# ASSESSMENT REPORT

# MIDWAY PROPERTY

Tenure #514582

September 2005 Trenching Program

NTS 82E/2 Lat 49° 02' N Long 118° 50' 30" W

Greenwood Mining Division

Prepared for: Merit Mining Corp. 550 - 580 Hornby St. Vancouver, B.C. V6C 3B6

Bruce Laird P. Geo. Digitally signed by Bruce Laird P.Geo. DN: CN = Bruce Laird P.Geo., C = CA Reason: I am the author of this document Date: 2005.12.22 12:36:44 -08'00'

By: Bruce Laird P.Geo. P.O. Box 1143 Grand Forks, B.C. V0H 1H0

December 19, 2005





# Ministry of Energy & Mines Energy & Minerals Division Geological Survey Branch

# ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)]  MIDWAY PROPERTY SEPTEMBER 2005 TRENCHING 10,026.99
AUTHOR(S) BRUCE LAIRD P.GEO. SIGNATURE(S)
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S) MX - GEN-112 YEAR OF WORK Z005
STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S)
PROPERTY NAME
CLAIM NAME(S) (on which work was done)
COMMODITIES SOUGHT Au, Ag, (J
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN OBZESE 128 08 ZESE 2 42
MINING DIVISION GIREEN WOOD NTS 82E/2
LATITUDE 49 0 02 U LONGITUDE 118 0 50 30 U (at centre of work)
OWNER(S)
1) MEZIT MINING CONT 2)
MAILING ADDRESS
550-580 HORNBY ST. VANC. B.C. VGC 386
VANC. B.C. V6C 386
OPERATOR(S) [who paid for the work]
1) MERIT MINING CORP 2)
MAILING ADDRESS
550-580 HORNBY ST.
VANC B.C. VGC 3B6
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
SCAPENTINE MONZONITE, ECCENE, JUNASSIE, TRIASSIE, PERMAN, KETTLE FORM
MARAON FM. BROOKLEN FM. THAUST FAULTS, ARGILLE ALTERATION CLAY-
CARBONATE ANTERATION, PURITE, AU, AS, SB, CU
REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS 21, 126 / 26, 961 / 19, 718 / 21, 315 / 20, 536 / 17, 162 / 18, 318
21,315/20,536/17,162/18,318

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping	1:250 OF TRENCHES	514582	5725.69
Photo interpretation			*****
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for)			
Soil			
Silt			
Rock	34 Samples 37 BLEMENT	514582	1113.14
Other			
DRILLING (total metres; number of holes, size)  Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying	<u> </u>		
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)	135 m	514582	3188.16
Underground dev. (metres)			
Other			
		TOTAL CO	OST 10,026.99

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# 1.0 SUMMARY

This report summarizes the results of a fall 2005 exploration program by Merit Mining Corp. on the Midway property, located some 6 kilometres west of Midway, in southern British Columbia.

The Midway property is 100% owned by Merit Mining Corp. The property is comprised of 65 MTO cell claims, totalling 1376.628 hectares. There is good road access to and throughout the property.

The Midway property and is situated within the Toroda "graben". The property covers the so-called "Midway window", an inlier of pre-Tertiary rocks, surrounded by Eocene volcanics and sediments, within the graben. Four main areas of mineralization are known to occur on the property, the Midway Mine-Picture Rock Quarry-Lone Boulder Hill, the Texas-Potter Palmer, the Bruce and the Granada zones, all hosted within the pre-Tertiary rocks. Trenching during September 2005 tested epithermal veins with elevated gold values in Lone Boulder Hill area.

A large serpentinite-listwanite belt trends east-west across the northern portion of the Midway property and marks the position of a major, regional north dipping thrust fault. There is considerable alteration, and local mineralization, along the thrust fault and much of the serpentinite has been altered to listwanite. Rocks in the hangingwall of the thrust (to the north) are dominantly Eocene volcanics and sediments of the Marron and Kettle River Formations. Tertiary epithermal chalcedonic breccia zones (the Picture Rock Quarry and Lone Boulder Hill targets) occurs along the fault zone, and are good exploration targets for epithermal style gold mineralization.

Sediments, volcaniclastics and volcanic rocks of the Triassic Brooklyn Formation occur in the footwall of the thrust and are locally intruded by Cretaceous-Jurassic and Eocene intrusives. The Brooklyn Formation is an important host to mineralization in the Boundary District. All of the major skarn deposits in the Greenwood area are hosted within the Brooklyn Formation. In addition, Echo Bay's Lamefoot, Overlook and Key Deposits in Washington State occur within this unit, in a relatively newly recognized deposit type described by Rasmussen (2000) as gold-bearing, magnetite-pyrrhotite-pyrite syngenetic volcanogenic mineralization. Copper-gold mineralization on the Midway property (Texas, Bruce and Granada zones) occurs within the Brooklyn rocks, and suggests potential for either copper-gold skarn type or gold bearing magnetite-sulfide volcanogenic mineralization. Anomalous Hg, As, Sb, Se and Te in this area also suggest potential for epithermal style mineralization.

During September 2005, Merit mining Corp. completed an excavator trenching program to test for epithermal gold mineralization in the Lone Boulder Hill area. A steeply dipping, northeast trending, chalcedonic quartz vein within monzonite was exposed in Trench MTR05-1, which returned values to 384.6 ppb Au over the 0.3 metre true width. Anomalous As and Sb are associated with the siliceous zone. A significant area of intense argillic (+ advanced argillic?) alteration occurs to the north and west of this zone of listwanite caught up within a fault in MTR05-2. Further work is recommended to explore for epithermal style mineralization on the property.

### 2.0 INTRODUCTION

# 2.1 Location, Access, Infrastructure and Physiography

The Midway property is located 6 kilometres west of Midway, B.C. on NTS map sheet 82E/2 as shown in Figure 1. Highway 3, the abandoned Kettle Valley rail line and the Southern Crossing natural gas pipeline cut the southwestern portion of the property. A low voltage secondary power line is also present, along Highway 3. A major high voltage power line crosses the northern portion of the claims.

The main road access to the property is west from Midway on Highway 3 for 8 kilometres to the Ingram Creek road, then north along the Ingram Creek road for 5 kilometres to the West Ingram-Copper Mountain Road. The West Ingram-Copper Mountain Road is followed northeast for a further 2 kilometres before turning east onto a branch road which crosses West Ingram Creek and leads to the Midway property. A network of hydro, logging, mining exploration and ranching roads provide access to most parts of the property. Alternately, the property can be reached from the road system up Murray Gulch, 1 kilometre west of Midway, however this road crosses private property and permission is needed from the land owner.

The topography of the northern and eastern portions of the property is subdued, with low to moderate relief. Ingram Creek cuts through the western part of the property with steeply incised canyon walls. The topography of the southwestern portion of the claims is also moderately steep. Elevation ranges from about 610 metres in the southwestern portion of the property, to about 1190 metres in the northeast. The climate is moderately dry, with generally hot summers and little rainfall. Snowfall is typically less than 1 metre, and the property is generally snow free by early spring. Water for drilling is available from Ingram Creek or from a series of small ponds in the north-central portion of the property.

Rock exposure is limited in the northern and eastern portions of the property, however there is good rock exposure in the Ingram Creek canyon and in the steeper, southwestern part of the claims. Much of the property is covered by open grassy meadows with scant tree cover. In the northeastern portion of the claims, vegetation cover consists of open mature Ponderosa pine and Douglas fir forest, with minimal undergrowth.

