BRITISH COLUMBIA
The Best Place on Earth

Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological, geochemical

TOTAL COST: $41380.10

AUTHOR(S): J.M. Hutter

SIGNATURE(S): J.M. Hutter

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):

YEAR OF WORK: 2015

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5569866 /2015-SEP-11, 5580051 / 2015-NOV-28

PROPERTY NAME: Mackie

CLAIM NAME(S) (on which the work was done): 1031479, 1038154

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

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 134, 215, 216, 217

MINING DIVISION: Skeena

NTS/BCGS: NTS 104B/08

LATITUDE: 56 ° 21 '45 " **LONGITUDE:** 130 ° 18 '57 " **(at centre of work)**

OWNER(S):

1) Richard Mill

2) Tudor Holdings Ltd

MAILING ADDRESS:

20071-37 Ave
Langley BC V3A 6K3

10th Floor, 595 Howe St.
Vancouver BC V6L 2T5

OPERATOR(S) [who paid for the work]:

1) Tudor Holdings Ltd

2)

MAILING ADDRESS:

10th Floor, 595 Howe St.
Vancouver BC V6L 2T5

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Sulphurets Fault, Eskay Rift, McTagg anticlinrium, Stuhini Group, Hazelton Group, Triassic, Jurassic, Jack Formation, Betty Creek Formation, Iskut River Formation, conglomerate, argillite, sandstone, andesitic to dacitic tuffs and flows, volcanic breccia, Texas Creek Plutonic Suite, quartz monzonite, granodiorite, South Unuk / Harrymel Fault Zone, greenschist to amphibolite facies

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 17055, 17056, 19940, 22930

Next Page

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	1:10000	1031479, 1035700 / 1038154	22581.42 / 17035.11
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	54 samples, 36 element ICP + Au F.A. over 1 g/t	1031479, 1035700 / 1038154	1005.18 / 758.29
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	23586.66 / 17793.44

GEOLOGICAL AND GEOCHEMICAL REPORT
ON THE
MACKIE PROPERTY

near Stewart, B.C.

Tenure Numbers

1021721, 1029297, 1031031, 1031091, 1033369, 1036878, 1036939, 1036952, 1036953, 1036954, 1036955, 1038154, 1039178, 1039179, 1039253, 1039281, 1039441

SKEENA MINING DIVISION
BRITISH COLUMBIA

NTS 104B/08

UTM: 418700E, 6247200N
ZONE 9, NAD 83

For

Tudor Holdings Ltd.
10th Floor - 595 Howe St
Vancouver, BC
V6L 2T5

Kaizen Capital Corp.
Suite 1703 – 595 Burrard St
Vancouver, BC
V7X 1J1

By

James M. Hutter, P. Geo
Box 3048, 4407 Alfred Ave.
Smithers, BC
V0J 2N0

November 30, 2015

Table of Contents

List of Figures

List of Tables

Appendices

1.0 SUMMARY

This report was prepared as a National Instrument 43-101 Technical Report (NI 43-101), in accordance with Form 43-101F1, for Tudor Holdings Limited and Kaizen Capital Corporation.

The Mackie property of Tudor Holdings Ltd. is located approximately 50 kilometres north-northwest of Stewart, BC. The Stewart area has long been known as having a rich geological endowment, with a considerable number of past producing mines as well as properties presently under development.

Based on location and past history, the Mackie property is divided into three areas called Mackie East, Mackie West and Doc. Each area has geology different from the others, and therefore each is prospective for different types of deposits.

During a short program in the autumn of 2015 on the Mackie East and West groups, four new showings were discovered on the Mackie East group and a mineralized quartz boulder was found on the Mackie West.

This report discusses the 2015 program and makes recommendations for a further program of work to be undertaken in two phases during the 2016 field season.

2.0 INTRODUCTION

The Mackie Property consists of three claim groups designated Mackie East, Mackie West and Doc. This report summarizes a reconnaissance geological and sampling program conducted between August 31 and September 11, 2015 on the Mackie East and Mackie West claims for Tudor Holdings Ltd. of Vancouver, BC. Work was conducted on Tenure Numbers 1031479, 1035700 and 1038154. The first two claims were later amalgamated to 1039441.

Work was done by James M. Hutter, PGeo and Bruce F. Coates, PGeo. The program was an initial investigation of accessible areas supported by sampling of prospective rock outcrops, the goal being to locate areas that would be worthy of follow-up in a larger program.

This report makes use of publically available records, assessment reports and reports by government geological agencies, listed in Section 16 References.

The property was accessed daily by helicopter from Stewart, BC.

3.0 RELIANCE ON OTHER EXPERTS

All sources of information utilized for this report are referenced in Section 16 (References). No independent verification of historical geochemical, geophysical, drilling, or other technical data was undertaken.

3.1 Disclaimer

This report relies in part on reports and documents generated by the work done by other operators. In the preparation of this report, the author has relied on information obtained through a review of public documents, reports and data. Although the author is satisfied that this data has been compiled by competent geoscientists and engineers, the author disclaims any responsibility for any errors or omissions that are a result of missing, inaccurate or incomplete information in those reports.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Mackie property (Fig. 4.1) is situated in north-western British Columbia, approximately 50 km north-northwest of Stewart, on NTS Map Sheet 104B/8. The area is mountainous and rugged, and partly covered by glaciers and ice fields but has a long and rich history of mineral exploration and production.

The property consists of 17 staked claims (Fig. 4.2) covering approximately 6992 hectares. The claims are in three groups, designated Mackie East, Mackie West and Doc. Details are shown in Table 4.1 below.

The claims are held by Tudor Holdings Ltd. under separate option agreements with Richard H. Mill and John C. Bot.

The Mill claims, tenure numbers 1031091, 1032981 and 1039441, (Table 4.1) are subject to an option agreement which provides for the following:

1) Payment of $10,000, which has been made,
2) Payment of $40,000, due September 26, 2015,
3) Payment of $50,000, due September 26, 2016,
4) Payment of $50,000, due September 26, 2017,
5) Payment of $50,000, due September 26, 2018,
6) Payment of $50,000, due September 26, 2019,
7) The vendor will retain a royalty of 2½ % of Net Smelter Returns.

If any of the above payments are not made, all interest in the property will revert to the vendor.

The other Mill claims (Tenure Numbers 1038154, 1039253, 1039178 and 1039179) are not subject to the above agreement. Title for these claims has been transferred to Tudor Holdings.

The Bot claims (Tenure Numbers 1036939, 1036952, 1036954, 1036955, 1031031, 1036878, 1033369, 1036953, 1029297 and 1021721) are subject to an option agreement which provides for the following:

1) Payment of $25,000, which has been made,
2) Payment of $50,000 due November 18, 2016,
3) Payment of $50,000 due November 18, 2016,
4) Payment of $50,000 due November 18, 2016,
5) Payment of $50,000 due November 18, 2016,
6) The vendor will retain a royalty of 2½ % of Net Smelter Returns.

If any of the above payments are not made, all interest in the property will revert to the vendor. In this event, or upon Tudor giving notice of termination of the agreement, the claims must be left in good standing for a period of at least two years beyond the date of termination.

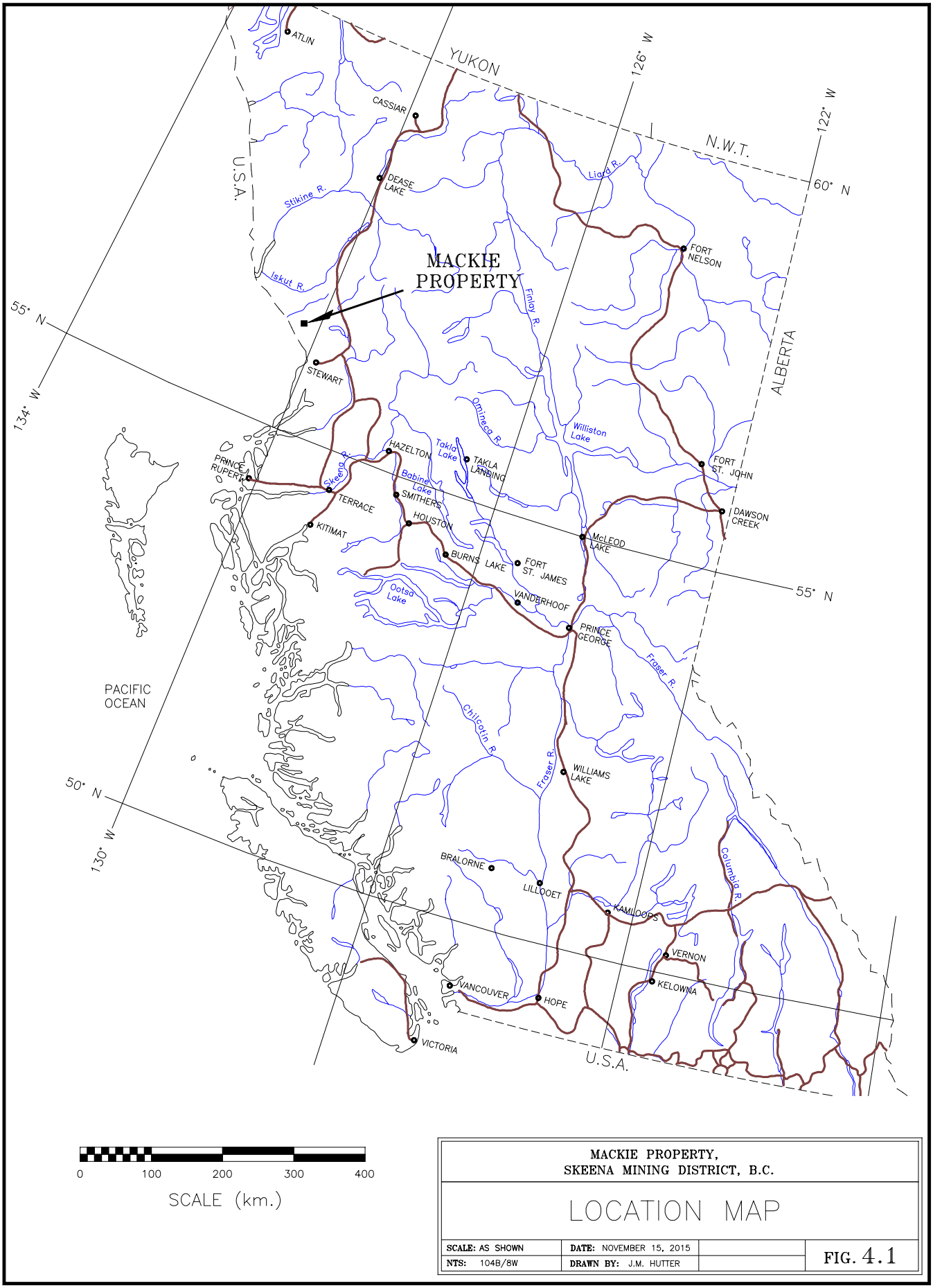
Mineral Titles in British Columbia are acquired and maintained through Mineral Titles Online, a computerized system which provides map-based staking. Acquisition costs for claims are $1.75 per hectare. This confers ownership of the claim for one year beyond the date of staking. In order to hold the claims for time beyond the first year, the owner must complete assessment work, either physical or technical, on the property. A report must be filed detailing the work performed and the results. These assessment reports remain confidential for one year and then become available for public access. If assessment work or cash in lieu is not filed by the required date the claims will automatically forfeit. For year 1 and 2 the work requirement is $5 per hectare per year, for years 3 and 4 it is $10, year 5 and 6 $15, and thereafter $20 per year. If work is not done, cash in lieu may be paid to hold the claims, but at a rate twice the cost of doing work.

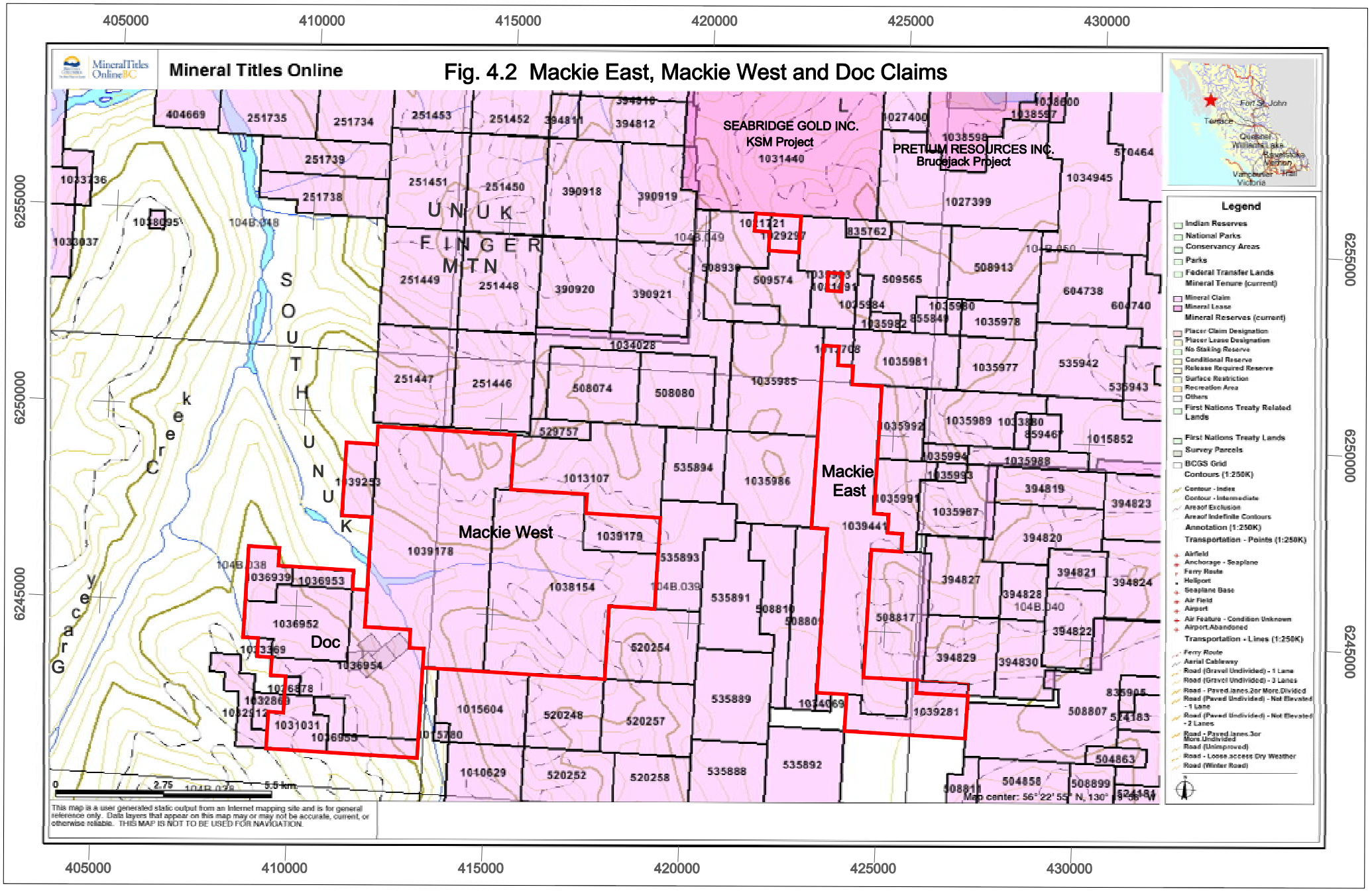
Table 4.1 - Details of Mackie Property Claims as of November 30, 2015

TENURE NO.	NAME	OWNER	ISSUE DATE	GOOD TO DATE	NEW GOOD TO DATE	STATUS	AREA (ha)	AREA (ha) (Amal)
Mackie East:								
1031212	Riley2	Richard H. Mill	Sep 28 2014			Amalgamated to 1031479		107.63
1031475	Riley	Richard H. Mill	Oct 9 2014			Amalgamated to 1031479		1021.39
1031479	Riley	Richard H. Mill	Oct 9 2014		Sep 18 2017	Amalgamated to 1039441		1129.02
1035700	Riley2	Richard H. Mill	Apr 27 2015		Apr 27 2017	Amalgamated to 1039441		143.45
1039441	Riley	Tudor Holdings Ltd.	Oct 20 2015		Apr 27 2017	Good (pending acceptance of report)	1272.47	

Table 4.1 (Cont'd)								
CLAIM NO.	**NAME**	**OWNER**	**ISSUE DATE**	**GOOD TO**	**NEW GOOD TO**	**STATUS**	**AREA (ha)**	**AREA (ha) (Amal)**
1039209	Marks	Richard H. Mill	Oct 9 2015			Amalgamated to 1039281		53.82
1039280		Richard H. Mill	Oct 13 2015			Amalgamated to 1039281		251.16
1039281	Hutter	Tudor Holdings Ltd.	Oct 13 2015	Oct 9 2016		Good	304.98	
1021721	Whats Up	John C. Bot	Aug 16 2013	Feb 16 2016		Good	17.89	
1029297	High Hopes	John C. Bot	June 30 2014	Dec 30 2015		Good	71.56	
1031091	Tuo	Tudor Holdings Ltd.	Sep 22 2014	Sep 22 2016		Good	17.90	
Mackie West:								
1038154	Storm	Tudor Holdings Ltd.	Aug 23 2015	Aug 23 2016	Oct 8 2018	Good (pending acceptance of report)	1488.17	
1039178	Storm 2	Tudor Holdings Ltd.	Oct 8 2015	Oct 8 2016		Good	1792.55	
1039179	Storm3	Tudor Holdings Ltd.	Oct 8 2015	Oct 8 2016		Good	179.23	
1039214	Sheelagh	Richard H. Mill	Oct 10 2015			Amalgamated to 1039253		71.69
1039252	Sheelagh	Richard H. Mill	Oct 12 2015			Amalgamated to 1039253		71.67
1039253	Sheelagh	Tudor Holdings Ltd.	Oct 12 2015	Oct 10 2016		Good	143.36	
Doc:								
1031031		John C. Bot	Sep 18 2014	Mar 1 2017		Good	179.46	
1033369		John C. Bot	Jan 14 2015	Mar 1 2017		Good	17.94	
1036878		John C. Bot	June 29 2015	Mar 1 2017		Good	17.94	
1036939	Grace NW	John C. Bot	June 29 2015	Mar 1 2017		Good	125.51	
1036952	Golden Grace 2	John C. Bot	June 29 2015	Mar 1 2017		Good	430.45	
1036953	Grace N	John C. Bot	June 29 2015	Mar 1 2017		Good	71.72	
1036954	Grace SE	John C. Bot	June 29 2015	Mar 1 2017		Good	699.69	
1036955	Grace S	John C. Bot	June 29 2015	Mar 1 2017		Good	161.52	
						Total Area (ha):	6992.34	

Figure 4.1 Location Map




Mineral Titles Online
Fig. 4.2 Mackie East, Mackie West and Doc Claims
405000
410000
415000
420000
425000
430000
6255000
6250000
6245000
SEABRIDGE GOLD INC.
KSM Project
1031440
PRETIUM RESOURCES INC.
Brucejack Project
UNUK FINGER MTN
SOUTH UNUK
Kerr Creek
Mackie West
Mackie East
Doc
Legend
Indian Reserves
National Parks
Conservancy Areas
Parks
Federal Transfer Lands
Mineral Tenure (current)
Mineral Claim
Mineral Lease
Mineral Reserves (current)
First Nations Treaty Lands
Survey Parcels
BCGS Grid
Contours (1:250K)
Transportation - Points (1:250K)
Transportation - Lines (1:250K)
0 2.75 5.5 km
This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.
Map center: 56° 22' 55" N, 130°

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Stewart, BC is the nearest town to the Mackie Project and has a population of approximately 500. Stewart is western Canada's most northerly port. The port is ice – free year round and has facilities for handling both barges and bulk carriers. The town has paved access to major transportation routes through Highways 37A and 37 which connect with Highway 16 at Kitwanga. Stewart has a seasonal airport with a runway length of 1189 metres. There are currently no scheduled flights to Stewart. The nearest commercial airports with scheduled service are Smithers (327 km. by road) and Terrace (310 km. by road). Two helicopter companies with a variety of machines have bases beside the airport. The main industries in the area are forestry, mineral exploration, and tourism.

Access to the property is typically by helicopter from Stewart, a 20 to 25 minute flight. Road access is possible up to the Granduc mill site, which would cut down the transport time when moving supplies or machinery for exploration programs. Overland transport on glaciers is theoretically possible but is rarely used due to the more difficult logistics involved, the dangers of travel on glaciers and the speed and relative ease of helicopter transport.

The Stewart area has a cool and wet coastal climate. The Stewart weather station average precipitation over the last thirty years is 1867 mm, of which about two thirds falls as rain and the remainder as snow. September and October are the wettest months and the months with greatest snowfall are November to February. At higher elevations a much greater proportion of the precipitation will fall as snow. The average temperature in Stewart is just below freezing from December to February and reaches a maximum of about 15˚C in July. At higher elevations winter temperatures will be considerably colder.

Early stage exploration projects are typically limited to about a three month season that starts in early to mid-summer when snowmelt has exposed sufficient ground to work efficiently and ends in early autumn with the onset of more snowfall. More advanced projects can extend the season considerably, in some cases including year-around work, but not without substantial effort and cost.

The area is mountainous and rugged, and partly covered by glaciers and icefields (Fig. 5.1). Elevations range from 440 metres where the Mackie West group crosses the South Unuk River to 2100 metres on parts of the Mackie East Group. The tree line is at about 1200 metres elevation, below which are found thick stands of mature hemlock, spruce and fir as well as aspen and alder and often a thick undergrowth of ferns, devil's club, huckleberry and salmonberry. Above tree line heather and grasses are common, as well as stunted black spruce and juniper. The highest elevations are typically devoid of any vegetation except perhaps lichens.

