12 OPERATIONS: PROJECT LOGISTICS & MATERIALS HANDLING

The Project will require logistical and materials handing support for the efficient, safe and economical operation of the mine and ore processing facility. The construction and installation of support infrastructure are discussed in Section 8. This section discusses the use and maintenance of the site infrastructure.

12.1 ROAD MAINTENANCE

Midas Gold will maintain or contract for the maintenance of the Burntlog Route used to serve the Project site. The goal will be to maintain this road over the mine life, and through closure and reclamation, to provide safe and environmentally sound conditions for the expected daily traffic. Road maintenance performance will rely on initial construction, grade control, dust control and, in the winter months, snow removal and "sanding" using gravel and coarse sand with minimum fines to avert slippery conditions. During most of the Project life, public access through the Project site above the Sugar Creek confluence with EFSFSR will be limited for safety reasons. Access to Monumental Summit and Thunder Mountain during these times will be provided by the Burntlog and Thunder Mountain access roads for full sized vehicles or by trail for ATV/UTV traffic from Johnson Creek near the airport.

As described in Section 7.1, Midas Gold will minimize the footprint of the Burntlog Road during the initial upgrade and extension construction to avoid needless vegetation removal thereby reducing soil erosion. Erosion control measures, such as silt fencing, ditch checks and other measures, will be installed and maintained to minimize environmental impact. Midas Gold will also maintain gravel surfacing to promote an efficient and useable all-weather road. Bridges and culverts will also be maintained to allow water drainage and limit sediment delivery to area streams. These design parameters will reduce sedimentation, thus protecting water quality and fish habitat.

Motor graders (grader) will be used to retain a good running surface that includes the maintenance of road grade, crown, superelevation, shoulder and intersections. Routine grading and spot gravelling will be undertaken on an as-needed basis, and road surface and culverts will be kept free of major obstructions (fallen trees, stray rocks, etc.). To prevent road erosion, Midas Gold will strive to avoid major road maintenance and reshape work during periods of high rainfall and break up/freeze-up.

In dry months, Midas Gold will water the Burntlog Road as necessary to mitigate dust emissions. As appropriate, Midas Gold will incorporate dust control products, such as magnesium chloride, lignin sulfonate or other appropriate and environmentally acceptable products, to further enhance dust control along the route.

During winter months, the Burntlog Road will be plowed for snow removal and sanded for winter driving safety. Midas Gold will use material for sanding with minimal fines to reduce offsite sedimentation during the spring runoff season. Currently, the County performs winter maintenance on many county roads, including County Road 10-579 (known locally as the "**Warm Lake Highway**") from Cascade to Warm Lake (see Figure 1-1). Midas Gold will coordinate with Valley County on winter road maintenance and may contract with the County for extended winter maintenance on the County Road 10-579 from Warm Lake to Landmark and also on the extended Burntlog and Thunder Mountain roads to the Project site.

12.2 PROJECT TRAFFIC

The Project will create traffic to the site from buses, vans, and other light vehicles that carry employees and contractors, the trucks that transport materials and supplies, and the individual vehicles that convey vendors, government personnel and visitors to the Project site. As discussed in Appendix G (alternatives for personnel transportation), Midas Gold has focused on minimizing site access road traffic and maximizing access road safety and environmental stewardship in several areas including:

- Location of some work functions offsite at the SGLF, which may include a laboratory, warehouse, offices, employee parking, and equipment and materials laydown areas;
- Consolidate freight at the SGLF reducing truck traffic;
- Convoy, pilot car and contingency spill protocols for transport of fuel and other consumables;
- Majority of transport during the 5-day workweek (6am to 8pm window) minimizing traffic during the weekends;
- Bus transport for shift changes on weekdays;
- Traffic to site radio controlled and GPS tracked trucks and busses used where possible;
- Slow traffic lanes will be evaluated to alleviate hazardous passing;
- Contracts with transport companies will include conditions regarding driver qualification, back country experience and safety records, and truck maintenance and installed equipment;
- Use of larger capacity transport trucks will be considered either year-round or during less hazardous weather conditions;
- The logistics facility check in process will support hours of use of the road and safety and condition of vehicles including chains and appropriate tires on lighter vehicles in the winter; and,
- The use of properly muffled engine brakes on heavy vehicles will be restricted to steep grades away from residential areas.

Employees will be prevented from driving their own vehicles to site; rather they will be required to utilize mine-provided buses from McCall, Donnelly, Cascade and other communities along the route, to site. Midas Gold will maintain a parking and assembly area at its SGLF for employees and contractors using bus or van pooling to the Project site. A parking lot will also be provided near the site main guard shack for private vehicles that may arrive at site due to vendors or other unexpected visitors. Daily traffic to the Project site will be substantially minimized by using buses and vans to transport employees and contractors and by having those employees and contractors work and reside at the site for extended periods (see Section 8.1). Use of buses/vans and staggered work cycles will also allow for less and dispersed traffic on the access roads into the Project site, reducing the potential for accidents, and will reduce greenhouse gas emissions as a result of fewer vehicle trips.