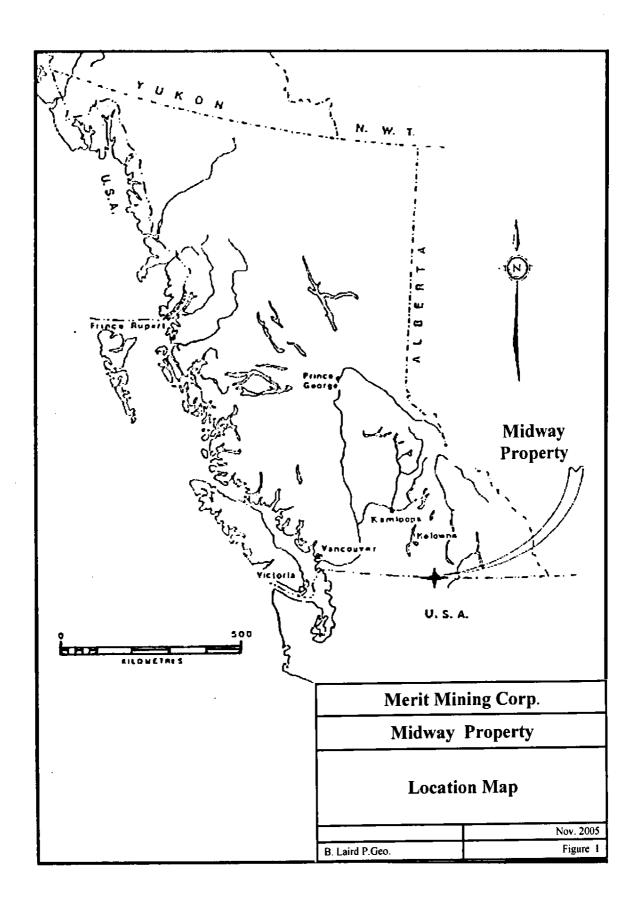
# 2.2 Property and Ownership

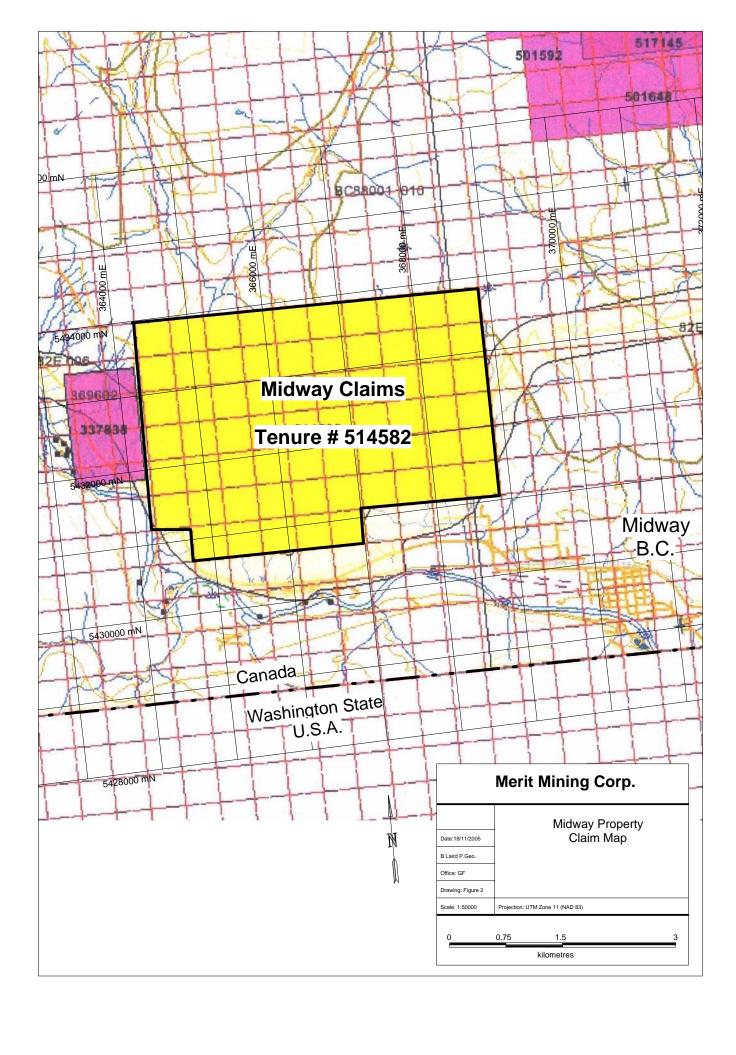
The Midway claims, excluding J 5 (Tenure #337837) were converted to MTO cell claims on June 16<sup>th</sup> 2005 and comprise 65 cells covering 1376.628 hectares, as shown in Figure 2. The claims are situated within the Greenwood Mining Division, on map sheet 082E.006. Claim information is listed in the following table. This report covers work on Tenure # 514582 and it is Merit's intention to allow the J 5 claim to lapse on it's expiry date.

Merit Mining Corp. has a 100% interest in all the claims within the Midway property, subject to two non-overlapping NSR agreements. Both the original Midway claims and the Rainbow claims are subject to a 3% NSR. Under each agreement, Merit Mining Corp. has the right to purchase 1.5% of the NSR, at any time, for \$250,000 per 0.5% increment.

TENURE #	CELLS/UNITS	EXPIRY DATE
514582	65	2006-05-01

Table 1: Claim Information





### 2.3 History of Exploration

Prior to 2001, the Midway property was comprised of two separate claim blocks, the original Midway claims in the south and west, and the Rainbow claims in the north and east, which were explored separately. In the following summary of exploration, the term "Midway" refers to just that portion of the current Midway property covering the Bruce, Texas, Granada, Potter Palmer, etc. showings and covered by the original Midway claims. The term Rainbow is used to describe the area of the Midway Mine and Picture Rock Quarry in the northeastern part of the Midway property.

The history of exploration on the property is described in part by Caron (1990) and Hoffman and Caron (1991), and is summarized below.

- The first mention of claims in the vicinity of the Midway property is in 1898, when a 76 metre long tunnel is reported at the Bruce showings (on the former Bruce CG L918). Tunnelling was also completed by this date on the Potter Palmer, about 1 km to the west. Nineteen crown grants and mineral claims are shown on the old claim maps in the southeastern part of the property. Today, only two reverted crown grants (the Texas and Granada) remain.
- 1909 Considerable surface work is reported to have been done on the Bruce claim, and 190 tonnes of ore at an unknown grade was mined. Numerous other old pits and workings, including those at the Texas, Granada, and Midway Mine are believed to have been completed by this time.
- Noranda completed geological mapping and sampling on the "Midway" property. An area of garnet skarn was identified in the western portion of the property, in the vicinity of the Texas and Granada reverted crown grants.
- Granby Mining Co. completed geological mapping and sampling on the "Midway" property and noted that limestone and skarn were thicker here than at Phoenix.
- 1966 Utah Construction and Mining Company carried out geological mapping, sampling and an IP survey on the western part of the "Midway" property. Six diamond drill holes were drilled and numerous intervals of skarn with sulfides were noted. There are no assays available for this drilling.
- 1966-68 Granby Mining Co. completed magnetometer and IP surveys over the eastern part of the "Midway" property and drilled six diamond drill holes to test IP anomalies.
- D. Moore completed underground development at the Midway Mine (on the Rainbow property) and mined 19 tonnes of ore grading 14 g/t Au, 1506 g/t Ag, 15% Pb and 16% Zn.
- Texas Gulf Sulfur Co. staked claims covering the western part of the "Midway" property and identified structurally and stratigraphically controlled copper mineralization within rocks of the Brooklyn Formation. An IP survey was completed and two anomalous zones identified. These targets apparently remain untested.
- Bonus Resources Ltd. completed a copper soil survey and a fluxgate magnetometer survey over the northern part of the "Midway" property.
- San Sarita Mining Co. Ltd. drilled two short X-ray holes on the "Midway" property. One hole was drilled north of the Granada claim and the second east of the Texas claim. Drill core was

- apparently not analyzed.
- 1978-83 Maymac Explorations Ltd. staked the "Midway" property, and completed soil sampling and VLF/EM surveys. This work was followed by drilling 15 diamond drill holes in the southeastern part of the property. Drill hole 81-5 is reported to have returned 1.8 g/t Au over 4 m.
- Dentonia Resources and Kettle River Resources optioned claims from D. Moore covering the Midway Mine and Picture Rock Quarry and staked additional claims in the Rainbow portion of the property. Geological mapping, geochemistry and geophysics were completed.
- 1984 Kerr Addison Mines optioned the Rainbow property from Kettle River/Dentonia and completed geological mapping and geochemistry over a small portion of the claims.
- 1987-88BP Resources Canada Ltd. optioned the Rainbow property and completed geological mapping, geochemistry, and geophysics over a portion of the property. BP also drilled 4 diamond drill holes in an attempt to test the Picture Rock Quarry epithermal system at depth (Hoffman and Wong, 1988; Hoffman et al, 1989).
- 1989-90 Minnova Inc. optioned the Rainbow property and completed heavy mineral sampling, geological mapping, rock and soil sampling (Lee, 1990a, 1990b). A large multi-element (Au, Ag, Pb, Zn, As) soil anomaly was identified immediately north and east of the Midway Mine. Rock sampling returned values of 2.8 g/t Au and 218 g/t Ag over a 4.5 metre interval at the Midway Mine. Trenching was completed near Dry Lake and in the area of anomalous soils near the Midway Mine. Diamond drilling (7 holes) was also completed in the vicinity of the Midway Mine (Caron, 1990).
- 1990-91 Following the discovery of the Crown Jewel gold skarn in northern Washington, Battle Mountain (Canada) Inc. optioned the "Midway" property, to assess the gold skarn potential of the claims. Battle Mountain completed a large exploration program consisting of soil and rock sampling, a ground magnetometer survey, geological mapping, and re-logging and sampling Maymac drill core (Hoffman and Caron, 1991). Several large areas of anomalous Au and Cu in soils (+As, Zn) were identified in the Texas, Potter Palmer, Granada and Bruce areas. A number of areas of anomalous Ni-Co-Cr in soils were also defined. Five diamond drill holes were completed in the Texas and Potter Palmer areas.
  - 2001 Gold City Industries Ltd. acquired both the "Midway" and Rainbow properties and amalgamated these properties to form the current Midway property. During 2001, Gold City completed a small exploration program consisting of rock geochemistry and limited vegetation, heavy mineral and silt sampling, as described by Caron (2002b).
  - 2003 Gold City Industries Ltd. completed 10 trenches near the Lone Boulder Hill and the Picture Rock Quarry and recommended further trenching around a highly altered area on Lone Boulder Hill...
  - 2004 Gold City Industries Ltd expanded the soil grids over Picture Rock Quarry and Lone Boulder Hill as well as emplacing a soil grid over Minova's 1990 soil anomaly but at a tighter grid spacing.

### 2.4 Summary of 2005 Work Program

The work program described in this report was carried out between September 16<sup>th</sup> and 19<sup>th</sup>, 2005. A total of 135 metres of excavator trenching was completed in 4 trenches using a Hitachi 300 excavator owned by Lime Creek Logging Ltd of Grand Forks and operated by Henry Funk. The 2005 exploration program was managed in the field by Bruce Laird. Geological mapping and sampling of trenches was completed by Bruce Laird with Merle Moorman assisting with cleaning and sampling.

All trenches have been backfilled, contoured and seeded with range mix.

Thirty four samples were collected during the course of prospecting and trenching and shipped to Acme Analytical Labs in Vancouver for preparation and analysis. Samples were analysed for 37 elements by the Group 1DX method.

# 3.0 GEOLOGY AND MINERALIZATION

# 3.1 Regional Geological Setting and Mineral Deposits

The following discussion is taken in part from an earlier report by Caron (2003). The Midway property is situated within the highly mineralized Boundary District of southern B.C. and northern Washington. Portions of the Boundary District have been mapped on a regional basis by numerous people, including Fyles (1990), Little (1957, 1983), Church (1986), Parker and Calkins (1964), Muessig (1967) and Cheney and Rasmussen (1996). While different formational names have been used within different parts of the district, the geological setting is similar. The regional geology (after Little 1990) is shown on Figure 3. The following discussion of the regional geology and mineral deposits is taken from an earlier report by the Caron (2002b).

The Boundary District is situated within Quesnellia, a terrane which accreted to North America during the mid-Jurassic. Proterozoic to Paleozoic North American basement rocks are exposed in the Kettle and Okanogan metamorphic core complexes. These core complexes were uplifted during the Eocene, and are separated from the younger overlying rocks by low-angle normal (detachment) faults. The distribution of these younger rocks is largely controlled by a series of faults, including both Jurassic thrust faults (related to the accretionary event), and Tertiary extensional and detachment faults.

The oldest of the accreted rocks in the district are late Paleozoic volcanics and sediments. In the southern and eastern parts of the district, these rocks are separated into the Knob Hill and overlying Attwood Groups. Rocks of the Knob Hill Group are of dominantly volcanic affinity, and consist mainly of chert, greenstone and related intrusives, and serpentinite. The serpentinite bodies of the Knob Hill Group represent part of a disrupted ophiolite suite which have since been structurally emplaced along Jurassic thrust faults. Commonly, these serpentinite bodies have undergone Fe-carbonate alteration to listwanite, as a result of the thrusting event. Serpentinite is also commonly remobilized along later structures. Unconformably overlying the Knob Hill rocks are sediments and volcanics (largely argillite, siltstone, limestone and andesite) of the late Paleozoic Attwood Group.

The Paleozoic rocks are unconformably overlain by the Triassic Brooklyn Formation, represented largely by limestone, clastic sediments and pyroclastics. Both the skarn deposits and the gold-bearing volcanogenic magnetite-sulfide deposits in the district are hosted within the Triassic rocks. Volcanic rocks overly the limestone and clastic sediments of the Brooklyn Formation and may be part of the Brooklyn Formation, or may belong to the younger Jurassic Rossland Group.

