

BC Geological Survey  
Assessment Report  
30313

DIAMOND DRILLING  
ASSESSMENT REPORT  
ON THE  
HD MINERAL PROPERTY

2008

OMINECA MINING DIVISION, BRITISH COLUMBIA

93L047

LATITUDE: 54°27'N LONGITUDE: 126°39'W

GPS: NAD 83 UTM ZONE 9

NORTHING: 6035660 EASTING: 651911

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

30,313

OWNERS: JOHN WESLEY MOLL, GLORIA MAY MERKLEY, DANIEL MORICE MERKLEY

DRILL CORE LOGGED BY DR. MATHIAS WESTPHAL, M.A., M.Sc.

REPORT BY: DANIEL MERKLEY

NOVEMBER 2008

## LOCATION AND ACCESS:

The HD mineral property is situated approximately 6 km north of the village of Houston, in west-central British Columbia. The property encompasses the upper heights of Mount Harry Davis and is comprised of 2 contiguous tenures with a total area of 1410.41 hectares (3485.12 acres).

The HD property is accessible from Houston by good gravel road, which services radio antennae situated on the mountaintop. The road access begins just east of Houston, by turning west off Highway 16 onto Mt. Davis Way approximately 300 meters east of the Bulkley River overpass. The access road climbs continuously—crossing the “North Road”—until it reaches the summit of the mountain where it divides to form 2 roads on more level ground. The 2 main roads provide access to 2 radio antennae. From these 2 roads several minor roads, caterpillar trails and pack trails access several mineral exploration cuts, pits, shafts, adits and trenches.

## HISTORY:

The ground covered by the HD mineral tenure was the focus of prospecting dating back to at least 1918. More recent, advanced exploration began in the 60's and continued to the present day.

During 1918 and into the 20's Paul Tickoles, a Smithers prospector, explored his Mammoth, Mison and B.C. Leader claims with several test pits, open cuts and 2 adits. The adits were approximately 10 meters long and were located on the north slope and south slope of Mt. Harry Davis. The adit to the north explored polymetallic mineralization (Cu, Zn, Pb, Ag, Au, F), which occurred in blebs and stringers in tan-coloured rhyolite; the southern adit explored a 4-to-6-inch vein of polymetallic mineralization dominated by “black jack” sphalerite with subordinate galena and minor chalcopyrite in a gangue of purple fluorite, milky quartz and calcite.

Caterpillar work in the 60's removed all of the face of this southern adit and less than 1 meter remains.

The *Minister of Mines Annual Report, 1929* states: "The northeast of the claim was known as the B. C. Leader property in the 1920's. Work consisted of a series of open cuts which encountered zinc, silver and copper mineralization". The *Minister of Mines Annual Report, 1931*, pages A74—A75 also states: "Paul Tickoles has accomplished a great deal, single-handed, at this property, in the way of open-cuts and one tunnel 30 feet in length".

Around 1924 Andrew Martenson and Martin Bellicini, two Houston based prospectors, sank a 40-foot shaft on a wide terrace at the south-east region of the mountain. To the west of the shaft, a log cabin was constructed from very large logs, almost 1 meter in diameter. The shaft was sunk on a copper-silver vein approximately 1 meter wide, which assayed greater than 10% copper and 10 ounces, silver. A stockwork zone of tetrahedrite, chalcopyrite and bornite veins and stringers approximately 50 meters wide extended south-west and north-east of the vein for several hundred meters.

Around 1958 Mel McQuatt, a Houston-based prospector, rediscovered the old exploration diggings of Paul Tickoles on the northern slope of the mountain. He and William Merkley, another Houston-based prospector, prospected the area for several years. William Merkley subsequently staked the *Eagle* claims at the east region of the mountain in the early 60's.

During construction of the "North Road" in the 60's, which connected the Houston sawmills to the Babine Lake forest area, work unearthed copper-silver mineralization at the lower slope of Mount Harry Davis. Edward Westgarde staked the area to cover the mineralization. He and William Merkley optioned their claims to Moly mine Exploration Ltd. The company carried out extensive exploration, which included 13 trenches totaling 440 meters and 38 stripped trenches totaling 1737

meters. The work is documented in the *Mines and Petroleum Report*, 1967, on page 108.

