Shambhala 2024 Underground Exploration Plan

Drilling proposal for Groundhog Mining & Milling Co., LLC
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Buyer Group International Inc.

Shambhala 71 Adit Geologic Background

The Shambhala 71 adit exposes a mylonitic quartzofeldspathic gneiss that contacts with variably deformed mafic-to-ultramafic metaigneous rocks. Mylonitic quartzofeldspathic gneiss is described as a mylonitic biotite-epidote-plagioclase gneiss by McCallum et al. (1976) and from hereon will simply be referred to as the mylonitic gneiss or mylonite. Mylonitic gneiss is rusty orange on weathered faces, light grey-to-pink on fresh surfaces, extremely fine-grained, and well-indurated with strongly developed foliation planes. In exposures near the mouth of the adit, it has an intense gossanous rind with pervasive limonite, goethite, and hematite after pyrite. The mylonitic gneiss is dominated by feldspar, quartz, chlorite, and white mica with minor pyrite. It is not presently clear if mylonitic gneiss is what Hausel and Sunderland (2005) refer to as the 1777 ± 4 Ma Horse Creek Foliated Granodiorite on the Keystone Quadrangle Geologic Map.

Structurally contacting with mylonitic gneiss to the east is variably deformed mafic-to-ultramafic metaigneous rocks that are presumably related to the 1778 ± 2 Ma Mullen Creek Mafic Complex ("MCMC"), a pseudo-layered tholeiitic intrusive complex (Houston et al., 1968; McCallum et al., 1976; Premo and Loucks, 2000; Hausel and Sutherland, 2005). The MCMC is dominated by medium-to-coarse grained metadiorite and metagabbro consisting of altered plagioclase, hornblende, and pyroxene. Near the Shambhala 71 adit, MCMC rocks are massive-to-mylonitic amphibolite with localized metapyroxenite. All outcrops near the adit have chlorite, epidote, albite, and biotite after hornblende with minor magnetite and pyrite. The presence of these minerals in association with each other as well as biotite replacing hornblende suggest that these rocks experienced retrograde metamorphism prior to or during hydrothermal alteration. Outcrops of MCMC are crosscut by thin, undeformed aplitic dikes as well as unmineralized quartz, epidote, and calcite veins.

The Shambhala 71 adit and surrounding area expose several notable structures and structural features. The adit seemingly follows a shear zone mapped by Hausel and Sutherland (2005), however the roughly northeastern bearing of the adit obliquely cuts measurements of mylonitic foliation made around and within the adit itself. On the surface, measurements of this mylonitic fabric revealed strikes between 095 and 120 with dips to the southeast of 70 to 86°. Within the adit, the mylonitic foliation is truncated by a fault with a strike of 210 and dip of 56°. This fault is interpreted to be a normal fault based on its angle, the highly weathered nature of the fault gouge and hanging wall, and the regional geologic history (McCallum, 1974; Karlstrom and Houston, 1984). At the very back end of the adit (approximately 80 ft from the mouth), the mylonitic foliation strikes 300 and dips 83°. This change in orientation (strike) is presently attributed to deformation and/or rotation related to faulting. Note that these orientations will be studied in greater detail during Phase 1B geologic mapping. Figure 1 displays field photos of the structures exposed in the Shambhala 71 adit with superimposed structural measurements.

Figure 1 Shambhala 71 adit structures: (A) adit, ~4 x 5-foot opening; (B) mylonitic foliation on surface (095, 86°); (C) normal fault in adit (210, 56°); and (D) mylonitic foliation at end of adit (300,83°). All measurements assume magnetic declination of +8.12°.

The most recent drilling conducted in the vicinity of the Shambhala Project claims area was completed in 1943 by the US Bureau of Mines. Ten diamond drillholes were completed, totaling 1,859 feet. Unfortunately, geographic coordinates for drill collars are not provided in the summary of this drilling campaign (Kasteler and Frey, 1949). Drill logs (Table 1) indicate that the primary host rocks of Cu and Platinum Group Elements ("PGEs") to grade from metadiorite to metaperidotite and metapyroxenite at shallow, but inconsistent depths due to complicated alteration and faulting.