At least four separate intrusive events are known regionally to cut the above sequence, including the Jurassic aged alkalic intrusives (ie. Lexington porphyry, Rossland monzonite, Sappho alkalic complex), Triassic microdiorite related to the Brooklyn greenstones, Cretaceous-Jurassic Nelson intrusives, and Eocene Coryell dykes and stocks.

Tertiary sediments and volcanics unconformably overlie the older rocks with the distribution of these Tertiary rocks largely controlled by a series of faults. Regionally, three Tertiary fault sets are recognized, an early gently east dipping set, a second set of low angle west dipping, listric normal (detachment-type) faults, and a late, steep dipping, north to northeast trending set of right lateral or west side down normal faults (Fyles, 1990). Traditionally, the Tertiary rocks were believed to be deposited in a series of local, fault-bounded grabens (ie. Republic graben, Toroda graben). Although these terms are still used to describe the geographic distribution of the Tertiary rocks, recent work (Cheney and Rasmussen, 1996; Fyles, 1990), shows that rather than being deposited in down-dropped blocks, these younger rocks are in fact preserved in the upper plates of low-angle listric normal (detachment-type) faults related to the uplifted metamorphic

core complexes.

The oldest of the Tertiary rocks are arkosic and tuffaceous sediments of the Eocene Kettle River Formation (O'Brien Creek Formation in the US). These sediments are overlain by andesitic to trachytic Eocene Marron volcanics (termed Sanpoil volcanics in the US part of the Boundary District), which are in turn unconformably overlain by lahars and volcanics of the Oligocene Klondike Mountain Formation.

The Boundary District is a highly mineralized district which has a long history of exploration and mining activity. Excellent historical accounts of the general area are provided by Peatfield (1978), Church (1986) and others, and the reader is referred to these for details of the regional exploration history.

Within the Boundary District, the majority of gold production is from the Republic and Rossland areas. At Republic, an excess of 2.5 million ounces of gold, at an average grade of better than 17 g/t Au, has been produced from epithermal veins. In the Rossland Camp, almost 3 million ounces of gold averaging 16 g/t Au was mined from massive pyrrhotite-pyrite-chalcopyrite veins associated with a Jurassic intrusive. Recent exploration in the Boundary District has resulted in the discovery of nine new deposits, with a total contained gold content in excess of 4 million ounces. These deposits include:

Crown Jewel 7.2 million tonnes @ 6 g/t Au Lamefoot 2 million tonnes @ 7 g/t Au Golden Eagle 10 million tonnes @ 3.4 g/t Au

The important mineral deposits within the district can be broadly classified into seven deposit types, as detailed by Caron (2002a). These seven deposit types include Au and Cu-Au skarn deposits, mesothermal gold veins, epithermal gold deposits, Jurassic alkalic intrusives with Cu, Au, Ag &/or PGE mineralization, gold mineralization associated with serpentinite, gold bearing magnetite-sulfide volcanogenic mineralization, and ultramafic associated Ni-Cr mineralization.

The geological setting of the Midway property suggests potential for a number of styles of mineralization, including Tertiary epithermal gold mineralization, volcanogenic magnetite-sulfide (ie. Lamefoot-type) mineralization, gold associated with serpentinite, copper-gold skarn mineralization, and Cu-Au-Ag +/- PGE mineralization associated with Jurassic alkalic intrusives. Examples of several of these styles of mineralization are known, as described in Section 3.2 of this report.

The Picture Rock Quarry and Lone Boulder Hill areas on the Midway property represent portions of a low sulfidation epithermal system related to Eocene tectonic and volcanic activity, such as occurs in the Republic and Curlew areas of Washington State. Trenching during the 2003 program was directed at the Picture Rock Quarry and Lone Boulder Hill targets. On the Midway property, epithermal mineralization, associated intense argillic alteration, occurs along a regional thrust fault.

Funnel shaped zones of silicic, argillic and propylitic alteration typically occur around low sulfidation epithermal veins, with alteration more intense in the hangingwall of veins. Fifarek et al. (1996) describe the alteration associated with veining in the Republic District, as follows:

"Silicic alteration as a pervasive replacement of the host rocks is extensively developed in the breccias and epiclastic rocks near the paleosurface, but at depth it constitutes a small part of the discontinuous vein selvage this is most pronounced in the hanging wall but which rarely extends beyond 10 m from the vein. Replacement was selective and preferentially affected epiclastic rocks and the fine-grained matrix of tuffs and tuff breccias (rather than their argillized clasts). Silica veinlets of the silicic selvage increase in width and frequency with proximity to the veins.

Argillic alteration is generally peripheral to silicic alteration. It is particularly widespread and pervasive near the paleosurface where it locally constitutes >90 percent of the rocks and forms a "clay cap" to the deposit. Argillic alteration is also prominent as a vein selvage that extends up to 30 m from the veins, especially in the hangingwall ... and to the deepest levels of the deposit. This type of alteration is represented by a kaolinite-illite+/-pyrite assemblage that replaces both pyroclastics and epiclastic rocks and fills minor fractures. Intensely argillized rocks near the veins generally lack primary textures, whereas argillized rocks at more distal locations contain partially replaced feldspar phenocryts and clasts of tuff...

The zone of argillic alteration grades outward and downward to a widespread propylitic assemblage of chlorite-calcite-illite/smectite-pyrite+/-epidote+/-hematite+/-zeolites. Overall, propylitic alteration decreases with distance from the deposits, however it varies from weak and spotty in the hanging wall of the ... veins to pervasive at all depths in the immediate footwall ..."

Fifarek et al (1996) also demonstrate how Au, Ag, Se, Hg, As and Sb are strongly and systematically zoned about veins in the Republic District. This zonation is most pronounced within 300-400 metres of the veins and the paleosurface. At the Golden Promise deposit, alteration envelopes for As (100 ppm), Au (100 ppb) and Ag (3 ppm) extend for up to several hundred metres into the hangingwall and footwall of the vein. Antimony (> 2 ppm) is enriched in the hangingwall and footwall of the vein, within about 30 metres of the vein. Mercury is elevated along the paleosurface, but values drop off rapidly with depth and as such mercury is a poor indicator of vein proximity at depth.

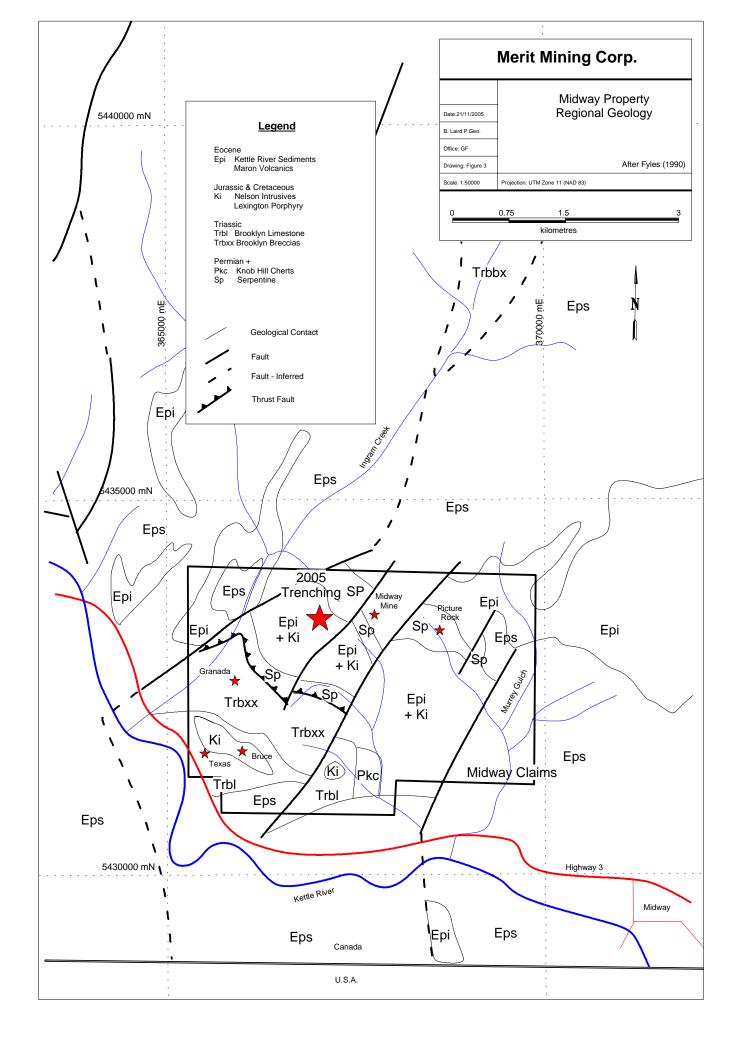
Elsewhere on the Midway property, mineralization in the Texas and Bruce areas has characteristics of both copper-gold skarn mineralization and of volcanogenic magnetite-sulfide (ie. Lamefoot-type) mineralization with later epithermal gold overprinting. The latter style of mineralization is untested on the property. A geochemical association between Au-Hg-As-Sb-Se-Te in this area further suggests potential for epithermal style mineralization. Large areas of anomalous copper and gold in soils in these areas, as well as several IP chargeability anomalies, remain untested. Detailed geological mapping is required to define targets for follow-up trenching and drilling in these areas.

### 3.2 Property Geology and Mineralization

The following discussion is taken in part from an earlier report by the same author (Caron, 2002b). The Midway property is situated within the Toroda "graben", a north trending belt of Tertiary and pre-Tertiary rocks preserved in the upper plate of low-angle detachment type faults, which is parallel to and situated northeast of the Republic graben in Washington. Echo Bay's K2 mine, the former Kettle mine, and the newly discovered Emanuel Creek vein are situated about 17 kilometres to the southeast of the Midway property, near the western margin of the Republic graben. Tertiary epithermal gold mineralization at the K2, Kettle and Emanuel Creek mines, and in the Republic area to the south, is associated with the Eocene extensional tectonics and related volcanism. Paleozoic and Triassic rocks preserved within the 'grabens' host pre-Tertiary mineralization (ie. Lamefoot, Key, Overlook). The Midway property covers the so-called "Midway window", an inlier of these older rocks, surrounded by Eocene volcanics and sediments, within the Toroda graben.

The general geology of the property is described by Caron (1990b) and by Hoffman and Caron (1991). A large serpentinite-listwanite belt trends east-west across the northern portion of the Midway property and marks the position of a major, regional north dipping thrust fault. The serpentinite represents a portion of a Paleozoic ophiolite suite, tectonically emplaced along the thrust fault. There is considerable alteration, and local mineralization, related to the thrust fault. Much of the serpentinite is strongly talc-carbonate altered to listwanite. Locally the listwanite is intensely siliceous and may contain a minor amount of

mariposite and disseminated pyrite.



