

**Assessment Report**  
On the  
**Zip Claim Group**  
**Drilling Program**

Greenwood Mining Division  
British Columbia, Canada

**NTS 82E/2**  
**UTM 384500E 5438000N Zone 11**

**For**



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Revised and Re-submitted  
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## 1. Introduction

The Zip claim group, composed of nine contiguous two post mineral claims are located 7.5 kilometres east of Greenwood and form part of Merit Mining Corp.'s Golden Crown Property, in south central British Columbia. Gold City Industries staked the claims (Figure.1). Merit Mining Corp acquired Gold City in late 2004 and now has 100% interest in the claims.

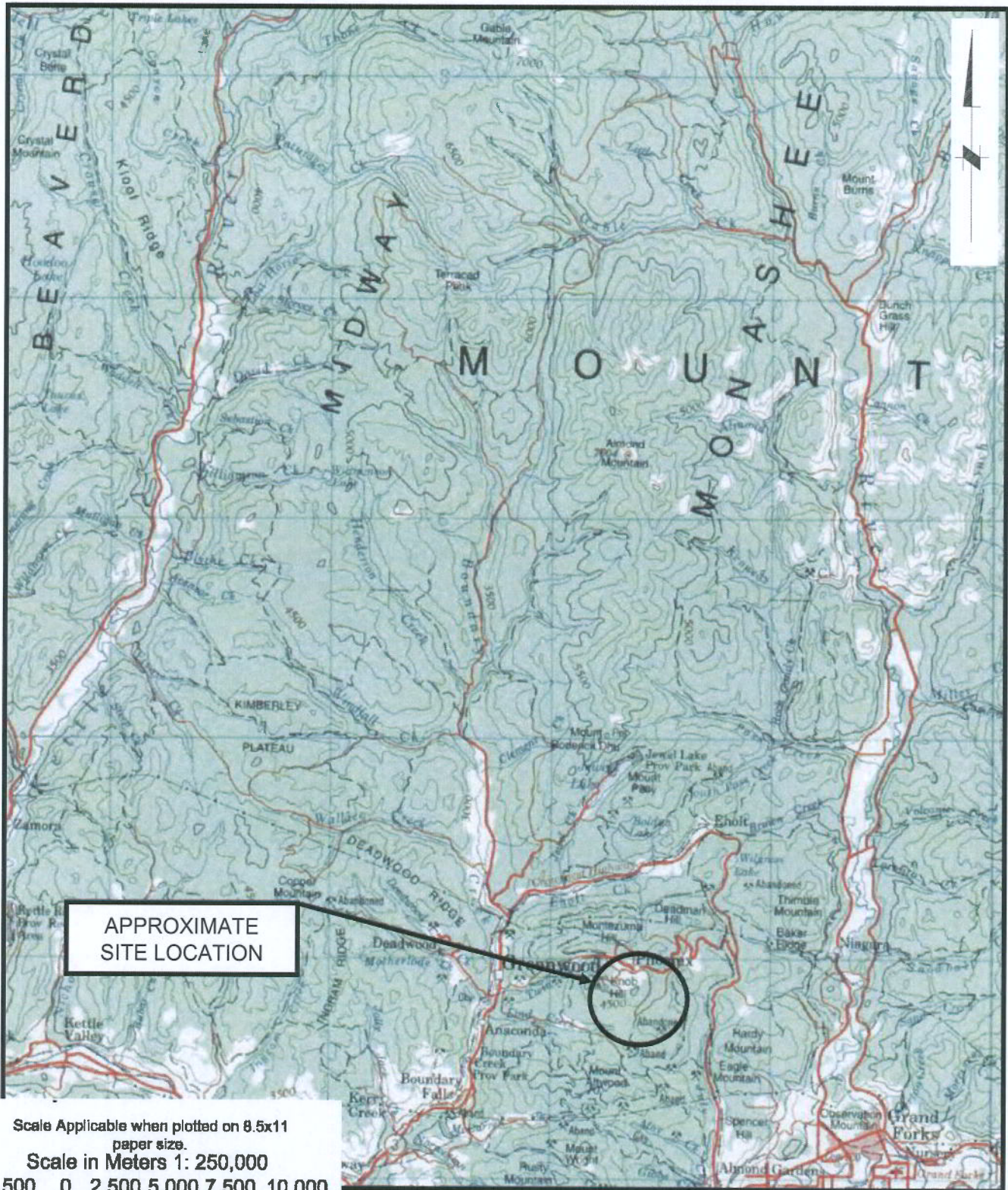
The Greenwood area is a strongly mineralized region, ranking sixth largest in gold production in British Columbia with 1.2 million ounces of gold. Much of the production was from the Phoenix copper-gold skarn, some 2.5 kilometres from the Zip claims. The Republic district of northern Washington, 50 kilometres south of the claims, has produced 2.5 million ounces of gold from epithermal deposits with grades typically better than 0.5 oz/t Au. Together with recent exploration discoveries immediately south of the border, past production and resources of the area between Greenwood and Republic exceed 7.4 million ounces of gold. Furthermore, the Rossland mining camp 45 kilometres east of the claims has produced 2.7 million ounces of gold from similar veins and geology to that on the Golden Crown property.

A robust corridor of west northwest trending sub parallel and closely spaced steeply dipping massive sulphide and quartz-sulphide veins occur on the Golden Crown property 0.25 kilometres south of the Zip claims. The core of the known mineralization lies within an area 130m wide by 800m long. Veins typically are 1-2 metres true width, with local developments to 5 metres true width near the serpentinite contact. Veins range greatly in sulphide content but generally contain 50-90% sulphides of pyrrhotite-pyrite and lesser chalcopyrite in a quartz gangue. Quartz veins with very low sulphide content are also present. Both vein types can carry high gold tenor.

The Zip claim group is underlain by Permian-aged Knob Hill Group volcanic rocks and chert intruded by Jurassic-Cretaceous-aged Nelson Plutonic diorite plugs. The volcanic unit is overlain by shallow dipping Triassic-aged Brooklyn Formation siltstone and chert pebble conglomerate. The sediment/volcanic contact is speculated to be faulted by the west dipping Snowshoe Fault.

The Brooklyn Formation is a favourable host rock for both copper-gold skarn mineralization and gold-bearing volcanogenic massive sulfide/oxide (Lamefoot-type) mineralization and forms a target on the Zip Property. Drilling targeted this unit in search for base and precious metal mineralization. As a secondary benefit the drilling tested for the presence of water during the development phase of the Company's bulk sample of the Lexington-Grenoble deposit. The water source was an integral component to allow for the successful completion and processing of the bulk sample that occurred later in March and April 2008.

The drill program included the completion of five vertical reverse circulation holes (152 mm diameter) totaling 474 metres during the period November 21 to December 6, 2007. Mineralization was minimal, with traces of disseminated pyrite within the volcanic host rocks, as well as within quartz veinlets. The drilling encountered some water. Pump tests were conducted for suitability as a source for the processing of the bulk sample from the Lexington-Grenoble deposit.



APPROXIMATE  
SITE LOCATION

Scale Applicable when plotted on 8.5x11  
paper size.  
Scale in Meters 1: 250,000  
-2,500 0 2,500 5,000 7,500 10,000

Basemap Reference: [Softmap 4](#)

Scale: 1: 250,000  
Date: January 2008  
Approval:  
Design By:  
Drawn By: JB  
Checked By:

SEAL

  
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Site Location Diagram

Ref: 07061  
File Ref:  
07061Fig1.ppt  
Fig: 1

## 2. Property Description and Location

The Zip claim group is comprised of nine contiguous two post mineral claims totalling 9 units (see Figure 2). Gold City Industries staked the claims and recorded them on August 1, 2002. Merit Mining Corp acquired Gold City in late 2004, and now owns 100% interest in the claims. The claims are located within the Greenwood Mining Division in south central British Columbia, Canada. The claims, on NTS map sheet 82E/02E are centered on 49° 05' N and 118° 34' W. The nine claims are 7.5 kilometres east of Greenwood and 3.2 kilometres southeast of Phoenix at an elevation of 1200 metres.

**Table 1 - Zip Mineral Claims**

Tenure Number	Claim Name	Map Sheet	Status*	Mining Division	Units	Tag No.
395610	ZIP 1	082E008	2012.12.02	07 GREENWOOD	1 un	691232M
395611	ZIP 2	082E008	2012.12.02	07 GREENWOOD	1 un	691233M
395612	ZIP 3	082E008	2012.12.02	07 GREENWOOD	1 un	691234M
395613	ZIP 4	082E008	2012.12.02	07 GREENWOOD	1 un	691235M
395614	ZIP 5	082E008	2012.12.02	07 GREENWOOD	1 un	690669M
395615	ZIP 6	082E008	2012.12.02	07 GREENWOOD	1 un	690670M
395616	ZIP 7	082E008	2012.12.02	07 GREENWOOD	1 un	690671M
395617	ZIP 8	082E008	2012.12.02	07 GREENWOOD	1 un	685429M
396210	ZIP #9	082E008	2012.12.02	07 GREENWOOD	1 un	680638M
396211	ZIP #10	082E008	2012.12.02	07 GREENWOOD	1 un	680639M
396212	ZIP #11	082E008	2012.12.02	07 GREENWOOD	1 un	680633M
357698	Crown 2	082E008	2012.12.02	07 GREENWOOD	1 un	679677M
517646	Golden Crown Fr	082E008	2012.12.02	07 GREENWOOD	1 un	-

\* date pertains to the expiry date prior to the acceptance of credit from this report.