Transportation provided by the Company will be convenient for workers and provide cost savings compared with driving private vehicles to the mine site. The busing of employees will also reduce road traffic (thereby lowering the risk of traffic accidents and incidents along the access route), reduce fuel consumption as compared with a non-busing scenario, and reduce the number of vehicle transits, which will lessen dust generation and sediment runoff that can cause sediment impacts on surrounding vegetation and drainages, and potentially negatively affect fish habitat. Busing employees substantially mitigates such impacts.

In limited circumstances, such as to meet management responsibilities, specially equipped vehicles, or certain personal considerations, some limited Midas Gold personnel and contractors may use individual vehicles for transportation to the Project site, provided these vehicles will be authorized for use at the site. Parking for such vehicles will be available at the ore processing facility site, administration and warehousing complex, maintenance shops, and the employee housing. Specialized Company or contractor service vehicles, such as drill rigs and drill support equipment, mine equipment service vehicles, and other specialty equipment will also be permitted access to the site.

12.2.1 Pilot Vehicles & Best Management Practices

Various supplies and materials used as part of construction, development, mining and ore processing are classified by government regulations as potentially hazardous (diesel fuel, gasoline, sodium cyanide, etc.). As a mitigation measure, Midas Gold will use a pilot vehicle, in conjunction with additional BMPs that have been successfully implemented onsite to date, to escort vehicles carrying potentially hazardous materials from the SGLF to the Project site. Midas Gold plans that such hazardous supplies and materials will be escorted in caravans to the extent practicable.

In addition, the SGLF will serve as the check-in location for all material and supply traffic destined for the Project site. The check-in process will include general safety and road readiness inspection of incoming trucks and equipment being transported to site. Midas Gold will require and inspect its heavy equipment transshipment vehicles for items such as safety equipment, installed and maintained engine brake muffling systems which reduce engine brake noise, and general safety checks of equipment. Midas Gold will contractually require its suppliers that ship loads directly to Stibnite, to maintain and inspect their equipment for the same safety and engine brake muffling systems.

12.2.2 Construction Traffic

Initial construction activities at the Project are estimated to take approximately three years (see Section 7). Given the harsh winter conditions that can occur in this region of Idaho, Midas Gold expects much of the construction work and associated traffic will be concentrated from May into November. This will vary slightly from year to year, particularly as work migrates from outdoor work during initial construction activities to indoor work later on. During early construction, access will be required via the Johnson Creek and Stibnite roads from Landmark to the Project site until upgrading of the Burntlog Route is completed. During that period, upgrades to the Johnson Creek and Stibnite roads will be required including gravel placement, dust control, and various maintenance activities including winter snow removal. Midas Gold will coordinate with Valley County on use and maintenance of these routes for year-round access. The estimated Project-related annual average daily traffic (**AADT**)[11] for construction activities is set forth in Table 12-1.

[11] Annual average daily traffic (AADT) is defined as the measure of traffic over a 24-hour period and is determined by counting the number of vehicles (from both directions) passing a specific point on a given road.

Table 12-1, Projected Construction Traffic

Transport Phase	Vehicle Type[1]	Estimated Average No. of Round Trips Per Period[2]	Period[3]	Scheduled Days per Year[4]	Number of Round Trips per Year[5]	Annual Average Daily Traffic[6]
Workforce Traffic						
Crew bus/van transport to site	HV	28	14 days	365	730	4
Crew personal vehicles	LV	37	14 days	365	965	6
Salaried employees	LV	5	7 days	365	261	2
Salaried employees bus/van transport to site	HV	1	7 days	365	52	1
Supply and Haulage Traffic						
Steel and Cement	HV	3	day	152	456	3
Fuel and miscellaneous supplies	HV	2	day	261	522	3
Machine parts and consumables	HV	4	day	261	1,044	6
Pilot vehicle (fuel and hazardous loads)	LV	2	day	261	522	3
Equipment & supply representatives	LV	2	day	261	522	3
Food delivery	HV	2	day	261	522	3
Trash & recyclables	HV	3	7 days	365	156	1
Construction supply	HV	11	day	261	2,871	16
Other Traffic						
Miscellaneous traffic	LV	4	day	261	1,044	6
Road maintenance	HV	4	day	365	1,460	8
					Total HV AADT	45
					Total LV AADT	20
					Total AADT	**65**

Notes:
(1) LV = Light Vehicle; HV = Heavy Vehicle
(2) The estimated average number of round trips that will occur within a given time period.
(3) The allocated time period.
(4) Not all transport phases will occur daily; scheduled days per year indicate the days per year when a trip is expected.
(5) The estimated average number of round trips that will occur in a given year.
(6) AADT = estimated average number of round trips per period / period x scheduled days per year / 365 days x 2 trips.
(7) All figures have been rounded up to whole numbers.