A series of low angle, north dipping sills related to the Jurassic Lexington porphyry intrusive suite have been emplaced along the thrust fault. Mineralization at the Midway Mine is hosted within one of these sills. The Lexington intrusive suite includes a number of phases, with compositions ranging from monzonite and quartz monzonite to diorite and quartz diorite. These phases often show gradational contacts, and include a distinctive, coarse feldspar +/- quartz porphyry which may have prominent quartz eyes to 5 mm in size, a finer grained crowded porphyry phase, a fine grained equigranular microdiorite, and a distinctive aligned feldspar porphyritic phase with up to 30% aligned needle-like feldspar phenocrysts.

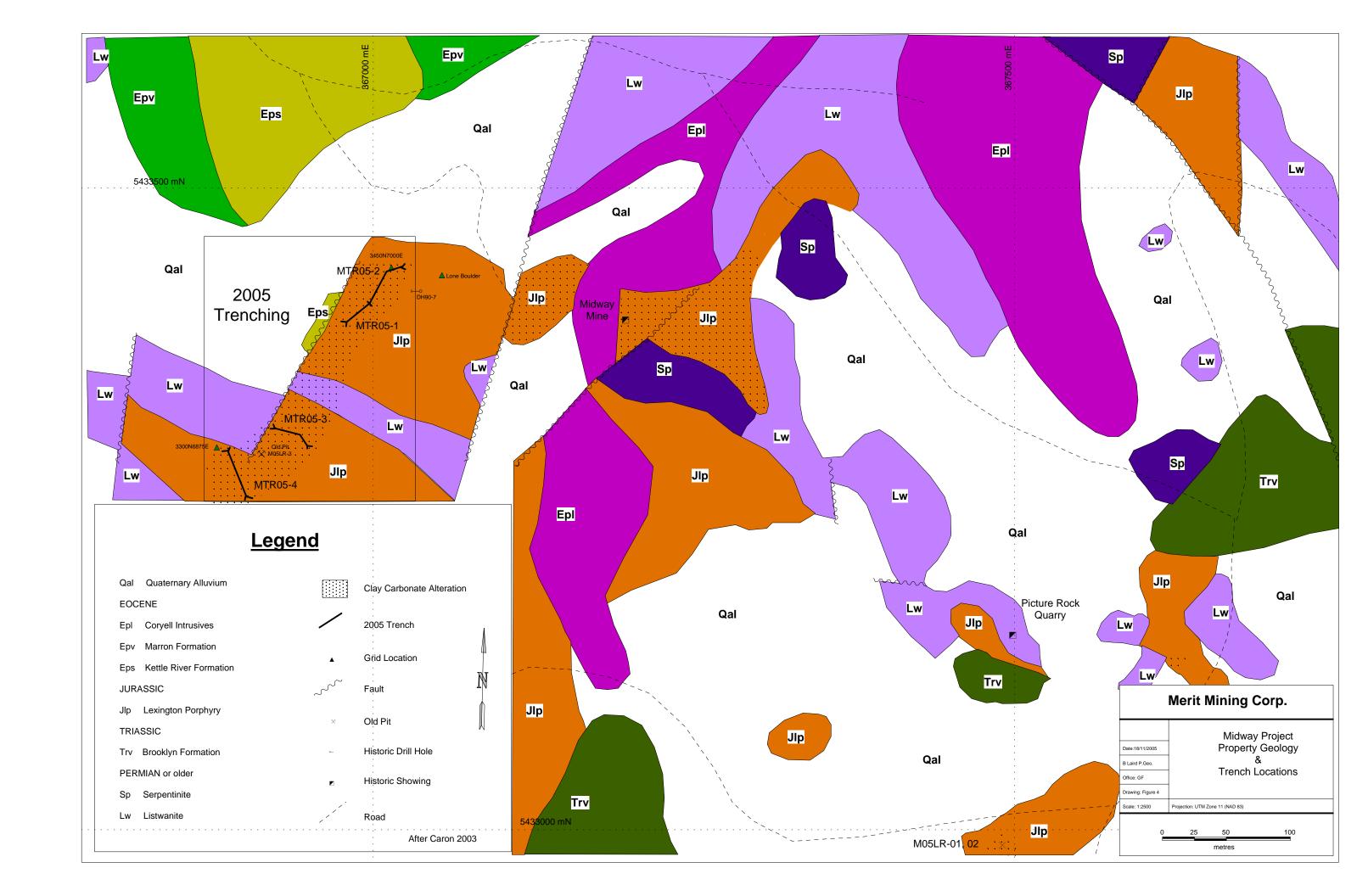
An Eocene aged epithermal chalcedonic breccia system occurs along the fault zone, and is an excellent exploration target for epithermal style gold mineralization. Trenching during the 2003 exploration program was directed at this target. Figure 4 shows the geology of this area in more detail. Strong argillic (plus possible advanced argillic) alteration occurs locally in the Midway Mine - Picture Rock Quarry and Lone Boulder Hill areas and may be related to Eocene structural activity with associated epithermal style veining.

Rocks in the hangingwall of the thrust fault (to the north) are dominantly Eocene volcanics and sediments of the Marron and Kettle River Formations. Rocks of the Triassic Brooklyn Formation occur in the footwall of the thrust and are locally intruded by Cretaceous-Jurassic and Eocene intrusives. These are well exposed in the southwest part of the property where they consist of a sequence of sediments, volcaniclastics, limestone and volcanics. Stratigraphy is generally northwest striking and northeast dipping. Hoffman and Caron (1991) suggest that the Brooklyn sequence may be folded along a northwest axis, and perhaps overturned on the Midway property. A thick unit of sharpstone conglomerate (the basal unit within the Brooklyn sequence) has been intersected in the footwall of the thrust fault in drill core from the Midway Mine - Picture Rock Quarry area. Calcareous greenstone (and possible related fine grained calcareous microdiorite) seen in trenches and outcrop in this area was formerly included in the Permian Knob Hill Group, but is now reinterpreted as part of the Triassic Brooklyn Formation, because of the occurrence of sharpstone conglomerate in drill core.

The Brooklyn Formation is an important host to mineralization both in the Greenwood Camp, and in northern Washington State. All of the major skarn deposits in the Greenwood area are hosted within the Brooklyn Formation. In addition, Echo Bay's Lamefoot, Overlook and Key Deposits in Washington State occur within this unit, in a relatively newly recognized deposit type described by Rasmussen (2000) as gold-bearing, magnetite-pyrrhotite-pyrite syngenetic volcanogenic mineralization. In this style of deposit, mineralization is hosted within the Triassic Brooklyn Formation, and at least part of the gold mineralization is attributed to a late stage epigenetic (Jurassic or Tertiary) event. The gold bearing massive magnetite and sulfides at the Overlook, Lamefoot (about 2 million tonnes @ 7 g/t Au) and Key West deposits all occur at the same stratigraphic horizon, with a stratigraphic footwall of felsic volcaniclastics and a massive limestone hangingwall, and with auriferous quartz-sulfide and sulfide veinlets in the footwall of the deposits. The mineralized horizon is marked by a more widely spread jasper-magnetite exhalite which is an important exploration tool. Gold bearing massive magnetite-sulfide mineralization is known to occur on the Midway property and should be explored with this new model for mineralization in mind.

Numerous north and northeast trending Tertiary faults offset stratigraphy and earlier structures. Low angle Tertiary structures are also present. Four main areas of mineralization are known on the property, as summarized below and shown on Figure 3 with the regional geology.

Midway Mine - Picture Rock Quarry - Lone Boulder Hill (Minfile #082ESE128, 082ESE242)
The Midway Mine, Picture Rock Quarry and Lone Boulder Hill zones are located along the surface trace



of the thrust fault in the northeastern part of the property. Mineralization occurs within listwanite and altered quartz-feldspar porphyry along a 700 metre section of the fault zone. The thrust fault is an east-west trending, low angle north dipping fault zone and appears to be the main control for mineralization and alteration in this area. Both steeply dipping, north and northwest trending, and low angle generally east dipping veins are known.

Two parallel northwest trending, steeply dipping shear zones occur in altered intrusive at the Midway Mine. The first shear averages 0.75 - 1 meters in width, while the second is about 0.5 metres wide. Both shear zones contain massive to semi-massive pyrite, sphalerite, galena and arsenopyrite in a highly siliceous groundmass. The shear zones are anomalous in Au, Ag, Pb, Zn, As, Hg, Sb + lesser Cu. Values to 14.5 g/t Au and 970 g/t Ag are reported by previous workers on grab samples from the shear zone. A 0.5 metre chip across one shear zone is reported to have returned 12 g/t Au, 822 g/t Ag, 3.3% Zn and 2.1% Pb, and a 2 metre chip in altered intrusive adjacent to the shear zone ran 4.1 g/t Au and 411 g/t Ag.

An epithermal quartz breccia system occurs about 100 metres to the east, along the surface trace of the thrust fault, at the Picture Rock Quarry. A small amount of chalcedony and chalcedonic breccia has been quarried from this area for ornamental, decorative stone. Previous workers have reported elevated gold values (to 580 ppb Au) from surface samples at the Picture Rock Quarry. During 2003, trenching was done to further explore the epithermal quartz breccia system in the vicinity of the Picture Rock Quarry. A generally east-west trending, gently north dipping breccia vein was discovered east of the Picture Rock Quarry, in Trench 03-8. The vein returned an average of 432 ppb Au across the 1.8 metre true width, with values to 1195 ppb Au and 983 ppb Ag. Again, elevated As and Sb are associated with the mineralization. A drill hole by BP Resources (ddh 87-1) tested this area at depth. An increase in alteration was noted at the base of the drill hole and workers at the time suggested deepening this hole, however this was not completed.

Anomalous gold, to 2640 ppb Au, occurs in similar looking, chalcedonic breccia vein a few hundred meters to the west on Lone Boulder Hill. Trenching during 2003 exposed a steeply dipping, northerly trending, siliceous breccia zone within listwanite in Trench 03-1, which returned values to 1138 ppb Au over the 2 metre true width. Anomalous As, Sb and Ag are associated with the siliceous zone. A significant area of intense argillic (+ advanced argillic?) alteration occurs to the north and west of this zone. Trenching was unsuccessful at defining the limits of the alteration, due to depth of overburden in this area.

A chalcedony vein is reported in outcrop about 400 meters to the south of the Picture Rock Quarry, which returned 3.2 g/t Au and 3.1 g/t Ag over 0.6 meters (Hoffman and Wong, 1988). This zone was drilled by BP as hole 87-2. The vein was intersected at a vertical depth of about 26 meters, and was accompanied by a wide zone of argillic alteration. Values from the vein in drill core were 64 ppb Au and 1.4 ppm Ag.