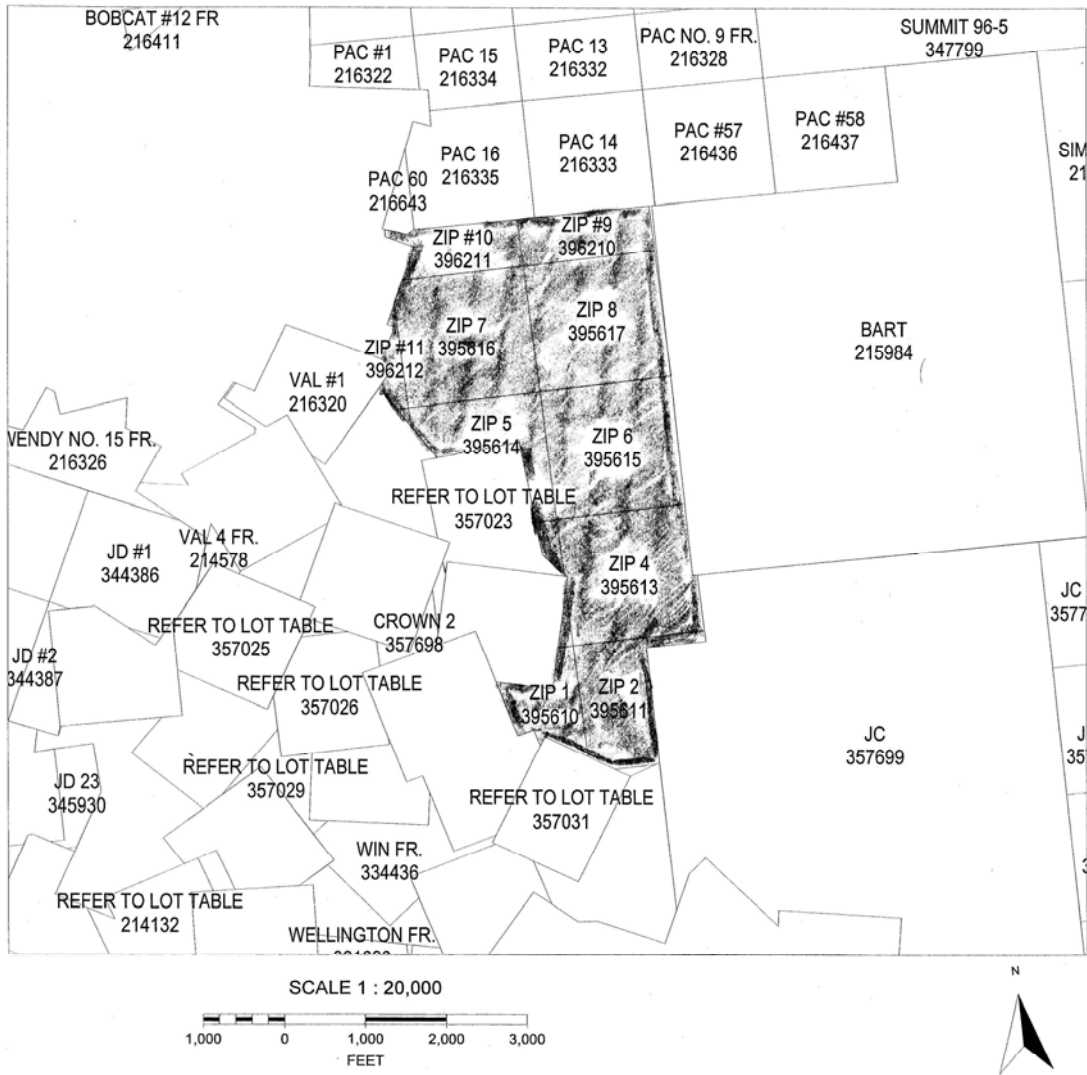


Figure 2: Claim Map

### 3. Accessibility, Climate, Local Resources, Infrastructure and Physiography

The nine claims are 7.5 kilometres east of Greenwood and 3.2 kilometres southeast of the Phoenix. The claims are easily accessible by paved provincial highway (i.e. Crowsnest Highway No. 3). Mid way

between Greenwood and Grand Fork, BC is the Phoenix Ski Hill gravel road which connects with the Snowshoe Main road, an old rail grade. This road crosses the northern and western parts of the claims with subsidiary logging roads providing additional access. The nearest full-service airport is at Penticton.

The regional terrain is rolling and has an elevation range of approximately 300 to 2,000 metres. The claims occur at an elevation of about 1200 metres. In the area, generally the higher elevations are forest covered while the lower elevations are grass ranch land. The forest cover is second growth Ponderosa Pine, Douglas Fir and Larch with minimal underbrush. The area is encompassed in the Kettle Provincial Forest Department and lies between Boundary, Eholt and July Creeks. The largest drainage basin in the district is the Kettle River basin 16 kilometres southwest of the claims. The Snowshoe Creek cuts across the claim group.

The climate is quite dry, with hot summers accompanied by little rainfall. Snowfall is generally less than 1 metre. Work could be carried out year round with minimal road ploughing to access during winter months as much of the access route is ploughed and maintained year round.

The area has exceptional infrastructure available in the immediate area to support mining. A natural gas pipeline and two power lines lie immediately south of the claims. There is a large, skilled workforce of trades and technical professionals as well as equipment suppliers available throughout the region. Most services can be obtained from Grand Forks, Osoyoos and Penticton.

The claims cover the northern extension of the Golden Crown property. Besides the exploration merits of the claims due to the proximity to the Golden Crown vein system and presence of the Triassic-aged Brooklyn Formation, the property provides a suitable area for tailing to a milling operation which was being constructed by Merit between September 2007 and March 2008 for the benefit of processing the bulk sample from the Lexington-Grenoble deposit. The drilling served as a secondary benefit for the search for water to be able to complete the bulk sample.

## **4. History**

### **4.1 Golden Crown Property History**

There are no historical workings or assessment reports for the claims, however, a historical record of the Golden Crown area is provided.

The Winnipeg and Golden Crown claims and their immediate area have had a long history of exploration and development partially described by previous workers (Robb, 190; Sookochoff, 1984a; Kim 1987c; Keyte and Sanders, 1980). The following exploration and development history on the claims comes from these sources as well as from Minister of Mines Annual Reports (1895-1905, 1938-41 and 1967-68), and from Minfile records 082ESE032 and 082ESE033.

The Winnipeg and Golden Crown claims were originally staked in 1894 and subsequently crown granted in 1896, however, owned and worked independently.

During 1900 and 1901 the owners of the Golden Crown sunk a 322 foot deep two compartment shaft on the Golden Crown vein and conducted a series of cross-cuts, raises and drifts totalling an additional approximately 2,500 feet on the 100, 150 and 300 foot levels. Production of 2,743 tons averaging 0.45 oz/t Au and 1.5% Cu occurred at this time. Production was reported from three stopes on the 100 foot

level reaching 55 metres either side of the shaft. Stope backs exceeded 20 metres on a vein averaging 1.5 metres thick steeply dipping to the south. A 100 metre long exploration/access adit was later driven on the Golden Crown claim however the adit never reached its target.

In 1899, the owners of the Winnipeg claim sunk a 300 foot deep shaft on one of two veins reported separated by 80-100 feet. Approximately 275 feet of drifting was done along the 100 foot level, however, by 1902 a total of 1,000 feet of sinking and raises and 3,000 feet of cross-cuts and drifts were completed. In May 1902 a disastrous fire and financial difficulties resulted in a suspension of operations. The 1903 Minister of Mines Annual Report stated that “It is a pity that such a promising property as the Winnipeg should be so heavily handicapped.” Although some production was reported from 1900-1903, the majority of the production was completed for the period 1910-1912. The property lay dormant until 1940, when a very minor production occurred. The total production from the Winnipeg claim stands at 58,771 tons averaging 0.2 oz/t Au and 0.16% Cu.

It should be noted that the production figures reported on both the Winnipeg and Golden Crown claims do not appear to be consistent with the extent of their respective workings and dumps. It is speculated that the total production figures may be in different proportion for each claim.

Following these production episodes no work was reported on the two claims until 1965-68 when Sabina Mines and Scurry Rainbow conducted a diamond drilling and geophysical program targeting the serpentinite for hosting nickel and chromite. Sixteen BQ holes in 1650 metres were done. Only data for 10 of these holes is available (Kim, 1987c).

Grand Forks Syndicate completed a 5 hole drill program in 1976 totalling approximately 200 metres. This was followed by a 12 hole drill program when Con Am Resources optioned the claims during the period 1977-1978.

Boundary Exploration Ltd. (later Consolidated Boundary Exploration) acquired the claims in 1979 and completed a 4 hole 300 metre drill program.

The claims were optioned in 1980 to Munde Mines. Drill holes were resurveyed. The Golden Crown shaft was de-watered to the 100 foot level allowing for the surveying, mapping and chip sampling (56 samples). Munde drilled 16 additional holes totalling 1500 metres and conducted a surface mapping program.

In 1983, Grand Forks Mines Ltd. optioned 50% interest in the claims. Between 1983 and 1990 a total of 137 surface and 53 underground diamond drill holes were conducted on the claims and their adjacent claims culminating in the discovery of nine mineralized zones. At this point the Winnipeg and Golden Crown claims were explored as part of a larger property, the Golden Crown Project, which included eleven additional adjoining reverted crown grants.

All available data was entered into a digital database in 1987 which allowed the preparation of a preliminary resource that was encouraging enough to recommend a \$1.3 million surface drilling and underground program. A program of 750 metre of drifting and cross-cuts was carried out to provide for underground drilling access, future haulage access and a 150lb bulk sample from the King vein. In addition, the Golden Crown workings were de-watered to the 150 level and a vent raise connected the exploration adit to the old 100 foot level. The Golden Crown workings are still accessible via the shaft, although some ladders may require improvements. Ten surface drill holes were also completed in this phase.



In 1988, a \$1 million Phase II program was conducted consisting of 48 underground drill holes, 12 surface drill holes, and 365 metres of additional drifting and cross-cutting. The trackless exploration drift length now is 1070 metres long with dimensions of 9' x 12'. Drilling discovered the main shoot on the King vein below drift level and defined a southwest rake.

Grand Forks Mines underwent a name change and share consolidation in 1989 to Attwood Gold Corporation and earned the remaining 50% interest in the claims. A minimal (5 holes) underground drilling program was completed in 1989.

Geologist R. Seraphim made a resource estimate in 1989. The “drill indicated reserve” of 62,270 tons averaged 0.455 oz/t Au, 0.52 oz/t Ag and 0.7% Cu, and included a 25% dilution, 10 metre area of influence and a 0.25 oz/t Au cut-off for 1 metre true thickness. Mr. Seraphim indicated the potential to expand that number. This is not a declared resource on the property and should not be relied upon but remains a historic figure. The writer has not prepared nor confirmed this resource estimation and as it pre-dates National Instrument 43-101, it does not comply with NI 43-101 requirements for mineral resource estimation. Based on current CIM standards on mineral resources and reserves, the reported mineral inventory would be classified as an Inferred Mineral Resource.

A \$1.9 million program was recommended to better define the shoots by drifts and raises and driving a decline 100 feet below the adit level, however, the program was not initiated.

Attwood completed 34 surface drill holes in 1990, in addition to a soil geochemistry and geophysical survey on the claims and the adjoining claims. Re-surveying of all locatable drill holes was also accomplished. The digital database was thoroughly reviewed and updated by a new exploration team who identified errors in the original database used by Seraphim.

In 1990 G. Ford, P.Eng., performed an independent resource estimate for Attwood Gold Corporation of 37,100 tons grading 0.999 opt gold (uncut), 0.536 opt gold (cut) and 1.12% copper on the Winnipeg-Golden Crown and Calumet claims. Ford's calculation assumed a lower cut-off of 0.25 opt Au over 1 metre true width, a 3.51 specific gravity, maximum area of influence of 10 metres, and dilution to 1 metre true width. This is also not a declared resource on the property and should not be relied upon but remains a historic figure. The writer has not prepared nor confirmed this resource estimation and as it pre-dates National Instrument 43-101, it does not comply with NI 43-101 requirements for mineral resource estimation. Based on current CIM standards on mineral resources and reserves, the reported mineral inventory would be classified as an Inferred Mineral Resource until such times as a current resource estimate from an independent qualified person is made. The resource on its own does not currently demonstrate economic viability.

In 1990, a dispute arose between Attwood Gold and Consolidated Boundary over the perceived reduction in resource base. The issue was later settled in 1991, however, a change in management in Attwood resulted in the property going dormant.

In 1997 the Winnipeg and Golden Crown claims were acquired by Century Gold. The surrounding 11 reverted crown grants were also acquired by Century Gold, maintained under the title of Golden Crown Property. Century Gold conducted a database review and corrected additional errors in the database and conducted a mapping and trenching program on the Golden Crown Property in 1998 and 1999. Only a small portion of this trenching program was conducted on the Winnipeg and Golden Crown claims, specifically on the Golden Crown, Samaritan and Princess veins. The work provided an improvement to structural and geological controls, including drawing similarities to mineralization at Rosslund, B.C. In 1998, the main exploration adit accessing the vein system on Winnipeg and Golden Crown was

rehabilitated for mapping. Century Gold did not fulfill their obligations, thus returned to Dynasty Motor Car Corporation in 2002.

