ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: Geological, Geochemical, Geotechnical, and Physical Work Report on the Tulsequah Property

TOTAL COST: $30,780,636.86

AUTHOR(S): O'Donnell, M.A., Armstrong, B., Giles, G.
SIGNATURE(S): O'Donnell, M.A.

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-1-355 issued July 3, 1991, amended March 28 2007, Feb 22, 2008, July 31, 2008; M-232 issued Feb 28, 2008, amended Sept 2, 2008, Nov 14, 2008.

STATEMENT OF WORK EVENT NUMBER(S)/DATE(S): 4284701 and 4284702, May 27, 2009

YEAR OF WORK: 2008

PROPERTY NAME: Tulsequah

CLAIM NAME(S) (on which work was done): 513807, 513812, 513813, 513814, 513818, 513820, 590422

COMMODITIES SOUGHT: Cu, Pb, Zn, Au, Ag

MINERAL INVENTORY MINFILE NUMBER(S),IF KNOWN: 104K002, 104K006, 104K007, 104K008.

MINING DIVISION: Atlin
NTS / BCGS: 104K/12 and 104K/13
LATITUDE: 58° 43' N
LONGITUDE: 133° 35 W
UTM Zone: 8 EASTING: 582054 NORTHING: 6509370

OWNER(S): Redfern Resources Ltd.
MAILING ADDRESS: 800-1281 West Georgia St., Vancouver, BC, V6E 3J7

OPERATOR(S) [who paid for the work]: Redfern Resources Ltd.
MAILING ADDRESS: 800-1281 West Georgia St., Vancouver, BC, V6E 3J7

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**) Stikine Assemblage, Mt. Eaton Suite, island arc volcanic, limestone, Devono-Mississippian, Permian, Llewellyn Fault, Chief Fault, Chief Cross Fault, Mount Eaton Anticline, Big Bull syncline, quartz sericite pyrite alteration, polymetallic volcanogenic massive sulphide, Kuroko type, development stage, Tulsequah Chief deposit, A-Extension, Big Bull deposit, Sparling occurrence, Banker occurrence, Tulsequah Chief probable reserve: 5.3 million tonnes (Wardrop 2007); Tulsequah Chief resource: 5.9 million tonnes indicated resource plus 1 million tonnes inferred resource (Wardrop 2007); Big Bull resource: 211,000 tonnes indicated resource plus 669,000 tonnes inferred resource (Wardrop 2007); individual sulphide lenses 25,000 tonnes to about 2 million tonnes; steeply dipping.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 08933, 09825, 10587, 11018, 11361, 17137, 16983, 17054, 18428, 20901, 22939, 23559, 23762, 23763, 23951, 24183, 27385, 27659

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
1:5000 road geology and surface mapping at TC minesite and limestone body; ARD assessments	12 rd-km plus 15.2ha	513807, 513812, 513813, 513814, 513820, 590422	113,729.00
ARD study		590422	12,962.12
core salvage and relocation	80,000m core	old storage 590422 new storage 513820 transited en route: 513813 513814	187,704.07
sample collection		513807, 513812, 513814, 590422	1,649.22
report			37,684.02
GEOCHEMICAL (number of samples analysed for …)			
Rock	113 ABA, whole rock, multi-element ICP-MS (aqua regia) 6 multi-element ICP-AES (aqua regia); Au FA/AA	513807, 513812, 513814 590422	26,820.30
Other			
GEOTECHNICAL			
cone penetration tests (includes PPD tests)	68 locations: 30 instrumented CPT tests 100 dummy cone tests 24 PPD tests	513807	158,502.81
PREPATORY / PHYSICAL			
Airstrip	1030m	513807	1,986,377.46
Road, local access (km)	16.11 km	513807, 513812, 513813, 513814, 513818, 513820, 590422	27,810,874.27
Underground rehabilitation (metres) – removal of old rail, conduit , timbers etc	1200m cleared: 230m on claim, rest on CG's (CG costs not included)	source 590422 new storage 513820 transited en route: 513813 513814	45,948.65
surface rehab. – removal of old buildings and scrap metal from Tulsequah minesite	2.75 ha	source 590422 new storage 513820 transited en route: 513813 513814	398,384.94
		TOTAL COST	30,780,636.86

Geological, Geochemical, Geotechnical, and Physical Work Report on the Tulsequah Property

Tulsequah River Area
Northwestern BC
NTS 104K/12 and 104K/13

Atlin Mining Division

58^{o}43'N 133^{o}35'W

Owner & Operator:
Redfern Resources Ltd.
800-1281 West Georgia Street
Vancouver, BC

Work performed on mineral claims:

513807
513812
513813
513814
513818
513820
590422

M. A. O'Donnell, P. Geo
B. Armstrong
G. Giles

Statements of Work: May 27, 2009
Submission Date: Aug. 24, 2009

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1 Summary

Tulsequah is a development stage polymetallic volcanogenic massive sulphide (VMS) project situated in Northwestern British Columbia 100 km south of Atlin, B.C. and 64 km northeast of Juneau, Alaska. The property includes the past producing Tulsequah Chief and Big Bull mines, and a number of earlier stage prospects.

The Tulsequah Chief deposit was discovered in 1923 and the nearby Big Bull deposit was discovered in 1929. Cominco Ltd. acquired the properties in 1948, and retained an interest in them until 1992. Cominco mined the deposits commercially during 1951 to 1957. Production during that period totaled 935,536 tonnes averaging 1.59% copper, 1.54% lead, 7.0% zinc, 3.84 gpt gold, and 126.52 gpt silver. Of that total, 575,463 tonnes were mined from the Tulsequah Chief deposit and the remainder from Big Bull. Low metal prices forced Cominco to cease production in 1957.

Redfern first became involved in the Tulsequah area in 1981, in joint venture with Comaplex Resources International Ltd. Redfern subsequently acquired the Comaplex interest, and in 1987 entered into an option to joint venture with Cominco on an amalgamated property that included both the Tulsequah Chief and the Big Bull deposits. In 1992, Redfern acquired the Cominco interest as well, to hold a 100% interest in the property. The current Redfern property comprises 13 contiguous mineral claims totaling 13921.721 ha, plus 25 crown grants.

During 1987 to 2007, Redfern conducted surface and underground exploration on the property, including drilling 54,963m in 141 drill holes from surface and 72,128.19m in 158 drill holes from underground, and investigated the feasibility of putting the Tulsequah Chief deposit back into production.

Feasibility studies completed prior to 2007 (by Rescan in 1994/95, updated in 1997, and by AMEC in 2004) were based on proposed resource road access to the project from Atlin. In 2007, Wardrop Engineering completed a feasibility study based on barge access to the property via the Taku River. NI 43-101 compliant resource estimates for the Tulsequah Chief and Big Bull deposits were calculated by Wardrop during 2007, and are presently the most current resource estimates for these deposits:

<u>Tulsequah Chief Reserve</u>
In the 2007 feasibility study completed by Wardrop for Redfern, the Tulsequah Chief deposit was estimated to contain a probable reserve of 5,378,788 tonnes grading 1.40 % Cu, 1.20 % Pb, 6.33 % Zn, 2.59 gpt Au, and 93.69 gpt Ag, at an NSR cut-off of US$94 (Wardrop Technical Report dated March 14, 2007)

<u>Tulsequah Chief Resource</u>
The resource estimate for the Tulsequah Chief deposit was updated in March, 2007 to include mineralization discovered in the A-Extension, but the reserve was not re-calculated. The updated resource is 5,928,800 tonnes grading 1.44% Cu, 1.24% Pb, 6.52% Zn, 2.66 gpt Au, and 96.7 gpt Ag in the indicated category,

plus an additional 1,048,800 tonnes grading 0.97% Cu, 0.95% Pb, 5.14% Zn, 1.67 gpt Au, and 72.5 pt Ag in the inferred category, at an NSR cut-off of CAD$86.

Big Bull Resource
The Big Bull deposit was estimated by Wardrop to contain an indicated resource of 211,000 tonnes grading 3.33% Zn, 0.40% Cu, 1.25% Pb, 3.043 gpt Au, and 162 gpt Ag, plus an additional inferred resource of 669,000 tonnes grading 0.35% Cu, 2.59% Pb, 5.97% Zn, 4.1 gpt Au and 195 gpt Ag, calculated using an NSR cut-off of CAD$86, and contingent on Tulsequah Chief being developed (Wardrop Technical Report dated April 27, 2009; SEDAR date April 30 2007.)

The Tulsequah deposits are precious metal-rich massive sulphide deposits hosted within the Devonian to Permian Mount Eaton volcanic suite. The sulphides, in order of abundance, are pyrite, sphalerite, chalcopyrite, galena, and bornite. Tetrahedrite is also an important ore mineral. Native gold is a relatively common accessory, and native silver has been observed in high-grade precious metal rich veins in the footwall to the ore lenses. Intense quartz sericite pyrite alteration is common in the stratigraphic footwalls to the deposits.

The Big Bull deposit is finer grained and appears to be more distal in setting than the Tulsequah Chief deposit. Big Bull also appears to be more intensely deformed than Tulsequah Chief.

In 2007, Redfern initiated permitting and construction to improve exploration and development infrastructure on the property. This included extensive consultation, environmental/social studies, geotechnical work, and engineering to support design and the permitting process. A 4km local exploration road was constructed from a temporary barge landing on the Taku River to the Big Bull area. Work continued into 2008, and the process remained ongoing in 2009.

Work performed during January to December 2008 on the Tulsequah property and documented in this report includes:

- Construction of the Shazah Airstrip
- Construction of a local exploration road on the property linking the Shazah airstrip with the Tulsequah Chief minesite, the road to Big Bull, and the barge landing on the Taku River.
- Blasting of benches and construction of shearwalls at the lower Tulsequah Chief minesite for a water treatment plant.
- Removal of materials from the 5400 level at Tulsequah Chief, including rail, timbers, ventilation duct, electrical conduit etc so that the tunnel could be rehabilitated (slashed out.)
- Tear-down and removal of all remaining buildings, equipment, supplies (drill rods etc), and steel waste from the Tulsequah Chief minesite and trucking of this material to a lined storage site at Paddy’s Flats.
- Trucking of the Redfern reference core that had been stored at the Tulsequah Chief minesite to a new core storage site at Paddy’s Flats.

- Mobilization of the water treatment plant and some Procon underground mining equipment to the property.
- Geological mapping of bedrock exposed during road, bench, and shearwall construction.

  The work lead to the discovery of new occurrences of footwall-style quartz sericite pyrite alteration in felsic volcanic rocks near Bridges 16 and 17. New exposures of polymetallic quartz carbonate mariposite veins were uncovered in the lower Sparling area, with a selective sample of sulphide-rich material (837052) returning 2.11 gpt Au, 240 ppm Ag, 0.2% Cu, 5.4% Pb, and 4.86% Zn. Molybdenite was encountered in float composed of brecciated limestone and pyritic tuff south of Limestone Creek. A sample of this material (837054) returned 1661 ppm Mo.
- Surface and underground rock sampling for Acid Rock Drainage (ARD) studies, followed by geochemical analyses including whole rock, multi-element ICP, and Acid Base Accounting (ABA).

  Based on results from these and previous ARD studies, protocols were developed to help on-site geologists identify potentially acid generating rock visually. In general, any rock bearing 0.5% or more combined sulphide (as determined by the naked eye and 10x hand lens) was to be treated as PAG.
- Daily visual acid rock assessments and monitoring.
- Geotechnical cone penetration tests and pore pressure dissipation tests in the proposed tailings impoundment area.

  The soils tested were found to be composed of inter-layered silt, sand, gravel, and cobbles in various gradational proportions and are interpreted to have been deposited by fluvial processes. The thickness and areal extent of weaker silty layers are limited by interbeds of the denser, coarser material.

Due to permitting delays, the year ended before Redfern could go forward with the installation of the water treatment plant and the subsequent tunnel rehabilitation, underground development, and underground drill program that had been scheduled for 2008.

The cost of the 2008 work documented in this report $30,780,636.86 (Statement of Work event numbers 4284701 and 4284702.)

2 Introduction and Scope

This assessment report documents work performed by or on behalf of Redfern Resources Ltd. on the Tulsequah property during 2008 (Statement of Work event numbers 4284701 and 4284702 dated May 27, 2009.) The work was performed on mineral claims 513807, 513812, 513813, 513814, 513818, 513820, and 590422, under permits MX-1-355 and M-232. In some cases, related work performed on adjoining Redfern crown grants is described for completeness, but expenditures for the work on the crown grants are excluded from the statement of expenditures.

Work performed during 2008 on the Tulsequah property and documented in this report includes:

- Construction of the Shazah Airstrip
- Construction of a local exploration road for on the property linking the Shazah airstrip with the Tulsequah Chief minesite, the road to Big Bull, and the barge landing on the Taku River.
- Relocation of historical drill core from the Tulsequah Chief minesite to a new core storage site constructed at Paddy's Flats.
- Removal of materials from the 5400 level adit including rail, timbers, ventilation duct, electrical conduit etc so that the tunnel could be rehabilitated for conversion from rail to rubber tire for the next phase of underground development and drilling.
- Tear-down and removal of buildings, equipment, supplies (drill rods etc), and waste steel from the Tulsequah Chief minesite.
- Trucking material removed from the Tulsequah Chief minesite and the 5400 level to a lined temporary storage site at Paddy's Flats, using the new 2008 exploration road.
- Blasting of benches and construction of shearwalls at the lower Tulsequah Chief minesite for a water treatment plant.
- Mobilization of the water treatment plant and some Procon underground mining equipment to the property.
- Re-seeding of disturbed areas adjacent to the exploration road.

- Geological mapping of bedrock exposed during construction of the exploration road.
- Surface and underground rock sampling for Acid Rock Drainage (ARD) studies, followed by geochemical analyses including whole rock, multi-element ICP, and Acid Base Accounting (ABA).
- Daily visual acid rock assessments and monitoring during construction.
- Geotechnical cone penetration and pore pressure dissipation tests on the Shazah fan.

Due to permitting delays, the year ended before Redfern could go forward with the installation of the water treatment plant and the subsequent tunnel rehabilitation, underground development, and underground drill program that had been scheduled for 2008.

Considerable additional environmental work and consultation to support the permitting process and to contribute to socially and environmentally responsible design was completed during 2008.

That work was not included in the Statements of Work dated May 27, 2009, and is not discussed in this report.

Tulsequah Terminology

In this report, "Tulsequah Project" is used as a general term to include all the exploration activities on the Tulsequah property, including exploration at the Big Bull deposit and exploration at the Tulsequah Chief deposit. The Tulsequah Chief Mine Development Project is a specific subset of the overall Tulsequah project, dealing only with development of the Tulsequah Chief deposit.

3 Property Description and Location

The Tulsequah property is situated along the Tulsequah River in northwestern B.C. centered at about latitude 58.73^{o} N and longitude 133.58^{o} W (NTS 104K/12 and 104K/13, Figure 1.) The property is accessible by air from Atlin BC 100 km to the north, from Whitehorse YT 230 km to the north, or from Juneau Alaska 64 km to the southwest.

The Tulsequah Property comprises 13 mineral cell claims totaling 13,921.721 ha and 25 crown granted mineral claims totaling 438.69 ha (Table 1 and Figures 2 and 3.) The property is owned 100% by Redfern Resources Ltd, subject to a production royalty of $0.10 per dry ton of ore mined on the Tulsequah Chief and Big Bull crown grants.

Assuming acceptance of this report, all mineral cell claims except 590422 will be in good standing until December 31, 2019. Claim 590422 will be in good standing until August 26, 2019. Under the BC Mineral Tenure Act, Redfern can maintain the mineral claims in good standing by filing assessment work in the amount of $8/ha per year. Crown granted claims are maintained through the payment of annual taxes. The crown granted claims at Tulsequah have been legally surveyed.

Table 1: Claim List

CELL MINERAL CLAIMS			
Claim Name	**Record Number**	**Area (ha)**	**Good to Date**
	513806	1241.297	December 31, 2019
	513807	1242.293	December 31, 2019
	513809	1393.208	December 31, 2019
	513812	621.526	December 31, 2019
	513813	806.766	December 31, 2019
	513814	1160.494	December 31, 2019
	513815	1310.797	December 31, 2019
	513818	1615.841	December 31, 2019
	513819	841.076	December 31, 2019
	513820	1094.34	December 31, 2019

	513821	842.324	December 31, 2019
	513828	1331.763	December 31, 2019
TCMINE	590422	419.996	August 26, 2019
TOTAL	**13**	**13921.721**	

CROWN GRANTED CLAIMS			
Claim Name	**Record**	**Area (ha)**	**Good to Date**
Tulsequah Crown Grants			
River Fraction	5669	7.99	July 3, 2010
Tulsequah Bonanza	5668	20.90	July 3, 2010
Tulsequah Bald Eagle	5676	14.16	July 3, 2010
Tulsequah Chief	5670	20.90	July 3, 2010
Tulsequah Elva Fr.	5679	9.70	July 3, 2010
Big Bull Crown Grants			
Big Bull	6303	20.65	July 3, 2010
Bull No. 1	6304	16.95	July 3, 2010
Bull No. 5	6306	14.57	July 3, 2010
Bull No. 6	6305	17.22	July 3, 2010
Hugh	6308	20.71	July 3, 2010
Jean	6307	17.02	July 3, 2010
Banker Crown Grants			
Vega No. 1	6155	20.90	July 3, 2010
Vega No. 2	6156	17.62	July 3, 2010
Vega No. 3	6157	18.97	July 3, 2010
Vega No. 4	6158	19.85	July 3, 2010
Vega No. 5	6159	14.94	July 3, 2010
Janet W. No. 1	6160	18.95	July 3, 2010
Janet W. No. 2	6161	18.75	July 3, 2010
Janet W. No. 3	6162	16.60	July 3, 2010
Janet W. No. 4	6163	20.76	July 3, 2010
Janet W. No. 5	6164	18.20	July 3, 2010
Janet W. No. 6	6165	19.02	July 3, 2010
Janet W. No. 7	6166	18.78	July 3, 2010
Janet W. No. 8	6167	17.98	July 3, 2010
Joker	6169	16.60	July 3, 2010
TOTAL	**25**	**438.69**	

Work presented in this report was carried out under permit MX-1-355 and associated approvals, amendments, and authorizations. Some elements of the work (such as construction of a new core storage site, and provision of some of the fill for the MX road) were performed under permit M-232 and its associated approvals, amendments, and authorizations.