12.2.2.1 Construction Workforce Traffic

Midas Gold will provide busing and van pooling as the primary means to transport contractors to the Project site during construction. The bus/van capacities will vary from 8 to 40 passengers. For calculation estimates, it is assumed that buses capable of carrying 24 passengers will be used, and that 90% of the workforce will be bussed to the site.

Non-salaried, onsite construction workers will be scheduled on a 4-crew system working 12-hour shifts on a 14-day on and 14-day off work schedule. Midas Gold estimates a peak of 1,000 people will be employed onsite during summer construction operations (May through November); however, the annual average workforce is estimated at approximately 750 employees. These construction workers will be housed in the Stibnite Lodge; see Section 8.1 for additional details. Not all crews work the same two-week shift and will be staggered to facilitate transport and housing. Buses will be scheduled to drop-off and pick-up crews daily (see Table 12-1).

On average, Midas Gold estimates that, for various reasons, 10% (75 employees) of the construction workforce will need to drive into site to stay at the Stibnite Lodge during their fortnightly shift schedule. Midas Gold expects that approximately 37 employees will drive to and from site every 14 days.

Midas Gold will employ approximately 36 salaried employees during construction. Salaried personnel are assigned to work five days on and two days off, except for eight shift-foremen[12]. Midas Gold assumes the remaining 28 salaried employees will be housed at site from Monday to Friday. Assuming 75% of the salaried employees utilize bus/van transport (buses capable of carrying 24 passengers), 25% will be driving/carpooling, three individuals would drive three light vehicles, and four individuals would carpool in two light vehicles averaging five light vehicles and one heavy vehicle accessing and departing site every week.

12.2.2.2 Supply & Haulage Traffic during Construction

The majority of the supplies and materials required for construction of the Project will be hauled to the site during the period May through November. In general, it is anticipated that the majority of the materials will be hauled during a regular-scheduled Monday to Friday workweek during daylight hours. Table 12-1 provides estimates for statistics associated with the supplies and materials broken down into the following areas:

- Steel and cement;
- Fuel (diesel, gasoline, propane, lubricants, etc.) and miscellaneous supplies;
- Machine parts and consumables (excluding fuel and lubricants);
- Equipment and consumable supplies;
- Food delivery;
- Trash and recyclables removal from site (coordinated with Valley County officials); and,
- General construction supplies.

12.2.2.3 Other Miscellaneous Traffic during Construction

Throughout the construction phase of the Stibnite Gold Project, Midas Gold anticipates that government personnel, consultants, engineering and exploration contractors, sales representatives and the general public will visit the site. Some light and heavy vehicle traffic will also be required for maintenance and/or inspection purposes on the Burntlog road, once it is commissioned, and on the Johnson Creek and Stibnite roads prior to the availability of the Burntlog road. Table 12-1 provides estimates for traffic statistics associated with these vehicles.

12.2.3 Operations Traffic

Midas Gold will conduct mine operations throughout the entire year. Mine operations traffic will include workforce transportation, supply haulage and some miscellaneous traffic. The estimated Project-related annual average traffic statistics for operations is provided in Table 12-2.

[12] Shift foremen include four mine shift foremen and four maintenance shift foremen. The shift foreman will work the 14-day on and 14-day off schedule riding the bus in with the crew (calculated as part of the construction crew estimates).

Table 12-2, Projected Operations Traffic

Transport Phase	Vehicle Type[1]	Estimated Average No. of Round Trips Per Period[2]	Period[3]	Scheduled Days per Year[4]	Number of Round Trips per Year[5]	Annual Average Daily Traffic[6]
Workforce Traffic						
Crew bus/van transport to site	HV	11	14 days	365	287	2
Crew personal vehicles	LV	25	14 days	365	651	4
Salaried employees	LV	8	7 days	365	417	3
Salaried employees bus/van transport to site	HV	2	7 days	365	104	1
Supply and Haulage Traffic						
Fuel and miscellaneous supplies	HV	2	day	261	522	3
Machine parts and consumables	HV	2	day	365	730	4
Ore processing supplies	HV	20	day	261	5,220	29
Pilot vehicle (fuel and hazardous loads)	LV	2	day	261	522	3
Equipment and supply representatives	LV	2	day	261	522	3
Food delivery	HV	2	day	261	522	3
Trash & recyclables	HV	3	7 days	365	156	1
Ore concentrate haulage	HV	1	day	365	365	2
Other Traffic						
Miscellaneous traffic	LV	4	day	261	1,044	6
Road maintenance	HV	2	day	365	730	4
					Total HV AADT	49
					Total LV AADT	19
					Total AADT	**68**

Notes:
(1) LV = Light Vehicle; HV = Heavy Vehicle
(2) The estimated average number of round trips that will occur within a given time period.
(3) The allocated time period.
(4) Not all transport phases will occur daily; scheduled days per year indicate the days per year when a trip is expected.
(5) The estimated average number of round trips that will occur in a given year.
(6) AADT = estimated average number of round trips per period / period x scheduled days per year / 365 days x 2 trips.
(7) All figures have been rounded up to whole numbers.