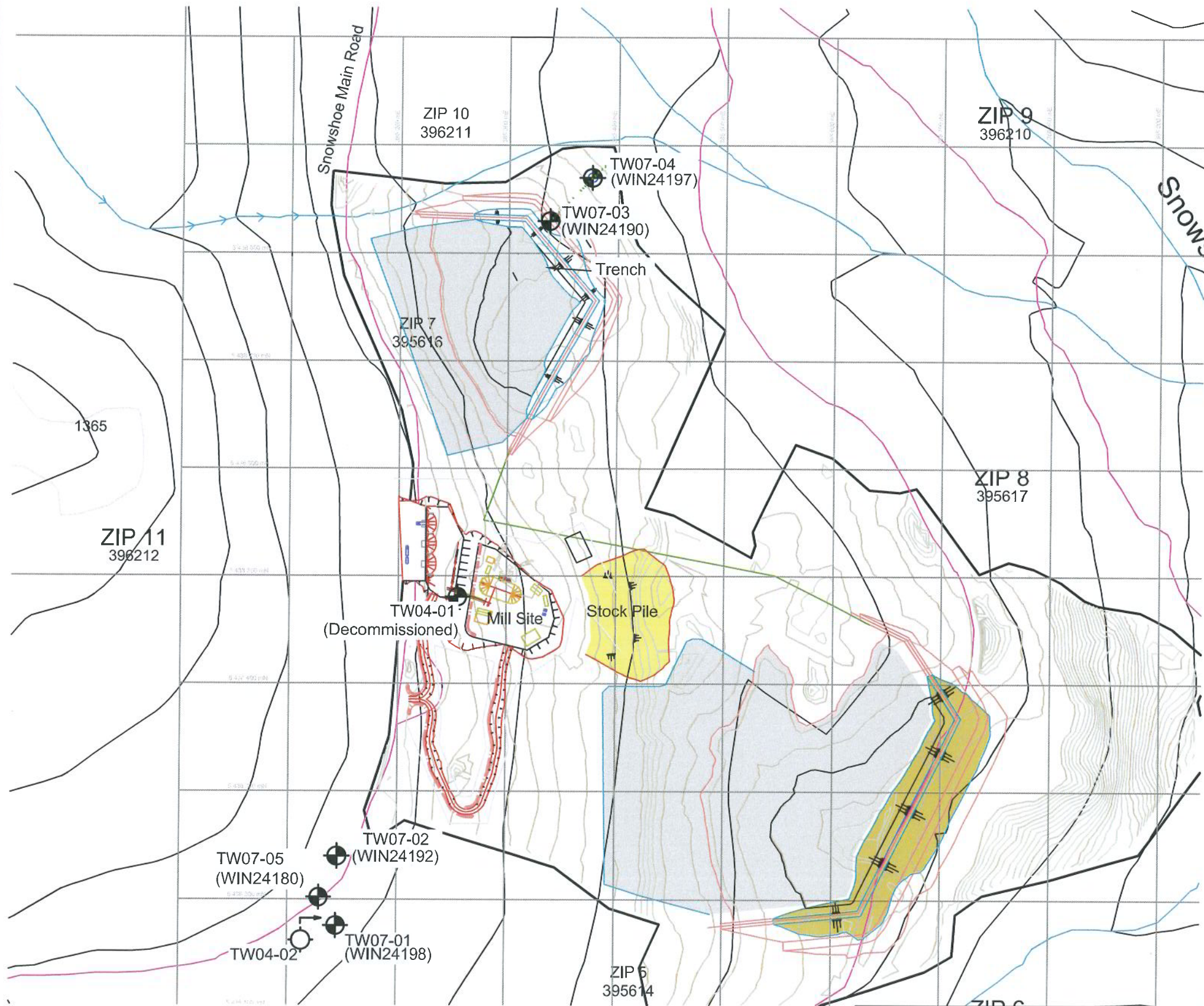
In 2003 Gold City Industries Ltd. conducted a brief 1:5,000 scale mapping and sampling program confined mainly to the roads on the Zip claims. Grid-based geochemical soil sampling was conducted in 2004, focussing over an area contemplated for a mill and tailing facility. Merit Mining Corp acquired Gold City in late 2004. In 2004 Merit conducted a short drilling program of two reverse circulation holes totalling 219.4 metres.

## **4.2 Summary of 2007 Work Program**

Paul Cowley, P.Geo. of Merit Mining Corp. performed geological interpretations and developed drill hole collar selections based on the potential of intersecting sulphide mineralization within the Triassic-aged Brooklyn Formation. JR Drilling Ltd. (JRDL) provided a mobilized dual rotation air rotary drill (DR12) to the site and during the period November 21-28, 2007, completed five vertical 152 mm diameter drill holes totalling 474 metres in two areas (Figure 3). The project was supervised by Larry Top. Drill chips were logged by Merit geologist, Lisa Pereira. No samples were analysed from this program as mineralization was negligible.

As a secondary objective the drilling served to check for aquifers that might provide important water sources to assist and support the Lexington-Grenoble deposit 10,000 tonne bulk sample. During the period December 3-7, 2007, Kala conducted yield tests with three of the better producing drill holes. On February 20, 2008 a short duration yield test was performed on the poor producing drill hole, TW07-5, to confirm poor suitability. During the December 2007 pumping tests, water samples were collected immediately prior to pump cessation in laboratory prepared glassware and shipped to CANTEST Laboratories of Burnaby, BC for analyses to provide a potential geochemical indicator for mineralization in each hole.

Between November 1, 2007 and April 1, 2008, Merit under its permit, mined a 10,000 tonne bulk sample from its Lexington-Grenoble deposit. The mineralization was composed of dacite hosted pyrite-chalcopyrite sulfides carrying gold in a shallow dipping stacked series of sheeted sulphide veins, veinlets and disseminations. The average grade of the bulk sample was 5.74 g/t Au and 1.55% Cu. The Company built a mill and tailings facility to process the 10,000 tonne bulk sample on the Zip claims. The sample was trucked to and processed through the facility between April 1, 2008 and May 15, 2008. Water from the drill holes drilled during the 2007 Zip drilling campaign ultimately provided integral development work infrastructure to allow the bulk sample to be processed.

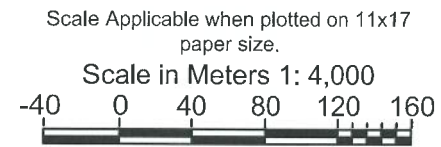


**Legend:**

- Burrow Areas
- Groundwater Table
- Main water Producing Bedrock Fractures
- Main Bedrock Fractures
- Approximate Contours in meters
- Approximate Testwell Locations
- Approximate Location of Artesian Well
- Access Roads

**NOTES:**

- Basemap Prepared by Merit Mining Corporation. (This drawing is for conceptual purposes only)
- 1.3 L/s approximate maximum flowrate on Testwells.
- \*Estimated max flow based on short yield test.



Scale: 1: 4,000  
 Date: January 2008  
 Approval  
 Design By  
 Drawn By: JB  
 Checked By:

SEAL

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<b>MERIT MINING CORPORATION</b> Grand Forks, BC	
Site Layout Diagram	

Ref: 07061  
 File Ref:  
 07061fig2.dwg  
 Fig: 3

## 5. Geological Setting

### 5.1 Regional

Fyles (1990) has performed the most recent mapping of the Greenwood district, previously mapped by Little (1983) and Church (1986). As the distribution of rocks in the area are controlled by a series of faults, both Jurassic-aged thrust faults and Tertiary-aged extensional and detachment faults, an understanding of the regional and local structure is essential in understanding the geology (Table 2: General Stratigraphic Column). Many of the important mineral deposits in the area are directly related to the major tectonic and structural features.

Fyles has Palaeozoic and Mesozoic rocks lying in a series of thrust slices above a high grade metamorphic basement developed from the Okanagan gneiss domes with a general northward dip of lithologies. The two high grade metamorphic suites in the region are the Grand Folks Gneissic Complex and the Tenas Mary Creek Complex. The Grand Forks Complex is a fault-bounded, uplifted block of cratonic crust lying east of a north-trending normal fault five kilometres south of the property. The Tenas Mary Creek complex is an uplifted domal succession that lies 4 kilometres southwest of the Lexington – Lone Star property.

Unconformably overlying Okanagan gneiss domes are firstly rocks of the late Palaeozoic-aged Knob Hill Group which has a volcanic affinity, composed principally of chert, greenstone and related intrusives and serpentinite. Serpentinite bodies often marking thrusts represent part of a disrupted ophiolite sequence from the late Palaeozoic-aged Knob Hill Group. The serpentinite as lenticular bodies to continuous sheets often exhibit Fe-carbonate alteration likely associated with the thrusting episode. Clasts of serpentinite in Middle Triassic conglomerate indicates a probable Permian age for the serpentinite. Knob Hill rocks are intruded by the Old Diorite, a hornblende diorite of variable texture that is cut by many veins and dated as Late Permian or older. The late Palaeozoic Attwood Group unconformably overlies the Knob Hill Group. The Attwood Group is composed of sediments and volcanics, chiefly argillite, siltstone, limestone and andesite. Triassic-aged Brooklyn Formation unconformably overlies the older units and consists of limestone, clastic sediments and pyroclastics. The copper-gold skarns in the area such as Phoenix, Oro Denoro and Mother Lode-Greyhound are hosted in Brooklyn rocks.

A major compressional tectonic event in the Mesozoic resulted in the development of the five thrust faults in the region generally trending west or west-northwest and dip low to moderately to the north (Fyles, 1990). The lowest thrust sheet overlies the Tenas Mary Creek Core Complex along the White Mountain Fault 4 kilometres southwest of the Lexington – Lone Star property. The hangingwall of this thrust sheet is confined by the No. 7 Fault. The thrust sheet is composed of Attwood Group metasediments and Brooklyn greenstone. The No. 7 Fault also forms the footwall of the next thrust sheet, with the Wright Mountain Fault forming the hangingwall. Lithological units in this second thrust sheet are Knob Hill and subordinate Brooklyn Formation. All of the significant mineralization and deposits on the Lexington-Lone Star property are spatially and genetically associated with the No. 7 Fault. About 2 kilometres north of the Wright Mountain Fault is the Attwood Fault and a further 3 kilometres north lies the Lind Creek Fault. Knob Hill units namely serpentinite, Old Diorite, greenstone and sediments, outcrop on the thrust wedge related to the Lind Creek Fault.

Two Mesozoic intrusive episodes are recognized in the area and cut the above units, the Jurassic-aged Lexington Porphyry and Cretaceous-aged Nelson intrusions that form satellites from major batholiths.

