



January 25, 2019

Paramount Gold Nevada Corporation/Calico Resources USA Corporation  
Attention: Nancy J. Wolverson  
665 Anderson Street  
Winnemucca, Nevada 89445

Re: **Grassy Mountain Mine – Malheur County, Oregon**  
*Trip Generation*

C&A Project Number 20180803.00

Dear Ms. Wolverson,

This transportation analysis letter supports the proposed Grassy Mountain Mine project in Malheur County, Oregon. The following items are specifically addressed in this letter:

1. Property Description and Background Information
2. Development Trip Generation
3. Consideration of Transportation Policies
4. Summary

## **1. PROPERTY DESCRIPTION AND BACKGROUND INFORMATION**

The proposed Grassy Mountain Mine is located in Malheur County, approximately 22 road miles south-southwest of Vale, Oregon and is accessed via a transportation network under multiple road authorities. From Vale, mine is accessed to the west on US Highway 20 (Oregon Department of Transportation authority), south on Russell Road (Malheur County), which becomes Twin Springs Road (Bureau of Land Management (BLM)), and further south on a project access road (Private).

A July 19, 2018 *Preliminary Feasibility and Technical Report* has been prepared documenting Grassy Mountain mineral reserves and proposed mining operations. A Transportation Baseline Study and a Transportation Baseline Report have been prepared documenting the existing roadway system, agency authority, and governing adopted plans. Preliminary roadway design documents have also been prepared identifying a typical roadway section, and a plan and profile for the Bureau of Land Management and Private roadway improvements.

Existing vehicular travel on the Main Access Road (combined roadways south of US 20) includes farm equipment and farm support vehicles associated with the farms on Russell Road, recreational travel to access Twin Springs Campground and Lake Owyhee, and support vehicles for water well drilling operations occurring in the Mine and Process Area.

Exhibit 9  
Page 1 of 9

## 2. DEVELOPMENT TRIP GENERATION

Following initial construction, mine trip generation results from mining equipment, support vehicles, and private motor vehicles. Company-owned and commercial service vehicle types include pick-up trucks, service vehicles (trucks), and passenger shuttles. Additionally, there will be employee personal vehicle trips along the Main Access Road; however, a daily shuttle bus/van service between Vale and the mine is proposed, which will substantially reduce personal vehicle trips. Further, all mining and process operations will occur on-site; i.e., there is no off-site transport of mining produced materials except the final shipment of gold and silver bars to a refinery via armored car which will occur approximately once a week.

Information provided in the *Preliminary Feasibility and Technical Report, Section 16.9 – Mine Personnel*, summarizes mining operation requirements Table 16.14. This information includes staffing for mine management, operation, maintenance, and technical services. Additional information supplementing the technical report has also been provided by the Applicant.

During its 10-year processing duration, the mine is anticipated to employ up to 110 employees during peak operations, comprising approximately 63 mine workers, 35 plant operations and maintenance workers, and 12-15 administrative staff. The shift system for administrative personnel is planned to be 5 days on and 2 days off, at 10 hours per day. Production-related mining personnel (operators, fitters, electricians, and assistants) will work a shift system of 4 days on and 3 days off in two teams. Each team will provide 12 hours per day coverage allowing the mine to operate 24 hours per day, 4 days per week. Some personnel may work additional overtime through weekends for care and maintenance requirements, as needed.

The operating calendar is based on 360 operating days per year.

Because of the unique mining business nature, development trip generation data is not available in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition – or any edition, and published trip generation data for comparable uses/developments does not exist. As such, the following trip generation estimates are based on detailed Applicant-provided for the proposed mining operation.

### ***Company-Owned and Commercial Service Vehicle Traffic***

**Pick-up Trucks** – The Applicant anticipates having up to five (5) pick-up trucks traveling between the Vale area and the mine on a daily basis. The number of trips will fluctuate but it is anticipated each vehicle will make 1.5 round trips per day.

**Service Vehicles** – The Applicant anticipates there will be up to five (5) service vehicles traveling between the Vale area and the mine on a daily basis. Company-owned vehicles provide equipment service and deliver supplies including materials, chemicals, and parts. Commercial service vehicles include refuse hauling and fuel delivery. In total, these vehicles will typically make one round trip each per day; however, it is conservatively estimated each vehicle will make 1.5 round trips per day.