Figure 1: Tulsequah Project Location

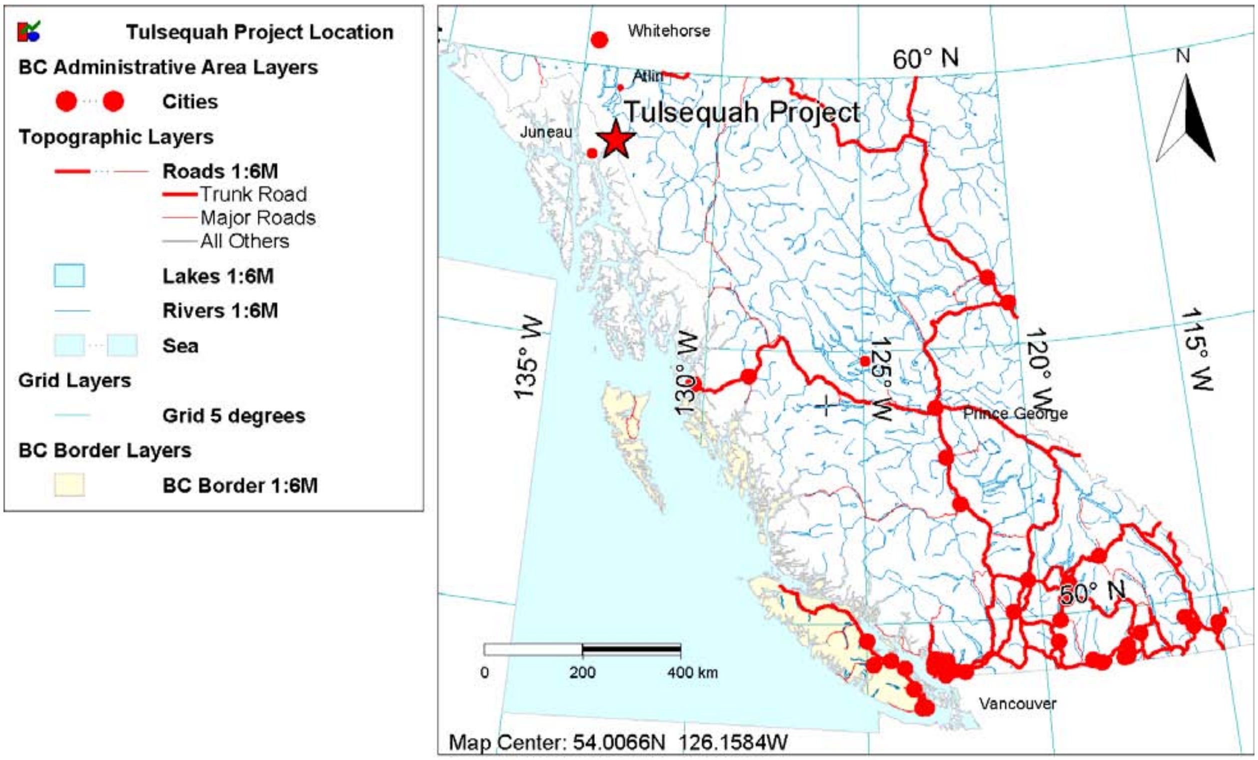


Figure 2: Claim Location

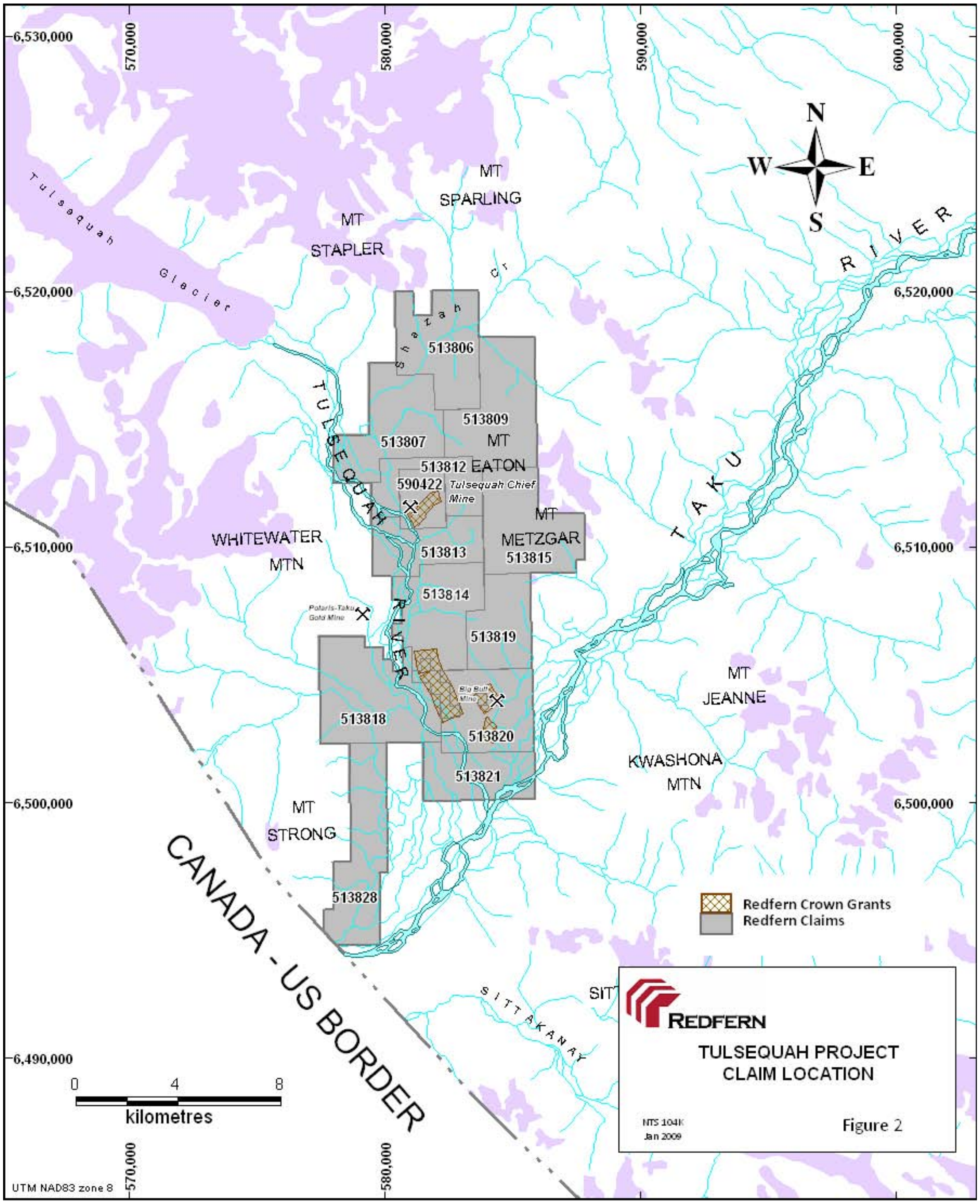
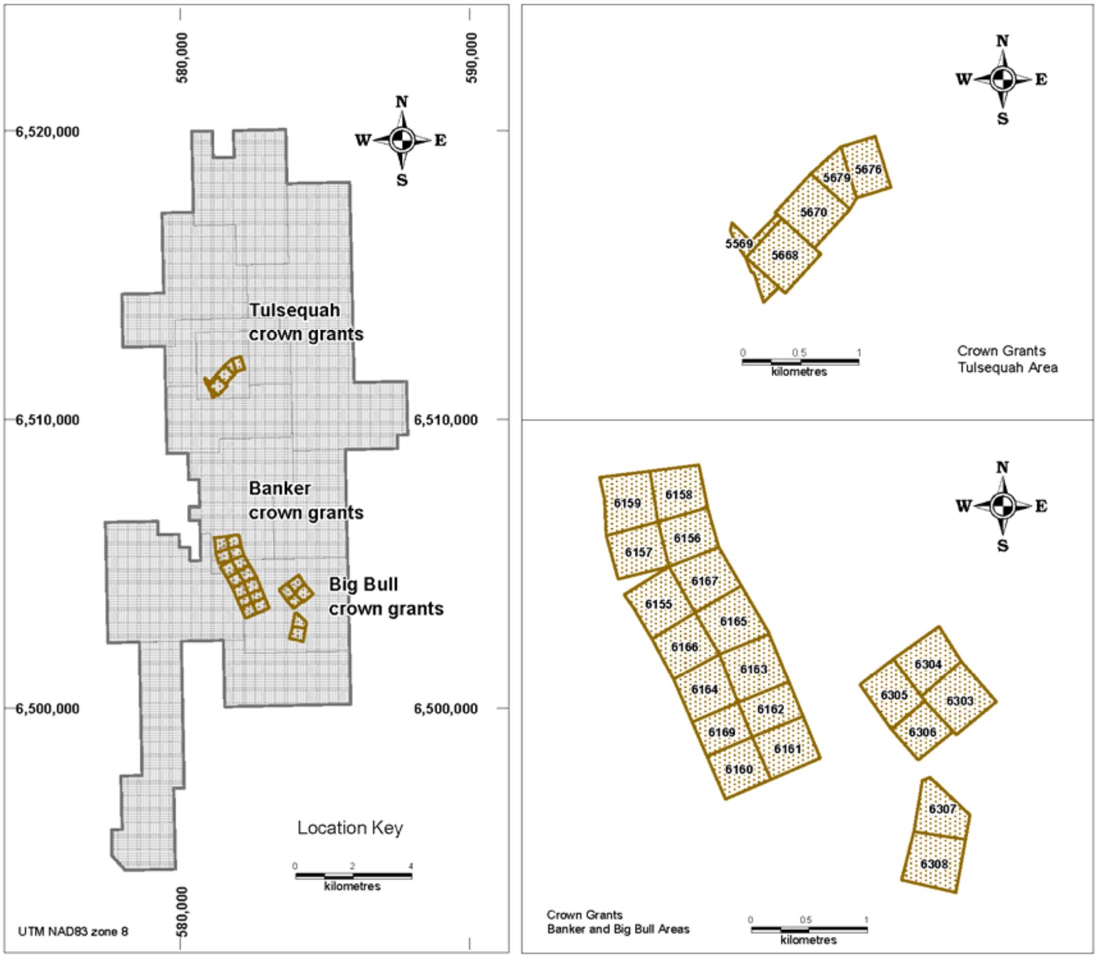


Figure 3: Crown Grant Detail



Tulseqah Area:
5669: River Fr.
5668: Tulsequah Bonanza
5676: Tulsequah Bald Eagle
5670: Tulsequah Chief
5679: Tulsequah Elva Fr.

Big Bull Area:
6303: Big Bull
6304: Bull No. 1
6306: Bull No. 5
6305: Bull No. 6
6308: Hugh
6307: Jean

Banker Area
6155: Vega No. 1
6156: Vega No. 2
6157: Vega No. 3
6158: Vega No. 4
6159: Vega No. 5
6160: Janet W. No. 1
6161: Janet W. No. 2
6162: Janet W. No. 3
6163: Janet W. No. 4
6164: Janet W. No. 5
6165: Janet W. No. 6
6166: Janet W. No. 7
6167: Janet W. No. 8
6169: Joker

TULSEQUAH CHIEF PROJECT
KEY TO CROWN GRANTS

6305 crown grant record number

REDFERN Jan 2009

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Tulsequah property is accessible only by air or water. The most direct access is by helicopter from Atlin. Fixed wing access to the property is possible using the newly constructed Shazah airstrip. Fixed wing and helicopter charter flights are available from Atlin, Whitehorse, or Juneau.

The Shazah airstrip was constructed on Redfern claims in 2008. It is situated just north of the confluence of Shazah Creek with the Tulsequah River, on the east side of the Tulsequah River. The airstrip lies about 2.1 km NW of the Tulsequah Chief minesite by air, or about 10.4 km NW of the Big Bull minesite. The airstrip is currently 1,030m in length, with a gravel surface. An expanded apron and loading ramp suitable for use with a De Havilland Buffalo is present at the airstrip.

There is also a gravel airstrip located at the old Polaris Taku (now New Polaris) minesite on Canarc property. This strip is located 4.7 km SSW of Tulsequah Chief on the west side of the Tulsequah River. The airstrip is suitable for STOL aircraft up to Shorts Skyvan in size. A helicopter is required to access the Redfern property from this airstrip.

A former airstrip located on the Tulsequah floodplain about 8.5 km south of the Tulsequah Chief minesite has been much eroded over the years by the encroaching river and is no longer in service. A helicopter is required to reach the Redfern property from that former airstrip as well.

Conventional water access from Juneau to Redfern's temporary barge landing site on the Taku River is possible for most of the early summer months. Shallow draft vessels are required on the river. The temporary barge landing is located on the west side of the Taku River, about 1.6 km north of the confluence of the Tulsequah River with the Taku River. The barge landing is about 55 km by river from the mudflats at the head of Taku Inlet ("Taku Flats"), which are in turn about 35 km from Juneau along the Gastineau Channel.

A 17 km gravel exploration access road (completed November 30, 2008) runs from the temporary barge landing via the Tulsequah Chief minesite to the Shazah airstrip. A spur off this road leads to the Big Bull area. Big Bull is about 4 km by road from the barge landing, and Tulsequah Chief is about 12.7 km by road from the barge landing.

During 2008, the old exploration camp was entirely removed from the Tulsequah Chief minesite, and replaced by a new exploration camp located at the Shazah airstrip. During 2007 and 2008, Redfern also maintained construction camps at the barge landing, and at times rented overflow accommodation in the Canarc camp across the river at the old Polaris Taku minesite. Power at all of these camps is provided by diesel generators.

Table 2: Coordinates for Camps and Airstrips

Feature	Latitude	Longitude	Remarks
Shazah airstrip and camp	58.752° N	133.636° W	1030m gravel strip (December, 2008); camp capacity as of Dec 31, 2008: 39

Tulsequah Chief mine site	58.737° N	133.600° W	
Canarc airstrip and camp	58.699° N	133.628° W	need helicopter to get from here to Redfern property
core storage (Paddy's Flats)	58.664° N	133.568° W	drill core that was formerly stored at Tulsequah Chief minesite. (Big Bull core is at Big Bull)
Big Bull mine site	58.667° N	133.545° W	
Barge camp	58.644° N	133.569° W	camp capacities as of Dec 31, 2008: Barge camp 1: 49; Barge camp 2: 54

At the Tulsequah Chief mine, the historical 5400 portal and 5200 portal can be reached from the local exploration road. Underground, ore and drill stations can be reached along the 5400 level adit. However, the timbers were removed from that level in 2008. Access to ore and drill stations on the 5200 level is presently obstructed by a passive water treatment facility installed along that level. The adits at the 5900, 6400, and 6500 levels are reached by foot or by helicopter.

Historical underground workings at the Big Bull mine are not accessible due to collapse prior to Redferns's involvement in the project.

The climate at Tulsequah is typical of inland areas of the north coast of BC. It is characterized by high precipitation and relatively moderate winter temperatures due to the influence of the Pacific Ocean. The closest towns for which climate data are available are Juneau, Alaska and Atlin, BC. At river level, snow cover typically lasts from mid-November to early May.

The property is situated, for the most part, directly north of the confluence of the Tulsequah River with the Taku River. Elevations on the property range from 50m at river level to over 1800m at the top of Mount Eaton. Vegetation ranges from wet, dense coastal forest (coastal western hemlock) at the lower elevations to sub-alpine scrub at the higher elevations. Approximately 60 % of the property is covered by dense, mature coastal forest with thick undergrowth including devils club. Two major ice fields; Mount Eaton and Manville, cover approximately 15% of the property area.

The Tulsequah and Taku River valleys are glacial in origin with broad flat floodplains, each several kilometres wide, and moderate to steep valley walls. The Tulsequah River originates at the Tulsequah Glacier, located about 9 km NW of the Tulsequah Chief minesite. Coarse glacio-fluvial sands, gravels and cobbles fill the Tulsequah valley.

The Tulsequah River is noted for jokulhlaup flood events, which may occur several times a year. Although smaller and less frequent, jokulhlaups have been observed in Rogers Creek as well, most recently in 2007.

5 History

1923-1929

The Tulsequah Chief deposit was discovered in 1923 by W. Kirkham of Juneau. He located high-grade barite, pyrite, sphalerite, galena, and chalcopyrite mineralization outcropping in a gully at about 500 meters ASL. Development of this showing between 1923 and 1929 attracted about 40 prospectors to the area.

In 1929, V. Manville discovered the Big Bull massive sulphide deposit. Alaska Juneau Gold Mining Company entered into an option agreement to acquire 55% interest in the property. Alaska Juneau drifted 2000 feet northwest along the Big Bull trend and completed 9 short cross-cuts. They drilled 8 surface holes and one underground hole, but in 1930 relinquished their option.

The Potlatch (Sparling), Banker, and Whitewater (Polaris Taku) veins were also discovered in 1929.

1944

In 1944, Leta Exploration Ltd. optioned the Big Bull property and completed six underground drill holes. They chose not to make the option payment, and abandoned the property.

1946-1957

Consolidated Mining and Smelting Ltd (Cominco Ltd.) acquired the Tulsequah Chief and Big Bull deposits in 1946. Production started in 1951 and continued until 1957. In 1957, low metal prices forced the suspension of mining activity. Production averaged 482 tonnes (530 tons) per day. Total production was 935,536 tonnes, of which 575,463 tonnes came from the Tulsequah Chief and 360,073 tonnes came from the Big Bull deposit. Average grade of the ore was 1.59% Cu, 1.54% Pb, and 7.0% Zn, 3.84 gpt Au, and 126.52 gpt Ag. The mines produced 14,756 tons Cu, 11,439 tons Pb, 54,910 tons Zn, 95,340 oz Au, and 3,329,938 oz Ag at a recovery of about 88% Cu, 94% Pb, 87% Zn, 77% Au, and 89% Ag.

At shutdown, reserves at the Tulsequah Chief were estimated to be 707,616 tonnes grading 1.3% Cu, 1.6% Pb, 8.0% Zn, 2.40 gpt Au, and 116.50 gpt Ag, and at the Big Bull were 57,541 tonnes grading 1.1% Cu, 1.5% Pb, 5.6% Zn, 3.43g/tonne Au, and 154.3 g/tonne Ag. These reserves were estimated by Cominco geologists in 1957 based on detailed underground drilling and sampling and were calculated in accordance with accepted Cominco practices at the time.

1957 – 1979

Very little work is reported in the Tulsequah and Big Bull areas between the 1957 shut-down and 1980. In 1971, the deposits were reinterpreted as volcanogenic massive sulphides, rather than fault controlled hydrothermal replacement as originally described.

1980

In 1980, Redfern entered into a joint venture with Comaplex Resources International Ltd to conduct reconnaissance exploration in northwestern BC, with Comaplex as the operator. During 1980-1981, the joint venture staked claims in the Tulsequah area, including the SEQ claims which surrounded the Tulsequah Chief crown grants. Comaplex completed geochemical and VLF-EM surveys on the SEQ claims (Greig, 1981; ARIS 08933.) Cominco, who had retained the crown grants, staked the CO claims to cover the ground between Tulsequah Chief and Big Bull.

1981

In 1981, the Comaplex-Redfern joint venture performed 1:2500 scale geological mapping the on mineral claims surrounding Tulsequah Chief.

Cominco completed 1:5000 scale geological mapping and geochemical soil sampling on the crown grants at Tulsequah Chief and Big Bull, as well as regional mapping and stream sediment sampling on the CO claims between Tulsequah Chief and Big Bull (Sorbara, 1981; ARIS 09825.)

1982

In 1982, the area was covered by helicopter-borne EM (Dighem II) and magnetic surveys flown by Dighem for Cominco (Klein, 1982, ARIS 10587), and helicopter-borne Input EM and magnetic surveys flown by Questor for Comaplex (Lintott, 1983 ARIS 11018.) These surveys failed to define any significant conductors.

1983

Cominco completed ground geophysical surveys over the Taku River channel during February 1983 to outline southerly extensions of the Big Bull deposit. The program included 10 line-kilometres of HLEM, VLF-EM, and total field magnetics (Lajoie, 1983; ARIS 11361). A weak conductor with a possible bedrock source was identified.

1987

In 1987, Redfern entered into an option to joint venture (40%) with Cominco on an amalgamated property covering the northern parts of the Tulsequah project area, including the Tulsequah Chief deposit, with Redfern as the operator. Redfern also acquired the Comaplex interest in the Redfern-Complex joint venture. Big Bull and the southern parts of the Tulsequah project area were not included in the agreement, and continued to be held by Cominco.

During 1987, surface mapping was completed over the Tulsequah property and five surface diamond drill holes totaling 3,524m were drilled to test the down dip extension of the Tulsequah Chief deposit (Casselman, 1988 ARIS 17137.) The mineralized horizon was intersected on approximately 90 meter spacings, 450 to 600 meters below surface, and 40-240 meters below previous drilling. This program was funded 100% by Redfern.

Cominco completed limited detailed geological mapping on the Big Bull crown grants (Muraro, 1988; ARIS 16983) and 1:10,000 scale mapping in the surrounding area (Payne and Sisson, 1988 ARIS 17054.)

1988
The 1988, 900m of underground workings were rehabilitated on the 5400 Level at Tulsequah Chief, and 3,530m of underground and surface diamond drilling were completed (Casselman, 1989.) Nine holes were drilled to test areas below the old workings. Eight of those holes intersected significant base and precious metal mineralization. Four holes tested other targets on the property. Outside the Tulsequah Chief Mine area, mapping, prospecting, and soil sampling were completed over areas of felsic volcanic units.

Cominco continued geological mapping on the Big Bull crown grants (Muraro, 1989 ARIS 18428.)

1989
Work in 1989 included re-ballasting track, 175 meters of drifting in the 5400 Level crosscut, and 4,890 meters of underground drilling at Tulsequah Chief (Casselman, 1990.) Ten drill holes were drilled from the extended 5400 Level crosscut to test the down dip extension of the known sulphide bodies. Eight of these holes intersected significant base and precious metals. Specific gravity measurements were made on all 1987, 1988, and 1989 mineralized drill intersections.

1990
In 1990 (Aulis, 1991 ARIS 20901) the joint venture continued underground rehabilitation on the 5400 level at Tulsequah Chief, completed 180 meters of drifting, slashed two drill stations on the 5400 Level and drilled eight underground holes totaling 5,908m. Seven drill holes tested the down-dip extension of the H-AB sulphide bodies. An eighth drill hole had to be abandoned due to ground problems.

1991
In 1991 Redfern entered into an option agreement with Cominco to acquire Cominco's interest in both the joint venture Tulsequah property and Cominco's Big Bull property.

The 1991 exploration program was restricted, by agreement with Cominco, to infill drilling on the H and AB lenses between the 3400 and 4900 Levels at Tulsequah Chief. Six drill holes totaling 3,090m were collared from the 5400 Level crosscut. All holes intersected the targeted massive sulphide horizon.

1992
In July, 1992, Redfern exercised their option to acquire Cominco's interest in the Tulsequah property and the Big Bull property, giving Redfern 100% interest in the Tulsequah Chief and Big Bull deposits and surrounding ground, subject to a royalty.

That year Redfern conducted surface and underground geological mapping, re-logged core from the 1987-1991 campaigns, and drilled a further 4,579m in 13 underground holes at the Tulsequah Chief deposit (McGuigan et al., 1993 ARIS 22939.)

1993
Work completed by Redfern during 1993 (Carmichael and Curtis, 1994 ARIS 23559; Chandler and Dawson,1994 ARIS 23763) included:

- 6,238 m of underground drilling in 14 at the Tulsequah Chief mine
- 1,812 m of surface drilling in 6 holes in the Tulsequah Chief near-mine area
- 3,556 m of surface drilling in 12 holes in the Big Bull Mine area

About 79km of linecutting took place during 1993. Extensions were added to existing grids at the Tulsequah Chief and the Big Bull areas and new grids were cut to cover prospective stratigraphy south of Tulsequah Chief and over the Banker prospect (Curtis, 1994, ARIS 23762) Work on the grids included geological mapping at 1:2000, and various combinations of gradient array IP, magnetometer and VLF-EM geophysical surveys. The geophysical surveys also covered the previous grid areas at Tulsequah Chief and Big Bull. Reconnaissance geological mapping was conducted in selected areas.

A prefeasibility study for the Tulsequah Chief deposit was completed by Rescan Engineering Ltd. (Rescan), with positive results.

<u>1994</u>

Exploration by Redfern in 1994 (Chandler, 1995 ARIS 23951; Chandler et al, 1995 ARIS 24183) included:

- 4,241m of underground drilling in 11 holes at the Tulsequah Chief mine
- 1,700m of surface drilling in 4 holes in the Tulsequah Chief mine and near-mine area
- 5,228m of surface drilling in 15 holes in the Big Bull area
- Geotechnical drilling and a geotechnical seismic survey

Underground and surface mapping and sampling programs were completed on the 5400 level main drift, and over 1km of underground rehabilitation was completed on the 5200 level main drift in the Tulsequah Chief mine.

Surface work included the establishment and geological mapping of an additional 10.7km of cut grid over altered felsic volcanic rocks exposed to the south of the 5200 level portal. A total of 71 samples for trace element geochemistry and 14 samples for whole rock analysis and lithogeochemical determination were collected from selected outcrops.

A full feasibility study for the Tulsequah Chief deposit was initiated, based on proposed resource road access from Atlin, and Redfern applied for a Mine Development Certificate for Tulsequah Chief.

<u>1995 – 2002</u>

The Rescan feasibility study initiated in 1994 was completed in 1995, and updated in 1997. However, due to delays associated with the permitting process and subsequent litigation, technical geological work during this period was limited to the collection of a bulk sample from the 5200 Level.

Litigation was resolved in 2002, and a Project Approval Certificate was issued by the provincial government. The process of acquiring a federal environmental assessment certificate for the Tulsequah Chief mine development project continued.

2003

In 2003, (Carmichael 2004 ARIS 27385) Redfern drilled 23 holes totaling 10,109m at Tulsequah Chief. 21 of the holes were underground holes drilled from existing stations within the mine, and 2 were surface holes.

Redfern also continued the process of acquiring a federal Environmental Assessment (EA) certificate for Tulsequah Chief mine development project.

2004

In 2004 (Carmichael 2005, ARIS 27659,) Redfern completed approximately 175m of underground development on the 5400 level at Tulsequah Chief to establish new drill underground drill stations, and then drilled 49 underground drill holes and 5 wedge holes totaling 28,036 meters. This work included infill drilling to support a 43-101 compliant resource estimate, and step-out drilling to extend the resource to depth.

2005

In July, 2005, Redfern received an amended screening level environmental assessment (EA) authorization from the federal government for Tulsequah Chief. AMEC Americas Limited (AMEC) completed an NI 43-101 compliant resources estimate and technical report for the Tulsequah Chief deposit. Legacy mineral claims on the property were converted to MTO cell mineral claims.