Two Tertiary extensional events created two sets of important extensional faults. A series of steep northerly-trending normal faults offset all rock units and includes many major faults, forming graben and

horst boundaries. The Republic Graben is bounded to the west by the Bacon Creek Fault. The Beacon Creek Fault seems to terminate just south of the Lone Star Mine. It is speculated that the northern extension of the Beacon Creek Fault may lie in the No. 7 Fault which could have reactivated in Tertiary time. The second Tertiary event is shown in steeply dipping north-easterly trending faults with dextral and west side down movement. Commonly in the vicinity of principal Tertiary faults are accompanying lesser faults with smaller sympathetic offsetting. Tertiary-aged volcanics and sediments unconformably overly older rock units, essentially controlled by the Tertiary-aged faulting. Eocene-aged Scatter Creek diorite dykes and pulaskite Coryell stocks and dykes also intrude older rocks.

**Table 2: Generalized Stratigraphic Column after Fyles (1990)**

AGE	NAME	MAP SYMBOL	LITHOLOGY	
Eocene	Penticton	Epi	Dykes, sills and irregular plutons of pulaskite syenite, monzonite and diorite. (Coryell intrusions)	
		Eps	Stratiform units, arkosic, volcaniclastic sediments(Kettle River Formation), flows of andesite, trachyte and phonolite (Marron Formation)	
			Unconformity	
Cretaceous	Nelson	Qd	Mainly granodiorite and quartz diorite, minor diorite (d) and gabbro (g)	
Jurassic	Lexington	Qfp	Quartz feldspar porphyry	
Triassic	Brooklyn	TRb		
		TRbv	Fragmental greenstone and related diorite	
		TRbl	Limestone, calcareous sandstone, siltstone and conglomerate and skarn	
		TRbs	Green and maroon tuffaceous sandstone, siltstone and hornfels	
		TRba	Dark gray to black siltstone and argillite	
		TRbbx	Chert breccia or sharpstone conglomerate and minor tuff, tuffaceous siltstone, sandstone & breccia & maroon & green limestone-cobble conglomerate	
			Unconformity	
Carboniferous or Permian	Attwood Group	Pa		
		Paa	Black cherty siltstone and argillite	
		Pal	Grey to white limestone, cherty limestone and minor dolomite	
		Pav	Andesitic volcanics	
				Fault contacts
	Knob Hill	Pkc	Chert, grey argillite, siliceous greenstone and minor limestone	
		Pkv	Greenstone, pillow lava and breccia, amphibolite and minor limestone	
		Pkx	Fine chert breccia and conglomerate	
		Pkm	Grey and green schist and phyllite , buff to white quartzite, minor crystalline limestone, white dolomite, fine grained calcsilicate gneiss, quartz biotite gneiss and amphibolite	
		Serpentinite	sp	Serpentinite and listwanite
	Old diorite	od	Coarse and fine grained hornblende diorite	

## 5.2 Property

The Zip claim group located in a terrain between the north northeast trending July Creek and Gold Drop Faults according to Files (1990) mapping. Permian-aged Knob Hill Group chert and greenstone are in fault contact with Triassic-aged Brooklyn chert breccia and tuffaceous sandstones and siltstones by the Snowshoe Fault.

These and other lithologies were observed during the 1:5000 scale 2003 mapping and sampling program. In the northwest part of the property, a fine to very fine-grained massive diorite plug is present with dimensions of 350 metres x 350 metres. Chert rafts are found within the margins of the body. The diorite margins are not always clear where it is in contact with Knob Hill fine-grained medium green volcanic rocks to its east and southeast. The age of the diorite is not known but it is speculated to be part of the Jurassic-Cretaceous Nelson Plutonic suite. The Knob Hill volcanic rocks are all medium to dark green massive greenstone which is locally pillowed as well as pyroclastics. The pyroclastic rocks range from a fine grained andesitic to basaltic tuff to fine-grained plagioclase crystal tuffs to a heterolithic agglomeratic lapilli tuff. The volcanic package is suggested to strike northwest and dipping steeply southwest. This is based on graded bedding in a tuff sequence as well as a locality of pillow basalt. There is an outcrop of medium green chert in the far north of the claim group which is believed to be Knob Hill Group. On the far west side of the property is Triassic-aged Brooklyn Formation rocks which are believed to be in fault contact by the Snowshoe Fault with the underlying volcanics. Dark grey medium bedded cherty siltstone strike northeast and dip moderately to the southwest. This is overlain further by massive Sharpstone conglomerate. The conglomerate is composed of 80% framework of subrounded to subangular pebble to granular white and light grey chert and quartz (80%) and 20% dark grey chert/argillite in 20% medium to coarse-grained quartz rich sandstone matrix.

## 6. Deposit Types

### 6.1 Skarn Deposits

Both gold and copper-gold skarn deposits occur within the Boundary District. These deposits are related to Cretaceous-Jurassic intrusive activity into limestone and limey sediments generally belonging to the Triassic Brooklyn Formation. Important examples of this type of deposit include the undeveloped Buckhorn Mountain (Crown Jewel) deposit at Chesaw, Washington, the historic Phoenix deposit near Greenwood (part of Kettle River's Phoenix property), and the Motherlode deposit just west of Greenwood. Historic production from Phoenix is 27 million tonnes at 0.9% Cu and 1.12 g/t Au and from Motherlode is 4.2 million tonnes at 0.8% Cu and 1.3 g/t Au (Church, 1986).

Recent exploration in the district suggests that at least some of the metal in the "skarn" deposits (Phoenix, Motherlode) pre-date the skarn event. An iron (+/- copper, gold) rich volcanogenic massive sulfide/oxide horizon (the Lamefoot horizon, discussed below) occurs within the Brooklyn Formation. All of the major "skarn" deposits in the district occur at the same stratigraphic position within the Brooklyn Formation as the Lamefoot VMS/O horizon. The skarn alteration may simply be a redistribution of earlier syngenetic mineralization on this horizon, with perhaps some additional metals (particularly gold) introduced along structures cutting the horizon.

Exploration in the district has traditionally targeted copper (and more recently gold) skarn mineralization in Brooklyn limestone and sharpstone conglomerate, and less commonly calcareous units in the Knob Hill and Attwood Groups. There has been little exploration for mafic volcanic hosted copper (plus gold) skarns (i.e. QR, Ingerbelle type).

## **6.2 Gold-bearing Volcanogenic Magnetite-Sulfide Deposits (Lamefoot-type)**

Crown Resources and Echo Bay Minerals discovered a new style of mineralization within the Boundary District in the late 1980's, described as gold-bearing, magnetite-pyrrhotite-pyrite syngenetic volcanogenic mineralization. Mineralization is hosted within the Triassic Brooklyn Formation, but at least part of the gold is attributed to a late stage epigenetic (Jurassic or Tertiary) event. The gold bearing massive magnetite and sulfides at the Overlook, Lamefoot and Key deposits in Ferry County, Washington all occur at the same stratigraphic horizon, with a (stratigraphic) footwall of felsic volcanoclastics and a massive limestone hangingwall, and with auriferous quartz-sulfide and sulfide veinlets in the footwall of the deposits. The Brooklyn Formation contains a distinctive angular chert pebble conglomerate, known locally as "sharpstone conglomerate". Mineralization occurs near the top of the regional "sharpstone" conglomerate unit and stratigraphically below massive Brooklyn limestone. The sharpstone is believed to have been derived by submarine explosive activity or by faulting with rapid vertical displacement.

## **7. Mineralization**

### **7.1 Regional**

The Greenwood area is a strongly mineralized region, ranking sixth largest in gold production in British Columbia with 1.2 million ounces of gold. Much of the production was from the Phoenix copper-gold skarn, some 2.5 kilometres from the Zip and Golden Crown claims. The Republic district of northern Washington, 50 kilometres south of the claims, has produced 2.5 million ounces of gold from epithermal deposits with grades typically better than 0.5 oz/t. Together with recent exploration discoveries immediately south of the border, past production and resources of the area between Greenwood and Republic exceed 7.4 million ounces of gold. Furthermore, the Rosslund mining camp 50 kilometres east of the claims has produced 2.7 million ounces of gold from similar veins and geology to that on the Golden Crown claims.

### **7.2 Property**

Three types of mineralization were encountered during the brief 2003 field mapping examination; stringer type pyrite proximal to a basaltic pillow exposure, disseminated pyrite found locally in the diorite and volcanics, and disseminated pyrite in quartz veins.

1. Three samples were taken from an area 20 metres x 20 metres with 2-8% fracture pyrite in medium green aphanitic volcanic. An exposure of pillow basalt lies 15 metres to the hangingwall of the sampled area. The samples were from float and probably have been spread out due to road construction. The samples yielded elevated gold values from 20 to 1116 ppb Au, elevations in silver of 1.1 to 1.5 ppm Ag, elevations in copper from 446 to 1105 ppm Cu, and in arsenic from 29 to 65 ppm As.
2. The localities of trace-1% disseminations of pyrite in diorite and volcanics were not sampled.
3. A 1.0 metre chip was taken across altered volcanic rock which included a 7 cm quartz vein. Sample ZRX-1 yielded 3810 ppb Au as well as elevations in copper (705 ppm Cu), silver (6.4 ppm Ag), and arsenic (322 ppm As). Carbonate altered volcanic rock was sampled and provided elevations in gold (24 ppb Au) and arsenic (245 ppm As) in ZRX-2.

In 2004, the Zip claims received grid-based geochemical soil sampling over a selected area contemplated for a mill and tailing facility. The soil survey attempted to determine if the area hosted economic mineralization. The soil grid was located over an area which slopes shallow to moderately to the east.

1. The soil grid could be characterized as having dispersed single point, generally low level, anomalies. From the statistics performed on the soil population, there were 7 elevations in zinc from 125-157 ppm, 6 elevations in copper from 116.8 – 300.9 ppm, 5 elevations in arsenic from 61.6 – 157 ppm, 3 elevations in antimony from 1.2 – 4.2 ppm, 2 elevations in gold with 109.9 and 738.4 ppb and 1 elevated lead site at 58 ppm.
2. There were only 3 sites that had multi-element anomalous values, all with 50 metres of the Snowshoe main Road. The highest gold-copper-lead-antimony values came from a site beside the road where some old trenching was done.

Only two types of mineralization were recognised from the 2007 drill chips during logging. They included disseminated pyrite found locally in the diorite and volcanics, and disseminated pyrite in quartz veins. No assays were taken from the drill chips. The main lithologies seen in the drill chips were fine grained mafic intrusives, siltstone and polymictic conglomerate, which were common rock types observed in the area during previous geological mapping. The geological logs can be found in Appendix I, which append this document. Locations of the drill holes can also be found in Figure 3.

## 8. Drilling Program

Paul Cowley, P.Geo. of Merit Mining Corp. performed geological interpretations and developed drill hole collar selections based on the potential of intersecting sulphide mineralization within the Triassic-aged Brooklyn Formation. JR Drilling Ltd. (JRDL) provided a mobilized dual rotation air rotary drill (DR12) to the site and during the period November 21-28, 2007, completed five vertical 152 mm diameter drill holes totalling 474 metres in two areas (Fig 3). The project was supervised by Larry Top. Drill chips were logged by Merit geologist, Lisa Pereira. Table 3 demonstrates the drill hole locations. Detailed drill logs with graphic drill sections follow.