12.2.3.1 Operations Workforce Traffic

During mine operations, Midas Gold will provide busing and van pooling as the primary employee transportation to the Project site. The bus/van capacities will vary from 8 to 40 passengers. For calculation estimates, it is assumed that buses capable of carrying 24 passengers will be used, and that 90% of the workforce will be bussed to the site. The distance to transport employees from the onsite housing to the various work facilities will range from one to two miles. Operations personnel will double as bus and van operators. The onsite fleet will be winterized to handle snow conditions between the onsite housing and the work areas.

Non-salaried, onsite workers will be scheduled on a four-crew system working 12-hour shifts on a 14-day on and 14-day off work schedule. Midas Gold estimates that between 475 and 525 employees will be required onsite during operations. Employees will be housed at Stibnite Lodge; see Section 8.1 for additional details. Not all crews work the same two-week shift and shifts will be staggered to

facilitate transport and housing. Buses will be scheduled to drop-off and pick-up crews daily. Midas Gold anticipates that an average of 11 buses/vans per two-week period will be needed.

On average, Midas Gold estimates that, for various reasons, 14% (75 employees) of the mine operations workforce will drive into site to stay at the housing facility during their two-week shift schedule. Midas Gold expects these employees will drive to and from site every 7 days.

Midas Gold will employ approximately 75 salaried employees during operations. Salaried personnel are assigned to work five days on and two days off, except for eight shift-foremen[13]. Midas Gold assumes the remaining 67 salaried employees will be housed at site from Monday to Friday. Assuming 75% of the salaried employees utilize bus/van transport (buses capable of carrying 24 passengers), 25% will be driving/carpooling, four (4) individuals would drive four (4) light vehicles, and 13 individuals would carpool in four (4) light vehicles averaging eight light vehicles and two heavy vehicles accessing and departing site every week.

12.2.3.2 Supply & Haulage Traffic during Operations

Midas Gold anticipates that most supply and material deliveries for operations will occur Monday through Friday (approximately 261 days per year) during the operation phase of the project. Concentrate haulage is expected to occur every day. Materials and supplies to be used during operations are discussed in Section 12.3. Table 12-2 provides estimates for traffic statistics associated with the supplies and materials broken down into the following areas:

- Fuel (diesel, gasoline, propane, lubricants, etc. primarily associated with the mine mobile equipment fleet and lubricants for the process plant) and miscellaneous supplies;
- Machine parts and consumables (excluding process plant reagents) such as ammonium nitrate (blasting agent);
- Ore processing supplies such as pebble lime (CaO), sodium metabisulfite ($Na_2S_2O_5$), sodium cyanide (NaCN), and other reagents required for ore processing (see Section 12.3);
- Equipment and supply representatives;
- Food delivery;
- Trash and recyclables removal from site (coordinated with Valley County officials); and,
- Antimony concentrate shipments offsite.

12.2.3.3 Other Miscellaneous Traffic during Operations

During the mine operations phase of the Project, Midas Gold anticipates that government personnel, consultants, engineering and exploration contractors, sales representatives and the general public will visit the site. Some light and heavy vehicle traffic will also be required for maintenance and/or inspection purposes on the Burntlog road. Table 12-2 provides estimates for traffic statistics associated with these vehicles.

12.2.4 Closure & Final Reclamation Traffic

To avoid winter conditions, Midas Gold expects that the majority of the closure and final reclamation traffic to the site will occur over the warmer seven-month period (May through November); only

[13] Shift foremen include four mine shift foremen and four maintenance shift foremen. The shift foremen will work the 14-day on and 14-day off schedule riding the bus in with the crew (calculated as part of the operations crew estimates).

minimal traffic will be necessary for ongoing site monitoring purposes. Midas Gold estimates approximately 200 persons will be employed during initial stages of site closure and reclamation, and these individuals will be segregated to work a 14 day-on 14 day-off rotation. After the majority of mine closure activities have concluded, the number of staff is expected to decrease as activity decreases with levels in the range of 15 to 45 persons after the 2-3 years of initial reclamation activities. Minimal staff may be required after this time to support final stabilization, monitoring, and any needed water treatment.

The estimated Project-related annual average traffic for closure and final reclamation activities is set forth in Table 12-3.

