reading of the recent overall housing market was obtained by independently interviewing real estate professionals, each with many years of industry experience. The information compiled from them was corroborated by an interview with a deputy Lawrence County assessor. Generally, there is unanimity of opinion that the real estate market, particularly in the Lead-Deadwood section of the county clearly is and has been a buyer's market in recent years. Key indicators of abnormally high listing counts, high number of days on the market and few potential buyer contacts all point to a general housing surplus, at least as far as market conditions indicate. An opinion among real estate professionals in the area that the combination of local weakness of the economy that began in many sections of the county a number of years ago with the closing of Homestake added to the current national recession has become somewhat of a long-run problem. There was a unanimity of opinion that if employment would be forthcoming in connection with the project and were filled by in-migration, it would be welcome in the housing sector at this time.

## PUBLIC SAFETY

### **Law Enforcement**

The Lawrence County Sheriff Department, is the principal law enforcement agency for the county. The cities of Lead, Deadwood and Spearfish have municipal police departments. The South Dakota Highway Patrol also has a number of officers working out of communities in Lawrence County. The sheriff of Lawrence County reports that neither the mining operation or their employees have imposed any burdens on law enforcement duties. (Interview with Sheriff Rick Mowell, July 2010)

Approval of the mining permit is not expected to either increase or decrease requests for calls-for-service than at present. The operation itself is not directly reached by traveling over county or city roads. US Highway 14A and Highway 473 are likely to be the main routes leading to access and egress from the project and will not likely require major amounts of patrol.

### **Fire Protection and Emergency Services**

Since the proposed mining facilities are surrounded by forested acreage, the possibility of wildfires is a factor that must be considered. In addition, heavy equipment, fuel and structural improvements are fires risks on mine property as they are in all other industrial settings.

It is expected that the proposed mine will have some responsibility to provide some on-site employee fire training and protection during the permitting process and therefore will have some ability for initial response to equipment and operational fires. It will, then, have some responsibility for its own fire protection costs for events that originate on company property.

In the surrounding area, and for backup assistance on the mine property, primary responsibility for fires on private property is the Lead Fire Department. The State Division of Conservation and Forestry has responsibility for wildfire suppression prevention in the area. This department has a physical location that houses equipment a few miles from the proposed project near the entrance to Highway 373 from Highway 14A. Fire events within the national forest boundary would also have a work involvement by the U.S. Forest Service.

Many of these governmental fire suppression and prevention organizations have mutual aid agreements with each other so if exceptional fire events take place the particular organization with primary management responsibilities can receive assistance from any or all of the others.

Ambulance and EMT services are provided in the Lead area by Black Hills Ambulance Service with headquarters in Deadwood.

### HEALTH SERVICES

Employees of the proposed mine and their dependents will be provided a comprehensive health insurance program, the individuals and residents of households associated with the project will support medical and dental practices in the region in parallel with other members of the community. Hospitals in Deadwood, Spearfish and Rapid City are relied upon to provide quality medical care to all of the individuals associated with the company.

Care facilities are presently in ample supply and it is expected that the development of the mine and the patronage that the employees and their families will generate would be viewed as positive by the medical care community.

### PUBLIC UTILITIES

#### **Water**

The proposed mining operation will be responsible for its own potable water source and distribution system. Water will be used for dust suppression and also for domestic potable uses associated with the mine and its employees. No demand will be place on any existing nearby water systems. It is presumed that any new use of ground water will be developed with assurances during the permitting process that no negative impacts will accrue to existing users of groundwater water rights.

#### **Sewer and Solid Waste**

Public sewer and solid waste utilities are not required for sewer services on company property. The proposed mine structures will be served by its own wastewater treatment system. The design

of the processing system and limited number of employees suggests that any sewer system would not be of high volume.

Solid waste for an operation such as is proposed is likely very limited in connection with the operation. Solid waste will be regularly collected by private contractors and hauled to state approved landfill sites on a contract basis.