Table 3: Drill hole Locations

Drill Hole ID	Area Drilled	Total Depth Drilled	Easting	Northing	Driller's Estimated Yield	
					USgpm	L/s
TW07-01	Area 1	96.01 m	385145	5438176	0.25-0.5	0.015-0.3
TW07-02	Area 1	89.92 m	385072	5438148	20	1.31
TW07-03	Area 2	89.92 m	385338	5438830	15	0.95
TW07-04	Area 2	102.11 m	385376	5438870	5	0.32
TW07-05	Area 1	96.0 m	385129	5438202	3	0.19

Drill holes TW07-1, TW07-2 and TW07-5 were drilled in the area of exposed Brooklyn Conglomerate north striking outcrops and approximately 320 metres south of the mill facilities that were under construction at the time. The target here was for copper-gold skarn proximal to the conglomerate. Holes TW07-1 and TW07-05 were collared in cherty polymictic conglomerate locally with trace quartz veins before cutting between 42 and 60 metres of dark grey siltstone with minor quartz veining then terminating in light to medium greenish fine-grained diorite. TW07-2 drilled north of TW07-1 and TW07-5 collared and remained in dark fine-grained siltstone for 90 metres. It is interpreted from the drilling that the conglomerate and the siltstone units dip southwestward and that the siltstone unit thickens northward. The drilling was not successful in finding the desired mineralized target type. No samples were analysed from



these holes as mineralization was negligible. The three holes make it difficult to generate a cross-section, however, individual drill logs are graphically represented in the following five pages.

Drill holes TW07-3 and TW07-4 were drilled about 300 metres north of the mill facilities at the time. The drilling occurs about 200 metres west of a subcropping of fracture pyrite-bearing fine-grained andesitic pyroclastic with mildly elevated gold values. The target was for volcanogenic massive sulphide mineralization proximal to the Brooklyn Formation conglomerate. Both holes encountered light to medium greenish grey fine grained diorite with local sections of trace disseminated pyrite and quartz veining. The drilling was not successful in finding the desired mineralized target type. No samples were analysed from these holes as mineralization was negligible.



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VERNON

KAMLOOPS

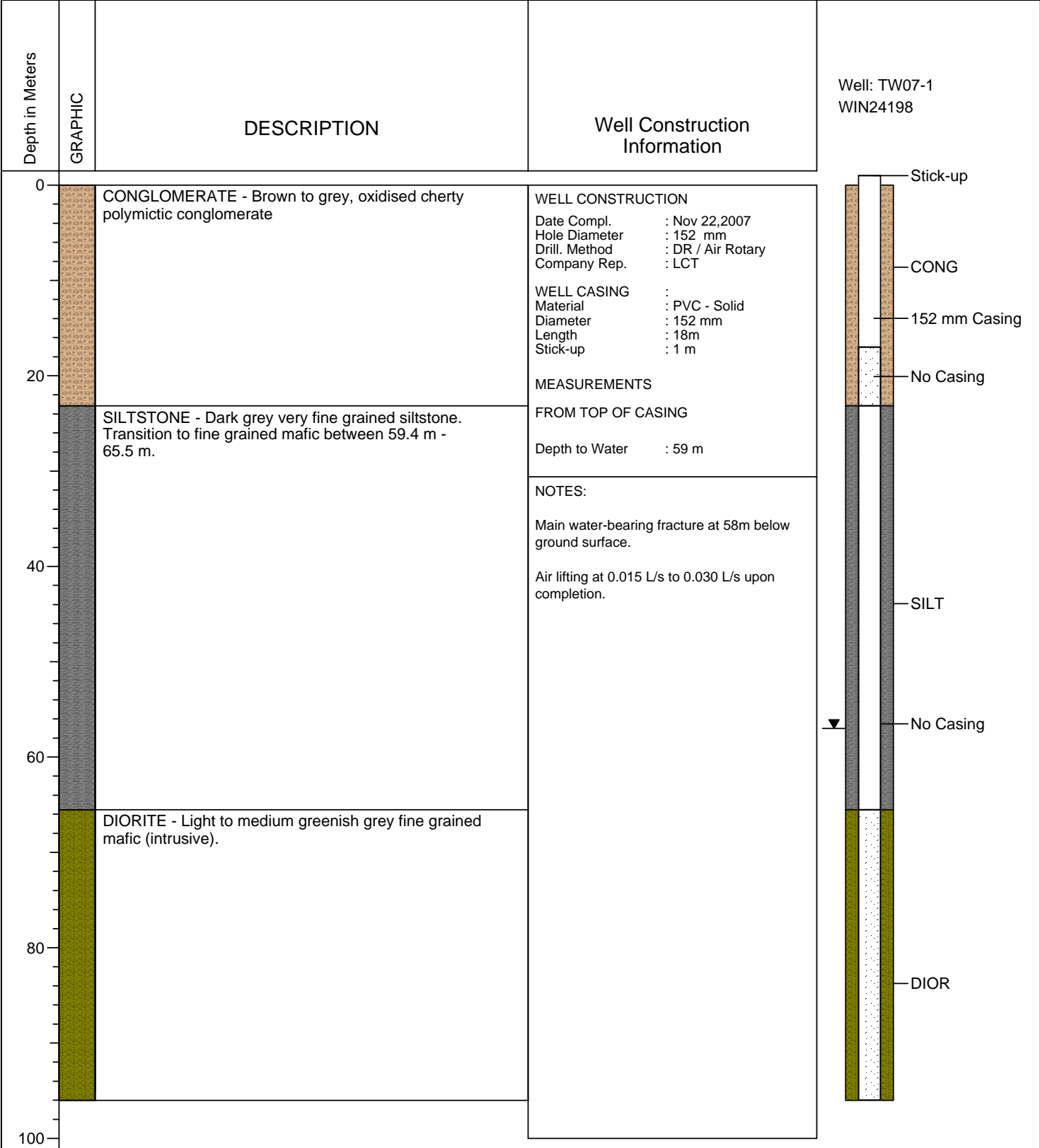
1314 MCGILL ROAD  
TEL. (250) 372-9194

KAMLOOPS, BC, V2C 6N6  
FAX (250) 372-9398

# LOG OF TW07-1

(Page 1 of 1)

Merit Mining Corporation Water Well Drilling Program	Date Started : November 21, 2007	Company Rep. : LP
	Date Completed : November 22, 2007	Northing Coord. : 5438176N
Grand Forks, British Columbia	Excavation Method : Drilled	Easting Coord. : 385145E
Kala Project Reference: 07061	Sampling Method : Grab	Survey By : LCT
		Logged By : LP (MMC)







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# LOG OF TW07-3

(Page 1 of 1)

Merit Mining Corporation  
Water Well Drilling Program

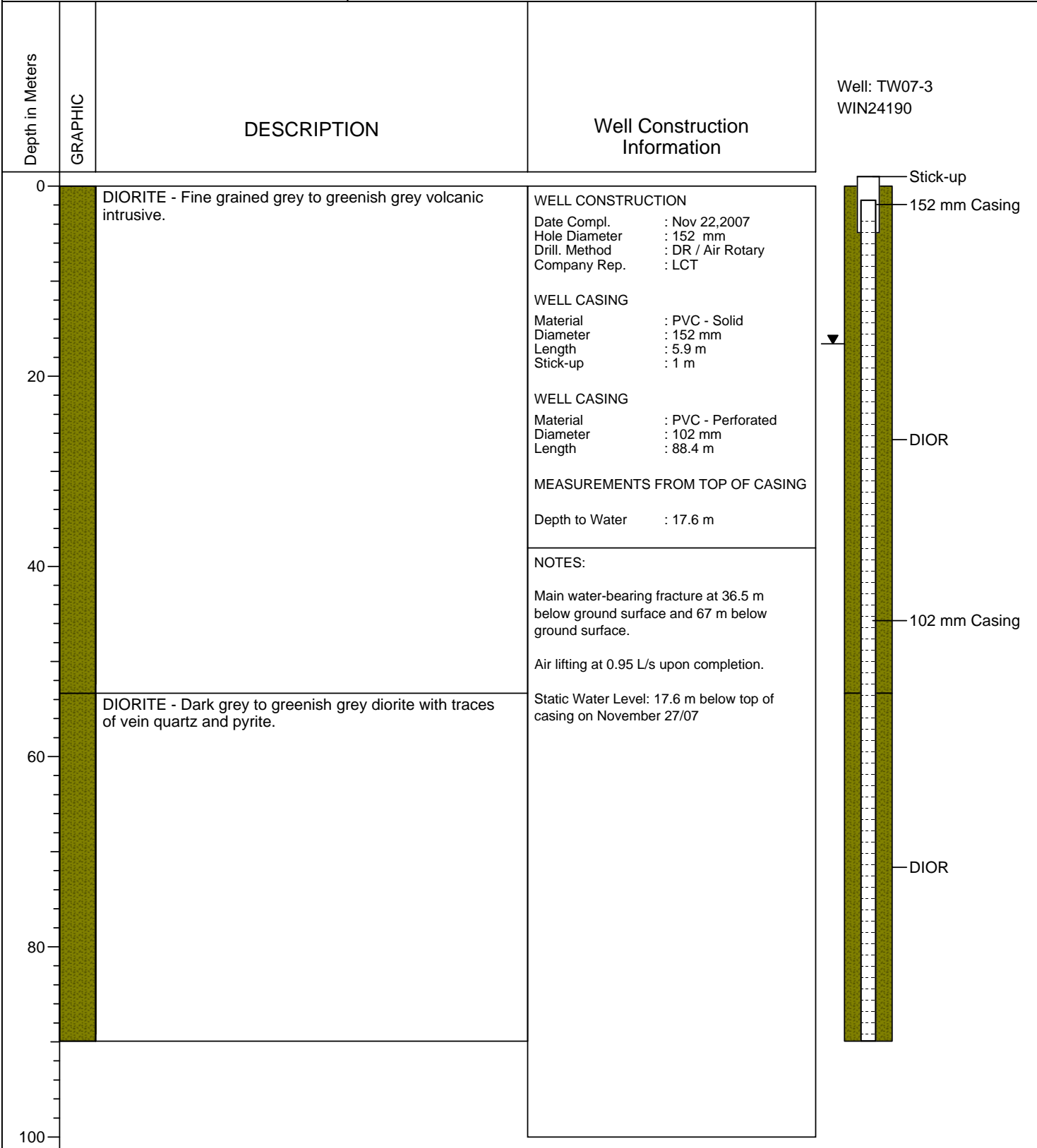
Date Started : November 26, 2007  
Date Completed : November 27, 2007

Company Rep. : LP  
Northing Coord. : 5438830N  
Easting Coord. : 385338E

Grand Forks, British Columbia  
Kala Project Reference: 07061

Excavation Method : Drilled  
Sampling Method : Grab

Survey By : LCT  
Logged By : LP (MMC)







As a secondary objective the drilling served to check for aquifers that might provide important water sources to assist and support the 10,000 tonne bulk sample. During the period December 3-7, 2007, Kala conducted yield tests with three of the better producing drill holes. On February 20, 2008 a short duration yield test was performed on the poor producing drill hole, TW07-5, to confirm poor suitability. During the December 2007 pumping tests, water samples were collected immediately prior to pump cessation in laboratory prepared glassware and shipped to CANTEST Laboratories of Burnaby, BC for analyses as a geochemical test to detect sulphide mineralization in each hole.