2006

During 2006, historical geophysical results from project were reinterpreted and compiled in a digital GIS platform (MapInfo.) Redfern completed underground drilling at Tulsequah Chief, and surface drilling at both Tulsequah Chief and Big Bull.

Seven underground drill holes totaling 2,232m were drilled into the Tulsequah Chief deposit to increase confidence in the mineral resource estimate. This program successfully upgraded some of the inferred resources to the indicated category. Three additional underground drill holes totaling 571m were drilled at Tulsequah Chief to collect material for metallurgical studies.

Fourteen surface drill holes totaling 3,980m were drilled on geological and geophysical targets in the Tulsequah Chief near-mine area. These resulted in the discovery of the A-Extension mineralization, a massive sulphide lens located up-dip from and to the west of the main Tulsequah mineralization, stepping across the 4400 fault. The A-Extension is situated up-dip from the current resource, but could be accessed by extending the existing mine workings.

Thirty-seven surface drill holes totaling 15,312m were drilled at Big Bull to expand the deposit and to test nearby geophysical anomalies. This was the first exploration at Big Bull since 1994. The drilling extended known Big Bull mineralization on strike to the north and the south. In addition, a new zone believed to represent a separate high-grade sulphide lens was discovered in the southwestern part of the Big Bull area. Down-hole IP was attempted on select holes, with only marginal success.

Five surface drill holes totaling 1,837m were drilled on the SE Grid to test IP chargeability anomalies that had been identified during the geophysical re-interpretation. The SE Grid is situated between the Tulsequah Chief and Big Bull deposits. Favourable stratigraphy was identified, but no significant mineralization was encountered in those holes.

Four surface geotechnical holes totaling 519 meters were drilled at the Tulsequah Chief minesite to provide data for the placement of proposed plant infrastructure. Three of these holes were extended to condemn IP chargeability features in the area.

Wardrop Engineering Ltd. (Wardrop) was commissioned by Redfern to prepare a new feasibility study for the Tulsequah Chief deposit incorporating the drill results from the 2006 program and considering alternative design possibilities.

2007

During 2007, Redfern drilled 19 surface drill holes totaling 5791.25m in the Tulsequah Chief area, and 20 surface drill holes totaling 7371.55m in the Big Bull area. At Tulsequah Chief, the drilling was focused on exploring for potential up-dip mineralization in the G zone and in the A-Extension area. Work in the Big Bull area concentrated on exploring the new lens discovered in 2006. A few holes also tested IP anomalies in the immediate Big Bull area.

Wardrop completed a new feasibility study on Tulsequah Chief, based on barge access to the project. NI 43-101 compliant resource estimates for the Tulsequah Chief and Big Bull deposits were calculated by Wardrop Engineering Ltd for Redfern during 2007, and are presently the most current resource estimates for these deposits:

> Tulsequah Chief Reserve
>
> The Tulsequah Chief deposit was estimated to contain a probable reserve of 5,378,788 tonnes grading 1.40 % Cu, 1.20 % Pb, 6.33 % Zn, 2.59 gpt Au, and 93.69 gpt Ag, at an NSR cut-off of US$94 (Wardrop Technical Report dated March 14, 2007)
>
> Tulsequah Chief Resource (News release March 19, 2007)
>
> The resource estimate for the Tulsequah Chief deposit was updated in March, 2007 to include mineralization discovered in the A-Extension, but the reserve was not re-calculated. The updated resource for the Tulsequah Chief deposit is 5,928,800 tonnes grading 1.44% Cu, 1.24% Pb, 6.52% Zn, 2.66 gpt Au, and 96.7 gpt Ag in the indicated category, plus an additional 1,048,800 tonnes grading 0.97% Cu, 0.95% Pb, 5.14% Zn, 1.67 gpt Au, and 72.5 pt Ag in the inferred category, at an NSR cut-off of CAD$86. (A-Extension resource reported in Wardrop Technical Report dated April 11, 2007.)
>
> Big Bull Resource
>
> The Big Bull deposit was estimated by Wardrop to contain an indicated resource of 211,000 tonnes grading 3.33% Zn, 0.40% Cu, 1.25% Pb, 3.043 gpt Au, and 162 gpt Ag, plus an additional inferred resource of 669,000 tonnes grading 0.35%

Cu, 2.59% Pb, 5.97% Zn, 4.1 gpt Au and 195 gpt Ag, calculated using an NSR cut-off of CAD$86, and contingent on Tulsequah Chief being developed (Wardrop Technical Report dated April 27, 2009; SEDAR date April 30 2007.)

Redfern initiated permitting and construction to improve exploration and development infrastructure on the property. A temporary construction camp was built near the barge landing, and a 4km exploration access road was built within the property boundaries extending from the temporary barge landing on the Taku River to the Big Bull area.

A helicopter-borne Lidar survey was flown over the Tulsequah project area for better topographic control. Geotechnical programs including 33 bore holes totaling 462.1m, test pitting, and shallow seismic surveys were completed, as well as terrain stability analyses, environmental studies, archaeological studies, and a timber cruise where infrastructure was planned.

2008

Substantial improvements to the surface exploration infrastructure on the property were completed in 2008. A 1030m airstrip was constructed on Redfern claims on the east (Redfern) side of the Tulsequah River, and an exploration road was constructed to connect the airstrip to the Tulsequah Chief minesite, Big Bull, and the barge landing. A new exploration camp was constructed near the Shazah airstrip, and a second temporary construction camp was built at the barge landing. The old exploration camp at the Tulsequah Chief minesite was torn down.

Redfern drill core previously stored at the Tulsequah Chief minesite was re-located to a new core storage site at Paddy's Flats.

Redfern conducted geological mapping along the 2008 exploration road, surface and underground acid rock drainage studies at Tulsequah Chief, and geotechnical studies (cone penetration tests) on the Shazah fan.

A bench for a new water treatment plant was constructed (blasted in bedrock) at the Tulsequah Chief minesite. The water treatment plant was mobilized to the property, but as of the end of 2008 had not been installed, pending receipt of a permit for a stream diversion.

Planned sites for the Tulsequah Chief mill, NAG/PAG storage areas, and a lay-down area at Paddy's Flats were cleared and stripped. Topsoil strippings from the Tulsequah Chief minestite are stockpiled at the NAG storage area near Rogers Creek. Coverall buildings to protect construction materials and equipment on the property were erected at the NAG site and at Paddy's Flats.

As part of an ongoing reclamation program, roadside areas disturbed during the 2008 road construction program were cleaned and seeded.

An intensive program of consultation, environmental studies, and engineering studies was ongoing throughout 2007 and 2008 to support the permitting processes required both for the improved exploration infrastructure and to advance to mine development at Tulsequah Chief.

6 Geological Setting

The following descriptions of the regional and property geology provide a context within which to understand the work completed during 2008. More detailed descriptions of the geology and mineral deposits can be found in Carmichael, 2004, Milalynuk et al, 1994, and Wardrop 2007a and 2007b, which are also the sources for much of the material in this section.

6.1 Regional Scale

The regional geology of the Tulsequah area, (Figure 4,) is characterized by fault juxtaposition of several diverse Paleozoic to Mesozoic tectonostratigraphic terranes which have been variably deformed, intruded by Jurassic to Cretaceous age Coast intrusions, and unconformably overlain by Tertiary Sloko volcanics (Mihalynuk et al, 1994).

The dominant structural feature of the region is the Llewellyn Fault (known locally as the Chief Fault) which divides higher grade metamorphic rocks of Paleozoic and older ages on the west from weakly metamorphosed Paleozoic and Mesozoic rocks on the east. West of the fault three suites of rocks are recognized: the Whitewater Suite which consists of an amphibolite grade metamorphic sequence of sedimentary origin, the Boundary Ranges Suite, consisting of schists of volcanic and sedimentary origin, and the Mount Stapler Suite, a low-grade metamorphic package which shares characteristics of both the Whitewater and Boundary Range suites and may be gradational to both. East of the fault Paleozoic rocks of the Stikine Assemblage include the Mount Eaton Block comprising low metamorphic grade volcanic rocks of island arc affinity which host the Tulsequah Chief and Big Bull sulphide deposits.

Deformation and metamorphic grade in the Tulsequah region decrease from west to east. Lithologies range from polyphase deformed high grade gneisses in the Boundary Ranges suite to lower greenschist grade volcanics of the Mount Eaton block. The latter has been affected by an upright to steeply overturned, north trending, open to isoclinal fold event. A second, less well developed fold event overprints the first. North trending, steeply dipping faults show evidence of numerous re-activations and intrusion by late Tertiary Sloko dykes.

6.2 Property Scale

The Tulsequah property is dominantly underlain by rocks of the Mount Eaton Block (Figure 5,) an island arc volcanic sequence of Devono-Mississippian to Permian age (Mihalynuk et al, 1994). These rocks lie east of the Chief (Llewellyn) fault and are predominantly located east of the Tulsequah River and north of the Taku River.

The Mount Eaton block hosts the Tulsequah Chief and Big Bull volcanogenic massive sulphide deposits and a number of other similar occurrences and prospects. Work by the BCGS (Mihalynuk et al ,1994), Mineral Deposits Research Unit (MDRU) (Sherlock et al, 1993) and Redfern has outlined a stratigraphy of the Mount Eaton block based on mapping, biochronology, lithogeochemistry and isotopic age determinations. The stratigraphy has been subdivided into three divisions:

The Lower Division is dominated by Devonian to early Mississippian age bimodal volcanic units which include the Mine series felsic rocks hosting the Tulsequah Chief and Big Bull deposits.

The Middle Division, Mississippian to Pennsylvanian in age, is composed dominantly of pyroxene bearing mafic breccias and agglomerates with locally extensive accumulations of mafic ash tuffs and volcanic sediments. The transition from the Middle to Upper Divisions is marked by polymictic debris flows and/or conglomerate.

The Upper Division, Pennsylvanian to Permian in age, consists primarily of volcanic derived and clastic sediments with lesser mafic flows. Distinctive bioclastic rudite and intercalated chert, shales and occasional sulphidic exhalite occur near the top of the Upper Division. Late Tertiary Sloko rhyolite and mafic dykes cut the Paleozoic units and commonly intrude along re-activated north-trending faults.

Structure in the Mount Eaton block is dominated by the north trending, eastward verging Mount Eaton anticline which plunges moderately north and dips steeply west. A number of parasitic upright to overturned folds (F_1) which range from open to near isoclinal occur on the western limb of this anticline. Penetrative fabric is poorly developed except in extremely appressed folds. This first phase of folding (F_1) is refolded by a second, east-west fold phase (F_2) that is irregularly expressed across the property and locally produces a cross-cutting cleavage (S_2). The F_2 folds are generally upright and open. F_1 folds are not significantly re-oriented by the F_2 second phase of folding although they do exhibit variable plunge attitudes. F_1 fold axes generally plunge to the north in the northern half of the property with southern plunges more common in the southern areas. In the Tulsequah Chief area folds are open, and plunge at 55 to 60 degrees to the north with steep westerly dipping axial planes. At Big Bull upright to overturned moderate to tight folds plunge at less than 40^o to the northwest, with steep southwesterly dipping axial planes.

North to northwest trending faults are most common and generally exhibit long-lived, complex displacement histories. Displacement appears to be small on these faults except for the major Chief Fault. Most faults are marked by topographic depressions in the form of steep-sided gullies and ravines. The north trending faults are commonly intruded by Sloko rhyolite dykes.

Younger east-west faults are less common on the property. However, based on regional mapping (Mihalynuk et al, 1994), these faults may have significant displacements. In particular, the Chief Cross Fault was identified as potentially offsetting the regional Llewellyn (Chief) fault in a dextral sense by as much as two kilometers.

The Mount Eaton suite is overprinted by sub-greenschist to middle greenschist facies metamorphism (Mihalynuk et al., 1994) characterized by the breakdown of pyroxene and amphibole to chlorite and epidote, and potassium feldspar to sericite.

Figure 4: Geological Setting

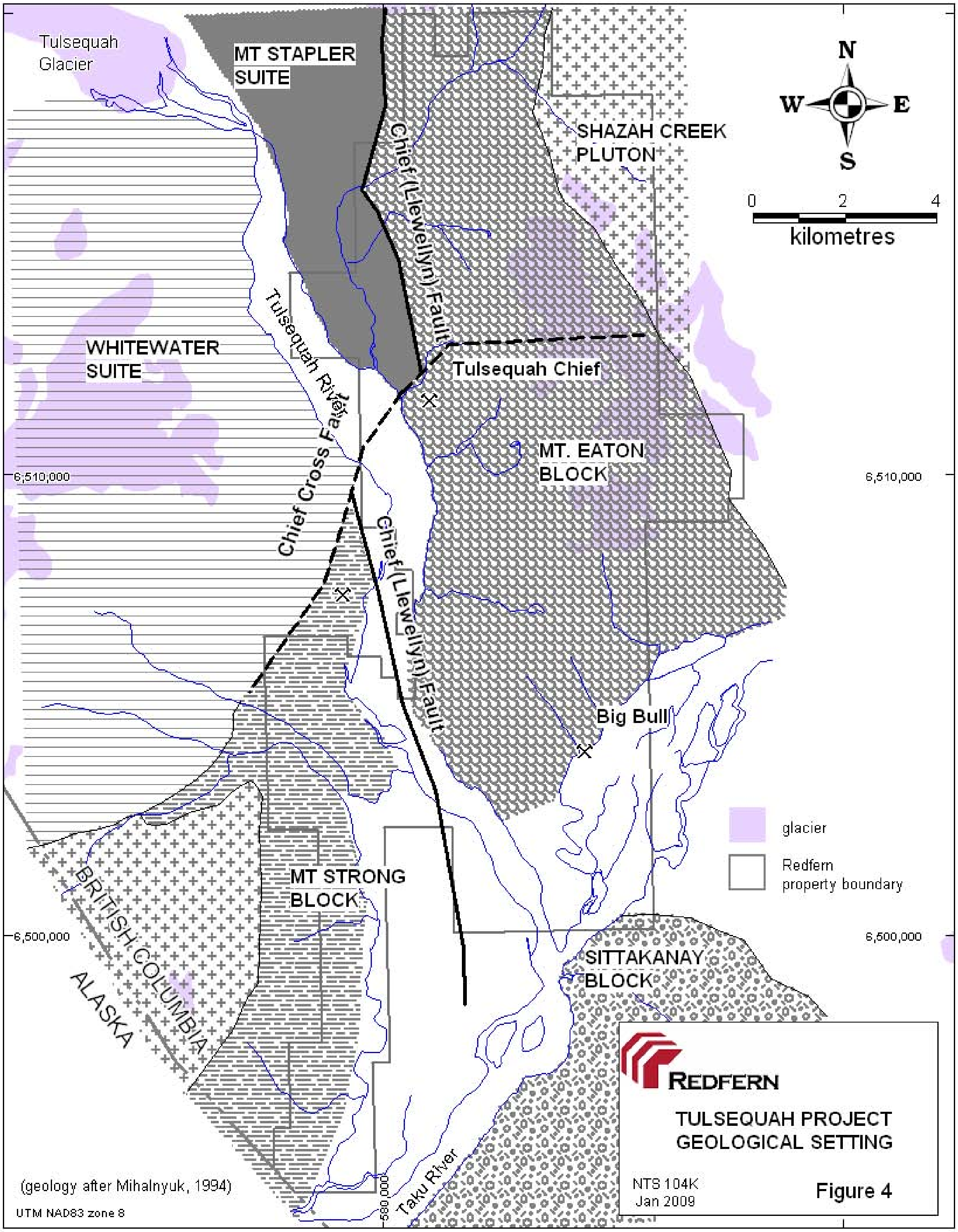
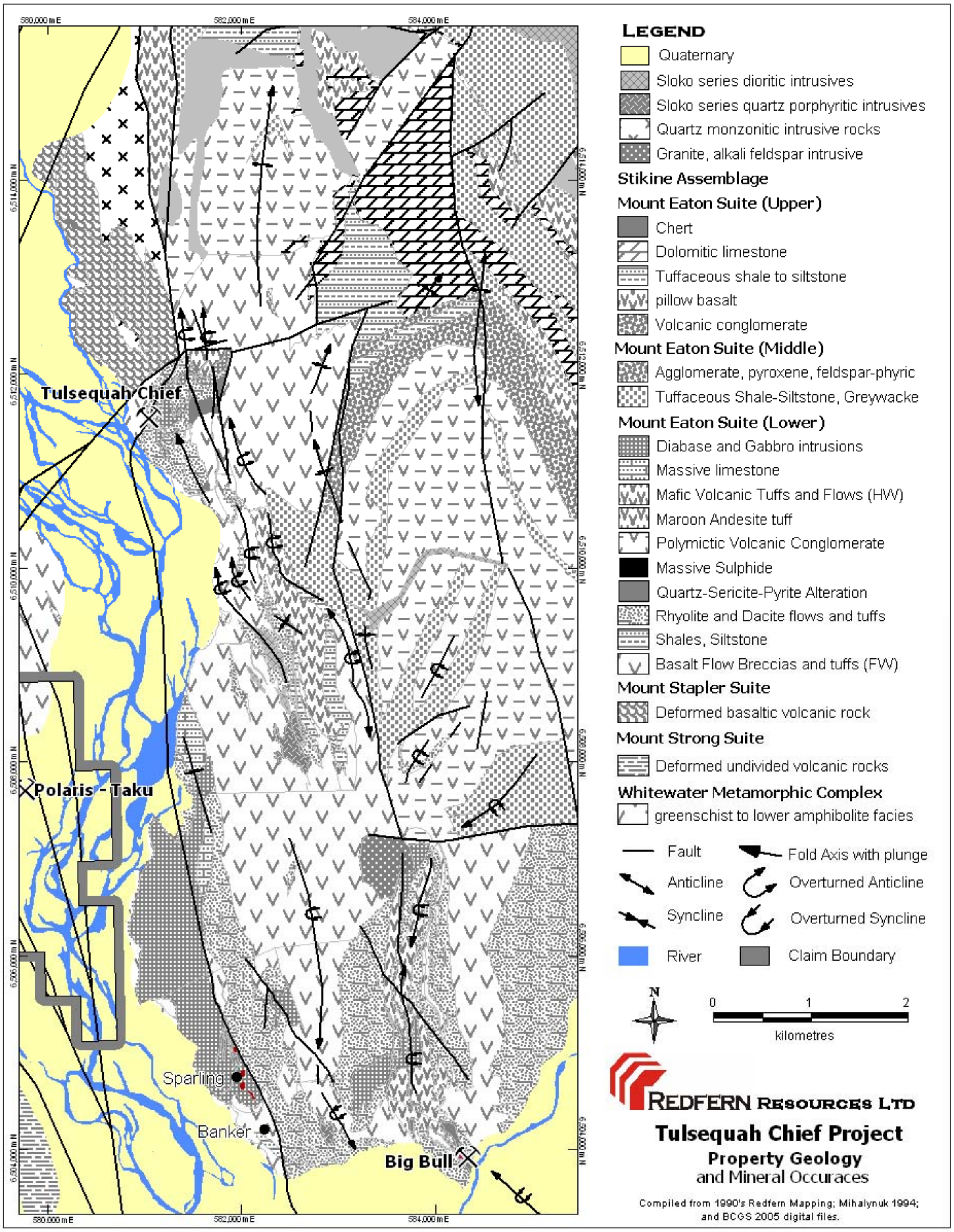


Figure 5: Property Geology



6.3 Mine Scale Geology - Tulsequah Chief

In the Tulsequah Chief mine area, the Mount Eaton suite forms a northward younging package of felsic and mafic rocks that are sub-divided into five units:

Unit 1 - Footwall Series
Unit 1 forms the lowest stratigraphic unit in the Tulsequah Chief Mine area. It consists primarily of amygdaloidal mafic flows with minor interflow ash tuff, volcanic sediment and chert.

Unit 2 - Mine Series
Unit 2 forms a laterally extensive, mainly felsic unit that stratigraphically overlies Unit 1. It consists of felsic volcaniclastics, flows, and sills that are host to a number of semi-massive to massive sulphide lenses at several distinct stratigraphic levels.

Unit 3 - Hangingwall Series
Unit 3 is the highest unit recognized in the Tulsequah Chief Mine area. It consists of mafic flows, sills and lesser interflow volcanic sediment and volcaniclastics.

Unit 4 - Mafic Intrusions
Units 1 through 3 are intruded by subvolcanic mafic intrusions (Unit 4) which form thin sills and dykes that feed a large sill-like body that dilates Unit 2 felsic volcanic rocks.

Unit 5 - Sloko Rhyolitic Intrusions
Tertiary Sloko intrusions (Unit 5) form narrow dykes emplaced along faults in the Tulsequah Chief Mine area. They consist of flow banded and quartz-feldspar porphyritic rhyolite.

Structure

Upright to steeply overturned parasitic folds on the western limb of the regional Mount Eaton anticline form northwesterly plunging anticlinal-synclinal fold pairs in the vicinity of the Tulsequah Chief Mine. Small dextral off-sets in stratigraphy occur along faults, including the 4400 and 5300 faults, which run sub-parallel to the axial plane of these folds (Mihalynuk et al., 1994).

The 4400 fault is expressed as a gully at surface, and as a 1m of clay gouge zone at depth. Strikes range from 355^{o} to 003^{o}, with easterly dips of 75^{o}-80^{o}. Off-sets across the fault generally appear to be less than 50m. Surface expression of the 5300 fault is less pronounced, but underground it too is expressed as a 1m clay gouge zone. The 5300 fault generally strikes to the north, but has a number of sub-parallel splays. Dips are generally about 80^{o} E. Off-sets across the 5300 fault appear to be less than 30m. Both faults are intruded locally by Sloko rhyolite dykes.

The 4400 and the 5300 faults divide the Tulsequah Chief mine geology into three structural blocks. The Western Mine Block (WMB) lies west of the 4400 fault, the Central Mine Block (CMB) lies east of the 4400 fault and west of the 5300 fault, and the Eastern Mine Block (EMB) lies east of the 5300 fault. It is generally possible to correlate stratigraphy across these faults in the mine area.

In detail, parasitic folds between the 4400 and 5300 faults are upright to overturned and have moderate interlimb angles. Axial planes strike AZ166° and dip 79°W and the fold axis plunges 56° in the direction of AZ 329°.

West of the 4400E fault, bedding generally strikes north-northeast and dips moderately to steeply west. An overturned, north plunging synclinal fold is interpreted between the F Zone and the 5200 Level alteration zone. The synclinal closure between Unit 1 mafic flows and the overlying Unit 2 felsic volcanics reaches surface approximately 500 meters southeast of the 5200 Level portal.

East of the 5300E fault, bedding strikes northeast and dips vertically to steeply westward.

