

CALICO RESOURCES USA CORP.
GRASSY MOUNTAIN MINE PROJECT
MALHEUR COUNTY, OREGON

**RECREATION
BASELINE REPORT**

JANUARY 2018

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RECREATION BASELINE REPORT**

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LIST OF ABBREVIATIONS AND ACRONYMS

ATV	all-terrain vehicle
BLM	Bureau of Land Management
HDR	HDR Engineering, Inc.
MRA	Malheur Resource Area
Project	Grassy Mountain Mine Project
ROS	Recreation Opportunity Spectrum
SEORMP	Southeast Oregon Resource Management Plan and Record of Decision

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1 INTRODUCTION

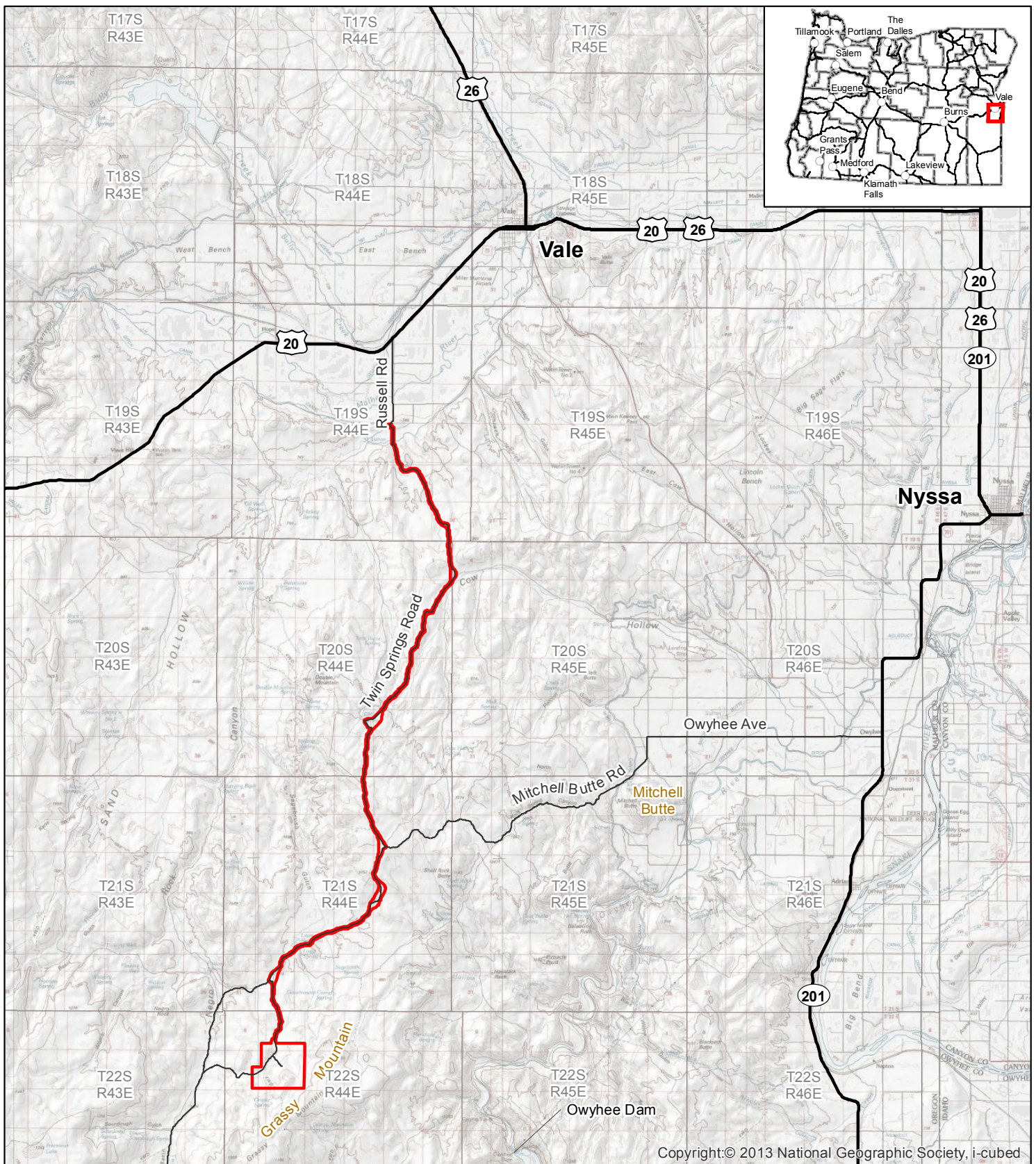
The purpose of the recreation baseline study is to characterize existing recreation opportunities, amenities, and usage in the Grassy Mountain Mine Project (Project) recreation study area in Malheur County, Oregon. The primary recreation use area is located on Bureau of Land Management (BLM)-administered land. This baseline report will be used to support a National Environmental Policy Act evaluation for future mine site activities, and will be included in the Consolidated Permit Application submitted to the Oregon Department of Geology and Mineral Industries. A large portion of the text and data used in this report has been taken from the June 2015 *Recreation Baseline Study* prepared for the Project by HDR Engineering, Inc. (HDR). Additional or updated information has been added where necessary to accommodate the current permit area. The additional/updated information includes: 1) expansion/description of the permit area; 2) revisions of the maps and descriptions of the recreational resources to accommodate the revised study area; and 3) Contacts and Preparers.