Between November 1, 2007 and April 1, 2008, Merit under its permit, mined a 10,000 tonne bulk sample from its Lexington-Grenoble deposit. The mineralization was composed of dacite hosted pyrite-chalcopyrite sulfides carrying gold in a shallow dipping stacked series of sheeted sulphide veins, veinlets and disseminations. The average grade of the bulk sample was 5.74 g/t Au and 1.55% Cu. The Company built a mill and tailings facility to process the 10,000 tonne bulk sample on the Zip claims. The sample was trucked to and processed through the facility between April 1, 2008 and May 15, 2008. Water from the drill holes drilled during the Zip drilling campaign ultimately provided integral development work infrastructure to allow the bulk sample to be processed.

<b>Table 4 – Summary of Yield Tests for TW07-03 and TW07-04 (Area 2)</b>		
	<b>TW07-03 (WIN24190)</b>	<b>TW07-04 (WIN24197)</b>
Date of test	December 5-6, 2007	December 6-7, 2007
Duration of test (min.)	1454	1220
Static water level (mbtoc)	4.45	5.18
Step tests (L/s)	0.50, 0.76, 0.95	0.38, 0.27
Constant flow rate (L/s)	0.95	0.27
Drill hole recovery duration (min.)	1437	130
Percent recovery (% and min.)	93 % after 1437 min	73 % after 130 min
Water samples taken	December 6, 2007	December 7, 2007
<b>Parameter</b>		
Maximum drawdown (m)	50.41	47.7
Water level stabilization	No	No
Total available drawdown (m)	62.5	40.8
Percent available drawdown used	80.5	117
Recommended pumping rate (L/s)	0.82 L/s	0.19 L/s

Note: Total available drawdown (TAD) has been measured as difference between static water level and top of main fracture zone.

The first of the three yield tests was conducted with TW07-02 (WIN24192) located in Area 1. The driller’s estimated yield and the results of the actual yield test did not always coincide, particularly in the case of TW07-02. The test was started on December 3, 2007, initially pumping at a rate of 1.51 L/s, however, after 350 minutes the rate of drawdown increased significantly and the rate was reduced to 1.26 L/s. With increased time of pumping further reductions in the pumping rate were required. The static water level in the drill hole was measured at 4.88 m below the top of casing (mbtoc) and the hole reached 72% of full recovery after 1056 minutes after pumping cessation. Yield test data indicates a sustainable yield of 0.315 L/s from this hole.

Yield tests with TW07-03 and TW07-04 were conducted during the period December 5-7, 2007. A summary of the findings are shown in Table 4. A short duration test was performed on TW07-05 on February 20, 2008 and as per the driller’s estimate, the drill hole was only capable of 0.19 L/s. Yield test findings indicate that at some of the holes and in particular the site of TW07-02 boundary conditions were encountered with increasing time of pumping, which would suggest that the fracture zone was of limited

areal extent at that particular location. Based on the yield test findings a summary of recommended pumping rates for the three successful holes is as follows:

<u>Drill hole</u>	<u>Recommended Pumping Rate</u>
TW07-02 (WIN24192)	0.32 L/s
TW07-03 (WIN24190)	0.82 L/s
TW07-04 (WIN24197)	0.19 L/s
TW07-05 (WIN24180)	<u>0.19 L/s</u>
Total:	1.52 L/s

Water samples were obtained from the three drill holes that were yield tested during the period December 3-7, 2007, looking for mineralization indicators as well as water quality and submitted to CANTEST Laboratories of Burnaby, BC for geochemistry and microbiological analyses.

The water analyzed from hole TW07-02 was moderately mineralized with a TDS concentration of 303 mg/L and a hardness of 222 mg/L.

The water analyzed from hole TW07-03 was low in mineralization with a TDS concentration of 141 mg/L and a hardness of 113 mg/L. Arsenic and Manganese exceeded the maximum allowable concentration (MAC) of the Summary of Guidelines for Canadian Drinking Water Quality, Health and Welfare Canada – 2004 (SGCDWC).

The water analyzed from hole TW07-04 was low in mineralization and medium hard with a TDS concentration of 181 mg/L and a hardness of 118 mg/L.

Parameters which exceed the SGCDWQ included Antimony (0.007 mg/L) and Arsenic 0.035 mgK:

Antimony: 0.007 mg/L (MAC 0.006 mg/L)  
Arsenic: 0.035 mg/L (MAC 0.010 mg/L)  
Background Colonies: 3  
Heterotrophic Plate Count: 80

## 9. Conclusions and Recommendations

The Zip claim group, composed of nine contiguous two post mineral claims are located 7.5 kilometres east of Greenwood and form part of Merit Mining Corp.'s Golden Crown Property, in south central British Columbia. Gold City Industries staked the claims. Merit Mining Corp acquired Gold City in late 2004 and now has 100% interest in the claims.

The Greenwood area is a strongly mineralized region, ranking sixth largest in gold production in British Columbia with 1.2 million ounces of gold. Much of the production was from the Phoenix copper-gold skarn, some 2.5 kilometres from the Zip claims. The Republic district of northern Washington, 50 kilometres south of the claims, has produced 2.5 million ounces of gold from epithermal deposits with grades typically better than 0.5 oz/t Au. Together with recent exploration discoveries immediately south of the border, past production and resources of the area between Greenwood and Republic exceed 7.4 million ounces of gold. Furthermore, the Rossland mining camp 45 kilometres east of the claims has produced 2.7 million ounces of gold from similar veins and geology to that on the Golden Crown property.



A robust corridor of west northwest trending sub parallel and closely spaced steeply dipping massive sulphide and quartz-sulphide veins occur on the Golden Crown property 0.25 kilometres south of the Zip claims. The core of the known mineralization lies within an area 130m wide by 800m long. Veins typically are 1-2 metres true width, with local developments to 5 metres true width near the serpentinite contact. Veins range greatly in sulphide content but generally contain 50-90% sulphides of pyrrhotite-pyrite and lesser chalcopyrite in a quartz gangue. Quartz veins with very low sulphide content are also present. Both vein types can carry high gold tenor.

The Zip claim group is underlain by Permian-aged Knob Hill Group volcanic rocks and chert intruded by Jurassic-Cretaceous-aged Nelson Plutonic diorite plugs. The volcanic unit is overlain by shallow dipping Triassic-aged Brooklyn Formation siltstone and chert pebble conglomerate. The sediment/volcanic contact is speculated to be faulted by the west dipping Snowshoe Fault.

The Brooklyn Formation is a favourable host rock for both copper-gold skarn mineralization and gold-bearing volcanogenic massive sulfide/oxide (Lamefoot-type) mineralization and forms a target on the Zip Property. Drilling targeted this unit in search for base and precious metal mineralization. As a secondary benefit the drilling tested for the presence of water during the development phase of the Company's bulk sample of the Lexington-Grenoble deposit. The water source was an integral component to allow for the successful completion and processing of the bulk sample that occurred in March and April 2008.

The drill program included the completion of five vertical reverse circulation holes (152 mm diameter) totaling 474 metres during the period November 21 to December 6, 2007. Mineralization was minimal, with traces of disseminated pyrite within the volcanic host rocks, as well as within quartz veinlets. The drilling encountered some water. Pump tests were conducted for suitability as a source for the processing of the bulk sample from the Lexington-Grenoble deposit. Water quality testwork from the holes indicated slight elevations in arsenic and antimony that probably reflects trace pathfinder mineralization for gold.

Due to the lack of mineralization in the drill holes, no further exploration is recommended.

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**APPENDIX I**  
**DRILL LOGS**

<b>TW07-01 (WIN24198) – Lithology and Drill hole Completion Details</b>		
<b>Coords: Zone 11 385145E 5438176N</b>		<b>Total Depth: 96.01 m</b>
<b>Drilling Period: Nov. 21-22, 2007</b>		
<b>Depth Interval (m)</b>	<b>Lithology</b>	<b>Description</b>
0 – 23.16	CONG	Brown to grey, oxidized cherty polymictic conglomerate
23.16 – 65.53	SILT	Dark grey very fine grained siltstone, transition to fine grained mafic 59.4-65.5 ft
65.53 – 96.01	DIOR	Light to medium greenish grey fine grained mafic (intrusive)

<b>TW07-02 (WIN24192) – Lithology and Drill hole Completion Details</b>		
<b>Coords: Zone 11 385072E 5438148N</b>		<b>Total Depth: 89.92 m</b>
<b>Drilling Period: Nov. 23-26, 2007</b>		
<b>Depth Interval (m)</b>	<b>Lithology</b>	<b>Description</b>
0 – 28.96	SILT	Very fine grained grey siltstone
28.96 – 89.92	SILT	Dark grey very fine siltstone with traces of purite and milky white quartz

<b>TW07-03 (WIN24190) – Lithology and Drill hole Completion Details</b>		
<b>Coords: Zone 11 385338E 5438830N</b>		<b>Total Depth: 89.92 m</b>
<b>Drilling Period: Nov. 26-27, 2007</b>		
<b>Depth Interval (m)</b>	<b>Lithology</b>	<b>Description</b>
0 – 53.34	DIOR	Fine grained grey to greenish grey volcanic intrusive
53.34 – 89.92	DIOR	Dark grey to greenish grey diorite with traces of vein quartz and purite

<b>TW07-04 (WIN24197) – Lithology and Drill hole Completion Details</b>		
<b>Coords: Zone 11 385376E 5438870N</b>		<b>Total Depth: 102.11 m</b>
<b>Drilling Period: Nov. 22-27, 2007</b>		
<b>Depth Interval (m)</b>	<b>Lithology</b>	<b>Description</b>
0 – 4.57	DIOR	Slightly oxidized, brown to greenish grey, fine grained diorite
4.57 – 28.96	DIOR	Fine grained grey to greenish grey mafic with traces of pyrite
28.96 – 47.24	DIOR	Light to medium grey fine grained volcanic with minor silicification and traces of pyrite
47.24 – 102.11	DIOR	Greenish grey volcanic, fine grained

<b>TW07-05 (WIN24180) – Lithology and Drill hole Completion Details</b>		
<b>Coords: Zone 11 385129E 5438202N</b>		<b>Total Depth: 96.01 m</b>
<b>Drilling Period: Nov. 28, 2007</b>		
<b>Depth Interval (m)</b>	<b>Lithology</b>	<b>Description</b>
0 – 22.86	CONG	Reddish brown to grey cherty conglomerate with traces of vein quartz
22.86 – 83.82	SILT	Fine grained dark grey siltstone with minor quartz veining
83.82 – 96.01	DIOR	Greenish grey volcanic with minor quartz veining and traces of pyrite

**APPENDIX II**  
**CERTIFICATES OF ANALYTICAL CHEMISTRY**

# Analysis Report



**REPORT ON:** Analysis of Water Sample  
**REPORTED TO:** Kala Groundwater Consulting Ltd  
1314 McGill Rd  
Kamloops, BC  
V2C 6N6

Att'n: Marie Ross / Kendra Brown

**CHAIN OF CUSTODY:** 2107225 WLN 24197  
**PROJECT NAME:** MM  
**PROJECT NUMBER:** 07061

---

**NUMBER OF SAMPLES:** 1 **REPORT DATE:** December 18, 2007

**DATE SUBMITTED:** December 8, 2007 **GROUP NUMBER:** 81208011

**SAMPLE TYPE:** Water

**NOTE:** Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

## TEST METHODS:

**Anions in Water by Ion Chromatography** - was determined based on Method 4110 in Standard Methods (21st Edition) and EPA Method 300.0 (Revision 2.1).