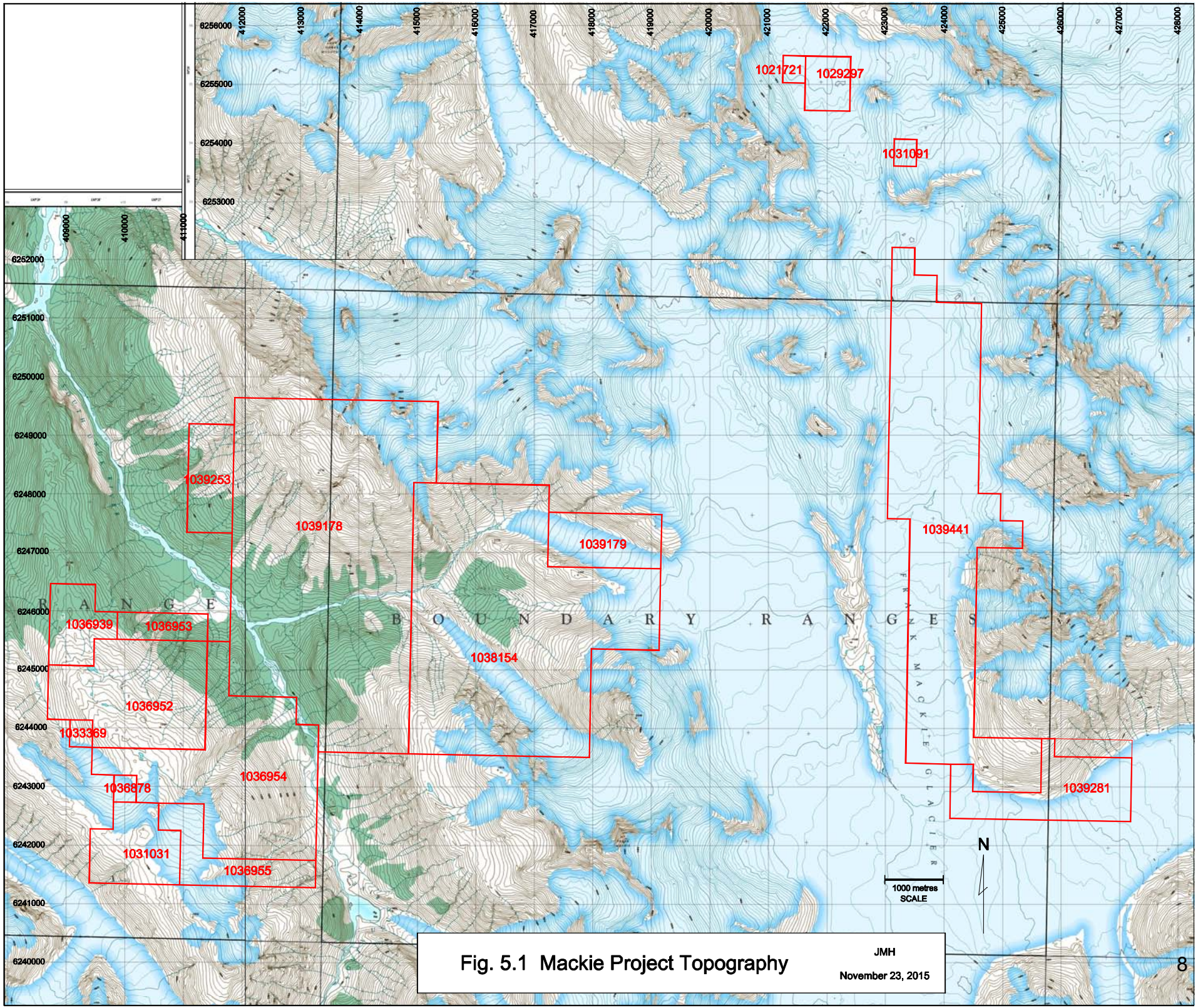


Fig. 5.1 Mackie Project Topography

JMH

November 23, 2015

6.0 HISTORY

6.1 Mackie East Claims

There is very little history of exploration on the Mackie East claims. Work was done in 1986 by Teuton Resources Corporation when the ground was staked as the Theta and Iota claims. Most of the work was stream sediment sampling to the east of the present Mackie ground. A small gold-silver-base metals vein was found, also to the east of the Mackie claims, and some trenching was completed on this.

An airborne magnetic and VLF-EM survey was flown over the area of the claims by Amphora Resources in 1990.

In 2010 Max Minerals Ltd. completed geological and geochemical work on ground to the east of the Mackie East claims.

6.2 Mackie West Claims

The Divel galena-quartz vein showing (Minfile 104B 215) is known to the south of Divelbliss Creek and west of the toe of the Cabin Glacier. Traces of chalcopyrite are also reported in rocks within a few hundred metres of this showing.

The Sheelagh Creek showing is located on the west side of the Mackie West group on tenure number 1039253. The showing consists of a 2.5 to 3.5 metre wide quartz vein striking approximately 045 degrees and dipping about 75 degrees to the northwest. It has been traced for only 8 metres before it disappears under the surrounding overburden / greywacke / sandstone. Mineralization consists of disseminated to semi-massive pods of pyrite. Three one metre chip samples taken across the face of the vein produced assay results of 15.63 g/t Au and 41.83 g/t Ag over 3 metres. A select grab sample returned values of 61.40 g/t Au and 109.5 g/t Ag. An attempt to drill the vein was made in 1996 by Kenrich Mining Corporation, however the ground was badly fractured and none of the four holes attempted was able to reach the target depth. To the present time this vein has never been drilled.

6.3 Doc Property

The Doc property has a long history of exploration. The property was originally staked in 1946 by Thomas J. McQillan and Pat Onhasy as the Gracey group of claims. Over 20 quartz veins were sampled, some running over half an ounce of gold per ton plus minor silver.

The claims were acquired by Halport Mines in 1947. Several veins were trenched in 1947 and 1948. During the 1948 field season two of the veins, the Q17 and Q22, were

diamond drilled in 19 EX holes totalling 4230 feet (1289.3 metres). This work led to the conclusion that the two veins were actually one with an offset by a minor fault, and that this vein persisted for a strike length of 1250 feet (381 metres) and to a depth of 250 feet (76 metres). In 1949 ten holes were drilled for a total of 2044 feet (623 metres) on the Q25 vein. Core recovery was reported to be reasonably good within the quartz but poor on the sheared margins of the veins. Widths were reported to be up to 5.8 feet (1.8 metres). Detailed records of this drilling are likely not available.

Sometime before 1974 the D.O.C. group of 11 claims were staked by New Minex Resources, and a further eight claims were added in 1974.

In 1974 the Q17 Vein was sampled over a strike length of 260 feet (79 metres), with 13 channel samples producing an average gold grade of 0.309 ounces per ton over an average width of 8.1 feet (2.5 metres). A single channel sample cut 1000 feet (305 metres) to the west on the Q25 vein produced a result of 1.82 oz/ton gold and 8.18 oz/ton silver over 5.8 feet (1.8 metres). A magnetometer survey was completed over 6.7 line-miles (10.8 km).

An EM-16 survey was completed in 1975 over a distance of 19.1 line-km, with the conclusion that the quartz veins contained insufficient sulphides to cause an electromagnetic response.

In 1980 the ground was held by Du Pont of Canada Exploration Ltd. as the Doc 1-4 claims, four modified grid claims totalling 50 units. A grid was established over the central part of the claim group, covering 207 hectares. 447 soil samples were collected at 50m station spacing on lines either 50m or 100m apart. 19 rock samples were assayed for gold, silver, copper, lead and zinc. The entire grid area was geologically mapped at a scale of 1:2500. It was concluded that the gold and silver geochemical values did not suggest the presence of undiscovered veins.

Magna Ventures Ltd in 1985 carried out trenching, mapping and sampling mainly in the area of the Q17 and Q22 Veins. A grab sample of semi-massive to massive sulphide on the footwall side of the Q17 Vein assayed over 3 oz/ton gold with high values of silver, copper and lead. Additional claims were added to the Doc group bringing the total ground held to 2300 hectares.

In 1986 Magna drilled 913.2m of BQ core and completed 33.5 metres of underground development which was the beginning of a crosscut adit to the Q17 Vein. Diamond drilling again encountered difficulty when intersecting the veins, with poor recovery and loss of circulation. The author of the drilling report recommended that future drilling be done with NQ, and either reducing to BQ or cementing the hole to restore circulation when the vein shear is encountered. A "possible" "geological reserve" for the Q17-Q22 Vein of 49095 tons with an average grade of 0.46 oz/ton Au and 1.60 oz/ton Ag was

calculated. This would be known today as an "inferred resource". *It must be noted that the above grade and tonnage figures are not 43-101 compliant and can not be relied upon in any way.*

In 1987 the claim area was expanded to approximately 7600 hectares, taking in the Globe crown grants and the Divelbliss Creek area. The 1987 program was conducted by Magna Ventures Ltd and Silver Princess Resources Inc. A winterized camp was installed and mining equipment for trackless operations was brought in. 376 metres of underground development was completed to test the Q17 Vein. The vein was crosscut in three places (in the same adit) with an average grade of 0.47 oz/ton gold over a true width of 2.3 metres. 694 metres of underground diamond drilling was completed in eight holes from two set-ups on the Q17 and Q22 Veins. Further prospecting, soil sampling, surface trenching and underground sampling was completed. Four new veins were discovered and six old zones were extended. "Ore reserves" for the Q17 Vein were stated to be 207,000 tons at 0.32 oz/ton gold and 1.38 oz/ton silver. Total "ore reserves" for all veins in all categories were stated as 470,000 tons grading 0.27 oz/ton gold and 1.31 oz/ton silver. No cut-off grade was stated. *(Note that these figures are not 43-101 compliant and cannot be relied upon in any way. Further, the term "ore reserve" indicates rock that can be mined at a profit, and in this case that has not been demonstrated.)*

During 1988 a new 40 person camp was constructed by Echo bay Mines Ltd. Two drills completed 3074.1 metres of drilling to test the Q17, Q22 and Q28 Veins and the newly discovered JT Vein. 230 metres of underground development was completed on the Q17 Vein to the west and east of the main adit and as a crosscut to the Q22 Vein. No drifting was done on the Q22 Vein due to difficult ground conditions. The work resulted in a resource calculation of 100,851 tons grading 0.258 oz/ton gold at a cut-off of 0.1 oz/ton or 27,284 tons at a cut-off of 0.3 oz/ton for the Q17-Q22 Vein *(Note that these figures are not 43-101 compliant and cannot be relied upon in any way)*..

It was concluded that the Q17 Vein offered insufficient potential for developing sufficient tonnage at a high enough grade to support mining, given the remoteness and ruggedness of the area. Therefore work in 1989 was directed towards prospecting and geological mapping with the goal of encountering other areas of interest on the property. A weakly altered and mineralized felsic sequence containing an argillaceous tuff horizon with associated pyritic felsic lapilli was located east of the South Unuk River and was considered to have the potential to host a significant precious-base metal deposit. It was noted that work in this area was hampered by ice cover and difficult terrain.

In 1996 the claims were allowed to lapse and were re-staked by the Hunter Exploration Group.

A one day prospecting program was conducted in 1999 which resulted in the discovery of sub-crop of the "BGS" quartz vein showing which assayed up to 44.66 g/t gold and 219 g/t silver.

7.0 GEOLOGICAL SETTING

7.1 Regional Geologic Setting

The property lies within the 'Golden Triangle', a major metallogenic province that extends from the Stewart area in the south, to the Sulphurets and McKay Lake areas in the north, and to the Snippaker Creek area in the northwest. This richly mineralized region contains a diverse suite of deposits that range from mesothermal precious metal deposits such as the Snip, to porphyry-style copper-gold deposits such as Kerr-Sulphurets-Mitchell, to transitional epithermal porphyry-related stockwork deposits such as Brucejack-Valley of the Kings, to the Eskay Creek deposit, with affinities to both epithermal and volcanogenic-style mineralization.

The claims are located along the western margin of the Intermontane Belt, close to the eastern limit of the Coast Plutonic Complex (Fig. 7.1). The area is underlain by Mesozoic volcanic, volcaniclastic and sedimentary rocks that form part of a north-northwesterly trending belt extending from Stewart in the south to the Iskut River in the north. These rocks were deposited in an island arc setting along the western flank of Stikine terrane. They are bounded to the east by the Bowser Basin, comprising an onlap assemblage of Middle to Upper Jurassic sedimentary rocks.

The oldest rocks in Stikinia are Devonian to Mississippian arc-related volcanic and plutonic bodies and accompanying sedimentary strata of the upper Paleozoic Stikine assemblage. These are unconformably overlain by Triassic arc and marine sedimentary strata of the Stuhini Group. Above a Late Triassic-Early Jurassic unconformity, the Hazelton Group and its intrusive sources (latest Triassic to Middle Jurassic) represent the final stage of island arc magmatism and related events. Unconformably above the Hazelton Group, the Bowser Lake Group (Middle Jurassic to Lower Cretaceous) is a northeasterly-sourced, southwestward-younging clastic overlap sequence derived from the collision of the Intermontane terranes and the edge of ancestral North America.

The Hazelton Group can be divided into two distinct intervals separated by an unconformity in most places. The lower Hazelton Group is dominated by arc-related volcanic rocks, whereas the upper Hazelton Group contains mainly fine-grained clastic rocks, and within the Eskay Rift, bimodal rift-related volcanic rocks.

Basal units (Jack Formation) of the Hazelton Group are generally coarse, immature, locally derived conglomerates and volcanic breccias, suggesting deposition within a terrain with significant relief. The considerable thickness of these deposits suggests that

syn-depositional uplifting of source rocks acted to maintain that relief. The Jack Formation is overlain by the Betty Creek Formation, a complex succession of distinctively coloured red and green epiclastic sedimentary rocks interbedded with andesitic to dacitic tuffs and flows. The upper Hazelton Group consists of mainly post-arc sedimentary and minor volcanic strata except for the Iskut River Formation, the bimodal volcanosedimentary fill of the Eskay rift in western Stikinia. The Eskay Rift is a down-dropped rift zone preserving rocks of the Middle Jurassic Iskut River Formation of the Hazelton Group. This north-northwest trending rift zone was the host for the Eskay Creek Mine. The South Unuk / Harrymel Fault, which is the western boundary of the Eskay Rift zone, passes diagonally through the approximate centre Mackie West claim group. This places the eastern part of the claim block within the Eskay Rift zone.

Three major intrusive episodes are recognized in the Stewart-Iskut River area: Late Triassic plutonism (the Stikine Plutonic suite) is thought to be subvolcanic with respect to mafic to intermediate volcanic rocks of the Stuhini Group with which it is spatially and lithologically related. Examples of this episode include gneissic quartz diorite (the Bucke Glacier stock) and metadiorite to metagabbro stocks in the south-western part of the Doc Property. Early Jurassic plutonism (Texas Creek plutonic suite) is characterized by calc-alkaline plutons of granodioritic to quartz monzonodioritic composition that are crosscut by alkali-feldspar phyric andesite dykes ("Premier porphyries"). These rocks have close spatial and temporal links with volcanic rocks of the Lower Jurassic volcanic rocks of the Hazelton Group and are particularly important with respect to the localization of precious metal lodes (Alldrick, 1989).

Monzogranite, quartz monzonite and granodiorite of Eocene age outcrop extensively within the Coast Plutonic Complex and its satellitic stocks and dykes.

In terms of mineralization, the most important structural features of the area are the Middle Jurassic Eskay Rift, The McTagg anticlinorium and the Sulphurets Fault.

The major deposits in the area are hosted by volcanosedimentary rocks of the Hazelton Group (Lower Jurassic) and its subvolcanic feeders. Mineralized bodies define a northerly trend, extending discontinuously for about 60 km, from near the town of Stewart north to Treaty Glacier (Figs. 7.1, 7.2). The narrow, consistently NNW-SSE trend of mineralization along a 60 kilometre strike length suggests structure-controlled magmatic and hydrothermal systems.

7.2 Geology of the Mackie East Claims

Rock exposures in the eastern part of the claims are mapped as belonging to the Jack Formation. This formation, composed mainly of sandstones to conglomerates, is the basal formation of the Hazelton Group in this area, and overlies the Triassic Stuhini

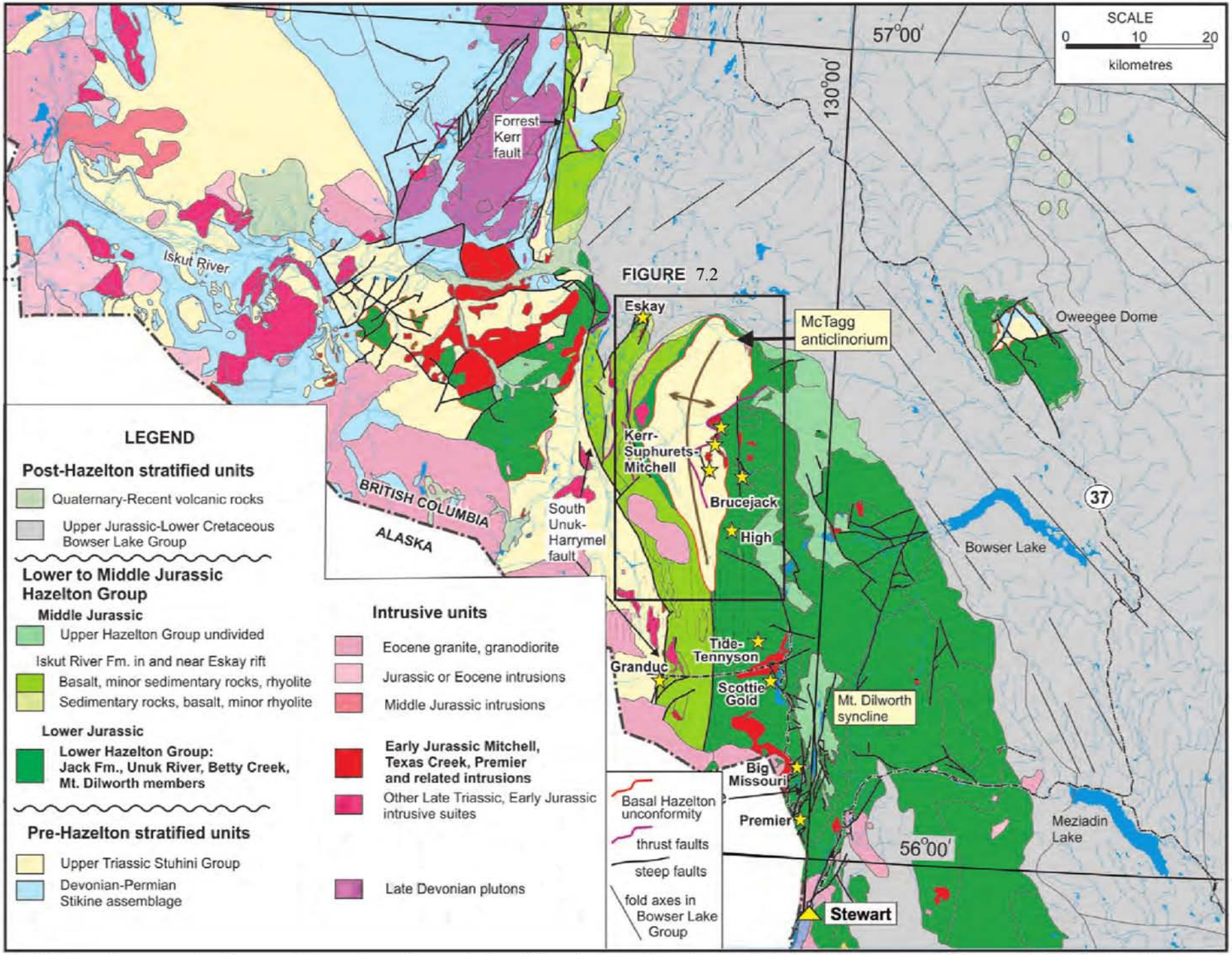


Fig.7.1 Treaty-Stewart trend and western Iskut region geology and mineral deposits, generalized from the digital geological map of British Columbia 2005 from Massey et al. (2005). After Nelson and Kyba (2014)

Group which crops out to the west of the claims above the Sulphurets Thrust Fault. The Jack Formation is the favoured host for porphyry and epithermal deposits within the Stewart-Treaty Glacier trend. The contact between Stuhini and Hazelton rocks in the area of the claims is the Sulphurets Fault, which in this area is obscured by ice.

Basal Hazelton strata of the Jack Formation are exposed near the McTagg anticlinorium (Fig. 7.1). The McTagg anticlinorium, a broad fold zone with associated faulting, is a dominant feature in the area of the Eastern claims. The eastern margin of the McTagg anticlinorium is a likely location for a basin-bounding fault in the immediate footwall of the Sulphurets thrust fault at its eastern boundary. This fault was a precursor to the thrust fault and was likely a conduit for the KSM porphyry and associated hydrothermal fluids. Seabridge Gold's KSM property is located just to the north of the claims. KSM is a series of gold-copper porphyry deposits: from north to south being the Iron Cap, Mitchell, Sulphurets and Kerr. Below the Kerr deposit Seabridge has outlined a significant tonnage of ore (the "Deep Kerr") that will be amenable to bulk underground mining. These four deposits form a broad arc trending towards the East claim block. Much of the area of the East claim block, especially in the north, is obscured by ice but is nevertheless prospective for a deposit of the Deep Kerr type or a porphyry-related stockwork deposit of the Brucejack-Valley of the Kings type.

7.3 *Geology of the Mackie West and Doc Claims*

Volcanic and sedimentary rocks on the Doc Property fall into two distinct groups of contrasting lithologic, structural and metamorphic character (Figure 7.2). These units are separated by the north-northwest trending South Unuk / Harrymel Fault Zone. In the vicinity of the Doc Property, this fault lies approximately three kilometres east of the South Unuk River. Lithologies that lie to the west of the fault are assigned to the Upper Triassic Stuhini Group, whereas those to the east of the fault are assigned to the Lower to Middle Jurassic parts of the Hazelton Group.