6.4 Mine Scale Geology – Big Bull

In the Big Bull mine area, felsic and mafic rocks of the Mt. Eaton Suite are presently subdivided into six main lithologic units. Overall, volcanic rocks in the Big Bull mine area appear finer grained, more distal, and locally more strongly deformed than those at Tulsequah Chief. The working Big Bull subdivisions differ from those used at Tulsequah Chief, although Units 1 and 2 correlate fairly well.

<u>Unit 1 - Footwall Series</u>
Unit 1 forms the lowest stratigraphic unit in the Big Bull Mine area. It consists primarily of mixed mafic lapilli and ash tuffs, with occasional fine-grained, massive, feldspar-phyric sections interpreted as flows. The lapilli tuffs typically contain fragments of amygdaloidal basalt.

<u>Unit 2 - Mine Series</u>
Unit 2 forms a laterally extensive, mainly felsic unit that stratigraphically overlies Unit 1. It consists of grey to grey-green laminated to chaotically banded dacitic tuffs with minor massive feldspar phyric flows and sills. Magnetite and/or hematite occur as disseminations and disrupted bands, locally forming up to 15% of the unit. The Big Bull deposit is hosted in Unit 2 rocks.

<u>Unit 3 -Andesitic Tuff and Tuffaceous Chemical Sediments</u>
Grey to maroon, fine to coarse-grained andesitic fragmental rocks conformably overlie Unit 2. The maroon colour is due to fine-grained disseminated red hematite. This unit is variably calcareous, with some sections containing up to 30% pervasive white calcite.

Massive to banded black iron and manganese chemical sediments occur locally near the base of Unit 3. XRD work by the Mineral Deposit Research Unit at the University of British Columbia identified the main manganese minerals in this unit as braunite and piemontite.

The stratigraphic top of Unit 3 is often marked by maroon tuffs interbedded on a 1-10cm scale with black iron and manganese chemical sediments. The bedded nature and distinctive appearance makes this a useful marker horizon in the Big Bull area.

Unit 4 - Basaltic Tuffs and Flows

Unit 4 comprises dark green, chlorite and epidote-rich mafic tuffs and flows containing patches and streaks of black hematite. Sausseritized feldspar crystals and crystal fragments are common, locally forming up to 30% of the rock. This unit is in gradational contact with unit 3.

Unit 5 - Mafic Intrusives

A large body of medium-grained equigranular to weakly feldspar porphyritic blocky weathering diorite outcrops northwest of the Big Bull open cut. Finer grained chloritic and locally biotitic mafic dykes and sills are seen in core, although they can be difficult to differentiate from massive intervals of Unit 4. The mafic intrusives of Unit 5 are relatively unaltered.

Unit 6 - Late Dykes

Distinctive pale grey quartz feldspar porphyry dykes postdate all other lithologies in the Big Bull mine area, and are thought to be related to the Tertiary Sloko Group. A late feldspar-phyric mafic dyke is also noted.

Large blocks of massive sulphide from Unit 2 have been encountered in Units 3 and 4.

Structure

Rocks in the Big Bull area have been affected by two phases of folding and several episodes of faulting, creating an area of structural complexity. Lithologic contacts generally trend north-northwest, with steep dips to the southwest.

The first phase of folding is the dominant phase in the Big Bull area, and formed the Big Bull syncline. This phase is characterized by tight, moderately overturned folds with axial planar cleavage oriented at about 140^{o} dipping 84° to the southwest. Fold axes trend at 321° and plunge at 30 to 50°.

A second, weaker phase of folding is indicated by a crenulation fabric with axial planes oriented roughly east-west, and dips steeply to the north.

Post-ore brittle faulting has affected the mineralization at Big Bull. The Bull fault is a northwest-striking, steeply west-dipping structure which is approximately axial planar to the Big Bull syncline. The Bull fault has disrupted the massive sulphide lenses in places, with brecciated and rotated mineralized blocks present in the fault gouge. The fault has had a long history involving several periods and directions of movement, the latest of which offsets a quartz feldspar porphyry dyke of probable Eocene age. Although the amount and direction of displacement across the fault is unknown, apparent offsets of lithologic units suggest sinistral strike-slip movement (Barclay, 1993.)

7 Mineralization

The Tulsequah Chief and Big Bull deposits are interpreted to be polymetallic volcanogenic massive sulphide deposits of bimodal-felsic, island arc or arc-related affinity, similar to the Kuroko deposits in Japan. The massive sulphide mineralization is deposited at or slightly below the sea floor during/following the venting of metal rich hydrothermal fluids, and is associated with large zones of hydrothermal alteration in the rocks below the deposits.

At both Tulsequah Chief and Big Bull, mineralization consists of multiple lenses of massive to semimassive sulphides dominated by pyrite, chalcopyrite, sphalerite, and galena. Bornite, tetrahedrite, and native gold, although less abundant, are also important economically. Gangue minerals include barite, chert, gypsum, anhydrite, carbonate, quartz, chlorite and sericite. The sulphide lenses generally have sharp contacts. Although various ore facies are identified, their physical distribution is complex, limiting the utility of classic VMS ore zonation patterns here.

Mappable sulphide facies (containing >30% sulphide content by volume) include:

- Copper Facies (CUF): characterized by massive to banded pyrite and chalcopyrite, with minor bornite, sphalerite, and galena.

- Zinc Facies (ZNF): primarily sphalerite and galena in a baritic gangue, with much less pyrite and chalcopyrite.

- Lead Facies (PBF): mineralization dominated by galena, often associated with tetrahedrite

- Pyrite Facies (PYF): massive pyrite with fewer economic sulphides.

All these ore types may occur within a single lens, typically with sharp boundaries between them.

In addition to the stratiform ore lenses, narrow but high-grade precious-metal rich veins are encountered. These veins typically contain visible gold and occasionally native silver.

Alteration in the footwall to the sulphide lenses is characterized by intense, texture-destructive quartz-sericite-chlorite-pyrite alteration. Silica ranges from thin fracture envelopes to pervasive zones of intense silica flooding bleaching the rocks. These zones are often crosscut by white quartz-pyrite ± chalcopyrite ± chlorite veins (generally <30 cm). Silica alteration decreases with depth and distance from the sulphide lenses and feeder structures, leaving an assemblage of chlorite-sericite+/- pyrite. Fine-grained, exceptionally pale disseminated sphalerite is sometimes present in the intensely altered footwall rocks.

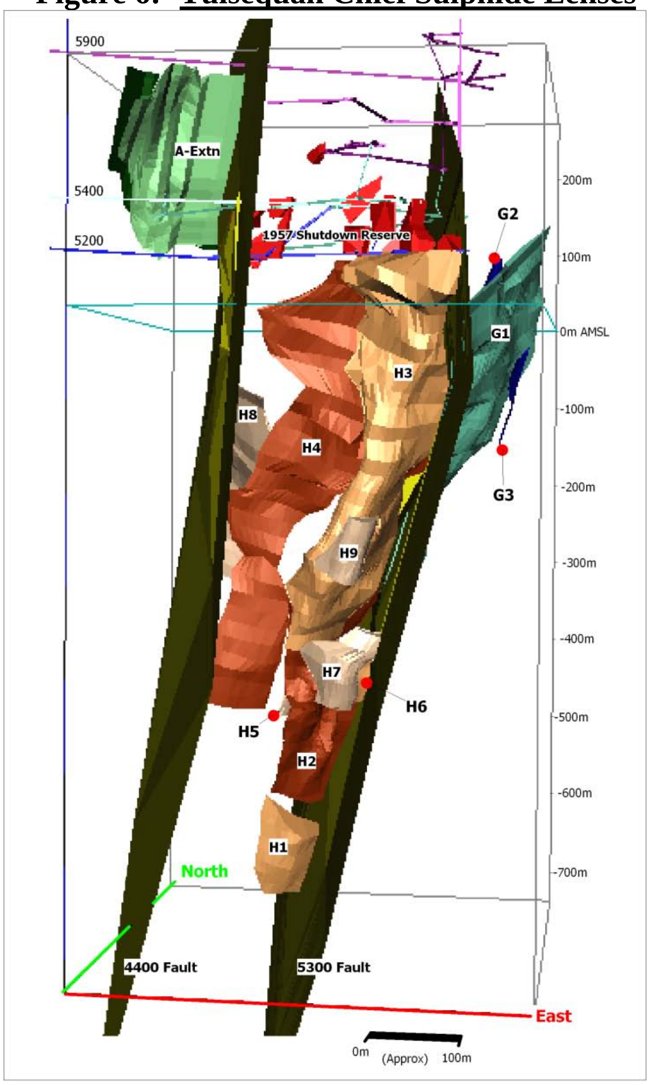
Hanging wall alteration is poorly developed and is confined to flows and tuffs within and directly above the sulphide lenses. It is characterized by an assemblage of albite, epidote, chlorite, silica, and magnetite or hematite. Albite occurs as thin, white to grey fracture envelopes. Where fracture density is higher or alteration more intense, albite forms irregular pervasive zones, and primary textures become obscured.

7.1 Tulsequah Chief Deposit

In the 1950's, Cominco assigned letters to mineralized zones on an individual stope scale. Stopes mined above the 5200 Level included the A, B, C, D and E stopes. The F zone was was situated just west of the 4400E fault. Generally, these terms referred to individual sulphide lenses, regardless of stratigraphic position or relation to faulting.

The current resource at Tulsequah Chief is contained in 13 distinct semi-massive to massive sulphide lenses which range in size from 25,000 tonnes to just under 2 million tonnes (Wardrop, 2007.) The relative locations of these lenses are depicted in Figure 6.

Figure 6: Tulsequah Chief Sulphide Lenses



- A-Extension is situated on the west side of the 4400 fault, on the “F Anticline”, and up-dip from the current reserve.

- H-1 to H-9 are situated in the Central Mine Block between the 4400 fault and the 5300 fault. These lenses are distributed around and along the hinge of an upright fold that plunges at 55^{o} to 65^{o} to the northwest (325^{o}) True thicknesses of the H lenses range from 1.5 to 40m. Individual lenses extend up to 550m down-plunge.

- G-1, G-2, and G-3 are situated east of the 5300 fault. These lenses have a northerly trend with westerly dips. True thicknesses range from 1.5 to 10m. Maximum strike lengths of the G lenses are approximately 400m. Down plunge, the lenses extend up to 620m.

Most of the current resource is contained in the G-1, H-2, H-3, and H-4 lenses.

NI 43-101 compliant resource estimates for the Tulsequah Chief and Big Bull deposits were calculated by Wardrop Engineering Ltd for Redfern during 2007, and are presently the most current resource estimates for these deposits:

Tulsequah Chief Reserve
Tulsequah Chief deposit was estimated to contain a probable reserve of 5,378,788 tonnes grading 1.40 % Cu, 1.20 % Pb, 6.33 % Zn, 2.59 gpt Au, and 93.69 gpt Ag, at an NSR cut-off of US$94 (Wardrop Technical Report dated March 14, 2007)

Tulsequah Chief Resource (News release March 19, 2007)
The resource estimate for the Tulsequah Chief deposit was updated in March, 2007 to include mineralization discovered in the A-Extension, but the reserve was not re-calculated. The updated resource for the Tulsequah Chief deposit is 5,928,800 tonnes grading 1.44% Cu, 1.24% Pb, 6.52% Zn, 2.66 gpt Au, and 96.7 gpt Ag in the indicated category, plus an additional 1,048,800 tonnes grading 0.97% Cu, 0.95% Pb, 5.14% Zn, 1.67 gpt Au, and 72.5 pt Ag in the inferred category, at an NSR cut-off of CAD$86. (A-Extension resource reported in Wardrop Technical Report dated April 11, 2007.)

7.2 Big Bull Deposit

The upper parts of the main Big Bull massive sulphide lens were mined by Cominco in the 1950’s. More recently, drilling by Redfern has extended the main lens both on strike and to depth. The main lens parallels the Bull Fault for over 1000m strike length, trending 140° with dips at 60° to the SW. The main lens averages about 2m in width and has been defined by drilling to about 350m down dip. The mineralization is dominated by sphalerite in clots and bands, with associated galena and lesser chalcopyrite and tetrahedrite. Clots and bands of mineralization also occur discontinuously within the intense quartz sericite pyrite (QSP) altered footwall.

In the southern parts of the Big Bull trend the distribution of mineralization becomes structurally (and possibly stratigraphically) more complex, with sub-parallel trends or lenses hosted in the mine series rocks. Late mafic intrusions cut the mineralization. The extent to which these sub-parallel trends are additional lenses as opposed to fault off-sets of the main lens remains to be determined.

At the southern end of the Big Bull trend, a relatively high grade lens or possibly a very large paleo-raft known as the “62 Zone” has been intersected in several drill holes, with the best results coming from drill holes BB06062 and BB07066. Mineralization is dominantly massive to banded, disseminated and stringer medium brown sphalerite with finely disseminated galena and wisps and blebs of chalcopyrite, minor disseminated pyrite and several flecks of visible gold. Intense quartz sericite pyrite alteration is present in the footwall, but grades abruptly into mafic volcanic flows and tuffs, rather than the dacite found in the footwall to the main lens.

Similar mineralization has also been intersected in what are interpreted to be smaller blocks of paleo-talus in mafic volcanic flows and tuffs, such as in drill holes BB06040 at 358m, and BB06038 at 319.1m.

NI 43-101 compliant resource estimates for the Tulsequah Chief and Big Bull deposits were calculated by Wardrop Engineering Ltd for Redfern during 2007, and are presently the most current resource estimates for these deposits.

> Big Bull Resource
> The Big Bull deposit was estimated by Wardop to contain an indicated resource of 211,000 tonnes grading 3.33% Zn, 0.40% Cu, 1.25% Pb, 3.043 gpt Au, and 162 gpt Ag, plus an additional inferred resource of 669,000 tonnes grading 0.35% Cu, 2.59% Pb, 5.97% Zn, 4.1 gpt Au and 195 gpt Ag, calculated using an NSR cut-off of CAD$86, and contingent on Tulsequah Chief being developed (Wardrop Technical Report dated April 27, 2009; SEDAR date April 30 2007.)

7.3 Other Occurrences

Most of the Redfern exploration efforts have been directed towards advancing the Tulsequah Chief and Big Bull deposits. However, there are a number of other historical showings present in within and nearby to the current Tulsequah property. These are listed in Table 3, below. Descriptions of the historical showings can be found in MinFile. During the 2008 mapping program, two new occurrences of footwall style quartz sericite pyrite alteration were encountered in felsic volcanic rocks near bridges 16 and 17, the distribution of veins associated with the Sparling occurrence was extended, and molybdenite was discovered at Station 107.

Table 3: Other Occurrences

Compiled by I. Coster from MinFile and in-house sources

Occurrence	Lat/Long	UTM NAD 83	Minerals	Setting	Notes
<u>Shazah Area</u>					
Spec	58° 45'34"N 133°37'06"W	579929E 6514091N	po, py, cp	strataform replacement	sulphide lens in limestone
Stoker	58° 50 58 133° 33 49	582880 6524177	cp, sph, gn	skarn and mineralized tuff	remobilized sx (from VMS?)
Ono	58° 46 53 133° 36 39	58031 6516543	cp, po	strataform repl. & msx in rhyolites	metasomatic sx, felsic volc
Oya	58° 48 44 133° 36 43	580177 6519974	asp, gn, sph, cp, py (Au, Ag)	intercalated volcs & seds	strataform sx in chert & limestone beds
Nick	58° 48 133° 38		po, py, cp, (Au, Ag)	intercalated volcs & seds	(old oya claims) sx in limestone, andesite tuff
Chef	58° 50 55 133° 35 40	581103 6524046	cp, sph, po, py	msx & diss. in alt'd tuff, seds (vein?)	sx in altered tuff and seds
Canyon	58° 47 37 133° 32 55	583880 6517980	py (Au)	vn in alt'n halo	qtz vn, Au 15 g/t
<u>West of Big Bull</u>					
Potlatch (Sparling)	58° 40 28 133° 35 17	581880 6504664	gn, sph, py, cp, Ag	veins in shear	qtz-sericite-carb altered shears; high silver
Banker	58° 40 09 133° 34 40	582488 6504089	sph, gn, tt, asp, cp, py, Ag, Au	qtz-carb veinlets in limestone	high grades, narrow widths; underexplored rhyolite
<u>West of Tulsequah River</u>					
Martha	58° 40 57 133° 37 45	579478 6505511	py, Au	vein	qtz-carb v-lets in wide py alt'n zone
Wy	58° 43 28 133° 38 16	578884 6510171	Ag	vein, shear	v. low grade; 2 m wide, 500 m long
Silver Queen	58° 41 03 133° 38 53	578379 6505675	sb, cp, py	veins & py'n in alt'n	on strike with polaris-taku
Silver Bird	58° 40 48 133° 40 57	576391 6505171	asp, sb, py, Au, Ag	narrow shears	Au 7.5 g/t
<u>South and West, Taku River Area</u>					
Lucky Strike	58° 35 19 133° 40 07	577399 6495013	sph, gn, py	veins in metam. rx	poorly mineralized
Council	58° 35 53 133° 34 38	582689 6496173	sb, py, mp	qtz-carb shear	anty claims 1965 ('67) antimony only
Surveyor	58° 36 45 133° 32 11	585026 6497832	sb, py, mp	qtz-carb shear	antimony only
<u>Mt. Manville Area</u>					
Goat	58° 42 29	586790	cp, sph,	dissem. in felsic	low grades, minor alt'n

	133° 30 07	6508514	py	volc's	
<u>New in 2008</u>					
Bridge 16		580485, 6513089	qtz, py, ser	rhyolite	footwall style alteration
Bridge 17		580330 6513510	qtz, py, ser	rhyolite	footwall style alteration
Station 107		581420 6508610	mo, mp	qtz-carb shear in limestone/tuff	

8 Exploration Infrastructure

During 2008, an airstrip (the Shazah Airstrip) was constructed on the Tulsequah property, and an exploration road link established from the Shazah Airstrip to the Tulsequah Chief minesite and on to the barge landing on the Taku River. Spur roads were established from the main road to the Shazah fan and from the main road to Paddy's Fats. The airstrip and roads were used to support the 2008 technical program.

8.1 Mobilization and Logistics

<u>Sea Lift</u>
Sea lift of heavy equipment and materials took place during the summer months of 2007 and 2008. Materials were carried by ocean-going barge from various ports, dominantly Prince Rupert, either directly to the mouth of the Taku River, or to temporary storage in Juneau, Alaska. From there, materials and equipment were barged to the property by conventional shallow draft barge and tug up the Taku River to a landing on the west side of the Taku, on the Tulsequah property. Barging was executed both by Wainwright Marine and by Redfern.

Some of the heavy equipment necessary to construct the Shazah airstrip was mobilized to the property by barge. To get to Shazah, the equipment was walked from the barge landing up a spur from thr 2007 road to the Tulsequah River, and from there up the Tulsequah River gravel floodplain to the Shazah area. The equipment portage was completed on January 17, 2008.

<u>Heavy Air Lifts</u>
During November and December, 2007, some of the equipment and materials necessary for the 2008 program were airlifted to the property using a Boeing Chinook 234 helicopter operated by Helifor Canada and a Bell 212 helicopter operated by Ascent Helicopters.

After the Shazah airstrip was constructed in 2008, fuel and heavier or larger equipment and materials staged in Atlin were shuttled to the property using a DeHavilland DHC-5 Buffalo operated by Arctic Sunwest and a Shorts SC7 Skyvan operated by Alkan Air.

<u>General Air Support</u>
Throughout the 2008 program light helicopter air support was provided by Discovery Helicopters of Atlin (operating Bell 206B jet rangers and a 206L long ranger). Medium

helicopter support (Bell 205 and Bell 212) was provided by Ascent Helicopters. Helicopters were stationed both on site and in Atlin.

Once the Shazah airstrip became serviceable, fixed wing support using a variety of aircraft operated by Alkan Air and Atlin Air, as well as other operators, became an important logistical component to support construction activities and technical program, with aircraft operating from both Atlin and Whitehorse. In addition, Alkan Air operated regularly scheduled flights to the property for crew rotations using DeHavilland DHC-6 Twin Otters on wheels.

Camps, Communications, and On-Site Access
Construction of sufficient on-site accommodations to house the workforce required for the 2008 program was one of the rate-limiting factors affecting progress during the 2008, and camp construction was a significant activity (albeit not an assessment activity) throughout the year. At the start of the year, workers were housed in the existing camp at the barge landing and in the Canarc camp at Polaris Taku. During 2008, a new 39-bed camp was constructed at the Shazah Airstrip, the first barge camp was expanded to 49 beds, and a second 54-bed barge camp was constructed. Construction of the Shazah camp began in February, and was largely complete by the end of April Final approvals for the water systems were received in July. Construction of the Barge 2 camp started in May and the camp was finally occupied in October. Once this camp was operating, the Canarc camp was closed.

Satellite voice and data communication systems were established at the Shazah and Barge camps. Construction and technical programs were controlled by VHF radio, with licensed repeaters situated south west of barge camp on a mountain ridge at approximately 578340E N6509820N.

Crew transport between the camps and the worksites was accomplished by various combinations of helicopter and, as road construction advanced, truck or ATV.

8.2 Environmental Monitoring

As part of the construction program, one or more representatives of the Taku River Tlingit First Nation (TRTFN) were on site as observers when and as directed by the TRTFN. In addition, Gartner Lee (now AECOM) was contracted to provide independent Environmental Monitors to ensure that the various measures to mitigate environmental impact during construction were implemented properly and in accordance with best practices, permit stipulations, and the spirit of responsible development.

An explicit technical program to monitor for potentially acid generating rock was implemented. Redfern geologists were trained in ARD criteria, and then visited all construction sites and road fill sources daily to assess the material and ensure that only non-acid generating rock was used for fill. Environmental Engineer Rob Marsland was responsible for the program.

8.3 Shazah Airstrip

During January to May 2008, a 1030m gravel airstrip with a design width of 80m was constructed on mineral cell claim 513807 on the Tulsequah property approximately 2.5km north of the Tulsequah Chief minesite. The airstrip is situated at latitude 58.752^{o} N and longitude 133.636^{o} W on the east side of the Tulsequah River just north of Shazah Creek, and runs at azimuth 320/140.

A total of 50 ha were cleared around the airstrip in order to provide a clear flight path for aircraft. The airstrip is built up above the 50 year flood level of Shazah Creek and is bordered by a berm armoured with rip rap to protect against erosion. Approximately 153,650 m^3 of fill material taken from a nearby borrow pit were used to construct the runway. The top of this fill was packed and compressed to form the current runway surface. As of year-end, 2008, an additional 20cm of crush was still required to achieve final design.

Airstrip design had been completed by Wardrop Engineering. Construction was performed by Arctic Construction Ltd. Equipment used in the airstrip construction included a Caterpillar D9 bulldozer, 330 excavator, grader, packer, and Volvo 830 rock trucks.