Further work is recommended to explore this area of the Midway property for epithermal style gold mineralization.

### Texas and Potter-Palmer (Minfile #082ESE119)

Although only two crown grants remain on the current claim map (the Texas and the Granada), a copy of the 1932 claim map for this area shows a total of 19 former claims and crown grants in this portion of the property. On the Texas reverted crown grant, a number of small pits and adits explore an area of chalcocite mineralization in pale epidote-hematite-diopside skarn and skarny limestone. Locally up to

10% disseminated or bands of chalcocite, with lesser chalcopyrite, occurs. Massive magnetite also occurs along a volcaniclastic/limestone contact in the Brooklyn Formation at the Texas adit, which bears similarities to mineralization at the Lamefoot mine in Washington State. In other places in the Boundary District there is a strong argument for an exhalative event (iron-copper) at this stratigraphic horizon, with at least part of the gold as an epigenetic event related to fluids moving along Jurassic or Tertiary structures.

A large northwest trending copper-gold (+ As, Zn ...) soil anomaly occurs at the Texas zone, and rock samples show a strong correlation between Cu, Ag, Hg and Au. Values to 4.72 g/t Au, 172.6 g/t Ag, 77,124 ppm Cu and 15,478 ppb Hg were returned from grab samples from this area. Locally, these elements are associated with anomalous Sb, Se, Te, and with weakly anomalous Pt and Pd. The presence of typical skarn minerals and the traditional skarn driven exploration in the Greenwood area have resulted in this zone being categorized as a Cu-Au skarn system. The very high Hg and the Au-Hg association are not typical of skarn systems. Anomalous Hg, As, Sb, Se and Te are suggestive of epithermal mineralization.

To the northeast of the Texas, several workings are located on the former Potter-Palmer crown grant, including an old adit and a large surface scrape on a skarn zone with local pods of massive pyrite, chalcopyrite and locally chalcocite. Nearby, a gold soil anomaly defined by Battle Mountain occurs and is associated with a bleached fine grained volcaniclastic cut by up to 10% silica-pyrite stringers.

### **Bruce** (Minfile #082ESE128)

The Bruce area is an impressive looking zone situated on an open southeast facing hillside, about 1.3 kilometres northeast of the Texas showings. A northeast trending band of skarn occurs at the contact of limestone and underlying sharpstone conglomerate, and is exposed in numerous old workings and in outcrop over an area of about 100 by 100 metres. There is local copper-pyrite-pyrrhotite mineralization and abundant malachite staining on outcrops and in old workings. Historical records indicate that some 190 tonnes of ore was mined from this zone. The grade is not documented.

A large copper-gold soil anomaly occurs in this area and rock samples have returned good copper (several percent) and silver (multi-gram) values, with anomalous gold (to 1134 ppb Au). Gold values are generally lower than at the Texas showings. As with the Texas area, there is a moderate to strong Au:Hg correlation which is not typically of Cu or Au skarn systems.

Some drilling was done in this area in the early 1980's. The area is structurally very complex and a lack of continuity to mineralization from previous work may not necessarily indicate that the area has no potential.

Very detailed geological mapping with an emphasis on structure would be useful to further explore this zone.

#### Granada

The Granada reverted crown grant is situated northwest of the Texas showings. Little is documented about the mineralization in this area. A thick sequence of Brooklyn Formation sharpstone conglomerate is mapped in this area, and a large copper soil anomaly extends northwest from the Texas showings to cover this zone.

### 4.0 TRENCHING

Four trenches were dug on the Midway property from September 16<sup>th</sup> to 19<sup>th</sup>, 2003 to test epithermal veining and associated alteration in the Lone Boulder Hill area. Trenching was done under the supervision of Bruce Laird P.Geo, using a Hitachi 300 excavator owned by Lime Creek Logging Ltd. of Grand Forks, B.C., and operated by Mr. Henry Funk. Bruce Laird P.Geo completed geological mapping of the trenches and sample layout, Merle Moorman assisted with cleaning and sampling the trenches.

A total of 135 metres of trenching were completed. Trenching tested targets in the Lone Boulder Hill area and trench locations are shown on Figure 4. All trenches were located on the Tenure number 514582. Note that no claim boundaries fall within the limits of Figure 4 and that the entire figure covers an area in the central part of the claim.

Trenches averaged 1 metre in width, with depths averaging 1 to 1.5 metres. All trenches have been backfilled, contoured and seeded with range mix.

Thirty-one samples were collected from the trenches and shipped to Acme Analytical Labs in Vancouver for preparation and analysis. Three additional samples were collected during prospecting. Samples were analysed for 37 elements by the Group 1DX method (ICP Mass Spec analysis after aqua regia digestion). Descriptions of samples are included in Appendix I and complete analytical results for the trench samples are contained in Appendix II. Analytical procedures are explained in Appendix III.

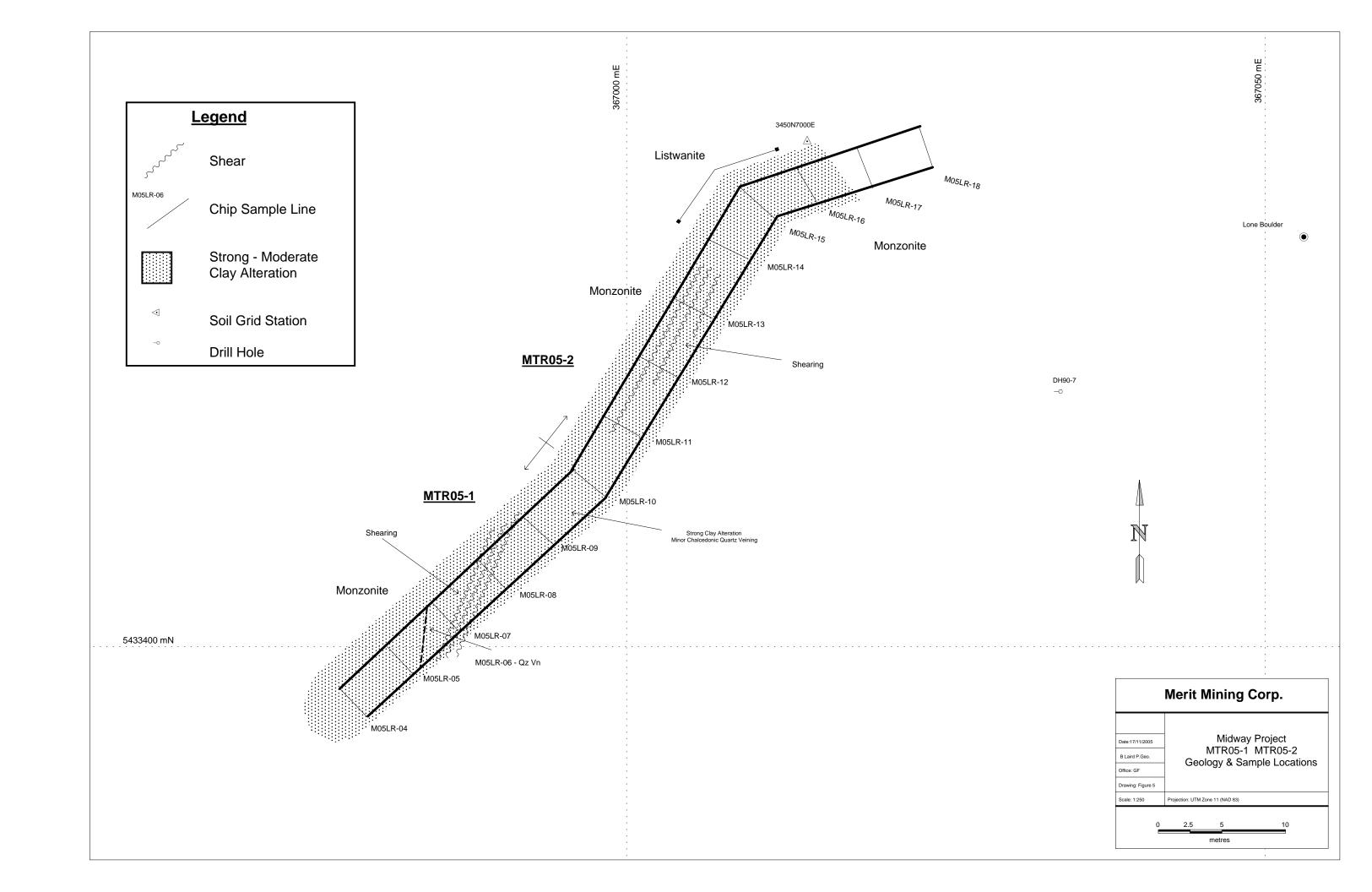
Sample locations are shown on Figures 5 & 6. Table 2 shows the rudimentary statistical data for these select elements. It should be emphasized that these statistics are based on the samples collected during this program, which were heavily weighted to zones of significant alteration or veining. No attempt has been made to separate the data into different populations based on protolith, due to the small total number of samples in the data set.

	Au	Ag	As	Cu	Pb	Мо	Sb	Zn
	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Average	62.9	0.2	94.4	11.0	5.3	0.7	4.0	44
Standard Deviation	239.4	0.2	230.6	12.5	7.1	0.7	10.2	20
Maximum	1301.0	0.9	865.3	53.3	40.6	2.9	43.6	115

Table 2 - Statistical Data for Trench Samples

### Trench MTR05-1 and MTR05-2 Figure 5

Trench MTR05-1 and 2 were dug on Lone Boulder Hill (see Figure 4) to test an area of strong clay alteration discovered during the 2003 trenching programme (Caron, 2003). The trench MTR05-1 was dug for 25 meters, in a roughly southerly direction. As MTR05-01 started in the alteration zone, MTR05-2 was started at the north end of MTR05-1 and extended northerly for 40 metres. Chip samples were collected at five metre intervals across the base of the trench, seven samples from MTR05-1 and eight samples from MTR05-2. Samples collected from the trench, as shown on Figure 5. Selected sample results are shown below in Table 3.



A significant zone of intensely bleached and clay and carbonate (ankerite?) altered intrusive was intersected throughout Trenches MTR05-1 and 2. Samples M05LR-14, 15 and 16 were from a slice of listwantite caught up within the shear zone in the trench. This area returned As values up to 882ppm. This shear is likely a splay from the main fault identified in 2003. (Caron, 2003). A 0.3 metre wide chalcedonic quartz vein,  $045^0/90^0$ , was noted at the 7.7 metre mark in the trench with hairline chalcedonic is abundant in the wall rock of the vein. Sheared wealy silicified monzonite with trace amounts of pyrite (M05LR-08) assayed 1301ppb Au.