### **Roads**

No county roads are in the vicinity of the proposed project. Access will be off U.S. Highway 14A, a highway that carries vehicular traffic passes to the south and west of the proposed mine. From Highway 14A. From Highway 14A access is will be gained by traveling Highway 473 to Terry Peak and via an access road to the Wharf Mining Company operational headquarters. From that point an existing unclassified forest road (numbered U050132) will be improved by the Deadwood Standard Project to access its operation. This road will cross a combination of National Forest and privately held land via access easements until it reaches the project boundary.

The road will need to be upgraded to carry materials and machinery during the initial development and construction phases of the project. All design and construction costs associated with this access road will be the responsibility of the Deadwood Standard Project. Engineering design and final construction of roads through national forest property will be subject to the approval of the US Forest Service. The disposition of the access road after mining is complete will be subject to the requirements of private landowners who have granted access easements and the US Forest Service.

The majority of use of the road for heavy traffic will be limited primarily to the project construction phase. When actual mining activity is taking place, workers will be afforded a pooled transportation mode to minimize traffic over the access road.

### ADJACENT LAND USE

#### **Recreation**

Outdoor recreation abounds in every direction from the location of the proposed mine. Hiking and biking trails, hunting, all terrain vehicle use, snowmobiling, camping and a myriad of other



activities occur throughout the year on private and public land in the vicinity. For safety reasons such activities will not be permitted on property within the permitted mine boundary. The accessibility of Forest Service lands that are proximate to the mine and other private lands that are not owned by the mining company will be available to whatever uses that have been customary in the past. Impacts to recreationists on these nearby lands are not expected to be adversely impacted by activities occurring on permitted mine property.

The major ski area in the Black Hills is situated southeast of the proposed mine. Access to Terry Peak Ski Area is also on Highway 473, on the route to the Wharf mine as well as the access to the Deadwood Standard Project.

### **Adjacent Housing**

The primary housing area that must be considered in terms of potential impacts consists of the properties situated in Spearfish Canyon to the west of the proposed project. The general area that is located closest to the proposed project begins about two miles south of Savoy and extends essentially to the historic place of Elmore to the north in Spearfish Canyon. Sections 30 and 31 are the closest to the canyon and center at Savoy and to the south of Savoy. Properties in Spearfish Canyon have enjoyed a stable real estate environment for many years and have seen steady increases in demand. It is the intent of the company to not detract from this trend in future years.

During the permitting process evidence from environmental professionals will need to provide adequate assurances that no negative external impacts will occur as a result of mining above the eastern lip of Spearfish Canyon in this vicinity. Such potential impacts as noise, dust, erosion, water will all be considered in the permitting process.

It is the goal of VMC, LLC to provide a measure of environmental protection to the area above and beyond what may be considered adequate. This is to help assure that property owners are able to use and enjoy their property as much in the future as what they have been accustomed to in the past and that property values are protected.

It is important to also point out that the long-run impact to the Spearfish Canyon area has the potential to greatly enhance the recreational and commercial attributes of the area in connection with reclamation efforts that will be attached to the new permit. Reclamation of land to is pre-

mining historic use with new vegetation and stabilization of the terrain is certain to have a long run positive impact to the owners of property in Spearfish Canyon.

Reclamation land use plans focused primarily on open space, wildlife habitat and grazing would, no doubt be well accepted by neighboring landowners in Spearfish Canyon. Should that be approved, the opportunity for enhanced re-use of mined land will be highly compatible with present adjacent land use in the immediate vicinity of the proposed project.

### POST-MINING LAND USE

A reclamation development plan has not been proposed or adopted at this point. Thus, suggestions for re-use provided in this document are discussed from the standpoint of the present social and economic environment in the immediate area. The first thing to consider in this regard is whether a re-use is economically and socially consistent with current surrounding uses. It may be found by those studying the mine area in detail that the ultimate plan will involve more than one type of re-use. The types of re-uses that appear most apparent from the existing surroundings of the property include the following:

#### **Rangeland**

Land that will revert to grazing and browsing purposes will be compatible with the present use of much of the land to be disturbed as well as other adjacent land uses. Although the economic benefits pertaining to grazing land is normally not significant, the open space that such use affords provides social and aesthetic benefits consistent with what currently exists in the area. Adjacent landowners in the Spearfish Canyon area near Savoy would also welcome this type of land use for future years. The primary grazing benefits will relate to improvements to habitat for wildlife with perhaps minor enhancements to hunting and wildlife viewing. Limited economic benefits may also accrue within the agricultural sector for grazing of domestic livestock.