East of the fault, the Hazelton Group rocks comprise a westerly facing but locally overturned sequence of sub-greenschist intermediate to felsic volcanic and volcaniclastic rocks with lesser sediments (Britton et al., 1989). A distinctive unit of andesitic pillow lava and pillow breccia occurs at the base of this sequence. This unit is regionally correlated with the Lower Jurassic Betty Creek Formation, in the upper part of the Hazelton Group (Alldrick et al, 1989). Felsic rocks that locally overlie this unit occupy the same stratigraphic position as similar strata assigned to the Mount Dilworth Formation, at the top of the Hazelton Group. This regionally extensive unit may be laterally equivalent to the sequence which hosts the Eskay Creek deposit 30 kilometres to the north; alternatively, several felsic horizons may be discontinuously developed within the Hazelton Group in the Iskut-Unuk River area (Glover et al, 1989). This major fault extends from east of the Granduc deposit, south of the Doc Property, to west of

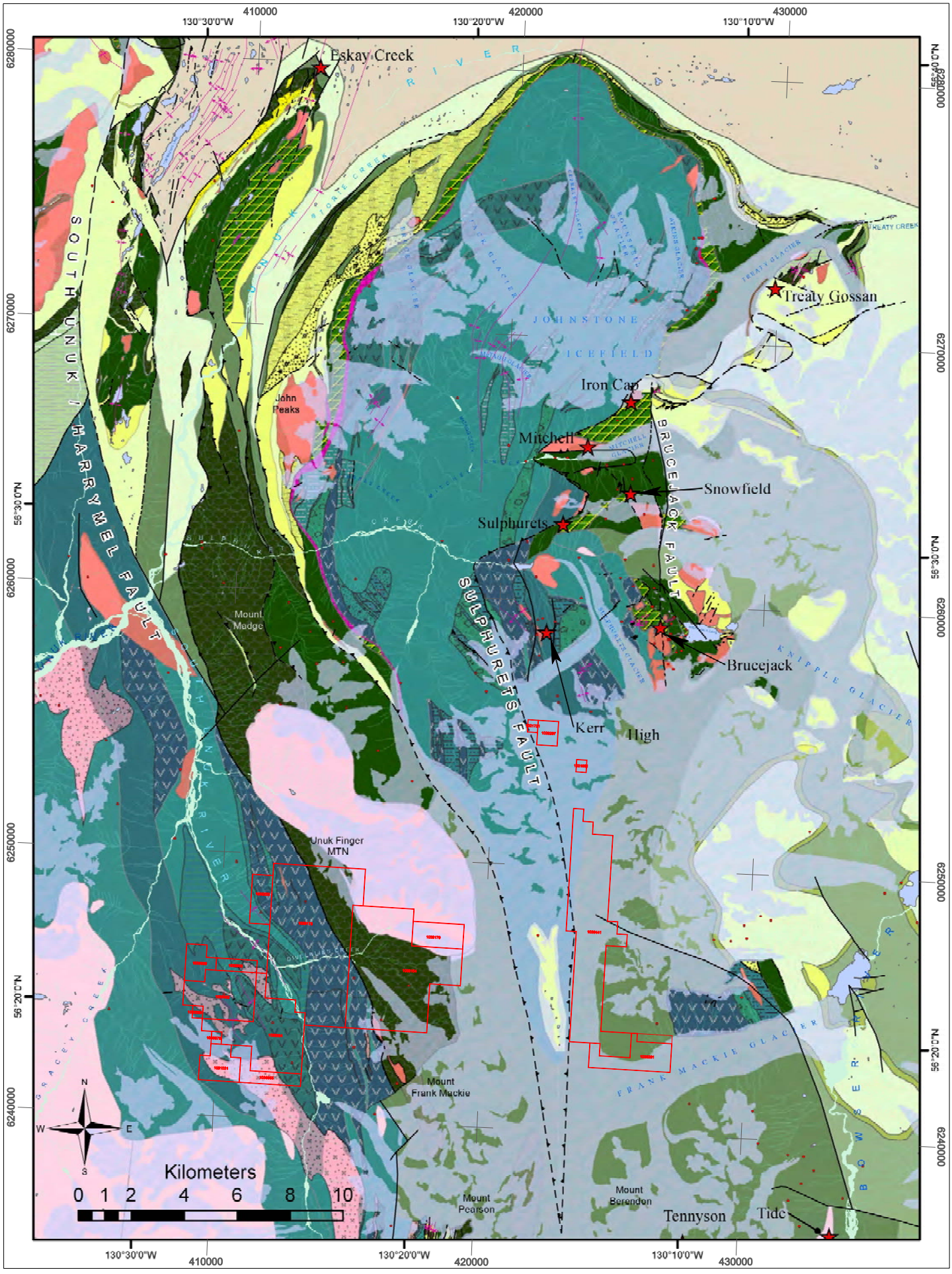


Fig. 7.2 Mackie Property local geology.
After Nelson and Kyba (2014)

Legend

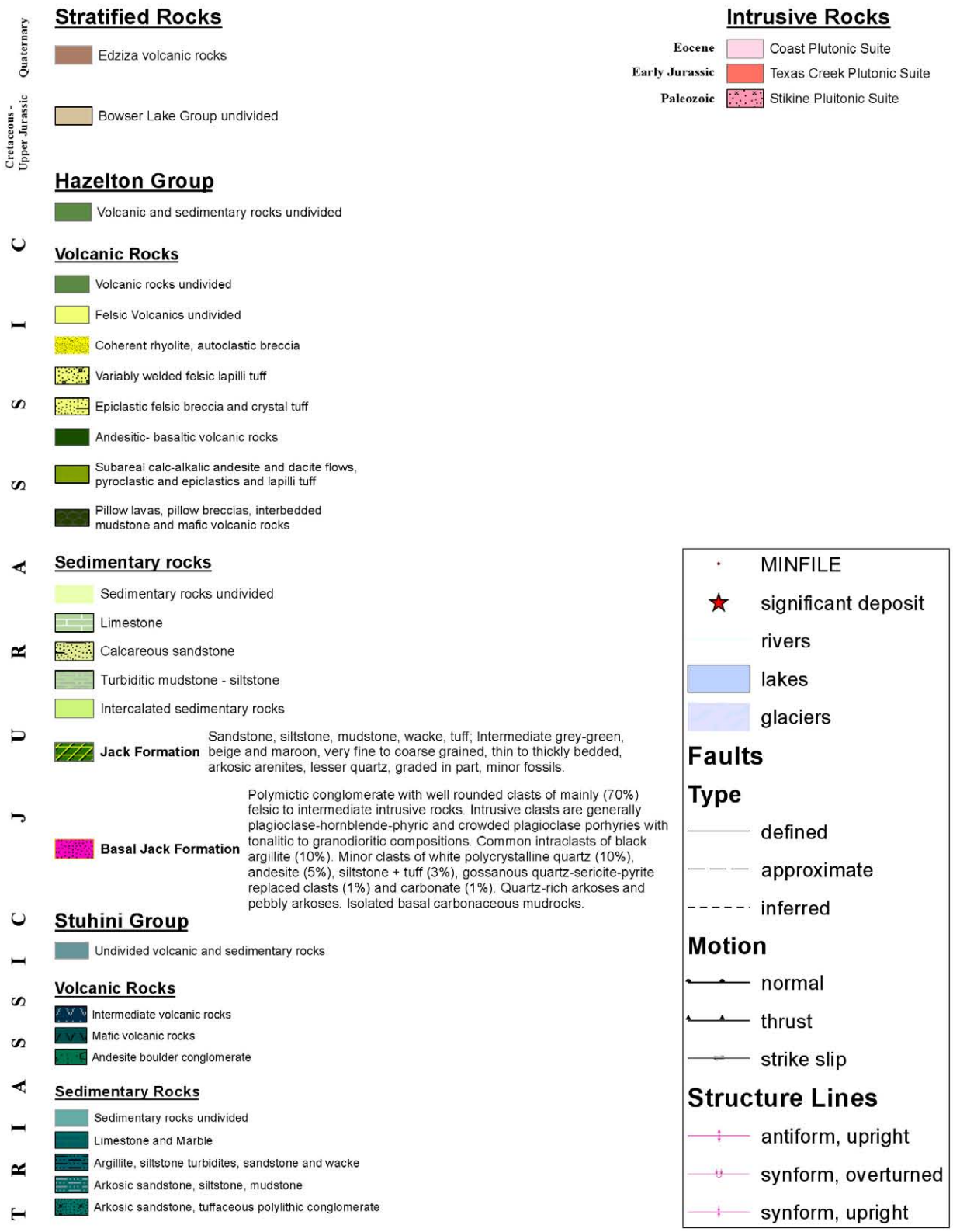


Fig. 7.2 Legend

After Nelson and Kyba (2014)

Tom McKay Lake, in the northern part of the Unuk River map area (Groves, 1986; Alldrick et al, 1989).

The area to the west of the South Unuk / Harrymel Fault is underlain by upper greenschist to amphibolite facies metasedimentary and volcanic rocks of the Stuhini Group. The Upper Triassic to Lower Jurassic island arc complexes of the Stuhini Group consist mainly of thin-bedded siltstones, wackes, impure limestones, andesitic tuffs and flows and their coeval plutons of the Stikine Plutonic Suite.

Intrusive rocks of the Coast Plutonic Complex are abundant to the west of the Doc Property and also occur in the northeastern part of the Mackie West claim block, within the Lee Brant Stock.

8.0 DEPOSIT TYPES

8.1 Porphyry

The KSM deposits of Seabridge Gold Inc. (Iron Cap, Mitchell, Sulphurets and Kerr deposits) are a cluster of porphyry-related gold-copper-molybdenum located in the immediate footwall of the Sulphurets Fault. The nearby Snowfield deposit of Pretium Resources has been shown to be the fault-displaced upper portion of the Mitchell deposit (Savell and Threkeld, 2013). The eastern boundary of the McTagg anticlinorium was once a basin-bounding growth fault that channeled the KSM porphyries and their associated alteration haloes and mineralization (Nelson and Kyba, 2014)

The Brucejack-Valley of the Kings deposit lies within the Early to Mid-Jurassic Hazelton Group volcanosedimentary rocks. The deposit is a transitional epithermal gold silver occurrence hosted in stockwork veining located up stratigraphy from several large porphyritic intrusions.

8.2 Volcanic-hosted Massive Sulphides

The Eskay Creek Mine includes several deposits of polymetallic sulphide and sulphosalt mineralization as both exhalative massive sulphide and discordant veins with enhanced precious metal content. The deposits, hosted in lower to middle Jurassic rocks of the Hazelton Group, are examples of shallow subaqueous hot spring deposit that are transitional between subaerial hot spring Au-Ag deposits and deeper water, volcanogenic massive sulphide exhalites (Massey el al, 1999)

The Granduc Mine consisted of a series of concordant and deformed sulphide lenses in Stuhini Group volcanic and sedimentary rocks immediately east of the Coast Plutonic Complex. The property straddles the northerly trending South Unuk Shear Zone

separating the upper greenschist to amphibolite facies metasedimentary and volcanic rocks of the Upper Triassic Stuhini Group from the lower greenschist grade metavolcanic and sedimentary rocks of the Hazelton Group. The rocks of the ore horizon are compositionally banded, brown to pale grey quartz-rich biotite and sericite schists, quartzites and metacherts. The individual ore zones consist of lenses of sulphide veinlets, irregular streaks and blebs, and massive sulphides up to tens of metres thick and are stacked in an orebody that extends vertically over 750 metres, laterally for 1200 metres and up to 240 metres thick (MINFILE 104B 021, October 2013).

8.3 Veins

The Premier Mine is hosted by the Unuk River Formation of the lower Jurassic Hazelton Group. A potassium feldspar porphyry known as the "Premier Porphyry" is spatially associated with the ore. Mineralization occurs in veins, stockwork, siliceous breccia and in locally layered and massive-sulphide-rich zones. A hybrid ore genesis model combining epigenetic vein and porphyry copper characteristics has been proposed (MINFILE 104B 054, October 2013).

Shear vein deposits such as the Snip Mine, Scottie Gold Mine and Johnny Mountain Mine have also been past producers of gold.

9.0 EXPLORATION

9.1 Geology, Prospecting and Sampling

This program was conducted as a preliminary examination of recently acquired ground in order to begin to ascertain its merit, become acquainted with the advantages and aware of the difficulties of working in the area, and plan a more thorough and comprehensive program for the following season. A total of 14 person-days were spent in the field examining rocks, taking samples and generally becoming familiar with the property. Figures 9.1 to 9.8 illustrate the traverses, geological observations and sample sites of the 2015 program. Sample locations and descriptions are listed in Appendices C and D, Waypoint and Sample Descriptions.

54 rock samples were collected and analyzed for 36 elements including gold by ICP-ES. Samples returning more than 1000 ppb gold (1 g/t) were then fire assayed. Five samples ran more than 1 g/t, of which four were bedrock samples and one was a large quartz boulder. The four bedrock samples were from the Mackie East claims (Fig. 9.6) and the quartz boulder was found on the Mackie West (Fig. 9.8).

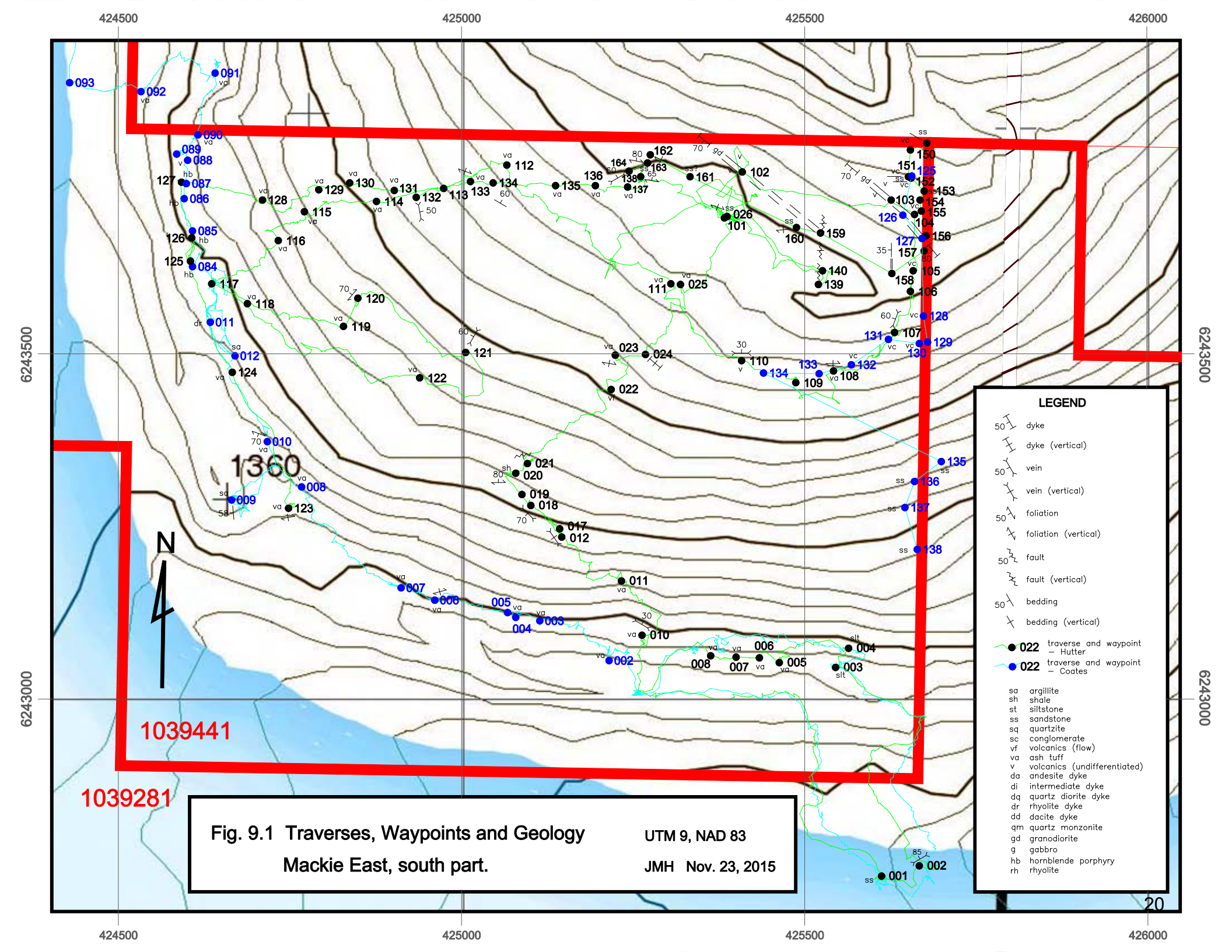


Fig. 9.1 Traverses, Waypoints and Geology
Mackie East, south part.

UTM 9, NAD 83
JMH Nov. 23, 2015

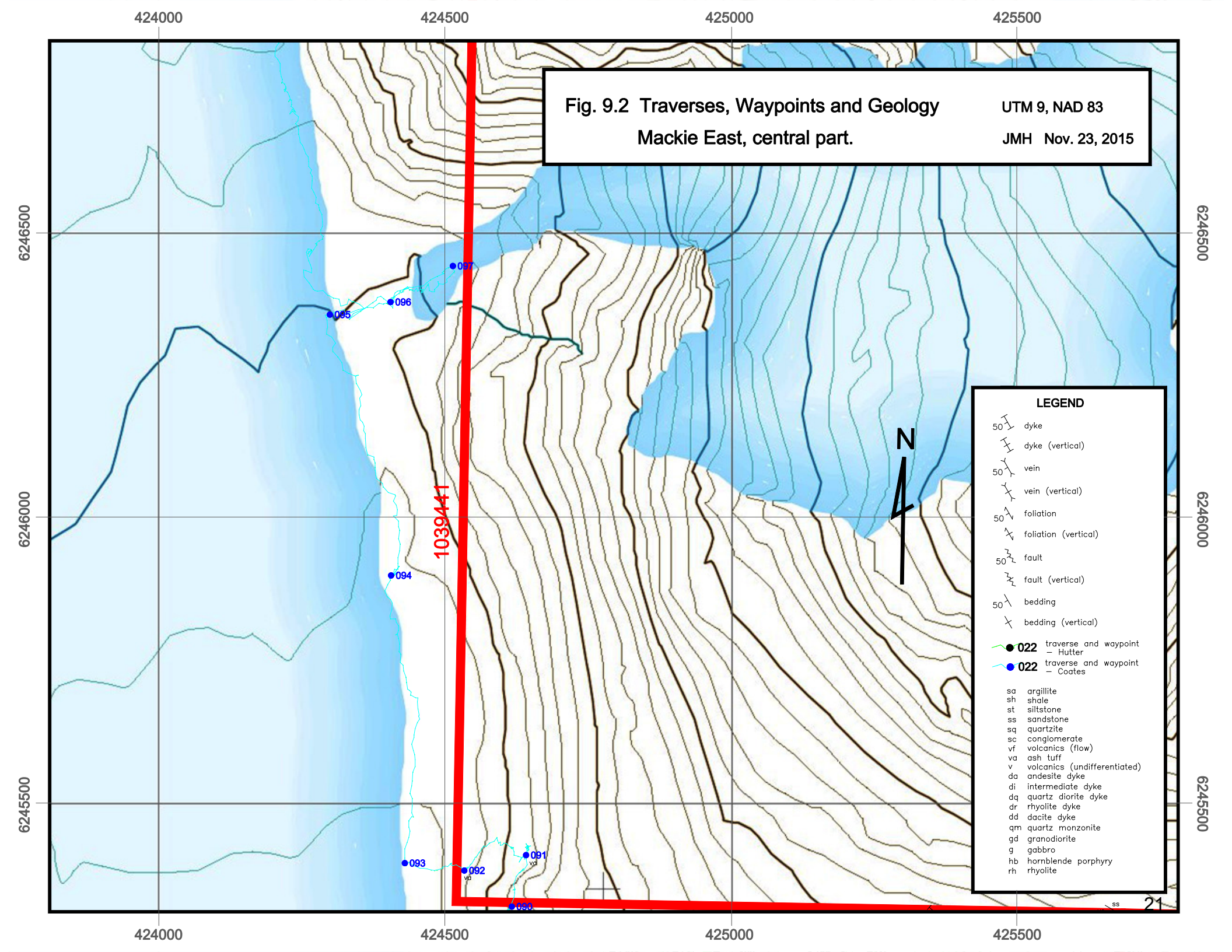


Fig. 9.2 Traverses, Waypoints and Geology
Mackie East, central part.
UTM 9, NAD 83
JMH Nov. 23, 2015
424000
424500
425000
425500
6246500
6246000
6245500
097
096
095
094
093
092
091
090
1039441
N
LEGEND
dyke
dyke (vertical)
vein
vein (vertical)
foliation
foliation (vertical)
fault
fault (vertical)
bedding
bedding (vertical)
022 traverse and waypoint – Hutter
022 traverse and waypoint – Coates
sa argillite
sh shale
st siltstone
ss sandstone
sq quartzite
sc conglomerate
vf volcanics (flow)
va ash tuff
v volcanics (undifferentiated)
da andesite dyke
di intermediate dyke
dq quartz diorite dyke
dr rhyolite dyke
dd dacite dyke
qm quartz monzonite
gd granodiorite
g gabbro
hb hornblende porphyry
rh rhyolite
21