In the 1960's *Texas Gulf Sulphur Company* explored the southern region of the mountain. The work included geological mapping, soil geochemistry, induced polarization and diamond drilling. The work is documented in *Exploration and Mining*, 1969, on page 121; and also the 1970 publication of *Exploration and Mining*, page 151.

While hunting, Wes Moll, a Houston prospector, discovered road construction to the VOR antenna site had revealed 30 meters of sphalerite mineralization during a staking hiatus in the 70's. He and Dan Merkley staked the *Grouse and Hill Top* claims in 1976 over the summit of the mountain to cover the mineralization, and also over the north sector to cover the polymetallic mineralization explored by Paul Tickoles on the north slope.

During 1977, *Noranda Exploration Company* performed a soil sample survey over the sphalerite unearthed during road construction in 1976 and ran east-west grid lines north and south of the Zn, Pb, Cu, F, Au, Ag mineralization. The work is documented in *Exploration and Mining* 1977, page 195.

In 1981 the *Endako Mines Division of Placer Development Ltd.* Optioned the HD property from Gloria Merkley, Wes Moll and Dan Merkley. The existing 2-post claims were restaked with the 4-post method and named HD-1, HD-2, HD-3, HD-4. The *Endako Mines Division* performed geological mapping, geochemical soil and rock sampling, and a VLF-EM survey.

*Eldor Resources Ltd.* optioned the HD property from Gloria Merkley, Wes Moll and Dan Merkley in 1985. The company completed a gravity survey on the property and sampled some of the existing trenches, pits, cuts and shafts. Two shallow winky drill holes were collared north of the Switch Back Showings.

In 1988 *Equity Silver Mines Ltd.* optioned the property from Gloria Merkley, Wes Moll and Dan Merkley. The HD-5 claim was staked to adjoin the southern border of the existing claims. 776 meters were drilled in 6 diamond drill holes. Soil and rock geochemistry was undertaken and several hundred meters of back-hoe trenching was completed. An IP survey was performed over the southern slope of the mountain.

In 1993 *Teck Exploration Ltd.* completed 4 NQ size diamond drill holes on the HD-2 claim at the summit of the mountain for a total length of 649 meters.

In 1999 Wes Moll, Dan Merkley and Bill Merkley Sr. drilled 6 EX size diamond drill holes with an X-ray drill for a total length of 86.9 meters. During the interim, from 2000 to 2008, Wes Moll, Dan Merkley and Bill Merkley Sr. maintained the HD tenure with the completion of road work, sampling and diamond drilling.

CORE STORED AT RESIDENCE OF DAN MERKLEY

**CLAIM STATUS:**

The HD mineral property consists of 2 tenures (tenure #516488 and tenure #566708), which total 75 cells and cover an area of 1410.41 hectares (3485.12 acres). Tenure #516488 consists of 72 cells; tenure #566708, which is named HD1, consists of 3 cells and joins tenure #516488 on its south-east border. With acceptance of this report, the tenures will remain in good standing until October 31, 2009.