#### **Recreation**

Enhanced recreation opportunities represent a substantial long-term social benefit to Lawrence County. Although open spaces are currently available in ample supply, recreation opportunities such as cross-country skiing, hiking, equestrian, snowmobiling, sight-seeing and various similar activities would find the area an asset. New areas such as this with improved access that are part

of the re-use of the mine acreage will enhance its benefit to local residents. The potential economic impact from such activities is minor compared to the substantial benefit that Lawrence County already has regarding recreation in the Black Hills.

### **Residential**

The area intended to be permitted for mining for this project is not easily accessible for day to day residential living, especially on a year around basis. Thus, this type of re-use does not seem intuitive from a social and economic basis. Excessive costs of public services would not be in the public interest for year-around living in this area. Costs of road maintenance fire and emergency services that currently exist in the county are not easily adapted to this type of mountainous setting. Any residential re-use plan would be likely to require an extremely large parcel development that would be designed for seasonal use.

In summary, the optimum reclamation plan from a social and economic standpoint consists of mountain rangeland-recreational uses.

## SECTION V SUMMARY OF FINDINGS

The socioeconomic impacts to be expected with the approval of the Deadwood Standard Project can be summarized as follows:

### **Economic Impacts**

In the case of a long term mining operation, economic impacts are substantial relative to other economic activities in the county employing a similar number of workers. This is because mining is a primary industry that creates new wealth that is distributed throughout other sectors of the economy in the process of extracting gold. The number of workers expected to be employed at the proposed mine would be approximately 41 as is now envisioned by the business plan. These employment positions would exist for a period of about 8 or more years after the mine is constructed and fully prepared.

Direct earnings associated with these workers total about \$2,150,000 not including fringe benefits. The construction and mine preparation labor costs to be between \$6.0 and \$9.1 million. Assuming an 8 year life of the mine, a total wages excluding benefits would range between \$22.2 million to \$27.1 million. Non payroll purchases of goods and services required by the company to conduct mining activity is expected to average about \$3.82 million as inferred by the mining plan or total \$30,560,000 over 8 years.

These dollars would, in turn, generate induced economic impacts to the local economy as mine workers spend their income in the local economy and as the project purchases goods and services from local vendors. It is estimated that the induced employment increment would amount to another 41 positions distributed in various local economic sectors. Their wages over the 8 year life of the mine would be approximately \$17.2 million.

### **Fiscal Impacts**

State and local tax structures interact with mining activity. Given estimated projections of required local expenditures in the South Dakota economy it appears that direct sales taxes paid by the mine to the state would be approximately \$262,000 or \$2.1 million for the mine life.

Workers, in the process of expending their earnings, will add at least that much, if not more, in

sales tax benefit to the state. Although only a limited amount of direct purchases by the company occur in municipalities, it is apparent that most of the taxable expenditures incurred by mine employees does occur within municipal boundaries. Estimates of local sales taxes are beyond the scope of this study.

Property taxes directly arising from mine property accrue primarily to school districts and to Lawrence County government. During some of the peak assessment years property taxes to these two entities could amount to as much as \$500,000 per year and possibly much more. In years past, about 74 percent of local property taxes paid by non agricultural property outside municipalities accrued to the school district. This means that during these peak years the school district could benefit up to \$370,000 per year depending on the price of gold and therefore the value of the property containing the gold ore. The balance would be directed toward county purposes.

The state tax on gold is comprised of two components. The first consists of a basic \$4.00 severance tax on gold. If the price of gold rises above \$800 per ounce the severance tax becomes \$8.00 per ounce. In addition, a net income tax is charged to gold companies and is equal to a flat 10 per cent of net company profits. Together, these two taxes will generate substantial revenue if the price of gold maintains itself near today's present value of \$1,700 per ounce. Any estimate of this revenue far into the future is subject to significant error given the general condition of the national economy. Broad estimates suggest that it could range between \$1.176 and \$2.176 million annually during some of the eight years of production.