Table 1 Historic drill logs from the New Rambler mine, US Bureau of Mines 1942-1943 drilling campaign

Hole No.	Inclination	TD (ft)	from	to	Rock type	Alteration	Structures	Pyrite	Description
USBM49-01	-51	270	0	45	diorite				grades into pyroxenite
USBM49-01	-51	270	45	190	pyroxenite	yes			
USBM49-01	-51	270	190	270	pyroxenite			trace	compact from 190 to 270'; small amount of Py from 190 to 200'
USBM49-02	-45	54	0	54	diorite				intersected non-mineralized mine workings at 54.5'
USBM49-03	-65	234	0	50	diorite				grades into pyroxenite and peridotite
USBM49-03	-65	234	50	150	peridotite/pyroxenite	yes	crushed		altered and crushed
USBM49-03	-65	234	150	234	peridotite/pyroxenite			trace	compact from 150 to 234'. Small amount of Py at 200'
USBM49-04	-55	150	0	14	overburden				
USBM49-04	-55	150	14	30	diorite				
USBM49-04	-55	150	30	150	peridotite/pyroxenite	yes	crushed		no min.
USBM49-05	-50	174	0	14	overburden				
USBM49-05	-50	174	14	30	diorite				
USBM49-05	-50	174	30	174	peridotite/pyroxenite	yes	crushed	minor	some Py at 160'. Intersected mine workings at 174'

USBM49-06	-65	66	0	14	overburden				
USBM49-06	-65	66	14	30	diorite				
USBM49-06	-65	66	30	50	peridotite/pyroxenite	yes	crushed		
USBM49-06	-65	66	50	66	peridotite/pyroxenite	yes	gouge	minor	some Py and gouge from 50 to 66'
USBM49-07	-45	276	0	50	overburden				
USBM49-07	-45	276	50	276	diorite/pyroxenite	yes			Several altered, sandy horizons contain copper carbonate staining
USBM49-08	-45	148	0	148	peridotite/pyroxenite				Surface debris grades into pyroxenite and peridotite. Small amount of copper carbonates from 70 to 80'. Old workings encountered at 148'
USBM49-09	-50	181	0	181	diorite	yes	pyroxenite lenses		Altered diorite and lenses of pyroxenite the full depth of the hole. Stains of copper carbonate in some pyroxenite lenses
USBM49-10	-45	306	0	65	overburden				

USBM49-10	-45	306	65	100	diorite	silicification	quartz veins		Silicified diorite w/ dark Qtz stringers 65 to 100'
USBM49-10	-45	306	100	306	diorite	yes		trace	small amount of Py at 292'

*Hole USBM49-07 is thought to be closest to the Shambhala 71 adit based on the map provided in Kasteler and Frey (1949)'s summary of the US Bureau of Mines New Rambler drilling campaign.

Shambhala 71 Adit Proposed Drill Plans & Drilling Procedures

Following the expansion and stabilization of the Shambhala 71 adit, it would be ideal to complete three 300-foot deep exploratory drillholes, for a total of 900 feet of core. Groundhog Mining & Milling Co., LLC, ("Groundhog") will conduct diamond core drilling following all necessary modifications to the adit. Once set up and drilling (in the more horizontal ranges), Groundhog can recover anywhere between 50 to 100 feet of core per shift depending on conditions. Currently, drilling is estimated to take approximately 20 to 30 days to complete. Once set up, drilling will likely occur during the day with shifts starting at Groundhog's discretion.

Three drillholes should be progressed through the back wall of the adit as schematically illustrated in Figure 2A. Note that the image in Figure 2 was taken before adit expansion so these drillhole placements and orientations are solely illustrative and subject to change. The purpose of drilling these holes is to follow and cross the mylonitic foliation and shear zone associated with hydrothermal alteration and vein PGE mineralization. Drillhole Sh24-UG002 is horizontal and intended to follow foliation while Sh24-UG001 and Sh24-UG003 will slightly fan out and shallowly (-20°) dip to ideally cross the shear zone and explore shallow (0 to 100 feet deep) subsurface mineralization north of the adit (Table 2). The coordinates provided for each hole are the same as they are closely spaced. These coordinates correspond to the location of the adit opening as a GPS reading was not obtainable inside the adit. The surficial traces of these proposed drillholes juxtaposed against structural measurements of mylonitic foliations in the Shambhala 71 adit area are displayed in Figure 2B. Drillhole horizontal distances and vertical depths were calculated using the geometric relationships of each drillhole's dip and total depth. Following drilling, the drillholes will be professionally surveyed by a surveyor certified in the state of Wyoming.