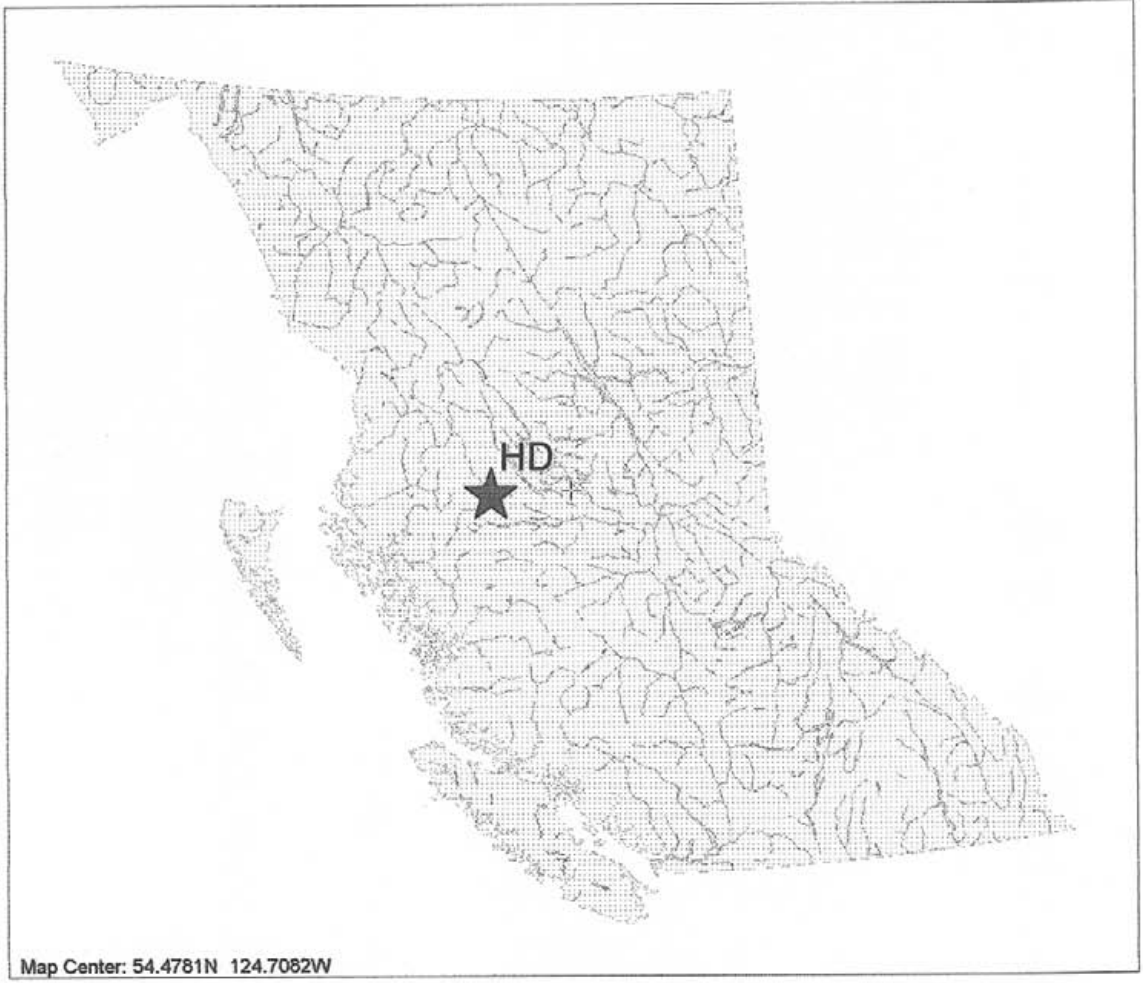
The HD mineral property is owned by John Wesley Moll, Gloria May Merkley and Daniel Morice Merkley.

The description of the HD tenures are as follows:

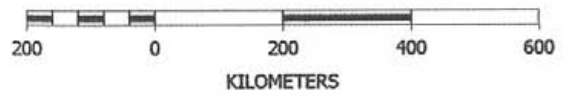
Claim Name	Cells	Tenure Number	Old Expiry Date	New Expiry Date
N/A	72	516488	2008/Aug/30	2009/Oct/31
HD1	3	566708	2008/Sep/30	2009/Oct/31

# HD Location Map

-  **HD Location**
- Topographic Layers**
  -  **Lakes 1:6M**
  -  **Rivers 1:6M**
- BC Border Layers**
  -  **BC Border 1:6M**