Trench	Distance	Sample	SAMPLES	Au	Ag	As	Cu	Pb	Мо	Sb	Zn
Hench	Distance	Length	SAWIFLES	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MTR05-1	0m	0.9m	M05LR-04	<.5	<.1	2.9	4.5	15.3	0.3	0.3	39
MTR05-1	5	0.8	M05LR-05	<.5	<.1	2.6	4	2.8	0.1	0.2	32
MTR05-1	7.7	0.3	M05LR-06	364.8	0.3	13	3.6	2.2	0.3	0.5	23
MTR05-1	10	0.7	M05LR-07	88.5	0.1	6.7	4.3	1.1	0.4	0.2	44
MTR05-1	15	1.1	M05LR-08	1301	0.9	46.2	5.2	4.4	1.9	0.9	27
MTR05-1	20	1.1	M05LR-09	3	<.1	12.7	3.2	1.7	0.4	0.3	19
MTR05-1	25	0.8	M05LR-10	11.8	0.5	34	4.5	40.6	0.1	0.9	36
MTR05-2	5	8.0	M05LR-11	81.4	0.5	98.5	11.5	7.9	1.3	3.3	52
MTR05-2	10	1.0	M05LR-12	7.3	0.2	72.5	39.2	3.5	1.3	5.6	55
MTR05-2	15	1.3	M05LR-13	1.2	0.2	52.3	53.3	2.7	1.6	3	53
MTR05-2	20	1.0	M05LR-14	2.5	0.3	772.7	12.8	2.8	0.9	31.3	8
MTR05-2		1.0	RE M05LR-14	5	0.3	815	13	3	1	34	9
MTR05-2	25	1.0	M05LR-15	3.7	0.3	865.3	15.4	2.7	2.9	43.6	9
MTR05-2	30	1.5	M05LR-16	5	0.5	658.2	2.9	2.3	2.5	26.5	30
MTR05-2	35	0.8	M05LR-17	0.5	<.1	10.5	5.1	5.1	0.4	0.5	38
MTR05-2	40	1.2	M05LR-18	<.5	<.1	2.2	3.7	1.1	0.1	0.2	35

Table 3 - Sample Results: Trench MTR05-1 & 2

# Trench MTR05-3 Figure 6

A third trench was excavated on the Lone Boulder Hill target, south of previous trenching, just north of an old exploration pit. The 30 metre trench trended 310° as shown on Figure 4. The geology and rock sample locations for Trench MTR05-3 are shown on Figure 6. Sample results for select elements are included on listed below in Table 4. A narrow band of listwanite occurs at the start of the trench (M05LR-19) which contained trace amounts of a disseminated fine grain grey black sulphide mineral. The rocks exposed in the remainder of the trench were altered monzonite with a few specks of pyrite found in sample M05LR-21.

Trongh		Sample		Au	Ag	As	Cu	Pb	Мо	Sb	Zn
Trench	Distance	Length	SAMPLES	ppb	ppm	ppm	ppm	ppm	ppm	pp m	ppm
MTR05-3	0m	0.8m	M05LR-19	0.6	<.1	18.3	15.7	1.7	0.3	0.6	56
MTR05-3	5	1.4	M05LR-20	1.3	<.1	8	17.4	2.9	0.1	0.9	49
MTR05-3	10	1.0	M05LR-21	6.4	<.1	4	1.1	2.9	0.2	0.2	50
MTR05-3	15	0.8	M05LR-22	6.1	<.1	9.2	2.1	3.1	0.2	0.3	46
MTR05-3	20	0.8	M05LR-23	0.9	<.1	1.7	4.6	3.5	0.2	0.2	35
MTR05-3	25	0.9	M05LR-24	2.9	<.1	5.6	2.4	7.7	0.2	0.4	51
MTR05-3	30	0.6	M05LR-25	0.6	<.1	<.5	0.8	2.4	0.1	0.1	46

Table 4 - Sample Results: Trench MTR05-3

#### Trench MTR05-4

Trench MTR05-4 was dug on the Lone Boulder Hill target, south of the old exploration pit for 40 metres at a bearing of 340 degrees as shown of Figure 4. Sample results for select elements are listed below in Table 5. Clay-carbonate altered monzonite is exposed in MTR05-4 with minor hairline chalcedonic quartz veining found in the north western portion of the trench (M05LR-30 – 34).

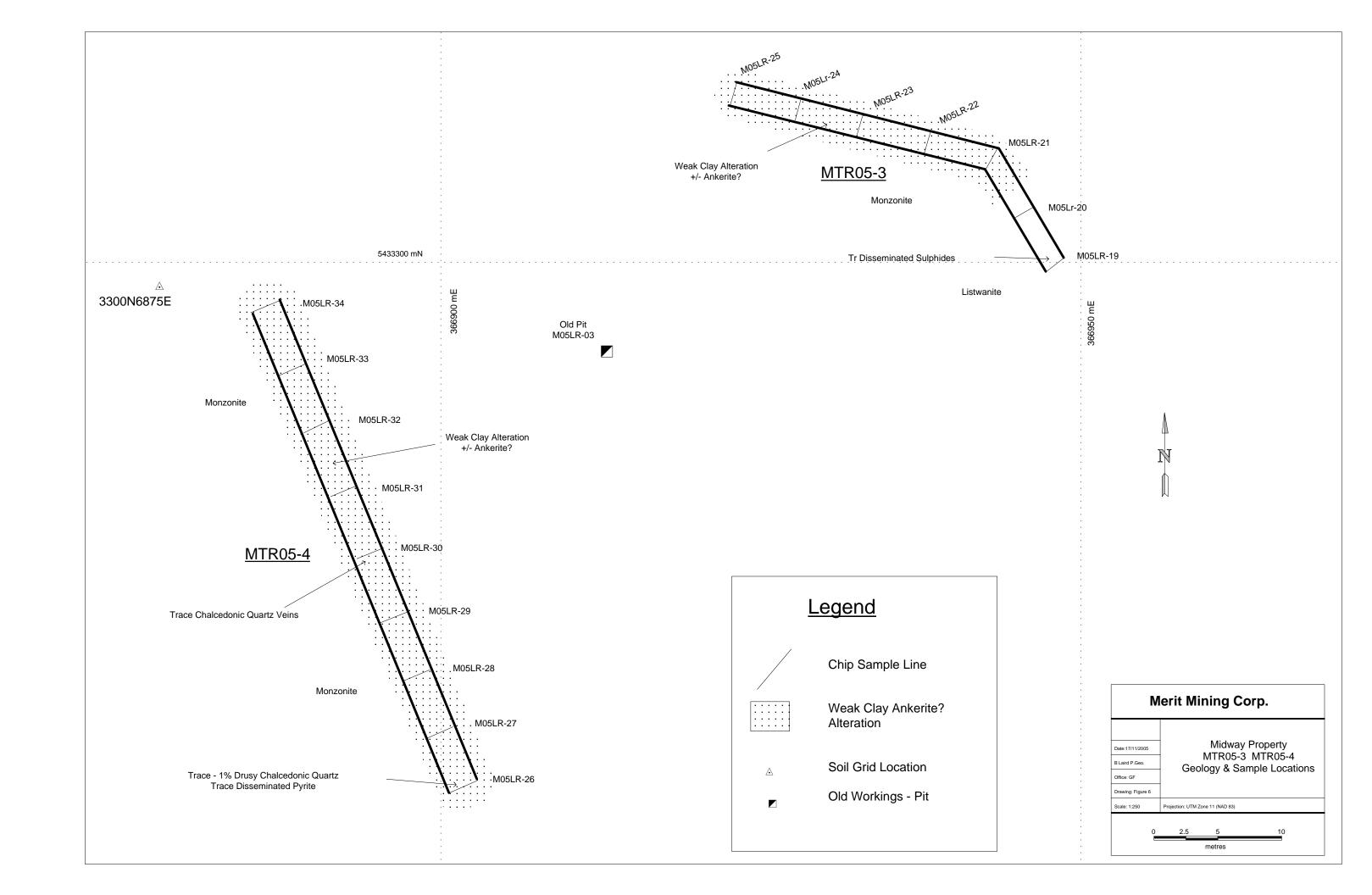
T	Di-4	Sample	SAMPLES	Au	Ag	As	Cu	Pb	Мо	Sb	Zn
Trench	Distance	Length	SAMPLES	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MTR05-4	0m	1.1m	M05LR-26	1.2	<.1	2.1	15.6	4.4	0.6	0.1	55
MTR05-4	5	0.8	M05LR-27	7.7	<.1	14	0.9	6.5	0.2	0.5	57
MTR05-4	10	0.8	M05LR-28	2	<.1	0.9	1.6	4.9	0.2	0.1	71
MTR05-4	15	0.8	M05LR-29	2.2	<.1	18	13.5	5.9	0.4	1.8	71
MTR05-4	20	1.8	M05LR-30	<.5	<.1	1.3	17.6	3.5	0.4	0.1	43
MTR05-4	25	1.6	M05LR-31	2.1	<.1	2.6	13.5	2.9	0.3	0.1	40
MTR05-4	30	1.6	M05LR-32	1.7	0.2	5.2	22.7	4.3	1.5	0.3	39
MTR05-4	35	1.3	M05LR-33	40.6	0.3	89.5	36	7.3	1.4	2	115
			STANDARD DS6	45.5	0.3	21.2	120.8	28.9	11.4	3.6	141
MTR05-4	40	0.5	M05LR-34	2.2	<.1	2.2	1.1	3.1	0.2	0.2	49
			STANDARD DS6	44.7	0.3	20.9	121.3	28.5	11.4	3.3	141

Table 5- Sample Results: Trench MTR05-4

### **Additional Sampling**

Three additional surface samples were collected during the course of this programme. Two samples, M05LR-01, 02, where collected from an area of chalcedonic quartz veining approximately 350 metres south of Picture Rock Quarry. This area was noted by Caron in 2003 as a historical showing worthy of further work. The locations of these samples are plotted on Figure 4 with a description of the samples in Appendix I and results in Appendix II.

One other sample (M05LR-03) was collected from the dump material beside a small old pit between trenches MTR05-3 and MTR05-4. The location of this sample is plotted on Figure 6 with a description of the samples in Appendix I and results in Appendix II.



### .5.0 DISCUSSION & RECOMMENDATIONS

Folow-up trenching of the Lone Boulder Hill anomaly extended the known alteration zone to the north and the south from the previous, 2003, trenches. Shearing and chalcedonic quartz veining are likely related to the major N-NE faulting identified by Little (1990) and appears similar to the mineralization along similar structure at Picture Rock Quarry and the Midway Mine.