### **Social Impacts**

Impacts on public education arise from revenue and a from enrollment points of view. As seen earlier, the revenue impact to the Lead-Deadwood school district is substantial. The impact on enrollment, however, is minor. Only about 20 students are expected to be distributed in the Spearfish and Lead-Deadwood school districts from households of mine workers. In the case of the Spearfish district the proportion is expected to be somewhat greater than one half of this amount. It is also true that the *net* impact may be even less than twenty since many of the mine employees may already live in the district and are presently unemployed or underemployed.

Representative opinions from public safety services such as police, fire, health, and emergency services do not regard the existence of the mine and its employees in their service area is a

detriment to their activity. They report that no undue or unexpected requirements for service arise in connection with the mine.

Public utilities for the most part are operated via enterprise accounts which suggests that the demand for services largely are paid directly by users on a fee basis. Adequate capacities exist for such services in the area by households of any new mine employees that may in-migrate to local communities.

Roads and streets similarly are not likely to experience measurable additional wear by the company or their employees. Most of the utilization of company rolling stock will occur exclusively on mine property after construction of the project is completed. Any costs that may be incurred in improving access roadways to the mine will be assumed by the Deadwood Standard Project. Guidelines, plans and specification for these improvements that abut public land will be subject to the approval of the US Forest Service.

Commercial recreation near the area of the proposed mine is limited to the Terry Peak Ski Area. Access to the ski facility is Nevada Gulch via Highway 473 and over the same route to the Wharf mine. Informal outdoor recreation occurs all around the proposed mine parcel. Activities involve hiking, hunting, sightseeing and cross-country skiing, among others. Fishing occurs in Spearfish Canyon directly west of the proposed mine

An adjacent housing area is located west of the proposed mine boundary. A series of vacation and some year around residences are distributed along Spearfish Creek. The areas closest to the mine would be an area from Elmore to a mile or two south of Savoy. The mine plan will incorporated a buffer zone near the lip of the canyon in which Spearfish Creek is located. Care needs to be taken to assure property owners will not be adversely affected by mine operations. The rest of the mine perimeter is basically national forest or private property that can be classified as open space. Its primary present use is for wildlife habitat.

Re-use of the area from an socioeconomic perspective is probably best directed as reverting back to a natural forest environment. From the standpoint of property owners living west of the project a return to forest with natural plant life an original contour would be most appealing to them. In addition, natural forage areas for wildlife and possible livestock use is what is found presently in the vicinity. Areas to the east that are now part of the Wharf Resources mine will also be returned to its natural forest appearance when mining is completed.

A re-use of the mine acreage to residential purposes is probably the least desirable from an economic perspective. Providing roads and streets, public safety and school services to a relatively remote location such as the proposed mine would impose costs that would be disproportionately high relative to the ability for them to be paid for by residents of the area. Any residential re-use would be contemplated would be limited to extremely low density designs.

## Section 4



**BUFFER ZONE WAIVER**

Re: VMC, LLC proposed Deadwood Standard Project/Waiver

To Whom It May Concern:

I, the undersigned, understand that pursuant to the Lawrence County Comprehensive Plan, a Conditional Use Permit requires a buffer zone between land disturbed for mining and the adjacent land owner. VMC, LLC is the land owner of property within the five hundred foot (500') buffer zone of the proposed mining operation, including disturbed land. By signing below I agree to waive the five hundred foot (500') buffer requirement set by the Lawrence County Comprehensive Plan.

Additionally, I would like to state that VMC, LLC, is the applicant for the CUP and is proposing the mining project on the property owned and/or controlled by VMC, LLC.