SCALE 1 : 11,847,051










# HD Claim Map



**Mineral Titles Layers**

-  **HD Tenure**
-  **All Mineral Tenures**


**Topographic Layers**

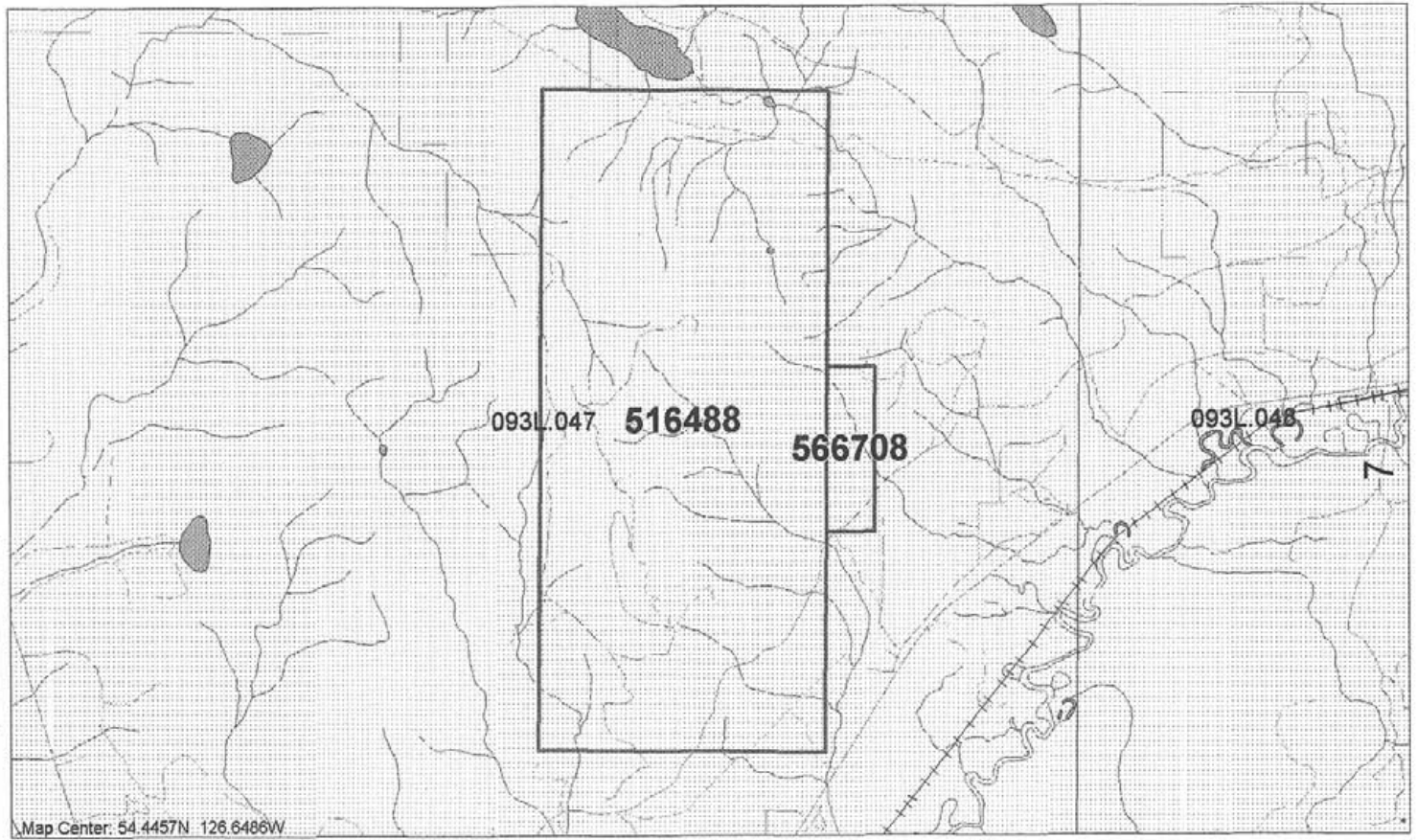
-  **Railways 1:20K**
-  **Roads 1:20K**
  -  Gravel Road
  -  Paved Road
  -  Rough Road
-  **Lakes 1:20K**
-  **Rivers 1:20K**

**Grid Layers**

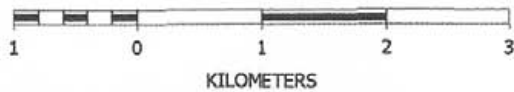
-  **Grid 1:20K - labels**
-  **Grid 1:20K - outline**

**BC Border Layers**

-  **BC Border 1:50K**



SCALE 1 : 61,135





## PURPOSE AND PROCEDURE:

### DIAMOND DRILL HOLES HD-2008-1 & HD-2008-2

On August 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>d</sup> and 4<sup>th</sup> of 2008 Wes Moll, William Merkley and Dan Merkley carried out a diamond drilling program on the HD mineral property at the summit of Mount Harry Davis with an X-ray diamond drill, which took EX-size rock core.