The design length of the airstrip was 1200m, so that it could accommodate aircraft such as the Hawker Siddley HS-748. However, as of year-end 2008, construction of the final 170m was still on hold pending receipt of a federal DFO authorization.

8.4 Tulsequah Road

During January to December, 2008, a gravel exploration road was completed within the boundaries of the Tulsequah property to link the Shazah airstrip to the Tulsequah Chief minesite, the spur road to Big Bull, and the barge landing on the Taku River. The road location is sketched in Figure 7, and portrayed in greater detail on the Road Geology Maps 3, 4, and 5, where the bridge numbers are also indicated. The distance by road from the airstrip to the barge landing is 17.5 km, of which the southern 2 km had already been constructed in 2007 and the remaining 15 km were constructed in 2008.

During 2008, spur roads were also constructed from this main road to access a lay-down and core storage area on Paddy's Flats (0.77km), and to access the site of geotechnical studies over the proposed tailings area on Shazah fan (0.15 km of gravel road plus 3.2 km of unimproved cat trail.)

The 2008 road crosses both mineral claims and crown grants on the Tulsequah property. The length of road on each claim is outlined in Table 4.

Figure 7: Road Location Sketch

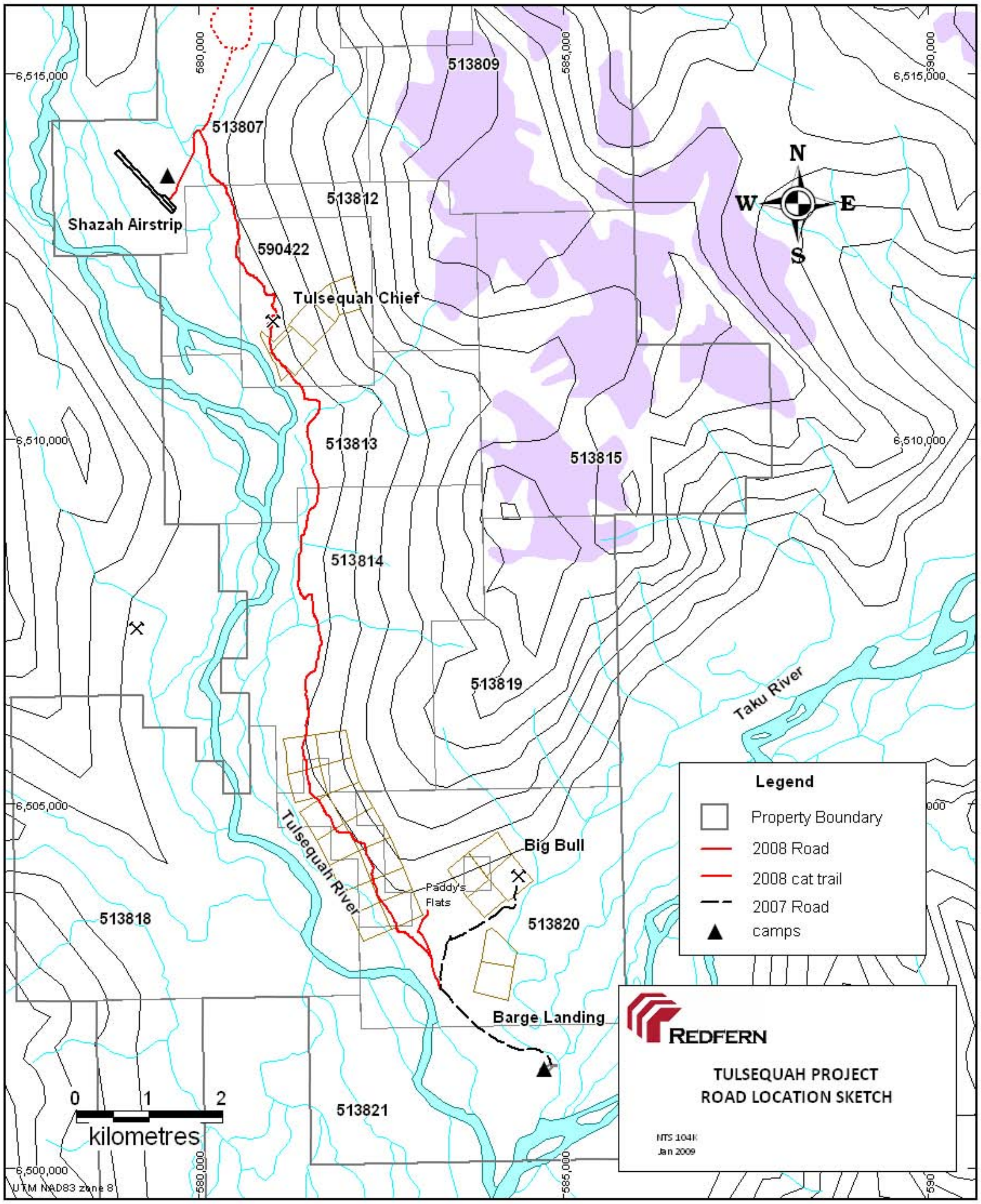


Table 4: Distribution of 2008 Road Construction Work

Tenure	Road Length	Bridges	Remarks
513807	1.95 0.15 3.20	2 1	main road spur to Shazah fan geotech– road segment spur/loop on Shazah fan for geotech – cat trail segment
513812	.95	2	
513813	1.64	1.5	
513814	3.84	7	
513820	1.13 0.77		main road spur to Paddy's flats
590422	2.48	2.5	
5569	*0.35*	*1*	*overlapped by cell claim 590422*
5668	*0.19*		*overlapped by cell claim 590422*
6155	*0.46*		*crown grant*
6157	*0.44*		*crown grant*
6159	*0.37*		*crown grant*
6160	*0.09*		*crown grant*
6161	*0.33*		*crown grant*
6163	*0.44*		*crown grant*
6164	*0.01*		*crown grant*
6165	*0.07*	*1*	*crown grant*
6166	*0.45*		*crown grant*
6169	*0.37*		*crown grant*

Road construction was completed by Arctic Construction Limited (ACL) of Ft. St. John. Rock drilling and blasting were subcontracted by ACL to McCaws Drilling and Blasting Limited Bridge building was subcontracted by ACL to Ruskin Construction Limited. Site engineering was monitored by Sandwell Engineering Inc, while road design was engineered by Wardrop Engineering Inc. Permitting and environmental monitoring were supervised by Gartner Lee Limited (now AECOM.) Surveying was performed by Underhill Geomatics Ltd. Construction was overseen by a qualified engineer.

The constructed road is generally 6m wide, within a minimum clearing width of 20m. Pull-outs of at least 20m length x 3-5m width with tapers were established approximately every 1000m. The maximum design grade is generally 10%. However, work to bring the steep segment climbing up from the river flats onto the side-hill heading south from Bridge 9 to design grade (12%) was not complete as of the end of 2008. The grade of that segment of the road is estimated to be 15 to 18%.

Most of the bridges are single lane timber bridges, but steel girders have been used in a few of the bridges.

During construction clearing, merchantable timber was stacked at suitable pullout locations. For the most part, timber for the bridges was obtained from this material and sawn on-site by Smallwood Enterprises of Atlin, using a portable saw-mill set-up near the Shazah airstrip. At certain stages during the road construction this material was supplemented by selective logging for suitable bridge timbers, and by purchase of additional cross-ties and decking obtained off-site and flown in from Atlin.

The work was performed in accordance with the practices outlined in EMPR Handbook for Mineral and Coal Exploration, The Forest Practices Code of BC (where applicable) and the BC Ministry of Transportation and Highways BC supplement to TAC Geometric Design Guide 2001 Edition. The Forest Road Engineering Handbook was used to guide practices for culvert installation. Erosion control measures were in place at all times during development.

Road construction took place from two headings: the “north road” and the “south road.” Work on the north road progressed from a starting point at the Shazah airstrip. The construction crew for the north road was generally housed at Shazah Camp. Work on the south road progressed northwards from a starting point at the Bull Junction (where a spur road built in 2007 takes off to the Big Bull minesite.) The construction crew for the south road was generally housed at the Barge camps. The two headings met at Bridge, 9 at the south end of the Rogers Creek flats, on November 30, 2008, thereby connecting the north and south roads.

The road was first surveyed and then pioneered by removing trees to the determined clearing width. Depending on the terrain, fallen trees would be extracted using the skidder (North Road) or by excavators and trucks (South Road). Skidders and excavators would then remove organic material from the road path and haul this material to pre-determined locations to be stored for futures use in reclamation and remediation.

Depending on the terrain and cut or fill design, rock drills and subsequent blasting were sometimes necessary in order to level the road to grade. Once grade was reached, coarse, non-acid generating (NAG) rock material was deposited at the road heading from previously identified borrow locations. NAG material was distributed on the road by bulldozer to form a base layer. Efforts were taken to minimize disturbance in areas where potentially acid generating (PAG) rock was unavoidable. Once the base layer was established, finer NAG rock fill, either crushed rock or of glacio-fluvial origin, was placed and packed on the surface as a final layer.

Two causeways were constructed. The North Causeway heads south from the Tulsequah Chief minesite to the Rogers Creek fan. Construction of the North Causeway allowed the road to by-pass a promontory of intense quartz-sericite-pyrite alteration (PAG) thereby avoiding disturbance in that material. The South Causeway leads from the Rogers Creek fan south to Bridge 9. All fill used for causeway construction was composed of non-acid generating rock. The construction sequence was similar to that for the rest of the road, except that for causeway construction geotextile was placed on the ground beneath the fill, and the outer road prism was armoured with rip rap. As of the end of 2008, most of the armouring was complete except for a short section of the south causeway for which the armouring was not yet up to final height. Culverts were placed to allow water to pass beneath the causeway.

Care was taken during bridge construction to minimize sedimentation. In most cases temporary timber bridges were established to allow equipment to continue advancing the road heading while the final bridges of either timber or steel were constructed. The final bridges and roads located north of the Tulsequah Chief minesite were designed to sustain loads up to 50 tonnes. Bridges and roads between the minesite and the barge landing were designed to accommodate loads of up to 62.5 tonnes. Wooden bridges were decked with structural 3x8 planking. The steel bridges were decked with pre-fabricated modular decking (wood.)

Table 5: Bridge Summary – Tulsequah Road

Bridge	Easting	Northing	Description	Size (m)	Status	Notes	Tenure
2	582201	6504461	single log deck	12	Complete	1 deck only due to size of stringers	6165
3	581565	6506803	double log deck	12	Complete		513814
4	581681	6507182	single log deck	9	Complete		513814
6a	581625	6507492	single log deck	10	Complete	1 deck only due to size of stringers ; Windy	513814
6b	581619	6507512	steel bridge; log cribs	18	Complete	Windy Creek	513814
8	581433	6508679	steel bridge; log cribs	18	Complete	Limestone Creek	513814
9	581571	6509186	steel bridge; bin walls	18	Complete	South Causeway	513814
9a	581575	6509265	single deck log	10	Complete		513814
10	581653	6510442	temporary log bridge (final bridge to be steel with bin walls)	15	temporary (50t) bridge; final pending	Rogers Creek	513814
11	581419	6510722	single log deck	10	Complete		590422
11a	581227	6510945	double log deck	15	Complete		5569
12a	581066	6511736	single log deck		temporary bridge complete; final pending	Camp Creek	590422
13a	581038	6511959	single log deck	8	temporary bridge complete; final pending	Dawn Creek	590422
16	580471	6513196	single log deck	12	Complete		513812
17	580423	6513318	single log deck	12	Complete		513812
19	579907	6513900	temporary steel bridge (final to be steel with bin walls)	50?	temporary bridge complete; final pending	Shazah Creek	513807
20	579842	6513806	single log deck	8	temporary bridge complete; final pending		513807
21	580156	6514438	single log deck	6 x 9	temporary bridge complete	Chasm Creek	513807

8.5 North Shazah Access Trail

The construction crew for the North Shazah access trail was housed at Shazah camp. The Tulsequah Road constructed earlier in 2008 was used for access as far as a prominent switchback at the northernmost extent of the road. From there, a cat trail was pushed northwards to the survey area, using a Caterpillar D9 bulldozer.

A route that avoided as many trees as possible was selected. The trail was cleared to a width of approximately 6m, with additional danger trees removed where needed. The leg from the switch-back to the Chasm Creek crossing was graveled, to permit access for bridge construction crews, and remains suitable for pick-up truck travel. The leg from Chasm Creek north to the survey area was not graveled, nor were the stumps removed. It is generally too rough for easy truck or quad ATV travel.

A temporary 6m x 9m clear span log bridge was constructed to cross Chasm Creek. The sill log on the far (north) side was placed by helicopter, enabling the stringers to be placed from one side only, without any equipment crossing. The creek was protected from sediment by textile under the gravel on the approach, as well as on the bridge.

8.6 Underground Rehabilitation

A program of underground rehabilitation and development had been planned for 2008 to support infill drilling required to bring parts of the Tulsequah Chief reserve to the minable category, and to collect additional geological information for use in mine planning. Ampex Mining of Whitehorse, YT was contracted to tear down and remove existing materials from the 5400 and the 5200 levels. Procon Mining was contracted to slash out existing workings on the 5400 and 5200 levels, and to advance the workings to develop new underground drill platforms.

In the end, only part of the planned program could be completed in 2008. The Ampex components of the work on the 5400 level were successfully completed. However, the remainder of the program, including the underground clean-up on the 5200 level and the subsequent Procon components of the work could not be executed in 2008 due to delays obtaining authorization to divert a small stream at a proposed PAG storage site.

Ampex commenced work on the 5400 level on September 2, 2008, and stopped work (pending receipt of the stream diversion authorization and installation of the water treatment plant) on October 5, 2008. Work was conducted under the on-site supervision of Swede Martensson and Paul Wray. The Ampex crew was housed initially at the Canarc Camp, and later moved to Shazah Camp once space became available there.

Material removed from the 5400 level included 5000 volt electrical cable, new aluminum Tech 4/00 cable, the fan and various electrical components, airline (mostly 4”), cleaned sodium hydroxide tanks from the inactive passive water treatment plant, pipe, rail, and other underground steel. This work was executed to allow for slashing of the drifts and the transition to trackless operations. Material was cut underground into workable lengths, and then transported to surface on flatcars hauled by electric Loci. The flatcars were unloaded by Redfern personnel at the 5400 portal using a 920 loader equipped with forks. At the end of the program, screening and timbers were also removed from the 5400 level. Rail ties and ballast were left in place, for planned removal by Procon after the water treatment plant is installed.

Materials removed from underground were stock-piled on a lined temporary lay-down area near the 5400 portal, and, once Bridge 9 on the exploration access road had been completed, trucked to a lined and bermed lay-down area at Paddy's Flats.

Although work at the 5200 level and the Procon component were not completed, some logistical preparations for those phases of the program were executed during 2008. Procon underground equipment and supplies were mobilized to staging positions in Atlin and some of the equipment was mobilized to site.

8.7 Water Treatment Plant

Preparations for installation of a water treatment plant including stripping, blasting for the foundations, and construction of shearwalls were completed at the Tulsequah Chief minesite during 2008. The water treatment plant was purchased and mobilized to the property, where it was stored at the barge landing lay-down pending receipt of a stream diversion permit required to construct the storage pad for historical PAG material that would have to be removed from the minesite and the 5200 and 5400 level workings. That permit was not received in 2008, and as of the end of 2008 the water treatment plant had not been installed.

9 Geological Program

9.1 ARD Characterization of Underground Slash Rock (Tulsequah Chief)

In 2008, 105 grab samples of underground mine-wall rock were collected from lithological transition zones in the 5400 and 5200 drifts at the Tulsequah Chief mine for static geochemical characterization to help evaluate their potential to generate acid rock drainage (ARD.) The results from this work would supplement ARD studies completed previously (Rescan, 1997.)

The 2008 sampling took place in two phases – initial sampling in mid-July, and follow-up sampling in late October. On July 24 to July 27, 2008 geologists Ian Coster and Graham Giles collected 78 samples from the 5400 and 5200 levels. On October 18 and 19, 2008, 27 additional samples were collected by Ian Coster from the 5400 level to supplement coverage from the earlier sampling. All of the ARD samples were submitted to the SGS CEMI Laboratory in Burnaby, BC for analyses including Sobek acid-base accounting determinations (ABA), multi-element ICP, and whole rock by ICP-AES (lithium metaborate fusion.)

Senior Environmental Engineer Rob Marsland designed the underground ARD sampling program, interpreted results, and, using the cumulative available data, helped develop working protocols for segregating PAG from NAG in mine waste and during construction. He was on site at Tulsequah on July 15-17, Aug 12-14, Oct 7-9, and Nov 18-20, 2008.

Sample Method
Drift areas and rock types whose ARD characteristics required further study were identified based on the results of drift mapping from the 1993-1994 drift-mapping programs and ARD

studies completed during the 1997 Rescan Environmental Assessment program. Areas that had been demonstrated to be consistently potentially acid generating (PAG) or consistently non-acid generating (NAG) in the past were not re-sampled during the 2008 program. Within the horizons that were selected for sampling, samples were collected at 5m intervals along the drifts.

Ideal sample stations were located by chaining from known survey control points in the drifts. Grab samples were collected by hammer and chisel from either the southern rib or the northern rib of the drift within about a meter of the desired location. This latitude in sample location allowed samplers to work safely, avoiding loose rock and similar hazards. No material that fell to the floor was included in the sample, so as to avoid potential contamination. Iron colloids that had splashed up and adhered to the rock surface were included in the sample, however. Samples were placed in labeled polyethylene bags and carried back to Barge camp, where lithological descriptions, visual estimates of pyrite content using a 10X hand lens, and acid tests (10% HCl) for carbonate content were completed. Once descriptions were complete, the samples were returned to the plastic bags, which were tagged, sealed, and placed in rice bags addressed to CEMI for sample shipment.

Four replicate samples were included in the July program to monitor quality in the analytical results.

From Barge camp, the samples were transported by helicopter to the Shazah strip (the road was not yet complete) and then shipped to Whitehorse on a Redfern scheduled flight operated by Alkan Air. From Whitehorse, the samples were shipped by Greyhound bus to the CEMI lab in Burnaby.

Sample Analysis
Geochemical analyses were performed by Assayers Canada and CEMI during September and October, 2008. CEMI performed the ABA determinations.

Geochemical characterizations included:

- Paste pH
- Total Sulphur
- Acid-soluble Sulphate
- Total Inorganic Carbon,
- Sobek NP
- trace metal analysis by 49-element aqua regia digestion ICP-MS
- whole rock analysis by lithium metaborate fusion ICP-AES

Sample preparation and analytical procedures are described in Appendix I.

ARD Results
Analytical results were received by Redfern on October 6 and on October 23, 2008.
Assay certificates are presented in Appendix II, analytical results merged with sample descriptions and sample locations are presented in Appendix III. Sample locations and PAG determinations are depicted in Maps 1 and 2. NAG/PAG designations and interpretations of the results were completed by Rob Marsland.

For this study, rocks with an adjusted sulphide neutralization potential ratio (SNPR) of < 2 were considered to be potentially net acid generating rocks (PAG). SNPR was defined as follows (Marsland, 2008):

$$SNPR = \frac{\text{Sulphide Acid Potential}}{\text{adjusted Sobek Neutralizing Potential}}$$

where

SAP = (sulphide sulphur (%S) + del S (%S)) * 31.25
Adjusted Sobek-NP = (Sobek-NP (kg CaCO3/t)) – 5 kg CaCO3/t

The method used to calculate SNPR was the same for both footwall and hangingwall rocks.
To be conservative, unavailable or unreactive sulphide sulphur was lumped in with the available sulphide sulphur, rather than being subtracted from the equation.

The geological "Units" mentioned in the following discussion are those defined in the Mine Scale Geology section presented earlier in this report. Previous ARD work had already established that, at Tulsequah Chief, the ore and the quartz-sericite-pyrite (QSP) footwall alteration could consistently be considered to be PAG. Similarly, rocks of Unit 3 (unaltered hanging wall mafic volcanics) could be consistently considered NAG except in the presence of late sulphide veins, which are readily identifiable on sight by the geologists. Rocks of Units 1 (footwall series) and 2 (mine series away from ore and QSP alteration) had variable ARD characteristics and formed the main object of the 2008 sampling program. Unit 4 rocks (late mafic intrusives) were also sampled.

Table 6: 2008 Underground ARD Sample Distribution by Rock Unit

Rock Unit		2008 minewall samples (105+4)	NAG/PAG results	Remarks
1	footwall	40	PAG	mostly PAG; best to treat entire unit as PAG (sample set includes 2 replicates)
2	ore and near ore	0	PAG	This sub-unit will always be considered to be PAG
2	remainder of mine series	43	variable	variable overall, but consistent within discrete areas
4	late mafic intrusives	26	NAG	

Units 3 and 5 were not encountered in this sampling program.
Unit 6 is not present in discretely mineable units, and will be classified according to the surrounding rock units.

UNIT 1 Footwall Rocks

Unit 1 comprises the footwall rocks. All but 7 of the 40 samples from Unit 1were determined to be potentially acid generating (PAG.) The 7 non-acid generating (NAG) samples were similar to one another: they were described as undivided basalt or mafic intrusive, they had low sulphide content (<=1% pyrite), and most had demonstrable carbonate content, slightly to moderately reactive with HCl. One of the samples was not reactive with HCl.

Unit 1 samples determined to be PAG represented a variety of footwall rock types including basalt, dacitic tuff, rhyolitic tuff, and QSP altered rocks. Most of these rocks contained >1% pyrite. They had various carbonate contents, and reactivity with HCl ranged from none to moderate. Four samples of undivided basalt carrying <=1% pyrite were nonetheless determined to be PAG. None of these 4 samples were reactive with HCl. Two replicate samples were collected from this set, and these were also determined to be PAG.

UNIT 2 Mine Series

Unit 2 comprises mine series rocks. The majority of these samples were collected away from the ore and immediate footwall QSP horizons, since those horizons had already been demonstrated to be consistently PAG.

Thirty of the Unit 2 samples were determined to be NAG. These samples tested a variety of rock types including dacitic and rhyolitic tuffs, rhyolitic flows, and sericite-chlorite altered rock. Rock that might not be segregated during slashing such as mafic intrusives of Unit 4 and Sloko rhyolite dykes of Unit 6 were also sampled where they cut Unit 2 rocks. All of the Unit 2 samples that were determined to be NAG carried <=0.5% pyrite. Carbonate content in these rocks was variable, and reactivity with HCl ranged from none (14 samples) to moderate. The samples that showed no reactivity to HCl but that were nonetheless NAG carried only trace to no pyrite.