Sincerely,

VMC, LLC

By: Don Valentine  
Don Valentine  
Its: MANAGER-DIRECTOR

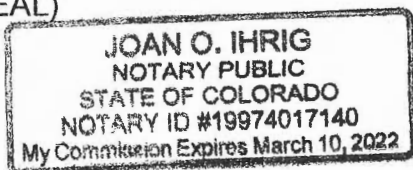
STATE OF COLORADO                      )  
                                                                  ) SS  
COUNTY OF Routt                    )

On this 16 day of January, 2020, before me, the undersigned officer, personally appeared Don Valentine, satisfactorily proven to be the Manager-Director of VMC, LLC, and that he as such officer, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Joan O. Ihrig  
Notary Public  
My Commission Expires: 3-10-2022

(SEAL)



**BUFFER ZONE WAIVER**

Re: VMC, LLC proposed Deadwood Standard Project/Waiver

To Whom It May Concern:

I, the undersigned, understand that pursuant to the Lawrence County Comprehensive Plan, a Conditional Use Permit requires a buffer zone between land disturbed for mining and the adjacent land owner. I am the land owner of property within the five hundred foot (500') buffer zone of the proposed mining operation, including disturbed land. By signing below I agree to waive the five hundred foot (500') buffer requirement set by the Lawrence County Comprehensive Plan.

Additionally, I would like to state that the Louise Chaffee Revocable Trust has no objections to the proposed mining project near or on the property owned and controlled by the trust.

Sincerely,

Louise Chaffee Revocable Trust

By: *Louise Chaffee*  
Louise Chaffee  
Its: Trustee

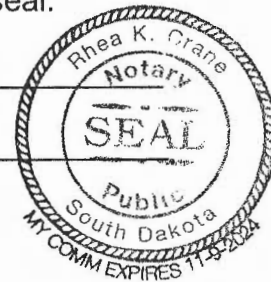
STATE OF SOUTH DAKOTA )  
 ) SS  
COUNTY OF Meade )

On the 27<sup>th</sup> day of February, 2020, before me, the undersigned officer, personally appeared Louise Chaffee, known to me or satisfactorily proven to be the Trustee of the Louise Chaffee Revocable Trust, and that she as such trustee, being authorized so to do, executed the foregoing instrument for the purposes therein contained

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

(SEAL)

*Rhea Crow*  
Notary Public  
My Commission Expires: \_\_\_\_\_



**BUFFER ZONE WAIVER**

Re: VMC, LLC proposed Deadwood Standard Project/Waiver

To Whom It May Concern:

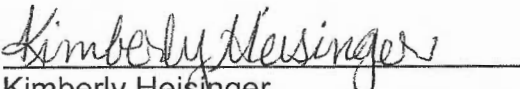
We, the undersigned, understand that pursuant to the Lawrence County Comprehensive Plan, a Conditional Use Permit requires a buffer zone between land disturbed for mining and the adjacent land owner. We are the land owners of property within the five hundred foot (500') buffer zone of the proposed mining operation, including disturbed land. By signing below we agree to waive the five hundred foot (500') buffer requirement set by the Lawrence County Comprehensive Plan.


Additionally, we would like to state that the Jerry L. Chaffee Revocable Trust has no objections to the proposed mining project near or on the property owned and controlled by the trust.

Sincerely,

Jerry L. Chaffee Revocable Trust

By   
Kirk J. Chaffee  
Successor Trustee

By   
Kimberly Heisinger  
Successor Trustee

By   
Kerry Skinner  
Successor Trustee

STATE OF SOUTH DAKOTA     )  
                                          ) ss.  
COUNTY OF MEADE            )

On this 27<sup>th</sup> day of February, 2020, before me, the undersigned officer, personally appeared Kirk J. Chaffee, Kimberly Heisinger and Kerry Skinner, who acknowledged themselves to be the Successor Trustees of the Jerry L. Chaffee Revocable Trust, and that they, as such Trustees, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the revocable trust by themselves as the Trustees.

IN WITNESS WHEREOF, I hereunto set my hand and official seal

*Rhea K. Crane*

Notary Public

My Commission Expires:



(SEAL)

**BUFFER ZONE WAIVER**

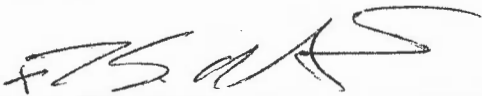
Re: VMC, LLC proposed Deadwood Standard Project/Waiver

To Whom It May Concern:

I, the undersigned, understand that pursuant to the Lawrence County Comprehensive Plan, a Conditional Use Permit requires a buffer zone between land disturbed for mining and the adjacent land owner. I am the land owner of property within the five hundred foot (500') buffer zone of the proposed mining operation, including disturbed land. By signing below I agree to waive the five hundred foot (500') buffer requirement set by the Lawrence County Comprehensive Plan.