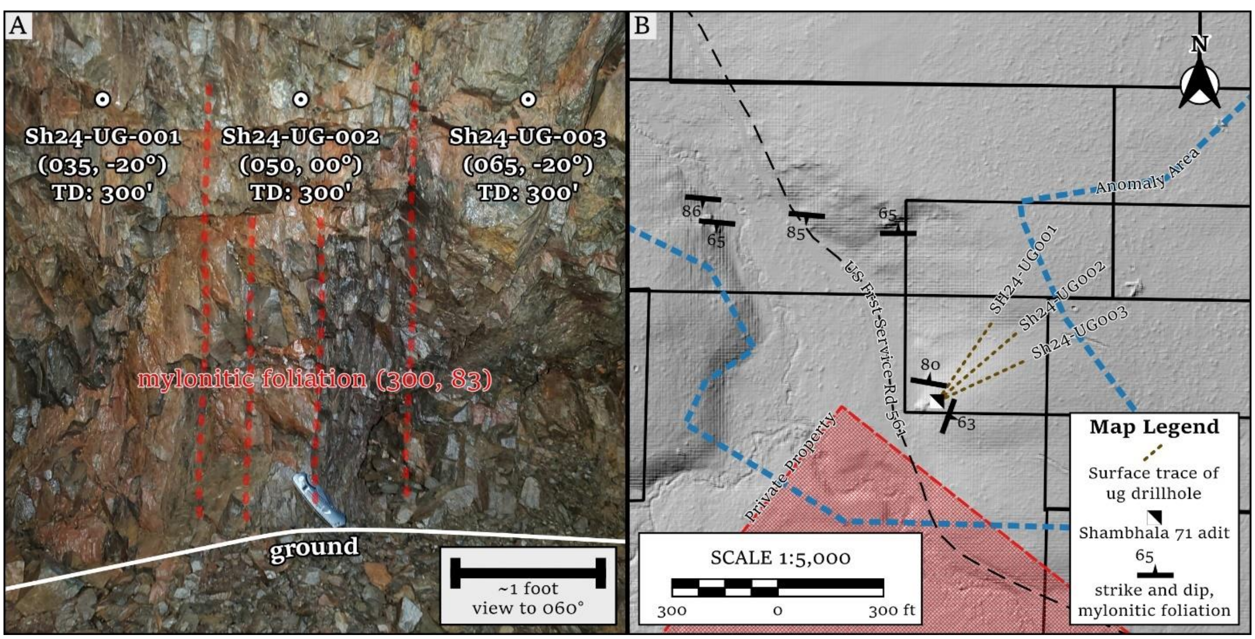

Figure 2 (A) Exploratory drillhole locations on the adit backwall, note that locations and orientations are for schematic purposes only. (B) Surficial trace of proposed adit drillholes

Table 2 Shambhala 71 adit proposed underground drillholes

DH ID	Coordinates		UTM Zone 13N		Orientation		TD (ft)
	Latitude	Longitude	X	Y	Azimuth	Dip	
Sh24-UG001	41.22744	-106.28036	392689.5752	4564795.835	035	-20°	300
Sh24-UG002	41.22744	-106.28036	392689.5752	4564795.835	050	00°	300
Sh24-UG003	41.22744	-106.28036	392689.5752	4564795.835	065	-20°	300

*Azimuths are based on structural measurements made within the adit and do not account for the space required for actual drilling and recovery. These **orientations will change** following adit expansion and detailed geologic mapping.

Following drilling and recovery, AQ-sized core will be placed into BQ-sized boxes by Groundhog. Core will be placed into pre-labeled, 10-foot, wax-impregnated cardboard boxes provided by Groundhog. The boxes will be labeled with the drillhole ID, a number, and a footage interval. Core will be directly logged on site in a trailer or box truck outfitted for core logging i.e., with access to the necessary supplies including sturdy tables, a generator, and sufficient lighting. Core will be scrubbed clean, then marked with footage, and lastly striped with orientation marks - red and blue lines with red always on the right side when looking down core; i.e., from top to bottom (Figure 3). Core will then be logged using the logging form and key presented in Table 3 and Table 4. The major focuses of core logging will be identifying rock types, major mineralogies (especially sulfides), alteration styles, and structures (e.g., mylonitic foliations, fault zones, etc.). The handheld XRF will also be greatly utilized during core logging, it is suggested that a reading be made every 50 feet for every hole as well as anywhere of geologic interest.