**Alkalinity in Water** - was performed based on Method 2320 in Standard Methods (21st Edition).

**Alkalinity in Water** - was performed based on Method 2320 in Standard Methods (21st Edition).

**Total Cyanide in Water** - was determined based on Method 4500-CN A to E in Standard Methods (21st Edition) and Method X323 in the BC Laboratory Manual (2005 Edition).

**Weak Acid Dissociable Cyanide in Water** - was determined based on Method 4500-CN A to E in Standard Methods (21st edition) and Method X400 in the BC Laboratory Manual (2005 Edition).


**Colour (True) in Water** - was determined based on Method 2120 in Standard Methods (21st Edition) and Method X321 in the BC Laboratory Manual (2005 Edition).

**Conductivity in Water** - was performed based on Method 2510 in Standard Methods (21st Edition) and Method X322 in the BC Laboratory Manual (2005 Edition).

**Nitrite in Water** - was determined based on Method 4500-NO3 B in Standard Methods for the examination of Water and Wastewater (21st Edition) and from the BC Laboratory Methods Manual (2005).

(Continued)

CANTEST LTD.



Anna Becalska, PhD  
Coordinator, Trace Metals

Page 1 of 5

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 18, 2007



GROUP NUMBER: 81208011

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**pH in Water** - was determined based on Method 4500-H in Standard Methods (21st Edition) and Method X330 in the BC Laboratory Manual (2005).

**Total Dissolved Solids in Water** - was determined based on Method 2540 C in Standard Methods for the Examination of Water and Wastewater (21st Edition).

**Turbidity in Water** - was performed based on Method 2130 in Standard Methods (21st Edition) and Method X164 in the BC Laboratory Manual (2005 Edition).

**Conventional Parameters** - analyses were performed using procedures based on those described in the most current editions of "British Columbia Environmental Laboratory Manual for the Analysis of Water, Wastewater, Sediment and Biological Materials", (2005 edition) Province of British Columbia and "Standard Methods for the Examination of Water and Wastewater" (21st Edition), published by the American Public Health Association.

**Mercury in Water** - analysis was performed using procedures based on U. S. EPA Method 245.7, oxidative digestion using bromination, and analysis using Cold Vapour Atomic Fluorescence Spectroscopy.

**Metals in Water** - analysis was performed using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP), Inductively Coupled Plasma-Mass Spectroscopy (ICP/MS).

**Dissolved Metals in Water** - Samples were filtered in the laboratory and quantitatively determined using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP) and/or Inductively Coupled Plasma-Mass Spectroscopy (ICP/MS).

**Microbiological Parameters** - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition (2005). Analysis was performed using Membrane Filtration (MF) Method (reported as "Colonies or CFU per unit volume").

**Heterotrophic Plate Count** - (also known as standard plate count) analysis was performed using procedures based on those described in "Standard Methods for the Examination of Water and Wastewater", 21st Edition (2005).

**TEST RESULTS:**

(See following pages)



REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 18, 2007

GROUP NUMBER: 81208011



Conventional Parameters in Water

CLIENT SAMPLE IDENTIFICATION:	24197		
DATE SAMPLED:	Dec 7/07		
CANTEST ID:	712080022	DETECTION LIMIT	UNITS
pH, Laboratory	7.26	-	pH units
Conductivity	288	1	$\mu$ S/cm
True Color	<	5	CU
Turbidity	0.24	0.1	NTU
Hardness CaCO <sub>3</sub>	118	1	mg/L
Total Dissolved Solids	181	10	mg/L
Total Alkalinity CaCO <sub>3</sub>	99.3	0.5	mg/L
Bicarbonate Alkalinity HCO <sub>3</sub>	121	0.5	mg/L
Dissolved Fluoride F	0.07	0.05	mg/L
Dissolved Chloride Cl	0.53	0.2	mg/L
Nitrate and Nitrite N	<	0.05	mg/L
Dissolved Nitrate N	<	0.05	mg/L
Nitrite N	<	0.002	mg/L
Dissolved Sulphate SO <sub>4</sub>	46.5	0.5	mg/L
Total Cyanide	<	0.01	mg/L
Cyanide, Weak Acid Dissociable	<	0.01	mg/L

$\mu$ S/cm = microsiemens per centimeter  
NTU = nephelometric turbidity units  
< = Less than detection limit

CU = color units  
mg/L = milligrams per liter

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 18, 2007

GROUP NUMBER: 81208011



**Metals Analysis in Water**

CLIENT SAMPLE IDENTIFICATION:		24197	24197		
SAMPLE PREPARATION:		TOTAL	DISSOLVED		
DATE SAMPLED:		Dec 7/07	Dec 7/07		
CANTEST ID:		712080022	712080022	DETECTION LIMIT	UNITS
Aluminum	Al	0.027	-	0.005	mg/L
Antimony	Sb	0.007	-	0.001	mg/L
Arsenic	As	0.035	-	0.001	mg/L
Barium	Ba	0.040	-	0.001	mg/L
Beryllium	Be	<	-	0.001	mg/L
Boron	B	<	-	0.05	mg/L
Calcium	Ca	-	32.3	0.05	mg/L
Chromium	Cr	<	-	0.001	mg/L
Cobalt	Co	<	-	0.001	mg/L
Copper	Cu	<	-	0.001	mg/L
Iron	Fe	0.07	<	0.05	mg/L
Lead	Pb	<	-	0.001	mg/L
Magnesium	Mg	10.3	8.94	0.05	mg/L
Manganese	Mn	0.029	0.025	0.001	mg/L
Mercury	Hg	<	-	0.02	µg/L
Nickel	Ni	0.002	-	0.001	mg/L
Phosphorus	P	<	-	0.15	mg/L
Potassium	K	0.5	-	0.1	mg/L
Selenium	Se	<	-	0.001	mg/L
Silver	Ag	<	-	0.00025	mg/L
Sodium	Na	6.88	5.87	0.05	mg/L
Uranium	U	<	-	0.0005	mg/L
Zinc	Zn	<	-	0.005	mg/L

mg/L = milligrams per liter  
 < = Less than detection limit

µg/L = micrograms per liter

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 18, 2007

GROUP NUMBER: 81208011



Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	24197		
DATE SAMPLED:	Dec 7/07		
CANTEST ID:	712080022	DETECTION LIMIT	UNITS
Background Colonies (m-ENDO)	3	1	Col./100 mL
Total Coliforms (Confirmed)	<	1	Col./100 mL
Fecal Coliform	<	1	Col./100 mL
Heterotrophic Plate Count	80	1	Col./1 mL

Col./100 mL = Colonies per 100 mL  
< = Less than detection limit

Col./1 mL = Colonies per 1 mL



REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 17, 2007

GROUP NUMBER: 81207037



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**pH in Water** - was determined based on Method 4500-H in Standard Methods (21st Edition) and Method X330 in the BC Laboratory Manual (2005).

**Total Dissolved Solids in Water** - was determined based on Method 2540 C in Standard Methods for the Examination of Water and Wastewater (21st Edition).

**Turbidity in Water** - was performed based on Method 2130 in Standard Methods (21st Edition) and Method X164 in the BC Laboratory Manual (2005 Edition).

**Conventional Parameters** - analyses were performed using procedures based on those described in the most current editions of "British Columbia Environmental Laboratory Manual for the Analysis of Water, Wastewater, Sediment and Biological Materials", (2005 edition) Province of British Columbia and "Standard Methods for the Examination of Water and Wastewater" (21st Edition), published by the American Public Health Association.

**Mercury in Water** - analysis was performed using procedures based on U. S. EPA Method 245.7, oxidative digestion using bromination, and analysis using Cold Vapour Atomic Fluorescence Spectroscopy.

**Metals in Water** - analysis was performed using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP), Inductively Coupled Plasma-Mass Spectroscopy (ICP/MS).

**Dissolved Metals in Water** - Samples were filtered in the laboratory and quantitatively determined using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP) and/or Inductively Coupled Plasma-Mass Spectroscopy (ICP/MS).

**Microbiological Parameters** - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition (2005). Analysis was performed using Membrane Filtration (MF) Method (reported as "Colonies or CFU per unit volume").

**Heterotrophic Plate Count** - (also known as standard plate count) analysis was performed using procedures based on those described in "Standard Methods for the Examination of Water and Wastewater", 21st Edition (2005).

**TEST RESULTS:**

(See following pages)

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 17, 2007

GROUP NUMBER: 81207037



Conventional Parameters in Water

CLIENT SAMPLE IDENTIFICATION:	24197		
DATE SAMPLED:	Dec 6/07		
CANTEST ID:	712070086	DETECTION LIMIT	UNITS
pH, Laboratory	7.44	-	pH units
Conductivity	459	1	$\mu$ S/cm
True Color	<	5	CU
Turbidity	<	0.1	NTU
Hardness CaCO3	222	1	mg/L
Total Dissolved Solids	303	10	mg/L
Total Alkalinity CaCO3	96.5	0.5	mg/L
Bicarbonate Alkalinity HCO3	118	0.5	mg/L
Dissolved Fluoride F	0.06	0.05	mg/L
Dissolved Chloride Cl	0.57	0.2	mg/L
Nitrate and Nitrite N	0.08	0.05	mg/L
Dissolved Nitrate N	0.08	0.05	mg/L
Nitrite N	<	0.002	mg/L
Dissolved Sulphate SO4	143	0.5	mg/L
Total Cyanide	<	0.01	mg/L
Cyanide, Weak Acid Dissociable	<	0.01	mg/L

$\mu$ S/cm = microsiemens per centimeter  
NTU = nephelometric turbidity units  
< = Less than detection limit

CU = color units  
mg/L = milligrams per liter

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 17, 2007

GROUP NUMBER: 81207037



Metals Analysis in Water

CLIENT SAMPLE IDENTIFICATION:		24197	24197		
SAMPLE PREPARATION:		TOTAL	DISSOLVED		
DATE SAMPLED:		Dec 6/07	Dec 6/07		
CANTEST ID:		712070086	712070086	DETECTION LIMIT	UNITS
Aluminum	Al	0.007	-	0.005	mg/L
Antimony	Sb	<	-	0.001	mg/L
Arsenic	As	0.009	-	0.001	mg/L
Barium	Ba	0.018	-	0.001	mg/L
Beryllium	Be	<	-	0.001	mg/L
Boron	B	<	-	0.05	mg/L
Calcium	Ca	-	66.3	0.05	mg/L
Chromium	Cr	<	-	0.001	mg/L
Cobalt	Co	<	-	0.001	mg/L
Copper	Cu	<	-	0.001	mg/L
Iron	Fe	0.12	0.11	0.05	mg/L
Lead	Pb	<	-	0.001	mg/L
Magnesium	Mg	13.2	13.7	0.05	mg/L
Manganese	Mn	0.007	0.007	0.001	mg/L
Mercury	Hg	<	-	0.02	µg/L
Nickel	Ni	<	-	0.001	mg/L
Phosphorus	P	<	-	0.15	mg/L
Potassium	K	0.6	-	0.1	mg/L
Selenium	Se	<	-	0.001	mg/L
Silver	Ag	<	-	0.00025	mg/L
Sodium	Na	4.92	5.21	0.05	mg/L
Uranium	U	<	-	0.0005	mg/L
Zinc	Zn	<	-	0.005	mg/L

mg/L = milligrams per liter  
 < = Less than detection limit

µg/L = micrograms per liter

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 17, 2007

GROUP NUMBER: 81207037



**Microbiological Analysis in Water**

CLIENT SAMPLE IDENTIFICATION:	24197		
DATE SAMPLED:	Dec 6/07		
CANTEST ID:	712070086	DETECTION LIMIT	UNITS
Background Colonies (m-ENDO)	<	1	Col./100 mL
Total Coliforms (Confirmed)	<	1	Col./100 mL
Fecal Coliform	<	1	Col./100 mL
Heterotrophic Plate Count	1	1	Col./1 mL

Col./100 mL = Colonies per 100 mL  
< = Less than detection limit

Col./1 mL = Colonies per 1 mL



## Analysis Report



**REPORT ON:** Analysis of Water Sample  
**REPORTED TO:** Kala Groundwater Consulting Ltd  
1314 McGill Rd  
Kamloops, BC  
V2C 6N6

Att'n: Kendra Brown / Marie Ross

**CHAIN OF CUSTODY:** 186443 *win 24 198*  
**PROJECT NAME:** MM  
**PROJECT NUMBER:** 07061

**NUMBER OF SAMPLES:** 1

**REPORT DATE:** December 17, 2007

**DATE SUBMITTED:** December 6, 2007

**GROUP NUMBER:** 81206034

**SAMPLE TYPE:** Water

**NOTE:** Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

### TEST METHODS:

**Anions in Water by Ion Chromatography** - was determined based on Method 4110 in Standard Methods (21st Edition) and EPA Method 300.0 (Revision 2.1).