2 RESOURCE STUDY AREA

The Project is located in Malheur County, Oregon, approximately 22 miles south-southwest of Vale (Figure 1), and consists of two areas: the Mine and Process Area and the Access Road Area (Permit Area) (Figure 2).

The Mine and Process Area is located on three patented lode mining claims and unpatented lode mining claims that cover an estimated 886 acres. These patented and unpatented lode mining claims are part of a larger land position that includes 419 unpatented lode mining claims and nine mill site claims on lands administered by the BLM (Figure 2). All proposed mining would occur on the patented claims, with some mine facilities on unpatented claims. The Mine and Process Area is in all or portions of Sections 5 through 8, Township 22 South, Range 44 East (T22S, R44E) (Willamette Meridian).

The Access Road Area is located on public land administered by the BLM, and private land controlled by others (Figure 2). A portion of the Access Road Area is a Malheur County Road named Twin Springs Road. The Access Road Area extends north from the Mine and Process Area to Russell Road, a paved Malheur County Road. The Access Road Area is in portions of Section 5, T22S, R44E, Sections 3, 10, 11, 14, 15, 21 through 23, 28, 29, and 32, T21S, R44E, Sections 1, 12 through 14, 23, 26, 27, and 34, T20S, R44E, Sections 6 and 7, T20S, R45E, and Sections 22, 23, 26, 35, and 36, T19S, R44E (Willamette Meridian). The width of the Access Road Area is 300 feet (150 feet on either side of the access road centerline) to accommodate possible minor widening or re-routing, and a potential powerline adjacent to the access road. There are several areas shown that are significantly wider than 300 feet on the Permit Area Map (Figure 2), which are areas where the final alignment has not yet been determined. The final engineering of the road will be consistent throughout, and within the Permit Area. The Access Road Area also includes a buffer on either side of the proposed road width for the collection of environmental baseline data. The road corridor will be 40 feet wide, which includes a 24-foot wide road travel width (12 feet on either side of the road centerline), four-foot wide shoulders on each side of the road, minimum one-foot wide ditches on each side of the road, and appropriate cut and fill. The Access Road Area totals approximately 876 acres. The Recreation Study Area (Study Area) is the Permit Area (Figure 3).