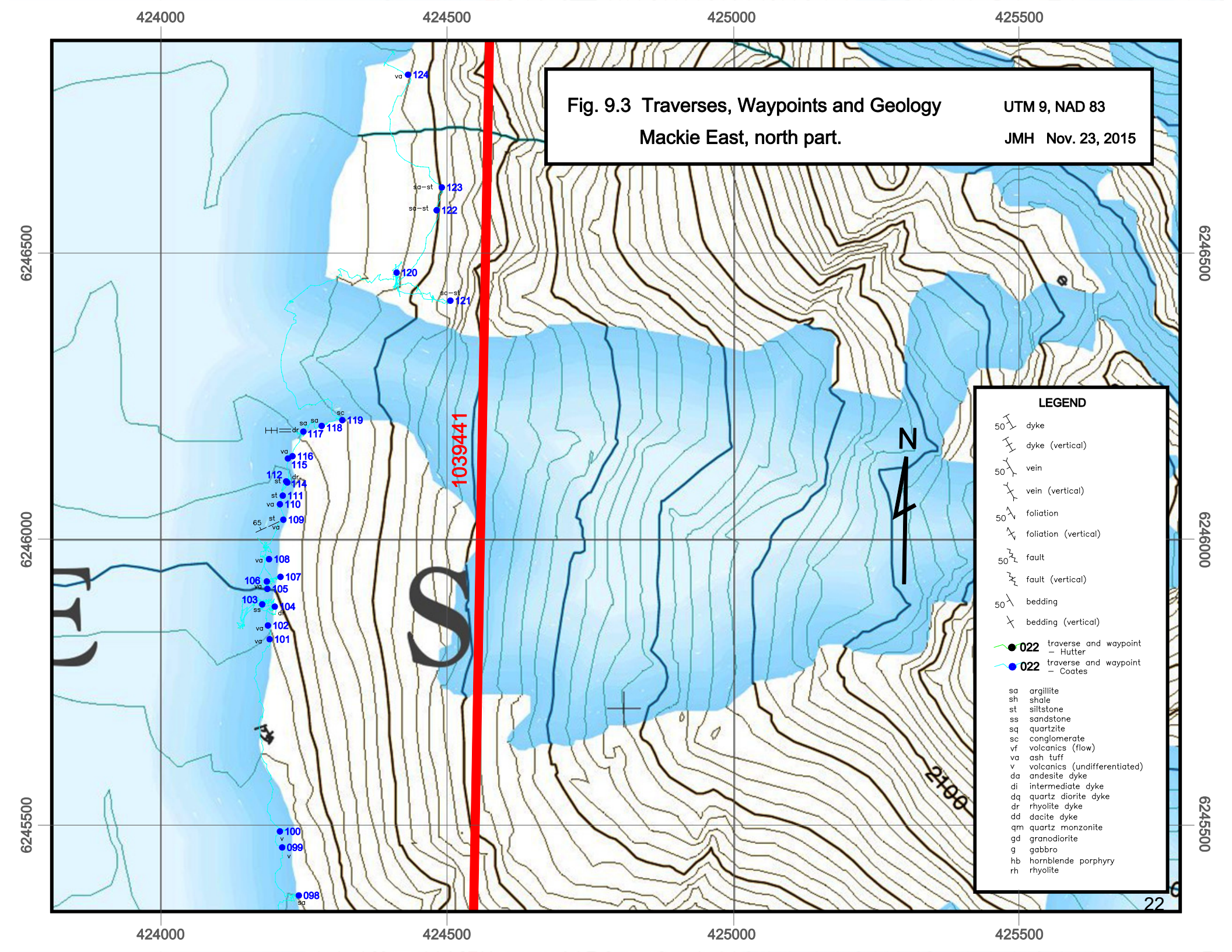


Fig. 9.3 Traverses, Waypoints and Geology
Mackie East, north part.
UTM 9, NAD 83
JMH Nov. 23, 2015
424000
424500
425000
425500
6246500
6246000
6245500
1039441
N
2100
LEGEND
dyke
dyke (vertical)
vein
vein (vertical)
foliation
foliation (vertical)
fault
fault (vertical)
bedding
bedding (vertical)
022 traverse and waypoint – Hutter
022 traverse and waypoint – Coates
sa argillite
sh shale
st siltstone
ss sandstone
sq quartzite
sc conglomerate
vf volcanics (flow)
va ash tuff
v volcanics (undifferentiated)
da andesite dyke
di intermediate dyke
dq quartz diorite dyke
dr rhyolite dyke
dd dacite dyke
qm quartz monzonite
gd granodiorite
g gabbro
hb hornblende porphyry
rh rhyolite
22

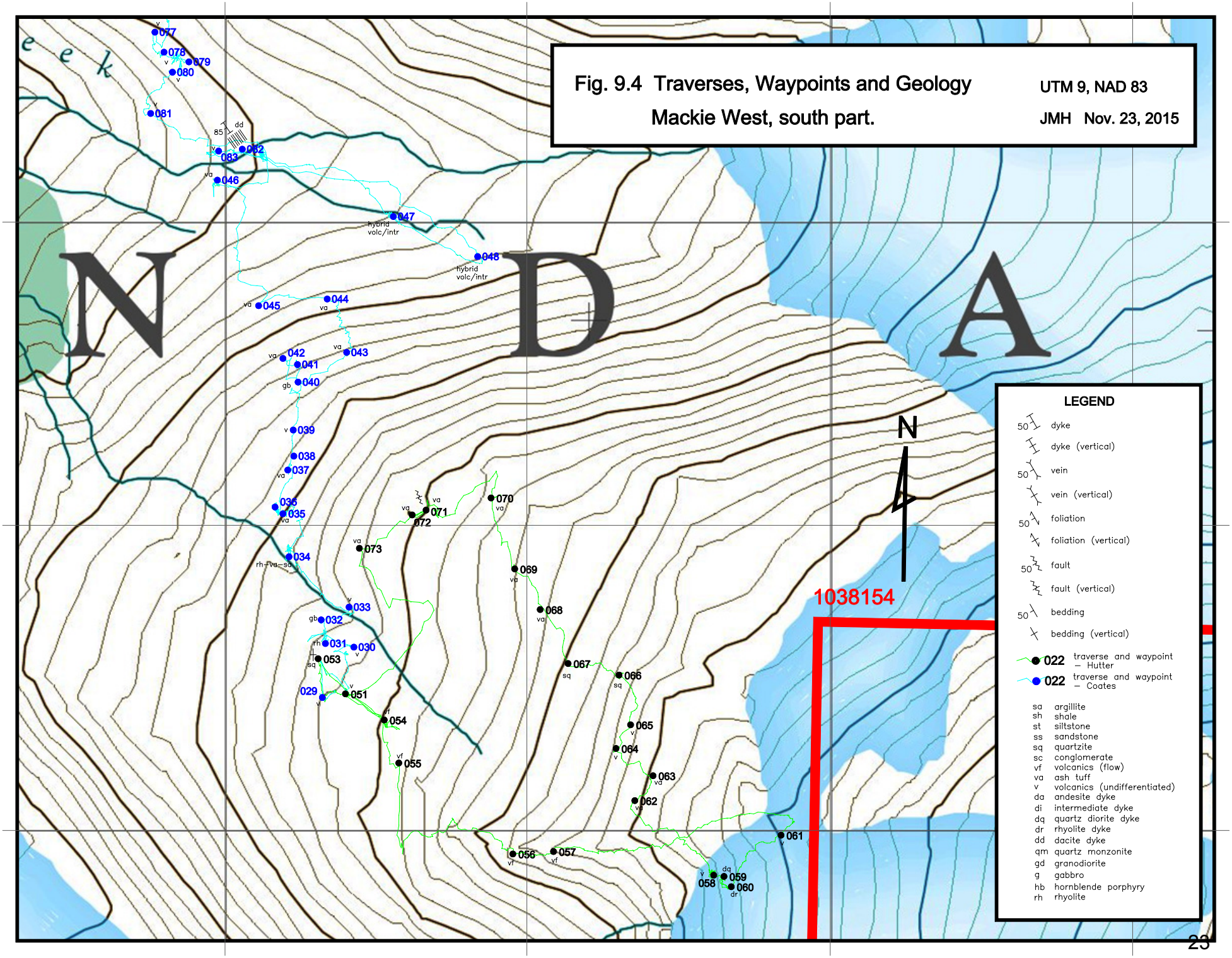


Fig. 9.4 Traverses, Waypoints and Geology
Mackie West, south part.
UTM 9, NAD 83
JMH Nov. 23, 2015
417000
417500
418000
418500
6246000
6245500
6245000
N
1038154
LEGEND
dyke
dyke (vertical)
vein
vein (vertical)
foliation
foliation (vertical)
fault
fault (vertical)
bedding
bedding (vertical)
022 traverse and waypoint – Hutter
022 traverse and waypoint – Coates
sa argillite
sh shale
st siltstone
ss sandstone
sq quartzite
sc conglomerate
vf volcanics (flow)
va ash tuff
v volcanics (undifferentiated)
da andesite dyke
di intermediate dyke
dq quartz diorite dyke
dr rhyolite dyke
dd dacite dyke
qm quartz monzonite
gd granodiorite
g gabbro
hb hornblende porphyry
rh rhyolite

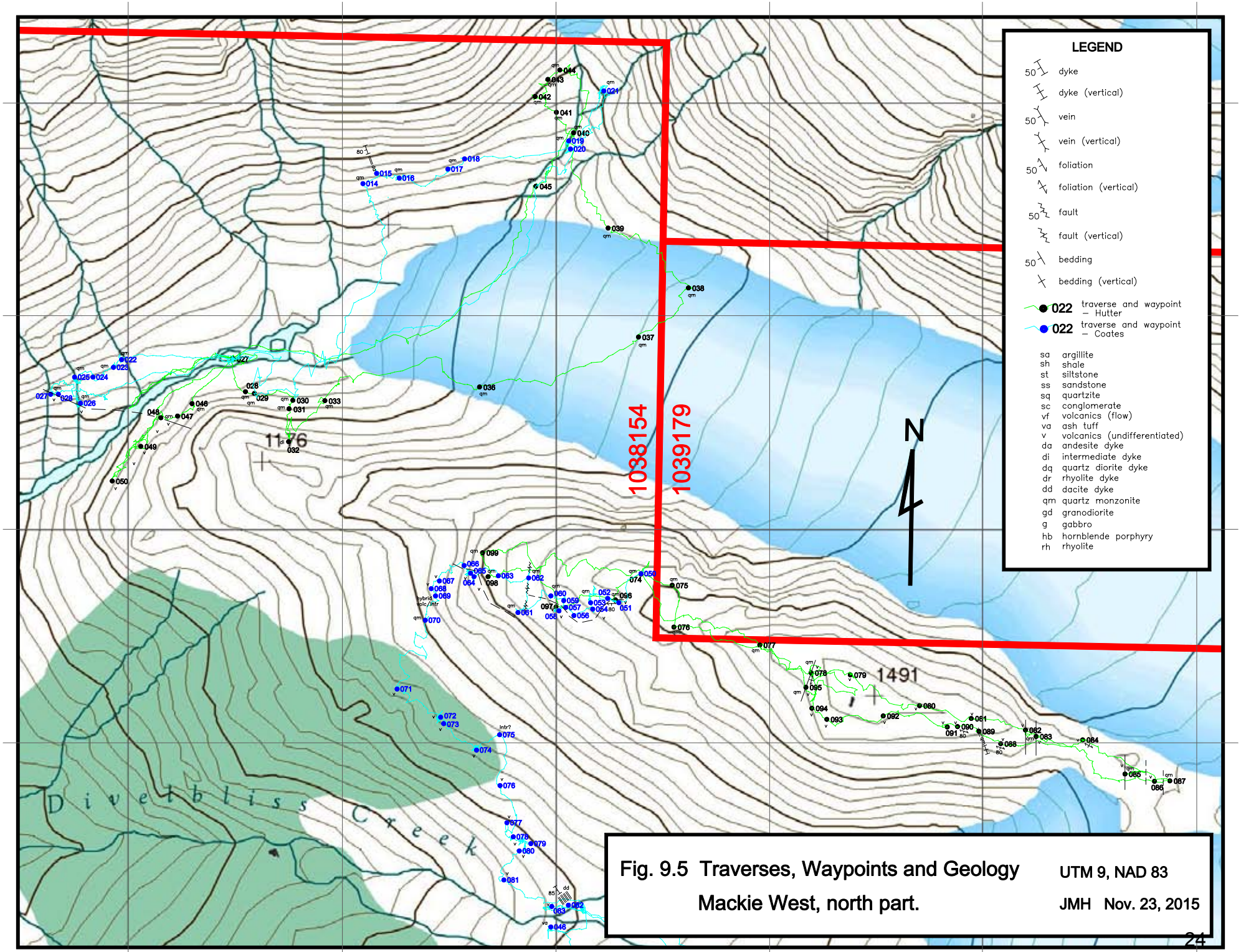
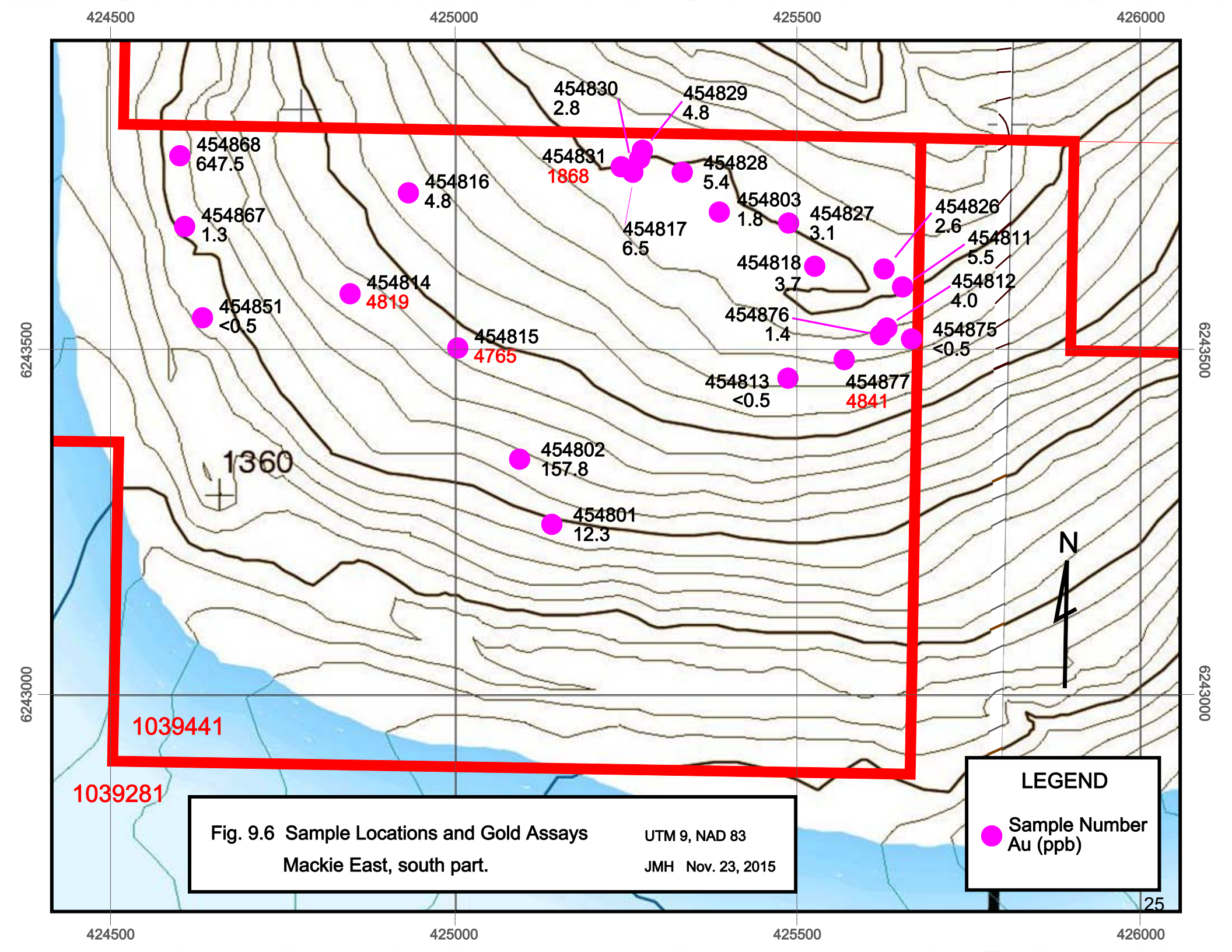


Fig. 9.5 Traverses, Waypoints and Geology
Mackie West, north part.

UTM 9, NAD 83

JMH Nov. 23, 2015


424500
425000
425500
426000
6243500
6243000
454830
2.8
454829
4.8
454868
647.5
454831
1868
454828
5.4
454816
4.8
454803
1.8
454827
3.1
454826
2.6
454867
1.3
454817
6.5
454811
5.5
454818
3.7
454812
4.0
454814
4819
454876
1.4
454875
<0.5
454851
<0.5
454815
4765
454813
<0.5
454877
4841
454802
157.8
1360
454801
12.3
N
1039441
1039281
LEGEND
Sample Number
Au (ppb)
Fig. 9.6 Sample Locations and Gold Assays
Mackie East, south part.
UTM 9, NAD 83
JMH Nov. 23, 2015
25

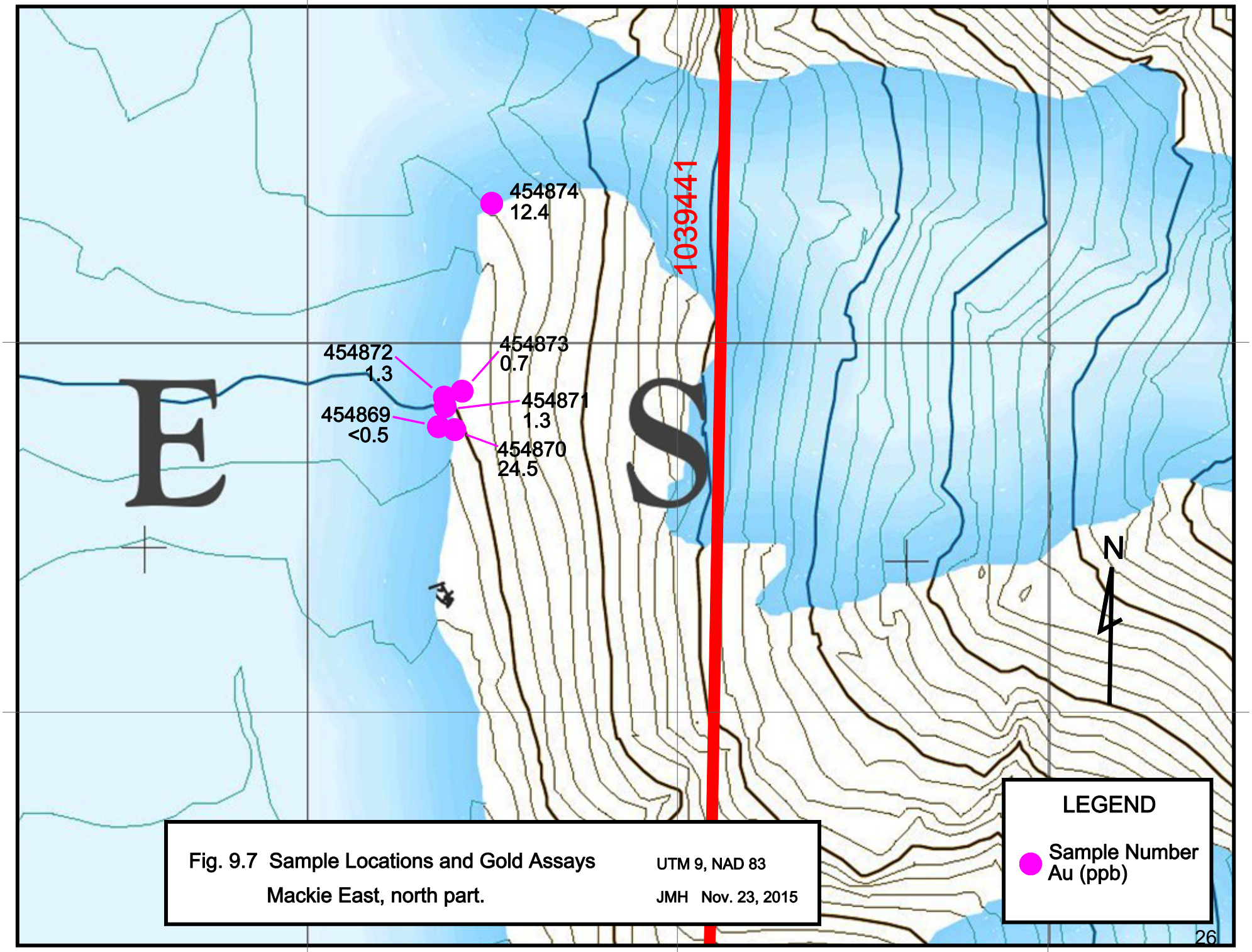
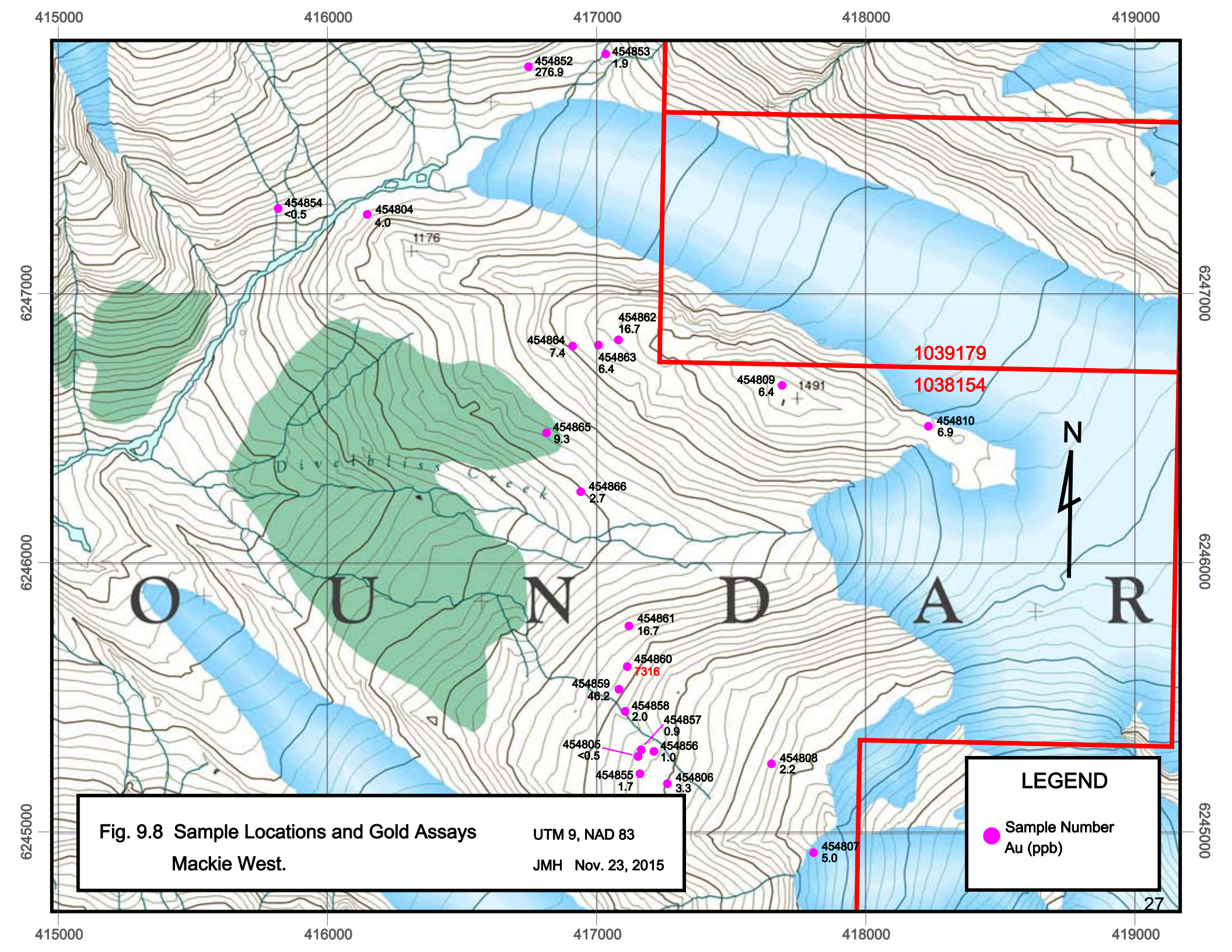


Fig. 9.7 Sample Locations and Gold Assays
Mackie East, north part.