Diamond drill hole HD-08-1 was collared near the divide in the main access road at the summit of the mountain on August 1<sup>st</sup>, 2008. The purpose for drilling at this particular location was to follow up on a drill intercept during a previous drill program during which a "feeder" type rock unit was intercepted, which appears to be similar to the Eskay Creek deposit footwall argillaceous rhyolite, as it appears on the plates in several publication. A scanned image from diamond drill hole DDH 2000-5 from the HD property is inserted to the right and appears similar to the rhyolite from the Eskay Creek deposit. It is a grayish to white, argillized porphyritic rhyolite with black stringers, veins and, in some sections, a total matrix of pyritic argillite, which assayed around 0.5% Zn. Diamond drill hole HD-2008-1 was collared approximately 30 meters south of DDH 2000-5 at the edge of the existing road in an attempt to intercept similar rock. The rock was found to be very inconsistent and broken, possibly from blasting during construction of the access road to the VOR antenna. Excess vibration of the drill forced termination of the hole.

Diamond drill hole HD-2008-2 was collared on the 1<sup>st</sup> of August approximately 8 meters south of HD-2008-1 in another attempt to intercept the rock unit intercepted in DDH 2000-5. Excessive vibration of the drill also forced discontinuation of this diamond drill hole.



HD Drill Core

## DIAMOND DRILL HOLES HD-2008-3 & HD-2008-4

### DIAMOND DRILL HOLE HD-2008-3

Diamond drill hole HD-2008-3 was collared on August 2nd at the south side of the access road to the VOR antenna, 393 meters north-east of diamond drill hole HD-2008-1 and HD-2008-2. The target was stockwork chalcopyrite-bornite mineralization in a water lain cherty felsite unit. Mineralization has been explored to the north-east and north-west by test-pitting in the past. The rock unit at the collar of diamond drill hole HD-2008-3 was very hard and mineralized with minor chalcopyrite and extensive disseminated pyrite; sericitic alteration is also evident in association with small clots of feldspar.

The drill hole was collared at the south-east side of the access road to the VOR antenna. Apparently, the rock had been shattered by blasting during the construction of the road, because the diamond drill exhibited extreme vibration only a short distance from the collar, which forced termination of the drill program

### DIAMOND DRILL HOLE HD-2008-4

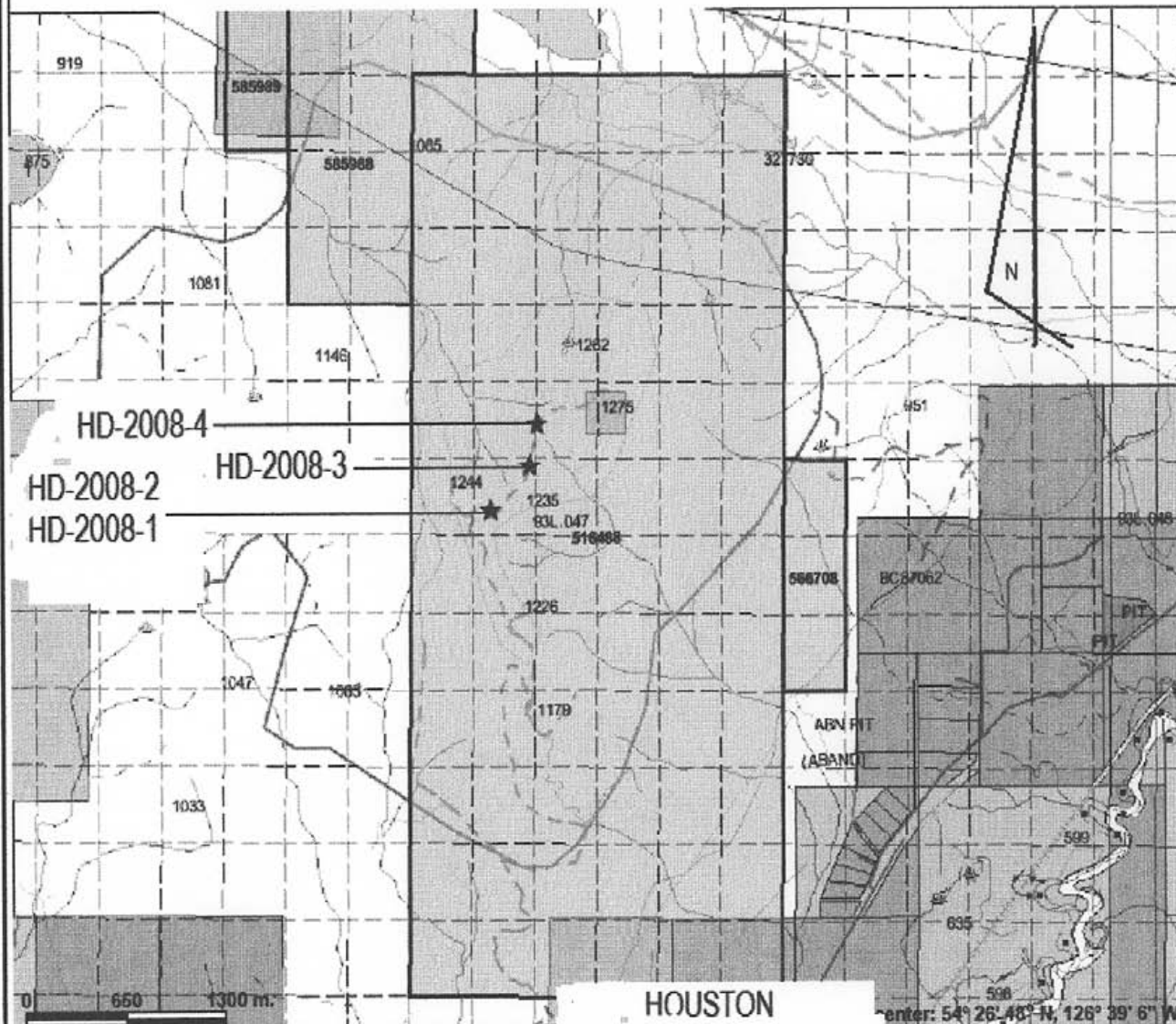
Diamond drill hole HD-2008-4 was collared 592 meters north-east of diamond drill hole HD-2008-2. The drill hole was collared approximately 15 meters south-east of the VOR antenna access road. The hole was drilled on August 3d and 4<sup>th</sup>. Rock blasted during road construction has revealed a chloritized felsite—hoste to clotted and disseminated sphalerite, galena and chalcopyrite—similar to the upper unit at the road cut 189 meters north where an exhalite horizon was intercepted in a drill hole designated HD98-3, which was drilled in 2003; a section of this drill core has been scanned and is presented to the right of this text.