Thirteen of the samples testing Unit 2 rocks were determined to be PAG. These samples included dacitic tuff, rhyolitic tuff, undivided rhyolite, QSP-altered rock, and a mafic intrusive cutting Unit 2 rocks. One of the QSP altered samples was a replicate. Only three of the samples showed any reactivity to HCl. Two of those samples showed only slight reactivity, but one of them was described as being moderately reactive. That sample, a rhyolite, carried 5% pyrite. Most of the samples determined to be PAG carried abundant pyrite, but 5 samples carrying <= 1% pyrite were also determined to be PAG. One of those samples was slightly reactive to HCl. The rest were not reactive.

Unit 4 Late Mafic Intrusives

All samples of Unit 4 mafic intrusive rocks were determined to be NAG. The samples had only trace to no pyrite. Most of the samples were reactive with HCl, although 2 were not.

In summary, for the 2008 samples:

- All samples of QSP were PAG
- All samples of rocks carrying >1% pyrite were PAG
- Most, but not all samples of rocks carrying <=1% pyrite were NAG.

- Most, but not all samples that were at least moderately reactive with HCL were NAG.
- All samples of late mafic intrusives in Unit 4 were NAG

Based on the results from these ABA tests, it was decided to establish a cutoff of no more than 0.5% pyrite visible with a hand lens within a rock as a basis for visually segregating PAG from NAG. All samples from Unit 1 in the mine workings would be treated as PAG, regardless of sulphide content.

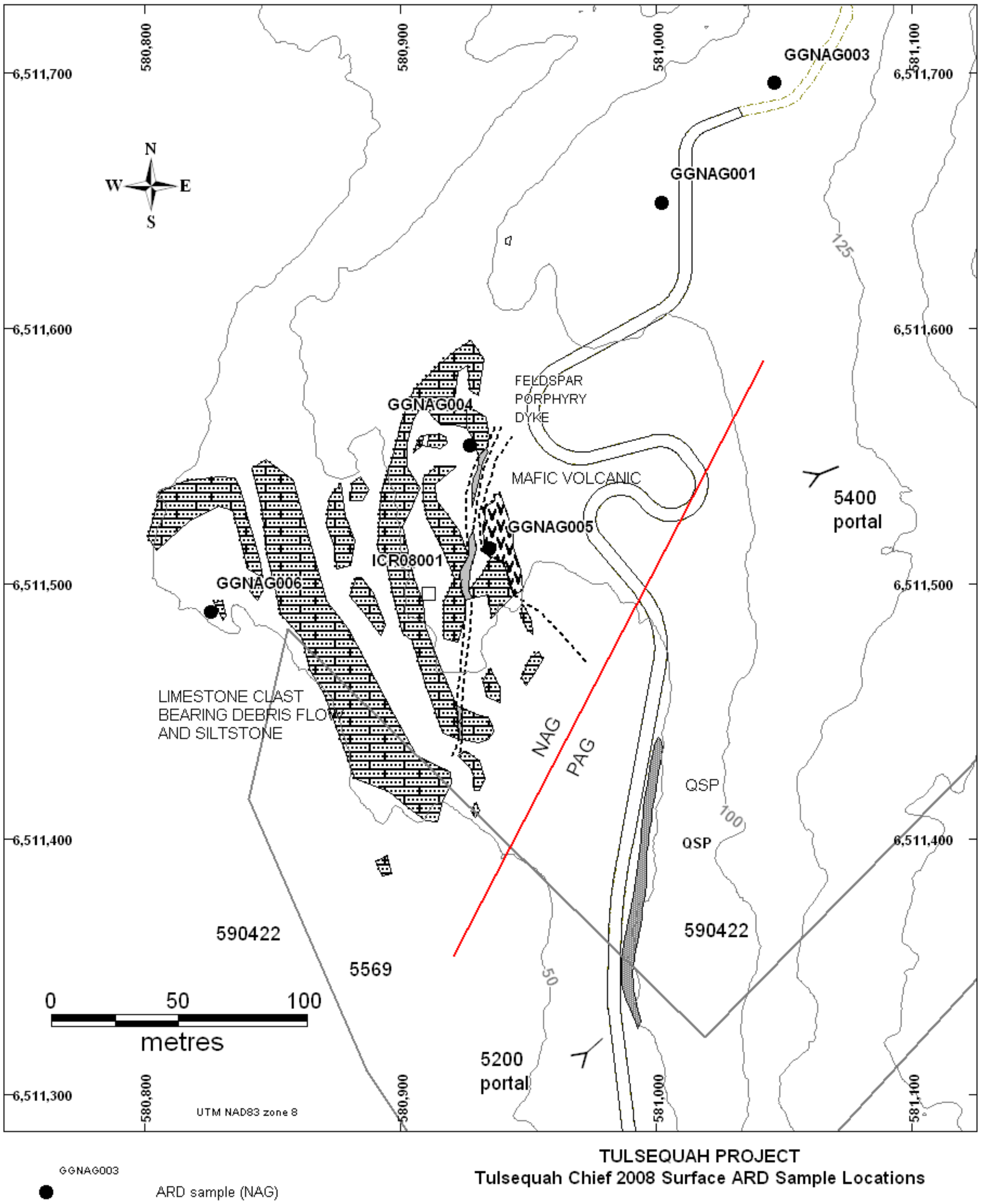
9.2 Surface ARD Sampling

Following discussion with environmental engineer Rob Marsland regarding sample selection, four surface rock samples representing material from the northern and western parts of the Tulsequah Chief minesite were collected by Graham Giles on July 17, 2008, and submitted to CEMI for geochemical characterization. The samples were collected in areas that had previously been covered by overburden. Bedrock was exposed using equipment (excavators) that reached the minesite via the newly constructed exploration access road. Sample shipments and analyses were as described for the underground samples above.

Sample locations are plotted in Figure 8. Assay certificates and merged geochemical results are presented in Appendices II and III.

The rocks samples included limestone, rhyolitic ash tuff, and mafic intrusive (BIN.) The samples were moderately to strongly calcareous, with very little sulphide (ranging from no visible sulphide minerals up to 0.5% sulphide.) ABA analysis indicated that all of these samples were composed of NAG material.

Figure 8: <u>Surface ARD Sample Location</u>



TULSEQUAH PROJECT
Tulsequah Chief 2008 Surface ARD Sample Locations

9.3 Road Geology Mapping Program

During 2008, an exploration access road was constructed on the Tulsequah property to connect the Shazah airstrip, the Tulsequah Chief minesite, and the barge landing on the Taku River. Geological mapping to describe bedrock exposed during road construction was initiated in May, 2008 and continued until the end of the 2008 construction program in December 2008.

Redfern geologists Ian Coster and Graham Giles performed the geological mapping, working under the supervision of Michael Allen. Their days on site are presented in Table 7, below. The geologists visited newly exposed or newly blasted bedrock on a daily basis to prospect and map the exposures before they were re-covered or removed, to monitor for the presence of potentially acid generating rock, and to help assess geological potential for rockfall hazard. In particular, care was taken to ensure that potentially acid generating rock was not used for construction fill.

Table 7: Road Geology and ARD Man-Days

Start (2008)	End (2008)	man-days	Geologist	Remarks
May 5	May 31	17	Ian	
June 19	July 5	17	Ian	
July 15	July 30	16	Graham	surface ARD sampling on July 17; underground ARD July 24-27
July 19	Aug 4	17	Ian	underground ARD sampling July 24 to 27
Aug 5	Aug 21	16	Graham	
Aug 18	Sept 3	17	Ian	
Sept 4	Sept 17	13	Graham	
Sept 18	Oct 1	14	Ian	
Oct 2	Oct 16	13	Graham	
Oct 16	Oct 29	14	Ian	underground ARD sampling Oct 18, 19
Oct 30	Nov 13	12	Graham	
Nov 20	Nov 26	7	Ian	
Nov 27	Dec 11	12	Graham	
Dec 11	Dec 15	5	Ian	
		190		

(days on site, excluding travel days)

Bedrock exposures were mapped following blasts when “fresh” surfaces were readily available. Some areas, such as the Tulsequah Chief minesite, were re-mapped on several occasions as rock was removed and subsequent blasts enlarged or destroyed exposure. Mapping from this program was confined to the immediate vicinity of the road exposures, the lower parts of the Tulsequah Chief minesite, and the central limestone body. Observation locations (stations) were determined by hand-held GPS.

Geological results are presented at 1:5000 scale on three map sheets (Maps 2, 3, and 4.) Station observations are tabulated in Appendix IV. Station numbers are plotted on the maps, and used for reference in the text below. However, the stations are not marked in the field. (Indeed, many exposures were only temporary.) Station numbers and the descriptions below follow the road from north to south.

North Sheet (Map 3)
The north sheet covers the area from Shazah Creek to the Tulsequah Chief minesite. No bedrock was exposed along the road on the west side of Shazah Creek. On the east side, the road (going from north to south) passed through silty tuffaceous sediments (VSD) at the north end into a region of somewhat pyritic basaltic rocks with thin intercalations of rhyolitic tuff, followed by a long sequence of dacitic tuff (a field term – the composition remains to be determined.) The dacitic tuff correlates well with a sliver of felsic volcanic rocks previously mapped by Cominco. Construction activities exposed a new occurrence of quartz sericite pyrite (QSP) alteration in rhyolitic tuffs near the northern end of the dacitic sequence.

At the Tulsequah Chief minesite, a large body of limestone clast debris flow or conglomerate was exposed during stripping and blasting. In this rock, coarse limestone clasts float in a matrix of limey tuffaceous siltstone. This unit lies in contact with a basaltic tuff near the upper parts of the exposure, and is cross-cut by a feldspar porphyry dyke. The limestone clast debris flow is also cross-cut by a few narrow (<10cm) quartz-calcite veins carrying several percent sulphide including pyrite, chalcopyrite, and, in some places, arsenopyrite.

South of the limestone clast debris flow, the road passes a promontory of quartz sericite pyrite alteration associated with (ie footwall to) Tulsequah Chief mineralization.

Center Sheet (Map 4)
South of the Tulsequah Chief minesite, the road traverses river gravels and overburden until Bridge 9 at the south end of the Rogers Creek fan. The Center Sheet covers bedrock exposed during road construction from Bridge 9 to Bridge 4.

Just south of Bridge 9, a coarse mafic debris flow forms a steep hillside. Clasts range up to 1m in width, and are generally composed of mafic tuff with <1-5mm scale rounded quartz lapilli. Occasional limestone clasts were also observed in this unit, suggesting that the unit is contemporary to or younger than the adjacent limestone. The debris flow showed weak to moderate chlorite alteration, but sulphide minerals were rare in this rock. The sulphides consisted of sparse flecks of secondary pyrite. Carbonate was noted on fracture planes as coatings up to several millimeters thick. Road construction was expensive through this unit, as considerable additional blasting and scaling were required to remove overhangs bounded by the abundant joints and slip planes. South of the debris flow, the road traversed finer grained mafic lapilli tuffs until Limestone Creek (Bridge 8.)

South of Limestone Creek, the road traverses relatively massive limestone for about 600m, and then crosses into banded dacite and dacitic tuff lying to the west of the limestone. East of the road, the limestone continues for a further 300m for a total mapped strike length of 900m in this body.

A massive basaltic intrusive rock (BIN) is exposed for about 250m, from a little south of the limestone body to just north of Windy Creek (Bridge 6b). South of that, the road crosses intermittent exposures of well-bedded tuffaceous mudstone/siltstone and mafic lapilli tuff with local mud clasts. Near the south end of this sequence, the road passes through interbedded limestone and mafic tuff into another body of massive limestone.

South Sheet (Map 5)
Massive limestone is mapped from north of Bridge 4 to Bridge 3. Immediately south of Bridge 3, the road passes into an extensive package coarse basaltic fragmental rocks, followed by basaltic flows and tuffs. Narrow interbeds of felsic tuff appear near the southern limit of this sequence.

Just north of Bridge 2, the road passes into a more felsic domain of rhyolitic ash and lapilli tuffs. However, exposure is very poor south of Bridge 2. Aside from a couple of outcrops of rhyolitic tuff, no other bedrock was mapped along the stretch of road from Bridge 2 to the barge landing on the Taku River.

Alteration
In general, weak sericite and chlorite alteration were common in the felsic volcanic tuffs and nearby mafic tuffs throughout the mapped area. Calcite was detectable and locally quite abundant in most of the mafic to intermediate tuffs along the road, as well as in some of the felsic tuffs.

Calcite alteration was strongly developed in the northwestern parts of the Tulsequah Chief mine area.

Weak to moderate epidote alteration (quartz-calcite-epidote-garnet-chlorite-magnetite) dominated in the coarse basaltic fragmental rocks and nearby basaltic flows and tuffs situated between the southern end of the limestone body (Bridge 3) and the felsic volcanic package near Bridge 2.

Quartz Sericite Pyrite Alteration
In addition to the previously known quartz sericite pyrite alteration (QSP) associated with the Tulsequah Chief deposit, two new occurrences of significant QSP alteration were discovered during the road construction. The first is situated in felsic volcanic tuffs north of Bridge 17 (North Sheet, stations 15 and 18.) This material was sampled at station 18 (sample 837055.) The second is situated south of Bridge 16, a few hundred meters south of the first showing. This material was sampled at station 27 (sample 837056). No elevated base metal or precious metal results were obtained from the samples of this material, but the presence of this alteration remains interesting.

Narrow seams of quartz-sericite-pyrite alteration were also noted along sheared contacts bounding intercalations of tuffaceous mudtones/siltstones within limestone just south of Limestone Creek (Bridge 8.) This material was noted, but not sampled during the 2008 program.

Quartz Carbonate Mariposite Alteration
Very fine green mica, interpreted in the field as possible mariposite, was noted near the northern and southern limits of the central limestone body (Center Sheet.) In the northern occurrence, a

pyritic quartz-carbonate-mariposite vein cuts the limestone adjacent to mudstone lenses. This material was sampled at station 109 (sample 837053.) The sample returned geochemically elevated values in arsenic (1053 ppm As) and chromium (516 ppm Cr), as well as 70 ppb Au. In the southern occurrence, quartz-carbonate-mariposite flood what is mapped as banded dacite intercalated in silty limestone. Green mica is also noted associated with weaker silica and carbonate alteration in banded dacite at station 16 near the QSP occurrence north of Bridge 17.

Mariposite was also observed in narrow polymetallic quartz veins described below. No carbonate was mentioned in the notes describing these veins.

Mineralization

Float containing 10% molybdenite in brecciated limestone adjacent to pyritic tuff was found south of Limestone Creek in the northern parts of the central limestone body. The molybdenite occurred as mm scale fracture-controlled veinlets over a width of about 20cm. This material was sampled at station 107 (sample 837054), where it returned 1661 ppm Mo.

Very narrow (12cm) ENE to NE-trending polymetallic quartz veins with fine green mica (possible mariposite) were encountered cutting mafic volcanic rocks along a 500m stretch of road north of Bridge 2. Sulphides included pyrite, chalcopyrite, sphalerite, and galena, and composed from trace amounts to up to 25% of the vein material. A sample of this material with 15% pyrite, 5% galena, and 5% sphalerite collected from station 165 (sample 837052,) returned 2.11 gpt Au, 240 ppm Ag, 0.2% Cu, 5.4% Pb, and 4.86% Zn. Another well mineralized example of this material was noted at station 169, but was not sampled. Narrow quartz-feldspar porphyry dykes were also observed in the area. This mineralization is situated somewhat downhill from the historical Sparling occurrence in an area previously obscured by overburden.

Very sparse, very narrow (6-12cm) late northerly and NE-trending quartz-carbonate-clay veins with up to 30% arsenopyrite were uncovered cutting calcareous siltstone and limestone clast debris flow at the Tulsequah Chief minesite. One sample (837051) was collected at station 79 from a northerly trending vein. That sample returned slightly elevated gold values (140 ppb Au) and high arsenic (>10,000 ppm As,) but no significant silver or base metal values.

Rock Samples

Six grab samples of rock were collected during the 2008 road mapping program and shipped to Eco Tech Laboratories in Kamploops, BC for analysis by multi-element ICP and for gold by fire assay. The samples are discussed in the Alteration and Mineralization sections above, and are summarized in Table 8, below. All samples were grab samples. Complete geochemical results are presented in Appendix V. Sample locations are plotted on the Road Geology maps (Maps 3 to 5.)

Table 8: Road Geology Rock Sample Results

Tag#	NAD83 E	NAD83 N	Geological Details/Comments	Au, Ag gpt	Cu, Pb, Zn ppm	other ppm
837051	580911	6511496	6-12 cm weakly brecciated quartz-calcite-clay vein at 170NE60 with 30% acicular arsenopyrite. Selective grab for arsenopyrite rich	0.14 Au 0.5 Ag	73 Cu 33 Pb 57 Zn	>10000 As

			material.			
837052	581776	6504827	12 cm quartz vein with 25% pyrite-galena-sphalerite along weak shear; selective grab for sulphide-rich material	2.11 Au 240.0 Ag	2229 Cu 54000 Pb 48600 Zn	
837053	581426	6508596	quartz-carbonate-mariposite vein/alteration up to 50cm wide in limestone adjacent to mafic dyke. 0.5% pyrite.	0.07 Au 1.0 Ag	78 Cu 59 Pb 61 Zn	
837054	581420	6508610	float of brecciated limestone with 10% smeared molybdenite near 20 cm wide lens of brown gritty tuffaceous siltstone with 15% pyrite.	<0.03Au 0.8 Ag	15 Cu 160 Pb 73 Zn	1661 Mo
837055	580320	6513507	3% pyrite in weak quartz-sericite-pyrite altered dacite lapilli tuff. Cut by quartz-calcite stringers.	<0.03Au 0.2 Ag	86 Cu 9.6 Pb 82 Zn	
837056	580492	6513080	rusty weathering, 10m band of quartz-sericite-pyrite altered rhyolite. Strong silica alteration; 5% pyrite. Trace chalcopyrite.	<0.03Au 0.4 Ag	94 Cu 22 Pb 23 Zn	

Road ARD Considerations

Through ARD studies completed at Tulsequah in the past and during 2008, it was established that a working cut-off of 0.5% sulphide (generally pyrite) could be used in the field to safely separate potentially acid generating (PAG) from non-acid-generating (NAG) rock at Tulsequah.

Overall, road construction on the Tulsequah project encountered relatively little potentially acid generating rock. Stations where rock containing >0.5% combined sulphide was observed are indicated on the road geology maps. The sulphide content at each station is noted in Appendix V. If the sulphide content exceeded 3%, the content is also plotted on the map.

Semimassive to massive pyrite and pyrrhotite occur in the Spec showing north of Bridge 19 (North Sheet, station 2.) That material had been identified during centerline surveys in 2007, and the road alignment altered so as to avoid having to disturb any of that rock.

Slivers of PAG rock in the form of quartz-sericite-pyrite alteration were encountered south of Bridge 16 and north of Bridge 17. A more significant body of quartz sericite pyrite alteration is present forming a promontory at the south end of the Tulsequah Chief minesite. Disturbance of this material was avoided by building the North Causeway.

A few small (10cm scale) sulphide-bearing quartz veins were encountered at the Tulsequah Chief minesite, hosted in strongly calcareous rocks. Similarly, a few small (10cm-scale) sulphide-bearing veins were identified in the Sparling area north of Bridge 2 at stations 165 and 169. The veins are readily identifiable, and form very little of the rock, volumetrically.

Although not strictly part of the road mapping program, sulphide bearing metasediments deemed to be PAG were noted on the prominent rock knob north of the Shazah Airstrip. No construction took place in that area.

The most significant potentially acid generating rocks were identified prior to construction and successfully avoided. Areas that had not been exposed or identified prior to construction were small and the blast rock generated in these areas was handled using methods prescribed by Redfern's independent environmental monitor.

9.4 Core Storage Re-Location

During December 18, 2008 to January 3, 2009, 326 pallets of archival drill core (approximately 80,000m of core) and 7 loads of core rack steel were trucked from the Tulsequah Chief minesite to a new core storage site at Paddy's Flats. The core was moved to protect it from potential damage or loss during proposed construction activities at the minesite. Derrell Peacock (contracted to ACL) supervised the drill core re-location program.

Earlier, in 2007, drill core stored at Tulsequah Chief had been removed from the core racks, reboxed if need be, and strapped cross-stacked on pallets in preparation for the anticipated move. Once the access road was constructed late in 2008, truck haulage between Tulsequah Chief and the new storage site at Paddy's Flats became possible. Loaders equipped with forks were used to load and unload the pallets of core, and the haulage was accomplished using flat-bed tractor trailer on the days when road conditions permitted, or using a rock truck when road conditions did not permit tractor trailer operations. Considerable snow-clearing and sanding were required to keep the road passable during this period, using a grader, bulldozers, excavators, and rock trucks (for the sand.)

The Paddy's Flats drill core storage location is situated at about 583090E 6503573N (UTM NAD83.) All reference core from the Redfern drilling is now stored either at Paddy's Flats, or at the Big Bull minesite.

734 loads of assorted scrap steel (including rail) were also removed from the Tulsequah Chief minesite during this period and trucked to a temporary storage site at Paddy's Flats. The scrap steel has been placed in a lined, bermed area with drainage to a filter cloth-lined sediment catchment. There is no running water within a kilometer of the temporary scrap steel storage site.

10 Geotechnical Program

10.1 CPT and PPD Overburden Testing

A geotechnical program of cone penetration tests (CPT) and pore pressure dissipation (PPD) tests was carried out during October 14 to October 30, 2008 to test soil properties on the Shazah fan. The work took place on Redfern mineral claim 513807. Program design, supervision, and interpretation of the results were conducted by Klohn Crippen Berger Ltd. (KCBL.) Field work was executed by ConeTec Investigations Ltd. of Richmond, BC, under the supervision of KCBL. CPT tests were completed at 68 locations. PPD tests were completed at 19 of the CPT sites. In all, a total of 30 instrument-equipped cone penetration tests, 100 cone tests by steel dummy cone, and 24 pore pressure dissipation tests were completed during the survey (including multiple tests at a given site.) Results from these kinds of tests are used in combination with other available geotechnical data to help identify and characterize the distribution and strength of potentially liquefiable soils.

During the survey period, the crew used various combinations of pick-up truck, quad ATV, and foot access, or helicopter from camp. The CPT equipment was mounted on a D9 bulldozer, which was walked from site to site along the access trail described in the Exploration Infrastructure section above.

CPT/PPD Method

Descriptions of method and results presented below have been obtained from the ConeTec Field Data Report (October, 2008.)

ConeTec carried out the CPT and dummy cone testing using their custom built hydraulic ramset mounted onto a D9 bulldozer.