UTM 9, NAD 83
JMH Nov. 23, 2015


415000
416000
417000
418000
419000
6247000
6246000
6245000
454852
276.9
454853
1.9
454854
<0.5
454804
4.0
1176
454862
16.7
454864
7.4
454863
6.4
1039179
1038154
454809
6.4
1491
454810
6.9
454865
9.3
Diveltbliss Creek
454866
2.7
N
O U N D A R
454861
16.7
454860
7316
454859
46.2
454858
2.0
454857
0.9
454805
<0.5
454856
1.0
454855
1.7
454806
3.3
454808
2.2
454807
5.0
LEGEND
Sample Number
Au (ppb)
Fig. 9.8 Sample Locations and Gold Assays
Mackie West.
UTM 9, NAD 83
JMH Nov. 23, 2015
27

10.0 DRILLING

10.1 Drilling by Previous Operators

The writer is not aware of any previous drilling on the Mackie East claims.

The Sheelagh Creek showing on claim number 1039253 of the Mackie West claims hosts a quartz vein which assayed well in gold from surface samples. An attempt was made in 1996 by Kenrich Mining Corporation to drill the vein. Four diamond drill holes were collared to intersect the showing, however all four holes were lost long before they reached the vein, reaching depths of only 35 to 55 metres. The rock encountered is described as a hard and very fractured greywacke to sandstone. While the drill logs record the angle and inclinations of the holes, the collar co-ordinates are not given.

The Doc property, adjoining the Mackie West claims on the west side, has seen a total of 6,052 metres of surface drilling and 695 metres of underground drilling, together with 630 metres of underground development, as well as extensive surface trenching, mostly on the Q17-Q22 vein. The first drilling on the property was by Halport Mines in 1948. Most of the drilling of the Q17-Q22 vein, from 1948 to 1988, encountered problems with core recovery along the sheared edges of the vein. Surface sampling has shown the best values occur in the sheared and mineralized material on both the hanging wall and foot wall of the vein. The central part of the vein, where the recoveries are better, is less fractured, poorly mineralized white quartz.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Sampling Method and Approach

The object of this program was simply to locate mineralized areas of interest rather than to take samples that would be used in a more rigorous procedure such as a resource calculation. Grab samples were deemed to be sufficient to meet this requirement and channel or continuous chip samples were generally not taken.

Samples were taken both of bedrock and float, as float sampling can be a useful tool in the search for mineral deposits. Of the five samples that returned greater than one gram gold per tonne, four were from bedrock and one from a large boulder of vein quartz.

11.2 Security

Rock samples were placed in plastic sample bags identified with unique sample numbers and tied with flagging. At the end of each day the bags were then placed into a locked metal box in a truck belonging to the writer. At the end of the field work the samples were immediately delivered by the writer to the Bureau Veritas sample

preparation facility in Smithers. At no time did the samples leave the writer's custody before being delivered to the Smithers facility.

11.3 Sample Preparation

At the Smithers prep lab, samples were weighed, dried at 105˚C, and then crushed to 70% passing 2mm. A 250g split was then pulverized to 85% passing 75µm. Sample pulps prepared at the Smithers facility were forwarded to the Bureau Veritas Lab in Richmond, BC for analysis.

11.4 Analyses

Multi-element assays were done using a hot Aqua Regia digestion followed by analysis by ICP-ES. This was Bureau Veritas procedure AQ200.

Samples returning greater than 1000ppb by ICP-ES were fire assayed using a 30gm sample with an ICP-ES finish. This procedure was coded as FAA330 by Bureau Veritas. Because the standards used did not have assays greater than 1000ppb this procedure failed to produce a fire assay set that could be directly compared to known standards. In order to rectify this, the high grade samples were re-run together with the standards to produce the required data set.

12.0 DATA VERIFICATION

12.1 Sample Locations

Sample locations were surveyed by means of a Garmin hand-held GPS. As tree cover was generally light to nil in the areas being investigated, GPS reception was good to excellent, usually resulting in a location accuracy of three to five metres.

12.2 Verification of Assays

Blanks and standards were inserted into the sample stream at the beginning, middle and end of the sample run for a total of 3 blanks and 3 standards in a run of 54 samples. White landscaping marble was used for blanks.

The blanks (Table 12.1) do not indicate significant carry-over or contamination during the sample preparation process. Blank samples 454832 and 454878 directly followed samples having a relatively high grade. Blank 454832 was below the detection limit for gold and blank 454878 assayed 3.7 ppb. A positive bias of 3.7 ppb carried over from a high grade sample to a subsequent sample would be too small to be considered significant.

Table 12.1 - Blank Samples

Sample No.	AQ200
	Au
	(ppb)
454799	0.8
454832	<0.5
454878	3.7

Standards CDN-CM-11A were provided by Canadian Resource Laboratories Ltd. The recommended gold value for this standard is 1.014 +/- 0.016 g/t. The value is plus or minus two standard deviations, giving an acceptable range of 0.908 to 1.120 g/t.

The ICP-ES analysis of the standards did not produce results within the acceptable range. Fire assays of high grade (>1 g/t) samples were left "stranded" without any applicable standard analyses for comparison. Therefore the high grade samples were re-run together with the standards to eliminate this problem. Re-running the samples also had the advantage of providing a set of duplicate high grade pulp assays which could be used for comparison purposes.

When the samples were re-run by fire assay, all three standards produced assays within the acceptable range (Table 12.2)

Table 12.2 – Standards CDN-CM-11A

Sample No.	AQ200	Fire Assay
	SMI15000073	SMI15000073R
	g/t	g/t
454800	0.6724	1.079
454833	0.8987	1.041
454879	0.6832	0.983
	=outside acceptable range	
	=within acceptable range	

The three runs of high grade samples, together with the standards where available, are compared in Table 12.3 below. In all cases the results from the first fire assay run were slightly higher than those from the second.

Table 12.3 – Assay Comparison of High Grade Samples

		"A"		"B"		"C"
Sample No.	Sample	AQ200	Difference	Fire Assay	Difference	Fire Assay
	Type	SMI15000073	"A" to "C"	SMI15000073	"B" to "C"	SMI15000073R
		g/t	(% of "C")	g/t	(% of "C")	g/t
454800	CDN-CM-11A	0.6724	-37.7			1.079
454814	rock	4.5885	-4.8	4.983	3.4	4.819
454815	rock	4.5616	-4.3	4.908	3.0	4.765
454831	rock	1.9811	6.1	1.980	6.0	1.868
454833	CDN-CM-11A	0.8987	-13.7			1.041
454860	rock	6.3084	-13.8	8.008	9.5	7.316
454877	rock	5.3094	9.7	5.116	5.7	4.841
454879	CDN-CM-11A	0.6832	-30.5			0.983
Average (excluding standards)		4.5498	-3.6	4.999	5.9	4.722

13.0 ADJACENT PROPERTIES

The Stewart area is one of the most richly mineralized areas of British Columbia. It is included within the aptly-named “Golden Triangle”, an area of exceptional geological endowment with a long history of mineral production with world-class advanced-stage projects in close proximity to the Mackie claims.

Note:
There are no known resources or reserves on any of the Mackie Project mineral properties described in this report. In addition, the presence of gold deposits on properties adjacent to or in close proximity to the Mackie mineral properties is not necessarily indicative of the gold mineralization on the Mackie properties.

13.1 KSM – Seabridge Gold Inc.

Seabridge Gold's KSM project is claimed to be the world's largest undeveloped gold/copper project (by reserves). An Environmental Assessment Certificate has been issued for a combined underground and open pit project which envisions a 52 year mine life at 130,000 tonnes per day. Proven and probable reserves are 2.16 billion tonnes containing 38.2 million ounces of gold, 9.9 billion pounds of copper, 191 million ounces of silver and 213 million pounds of molybdenum. The project includes the Kerr, Sulphurets and Mitchell deposits as well as the Iron Cap and the recently discovered

Deep Kerr, the latter two being higher grade deposits that would be mined from underground. Diamond drilling is continuing to extend the known deposits.

There are no suitable mill site and tailings impoundment areas close to the deposits, so these will be situated outside of the immediate area. Seabridge plans to join the mine to the mill site by twin 23 kilometre tunnels. The mine will also be accessed by a road to be constructed from the Eskay Creek Mine road.

The KSM deposits are an arcuate cluster of gold-copper porphyries that, if extended to the south, would trend directly towards the Mackey East claim group.

13.2 Brucejack – Pretium Resources Inc.

Pretium Resources Inc. is presently constructing a high-grade underground gold mine at its Brucejack Project in northern British Columbia with commercial production targeted at 2700 tonnes per day for 2017. The Valley of the Kings deposit, where the bulk of the Brucejack resources are located, contains proven and probable reserves of 6.9 million ounces of gold contained in 13.6 million tonnes grading 15.7 grams per tonne gold.

The Brucejack deposit is a transitional epithermal gold silver occurrence hosted in stockwork veining located up stratigraphy from several large porphyritic intrusions. The deposit is hosted by Early to Mid-Jurassic volcanic and sedimentary rocks of the Hazelton Group. Gold and silver occur as coarse electrum within quartz carbonate veins and breccias. Bonanza grades are common, with reported gold grades occasionally reaching up to tens of thousands of grams per tonne in drill core.

13.3 Snowfield – Pretium Resources Inc.

The Snowfield deposit is located approximately seven kilometres north of Valley of the Kings. This is a near surface, bulk tonnage gold-copper porphyry deposit with significant credits in silver, molybdenum and rhenium. Resources are quoted as 1370.1 million tons measured and indicated with a further 833.2 million tons in the inferred category. Contained metal is 25.9 million ounces of gold measured and indicated and 9.0 million ounces of gold inferred at a cut-off grade of 0.30 grams of gold-equivalent per tonne. Pretium at the present time is concentrating on advancing the Brucejack Project, keeping Snowfield for future development.

13.4 Eskay Creek Mine

The Eskay Creek mine was one of the world's highest grade gold and silver mines, producing from 1995 to 2008. Although exploration in the immediate area began in 1932 the deposit itself was not discovered until 1988. The mine produced 3.2 million ounces of gold and 113 million ounces of silver (Monecke) at a grade of 48.38 grams of gold per tonne. The submarine epithermal-style mineralization occurred in Lower to Middle

Jurassic rocks of the Hazelton Group. Syn-volcanic structural controls played an important part in the distribution and thickness of host rocks in the area. This shallow subaqueous hot spring deposit lies within an Early to Middle Jurassic age rift basin (the Eskay Rift).

13.5 Snip Mine

The Snip mine operated from 1991 to 1999 and produced over 32 million grams of gold, 12 million grams of silver and 249,000 kg of copper from about 1.2 million tonnes of ore. The deposit was an intrusion-related quartz-calcite vein with gold occurring in native form and with sulphides. The property was operated without road access, being supported by aircraft using the Bronson Creek airstrip and by hovercraft from the Iskut River.

13.6 Granduc Mine

The Granduc Mine was a volcanogenic massive sulphide property which produced copper, gold and silver at an initial milling rate of 2000 tons per day, increasing to 7000 tons per day by 1973. Newmont operated the mine from 1971 to 1977 and Esso Minerals Canada from 1981 to 1984, when it was closed due to low copper prices. The mine was situated near the Leduc Glacier and was connected to the mill site at Tide Lake by a 17 km tunnel.

13.7 Premier Mine

The Premier gold mine, located approximately 23 km by road north of Stewart, operated from 1918 to 1953 and from 1987 to 1996, producing over 2 million ounces of gold plus silver, copper, lead and zinc. The property, including the present 2000 tpd mill, was put on extended care and maintenance in 1996.

13.8 Showings East of Mackie East Claims

Several showings are known on ground to the east of the Mackie East claims. Most have indications of anomalous amounts of precious metals. Two of these showings have seen limited diamond drilling. Showings are summarized in Table 13.1, along with their Minfile numbers and the applicable assessment reports. Locations are shown in Figure 13.1.

Table 13.1 – Showings East of Mackie east Claims

Minfile Number	Name	East	North	Comments	Assessment Reports
104B 166	Delta	430050	6247780	Mineralized zone with minor Ag, Pb, Zn	11716, *13403, *14607, 15645, 16911, 20731, 22261, 22891, 23875, 24267, 30282, 31162, *31747
104B 168	Gamma (Fairweather)	429783	6245367	A pyritized structure between 5 and 15 metres in width with a 125 metres strike length was sampled yielding a weighted average of 4.04 grams per tonne gold over a 7.15 metre width (AR 17028).	13403, *15644, *17028, 22187, 23365, *30282, *31162, 31747
104B 169	Theta	426621	6244245	Two quartz veins with Au, Ag, Cu, Pb, Zn.	*16156, 20124, *30282, *31162, 31747
104B 202	Feld	428633	6247489	Talus samples in altered area with Ag, Pb, Zn.	11716, 13403, 14607, 15645, *15668, *16840
104B 241	Delta Southwest	429285	6247478	Mineralized fault with Au, Ag. Highest gold 2.06 g/t. 300 metres diamond drilling in 1986 with highest Au 0.375 g/t.	11716, 13403, *14607, *15645, 15668, 16840, 16911, 30282, 31162, 31747
104B 242	Delta North	430383	6248449	A pod containing jamesonite and siderite occurs in sedimentary rocks. A sample assayed 1.85 g/t Au, 73.03 g/t Ag, 14.41% Pb, 2.77% Zn, 6.17% Sb.	11716, 13403, *14607, 15645, 16911, 20731, 22261, 22891, 23875, 24267, 30282, 31162, *31747
104B289	Delta Northeast	430775	6248319	A mineralized zone consisting of small bands of pyrite, silicified sections and quartz veins occurs within a north trending, 100 to 150 metre wide band of sericite schist. The best sample assayed 64.46 g/t Au and 1357.38 g/t Ag. Diamond drilling totalled 300.2 metres in 5 holes did not intersect significant mineralization.	11716, 13403, *14607, *15645, 16911, 20731, 22261, *22891, 23875, 24267, 30282, 31162, *31747
104B 341	Delta Northwest	429885	6248150	A small quartz-tetrahedrite vein 5 metres long assayed up to 6.14 g/t Au and 17,966 g/t Ag (different samples). Also, argillite float boulders were found assaying up to 13.89 g/t Au, but the source of these was not found.	11716, 13403, *14607, *15645, 15668, 16840, *16911, 20731, 22261, 22891, 23875, 24267, 30282, 31162, *31747
104B679	Ptuck	428372	6244332	Shear zone hosting quartz-carbonate vein with Au, Ag, Cu, Pb, Zn.	13403, *15644, *17028, 22187, 23365, 30282, 31162, *31747

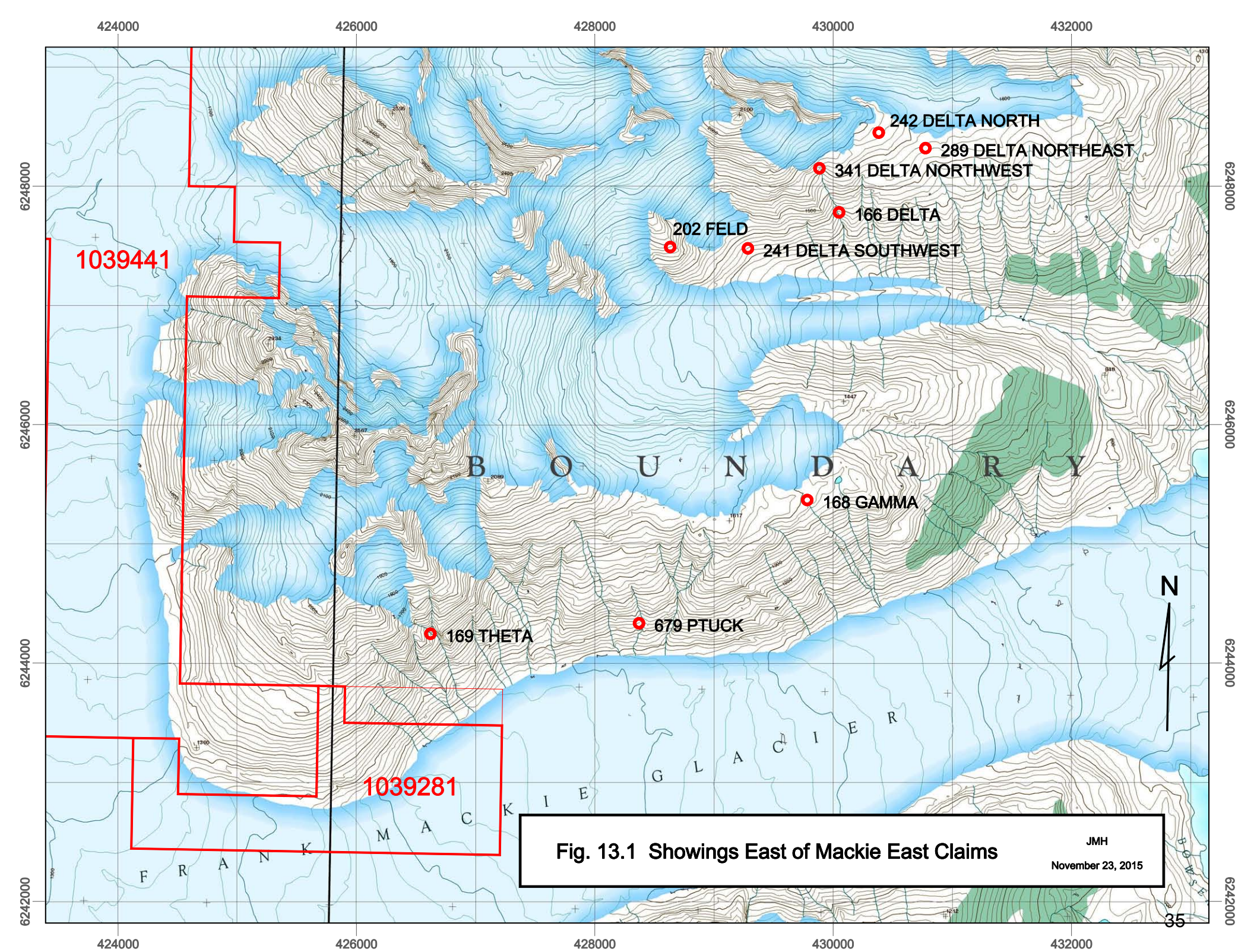


Fig. 13.1 Showings East of Mackie East Claims

JMH

November 23, 2015

14.0 INTERPRETATION AND CONCLUSIONS

The Mackie East claims cover prospective ground on the east side of the Sulphurets Fault, where rocks of the lower Hazelton Group are located. Most of the significant mineral properties of the Stewart area, including both the KSM and Brucejack properties, are found within this formation. Even though the Stewart area has been explored for many years, this particular area remains underexplored. The discovery of four new showings within a relatively accessible area in a reconnaissance program of short duration illustrates the underexplored nature of this ground.

The Mackie West claims are partly underlain by the Eskay Rift, a geological feature in which was found the very rich and successful Eskay Creek Mine. This ground is considered to be prospective both for gold-bearing quartz veins and for volcanic-hosted massive sulphide deposits. These deposits can be very rich but are typically rather small and without the massive alteration haloes typically found associated with porphyry deposits, and are therefore easily missed.

While the presence of small amounts of molybdenite was noted on one part of the Mackey West claims, a porphyry target is not considered to be a high priority in that area because of the limited amount of gossan noted as well as the relatively unaltered state of the rocks. However, porphyry targets should not be discounted in other areas of the property.

The Sheelagh Creek showing, on the west side of the Mackie west claims, hosts a quartz vein carrying interesting gold values but remains essentially unexplored, other than an unsuccessful diamond drilling attempt.

The Doc Property is known to host a number of gold-bearing quartz veins. One vein in particular, the Q17-Q22, has seen a significant amount of diamond drilling and some underground development. Diamond drilling has had problems with recovery in areas where it is known that the highest grades are found, that is, the sheared margins of the veins. These recovery problems have likely led to an understatement of the actual grades. Most of the work on the Doc has focused on the Q17-Q22 Vein, with the majority of the other veins receiving little more than surface trenching, mapping and sampling. Veins typically change in character over relatively short distances, so the tenor of the vein on surface may be quite different (either better or worse) than underground. Surface trenching alone does not give much information on the character of a vein.