Table 12-3, Projected Closure and Reclamation Traffic

Transport Phase	Vehicle Type(1)	Estimated Average No. of Round Trips Per Period(2)	Period(3)	Scheduled Days per Year(4)	Number of Round Trips per Year(5)	Annual Average Daily Traffic(6)
Workforce Traffic						
Crew bus/van transport to site	HV	4	14 days	365	104	1
Crew personal vehicles	LV	10	14 days	365	261	2
Salaried employees	LV	10	7 days	365	520	3
Supply and Haulage Traffic						
Fuel and miscellaneous supplies	HV	1	day	261	261	2
Reclamation supplies	HV	2	day	152	304	2
Pilot vehicle (fuel and hazardous loads)	LV	1	day	261	261	2
Equipment and supply representatives	LV	2	day	261	522	3
Food delivery	HV	1	day	261	261	2
Trash & recyclables	HV	1	7 days	365	52	1
Demolished & dismantled items	HV	3	day	152	456	3
Other Traffic						
Miscellaneous traffic	LV	1	day	365	365	2
Road maintenance	HV	1	day	365	365	2
					Total HV AADT	14
					Total LV AADT	12
					Total AADT	**25**

Notes:
(1) LV = Light Vehicle; HV = Heavy Vehicle
(2) The estimated average number of round trips that will occur within a given time period.
(3) The allocated time period.
(4) Not all transport phases will occur daily; scheduled days per year indicate the days per year when a trip is expected.
(5) The estimated average number of round trips that will occur in a given year.
(6) AADT = estimated average number of round trips per period / period x scheduled days per year / 365 days x 2 trips.
(7) All figures have been rounded up to whole numbers.

12.2.4.1 Workforce Traffic

During closure and final reclamation, Midas Gold plans to provide busing and van pooling as the primary employee transportation to the Project site. The actual bus/van capacities have not yet been determined, but they will probably vary from 8 to 40 passengers. For calculation estimates, it is assumed that buses capable of carrying 24 passengers will be used, and that 90% of the closure workforce will be bussed to the site.

Non-salaried, onsite construction workers will be scheduled on a four-crew system working 12-hour shifts on a 14-day on and 14-day off work schedule. Midas Gold estimates a total of 200 employees will be required for closure and final reclamation activities. Employees will be housed at Stibnite Lodge; see Section 8.1 for additional details. Not all crews work the same two-week shift and will be staggered to facilitate transport and housing. Buses will be scheduled to continuously drop-off and pick-up crews daily. Midas Gold anticipates that an average of five buses/vans per two-week period will be needed.

Midas Gold estimates that, for various reasons, approximately 10% (20 employees) of the closure and final reclamation workforce will drive into site and stay at the housing facility during their shift. Midas Gold expects an average of 10 employees will drive to and from site every 14 days.

Midas Gold will employ approximately 24 salaried employees during closure and final reclamation activities. Salaried personnel will be assigned to work five days on and two days off, except for eight-shift foreman[14]. Midas Gold assumes the remaining 16 salaried employees will be housed at site from Monday to Friday. Assuming 50% of the salaried employees utilize carpooling, seven individuals would drive seven light vehicles and seven individuals would carpool in three light vehicles averaging ten light vehicles accessing and departing site every week.

12.2.4.2 Supply Traffic during Closure & Final Reclamation

Midas Gold anticipates that most supply and material deliveries for closure and final reclamation will occur Monday through Friday (approximately 261 days per year during the closure and reclamation phase of the project). Table 12-3 provides estimates for traffic statistics associated with the supplies and materials broken down into the following areas:

- Fuel (diesel, gasoline, propane, lubricants, etc. for mobile equipment associated with closure-related earthworks and demolition equipment) and miscellaneous supplies;
- Reclamation supplies such as equipment, parts and consumables used for demolition, earthmoving, grading and revegetation;
- Pilot vehicles for fuel deliveries;
- Equipment and supply representatives;
- Food delivery;
- Trash and recyclables to be removed from site (coordinated with Valley County officials); and,
- Demolished, dismantled, and/or salvaged equipment and structures to be taken offsite.

12.2.4.3 Other Miscellaneous Traffic during Closure & Final Reclamation

Midas Gold expects miscellaneous traffic during closure and final reclamation to be minimal, with government personnel and consultants involved in this activity visiting the site. Some light and heavy vehicle traffic will also be required for maintenance and/or inspection purposes on the Burntlog Route. Table 12-3 provides estimates for traffic statistics associated with these vehicles.

[14] Shift foremen include four mine shift foremen and four maintenance shift foremen. The shift foremen will work the 14-day on and 14-day off schedule riding the bus in with the crew (calculated as part of the closure crew estimates).

12.3 MATERIALS & SUPPLIES

During operations at the Project, Midas Gold will use a number of operational materials, supplies and chemical reagents, including fuel, explosives and ore processing reagents. The major consumables to be used are listed in Table 12-4.

Midas Gold will report chemical use volumes under the EPA Toxic Release Inventory (TRI) program, as applicable and required by Section 313 of the Emergency Planning and Community Right to Know Act (**EPCRA**).