The alteration is mainly clay-carbonate or argillic (Caron 2003). Clays appear to be replacing plagioclase phenocrysts within the monzonite and there is an over printing of a tan carbonate (ankerite?). Locally there is abundant hairline to 5mm chalcedonic quartz stockwork and only traces of sulphide (dominantly pyrite) mineralization.

Anomalous gold values, while infrequent, were associated with strongly anomalous As and Sb values suggesting the mineralization system is quite high up in an epithermal system.

Encouraging gold values were returned from two grab samples of epithermal brecciated monzonite south of Picture Rock Quarry and should be followed up with trenching to determine the extent of the mineralized zone in that area.

The skarn mineralization with accompanying IP and Au-Cu soil anomalies at the Texas and Bruce showings also warrant further surface mapping and rock chip sampling while mindful of Lamefoot type volcanogenic and epithermal mineralization.

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# APPENDIX I

# TRENCH SAMPLE DESCRIPTIONS

	•		Midway Sa	mple Des	criptions
Sample #	Trench #	Location	Туре	Sample	Description
M05LR-01	LETM Zn 11 Nad 83	S. of Picture Rock	O/C Grab	Width (m)	Monzonite - Silicified with 10-20% 3mm drusy chalcedonic
	367395E 5432845N	Quarry	C/C Ciab		Qz stockwork
M05LR-02	UTM Zn 11 Nad 83 367395E 5432845N	S. of Picture Rock Quarry	O/C Grab		Monzonite - Silicified with 10-20% 3mm drusy chalcedonic Qz stockwork
M05LR-03	UTM Zn 11 Nad 83 366917E	Old Pit between MTR05-3 & 4	Dump Float		Listwanite - Chalcedonic drusy Qz epithermal Brxx
M05LR-04	5433293N MTR05-1	0m	Chip	0.9	Monzonite - Tr qz eyes, Tan, med-strong clay (kaol) carb altered. 130/30SE
M05LR-05	MTR05-1	5	Chip	0.8	Monzonite - Pale green with tan clays and carbonate alteration. Tr diss oxidized vfg sulphide.
M05LR-06	MTR05-1	7.7	Chip	0.3	Shear with drusy chalcedonic qz ~0.3m wide with hairline vns in wallrock margins. 045/90.
M05LR-07	MTR05-1	10	Chip	0.7	Monzonite - Tr qz eyes, Tan, med-strong clay (kaol) carb altered. Tr 5mm chalced vns.
M05LR-08	MTR05-1	15	Chip	1.1	Monzonite - Tr qz eyes, Tan, med-strong clay (kaol) carb altered. Sheared and weakly silicified.
M05LR-09	MTR05-1	20	Chip	1.1	Monzonite - Tr qz eyes, Tan, med-strong clay (kaol) carb altered. Tr 5mm chalced vns. Jarosite?
MOSLR-10	MTR05-1	25	Chip	0.8	Monzonite - Tr qz eyes, Tan, med-strong clay (kaol) carb altered. 1-2cm coarse qz vn w/ highly oxidized envelopes.
M05LR-11	MTR05-2	5	Chip	0.8	Monzonite - Tr qz eyes, Tan, med-strong clay (kaol) carb altered. Sheared 040/90 and weakly silicified.
M05LR-12	MTR05-2	10	Chip	1.0	Monzonite - Tr qz eyes, Tan, med-strong clay (kaol) carb altered. Sheared 040/90 and wealthy silicified.
M05LR-13	MTR05-2	15	Chip	1.3	Monzonite - Tr qz eyes, Tan, med-strong clay (kaol) carb altered. Sheared 040/90 and weakly silicified.
M05LR-14	MTR05-2	20	Chip	1.0	Listwanite - red weatheredw/ 5% chalcedonic 2mm qz vnlts
M05LR-15	MTR05-2	25	Chip	1.0	Listwanite - red weatheredw/ 5% chalcedonic 2mm qz vnits. Local 3% fuchsite
M05LR-16	MTR05-2	30	Chip	1.5	Listwanite/Monzonite contact - Strong clay -carb alteration w/ 1% drusy chalcedonic qz vnlts 2mm.
M05LR-17	MTR05-2	35	Chip	0.8	Monzonite - weak clay altered plag porph w/ tr qz eyes.
M05LR-18	MTR05-2	40	Chip	1.2	Monzonite - weak clay altered plag porph w/ tr qz eyes.
M05LR-19	MTR05-3	0	Chip	8.0	Serpentine/Listwanite - Pale green sugary /w 3% Fe carb vning and tr vfg black sulphide.
M05LR-20	MTR05-3	5	Chip	1.4	Monzonite - pale green sugary fe-carb altered, tr qz eyes
M05LR-21	MTR05-3	10	Chip	1.0	Monzonite - pale green sugary fe-carb allered, tr qz eyes, tr vfg pryrite patch to 5mm
M05LR-22	MTR05-3	15	Chip	8.0	Monzonite - tan spotted fe-carb altered, tr qz eyes
M05LR-23	MTR05-3	20	Chip	0.8	Monzonite - tan spotted fe-carb altered, tr qz eyes
M05LR-24 M05LR-25	MTR05-3 MTR05-3	25 30	Chip Chip	0.9	Monzonite - tan spotted fe-carb altered, tr qz eyes
M05LR-26	MTR05-4	0	Chip	0.6 1.1	Monzonite - tan spotted fe-carb altered, tr qz eyes  Monzonite - Pale green, silicified w/ tr - 1% drusy chacedonic qz vnlts. Tr diss Py cubes
M05LR-27	MTR05-4	5	Chip	8.0	Monzonite - tan spotted fe-carb altered, tr gz eyes
M05LR-28	MTR05-4	10	Chip	8.0	Monzonite - tan spotted fe-carb altered, it qz eyes, tr white mica clots to 5mm
M05LR-29	MTR05-4	15	Chìp	8.0	Monzonite - tan spotted fe-carb altered, tr qz eyes, weak kaolinite alteration/weathering?
M05LR-30	MTR05-4	20	Chip	1.8	Monzonite - tan spotted fe-carb altered, tr qz eyes, weak kaolinite alteration/weathering?
M05LR-31	MTR05-4	25	Chip	1.6	Monzonite - tan spotted fe-carb altered, tr qz eyes, weak kaolinite alteration/weathering? Tr chalcedonic qz vnlts
M05LR-32	MTR05-4	30	Chip	1.6	Monzonite - tan spotted fe-carb altered, tr qz eyes, weak kaolinite alteration/weathering?
M05LR-33	MTR05-4	35	Chip	1.3	Monzonite - tan spotted fe-carb altered, tr qz eyes, weak kaolinite alteration/weathering?
M05LR-34	MTR05-4	40	Chip		Monzonite - tan spotted fe-carb altered, tr qz eyes, weak kaolinite alteration/weathering?

# APPENDIX II

# ANALYTICAL RESULTS

#### GEOCHEMICAL ANALYSIS CERTIFICATE

Merit Mining PROJECT MIDWAY File # A506184 Page 1 550-580 Hornby St., Vancouver B.C. V6C 386 Submitted by: B. Laird