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Explanation

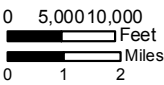
- Permit Area
- Existing Road

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Location Map

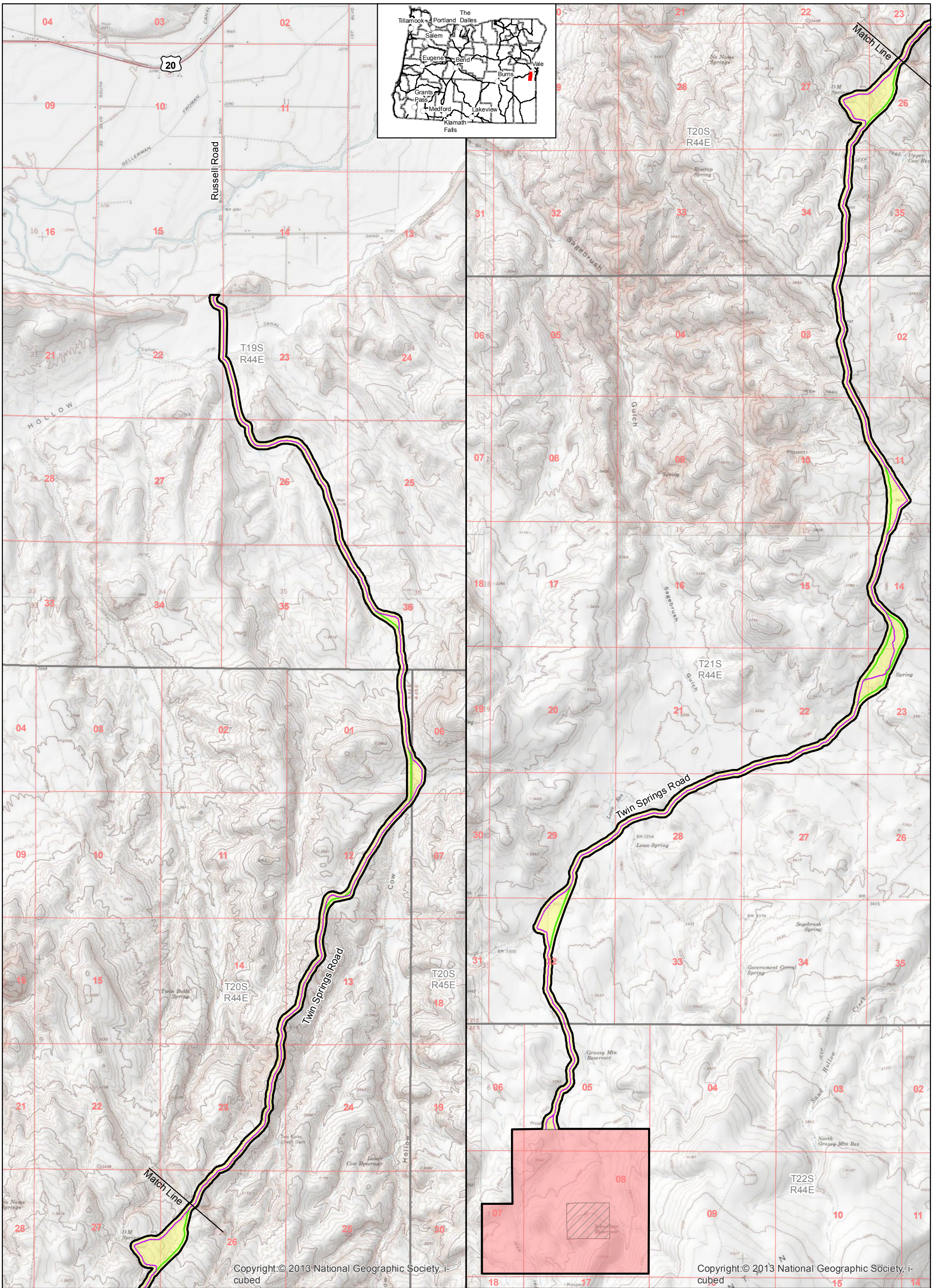
Projection: UTM Zone 11 North, NAD83, meters



Date: 12/19/2017	Drawn By: JDB
Revised:	Project No.: 3672
Base Map: USGS 100K quads: Boise, Brogan, Vale, Weiser	
File Name: 3672G_GrassyMtn_BL_Fig01_Location.mxd	



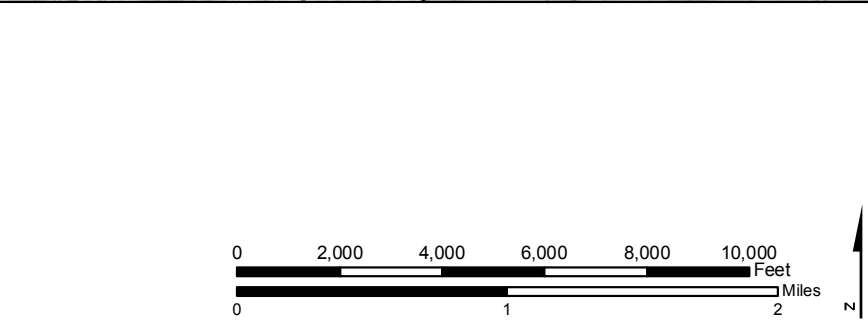
Figure 1



Explanation

- Permit Area
- Mine and Process Area
- Access Road Area
- Patented Lode Claims
- Proposed Access Road
- Possible Road Realignment