The drill was shut down after excessive vibration was experienced and the gear housing cracked. This mechanical failure was likely caused by the vibration experienced during drilling of the previous holes in poor ground at the side of the access road.





# HD MINERAL PROPERTY DIAMOND DRILL HOLE LOCATION MAP



## Legend

- Indian Reserves
- National Parks
- Parks
- Mineral Titles Grid (LRDW)
- Mineral Tenures (Mineral - LRDW)
- Mineral Claim
- Mineral Lease
- Reserves (Mineral - LRDW Sites)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- Mining Division (MTO)
- Survey Parcels
- BCGS Grid
- Contours (1:250K)
- Contour - Index
- Contour - Intermediate
- Area of Exclusion
- Area of Indefinite Contours
- Annotation (1:20K)
- Transportation - Points (TRIM)
- Helipad
- Transportation - Lines (TRIM)
- Airfield
- Airport
- Airstrip
- Airport, Abandoned

This map is a user generated static output from an internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Center: 54° 26' 48" N, 126° 39' 6" W

Scale: 1:38,090



## DIAMOND DRILL HOLE SUMMARY

HOLE DESIGNATION / DEPTH / ALTITUDE	LOCATION		AZIMUTH	INCLINATION
	NORTHING	EASTING		
HD-08-1    5 feet /1.52 meters    1231 m	6035754	0651570	---	90°
HD-08-2    42 feet/12.80 meters    1231 m	6035753	0651560	---	90°
HD-08-3    8 feet/2.44 meters    1206 m	6036063	0651802	---	90°
HD-08-4    12 feet/3.66 meters    1222 m	6036294	0651855	262°	-82°

### CONCLUSION:

The drill program did not intercept the targeted mineralization, but deeper drilling would possibly be successful at intercepting the exhalite and "feeder zone" targeted.