In addition, Midas Gold would continue to be responsible for clean-up of releases, should such occur, of any hazardous substances and/or oil associated with the Project in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR pt. 300). Midas Gold maintains strict spill prevention policies at the Project site, and for transport of fuel and other materials to the site, and has not had a reportable spill on site since February 14, 2012, and has never had a spill while transporting fuel and consumables to the site. Midas Gold will notify the Forest Service, the IDEQ, and the National Response Center of reportable quantities of hazardous substances and/or oil released on public or private land, as required. Any such spills will be cleaned up in accordance with local, state and federal regulations.

As discussed in Section 12.2.1, Midas Gold will use a pilot vehicle, in conjunction with additional BMPs that have been successfully implemented on the Project site to date, to escort the transport of this material from the SGLF to the Project site.

Table 12-4, Materials, Supplies and Reagents

Common Name	Unit	Annual Use	Delivery Form	Typical Vehicle Payload	Onsite Storage Capacity	Storage Method	Project Area Used	Estimated Deliveries per Year
Diesel fuel	gallons	5,800,000	Bulk liquid	10,000	200,000	Tanks	Project Site	580
Lubricants	gallons	296,000	Bulk liquid	3,000	30,000	Tanks, totes, drums	Truck Shop	99
Gasoline	gallons	500,000	Bulk liquid	5,000	10,000	Tanks	Project Site	100
Antifreeze	gallons	40,000	Bulk liquid	3,000	4,000	Tanks, totes, drums	Truck Shop	13
Propane	gallons	560,000	Bulk liquid	6,000	30,000	Tanks	Buildings	93
Ammonium nitrate	tons	7,300	Bulk solid	24	200	Secured silos	Open Pits	304
Explosives(1)	tons	100	Boxes	5	20	Secured magazines	Open Pits	20
Grinding media (steel balls)	tons	10,000	Bulk solid	24	200	Bins	Process Area	417
Crusher and grinding liners	tons	3,200	Bulk solid	24	50	Bins	Process Area	133
Sodium cyanide	tons	3,900	Bulk containers	24	300	Tanks, bins	Process Area	163
Lime	tons	70,000	Bulk solid	24	4,000	Silos	Process Area	2,917
Activated carbon	tons	470	Super sack solid	10	50	Bins	Process Area	47
Copper sulfate	tons	2,500	Bulk solid (crystal)	15	100	Bins or Tanks	Process Area	167
Lead nitrate	tons	700	Bulk solid (crystal)	10	25	Bins or Tanks	Process Area	70
Aerophine 3418A	gallons	10,000	Bulk liquid	200	300	Tanks	Process Area	50
Methyl isobutyl carbonyl	gallons	55,000	Bulk liquid	3,000	6,000	Tanks	Process Area	18
Flocculent	tons	600	Dry super sacks	15	50	Bins	Process Area	40
Sodium metabisulfite	tons	14,000	Bulk solid	24	500	Bins	Process Area	583
Potassium amyl xanthate	tons	1,700	Bulk solid	15	40	Bins	Process Area	113
Sodium hydroxide	tons	300	Bulk solid	10	20	Bins	Process Area	30
Nitric acid	gallons	115,000	Bulk liquid	3,000	6,000	Tanks	Process Area	38
Sodium hypochlorite	lbs	1,000	50 lb bags	1,000	1,000	Dry stacked	Water Treatment	1
Scale control reagents	gallons	5,000	Bulk liquid	500	500	Tanks	Process Area	10
Sulfuric acid	gallons	60,000	Bulk liquid	3,000	8,000	Tanks	Process Area	20
Hydrogen peroxide	gallons	30,000	Bulk liquid	4,000	10,000	Tanks	Process Area	8
Magnesium chloride	gallons	250,000	Bulk liquid	4,500	20,000	Tanks	Road Surfaces	56
Solvents	gallons	1,000	Bulk liquid	200	1,000	Totes or drums	Truck Shop	5
Tires	each	246	Bulk solid	variable	59	Laydown	Mining	47

Notes:
(1) Explosives and blasting agents include blasting emulsion products, detonating cord, primers, blasting delay caps, and blasting caps.

12.3.1 Diesel Fuel, Gasoline & Propane

Diesel fuel will be a major consumable for the haul trucks and other mobile equipment at the Project.[15] Diesel fuel is available from local suppliers and will be received in tanker trucks. Tanker trucks will deliver diesel fuel to the site in accordance with currently established fuel transportation protocols (see Section 12.2.1) where the fuel will be transferred to aboveground storage tanks, which will be housed in secondary containment (see Section 9.4.4 for tank and containment design). The fuel transportation protocols have been successfully used by Midas Gold since 2011, and have involved more than 195 fuel hauls during that period with over 279 fuel trucks, all of which were completed without incident.

Midas Gold plans for gasoline-powered vehicles (pick-up trucks, vans, etc.) to be primarily fueled at established gasoline service stations in Valley County; however, Midas Gold will maintain gasoline storage at the Project site for those vehicles that typically remain onsite. Gasoline is available from local suppliers. Tanker trucks will deliver gasoline to the site in accordance with currently established fuel transportation protocols (as outlined above) where the fuel will be transferred to above ground storage tanks. These tanks, housed in secondary containments, will be designed so as to prevent fuel spills into the environment; see Section 9.4.4 for tank and containment design.