Projection: UTM Zone 11 North, NAD83, meters

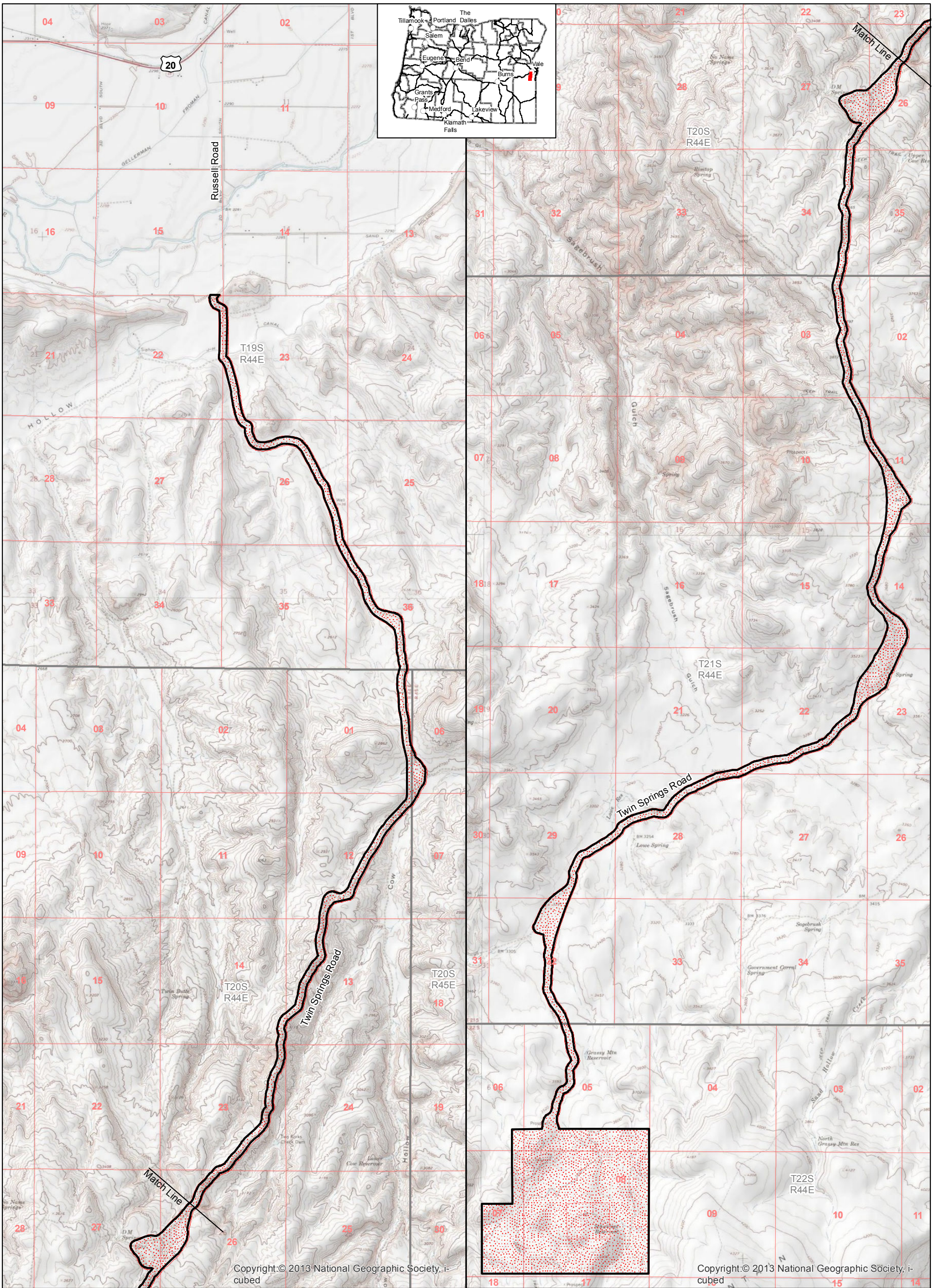


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Permit Area Map

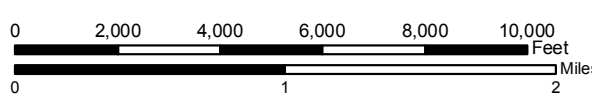
Figure 2

Date: 12/19/2017	Drawn By: JDB
Revised:	Project No.: 3672
Base Map: USGS 7.5 Minute Topographic Map, Grassy Mountain, Klamath Spring, Oregon	
File Name: 3672G_GrassyMtn_BL_Fig02_PermitArea.mxd	