[Redacted Title]

Signature:   
 Initials: 

HD0801

**From**    **To**    **Litho**  
 0.00    1.52    MALT

Maroon Andesitic Lapilli Tuff (MALT)

Light reddish brownish tuff shows some moderate sericite alteration of the feldspar crystal and fragments up to 3 mm. Flattened lapilli are up to 1 cm. Some Amphibole weakly altered to chlorite. Beside the sections with lapilli and crystals and fractures, there are some sections which show glassy texture. The core shows quartz veining 10 % with quartz veins up to 0.5 mm. Late calcite veins are 45 tca and cause fractured core. Veins with tiny pyrite show goethite weathering with no visible mineralization.

STRUCTURES					ALTERATION										VEINS						MINERALIZATION						SAMPLES									
From	To	Struct	CA	Strain	From	To	INT	ARG	CHL	SIL	PHY	PRY	POT	CC	EP	From	To	Vn%	QZ%	Feld%	CC%	V/m	CA	From	To	PY%	Style	Min	Min%	Min2	M2%	From	To	Sample	%Cu	%Mo
0.00	1.52	FR			0.00	1.52	M	-	W	-	-	-	-	-	-	0.00	1.52	10	90						0.00	1.52	0.1	FG								
One fractured piece of core at 12 cm, several from 3 to 5 cm, the rest smaller pieces. The core recovery is 50%.					Moderate sericite alteration of the feldspar phenocrysts and feldspar fragments. Some weak chlorite alteration of amphibole phenocrysts.										Quartz veins at 45 to core axis (tca) and as crackles up to 0.5 mm. Calcite +/- siderite veins at 45 tca.						Very few occurrences of very fine grained pyrite. Most pyrite is altered to goethite. No mineralization visible.															

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**From** **To** **Litho**  
**0.00** **10.36** **MALT**

(Continued from previous page)

STRUCTURES					ALTERATION										VEINS						MINERALIZATION						SAMPLES												
From	To	Struct	CA	Strain	From	To	INT	ARG	CHL	SIL	PHY	PRY	POT	CC	EP	From	To	Vn%	QZ%	Feld%	CC%	V/m	CA	From	To	PY%	Style	Min	Min%	Min2	M2%	From	To	Sample	%Cu	%Mo			
7.40	7.60	FR																																					
20 cm of cc-rusty veins cause fractured rock.																																							
7.60	9.10	MAS																																					
S Fractures in sericite-qtz healed brecciated parts at 8.5 m.																																							
9.10	10.36	FR			9.10	10.36	M	-	M	-	-	-	-	-	-	9.10	10.36	10	20																				
Fractured core to less than 10 cm pieces due to increased cc-veining					Moderate chlorite alteration results ins agreenish color of the maro... Minor quartz veining. Calcite veining from 30 to 60 tca causing fractured core. Hematite on fracture surfaces.																																		

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[Redacted]

Signature: [Signature]  
 Initials: rw

**HD0803**

<b>From</b>	<b>To</b>	<b>Litho</b>
<b>0.00</b>	<b>2.44</b>	<b>GALT</b>

Green andesitic lapilli tuff (GALT)

Course grained and highly silicious tuff with chloride and epidot and some sericite alteration of feldspars. Clasts and fragment in the tuff are up to 1 cm. At the end of the hole there is drusy, 1 mm wide quartz veins parallel to core axis.

STRUCTURES					ALTERATION										VEINS							MINERALIZATION							SAMPLES						
From	To	Struct	CA	Strain	From	To	INT	ARG	CHL	SIL	PHY	PRY	POT	CC	EP	From	To	Vn%	QZ%	Feld%	CC%	V/m	CA	From	To	PY%	Style	Min	Min%	Min2	M2%	From	To	Sample	%Cu ; %Mo

0.00 0.91 FR  
 Core recovery is 30%. Core is shattered and broken.

0.00 2.44 S - M S - - - - M 0.00  
 There is a strong silica alteration with chl-ep and some sericite alteration of the feldspars.

0.00 2.44 5 90 10  
 Some calcite veins with goethite. Quartz veins in irregular crackles. At the end of the hole there are drusy quartz veins parallel to core axis.

0.00 2.44 0 -  
 No visible mineralization. Some secondary ironhydroxide indicate a possible iron sulphide precursor.

0.91 2.44 FR  
 Core recovery is 50%. Core shows fractured rock with pieces up to 10 cm.