SAMPLE#	Mo ppm			Zn A	-	Ni pm	Со	Mn ppm	Fe	As ppm p						Sb Bi ppm ppm		Ca %			Cr ppm			Ti						Sc T1			Sample kg
M05LR-01 M05LR-02 M05LR-03 M05LR-04 M05LR-05	1.1 1.4 .3	6.9 22.6 4.5	2.6 82.9 15.3	39 <.	9 3 2 437 1 8	.1 .4 2 .7	2.4 3.9 2 8.1	148 2692 2 829 2	.75 .70 1 .48	22.0 .96.5 2.9	.1 .1 .1	88.1 439.6 <,5	.4 .1 4 .4 1	11 < 431 102	.1 .4 .1	2.3 < 1 1.3 < 1 8.3 .1 .3 < 1 .2 < 1	6 16 18	.06 10.12 2.89	.013 .009 .063	3 2 5	7.3 147.7 3.9	.02 5.05 1.20	198< 43< 144	.001 .001 .001	1 . 1 . 2 1.	21 .00 24 .00 27 .03	04 .0 05 .0 31	09 .1 03 .3 15 <.1	.01 .06 <.01	1.1 < .1 3.1 < .1 4.3 < .1	<.05 .06 .06	1 < .5 1 < .5	2.17 2.37
M05LR-06 M05LR-07 M05LR-08 M05LR-09 M05LR-10	.4 1.9 .4	4.3 5.2 3.2	1.1 4.4 1.7	23 . 44 . 27 . 19 <. 36 .	1 8 9 20 1 13	.0 .4 .8	6.5 6.2 5.5	496 2 322 1 348 1	. 34 . 84 . 39	6.7 46.2 12.7	.1 .1 1 .1	88.5 301.0 3.0	.3 .2 .3	25 < 17 33 <	.1 .1 .1	.5 <.1 .2 <.1 .9 <.1 .3 <.1 .9 .2	12 10 9	.51 .27 .64	.050 .027 .040	5 3 4	2.0 5.3 2.5	.15 .13 .27	75< 79< 46<	.001 .001 .001	1 . 1 . 1	37 .01 35 .01 38 .00	4 1 9	14 .1 12 .1 13 .1	.01 .02 .02	2.7 < .1 1.7 < .1 1.6 < .1	<.05 <.05 <.05	1 < .5 1 < .5 1 < .5 1 < .5 1 < .5	1.83 2.96 2.73
M05LR-11 M05LR-12 M05LR-13 M05LR-14 RE M05LR-14	1.3 1.6 .9	39.2 53.3 12.8	3.5 2.7 2.8	55 . 53 .	2 163 2 106 3 868	.3 1 .4 1 .7 5	7.7 : 9.6 8.0	1099 4 825 3 732 3	.51 .82 .01	72.5 52.3 72.7	.3 .4 .2	7.3 1.2 2.5	.6 .6 .5	83 66 191	.1 .1 .1 3	3.3 <.1 5.6 <.1 3.0 <.1 31.3 <.1 34.0 <.1	65 61 16	1.73 .87 6.54	.082 .082 .009	6 17 3	14.6 30.2 199.8	.45 .39 3.03	87 41 107	.001 .001 .001	1<1<1	16 .00 15 .00 12 .00	)5 .( )4 .( )6 .(	09 .2 06 .1 02 .1	.16 .02 .02	6.5 .1 11.2 < .1 4.8 < .1	<.05 <.05 <.05		2.57 2.51
M05LR-15 M05LR-16 M05LR-17 M05LR-18 M05LR-19	2.5 .4 .1	2.9 5.1 3.7	2.3 5.1 1.1	9 . 30 . 38 <. 35 <. 56 < .	5 929 1 29 1 14	.6 5 .3 .3	3.0 9.3 7.7	885 3 690 2 561 2	.84 6 .30 .31	558.2 10.5 2.2	.3 .2 .1	5.0 .5 <.5	.2 1.8	66 < 82 43 <	.1 2 .1 .1	43.6 < .1 26.5 < .1 .5 .1 .2 < .1 .6 < .1	19 21 23	1.17 2.13 2.08	.037 .067 .062	1 : 13 6	117.0 6.3 4.2	.56 .70 .78	79 55 60	.001 .001 .001	<1 . <1 . 11.	26 .01 51 .01 32 .03	4 .( .5 .: 34 .(	07 .4 10 .1 09 <.1	.02 .02 .01	4.8 .1 3.3 < .1	<.05 <.05 <.05	1 < .5 1 < .5 2 < .5 4 < .5 6 < .5	2.83 1.72 2.59
M05LR-20 M05LR-21 M05LR-22 M05LR-23 M05LR-24	.2 .2 .2	1.1 2.1 4.6	2.9 3.1 3.5	49 < . 50 < . 46 < . 35 < . 51 < .	1 18 1 17 1 17	.3 1 .0 1 .1 1	0.6 0.6 0.5	918 2 759 2 886 2	.78 .79 .70	4.0	.2 .2 .2	6.4 6.1	.4 : .4 : .5	163 < 142 < 44	.1 .1 .1	.9 < .1 .2 < .1 .3 < .1 .2 < .1 .4 < .1	21 24 34	4.13 2.53 1.17	.068 .065 .079	5 6 11	9.1 8.7 <b>10</b> .9	1.92 1.32 .70	63 66 100	.001 .001 .002	1 1. 1 . <1 .	09 .03 10. 09 00. 00	30 .: .9 .: .8 .:	16 <.1 <sup>.</sup> 15 .1 <sup>.</sup> 14 .1	<.01 <.01 .01	5.5 <.1 5.0 <.1	.06 <.05 <.05	5 < .5 3 < .5 2 < .5 2 < .5 3 < .5	3.31 3.55 1.81
M05LR-25 M05LR-26 M05LR-27 M05LR-28 M05LR-29	.6 .2 .2	15.6 .9 1.6	4.4 6.5 4.9	46 <. 55 <. 57 <. 71 <. 71 <.	1 13 1 7 1 13	.7 1 .8 1 .6 1	1.4 1.2 0.9	821 <i>2</i> 1002 2	.03 .93 .91	2.1 14.0 .9	.2 .1 .1	1.2 7.7 2.0	.2 .2 .3	49 < 32 59	.1 .1 .1	.1 <.1 .1 .1 .5 <.1 .1 <.1 1.8 <.1	31 31 34	2.19 1.93 3.22	.077 .080 .080	5 7 7	9.0 9.3 10.1	.89 1.03 1.10	89 70 116	.001 .001 .001	1 1. 1 1. <1 1.	10 .01 19 .01 57 .01	5 . 4 . 8 .	15 .1 15 .1 13 <.1	.01 .03 .01	4.4 < .1 4.3 < .1	<.05 <.05 <.05	3 < .5 3 < .5 4 < .5 4 < .5 5 < .5	1.52 1.61 .92
M05LR-30 M05LR-31 M05LR-32 M05LR-33 STANDARD DS6	.3 1.5 1.4	13.5 22.7 36.0	2.9 4.3 7.3	43 <. 40 <. 39 . 115 .	1 9 2 8 3 186	.4 .5 1 .9 1	8.9 0.1 5.4		.00 .67 .78	2.6 5.2 89.5	.2 .2 .3	2.1 1.7 40.6	1.3 1.1 1.0	34 80 147	.1 .2 .6	.1 .2 .1 .1 .3 .1 2.0 .3 3.6 5.0	32 19 23	1.91 3.43 5.33	.073 .065 .053	12 9 8	5.3 2.4 24.2	.86 .90 1.91	86 67 131	.001 .001 .001	<1 1. 1 1. 1	39 .01 04 .02 70 .01	5 . 4 . 9 .	14 .1 15 .1 12 .2	.02 <.01 .03	3.6 < .1 4.3 < .1 4.2 < .1	<.05 .06 <.05	5 < .5 4 < .5 3 < .5 2 < .5 6 4.4	3.22

GROUP 1DX - 15.0 GM SAMPLE LEACHED WITH 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 300 ML, ANALYSED BY ICP-MS. (>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBILITY.

- SAMPLE TYPE: ROCK R150 Samples beginning 'RE' are Reguns and 'RRE' are Reject Reguns.





# Merit Mining PROJECT MIDWAY FILE # A506184

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M05LR-34 .2 1.1 3.1 49 < 1 15.6 10.0 1172 3.46 2.2 .3 2.2 1.5 63 .1 .2 < 1 29 1.24 .083 15 4.7 1.29 436 .001 1 1.66 .020 .14 < 1 .01 4.2 < 1 < 0.5 5 < 5 1.41 STANDARD DS6 11.4 121.3 28.5 141 .3 24.9 10.6 698 2.79 20.9 6.4 44.7 3.0 40 5.9 3.3 4.8 56 .85 .079 15 184.2 .57 162 .083 16 1.89 .073 .16 3.2 .22 3.3 1.7 < .05 6 4.1

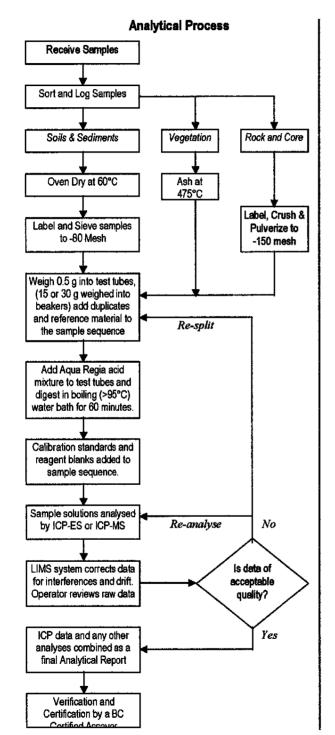
Sample type: ROCK R150.

# APPENDIX III

# ANALYTICAL PROCEDURES



# METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 1D & 1DX – ICP & ICP-MS ANALYSIS – AQUA REGIA



#### Comments

#### Sample Preparation

All samples are dried at 60°C. Soil and sediment are sieved to -80 mesh (-177  $\mu m)$ . Moss-mats are disaggregated then sieved to yield -80 mesh sediment. Vegetation is pulverized or ashed (475°C). Rock and drill core is jaw crushed to 70% passing 10 mesh (2 mm), a 250 g riffle split is then pulverized to 95% passing 150 mesh (100  $\mu m$ ) in a mild-steel ring-and-puck mill. Pulp splits of 0.5 g are weighed into test tubes, 15 and 30 g splits are weighed into beakers.

### Sample Digestion

A modified Aqua Regia solution of equal parts concentrated ACS grade HCl and HNO<sub>3</sub> and de-mineralised H<sub>2</sub>O is added to each sample to leach for one hour in a hot water bath (>95°C). After cooling the solution is made up to final volume with 5% HCl. Sample weight to solution volume is 1 g per 20 mL.

### Sample Analysis

Group 1D: solutions aspirated into a Jarrel Ash AtomComp 800 or 975 ICP emission spectrometer are analysed for 30 elements: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, U, V, W, Zn.

Group 1DX: solutions aspirated into a Perkin Elmer Elan6000 ICP mass spectrometer are analysed for 36 elements: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Se, Tl, Sr, Th, Ti, U, V, W, Zn.

#### **Quality Control and Data Verification**

An Analytical Batch (1 page) comprises 34 samples. QA/QC protocol incorporates a sample-prep blank (SI or G-1) carried through all stages of preparation and analysis as the first sample, a pulp duplicate to monitor analytical precision, a -10 mesh rejects duplicate to monitor sub-sampling variation (drill core only), two reagent blanks to measure background and aliquots of in-house Standard Reference Materials like STD DS5 to monitor accuracy.

Raw and final data undergo a final verification by a British Columbia Certified Assayer who signs the Analytical Report before it is released to the client. Chief Assayer is Clarence Leong, other certified assayers are Leo Arciaga, Marcus Lau, Ken Kwok, Dean Toye and Jacky Wang.

Document: Method and Specifications for Group 1D&1DX.doc

Date: Jan 15, 2004

Prepared By: J. Gravel

# APPENDIX IV

# COST STATEMENT

# **STATEMENT OF COSTS – MIDWAY TRENCHING 2005**

	Rate/Day, Rate/Hour	Number of Days/Hours	Amount
Field Personnel			
Geologist	\$400/day	7.5 days	\$ 3,200.00
Field Labourer	\$250/day	1 day	\$ 250.00
		, -	\$ 3,450.00
		<del>-</del>	<u> </u>
Vehicle Rental	\$60/day	3 days	\$ 180.00
	\$50/day	1 day _	\$ 50.00
		_	\$ 230.00
Equipment & Supplies			
Fuels & Lubes			\$ 336.06
Maps, Drafting & Reproductions		-	\$ 609.63
		-	\$ 945.69
Transhing (Ex 200 Hitashi Execustor)			
Trenching (Ex 300 Hitachi Excavator)  Mob & Demob	\$102/hour	9 hours	\$ 918.00
Fuel Levy	12%	9 110015	\$ 918.00 \$ 110.16
Trenching	\$180/hour	12 hours	\$ 2,160.00
Henching	φ100/110u1	12 110015	\$ 3,188.16
		-	ψ 3,100.10
Laboratory Analysis		_	\$ 718.58
		_	
Freight		-	\$ 94.56
Report Preparation			\$ 1,400.00
Total		-	\$ 10,026.99

# APPENDIX V

Statement of Qualifications

# STATEMENT OF QUALIFICATIONS

Bruce L. Laird, P.Geo. #12 6690 21<sup>st</sup> Street Grand Forks, B.C. V0H 1H0

I, Bruce L. Laird, P.Geo. hereby certify that:

I am currently employed as a Consultant by:

Merit Mining Corp. Suite 550- 580 Hornby Street Vancouver, B.C. V6C 3B6 Telephone: 604-694-2344

I planned and supervised the work described in this report.

I graduated with a Bachelor of Science Degree in Geology, from the University of British Columbia, Canada, in 1984.

I am a registered Professional Geoscientist with the association of Professional Engineers and Geoscientists of the Province of British Columbia, Canada, License Number 21581.

I have worked as a geologist for a total of 21 years since my graduation from university.

I am not independent of the issuers. I hold common shares and options with Merit Mining Corp.

Dated at Vancouver, B.C. this 19th day of December, 2005.

Bruce L Laird P Geo