Explanation
 [Black Outline] Permit Area
 [Red Dotted Pattern] Recreation Study Area

Projection: UTM Zone 11 North, NAD83, meters



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 Recreation Study Area

Date: 12/19/2017 Drawn By: JDB
 Revised: [Blank] Project No.: 3672
 Base Map: USGS 7.5 Minute Topographic Map, Grassy Mountain, Kane Spring, Oregon
 File Name: 3672G_GrassyMtn_BL_R_Fig03_StudyArea.mxd

Figure 3



3 REGULATORY FRAMEWORK

3.1 Federal

Federal agencies, including the BLM, United States Forest Service, and United States Fish and Wildlife Service, administer over 51 percent of the lands in Oregon and 70 percent of the lands in southeast Oregon (Harney, Malheur, and Lake counties), making them the largest managers of outdoor recreation and land facilities in the state. Therefore, these agencies play a major role in providing dispersed recreation opportunities as well as resource protection of some of the state's most unique and important scenic, natural, and cultural resources.

3.1.1 Bureau of Land Management Southeastern Oregon Resource Management Plan

The BLM's 2002 Southeastern Oregon Resource Management Plan and Record of Decision (SEORMP) provides the Vale District with a comprehensive framework for managing 4.5 million acres of public land administered as the Malheur Resource Area (MRA) and Jordan Resource Area. The SEORMP addresses land in Malheur, Grant, and Harney Counties in a larger 6.5 million-acre planning area that contains private land and land managed by the State of Oregon. The purpose of the SEORMP is to ensure that public land is managed for multiple use and sustained yield in accordance with the Federal Land Policy and Management Act of 1976. The Study Area is in the MRA.

The SEORMP contains objectives for BLM-administered land in and surrounding the Study Area. The recreation objective is as follows:

- Objective: Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities (BLM 2002).