**Shuttle Buses/Vans** – The mine is located approximately 22 miles from Vale and there is no on-site employee living accommodation. As a result, all employees will travel between the Vale area and the mine on a daily basis. To reduce motor vehicle trip generation, the Applicant will actively promote ridesharing/carpooling and may provide a daily shuttle bus/van service depending on demand, further reducing motor vehicle trip generation. If this service is provided, the Applicant anticipates there will be up to four (4) shuttle vehicles traveling between the Vale area and the mine on a daily basis. Note the trip generation estimate is based on a “worst case” scenario where a shuttle service is not provided.

### ***Employee Vehicle Traffic***

**Employee Private Motor Vehicles** – The Applicant anticipates there will be up to 110 employees during peak operations traveling between the Vale area and the mine on a daily basis. While ridesharing/carpooling may occur, and/or a shuttle bus/van service provided (thereby reducing overall mine trip generation), it is conservatively assumed each employee will make 1 round trip per day and no shuttles are provided.

### ***Daily Trip Generation Summary of Applicant-Provided Data***

- **Company Pick-up Trucks:** 5 vehicles x 2 one-way trips (1 entering trip + 1 exiting trip) x 1.5 round trips per day = 15 trips.
- **Company and Commercial Service Vehicles:** 5 vehicles x 2 one-way trips (1 entering trip + 1 exiting trip) x 1.5 round trips per day = 15 trips.
- **Company Shuttle Buses/Vans:** If these vehicle trips occur they will eliminate significantly more employee vehicle trips than are created. As such, it is conservatively estimated there will be 0 trips.
- **Employee Vehicles:** 110 employees x 2 one-way trips (1 entering trip + 1 exiting trip) x 1 round trip per day = 220 trips.
- **Total Daily Trip Generation:**  $15 + 15 + 0 + 220 = 250$  trips.

### ***Development Trip Generation - Summary***

Based on Applicant-provided data, it is conservatively estimated the mine will generate 250 average daily motor vehicle trips during peak mining operations. This estimate assumes there is no Company-provided shuttle bus/van service and there is no employee ridesharing/carpooling; i.e. each employee drives a separate vehicle.

### 3. CONSIDERATION OF TRANSPORTATION POLICIES

The Malheur County Transportation System Plan (TSP), *Chapter 9.4 – Recommended Policies for Protection of Transportation Facilities, Other Policies Protecting Transportation Facilities*, states “[Additional consideration is necessary if] (t)he proposed use shall impose an undue burden on the public transportation system. For developments that are likely to generate more than 400 average daily motor vehicle trips (ADTs), the applicant shall provide adequate information, such as a traffic impact study or traffic counts, to demonstrate the level of impact to the surrounding street system. The developer shall be required to mitigate impacts attributable to the project.

Based on the trip generation information provided in this analysis, the proposed mining operation will generate fewer than 400 average daily motor vehicle trips and no further transportation analysis is necessary.

### 4. SUMMARY

The following conclusions are made based on the analysis contained in this letter.

1. Following initial construction, the mining project will have trip generation resulting from mining equipment, support vehicles, and private motor vehicles. Company-owned and commercial service vehicle types include pick-up trucks, service vehicles (trucks), and passenger shuttles. Additionally, there will be employee personal vehicle trips; however, a daily shuttle bus/van service between Vale and the mine site may be provided, reducing the number of personal vehicle trips.
2. During its 10-year processing duration, the mine is anticipated to employ up to 110 employees during peak operations, comprising approximately 63 mine workers, 35 plant operations and maintenance workers, and 12-15 administrative staff.
3. The mine will operate 24 hours per day, 4 days per week. Some personnel may work additional overtime through weekends for care and maintenance requirements, as needed. The operating calendar is based on 360 operating days per year.
4. Based on Applicant-provided data, it is conservatively estimated the mine will generate 250 average daily motor vehicle trips. This estimate assumes there is no Company-provided shuttle bus/van service and there is no employee ridesharing/carpooling; i.e. each employee drives a separate vehicle.
5. Based on the trip generation information provided in this analysis, the proposed mining operation will generate fewer than 400 average daily motor vehicle trips and the proposed mining operation trip generation is with the policy threshold identified in the Malheur County Transportation System Plan. No further transportation analysis is necessary.

Sincerely,



Christopher M. Clemow, PE, PTOE  
Transportation Engineer



Exhibit 9  
Page 4 of 9