15.0 RECOMMENDATIONS

The Mackey East claims remain underexplored and require further sampling and mapping. The four recently discovered showings should be expanded by trenching and further mapping and sampling. A small helicopter-portable excavator should be flown to the property for this purpose, as the area of the showings is not so steep as to preclude mechanical excavation.

The Mackey West claims need further and more detailed examination, with particular attention being paid to lithologies and alteration. The object of this part of the program would be to locate indications of an Eskay Creek type massive sulphide deposit.

An attempt should be made to determine the source of the quartz boulder on the Mackey West claims which carried significant gold values (sample number 454860).

The Sheelagh Creek showing should be re-examined. If justified by the re-examination, an attempt could be made to drill the vein. A procedure would have to be put in place so that further drilling does not simply repeat the past failed attempt. Such a procedure would likely involve starting the hole with larger diameter core such as HQ then reducing to NQ when the drilling becomes too difficult, and then reducing even further to BQ should the NQ drilling be insufficient to reach the vein. Provision should be made for cementing the vein when it is reached so that it is not simply ground up and lost after all the hard work of reaching it. These measures will undoubtedly add significantly to the cost of drilling but without them the hole will likely be lost or the quartz vein will not be recovered and therefore the work would be wasted.

The Doc property has been the subject of considerable work over the years. The information gathered from this work should be compiled and digitized over the coming winter so that it is available for use in the next field season. As much as possible the information needs to be put into UTM coordinates for easy reference. Some existing maps lack any usable coordinates, being referenced to probably long-lost local grids, and so some re-surveying will probably be required in the upcoming field season. A data compilation may give an indication of areas on the Doc that have been insufficiently investigated. Those areas would be targeted for further work in the summer. Some re-sampling of known veins should also be undertaken as confirmation of previous work. Where possible this would be channel sampling with the aid of a rock saw for more reliable results.

Permitting for these operations needs to be done well before the field season so that operations are not hampered by lack of necessary permits. In particular, provision should be made for limited trenching and even diamond drilling anywhere on any of the claims. While this might at first glance seem excessive, the short operating season

requires that full advantage be taken of the time available. There is simply no time available to wait for permits during the field season.

Definition of the above program is flexible and will depend on results obtained as the program progresses. The program should consist of two phases, the first being preparatory work, prospecting, mapping, sampling, and trenching as described above. The second phase, contingent on results of the first, would consist of a small diamond drilling program, possibly (but not necessarily) on the Sheelagh Creek or Doc properties.

For this early work on the property, a budget of about $350,000 is recommended for each phase of work.

16.0 REFERENCES

Alldrick, D.J. (1984): Geologic Setting of the Precious Metal Deposits in the Stewart Area (104B/I); in Geological Fieldwork 1983, *B.C. Ministry of Energy Mines and Petroleum Resources,* Paper 1984-1, pages 149-164.

Alldrick, D.J. (1989): Volcanic Centres in the Stewart Complex, in Geological Fieldwork 1988, *B.C. Ministry of Energy, Mines and Petroleum Resources,* Paper 1989-1, pages 233-240.

Alldrick, D.J. and Britton, J.M. (1988): Geology and Mineral Deposits of the Sulphurets Area (104A/5,12; 104B/8,9); *B.C. Ministry of Energy, Mines and Petroleum Resources,* Open File 1988-04.

Alldrick, D.J., Britton, J.M., Webster, I.C.L. and Russell, C.W.P. (1989): Geology and Mineral Deposits of the Unuk Area (104B/7E, 8W, 9W, IOE); *B.C. Ministry of Energy, Mines and Petroleum Resources,* Open File 1989-10.

Anderson, R.G. (1989): A Stratigraphic, Plutonic and Structural Framework for the Iskut River Map Area (NTS 104B), Northwestern British Columbia; *in* Current Research, Part E, *Geological Survey of Canada,* Paper 89-1E.

Bartsch, R.D. (1992): Eskay Creek Area, Stratigraphy Update; in Geological Fieldwork 1991, *B.C. Ministry of Energy, Mines and Petroleum Resources,* Paper 1992-1, pages 517-520.

Branson, T.K., (2010): 2010 Geological, Geochemical and Geophysical Report on the Eskay Project; *Max Minerals Ltd.,* Assessment Report 31747.

Bridge, D., Drown, T., and McRoberts, G., (1996): Geological, Geochemical, Geophysical and Diamond Drilling Report on the Corey Property*; Kenrich Mining Corporation,* Assessment Report 24373.

Britton, J.M., Fletcher, B.F. and Alldrick, D.J. (1990): Snippaker Map Area (104B/6E, 7W, l0W, 11E); in Geological Fieldwork 1989, *B.C. Ministry of Energy, Mines and Petroleum Resources,* Paper 1990-1, pages 115-125.

Britton, J.M., Webster, I.C.L., Alldrick, D.J. (1989): Unuk Map Area; in Geological Fieldwork 1988, , *B.C. Ministry of Energy, Mines and Petroleum Resources,* Paper 1989-1, pages 241-250.

Buddington, A.F. (1929): Geology of Hyder and Vicinity, Southeastem Alaska: *United Stares Geological Survey,* Bulletin 807, 124 pages.

Carter, N.C. (1981): Porphyry Copper and Molybdenum Deposits of West-Central British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources,* Bulletin 64, 150 pages.

Cremonese, D. (1983): Assessment Report on Prospecting Work on Alpha and Delta Claims; *Teuton Resources Corp.,* Assessment Report 11716.

Cremonese, D. (1985): Assessment Report on Geological and Geochemical Work on Alpha and Delta Claims; *Teuton Resources Corp.,* Assessment Report 14607.

Cremonese, D. (1987): Assessment Report on Geochemical Work on Gamma Claim; *Teuton Resources Corp. and Territorial Petroleum Ventures Inc.,* Assessment Report 15644.

Cremonese, D. (1987): Assessment Report on Diamond Drilling Work on Delta Claim; *Teuton Resources Corp. and Territorial Petroleum Ventures Inc.,* Assessment Report 15645.

Cremonese, D. (1987): Assessment Report on Geochemical Work on Eta, Theta and Iota Claims; *Teuton Resources Corp.,* Assessment Report 16156.

Dykes, S.M., Meade, H.D. and Galley, A.G. (1986): Big Missouri Precious - Base Metal Deposit, Northwest British Columbia, *in* Mineral Deposits of the Northern Cordillera: *Canadian Institute of Mining and Metallurgy,* Special Volume 18, pages 202-215.

Ettlinger, A.D. (1992): Hydrothermal Alteration and Brecciation Underlying the Eskay Creek Polymetallic Massive Sulphide Deposit; in Geological Fieldwork 1991, *B.C. Ministry of Energy, Mines and Petroleum Resources,* Paper 1992-1, pages 535-541.

Glover, J.K. and Freeze, A.C. (1989): Report on the Doc Property 1989 Exploration Program; *Echo Bay Mines Ltd.,* Assessment Report 19940.

Grove, E.W. (1971): Geology and Mineral Deposits of the Stewart Area, British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources,* Bulletin 58, 229 pages.

Jones, I.W.O. (2012): Brucejack Project Mineral Resources Update Technical Report; *Pretium Resources Inc.*, 106 pages.

Kowalchuk, J., Masterlitz, K., Russell, C., and Sigurgeirson, H. (1997): Summary Report on the 1996 Exploration Program, Corey Property; *Kenrich Mining Corporation,* Assessment Report 24965.

Kruchkowski, E., and Konkin, K. (1988): Report on the Gamma Claim; *Wedgewood Resources Ltd.,* Assessment Report 17028.

Massey, N.W.D, Alldrick, D.J. and Lefebure, D.V.: Potential for Subaqueous Hot-Spring (Eskay Creek) Deposits in British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources,* Open File 1999-14.

Murton, J.C. (1990): Geophysical Report on Airborne magnetic and VLF-EM Surveys, Samba and Ven Claims; *Amphora Resources,* Assessment Report 20124.

Nelson, J., and Kyba, J. (2014): Structural and stratigraphic control of porphyry and related mineralization in the Treaty Glacier – KSM – Brucejack – Stewart trend of western Stikinia. In: Geological Fieldwork 2013, *British Columbia Ministry of Energy and Mines,* British Columbia Geological Survey Paper 2014-1, pp. 111-140.

Sandberg, T. (1988): Report on the Bliss Group, near Stewart, British Columbia; *Magna Ventures Ltd.,* Assessment Report 17055.

Sandberg, T. (1988): Report on the Divel Group, near Stewart, British Columbia; *Magna Ventures Ltd.,* Assessment Report 17056.

.

Stewart weather:
http://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?stnID=434&lang=e&province=BC&provSubmit=go&page=201&dCode=1

Savell and Threkeld, (2013) The KSM Project – A Cluster of Porphyry Related, Deformed and Dismembered Au-Cu-Mo Deposits Displaying a Transition from Deep Porphyry to Shallow Vein Environments.
http://seabridgegold.net/pdf/geology/KSM_Geology_update_Sep_2013.pdf

Van Damme, V. and Mosher, G. (1994): Corey Property 1993 Exploration Report; *Kenrich Mining Corporation and Ambergate Explorations Inc.,* Assessment Report 23805.

17.0 STATEMENT OF COSTS

Costs of the program are detailed in Table 17.1.

Total costs of $41,380.10 are apportioned 57% to the Mackie East claims (Tenure numbers 1031479 and 1035700) and 43% to the Mackie West (Tenure Number 1038154), for a dollar value of $23,586.66 and $17,793.44 respectively.

The Event Number for the recording of this work is 5569866 for Tenures 1031479 and 1035700. The Event Number is 5580051 for Tenure 1038154.

Table 17.1 Statement of Costs															
Date	Net	Dealer	Description	J. Hutter	B. Coates	Truck	Travel	Lodging	Food	Field Supplies	Helicopter	Radio / sat phone	Assays	Report
2015														
Aug 31	34.30	Evergreen	Notebooks							34.30				
Aug 31	19.00	Speedee	Office Supplies							19.00				
Aug 31	27.18	Safeway	Groceries						27.18					
Aug 31	200.78	Cdn Tire	Emergency pack items							200.78				
Sept 1	313.35	CheapoAir	Flight for Bruce Coates Vancouver-Smithers				313.35							
Sept 1	27.00	Air Canada	Baggage Fee				27.00							
Sept 1	400.00	JMH	Travel - Smithers-Stewart, J.Hutter	400.00										
Sept 1	400.00	BFC	Travel - Smithers-Stewart, B.Coates		400.00									
Sept 1	213.20	JMH	Mileage - Smithers-Stewart 328 km @ $.65			213.20								
Sept 1	16.97	Evergreen	Notebooks							16.97				
Sept 1	37.26	Meziadin	Meals						37.26					
Sept 2	600.00	JMH	Field work	600.00										
Sept 2	500.00	BFC	Field work		500.00									
Sept 2	3316.80	Mustang	Helicopter								3316.80			
Sept 2	40.56	Silverado	Meals						40.56					
Sept 2	157.78	Lucky Dollar	Food						157.78					
Sept 2	42.42	King Edward	Meals						42.42					
Sept 2	5.39	Lucky Dollar	Food						5.39					
Sept 3	600.00	JMH	Field work	600.00										
Sept 3	500.00	BFC	Field work		500.00									
Sept 3	2073.00	Mustang	Helicopter								2073.00			
Sept 3	47.01	Silverado	Meals						47.01					
Sept 3	40.40	Lucky Dollar	Food						40.40					
Sept 4	600.00	JMH	Field work	600.00										
Sept 4	500.00	BFC	Field work		500.00									
Sept 4	3524.10	Mustang	Helicopter								3524.10			
Sept 4	43.63	King Edward	Meals						43.63					
Sept 5	600.00	JMH	Field work	600.00										
Sept 5	500.00	BFC	Field work		500.00									
Sept 5	2694.90	Mustang	Helicopter								2694.90			
Sept 5	49.54	Dash Bistro	Meals						49.54					
Sept 6	600.00	JMH	Field work	600.00										
Sept 6	500.00	BFC	Field work		500.00									
Sept 6	2902.20	Mustang	Helicopter								2902.20			
Sept 6	70.47	Lucky Dollar	Food						70.47					
Sept 6	47.95	King Edward	Meals						47.95					
Sept 7	600.00	JMH	Field work	600.00										
Sept 7	500.00	BFC	Field work		500.00									
Sept 7	3731.40	Mustang	Helicopter								3731.40			
Sept 7	40.67	King Edward	Meals						40.67					
Sept 7	34.11	Silverado	Meals						34.11					
Sept 9	600.00	JMH	Field work	600.00										
Sept 9	500.00	BFC	Field work		500.00									
Sept 9	3109.50	Mustang	Helicopter								3109.50			
Sept 9	39.31	King Edward	Meals						39.31					
Sept 10	30.81	Lucky Dollar	Food						30.81					
Sept 10	44.17	King Edward	Meals						44.17					
Sept 10	300.00	JMH	Weather day	300.00										
Sept 10	300.00	BFC	Weather day		300.00									
Sept 11	1668.62	King Edward	Room, Sept 1-10					1668.62						
Sept 11	400.00	JMH	Travel - Stewart-Smithers, J.Hutter	400.00										
Sept 11	400.00	BFC	Travel - Stewart-Smithers, B.Coates		400.00									
Sept 11	213.20	JMH	Mileage - Stewart-Smithers 328 km @ $.65			213.20								
Sept 11	49.06	Alpenhorn	Meals						49.06					
Sept 11	360.00	CheapoAir	Flight for Bruce Coates Smithers-Vancouver				360.00							
Sept 11	27.00	Air Canada	Baggage Fee				27.00							
Sept 14	500.00	BFC	Report											500.00
Sept 17	323.57	Tower	Radio / Sat phone rental									323.57		
Oct 1	1763.47	Bureau Veritas	Assays										1763.47	
Nov 20	3600.00	JMH	Report writing											3600.00
Total:	**41380.10**		Subtotal:	**5300.00**	**4600.00**	**426.40**	**727.35**	**1668.62**	**847.75**	**271.05**	**21351.90**	**323.57**	**1763.47**	**4100.00**

18.0 CERTIFICATE OF AUTHOR

I, James M. Hutter, P. Geo., do hereby certify that:

1) I am a consulting geologist with an office at 4407 Alfred Avenue, Smithers, BC, Canada;

2) This certificate applies to the technical report entitled "Technical Report on the Mackie" dated November 30, 2015, prepared for Tudor Holdings Ltd. and Kaizen Capital Corp. of Vancouver, B.C.;

3) I am a graduate of the University of British Columbia, in 1976, with a BSc in Geology.

4) I am a member in good standing of the Association of Professional Engineers and Geoscientists of BC;

5) I have practiced my profession since 1976 in various capacities;

6) I have read National Instrument 43-101 and Form 43-101F1 and I am a Qualified Person for the purpose of NI 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;

7) I, as the qualified person, am independent of the issuer as defined in Section 1.4 of National Instrument 43-101;

8) I have attended the property for a total of seven days between September 2 and October 13, 2015;

9) I have had no previous involvement with the mineral property in question.

10) I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the technical report, and that this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;

11) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the technical report;

James M. Hutter, P.Geo

_____

Dated this 30th day of November, 2015

APPENDIX A

Certificates of Analysis

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Submitted By: Jim Hutter
Receiving Lab: Canada-Smithers
Received: September 14, 2015
Report Date: October 05, 2015
Page: 1 of 4

CERTIFICATE OF ANALYSIS SMI15000073.1

CLIENT JOB INFORMATION

Project: Mill/Storm
Shipment ID:
P.O. Number
Number of Samples: 64

SAMPLE DISPOSAL

RTRN-PLP Return
RTRN-RJT Return

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	61	Crush, split and pulverize 250 g rock to 200 mesh			SMI
AQ200	64	1:1:1 Aqua Regia digestion ICP-MS analysis	0.5	Completed	VAN
SHP01	64	Per sample shipping charges for branch shipments			SMI
SLBHP	3	Sort, label and box pulps			SMI
FA330	5	Lead collection fire assay fusion - ICP-ES finish	30	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: J. M. Hutter
Box 3048
Smithers BC V0J 2N0
CANADA

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
MARCUS LAU
Geochemical Laboratory Manager

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: October 05, 2015

CERTIFICATE OF ANALYSIS SMI15000073.1

	Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
454799	Rock	0.89	<0.1	0.8	0.1	<1	<0.1	0.3	<0.1	37	0.04	<0.5	0.8	<0.1	4060	<0.1	<0.1	<0.1	<2	32.16	0.003
454800	Rock Pulp	0.12	338.6	3264.6	22.8	55	1.8	30.0	7.7	412	2.89	12.7	672.4	1.1	32	0.4	3.9	0.6	45	0.55	0.048
454801	Rock	1.18	1.4	21.1	4.6	36	0.7	3.6	5.0	89	1.55	35.5	12.3	<0.1	6	0.8	1.9	<0.1	8	0.03	0.007
454802	Rock	1.10	1.6	692.8	299.6	472	>100	7.6	9.6	5088	15.29	136.5	157.8	0.3	10	2.5	201.6	1.4	131	0.18	0.123
454803	Rock	1.21	0.2	59.4	4.6	70	2.5	120.0	37.4	1867	6.83	206.9	1.3	0.9	512	<0.1	26.0	<0.1	28	10.82	0.178
454804	Rock	2.11	2.9	7859.1	4.3	86	4.6	104.3	485.1	727	18.95	<0.5	4.0	<0.1	5	0.6	0.3	0.8	34	2.41	0.008
454805	Rock	1.71	6.4	40.1	3.6	149	0.6	20.6	9.1	215	2.07	0.6	<0.5	0.5	9	1.4	0.1	0.6	74	0.33	0.025
454806	Rock	1.40	6.8	201.0	2.9	18	0.8	5.8	20.8	169	3.83	<0.5	3.3	0.7	9	<0.1	0.3	0.4	28	1.56	0.442
454807	Rock	0.96	19.5	107.0	6.0	61	0.7	36.9	29.0	375	5.89	<0.5	5.0	0.6	4	0.2	<0.1	37.9	205	0.26	0.071
454808	Rock	1.20	7.9	15.2	3.3	40	0.6	38.6	14.1	308	1.49	1.6	2.2	0.8	15	0.3	0.2	0.3	52	1.49	0.040
454809	Rock	1.07	3.0	69.4	4.8	35	0.7	4.3	12.9	63	2.31	<0.5	6.4	2.0	10	0.4	0.4	0.4	24	0.44	0.111
454810	Rock	1.19	2.1	22.2	2.5	54	0.6	25.4	19.3	526	4.52	7.5	6.9	0.4	13	<0.1	0.1	0.2	92	1.30	0.180
454811	Rock	1.01	0.5	14.9	4.2	61	0.6	59.4	18.3	388	4.59	27.6	5.5	0.1	3	<0.1	3.7	<0.1	66	0.15	0.046
454812	Rock	0.80	<0.1	14.0	3.2	31	0.4	21.5	11.2	1477	2.15	17.1	4.0	0.2	86	<0.1	6.5	<0.1	30	7.76	0.060
454813	Rock	1.23	0.2	4.3	3.1	6	0.3	2.8	3.9	235	1.02	1.0	<0.5	0.2	584	<0.1	2.0	<0.1	50	1.64	0.058
454814	Rock	1.02	0.9	218.9	554.6	101	9.7	0.6	0.8	296	24.12	2124.1	4588.5	0.3	3	0.2	25.0	0.3	48	0.12	0.069
454815	Rock	1.07	5.2	161.7	182.7	40	>100	2.1	3.6	152	5.81	590.6	4561.6	<0.1	4	0.4	17.6	2.2	11	0.02	0.038
454816	Rock	1.11	<0.1	1.3	4.6	6	0.3	0.9	1.0	168	0.87	2.1	4.8	<0.1	288	0.4	0.7	<0.1	37	1.33	0.037
454817	Rock	1.42	0.1	68.1	3.8	55	0.6	53.8	26.9	1254	4.77	8.0	6.5	0.4	173	<0.1	32.0	<0.1	56	5.61	0.113
454818	Rock	1.07	0.1	123.5	4.4	1070	1.8	11.4	6.8	457	1.50	19.6	3.7	<0.1	36	3.9	66.2	<0.1	7	1.16	0.027
454819																					
454820																					
454821																					
454822																					
454823																					
454824																					
454825																					
454826	Rock	0.83	<0.1	21.1	2.2	35	0.2	33.3	13.6	672	3.39	5.7	2.6	0.2	19	<0.1	1.3	<0.1	98	0.95	0.063
454827	Rock	0.86	0.2	64.7	1.8	52	0.2	38.2	24.7	1283	5.02	90.0	3.1	0.5	262	0.1	20.2	<0.1	27	6.88	0.141
454828	Rock	0.93	3.3	4.5	7.3	130	<0.1	1.1	2.1	215	3.06	108.6	5.4	1.5	2	0.3	4.5	<0.1	2	0.02	0.025