3.1.2 Recreation Opportunity Spectrum

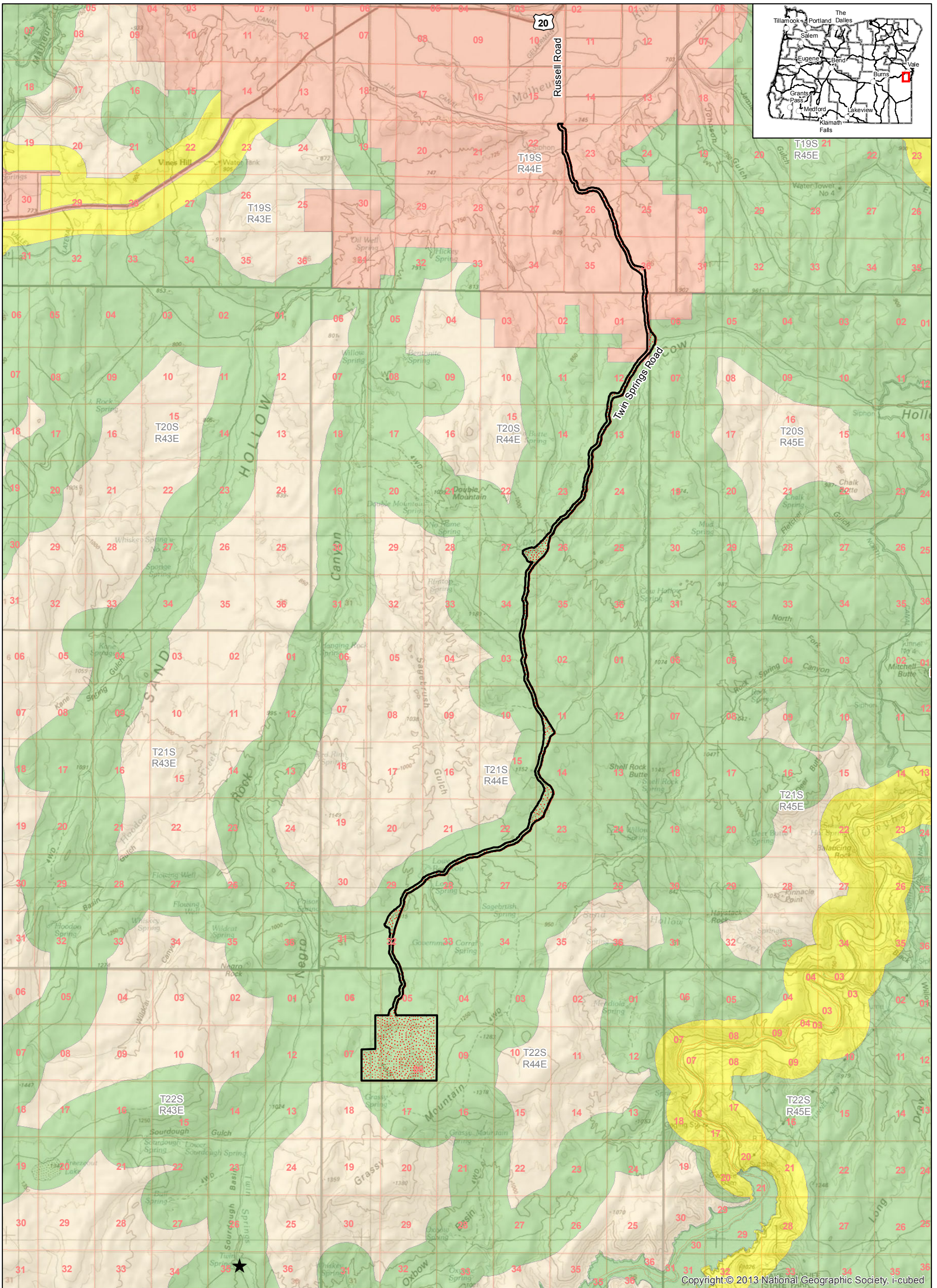
The Recreation Opportunity Spectrum (ROS) is a BLM-created conceptual framework for recreation managers to inventory, plan, and manage recreation resources on BLM land. The ROS provides a way to characterize either the capability of a resource to provide an experience, or the demand for an experience in terms of the activity opportunity and setting opportunity provided or demanded. Therefore, recreation opportunities can be expressed in terms of three components: the activities, the setting, and the experience. The possible combinations of these three components are arranged along a continuum, or spectrum. The ROS is divided into six classes, with each class defined in terms of its combination of activity setting and experience opportunities. The six classes are primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban (BLM 2002). ROS classifications are described in Table 1.

Table 1: Recreation Opportunity Spectrum Classifications

Classification	Description
Urban (Not present in Study Area)	This is a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resource modernization and urbanization practices are to enhance specific recreation opportunities. Vegetative cover is often exotic and manicured. Large numbers of users can be expected on site and in nearby areas. Facilities for highly intensified motor-vehicle use and parking are available. The probability of user interaction is high, as is the convenience of sites and opportunities. Experiencing natural environments and uses of outdoor skills are relatively unimportant. Opportunities for competitive and spectator sports and for passive uses are common. Activities may include resort lodging, ice skating, team sports participation, tour boat use, and picnicking.
Rural	This is a substantially modified environment. Resource modifications and utilization practices are to enhance specific recreation activities. Facilities are designed for use by a large number of people. Motorized use and parking opportunities are available. The probability of user interaction is moderate to high, as is the convenience of sites and opportunities. These factors are generally more important than the physical setting. Wildland challenges and testing of outdoor skills are generally important. Activities may include interpretive services, swimming, bicycling, recreation cabin use, and skiing.
Roaded Natural	This is a predominantly natural-appearing environment with evidence of humans. Evidence usually harmonizes with the natural environment. Management provides for the use of conventional motorized vehicles. There is an equal probability to experience affiliation with other user groups and for isolation and interaction with the natural environment. Challenge and risk opportunities are not very important, although testing of outdoor skills may be. Opportunities for both motorized and nonmotorized recreation are available. Activities may include bus touring, water skiing, walking, canoeing, sledding, and driving for pleasure.
Semi-primitive Motorized	This is a predominantly natural or natural-appearing environment of moderate to large size. User interaction is low, but there is evidence of other users. Minimum on-site controls and restrictions may be present. Use of motorized vehicles is permitted. There is a moderate probability of experiencing isolation, closeness to nature, and self-reliance in outdoor skills. Activities may include boating, motor biking, specialized landcraft use, mountain climbing, driving for pleasure, camping, and picnicking.
Semi-primitive Non-motorized	This is a predominantly natural or natural-appearing environment of moderate to large size. Minimum on-site controls and restrictions may be present. Use of motorized vehicles is prohibited. There is a high probability of experiencing isolation, closeness to nature, and self-reliance in outdoor skills. Activities may include camping, hunting, snowshoeing, and floatboating.
Primitive (Not present in Study Area)	This is essentially an unmodified natural environment of fairly large size. Use of motorized vehicles is prohibited. There is an extremely high probability of experiencing isolation, closeness to nature, and self-reliance on outdoor skills. Activities may include hiking, nature study, fishing, cross-country skiing, and floatboating.