Additionally, I would like to state that I have no objections to the proposed mining project near or on the property owned by me.

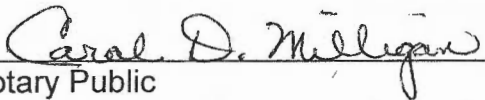
Sincerely,

By:   
 Keith Smit

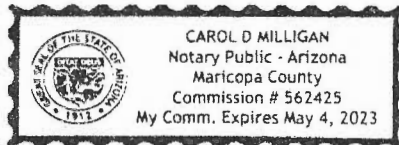
*Arizona adm*  
 STATE OF ~~SOUTH DAKOTA~~ )  
 ) SS  
 COUNTY OF Maricopa )

On this 25 day of February, 2020, before me, the undersigned officer, personally appeared Keith Smit, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

  
 Notary Public  
 My Commission Expires: May 4, 2023

(SEAL)



**BUFFER ZONE WAIVER**

Re: VMC, LLC proposed Deadwood Standard Project/Waiver

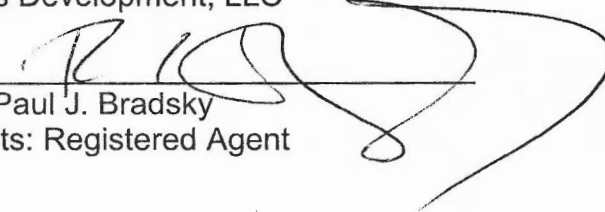
To Whom It May Concern:

I, the undersigned, understand that the Lawrence County Comprehensive Plan, Conditional Use Permit requires a buffer zone between land disturbed for mining and the adjacent land owner. Atlas Development LLC is the landowner of land within the five hundred foot (500') buffer zone of the proposed mining operation, including disturbed land. By signing below I agree to waive the five hundred foot (500') buffer requirement set forth by the Lawrence County Comprehensive Plan.

Additionally, I would like to state that Atlas Development, LLC, has no objections to the proposed mining project near or on the property owned and controlled by the corporation.

Sincerely,

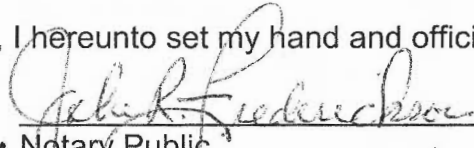
Atlas Development, LLC

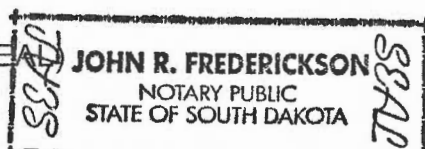
By:   
Paul J. Bradsky  
Its: Registered Agent

STATE OF SOUTH DAKOTA     )  
                                                      ) SS  
COUNTY OF PENNINGTON    )

On this 13<sup>th</sup> day of December, 2019, before me, the undersigned officer, personally appeared Paul J. Bradsky, satisfactorily proven to be the Registered Agent of Atlas Development, LLC, and that he as such officer, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

  
Notary Public  
My Commission Expires: 3/31/2023

(SEAL) 

**BUFFER ZONE WAIVER**

Re: VMC, LLC proposed Deadwood Standard Project/Waiver

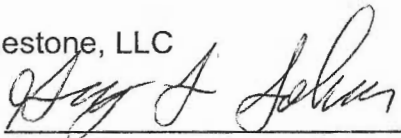
To Whom It May Concern:

I, the undersigned, understand that pursuant to the Lawrence County Comprehensive Plan, a Conditional Use Permit requires a buffer zone between land disturbed for mining and the adjacent land owner. I am the land owner of property within the five hundred foot (500') buffer zone of the proposed mining operation, including disturbed land. By signing below I agree to waive the five hundred foot (500') buffer requirement set by the Lawrence County Comprehensive Plan.

Additionally, I would like to state that Limestone, LLC has no objections to the proposed mining project near or on the property owned and controlled by the company.