At each site, a test hole was attempted with a dummy cone to assess the ground conditions and determine whether instrument tests would be possible at that location without damaging the instruments. The dummy cone tests used the same ramset and rods as the CPT tests, but with a solid steel cone instead of a cone equipped with instruments. Overburden was categorized qualitatively as either "hard" or "soft" based on hydraulic pressure driving the ramset, and on movement of the bull-dozer ripper, to which the ramset was attached. The classification "hard" was used when sufficient force was generated to lift the dozer ripper. Material that did not force the ripper up was classified as "soft."

If the dummy tests indicated that conditions were permissive (ie that the overburden was soft enough) then the steel cone was replaced with an instrument-equipped cone and CPT +/- PPD tests were executed. In some cases, the steel cone was used to "pre-punch" through a hard layer to permit CPT testing of the underlying softer layers. Soundings were performed using compression type cone penetrometers. The ConeTec 20 ton cones used in this survey had a tip area of 15 cm^2, a friction sleeve of 225 cm^2, a tip capacity of 1500 bar, and a tip end area ratio of 0.80 (ConeTec, 2008.) Parameters measured during the tests included:

- $\mathbf{q_t}$ cone tip resistance (in bar)
- **fs** sleeve friction (in bar)
- **u** dynamic porewater pressure (in PPD tests)

Sounding results were corrected for temperature shifts and zero load off-sets, as determined from baseline readings taken before and after each sounding.

Soil types were inferred by ConeTec from the above parameters using Soil Behavior Type (SBT) indices from Robertson, 1990 and Lunne, Robertson, and Powell, 1997. An example of a non-normalized SBT index is presented in Figure 9 (Robertson 1990, as excerpted from the ConeTec report.) PPD tests were also taken into account when interpreting soil types, as these can help clarify ambiguities in soil interpretations.

Figure 9: Soil Behaviour Chart

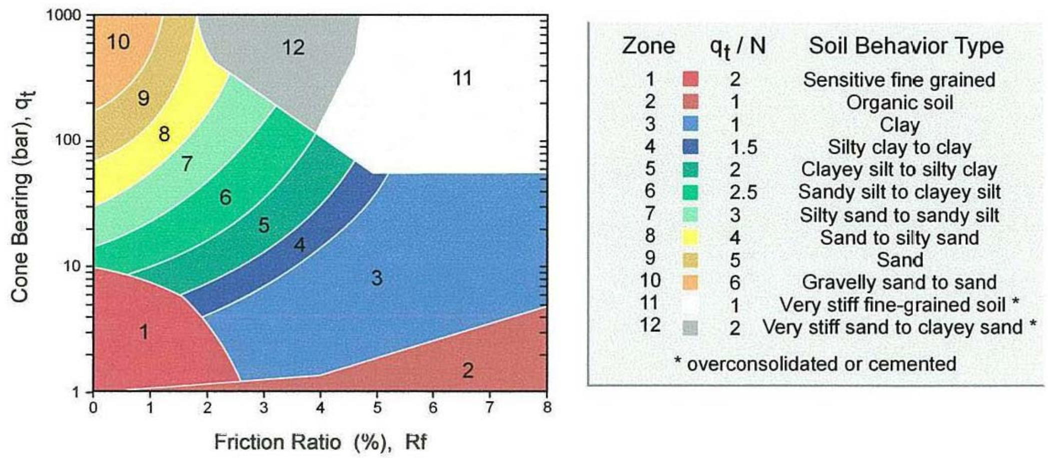


Figure SBT – Non-Normalized Soil Behavior Type Chart, Robertson (1990)

PPD tests were carried out at specific depths during the CPT testing as directed by a KCBL representative, measuring how the porewater pressure (u) at a given depth changes over time following cone penetration. The porewater pressure filter was located behind the cone tip. Each porewater pressure filter was saturated under vacuum prior to penetration. During the PPD tests, porewater pressure dissipation was recorded at 5-second intervals until equilibrium was attained.

CPT/PPD Results

Material classified as “hard” based on the behaviour of the bull-dozer ripper generally corresponded to a ramset hydraulic pressure of greater than 1,000 psi. Material classified as “soft” based on the behavior of the bull-dozer ripper was generally found, where measured in subsequent CPT tests, to correlate with material presenting a cone tip resistance of less than 60 bar. In the end, the overburden was sufficiently soft to permit use of an instrument-equipped cone at 30 of the 68 sites investigated by dummy cone.

CPT sounding locations and final depths are presented in Table 9, and PPD results are presented in Table 10. Sounding locations are plotted in Figures 10 and 11. CPT logs and PPD graphs are presented in Appendix VI.

Table 9: CPT Sounding Locations (determined from location maps)

CPT_ID	cone type	NAD83_E	NAD83_N	elev (m)	final depth (m)	PPD tests
CPT08-01	CPT 20T	location not plotted			1.00	
CPT08-01B	CPT 20T	location not plotted			2.65	x
CPT08-02	CPT 20T	580478	6515329	68	0.75	
CPT08-03	dummy	580507	6515328	68		
CPT08-04	dummy	580537	6515324	68		

CPT08-05	dummy	580581	6515329	68		
CPT08-06	CPT 20T	580225	6515488	68	6.85	
CPT08-07	CPT 20T	580268	6515444	67	3.55	
CPT08-08	CPT 20T	580320	6515371	66	2.85	
CPT08-09	CPT 20T	580338	6515347	66	7.40	x
CPT08-10	CPT 20T	580392	6515338	67	1.05	
CPT08-10b	CPT 20T	580392	6515338	67	1.20	
CPT08-11	dummy	580438	6515333	68		
CPT08-12	dummy	580409	6515367	68		
CPT08-13	CPT 20T	580352	6515377	68	8.45	x
CPT08-14	dummy	580318	6515426	67		
CPT08-15	dummy	580283	6515474	67		
CPT08-16	CPT 20T	580248	6515521	67	4.90	x
CPT08-17	CPT 20T	580214	6515569	68	4.45	
CPT08-18	CPT 20T	580190	6515619	68	2.45	
CPT08-18b	CPT 20T	580190	6515619	68	4.85	x
CPT08-19	dummy	580181	6515678	68		
CPT08-20	dummy	580177	6515707	68		
CPT08-21	dummy	580174	6515738	68		
CPT08-22	dummy	580185	6515790	69		
CPT08-23	CPT 20T	580235	6515865	69	3.80	x
CPT08-24	CPT 20T	580268	6515914	70	4.80	x
CPT08-25	CPT 20T	580304	6515950	71	2.90	
CPT08-26	CPT 20T	580346	6515991	72	3.50	x
CPT08-27	CPT 20T	580395	6516018	73	3.70	x
CPT08-28	dummy	580452	6516032	74		
CPT08-29	dummy	580507	6516047	75		
CPT08-30	dummy	580565	6516061	75		
CPT08-31	CPT 20T	580621	6516075	76	5.85	x
CPT08-32	CPT 20T	580672	6516063	76	3.50	
CPT08-33	dummy	580717	6516026	77		
CPT08-34	dummy	580759	6515991	77		
CPT08-35	dummy	580737	6515932	77		
CPT08-36	dummy	580713	6515877	75		
CPT08-37	dummy	580714	6515817	74		
CPT08-38	dummy	580718	6515759	73		
CPT08-39	dummy	580722	6515699	73		
CPT08-40	dummy	580725	6515639	72		
CPT08-41	dummy	580728	6515579	72	3.20	x
CPT08-42	dummy	580727	6515532	71		
CPT08-43	CPT 20T	580687	6515462	70	15.55	x
CPT08-44	dummy	580662	6515419	70		

CPT08-45	dummy	580647	6515393	70		
CPT08-46	dummy	580633	6515367	69		
CPT08-47	dummy	580611	6515347	69		
CPT08-48	dummy	580573	6515351	68		
CPT08-49	dummy	580542	6515353	68		
CPT08-50	dummy	580524	6515355	68		
CPT08-51	CPT 20T	580455	6515362	68	4.35	x
CPT08-52	dummy	580438	6515364	68		
CPT08-53	dummy	580380	6515370	68		
CPT08-54	CPT 20T	580334	6515401	67	7.95	x
CPT08-55	CPT 20T	580300	6515449	67	4.10	x
CPT08-56	CPT 20T	580266	6515497	67	3.55	x
CPT08-57	dummy	580141	6515773	68		
CPT08-58	dummy	580144	6515738	68		
CPT08-59	dummy	580155	6515659	68		
CPT08-60	dummy	580163	6515600	68		
CPT08-61	dummy	580181	6515562	67		
CPT08-62	dummy	580199	6515539	67		
CPT08-63	dummy	location not plotted				
CPT08-64	dummy	580684	6515458	70		
CPT08-65	CPT 20T	580696	6515479	66	9.05	x
CPT08-66	CPT 20T	580252	6515469	66	5.55	x
CPT08-67	dummy	580286	6515420	66		
CPT08-68	CPT 20T	580303	6515395	70	10.55	x

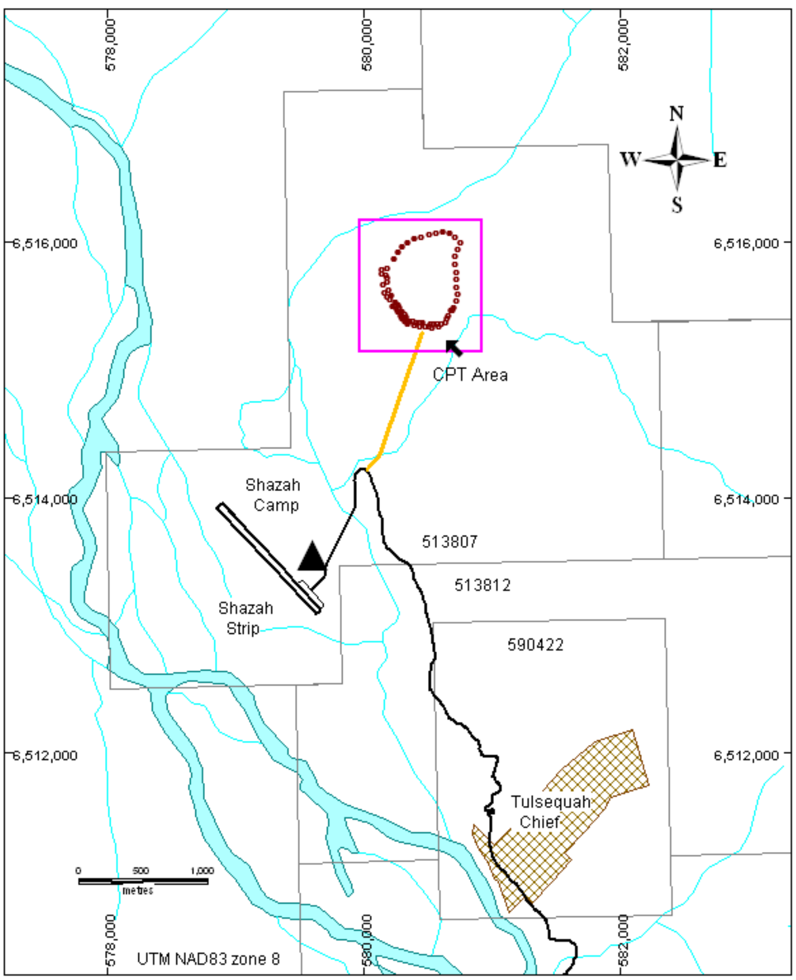
Table 10: Pore Pressure Dissipation Test Results

CPT Sounding	Duration (s)	Test Depth (m)	Equilibrium Pore Pressure U_{eq}(m)*	Calculated Phreatic Surface (m)
CPT08-01B	860	2.65	0.7	2
CPT08-09	800	7.40	not achieved	--
CPT08-13	800	4.75	3.3	1.5
CPT08-16	300	2.50	0.6	1.9
CPT08-18B	600	2.50	0.7	1.8
CPT08-23	400	3.80	1.9	1.9
CPT08-24	200	4.80	2.9	1.9
CPT08-26	300	3.50	1.1	2.4
CPT08-27	600	3.70	0.7	3
CPT08-31	700	5.85	3.5	2.3
CPT08-41	600	3.20	0	>3.2
CPT08-43	405	4.50	1	3.5
CPT08-43	300	11.00	7.6	3.4

CPT08-43	700	12.60	9	3.6
CPT08-51	400	4.35	1.3	3.1
CPT08-54	400	5.55	3.7	1.9
CPT08-54	400	7.95	6.2	1.8
CPT08-55	400	3.85	1.7	2.2
CPT08-56	300	3.55	1.8	1.7
CPT08-65	600	4.65	0.6	4
CPT08-65	300	9.05	4.9	4.2
CPT08-66	400	4.60	3	1.6
CPT08-68	400	5.05	3.7	1.4
CPT08-68	300	10.55	9.5	1

*equilibrium pore pressure estimated from dissipation tests

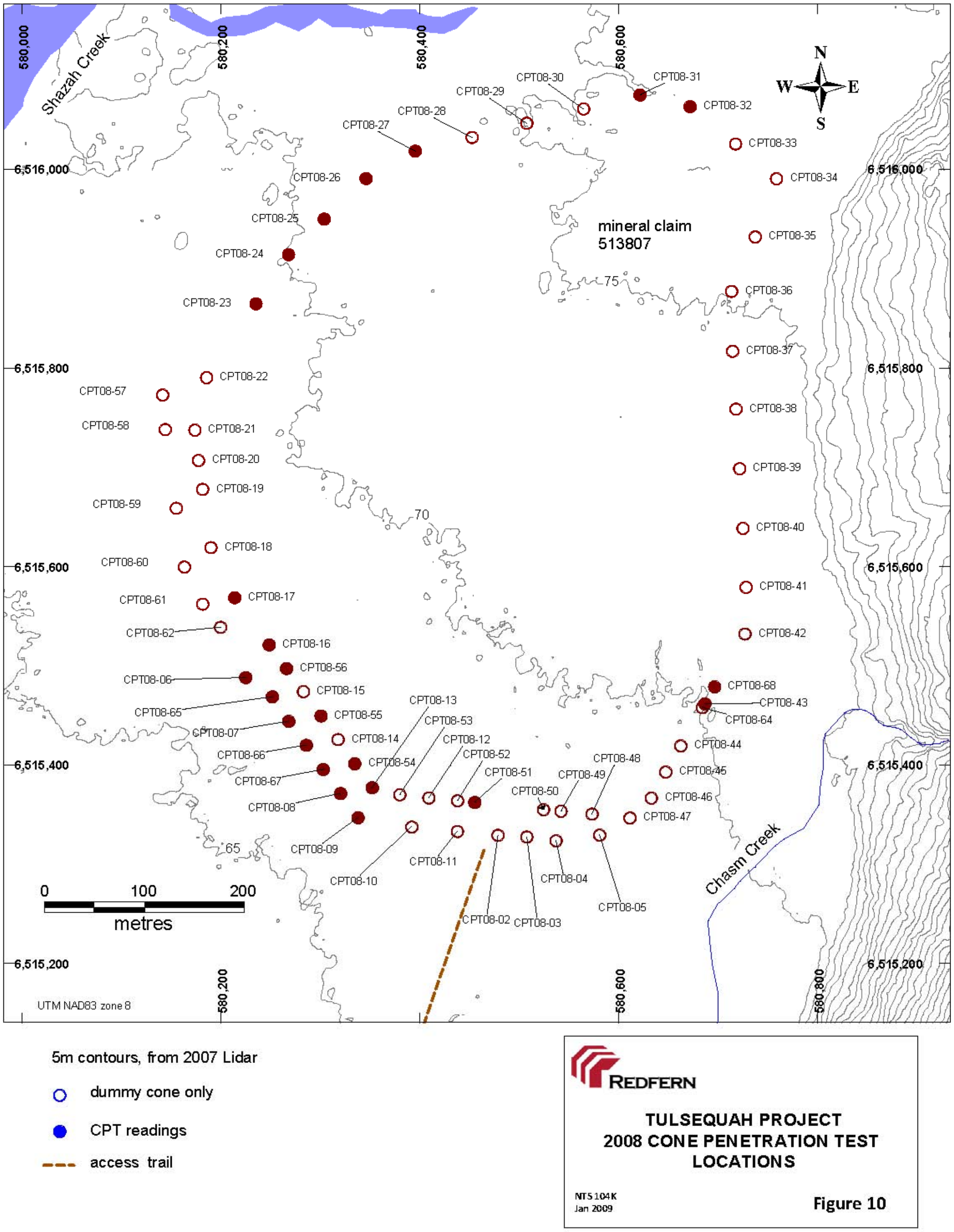
Figure 10: <u>Cone Penetration Test Area Location</u>



TULSEQUAH PROJECT
Cone Penetration Test Area Location

Figure 11: <u>2008 Cone Penetration Test Locations</u>

ig 11



The soils tested were found to be composed of inter-layered silt, sand, gravel, and cobbles in various gradational proportions. The high cone tip resistance and shallow cone penetration encountered at many sites showed that the sand and gravel layers are well distributed in the test area, and relatively dense. Lower cone tip resistances generally corresponded to silty layers, and to sand-silt mixtures. Overall, more silt layers were identified in the test area than had been noted during previous geotechnical programs in that area. However, the silty layers were found to be thin, discontinuous, and interbedded with coarser sand and gravel layers. KCBL interpreted the material in the test area to have been deposited by fluvial processes.

Because of the limited cone penetration in the coarser, denser material and the risk of damage to the instrument in that material, CPT technique used for this survey was less effective at obtaining instrumental measurements in the coarser material than it was for the fine material.

11 Discussion and Conclusions

Given the remote location, difficult access, and steep terrain at the Tulsequah property, exploration infrastructure can make an important contribution to the feasibility of advanced exploration, development, and, ultimately, potential production from the property. During 2008, Redfern made substantial improvements to the exploration infrastructure at Tulsequah, constructing the Shazah airstrip and a gravel road linking the airstrip, the Tulsequah Chief minesite, the Big Bull minesite, and the temporary barge landing on the Taku river. It is now possible to drive, on the east (Redfern) side of the Tulsequah River, from north of Shazah Creek to the Taku River.

Some elements of the planned exploration infrastructure work that remain to be completed as of the end of 2008 include extending the airstrip from its actual length of 1030m to its design length of 1200m, reducing the grade of the road just south of Bridge 9 from the current 15-18% to the design grade of 12%, and replacing the remaining temporary bridges with final (design) bridges.

One critical element of the planned 2008 program that was initiated but not completed was installation of a new water treatment plant at Tulsequah Chief. During 2008, a bench was blasted for the foundations, shearwalls were constructed to protect the plant site, and the plant was acquired and mobilized to the property. Further progress on the water treatment plant then awaited construction of a PAG storage area. However, construction of the PAG storage site was held up in 2008 by permitting delay (delay receiving authorization to divert a stream.)

Delay in construction of the PAG storage site and installation of the water treatment plant also delayed execution of most of the underground rehabilitation, development, and subsequent drilling that had been planned for 2008 at Tulsequah Chief. However, the initial parts of the underground program that could be accomplished without disturbing PAG material were completed. All materials except rail ties and ballast were removed from the 5400 level in preparation for slashing, including the timbers.

Considerable efforts were devoted to avoiding any potential acid rock drainage (ARD) during the actual and proposed activities of 2008. Based on ARD studies completed previously and in 2008, protocols were developed to help on-site geologists identify potentially acid generating rock visually so that they could ensure that it was either avoided or handled appropriately. In general, any rock bearing 0.5% or more combined sulphide (as determined by the naked eye and 10x hand lens) was treated as PAG.

Cone penetration tests and pore pressure dissipation tests were conducted on the Shazah fan. Where penetration was possible, the soils were found to contain relatively dense sand and silty layers interbedded with potentially weaker silt or silty sand layers. The thickness and spacial extent of these weaker layers is limited by the denser material. However, soils in many parts of the test areas were too dense to permit penetration of an instrumented cone, limiting the utility of CPT and PPD techniques here, and to some extent biasing the results towards the weaker silty material.

Once the road link had been established, all salvageable reference core (approximately 80,000m of core) was hauled from the Tulsequah Chief minesite to a new core storage location on the property at Paddy’s Flats. This was to save the core from almost certain demolition during anticipated mine development activities at Tulsequah Chief. The core is stacked in pallets at the new location, but pallet positions have not yet been mapped or organized to facilitate retrieval of specific holes.

Many areas previously obscured by overburden were exposed, at least temporarily, during road construction in 2008. Geologists mapped exposures along the road with an eye for new signs of potential mineralization. Perhaps the most interesting result was the recognition of footwall-style quartz sericite pyrite alteration in felsic volcanic rocks well north of the Tulsequah Chief deposit, near Bridge 16 and Bridge 17. This area warrants further work.

Notwithstanding the tremendous advance in infrastructure within the claim area to facilitate advanced exploration and development, access from the property to outside transportation hubs such as Atlin or Juneau remains subject to a certain amount of challenge. A secure transportation corridor for heavy freight, be it a land route from Atlin or the water route up the Taku River, is of paramount importance if the base metal potential at Tulsequah is to be realized.

Megan O’Donnell, P. Geo
August 24, 2009

12 References

B.C. Ministry of Energy, Mines and Petroleum Resources Assessment Reports (ARIS): 08933, 09825, 10587, 11018, 11361, 17137, 16983, 17054, 18428, 20901, 22939, 23559, 23762, 23763, 23951, 24183, 27385, 27659

Barclay, W.A. (1993) **Preliminary Assessment of Deformation Style and of Controls on Mineralization at the Big Bull Deposit, Northwestern British Columbia.** unpublished report. Redfern Resources Ltd.

Carmichael, R.G. (1994): **Technical Report on the Tulsequah Chief Property.** unpublished report. Redfern Resources Ltd.

ConeTec Investigations Ltd. (2008) **Cone Penetration Testing-Redfern Resources-Tulsequah BC.** unpublished report. Redfern Resources Ltd.

Lunne, T., Robertson, P.K., and Powell, J.J.M. (1997): **Cone Penetration Testing in Geotechnical Practice.** E&FN Spon, 3rd printing.

Marsland, Robert (2008) **Tulsequah Chief Slash Rock ARD Characterization. u**npublished memo. Redfern Resources Ltd.

Mihalynuk, M.G.; Smith, M.T.; Hancock, K.D. and Dudka, S. (1994): **Regional and Economic Geology of Tulsequah River and Glacier Areas** (104K/12 & 13). Geological Fieldwork 1993, Grant, B. and Newell, J.M., Editors, B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1994-1.

Robertson, P.K. (1990): **Soil Classification using the Cone Penetration Test**. Canadian Geotechnical Journal vol. 27 pp 151-158.