**Alkalinity in Water** - was performed based on Method 2320 in Standard Methods (21st Edition).

**Alkalinity in Water** - was performed based on Method 2320 in Standard Methods (21st Edition).

**Total Cyanide in Water** - was determined based on Method 4500-CN A to E in Standard Methods (21st Edition) and Method X323 in the BC Laboratory Manual (2005 Edition).

**Weak Acid Dissociable Cyanide in Water** - was determined based on Method 4500-CN A to E in Standard Methods (21st edition) and Method X400 in the BC Laboratory Manual (2005 Edition).


**Colour (True) in Water** - was determined based on Method 2120 in Standard Methods (21st Edition) and Method X321 in the BC Laboratory Manual (2005 Edition).

**Conductivity in Water** - was performed based on Method 2510 in Standard Methods (21st Edition) and Method X322 in the BC Laboratory Manual (2005 Edition).

**Nitrite in Water** - was determined based on Method 4500-NO3 B in Standard Methods for the examination of Water and Wastewater (21st Edition) and from the BC Laboratory Methods Manual (2005).

(Continued)

CANTEST LTD.

  
Anna Becalska, PhD  
Coordinator, Trace Metals

Page 1 of 5

**REPORTED TO:** Kala Groundwater Consulting Ltd

**REPORT DATE:** December 17, 2007

**GROUP NUMBER:** 81206034



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**pH in Water** - was determined based on Method 4500-H in Standard Methods (21st Edition) and Method X330 in the BC Laboratory Manual (2005).

**Total Dissolved Solids in Water** - was determined based on Method 2540 C in Standard Methods for the Examination of Water and Wastewater (21st Edition).

**Turbidity in Water** - was performed based on Method 2130 in Standard Methods (21st Edition) and Method X164 in the BC Laboratory Manual (2005 Edition).

**Conventional Parameters** - analyses were performed using procedures based on those described in the most current editions of "British Columbia Environmental Laboratory Manual for the Analysis of Water, Wastewater, Sediment and Biological Materials", (2005 edition) Province of British Columbia and "Standard Methods for the Examination of Water and Wastewater" (21st Edition), published by the American Public Health Association.

**Mercury in Water** - analysis was performed using procedures based on U. S. EPA Method 245.7, oxidative digestion using bromination, and analysis using Cold Vapour Atomic Fluorescence Spectroscopy.

**Metals in Water** - analysis was performed using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP), Inductively Coupled Plasma-Mass Spectroscopy (ICP/MS).

**Dissolved Metals in Water** - Samples were filtered in the laboratory and quantitatively determined using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP) and/or Inductively Coupled Plasma-Mass Spectroscopy (ICP/MS).

**Microbiological Parameters** - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition (2005). Analysis was performed using Membrane Filtration (MF) Method (reported as "Colonies or CFU per unit volume").

**Heterotrophic Plate Count** - (also known as standard plate count) analysis was performed using procedures based on those described in "Standard Methods for the Examination of Water and Wastewater", 21st Edition (2005).

**COMMENTS:**

Determination of coliforms was initiated past the recommended holding time.

**TEST RESULTS:**

(See following pages)

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 17, 2007

GROUP NUMBER: 81206034



Conventional Parameters in Water

CLIENT SAMPLE IDENTIFICATION:	24192		
DATE SAMPLED:	Dec 4/07		
CANTEST ID:	712060086	DETECTION LIMIT	UNITS
pH, Laboratory	7.84	-	pH units
Conductivity	235	1	$\mu$ S/cm
True Color	<	5	CU
Turbidity	0.20	0.1	NTU
Hardness CaCO <sub>3</sub>	113	1	mg/L
Total Dissolved Solids	141	10	mg/L
Total Alkalinity CaCO <sub>3</sub>	123	0.5	mg/L
Bicarbonate Alkalinity HCO <sub>3</sub>	123	0.5	mg/L
Dissolved Fluoride F	0.12	0.05	mg/L
Dissolved Chloride Cl	0.25	0.2	mg/L
Nitrate and Nitrite N	<	0.05	mg/L
Dissolved Nitrate N	<	0.05	mg/L
Nitrite N	<	0.002	mg/L
Dissolved Sulphate SO <sub>4</sub>	19.6	0.5	mg/L
Total Cyanide	<	0.01	mg/L
Cyanide, Weak Acid Dissociable	<	0.01	mg/L

$\mu$ S/cm = microsiemens per centimeter  
NTU = nephelometric turbidity units  
< = Less than detection limit

CU = color units  
mg/L = milligrams per liter

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 17, 2007

GROUP NUMBER: 81206034



**Metals Analysis in Water**

CLIENT SAMPLE IDENTIFICATION:		24192	24192		
SAMPLE PREPARATION:		TOTAL	DISSOLVED		
DATE SAMPLED:		Dec 4/07	Dec 4/07		
CANTEST ID:		712060086	712060086	DETECTION LIMIT	UNITS
Aluminum	Al	0.007	-	0.005	mg/L
Antimony	Sb	0.002	-	0.001	mg/L
Arsenic	As	0.014	-	0.001	mg/L
Barium	Ba	0.054	-	0.001	mg/L
Beryllium	Be	<	-	0.001	mg/L
Boron	B	<	-	0.05	mg/L
Calcium	Ca	-	34.8	0.05	mg/L
Chromium	Cr	<	-	0.001	mg/L
Cobalt	Co	<	-	0.001	mg/L
Copper	Cu	<	-	0.001	mg/L
Iron	Fe	<	<	0.05	mg/L
Lead	Pb	<	-	0.001	mg/L
Magnesium	Mg	5.92	6.21	0.05	mg/L
Manganese	Mn	0.092	0.096	0.001	mg/L
Mercury	Hg	<	-	0.02	µg/L
Nickel	Ni	0.001	-	0.001	mg/L
Phosphorus	P	<	-	0.15	mg/L
Potassium	K	0.6	-	0.1	mg/L
Selenium	Se	0.006	-	0.001	mg/L
Silver	Ag	<	-	0.00025	mg/L
Sodium	Na	5.08	5.32	0.05	mg/L
Uranium	U	<	-	0.0005	mg/L
Zinc	Zn	<	-	0.005	mg/L

mg/L = milligrams per liter  
 < = Less than detection limit

µg/L = micrograms per liter

REPORTED TO: Kala Groundwater Consulting Ltd

REPORT DATE: December 17, 2007

GROUP NUMBER: 81206034



**Microbiological Analysis in Water**

CLIENT SAMPLE IDENTIFICATION:	24192		
DATE SAMPLED:	Dec 4/07		
CANTEST ID:	712060086	DETECTION LIMIT	UNITS
Background Colonies (m-ENDO)	<	1	Col./100 mL
Total Coliforms (Confirmed)	<	1	Col./100 mL
Fecal Coliform	<	1	Col./100 mL
Heterotrophic Plate Count	19	1	Col./1 mL

Col./100 mL = Colonies per 100 mL  
< = Less than detection limit

Col./1 mL = Colonies per 1 mL

**APPENDIX III**  
**STATEMENT OF COSTS**

**ZIP CLAIM GROUP  
2007 EXPLORATION PROGRAM**

**MERIT CONSULTANTS**

P. Cowley, P Geo	3 days @ \$500/day	\$1,500.00
Field preparation		
L. Pereira, Geologist	3 days @ \$250/day	\$750.00
Drillhole logging		

**CONSULTANTS**

Kala Groundwater Consulting Ltd.	Nov 21 to Dec 6, 2007	
-Desktop review and permits		\$3,395.30
-Drilling- 5 holes and field supervision		\$77,800.00
-Yield testing		\$9,231.96
-Laboratory		\$2,063.75
-Reporting		\$9,772.31

**FOOD AND ACCOMMODATION**

\$400.00

**VEHICLE RENTAL**

\$ 240.00

**EQUIPMENT AND SUPPLIES**

Field Supplies		\$ 50.00
Fuel & Lubes		\$ 300.00

**REPORT PREPARATION**

P. Cowley, P Geo	1 day @ \$500/day	\$500.00
Drafting		
J. Christmann, Geologist	4 days @ \$250/day	\$1000.00
Drafting, copying		

**TOTAL**      \$107,003.32

**APPENDIX IV  
CERTIFICATE OF AUTHOR**

**Paul S. Cowley, P.Geo.**

27B Glenmore Drive  
West Vancouver, B.C. V7S 1A5

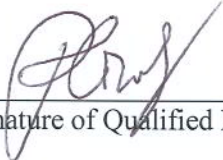
I, Paul S. Cowley, P.Geo. do hereby certify that:

1. I am currently employed as a Consultant by:

Merit Mining Corp  
Suite 550- 580 Hornby Street  
Vancouver, B.C.  
V6C 3B6  
Telephone: 604-682-7677  
Email: www.meritminingcorp.com

2. I graduated with Honours with a Bachelor of Science degree in Geology, from University of British Columbia, Canada, in 1979.
3. I am a registered Professional Geologist with the Northwest Territories Association of Professional Engineers, Geologists and Geophysicists, Registration Number L445, since October 5, 1989.
4. I am a registered Professional Geoscientist with the association of Professional Engineers and Geoscientists of the Province of British Columbia, Canada, Registration Number 24350, since June 1999.
5. I have worked as a geologist for a total of 29 years since my graduation from university.
6. I am not independent of the issuer. I am an Insider of Merit Mining Corp, being the Vice President of Exploration. I also hold common shares and options with Merit Mining Corp.

Revised Dated at Vancouver, B.C. this 22nd day of July, 2009.

  
\_\_\_\_\_  
Signature of Qualified Person

Paul S. Cowley  
\_\_\_\_\_  
Print name of Qualified Person