Sincerely,

Limestone, LLC

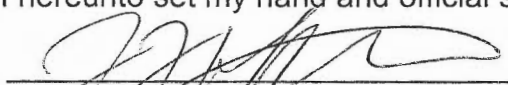
By:   
\_\_\_\_\_  
Gary L. Salmen

Its: Managing Partner

STATE OF Arizona )  
SOUTH DAKOTA ) ) SS  
COUNTY OF mohave )

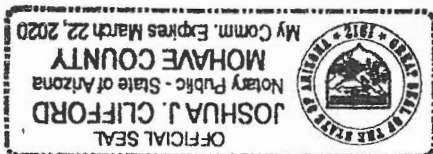
On the 27 day of January, 2020, before me, the undersigned officer, personally appeared Gary L. Salmen, known to me or satisfactorily proven to be the Managing Partner of Limestone, LLC, and that he as such officer, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

  
\_\_\_\_\_  
Notary Public

My Commission Expires: 03/22/2020

(SEAL)



### **BUFFER ZONE WAIVER**


Re: VMC, LLC proposed Deadwood Standard Project/Waiver

To Whom It May Concern:

I, the undersigned, understand that pursuant to the Lawrence County Comprehensive Plan, a Conditional Use Permit requires a buffer zone between land disturbed for mining and the adjacent land owner. I am the land owner of property within the five hundred foot (500') buffer zone of the proposed mining operation, including disturbed land. By signing below I agree to waive the five hundred foot (500') buffer requirement set by the Lawrence County Comprehensive Plan.

Additionally, I would like to state that the Estate of Nancy Bradsky has no objections to the proposed mining project near or on the property owned and/or controlled by the Estate.

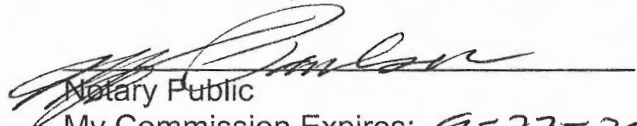
Sincerely,

By:   
Mark S. Bradsky  
Personal Representative of the  
Estate of Nancy Bradsky

STATE OF SOUTH DAKOTA     )  
                                                                                           ) SS  
COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 2020, before me, the undersigned officer, personally appeared Mark S. Bradsky satisfactorily proven to be the Personal Representative of the Estate of Nancy Bradsky, and acknowledged that she executed the foregoing Buffer Zone Waiver as personal representative of the estate of Nancy Bradsky and for the purposes therein contained

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

(SEAL)   
Notary Public  
My Commission Expires: 9-22-2020







United States  
Department of  
Agriculture

Forest  
Service

Black Hills National Forest  
Northern Hills Ranger District

2014 N Main Street  
Spearfish SD 57783  
605-642-4622

File Code: 2800/5500

Date: April 13, 2012

John R. Frederickson  
Representative for Valentine Mining Co.  
Frederickson Law Offices  
68 Sherman Street  
Suite 307  
Deadwood, SD 57732

APR 20 2012

Dear Mr. Frederickson:

I am writing to inform you of the Forest Service's position regarding set back distances along Forest Service lands. This letter serves to give Lawrence County adequate information for the county to make decisions on approval of the Lawrence County Conditional Use Permit and the requirements of a buffer or set back from adjacent property owners.

The Forest Service has no jurisdiction on private property or interest in buffering Valentine Mining Company's or any landowner's activity on their property. The Forest Service has no regulation, policy, or direction that would require or need a set back or buffer zone on private property.

Please be advised that this letter does not verify the exact location of Valentine Mining Company's current or proposed activities. Acquiring a recent survey from a certified Cadastral Surveyor is recommended to ensure all activities are on private property. Thank you for your cooperation with the Black Hills National Forest.

If you have further questions concerning this issue please contact Land/Mineral Specialist, Hillarie Jackson at this office (605) 642-4622 or via email [hljackson@fs.fed.us](mailto:hljackson@fs.fed.us).

Sincerely,

  
RHONDA O'BYRNE  
District Ranger

Enclosure: None.

cc: Patrick T Morton, Scott E Haas, Gary H Haag, Ralph G Adam