Propane will be used to heat air and water, and also for emergency backup power generation at the site. Propane is available from local suppliers and will be delivered in accordance with currently established fuel transportation protocols (see Section 12.2.1), modified as appropriate for propane haulage. The propane will be stored in certified tanks located near the appropriate surface facilities.

12.3.2 Miscellaneous Oils, Solvents & Lubricants

Various oils and lubricants will be required for equipment maintenance; these products include motor oils, lubricants and antifreeze. Various types of non-hazardous solvents will be needed for parts cleaning in the maintenance shop. Lubricants and solvents will be supplied by local vendors and will be shipped to the Project site in totes, drums or barrels on trucks capable of hauling 20 to 24 tons. The projected total annual usage of motor oil, lubricants, grease, solvents and antifreeze is provided in Table 12-4.

Trucks will deliver such supplies to the site in accordance with currently established fuel transportation protocols (see Section 12.2.1). The various oils, lubricants, antifreeze and solvents will be stored in approved containers located within or directly adjacent to the maintenance shop and contained within secondary containments to prevent spills into the environment. All used petroleum products, waste antifreeze and used solvents will be collected in approved containers, transported off site, and disposed or recycled through qualified vendors.

12.3.3 Ammonium Nitrate & Miscellaneous Explosive Products

Ammonium nitrate will be used for blasting in the surface mines and will be received in bulk in tanker trucks, from which the ammonium nitrate can be pneumatically conveyed into storage silos. Other explosive related products used for mine blasting operations will include blasting emulsion products, detonating cord, cast primers and blasting caps. These products will be delivered by vendors in boxes or

[15] Energy technology continues to evolve and improve. Midas Gold will take advantage of future opportunities to explore new or implement new energy techniques to reduce onsite diesel fuel use. This includes the possible use of compressed natural gas (CNG) and liquefied natural gas (LNG/LPG) as its application becomes practicable for operations and equipment at the Project.

other approved containers to the site in trucks, and they will be stored onsite in secured and approved magazines.

Transportation, handling, storage and use of explosives are regulated by the BATFE and MSHA.

12.3.4 SAG & Ball Mill Grinding Balls

SAG and ball mill grinding balls (made of high strength steel alloy) will be a major consumable for the grinding circuit at the ore processing facility. Grinding balls will be available from sources in the western U.S. and will be received in bulk by trucks. Grinding balls will be stored in bins located adjacent to the grinding circuit.

12.3.5 Lime

Lime (**CaO**) is a reagent used for pH control in the grinding, flotation, neutralization and gold recovery processes and represents the single largest consumable by weight used at the Project. Lime will arrive from sources in the Western U.S. in dry form and in sealed trucks. The lime will be pneumatically conveyed from the truck to storage silo(s) at the ore processing facility. Silos will be equipped with air emission controls, such as bag houses, that minimize releases during the truck off-loading.

The estimated deliveries per year, provided in Table 12-4, assume that lime trucks with a 24-ton payload would be used to deliver the lime; however, to reduce truck traffic, Midas Gold is considering the use of larger capacity trucks. Midas Gold will also consider use of alternate pH control materials to partially replace lime, such as high-purity, ground limestone, if a suitable proximal source can be established.

Limestone will be produced as development rock from the West End pit during mining operations. Some of this material may be used to offset lime purchase and haulage and would supplement lime use in the process circuits.

12.3.6 Sodium Cyanide

Sodium cyanide will be used for the extraction of gold and silver from mine ore. Its use is a proven technology that has been used for over a century in the mining industry and is still considered the most efficient extraction method for gold and silver. Midas Gold will purchase sodium cyanide from producers that are compliant with the International Cyanide Management Code (**ICMC**) and utilize ICMC certified and compliant transporters to transport the cyanide product from the manufacturer to the Project site.

A common method of sodium cyanide transport is via ISO container, which holds dry sodium cyanide in the form of briquettes. This solid form eliminates the risk of fluid leaks or spills during transportation. Any release of the solid form could be easily recovered. ISO containers are heavy-duty steel containers that are air and water tight, and are ruggedly designed to withstand rollovers and other accidents. The dry solid sodium cyanide is extracted by connecting the ISO container at the project site to the reagent circuit in the mill and circulating water through the container, dissolving the briquettes and, as a result, the ISO containers remain sealed at all times, with no risk of spills during any unloading or transfer steps since there are none. Additionally, the cyanide unloading facility will be constructed and operated consistent with the ICMC standards for primary and secondary containment. The ISO containers are returned to the supplier for reuse, removing the necessity for container disposal.

As with all potentially hazardous materials, these trucks will be escorted by pilot vehicles and be subject to other protocols, as described in Section 12.2.