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Signature: [Signature]  
 Initials: [Initials]

HD0804

**From** **To** **Litho**  
**0.00** **4.27** **GALT**

Green andesitic lapilli tuff (GALT)

The first two meters are coars grained and chloride altered lapilli tuff with clasts and fragments up to 5 mm. Feldspar crystals and fragments show weak sericite alteration. Minor calcite-manganese veins occurs besides some quartz veining. From 2 m to the end of the hole the tuff is highly silicious with quartz stockwork veining and bleaching. Fragments within the tuff are up to 1 cm. Hard rock and iron-hydroxides veining cause fractured core. The overall core recovery is about 80%. No visible mineralization could be seen.

STRUCTURES					ALTERATION										VEINS							MINERALIZATION							SAMPLES								
From	To	Struct	CA	Strain	From	To	INT	ARG	CHL	SIL	PHY	PRY	POT	CC	EP	From	To	Vn%	QZ%	Feld%	CC%	V/m	CA	From	To	PY%	Style	Min	Min%	Min2	M2%	From	To	Sample	%Cu	%Mo	
0.00	2.00	MAS			0.00	2.00	S	-	S	M	-	-	-	-	M	0.00	2.00	5	90																		
S					Strong chloride alteration with a section of 20 cm at 1.4 m with strong silica alteration and bleaching.										Some calcite-manganese veins. Quartz veins predominantly at 30 tca.																						
Fractures from 30 to 70 tca, predominantly at 60 tca.																						0.00 4.27 0 -							No visible mineralization.								
2.00	4.27	FR			2.00	4.27	S	-	M	S	-	-	-	-	-	2.00	4.27	15	95																		
Fractured core with two pieces of 10 cm due to hard silicious rock with crackles of iron hydroxides and calcite-manganese veins.					Strong silica alteration with moderate chloride alteration.										Some calcite-ironhydroxides veins. Quartz stockwork veining dominates.																						

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<b>STATEMENT OF EXPENDITURES</b>
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DRILLING	67 Feet @ \$28.00 Per foot / 20.42 Meters @ \$91.87 Per Meter	\$1,876.00
MOBILIZATION & DEMOBILIZATION		\$2,300.00
WATER TANK	\$600.00 Per day X 2 Days	\$1,200.00
WATER PUMP	\$35.00 Per day X 2 Days	\$70.00
PUMP OPERATOR	\$200.00 Per day X 2 Days	\$400.00
PICKUP TRUCK (GMC 4-wheel drive)	\$110.00 Per day X 5 Days	\$550.00
PICKUP TRUCK (GMC 2-wheel drive)	\$110.00 Per day X 5 Days	\$550.00
COPCO ROCK DRILL	\$50.00 Per day X 4 Days	\$200.00
BOARD	\$25.00 Per day X 5 Days X 3 Men	\$375.00
LOGGING CORE		\$200.00
REPORT PREPARATION		\$400.00
<b>TOTAL EXPENDITURES</b>		<b>\$8,121.00</b>

**WHITE NORTH WEST CONSULTING**

Geology \* Mineralogy \* Rocks \* Ores

**Dr. Mathias Westphal, M.A., M.Sc.**

Tel. (250) 469.9024 \* (250) 877.9322 \* [mathiasw@xplor.net](mailto:mathiasw@xplor.net)  
3712 1<sup>st</sup> Avenue, P.O. Box 2575, Smithers, B.C., Canada, V0J 2N0

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**Declaration of Qualification**

I, Mathias Westphal, hold a Ph.D. in Mineralogy from the University of Freiburg, Germany.

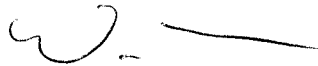
In addition, I hold a M.Sc. in Mineralogy and a M.A. in Geography, both also from the University of Freiburg, Germany.

Since 1998 I work in Geology and Mining related Exploration and Research as a Researcher and Consultant.



Smithers, BC, Canada, November 20, 2008

I received CAD \$200 from Dan Kelly for  
core logging.



**AUTHOR'S  
QUALIFICATIONS**

I, DANIEL MERKLEY, DO HEREBY CERTIFY THAT:

- (1) I am a prospector and reside at 3313 Highway 16 East, Houston, B. C.
- (2) I have more than 40 years of prospecting experience
- (3) I prepared this report

Respectfully submitted

*Daniel Merkley*

Daniel Merkley

Prospector