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: October 05, 2015

CERTIFICATE OF ANALYSIS SMI15000073.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	FA330
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	gm/t
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005
454799	Rock	<1	<1	1.69	6	<0.001	<20	0.02	0.002	<0.01	<0.1	<0.01	0.2	<0.1	0.13	<1	<0.5	0.2	
454800	Rock Pulp	5	27	0.54	114	0.084	<20	1.09	0.076	0.10	0.8	0.08	4.1	<0.1	0.40	4	1.5	<0.2	
454801	Rock	<1	11	0.17	118	0.003	<20	0.21	0.006	0.03	<0.1	0.11	0.6	<0.1	0.21	<1	1.4	<0.2	
454802	Rock	2	9	1.41	71	0.008	<20	4.66	<0.001	0.10	<0.1	1.08	13.3	<0.1	0.81	11	1.3	<0.2	
454803	Rock	6	86	3.27	110	0.002	<20	0.26	0.006	0.21	0.1	0.24	27.8	<0.1	<0.05	<1	<0.5	<0.2	
454804	Rock	<1	12	0.20	4	0.042	<20	0.84	0.008	0.01	4.3	<0.01	4.0	0.2	>10	4	17.1	1.9	
454805	Rock	1	38	0.61	154	0.108	<20	0.86	0.065	0.40	0.7	<0.01	4.2	0.6	0.19	3	0.9	0.3	
454806	Rock	4	6	0.28	6	0.244	<20	0.56	0.076	0.01	2.2	<0.01	4.6	<0.1	1.65	2	2.5	0.2	
454807	Rock	2	109	2.26	468	0.311	<20	2.57	0.066	1.95	20.7	<0.01	21.6	3.7	1.46	12	2.2	15.8	
454808	Rock	2	15	0.36	66	0.074	<20	0.82	0.071	0.17	0.9	<0.01	2.2	0.3	<0.05	3	<0.5	<0.2	
454809	Rock	11	8	0.10	16	0.187	<20	0.18	0.068	0.04	0.5	<0.01	2.1	<0.1	1.49	<1	3.4	0.3	
454810	Rock	5	44	2.79	67	0.161	<20	3.58	0.195	1.57	0.1	<0.01	12.1	0.8	4.30	8	0.7	<0.2	
454811	Rock	1	87	1.18	13	0.013	<20	2.08	0.001	0.09	<0.1	0.06	4.7	<0.1	<0.05	5	0.7	<0.2	
454812	Rock	3	25	0.46	16	0.036	<20	1.05	0.002	0.17	0.3	0.06	4.2	<0.1	<0.05	2	<0.5	<0.2	
454813	Rock	1	12	0.18	11	0.129	<20	0.74	0.005	0.02	<0.1	0.01	3.6	<0.1	<0.05	2	<0.5	<0.2	
454814	Rock	<1	4	0.06	37	0.042	<20	0.30	<0.001	0.12	0.1	0.51	1.9	<0.1	0.22	4	10.7	<0.2	4.983
454815	Rock	<1	4	0.05	74	0.017	<20	0.25	<0.001	0.13	<0.1	0.25	1.3	<0.1	<0.05	<1	1.7	<0.2	4.908
454816	Rock	<1	8	0.07	7	0.094	<20	0.66	0.004	<0.01	<0.1	0.01	2.6	<0.1	<0.05	2	<0.5	<0.2	
454817	Rock	4	58	2.13	88	0.002	<20	1.43	0.021	0.18	<0.1	0.35	12.4	<0.1	<0.05	3	<0.5	<0.2	
454818	Rock	<1	9	0.08	29	<0.001	<20	0.15	0.013	0.06	<0.1	3.78	3.3	<0.1	<0.05	<1	<0.5	<0.2	
454819																			
454820																			
454821																			
454822																			
454823																			
454824																			
454825																			
454826	Rock	2	73	1.40	20	0.053	<20	1.80	0.015	0.05	0.2	0.04	7.3	<0.1	<0.05	6	<0.5	<0.2	
454827	Rock	5	29	1.52	137	0.003	<20	0.43	0.021	0.33	<0.1	0.10	17.5	<0.1	<0.05	<1	<0.5	<0.2	
454828	Rock	18	1	0.02	94	<0.001	<20	0.44	0.029	0.19	<0.1	0.20	1.7	<0.1	<0.05	1	<0.5	<0.2	

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: October 05, 2015

CERTIFICATE OF ANALYSIS SMI15000073.1

	Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
454829	Rock	0.93	0.3	64.8	6.9	81	0.2	16.8	25.2	1503	6.14	30.5	4.8	0.4	157	0.1	34.1	<0.1	73	3.59	0.133
454830	Rock	1.07	<0.1	83.6	2.4	87	<0.1	12.3	25.5	1257	5.80	5.8	2.8	0.2	43	<0.1	19.1	<0.1	62	3.04	0.134
454831	Rock	1.08	5.5	16.5	106.6	34	4.6	4.1	3.9	108	3.70	675.0	1981.1	<0.1	2	0.2	26.0	<0.1	4	0.02	0.027
454832	Rock	0.91	<0.1	0.4	0.3	<1	<0.1	<0.1	0.3	33	0.04	3.1	<0.5	<0.1	4060	<0.1	<0.1	<0.1	<2	31.82	0.003
454833	Rock Pulp	0.12	323.5	3252.7	21.2	52	1.6	29.9	8.3	423	3.00	13.0	898.7	0.9	32	<0.1	2.9	0.6	47	0.57	0.047
454851	Rock	1.28	0.4	85.5	2.7	26	<0.1	10.9	21.5	906	6.63	5.9	<0.5	0.3	23	<0.1	0.6	<0.1	170	0.80	0.117
454852	Rock	1.17	1275.5	150.2	137.3	17	3.2	3.1	119.3	1021	3.97	4.7	276.9	2.6	124	1.0	0.5	6.5	3	4.69	0.028
454853	Rock	0.99	8.7	61.3	41.0	33	0.1	1.1	6.4	441	1.51	0.8	1.9	7.5	308	0.1	<0.1	0.1	7	2.47	0.081
454854	Rock	1.14	1.2	35.2	0.8	6	<0.1	26.7	6.8	121	0.80	<0.5	<0.5	<0.1	37	<0.1	<0.1	<0.1	22	1.30	0.019
454855	Rock	0.91	22.6	24.1	2.3	9	<0.1	8.3	5.4	98	1.43	<0.5	1.7	0.6	9	<0.1	0.1	0.5	56	0.37	0.051
454856	Rock	0.95	3.5	104.0	3.7	42	0.3	6.1	16.4	324	6.19	0.8	1.0	0.4	10	<0.1	0.2	0.8	86	1.02	0.410
454857	Rock	0.97	19.6	42.2	27.1	42	0.2	17.2	8.4	95	2.53	1.6	0.9	0.7	4	1.0	0.3	0.6	62	0.12	0.045
454858	Rock	1.15	48.4	76.9	5.2	61	0.4	82.3	20.2	201	3.11	<0.5	2.0	1.1	20	0.3	0.2	4.7	211	0.47	0.090
454859	Rock	0.86	7.3	87.6	4.6	95	0.2	10.8	5.8	201	2.89	<0.5	46.2	0.7	9	1.1	<0.1	6.0	150	0.22	0.097
454860	Rock	1.12	0.5	10.9	105.5	3	10.9	1.0	0.4	29	1.33	1.9	6308.4	<0.1	2	<0.1	1.2	13.1	4	<0.01	0.008
454861	Rock	1.11	0.5	38.6	12.0	40	0.2	38.8	20.7	402	2.17	1.0	16.7	<0.1	142	0.2	0.4	0.3	70	1.88	0.043
454862	Rock	0.98	2.8	18.2	4.4	66	0.2	0.4	0.2	99	1.23	1.2	16.7	7.8	1	<0.1	<0.1	0.3	8	0.02	0.005
454863	Rock	1.01	6.6	100.9	7.0	55	0.4	17.7	9.7	280	3.63	<0.5	6.4	2.0	35	0.2	0.1	0.2	72	0.60	0.057
454864	Rock	0.79	36.5	14.6	208.1	38	0.6	1.6	0.5	38	1.27	0.9	7.4	7.3	6	2.0	0.2	0.3	17	0.07	0.018
454865	Rock	0.97	37.0	69.6	5.1	292	0.6	49.0	10.2	98	2.53	23.6	9.3	1.9	3	2.9	0.1	<0.1	8	0.15	0.057
454866	Rock	1.23	1.0	35.3	2.9	25	0.2	4.0	20.8	246	5.62	<0.5	2.7	0.6	20	<0.1	0.1	0.1	237	0.65	0.100
454867	Rock	1.06	2.7	69.2	22.6	373	1.9	20.8	17.1	1284	5.46	30.6	1.3	0.3	34	3.7	6.1	0.1	191	1.47	0.136
454868	Rock	1.24	2.6	379.2	197.4	166	11.6	2.9	3.5	2056	13.17	118.1	647.5	0.3	6	0.2	3.4	0.1	53	0.08	0.092
454869	Rock	2.30	0.9	56.3	4.0	44	0.2	20.0	18.2	1441	5.27	9.0	<0.5	0.8	292	<0.1	1.0	<0.1	141	9.54	0.177
454870	Rock	1.32	4.1	26.4	5.0	66	0.1	0.8	0.8	189	2.38	7.0	24.5	2.2	10	0.5	0.2	0.1	5	0.17	0.011
454871	Rock	1.57	0.1	108.6	14.3	64	0.2	7.2	23.2	1190	4.67	6.3	1.3	1.2	257	<0.1	0.4	<0.1	161	3.65	0.237
454872	Rock	0.76	0.5	84.1	3.3	50	0.2	6.7	14.2	787	3.18	15.6	1.3	0.9	77	<0.1	0.3	<0.1	86	2.97	0.167
454873	Rock	1.62	0.7	4.5	2.0	18	<0.1	1.7	4.0	2980	4.39	7.5	0.7	0.2	567	<0.1	0.4	<0.1	39	7.82	0.063
454874	Rock	0.68	3.6	5.7	7.1	84	<0.1	0.6	1.0	248	2.14	4.7	12.4	1.8	28	0.4	0.3	<0.1	4	0.52	0.011
454875	Rock	0.96	0.1	261.8	1.0	54	0.1	28.3	31.1	1012	4.85	0.5	<0.5	0.6	227	<0.1	2.0	<0.1	58	4.89	0.133

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: October 05, 2015

CERTIFICATE OF ANALYSIS SMI15000073.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	FA330
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	gm/t
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005
454829	Rock	5	19	2.02	85	0.003	<20	2.17	0.028	0.17	<0.1	0.14	13.9	<0.1	<0.05	6	<0.5	<0.2	
454830	Rock	4	9	1.24	107	0.003	<20	2.31	0.021	0.24	<0.1	0.36	10.6	<0.1	<0.05	6	<0.5	<0.2	
454831	Rock	2	4	0.01	34	<0.001	<20	0.15	0.001	0.11	<0.1	1.34	1.2	<0.1	0.10	<1	1.4	<0.2	1.980
454832	Rock	<1	<1	1.90	6	<0.001	<20	0.03	<0.001	<0.01	<0.1	<0.01	0.2	<0.1	<0.05	<1	<0.5	<0.2	
454833	Rock Pulp	5	29	0.54	113	0.091	<20	1.12	0.076	0.10	0.8	0.11	3.4	<0.1	0.39	4	1.4	<0.2	
454851	Rock	3	23	1.59	50	0.215	<20	2.95	0.040	0.08	0.2	0.05	7.0	<0.1	0.63	10	0.7	<0.2	
454852	Rock	9	2	0.11	35	<0.001	<20	0.24	0.003	0.17	<0.1	<0.01	0.5	0.4	4.25	<1	2.1	0.5	
454853	Rock	31	3	0.16	991	0.002	<20	0.59	0.023	0.22	<0.1	<0.01	1.0	<0.1	0.32	2	<0.5	<0.2	
454854	Rock	<1	30	0.49	21	0.056	<20	1.55	0.212	0.02	<0.1	<0.01	3.2	<0.1	0.06	3	<0.5	<0.2	
454855	Rock	2	11	0.26	48	0.101	<20	0.51	0.087	0.11	0.6	<0.01	3.5	0.2	0.28	2	2.8	<0.2	
454856	Rock	3	4	0.99	306	0.236	<20	1.49	0.071	0.73	3.3	<0.01	7.9	1.2	0.73	9	1.1	0.3	
454857	Rock	3	11	0.24	52	0.120	<20	0.28	0.064	0.10	4.3	<0.01	4.0	0.2	1.06	2	2.6	<0.2	
454858	Rock	4	51	1.03	484	0.201	<20	1.48	0.116	0.86	4.5	<0.01	8.6	1.1	0.92	5	1.0	2.7	
454859	Rock	4	15	0.90	222	0.166	<20	0.98	0.065	0.74	5.9	<0.01	13.2	0.8	0.81	4	5.3	1.6	
454860	Rock	<1	12	0.01	8	0.006	<20	0.02	0.003	0.02	2.3	0.02	0.3	<0.1	0.07	<1	0.9	10.3	8.008
454861	Rock	2	86	0.80	160	0.162	<20	1.92	0.163	0.78	17.7	<0.01	4.2	0.6	0.25	4	<0.5	<0.2	
454862	Rock	18	4	0.17	6	0.053	<20	0.36	0.059	0.19	0.1	<0.01	0.7	<0.1	<0.05	3	<0.5	<0.2	
454863	Rock	4	82	0.60	33	0.135	<20	1.13	0.081	0.05	0.9	<0.01	3.1	<0.1	0.34	4	6.0	0.3	
454864	Rock	9	7	0.04	20	0.057	<20	0.13	0.052	0.03	4.8	<0.01	1.2	<0.1	0.19	<1	0.8	0.3	
454865	Rock	3	5	0.32	84	0.002	<20	0.65	0.022	0.24	<0.1	0.20	1.6	0.2	2.38	2	2.0	<0.2	
454866	Rock	7	4	0.36	64	0.290	<20	0.45	0.064	0.24	0.5	<0.01	3.0	0.2	1.14	4	<0.5	<0.2	
454867	Rock	4	81	3.05	54	0.153	<20	3.13	0.021	0.06	0.4	0.13	12.3	0.1	0.38	11	0.6	<0.2	
454868	Rock	1	10	0.66	36	0.177	<20	1.55	0.002	0.20	<0.1	0.24	4.8	<0.1	0.15	4	2.6	<0.2	
454869	Rock	7	30	1.73	54	0.003	<20	1.57	0.017	0.08	<0.1	0.02	14.0	<0.1	<0.05	5	<0.5	<0.2	
454870	Rock	11	6	0.16	77	0.045	<20	0.68	0.027	0.34	<0.1	0.01	1.3	<0.1	0.45	4	<0.5	<0.2	
454871	Rock	9	4	1.46	48	0.002	<20	0.75	0.036	0.13	<0.1	0.02	14.2	<0.1	0.24	3	<0.5	<0.2	
454872	Rock	7	4	0.25	67	0.004	<20	0.62	0.022	0.14	0.1	0.01	10.0	<0.1	<0.05	2	<0.5	<0.2	
454873	Rock	6	5	1.33	25	0.003	<20	0.96	0.006	0.13	<0.1	<0.01	7.0	<0.1	<0.05	2	<0.5	<0.2	
454874	Rock	11	4	0.21	76	0.009	<20	0.71	0.023	0.23	<0.1	<0.01	0.8	<0.1	0.18	3	<0.5	<0.2	
454875	Rock	6	14	1.79	127	0.004	<20	1.22	0.024	0.28	<0.1	0.02	18.8	<0.1	0.05	3	<0.5	<0.2	

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: October 05, 2015

CERTIFICATE OF ANALYSIS SMI15000073.1

	Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
454876	Rock	1.00	1.1	83.6	4.4	61	<0.1	36.4	28.1	891	5.35	3.0	1.4	0.8	29	<0.1	5.2	<0.1	177	1.23	0.140
454877	Rock	1.12	3.2	52.3	625.7	457	26.4	1.3	1.3	138	15.17	3366.6	5309.4	<0.1	3	2.1	32.6	0.8	13	0.03	0.041
454878	Rock	0.98	0.2	0.3	0.8	<1	<0.1	0.4	0.4	34	0.12	3.2	3.7	<0.1	3527	<0.1	<0.1	<0.1	<2	32.61	0.003
454879	Rock Pulp	0.12	326.2	3306.6	21.5	54	1.7	29.6	8.2	437	3.10	13.0	683.2	1.0	34	<0.1	3.1	0.5	49	0.61	0.050

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: October 05, 2015

CERTIFICATE OF ANALYSIS SMI15000073.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	FA330
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	gm/t
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005
454876	Rock	5	34	2.44	56	0.180	<20	2.39	0.034	0.07	0.2	0.04	6.4	<0.1	0.96	9	<0.5	<0.2	
454877	Rock	<1	2	<0.01	30	0.001	<20	0.30	<0.001	0.14	<0.1	>50	1.1	<0.1	0.14	1	5.4	0.2	5.116
454878	Rock	<1	<1	1.63	3	0.002	<20	0.12	0.005	<0.01	<0.1	0.10	0.2	<0.1	0.10	<1	<0.5	<0.2	
454879	Rock Pulp	5	30	0.56	124	0.092	<20	1.13	0.077	0.10	0.8	0.10	3.9	<0.1	0.40	4	<0.5	<0.2	

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: October 05, 2015

QUALITY CONTROL REPORT SMI15000073.1

		Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
		Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
Pulp Duplicates																						
454817	Rock		1.42	0.1	68.1	3.8	55	0.6	53.8	26.9	1254	4.77	8.0	6.5	0.4	173	<0.1	32.0	<0.1	56	5.61	0.113
REP 454817	QC			0.2	72.8	3.7	59	0.6	53.5	27.1	1242	4.70	8.7	4.8	0.4	177	<0.1	32.5	<0.1	56	5.55	0.115
454869	Rock		2.30	0.9	56.3	4.0	44	0.2	20.0	18.2	1441	5.27	9.0	<0.5	0.8	292	<0.1	1.0	<0.1	141	9.54	0.177
REP 454869	QC			0.6	58.1	4.0	44	0.2	18.9	18.1	1433	5.29	9.5	0.5	0.7	294	0.2	0.9	<0.1	142	9.46	0.175
454877	Rock		1.12	3.2	52.3	625.7	457	26.4	1.3	1.3	138	15.17	3366.6	5309.4	<0.1	3	2.1	32.6	0.8	13	0.03	0.041
REP 454877	QC																					
Core Reject Duplicates																						
454807	Rock		0.96	19.5	107.0	6.0	61	0.7	36.9	29.0	375	5.89	<0.5	5.0	0.6	4	0.2	<0.1	37.9	205	0.26	0.071
DUP 454807	QC			20.0	114.0	6.0	62	0.7	36.9	31.8	386	6.09	<0.5	6.7	0.6	4	<0.1	<0.1	45.6	210	0.25	0.070
454858	Rock		1.15	48.4	76.9	5.2	61	0.4	82.3	20.2	201	3.11	<0.5	2.0	1.1	20	0.3	0.2	4.7	211	0.47	0.090
DUP 454858	QC			47.8	79.6	5.2	67	0.4	85.8	20.2	207	3.19	<0.5	3.5	1.1	20	0.3	0.2	4.0	217	0.48	0.090
Reference Materials																						
STD DS10	Standard			12.6	150.9	148.5	357	2.3	69.0	12.1	844	2.64	47.4	64.4	7.3	63	2.3	9.9	13.1	42	1.03	0.073
STD DS10	Standard			12.7	150.0	147.6	358	1.8	72.1	12.2	858	2.71	43.5	54.1	7.1	62	2.4	8.2	12.2	43	1.04	0.071
STD OREAS45EA	Standard			1.8	664.3	13.7	28	0.4	369.5	47.5	387	20.74	11.2	57.7	10.0	4	<0.1	0.5	0.3	295	0.04	0.029
STD OREAS45EA	Standard			1.5	677.3	14.0	31	0.3	368.6	49.3	404	20.96	10.1	56.7	9.9	4	<0.1	0.4	0.3	303	0.03	0.026
STD OXN117	Standard																					
STD DS10 Expected				13.6	154.61	150.55	370	2.02	74.6	12.9	875	2.7188	46.2	91.9	7.5	67.1	2.62	9	11.65	43	1.0625	0.0765
STD OREAS45EA Expected				1.6	709	14.3	31.4	0.26	381	52	400	23.51	10.3	53	10.7	3.5	0.03	0.32	0.26	303	0.036	0.029
STD OXN117 Expected																						
BLK	Blank			<0.1	0.2	<0.1	<1	0.1	0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank																					
Prep Wash																						
ROCK-SMI	Prep Blank			0.4	4.4	1.5	35	<0.1	0.6	3.3	446	1.56	0.9	1.7	1.8	18	<0.1	<0.1	<0.1	19	0.41	0.034
ROCK-SMI	Prep Blank			0.4	4.1	1.2	35	<0.1	0.6	3.0	442	1.50	0.7	1.2	1.9	19	<0.1	<0.1	<0.1	18	0.47	0.035

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: October 05, 2015

QUALITY CONTROL REPORT SMI15000073.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	FA330
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	gm/t
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005
Pulp Duplicates																			
454817	Rock	4	58	2.13	88	0.002	<20	1.43	0.021	0.18	<0.1	0.35	12.4	<0.1	<0.05	3	<0.5	<0.2	
REP 454817	QC	4	56	2.11	88	0.002	<20	1.42	0.021	0.18	<0.1	0.38	12.4	<0.1	<0.05	4	<0.5	<0.2	
454869	Rock	7	30	1.73	54	0.003	<20	1.57	0.017	0.08	<0.1	0.02	14.0	<0.1	<0.05	5	<0.5	<0.2	
REP 454869	QC	7	31	1.73	54	0.003	<20	1.58	0.018	0.08	<0.1	0.01	13.6	<0.1	<0.05	5	<0.5	<0.2	
454877	Rock	<1	2	<0.01	30	0.001	<20	0.30	<0.001	0.14	<0.1	>50	1.1	<0.1	0.14	1	5.4	0.2	5.116
REP 454877	QC																		5.068
Core Reject Duplicates																			
454807	Rock	2	109	2.26	468	0.311	<20	2.57	0.066	1.95	20.7	<0.01	21.6	3.7	1.46	12	2.2	15.8	
DUP 454807	QC	2	114	2.28	424	0.316	<20	2.61	0.063	2.00	17.7	<0.01	21.5	3.5	1.61	13	2.5	19.3	
454858	Rock	4	51	1.03	484	0.201	<20	1.48	0.116	0.86	4.5	<0.01	8.6	1.1	0.92	5	1.0	2.7	
DUP 454858	QC	4	50	1.05	505	0.203	<20	1.51	0.117	0.88	3.6	<0.01	9.1	1.2	0.91	5	1.4	2.0	
Reference Materials																			
STD DS10	Standard	16	49	0.74	410	0.068	<20	0.96	0.066	0.33	3.2	0.29	2.6	5.0	0.29	4	1.9	5.2	
STD DS10	Standard	16	51	0.76	400	0.070	<20	0.98	0.066	0.32	4.1	0.30	2.6	4.9	0.28	4	2.6	4.5	
STD OREAS45EA	Standard	7	795	0.10	147	0.090	<20	3.04	0.025	0.05	<0.1	0.01	71.8	<0.1	<0.05	12	1.0	<0.2	
STD OREAS45EA	Standard	7	808	0.09	149	0.089	<20	3.08	0.025	0.05	<0.1	<0.01	73.7	<0.1	<0.05	12	<0.5	<0.2	
STD OXN117	Standard																		8.161
STD DS10 Expected		17.5	54.6	0.775	412	0.0817		1.0259	0.067	0.338	3.32	0.3	2.8	5.1	0.29	4.3	2.3	5.01	
STD OREAS45EA Expected		7.06	849	0.095	148	0.0984		3.13	0.02	0.053			78	0.072	0.036	12.4	0.78	0.07	
STD OXN117 Expected																			7.679
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2	
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2	
BLK	Blank																		<0.005
Prep Wash																			
ROCK-SMI	Prep Blank	5	4	0.44	49	0.052	<20	0.88	0.088	0.10	<0.1	<0.01	3.0	<0.1	<0.05	3	<0.5	<0.2	
ROCK-SMI	Prep Blank	5	4	0.43	48	0.051	<20	0.87	0.087	0.10	<0.1	<0.01	3.1	<0.1	<0.05	3	<0.5	<0.2	

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Submitted By: Jim Hutter
Receiving Lab: Canada-Smithers
Received: October 22, 2015
Report Date: November 10, 2015
Page: 1 of 2

CERTIFICATE OF ANALYSIS SMI15000073R.1

CLIENT JOB INFORMATION

Project: Mill/Storm
Shipment ID:
P.O. Number
Number of Samples: 8

SAMPLE DISPOSAL

RTRN-PLP Return
RTRN-RJT Return

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
FA330	8	Lead collection fire assay fusion - ICP-ES finish	30	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: J. M. Hutter
Box 3048
Smithers BC V0J 2N0
CANADA

CC:

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: November 10, 2015

CERTIFICATE OF ANALYSIS SMI15000073R.1

		Method	FA330
		Analyte	Au
		Unit	gm/t
		MDL	0.005
454800	Rock Pulp		1.079
454814	Rock		4.819
454815	Rock		4.765
454831	Rock		1.868
454833	Rock Pulp		1.041
454860	Rock		7.316
454877	Rock		4.841
454879	Rock Pulp		0.983

MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **J. M. Hutter**
Box 3048
Smithers BC V0J 2N0 CANADA

Project: Mill/Storm
Report Date: November 10, 2015

QUALITY CONTROL REPORT SMI15000073R.1

		Method	FA330
		Analyte	Au
		Unit	gm/t
		MDL	0.005
Pulp Duplicates			
454879	Rock Pulp		0.983
REP 454879	QC		1.030
Reference Materials			
STD OXN117	Standard		7.877
STD OXN117 Expected			7.679
BLK	Blank		0.017

APPENDIX B

Reference Materials

CDN Resource Laboratories Ltd.