Source: BLM 2002

Figure 4 shows the ROS classifications that occur within the Study Area.



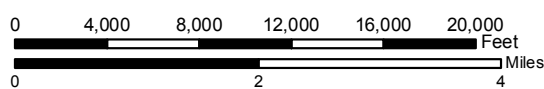
Explanation

- Permit Area
- Recreation Study Area
- ★ Twin Springs Campground

Recreation Opportunity Spectrum (ROS)

- Roaded Natural
- Rural
- Semi-Primitive Motorized
- Semi-Primitive Non-Motorized

Projection: UTM Zone 11 North, NAD83, meters



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Recreation Opportunity Spectrum Classifications

Figure 4

Date: 12/19/2017	Drawn By: JDB
Revised:	Project No.: 3672
Base Map: Sourdough Spring, Vale West	
File Name: 3672G_GrassyMn_BL_RFig04_ROS.mxd	



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4 STUDY METHODOLOGY

4.1 Literature Review

The majority of the baseline characterization outlined in this report has been taken from the June 2015 HDR report. Additional or updated information has been added where necessary to accommodate for the revision in the Permit Area and Study Area. References used for this report are included in Section 6, Bibliography.

4.2 Field Studies

Field studies were not necessary for this baseline study per the *Environmental Baseline Study Work Plans* (EM Strategies, Inc. 2017).

5 BASELINE CHARACTERIZATION

Resource-dependent recreation use, including driving for pleasure, camping, picnicking, hiking, hunting, scenery viewing, nature studies, rockhounding, and all-terrain vehicle (ATV) use are all popular activities occurring within the Study Area. Twin Springs Campground is the only designated recreation site in the vicinity of the Study Area and it is commonly used for dispersed recreation activities such as hunting, rockhounding, and ATV use; however, it is located outside the Study Area boundaries.

5.1 Recreation Opportunities

As described in Section 3.1.2, recreation managers use the ROS to manage recreation resources within the BLM's MRA. Figure 4 shows the ROS for the Study Area. The northern portion of the Study Area is classified as "Rural." The remaining portion of the Study Area, from the intersection of Twin Springs Road and Cow Hollow Road to the Mine and Process Area, is classified as "Semi-primitive Motorized."

5.2 Recreation Amenities

There are no developed recreation sites in the Study Area. The only recreational activities that occur in the Study Area are dispersed recreation activities such as driving for pleasure, hiking, scenery viewing, rockhounding, and ATV use.

5.3 Recreation Access

The Study Area includes Twin Springs Road as the main access to the Twin Springs Campground. Vehicles pulling campers have been observed on Twin Springs Road. Off-road vehicles such as jeeps and ATVs also access the area using Twin Springs Road for other recreational activities.

5.4 Recreation Values and Goals

The main recreational goal would be to maintain, as closely as possible, access to the dispersed recreation activities in the area, and access to Twin Springs Campground, the only designated recreation site near the Study Area.

5.5 **Potential Conflicts with Mining Activities**

Twin Springs Road would be left open for public access to Twin Springs Campground and other recreational opportunities in the area. As part of the proposed Project, Twin Springs Road would be widened in some areas, providing better access. However, potential conflicts could occur between recreational vehicles and mining equipment and vehicles traveling on Twin Springs Road. These conflicts will be further explored in the Environmental Impact Statement to be prepared for the Project.

6 **BIBLIOGRAPHY**

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