Sherlock, R.L.; Childe, F.; Barrett, T.K.; Mortensen, J.K.; Lewis, P.D.; Chandler, T.; McGuigan, P.; Dawson, G.L. and Allen, R. (1994): **Geological Investigations of the Tulsequah Chief Massive Sulphide Deposit, Northwestern British Columbia.** Geological Fieldwork 1993, Grant, B. and Newell, J.M., Editors, B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1994-1.

Sherlock, R.H., and Barrett, T.J. (1993): **Preliminary Petrographic and Lithogeochemical Data for the Tulsequah Chief Deposit, Northern British Columbia**,unpublished Mineral Deposit Research Unit report.

Sherlock, R.L., and Barrett, T.J. (1994): **Tulsequah Chief and Big Bull Deposits, Northern British Columbia.** Annual Technical Report, VMS Project, MDRU.

Wardrop Engineering Inc. (2007a): **Technical Report on the Tulsequah Chief Property** Wardrop Engineering Inc.

Wardrop Engineering Inc. (2007b): **Technical Report on the Big Bull Deposit**. Wardrop Engineering Inc.

Wardrop Engineering Inc. (2007c): **Tulsequah Chief A-Extension Resource Estimate**. Wardrop Engineering Inc.

13 Certificate of Qualifications

I, Megan A. O'Donnell, Consulting Geologist, of 172 Williamsons Landing Road, Gibsons, British Columbia, do hereby certify that:

- This certificate applies to the assessment report titled *Geological, Geochemical, Geotechnical, and Physical Work Report on the Tulsequah Property,* pursuant to Records of Work filed with the BC Mineral Titles Office on May 27, 2009.

- I was employed by Redcorp Ventures Ltd, parent company of Redfern Resources Ltd, during the period March 2006 to May 2009, and held the position of Exploration Manager during 2008 and up to May, 2009.

- I am a qualified person as defined by National Instrument 43-101 and for the purposes of this assessment report.

- I am not independent of Redcorp Ventures Ltd., as defined in Section 1.4 of National Instrument 43-101.

- I worked at site on the Tulsequah property during May to October 2006 and 2007. I did not visit the Tulsequah property during 2008.

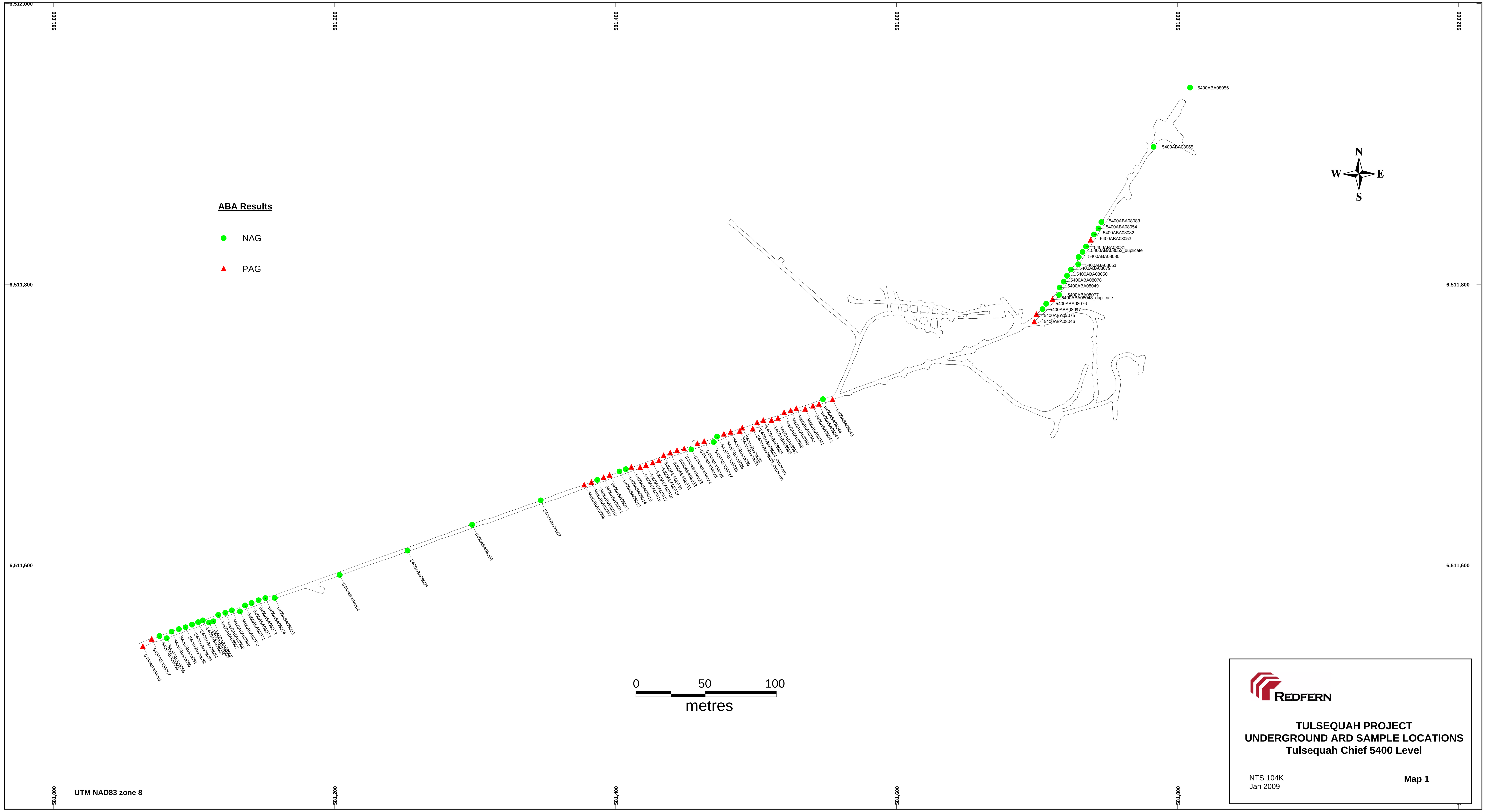
- I am a graduate of McGill University (1984) with a Bachelor of Science degree in Geological Sciences.

- I have worked in the field of mineral exploration continuously since graduation, and my experience includes work on volcanogenic massive sulphide deposits located in the Canadian Cordillera, the Canadian Shield, and the Iberian Pyrite Belt.

- I am a Registered Professional Geoscientist under the Association of Professional Engineers and Geoscientists of BC, and have been so since 1991.

Megan O'Donnell, P. Geo
August 24, 2009

OVERSIZE MAPS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TULSEQUAH PROJECT
UNDERGROUND ARD SAMPLE LOCATIONS
Tulsequah Chief 5400 Level
NTS 104K
Jan 2009
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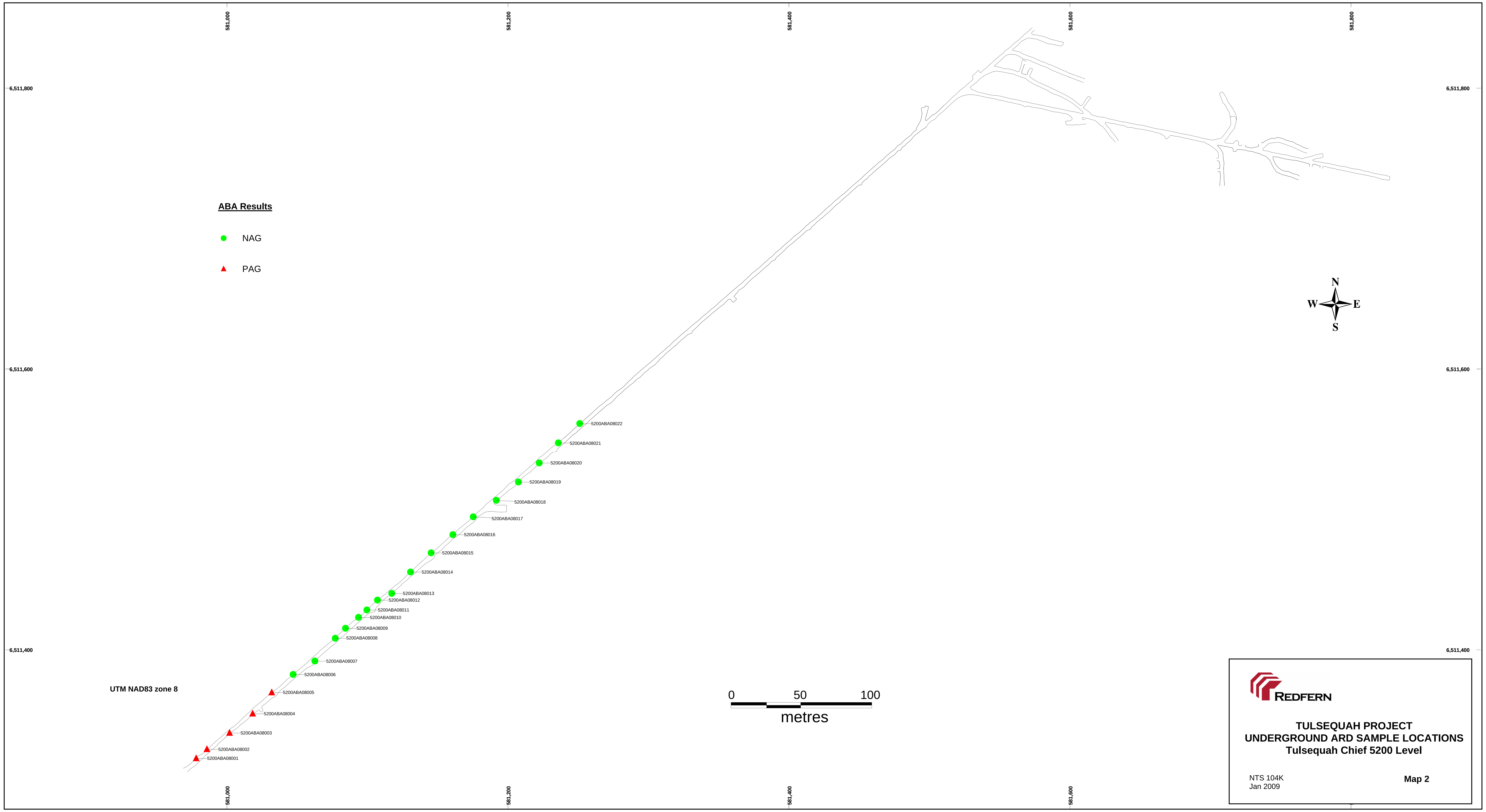

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Tulsequah Chief 5200 Level
NTS 104K
Jan 2009
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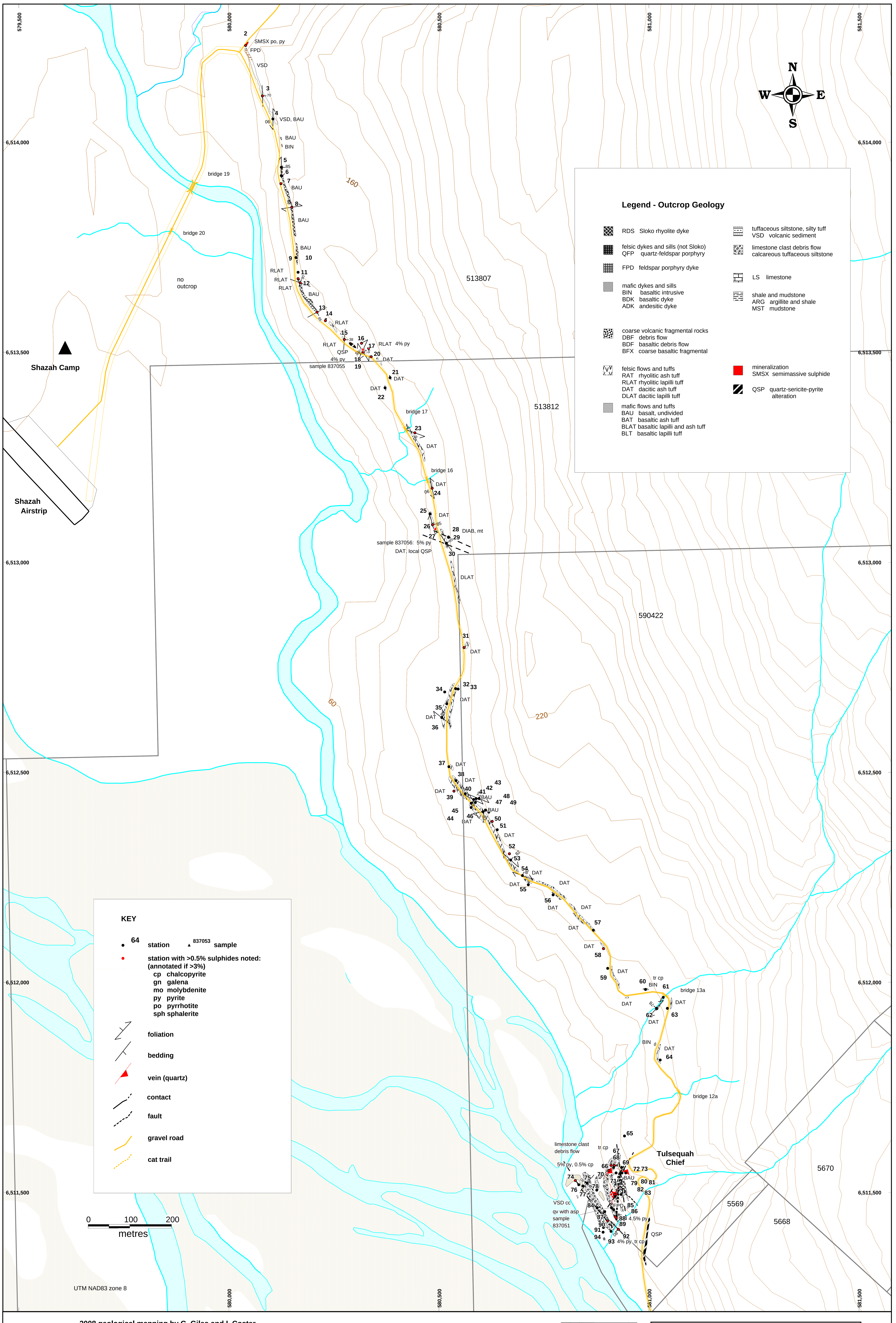

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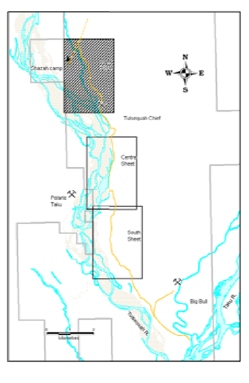

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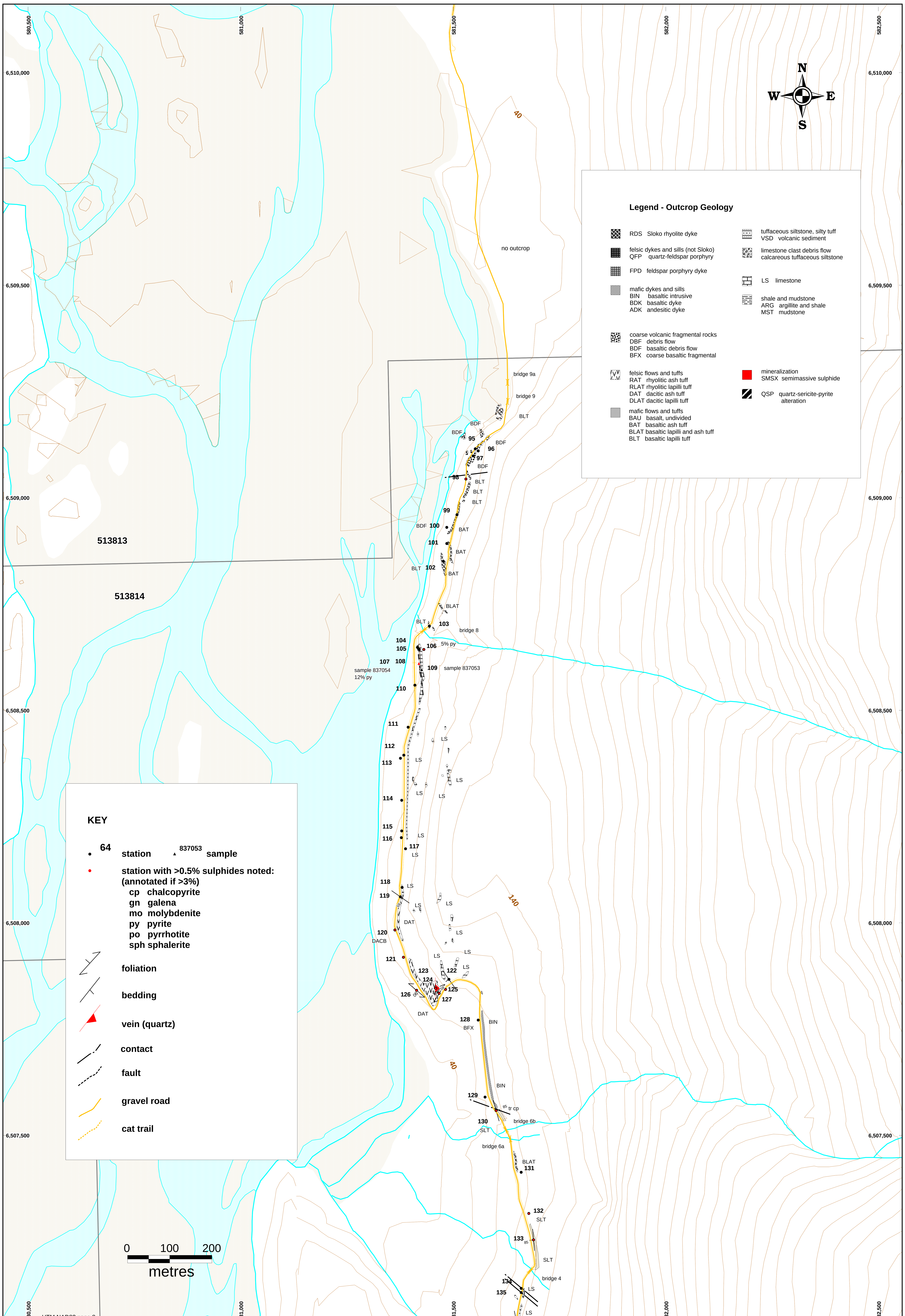
TULSEQUAH PROJECT
2008 ROAD GEOLOGY
North Sheet

NTS 104K12 & 13

Jan 09
Map 3



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TULSEQUAH PROJECT
2008 ROAD GEOLOGY
Centre Sheet

NTS 104K12

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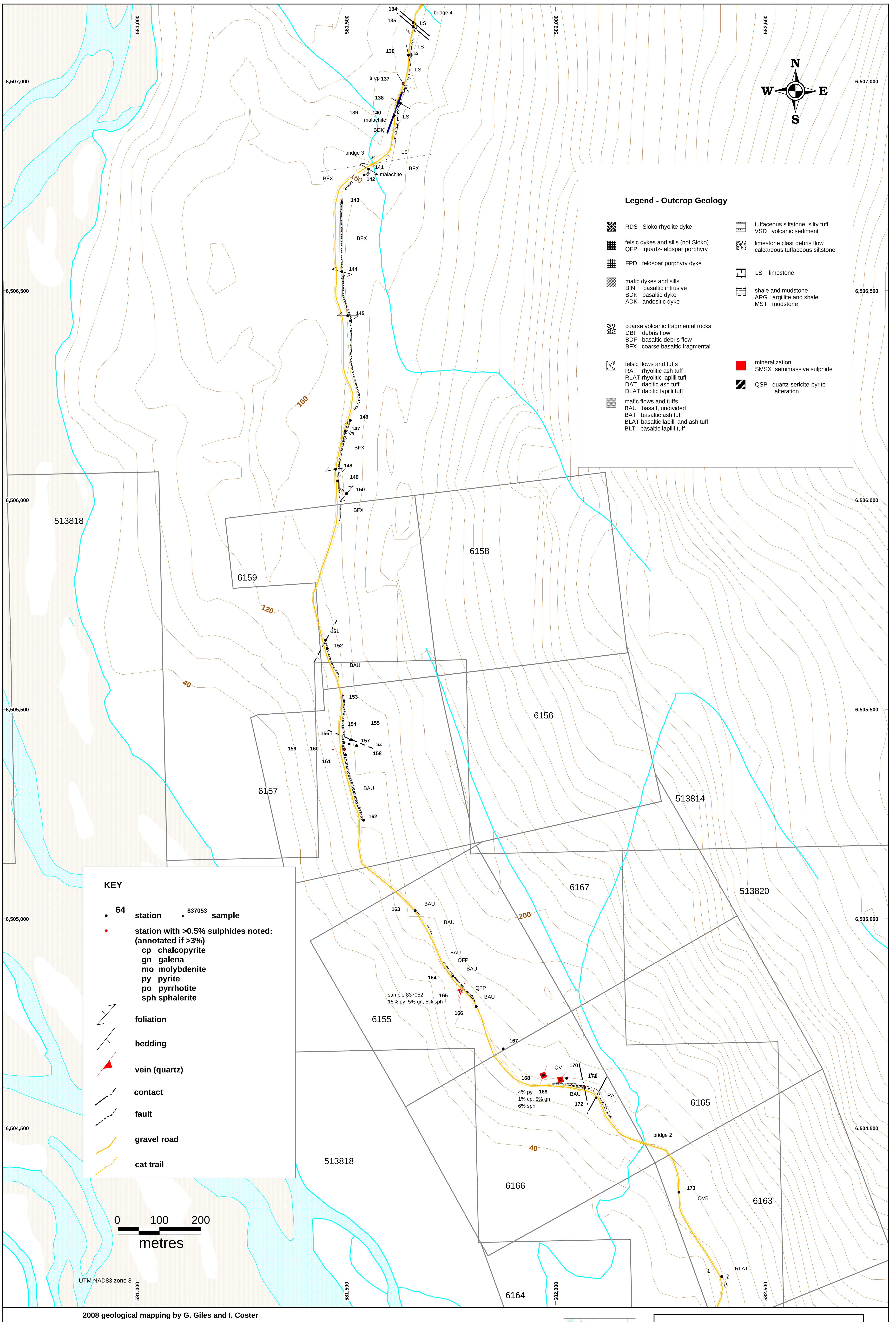

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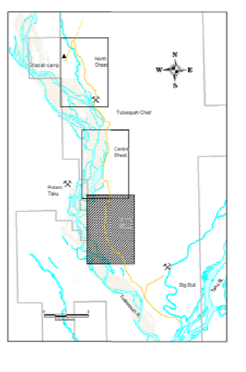

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TULSEQUAH PROJECT
2008 ROAD GEOLOGY
South Sheet

NTS 104K12

Jan 09
Map 5