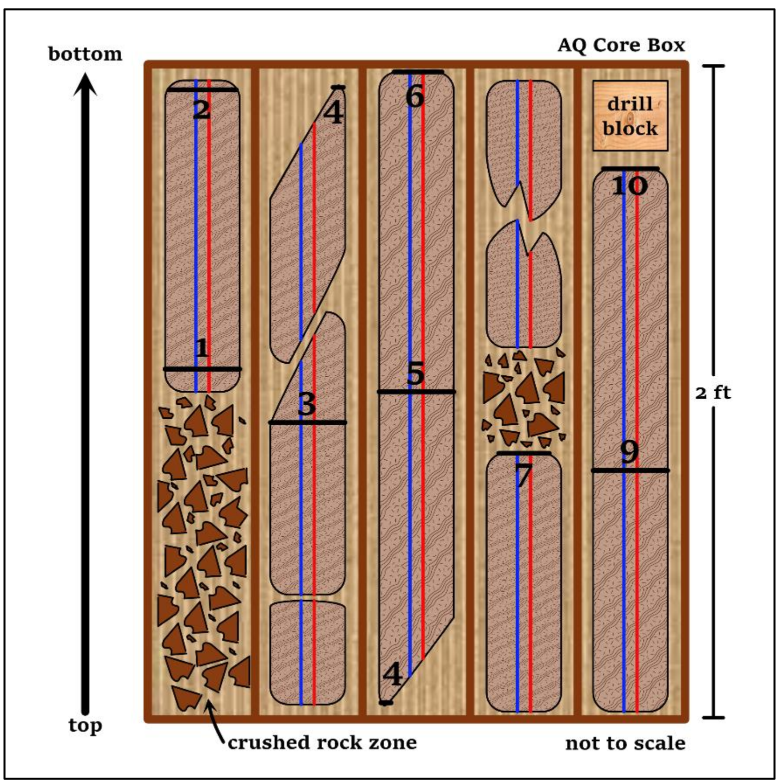

Figure 3 Core boxing, footage, and orientation marking protocols

Table 3 Core logging form for Shambhala 71 adit underground drillhole core

DH ID: ____________________ DH Orientation: ____________________ Geologist: ______________________

Date: ____________________ DH Coordinates: ____________________ TD _______ page _____ of _____

From	To	Sampling		Lithology			Mineralogy						Sulfide Mineralogy						Alteration		Structures	Remarks
		interval	ID	type	size	txt	Min1	%	Min2	%	Min3	%	Min1	%	Txt	Min2	%	Txt	Style	Intensity		

Note that this table and printed logs will have different column widths, see attached log at end.

Table 4 Shambhala 71 adit core logging key

Lithology Key

rock type	rock type code	grain size	grain size code	rock txt	rock txt code
overburden	ob	very fine	vf	foliated	fol
faulted/gouge	flt	fine	f	mylonitic	mylo
pegmatitic dike	peg	medium	m	porphyritic	porp
dike/sill	dk	coarse	c	massive	ma
vein (> 0.5")	vn	very coarse	vc	phaneritic	phan
quartz monzonite	qmo			aphanitic	aph
Rambler granite	rgr			brecciated	bx
Felsic intrusive	fi			gouge	gg
mylonite	myl				
amphibolite	amp				
metadiorite	md				
metagabbro	mg				
metaperiodite	mpt				
metapyroxenite	mpx				

Mineral and Structural Key

mineral	mineral code	mineral txt	min txt code	structures	structures code
Albite	Ab	blebs	blb	foliated/sheared	fol
Biotite	Bt	disseminated	dis	flt	faulted
Calcite	Cc	massive	mas	gouge	gg
Chlorite	Chl	vein/veinlet	vn	cr	crushed rock zone
Clay minerals	Cly			op	open space fracture
Clinozoisite	Czo				
Epidote	Ep				
Feldspar	Fsp				
Goethite	Gt				
Hematite	Hm				
Hornblende	Hbl				