12.3.7 Nitric & Sulfuric Acid

Nitric and sulfuric acid are reagents used in ore processing; these will be received in special acid tank trucks that are designed to prevent spills even in the event of rollovers. Nitric and sulfuric acids will be stored in specialized non-corrosive, polyethylene-lined tanks located within the ore processing facility and with secondary containment. Incompatible materials and reagents will be stored in separate containers and secondary containment areas to limit the potential for chemical interaction. For example, cyanide storage areas will be distinct and separate from acid storage areas consistent with standards of the ICMC.

As with all potentially hazardous materials, these trucks will be escorted by pilot vehicles and be subject to other protocols, as described in Section 12.2.

12.3.8 Miscellaneous Consumables

Miscellaneous consumables will consist of various reagents used in the ore processing facility, along with wear parts for the crushing and grinding circuits. Miscellaneous reagents used in the ore process facility could include copper sulfate, lead nitrate, Aerophine 3418A, methyl isobutyl carbonyl, flocculent, sodium metabisulfite, potassium amyl xanthate, sodium hydroxide, hydrogen peroxide, activated carbon and various scale control reagents, or their equivalents. Sodium hypochlorite will be used for potable water treatment, and magnesium chloride, or equivalent and similarly environmentally acceptable products, will be used for dust suppression. The liquid consumables will be shipped to the Project site in tank trucks designed for spill prevention and escorted to site by pilot cars manned and equipped to handle spills. All reagents will be transported and stored in suitable containers, and stored in designated reagent storage areas.

Wear parts used in the crusher and grinding circuits will include primary crusher liners, SAG and ball mill liners, lime liners and regrind mill liners, all constructed of high strength steel alloys. The solid consumables will be typically shipped to the Project site by small (10-15 ton) trucks and are contained in drums, totes and shrink-wrapped bags.

Consumables such as office supplies, wear parts for heavy and light vehicle maintenance, safety equipment, small tools and various packages will also be periodically delivered to the Project site. The shipment of these supplies, equipment and tools will be sporadic, and will probably be delivered to the Stibnite Gold Logistics Facilities as needed through private delivery firms. These materials would be combined into larger loads at the SGLF and delivered to the site on a regular basis.

12.4 PROJECT SCHEDULE

The Project has a total life cycle of approximately 20 years.

The current 20-year timeframe includes approximately three years of early restoration, redevelopment and construction activities, an estimated 12 to 15 years for mining and ore processing activities with continued concurrent restoration, and 2 to 3 years for final restoration, closure and reclamation work, with several years of follow-up monitoring to ensure the ultimate success of the reclamation work. The final closure of the tailings facility will likely occur over several years as the tailings mass settles and additional work on surface grading continues intermittently during subsequent years to achieve a stable surface with effective stream restoration, wetlands creation, and fisheries and riparian habitat.

The Stibnite area is extensively mineralized as evidenced by the known ore deposits, historical operations in the area, and identified exploration targets. Midas Gold plans to conduct additional

mineral exploration activities during the life of the Project and these activities could extend the life of the mining operation in the event economic mineralization is identified during those activities (see Section 13).

Midas Gold plans to begin early restoration, construction and pre-production mine redevelopment of the Project during the spring or early summer following the receipt of Forest Service and other required agency approvals and permits. This work will consist of the upgrade and extension of the Burntlog Road and Thunder Mountain Road for long-term access, the construction and upgrading of the 138 kV power line into the Project area, the construction of the EFSFSR tunnel supporting fish passage into the headwaters of the EFSFSR, the removal of SODA and Hecla heap material for TSF construction, onsite preparation for laydown areas, clearing of vegetation and removal of growth medium material, construction of the TSF, and the installation of the foundations and structures for the ore processing facility, mine offices, truck shop and other support facilities. In parallel with these activities, restoration and reclamation of a number of historically impacted areas will commence and, in some cases, be well advanced or completed during the construction period, including: the former town sites; former man camps; former mine shop and fuel storage areas; former landfill; former heap leach facilities and related infrastructure; former pilot plant site; former smelter and mill site; EFMC (Blowout Creek); former truck ready line area; development rock storage areas in close proximity to the EFSFSR, etc. In addition, the enhancement of the EFSFSR channel from the new tunnel entrance upstream to the confluence with Meadow Creek and the rebuilding of Meadow Creek is best completed during the construction period for the tunnel, so that suitable fish habitat is available once the tunnel is opened to fish passage.

Concurrent with surface facility construction, pre-production mine development will occur with initiation of the open pit mining, removal and stockpile of growth medium material, construction of haul roads, removal of development rock, and removal of initial ore material, which will be stockpiled adjacent to the primary crusher at the ore processing facility site.

The eventual operation and longevity of the Project will involve various factors, including ongoing exploration success, estimates of mineable reserves, mining rates, metal prices, market conditions, revenues, costs, expected returns to shareholders and investors, and the associated economic, technical, regulatory and political risks that face the mining business.