Alkali Fsp	Kfs
Limonite	Lm
Magnetite	Mt
Muscovite	Ms
Olivine	Ol
Plagioclase	Pl
Pyroxene	Px
Sericite	Ser
Quartz	Qtz
Bornite	Bn
Covellite	Cov
Chalcopyrite	Cpy
Galena	Gal
Pentlandite	Pn
Pyrrhotite	Po
Pyrite	Py
Sphalerite	Sph

Alteration Key

alteration	alteration code	assemblage	alteration intensity	intensity meaning
propylitic	pro	Chl + Ep + Ab + Mt + Czo +/- Py	1	trace amount of alteration mineral growth and textural change
phyllitic	phy	Qtz + Ser + Py	2	noticeable alteration mineral growth and replacement textures/veins/halos
silicification	sil	Qtz +/- Ser	3	significant alteration mineral growth and replacement textures
oxidation	ox	Hm + Lm + Gt + Cly	4	pervasive textural destruction and replacement of original mineralogy
			5	complete destruction and replacement of original mineralogy

Upon the completion of core logging and geologic description, sample intervals will be assessed on lithologic breaks. Core samples will be between 1 and 5 feet long, and the sampling interval will be clearly marked on all core with paint pens in addition to a sample tag that will be attached to the core box next to the core where each sample interval begins. A unique sample ID will be given to each core sample, this ID will be written onto sample bags in addition to an ID tag that will be physically placed in each sample bag. Core will then be photographed prior to sampling. Core will be sawn in half for sampling with one half going back into its original box in its original position and the other into a prelabeled sample bag with a corresponding sample tag. Groundhog will saw the core in half on site after sample intervals for an entire hole are assessed, that way all the samples from one hole can be kept together and organized. The core will be split in half with a saw provided by Groundhog, under a geologist's supervision and aide. Core will be sawn in such a way that the orienting stripes are preserved within each box. All sample bags including those delineated for QA/QC samples will be organized by hole in sequence and then placed into clearly marked boxes or super sacks for efficient delivery to AAL. Maintaining internal QA/QC will be completed by issuing certified reference materials (standards), blanks, and duplicates every 25 samples, i.e., every 25^{th} sample will be a standard, blank, or duplicate. The following QA/QC rotation will be used:

duplicate -- high-standard -- blank -- low-standard –- duplicate

Sample blanks and standards will be obtained from OREAS. At least 30 of each will be obtained and prepared. Certified reference material OREAS 683 will be used as it is a PGE ore sourced from the Dishaba mine in South Africa. This type of reference material is appropriate as PGEs in it are hosted in a similar rock type, pyroxenite, as that of the Shambhala Project claims area (Kasteler and Frey, 1949; McCallum et al., 1976). Sample blanks will be made from industrial gravel or marble obtained from the hardware store in Laramie.

Following the completion of drilling, core logging, and core sampling, Groundhog will ensure the delivery of core samples to AAL in Sparks, NV. The proper documentation and chain of custody paperwork will be received upon shipping. It is strongly recommended that the unsampled half of core be stored in a storage unit in Laramie for future analysis and general recordkeeping. This unsampled core will preserve the footage and orientation markings and can be kept in original core boxes on pallets or shelves. All core logging information including logs, photos, sample intervals, and QA/QC samples will be digitally inventoried as an excel database. This core logging and sampling protocol is summarized here:

a) Core retrieved from drillhole by drillers
b) Core placed into boxes by drillers with appropriate run/recovery (or footage) block
c) Core brought to logging trailer by geologist or driller
d) Core scrubbed by geologist
e) Core footage marked by geologist
f) Core orientation lines placed by geologist
g) Core logged and sample intervals marked

h) Core photographed (each box with an information placard: date, hole ID, box #, footage interval)
i) Core is sawn for sampling by Groundhog
j) Samples placed into prelabeled bag with corresponding sample tag, bags prelabeled by geologist
k) Preserved core half placed into original box and transported to storage facility in Laramie by geologist

*Note that a logging database will be maintained and updated throughout drilling

References:

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DH ID: ___________________________ DH Orientation:___________________ Geo:_________________________

Date:____________________________ DH Coordinates: ___________________ TD________ page_____ of _____

From	To	Sampling		Lithology			Mineralogy						Sulfide Mineralogy						Alteration		Structures	Remarks
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