#2, 20148 – 102nd Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

STANDARD REFERENCE MATERIAL: CDN-CM-11A

Recommended values and the "Between Lab" Two Standard Deviations

Gold	***1.014 g/t ± 0.106 g/t***	***Certified value***
Copper	***0.332 % ± 0.012 %***	***Certified value***
Molybdenum	***0.038 % ± 0.004 %***	***Certified value***

Note: Standards with an RSD of near or less than 5% are certified; RSD's of between 5% and 15% are provisional; RSD's over 15% are indicated. Provisional and indicated values cannot be used to monitor accuracy with a high degree of certainty.

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: May 10, 2011

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-CM-11A was prepared using a North American calc-alkalic copper-gold-molybdenum porphyry ore. It is derived from altered granodiorite, mafic to intermediate volcanic and volcaniclastic sedimentary rocks. Mineralization is principally pyrite, chalcopyrite and molybdenite that occurs in veins, stockworks and disseminations. 705 kg of this ore was blended with 8 kg of a Cu-Au-Mo concentrate.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying.

Approximate chemical composition (by whole rock analysis) is as follows:

	Percent			Percent
SiO2	74.1		MgO	1.3
Al2O3	9.8		K2O	1.1
Fe2O3	5.3		TiO2	0.4
CaO	2.3		LOI	1.7
Na2O	2.7		S	0.4
C	0.1			

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

STANDARD REFERENCE MATERIAL CDN-CM-11A

Assay Procedures: **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).
Cu, Mo: 4-acid digestion, AA or ICP finish.

Results from round-robin assaying:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CM-11A-1	0.955	1.02	0.925	1.04	1.03	1.03	1.040	1.07	1.08	1.11	0.93	1.08	0.994	1.03	1.039
CM-11A-2	1.006	1.07	0.925	1.02	1.04	1.00	0.932	1.03	1.03	1.10	0.90	1.05	0.945	1.10	0.916
CM-11A-3	0.949	1.04	0.903	0.95	1.04	1.03	0.943	1.02	1.09	1.10	0.95	1.04	0.968	1.08	1.003
CM-11A-4	0.920	1.01	0.891	0.97	0.97	1.05	0.998	1.02	1.15	1.05	0.95	1.04	1.046	1.03	0.975
CM-11A-5	0.952	1.03	0.899	0.99	1.07	1.04	1.050	1.10	1.06	1.10	0.96	1.00	1.007	1.06	0.918
CM-11A-6	0.973	0.98	0.951	0.98	1.05	1.05	0.971	1.04	0.99	1.03	1.00	1.07	1.006	1.03	1.056
CM-11A-7	0.921	1.01	0.876	0.98	0.99	1.05	1.050	1.07	0.99	1.09	0.99	1.06	0.810	1.10	1.044
CM-11A-8	0.944	0.98	0.922	0.99	1.04	1.05	0.964	1.02	1.01	1.06	0.97	1.05	1.086	1.05	0.990
CM-11A-9	1.065	1.08	0.859	1.04	0.98	0.99	1.090	1.06	1.08	1.07	0.97	1.04	1.025	1.08	0.923
CM-11A-10	0.939	0.94	0.971	0.95	1.08	1.02	0.983	1.00	1.00	1.06	0.95	1.06	1.047	1.10	1.059
Mean	0.962	1.014	0.912	0.989	1.029	1.031	1.002	1.043	1.048	1.077	0.957	1.048	0.993	1.066	0.992
Std. Devn.	0.0438	0.0422	0.0337	0.0331	0.0373	0.0202	0.0527	0.0309	0.0545	0.0267	0.0287	0.0230	0.0761	0.0292	0.0577
% RSD	4.55	4.16	3.70	3.35	3.62	1.96	5.26	2.97	5.20	2.48	3.00	2.20	7.66	2.74	5.81
	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
CM-11A-1	0.324	0.326	0.34	0.33	0.33	0.34	0.331	0.319	0.338	0.324	0.341	0.332	0.343	0.332	0.34
CM-11A-2	0.329	0.327	0.33	0.32	0.32	0.34	0.328	0.340	0.334	0.328	0.329	0.327	0.356	0.338	0.34
CM-11A-3	0.327	0.327	0.31	0.33	0.33	0.34	0.330	0.339	0.336	0.335	0.342	0.333	0.352	0.333	0.33
CM-11A-4	0.329	0.317	0.32	0.32	0.33	0.33	0.330	0.336	0.335	0.334	0.341	0.336	0.343	0.337	0.34
CM-11A-5	0.335	0.330	0.34	0.33	0.33	0.34	0.323	0.338	0.344	0.329	0.335	0.333	0.357	0.335	0.33
CM-11A-6	0.335	0.329	0.35	0.32	0.33	0.33	0.328	0.337	0.321	0.338	0.339	0.333	0.343	0.334	0.33
CM-11A-7	0.338	0.330	0.34	0.32	0.33	0.34	0.324	0.324	0.330	0.338	0.341	0.332	0.343	0.337	0.34
CM-11A-8	0.336	0.329	0.32	0.33	0.33	0.33	0.329	0.325	0.327	0.334	0.338	0.335	0.348	0.336	0.34
CM-11A-9	0.339	0.328	0.33	0.33	0.33	0.33	0.324	0.333	0.327	0.331	0.339	0.333	0.342	0.337	0.33
CM-11A-10	0.334	0.342	0.34	0.32	0.33	0.33	0.327	0.326	0.331	0.326	0.334	0.328	0.347	0.333	0.33
Mean	0.333	0.329	0.332	0.325	0.329	0.335	0.327	0.332	0.332	0.332	0.338	0.332	0.347	0.335	0.335
Std. Devn.	0.0050	0.0061	0.0123	0.0053	0.0032	0.0053	0.0028	0.0075	0.0065	0.0050	0.0041	0.0028	0.0058	0.0020	0.0053
% RSD	1.51	1.84	3.70	1.62	0.96	1.57	0.87	2.27	1.97	1.50	1.21	0.85	1.67	0.58	1.57
	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo
CM-11A-1	0.037	0.035	0.030	0.030	0.037	0.034	0.039	0.038	0.037	0.040	0.040	0.037	0.037	0.036	0.037
CM-11A-2	0.036	0.034	0.030	0.030	0.038	0.034	0.039	0.039	0.039	0.039	0.039	0.037	0.037	0.037	0.038
CM-11A-3	0.037	0.035	0.030	0.040	0.036	0.034	0.038	0.038	0.038	0.040	0.041	0.038	0.038	0.036	0.038
CM-11A-4	0.036	0.034	0.040	0.030	0.037	0.034	0.039	0.037	0.039	0.039	0.041	0.039	0.039	0.036	0.038
CM-11A-5	0.037	0.035	0.040	0.030	0.037	0.035	0.038	0.036	0.039	0.039	0.041	0.037	0.037	0.036	0.037
CM-11A-6	0.036	0.034	0.040	0.040	0.037	0.034	0.037	0.038	0.037	0.038	0.042	0.038	0.038	0.036	0.038
CM-11A-7	0.037	0.035	0.040	0.040	0.037	0.034	0.039	0.038	0.037	0.039	0.040	0.038	0.038	0.036	0.038
CM-11A-8	0.037	0.035	0.040	0.040	0.036	0.033	0.040	0.038	0.037	0.039	0.041	0.038	0.038	0.037	0.037
CM-11A-9	0.036	0.034	0.040	0.040	0.036	0.034	0.038	0.038	0.038	0.039	0.041	0.039	0.039	0.037	0.038
CM-11A-10	0.037	0.036	0.040	0.040	0.037	0.034	0.039	0.039	0.039	0.039	0.040	0.037	0.037	0.036	0.037
Mean	0.037	0.035	0.037	0.036	0.037	0.034	0.039	0.038	0.038	0.039	0.041	0.038	0.038	0.036	0.038
Std. Devn.	0.0005	0.0007	0.0048	0.0052	0.0006	0.0005	0.0008	0.0009	0.0009	0.0005	0.0008	0.0007	0.0007	0.0005	0.0005
% RSD	1.41	2.00	13.06	14.34	1.72	1.39	2.18	2.31	2.48	1.34	2.06	1.80	1.80	1.28	1.37

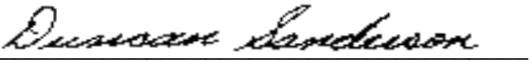
STANDARD REFERENCE MATERIAL CDN-CM-11A

Participating Laboratories:
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada
Activation Laboratories, Ancaster, Ontario, Canada
Activation Laboratories, Thunder Bay, Ontario, Canada
Alex Stewart, Kamloops, B.C., Canada
Alex Stewart Assayers, Mendoza, Argentina
ALS Chemex, North Vancouver, B.C., Canada
American Assay Labs., Nevada, USA
Genalysis, Perth, Australia
Inspectorate, Richmond, B.C., Canada
Omac, Ireland
SGS, Vancouver, B.C., Canada
SGS, Lima, Peru
Skyline Laboratory, Arizona, USA
TSL Laboratories Ltd., Saskatoon, SK, Canada
Ultra Trace, Perth, Australia

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by 

Duncan Sanderson, Certified Assayer of B.C.

Geochemist 

Dr. Barry Smee, Ph.D., P. Geo.

APPENDIX C

Waypoint and Sample Descriptions - Hutter

Mackie Project Field Notes 2015 - J. Hutter						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Specimen**	**Comments**
Sept 2/15	Eastern claim block					
001	425612	6242739	1124		**X**	Light green massive tuffaceous sandstone. Common calcite veins to 10mm, <1% of rock volume. Pervasive chlorite alteration. Rare local epidote veins to 20mm. Weakly magnetic.
002	425666	6242754	1126			Barren carbonate/breccia vein to 25cm 060/85N.
003	425546	6243043	1263		**X**	Light grey-green ash tuff or tuffaceous siltstone. Weak pervasive chlorite-epidote alteration. Common calcite veins 135/80S. Mostly non-magnetic.
004	425564	6243071	1274			Same rock as 003, but without epidote. Occasional minor pyrite.
005	425463	6243050	1263			Light grey-green ash tuff. Weak pervasive epidote alteration; epidote in fractures. Non-magnetic. Swarm of quartz veins, 2-30cm wide, varies rapidly along strike.
006	425433	6243057	1269			Ash tuff, weakly magnetic. Epidote alteration weaker; quartz veins have petered out. No calcite veins.
007	425400	6243058	1268			Grey ash tuff, not chlorite-altered. Occasional epidote in fractures. Non-magnetic.
008	425363	6243060	1268			Grey-green ash tuff, strong epidote alteration (pervasive and veins). Weakly magnetic.
010	425263	6243090	1272			Grey-green ash tuff, pervasive chlorite-epidote alteration. Weakly magnetic. Occasional quartz gash-veins to 5cm at 120/30N.
011	425233	6243169	1320			Grey-green ash tuff or flow(?), weak pervasive chlorite alteration. Minor epidote on some fractures. Moderately magnetic.
012	425146	6243233	1373			Horsetail quartz vein in carbonate-altered ash tuff. Most individual veins are less than 10cm wide, occasionally up to 30cm. Average attitude 100/80N. Does not have much continuity along strike. More quartz veins 8m to N up to 40cm wide at 145/90.
017	425144	6243245	1373	454801		40cm quartz vein at 145/90. Locally a bit rusty but no visible pyrite.
018	425100	6243279	1398			Same quartz vein as 017, 20-50cm wide at 135/70S.
019	425088	6243295	1403			Vein lost under overburden.
020	425079	6243326	1411		**X**	Shaly siltstone, volcanic-derived (or dust tuff?) Foliation 090/80N.
021	425096	6243340	1425	454802		Gossanous pyritic shear zone up to 1m wide. Shear zone has very limited continuity along strike. Commonly offset by left-lateral faults. Shear zone segments 080/90.
022	425218	6243448	1494			Medium grey volcanics (flow?), fresh.
023	425223	6243498	1514			Medium grey ash tuff, fresh. Foliation 100/90.
024	425268	6243499	1519		**X**	Weakly porphyritic intermediate dyke, 5m wide, 130/90.
025	425319	6243601	1558			Grey ash tuff, locally maroon. Weak chlorite alteration on some fractures.
026	425387	6243700	1591	454803	**X**	Strongly foliated light brown sandstone, carbonate altered. Foliation 110/90. Minor disseminated pyrite, weakly gossanous.
Sept 3/15	Western claim block					
027	416244	6247399	1014			Start.
028	416273	6247322	1033			Fresh quartz monzonite (talus). Weak chlorite on some fractures. Weakly magnetic.
029	416294	6247318	1035			In talus below carbonate-altered fracture zone. Carbonate alteration is restricted to fractures. No pyrite. Also some boulders of grey intermediate dyke.
030	416384	6247302	1045			Fresh quartz monzonite (talus). No chlorite. Weak carbonate alteration on fractures.
031	416375	6247282	1085			Quartz monzonite feldspar porphyry (outcrop). Scattered feldspar crystals to 1cm. Fresh except for weak carbonate alteration on fractures.
032	416393	6247722	1111			Intermediate grey dyke, or possible raft of volcanics. 0.5% disseminated pyrite.
033	416658	6247301	1054			Biotite-hornblende quartz monzonite (talus), feldspar porphyritic to 1cm. Carbonate alteration on some fractures, otherwise fresh. Moderately magnetic.
036	416821	6247333	1060			Fresh quartz monzonite (talus).
037	417193	6247450	1056			Toe of glacier. Boulders are fresh quartz monzonite with 5% green chlorite-altered volcanics.
038	417310	6247565	1085			Feldspar porphyritic biotite-hornblende quartz monzonite (outcrop), fresh, as above. Pyrite cubes+quartz+/-calcite on some fracture surfaces (photo).
039	417122	6247705	1102			Fresh quartz monzonite.
040	417041	6247928	1119			Quartz monzonite with k-spar alteration 1-4cm total width around fractures (photo).

Mackie Project Field Notes 2015 - J. Hutter						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Specimen**	**Comments**
041	417001	6247976	1148			(Talus) quartz monzonite boulder from hillside above. Fracture surface coated with quartz, magnetite, pyrite, minor molybdenite.
042	416951	6248013	1182			Quartz monzonite with gossanous pyritic fractures (photo).
043	416981	6248053	1191			As above.
044	417010	6248075	1194			Boulder with 2cm thick quartz-pyrite-magnetite-molybdenite vein on fracture face. Vein by itself (without any quartz monzonite) probably runs close to 0.5% molybdenite (photo). Large flat face too hard to sample.
045	416953	6247803	1107			Quartz monzonite. K-spar altered fractures 050/80N, some with pyrite.
046	416148	6247294	1023	454804		In talus below quartz monzonite/volcanic contact. Volcanics are dark grey-green, fine grained, chlorite-altered, with scattered narrow (<1cm) veins of white quartz. A few pieces of volcanics are gossanous with pyrite-magnetite veining and lesser chalcopyrite and arsenopyrite. Some gossanous patches in cliff face above. Sample 454804 (grab) (float) gossanous volcanics, as above.
047	416113	6247265	1016			Photo of quartz monzonite/volcanic contact.
048	416075	6247261	1010			On quartz monzonite/volcanic contact (photo).
049	416028	6247194	1011			Dark grey hornfelsed volcanics. Occasional small (10cm) gossanous knots.
050	415961	6247113	1002			As above. Cliffed out.
Sept 4/15	Western claim block					
051	417199	6245222	1364			Fine grained dark grey volcanics. Minor disseminated sulphides (pyrite +/- pyrrhotite). Non-magnetic.
053	417154	6245280	1355	454805	**X**	Weakly gossanous quartzite on ridge trending 180˚.
054	417263	6245179	1393	454806	**X**	Locally gossanous medium grey volcanics (flow). Local pillow structures and flow bands. Sample 454806 + hand specimen, silicified volcanics with clots of quartz-pyrite-pyrrhotite.
055	417287	6245108	1413			Gossanous silicified volcanics as above.
056	417475	6244958	1509			Weakly gossanous fine grained medium grey volcanic. Very weak chlorite-epidote alteration. 0.5% finely disseminated pyrite.
057	417542	6244962	1535			Volcanics as above, but decreased alteration and very little pyrite.
058	417805	6244923	1616	454807	**X**	Near to toe of glacier. Gossanous medium grey fine grained volcanics. Stringers of pyrite +/- quartz. Sample 454807, pyritic volcanics.
059	417823	6244921	1619		**X**	Quartz-diorite (?) dyke (?), epidote-altered near fractures. Scattered gossanous clots.
060	417835	6244904	1619		**X**	Cream to light grey rhyolite.
061	417917	6244989	1666			Medium grey fine grained volcanics, mostly fresh but locally gossanous due to scattered pyrite stringers.
062	417676	6245046	1598			Medium grey weakly gossanous ash tuff. Minor pyrite on some fractures.
063	417706	6245087	1600			As above.
064	417645	6245132	1570			Medium grey fine grained volcanics, moderately gossanous. Not much chlorite or epidote. Minor fine pyrite on fractures.
065	417669	6245171	1568			As above.
066	417650	6245253	1541	454808	**X**	Dirty fine-grained quartzite, moderately gossanous. Pyrite as fine sparse disseminations and occasional clots. Local carbonate veining.
067	417566	6245272	1502			As above, but only locally gossanous.
068	417521	6245361	1473			Medium grey ash tuff. Sparse carbonate on small fractures. No chlorite, epidote or pyrite.
069	417478	6245428	1453			As above, locally weakly gossanous.
070	417439	6245545	1425			Medium grey ash tuff, non-gossanous. No chlorite, no epidote, minor disseminated pyrite.
071	417332	6245525	1402			Fault, 160/90.
072	417309	6245517	1402			Medium grey ash tuff, mostly non-gossanous. Weak chlorite-epidote alteration. Minor disseminated pyrite. Weakly to moderately magnetic. Contorted hairline to 2mm carbonate veining.
073	417222	6245462	1374			Ash tuff, as above.
Sept 5/15	Western claim block					
074	417199	6246895	1398			Quartz monzonite, fresh, porphyritic.
075	417272	6246869	1405			As above.
076	417276	6246771	1413			As above.
077	417477	6246729	1448			Fresh quartz monzonite with a few volcanic xenoliths.

Mackie Project Field Notes 2015 - J. Hutter						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Specimen**	**Comments**
078	417598	6246664	1461			Contact quartz monzonite / volcanics. quartz monzonite is similar to previous exposures except for occasional quartz-rich "veins" with gradational borders. "Veins" are irregular and sinuous. Volcanics are strongly foliated near contact, becoming weakly foliated a few metres from contact. Foliations are approximately parallel to contact. Foliations here run approximately 090˚. Volcanics are weakly to strongly gossanous. Pyrite occurrs as small clots and very fine disseminations. Joints in both quartz monzonite and volcanics strike 140˚ and dip steeply.
079	417689	6246659	1470	454809	**X**	Gossanous volcanics in area of numerous quartz monzonite dykes. Volcanics are partly granitized.
080	417851	6246587	1475			Quartz monzonite dyke in volcanics. Dykes are becoming more siliceous and fine-grained. Occasional quartz blobs and short veins in volcanics, no sulphides. Volcanics are weakly or non-gossanous.
081	417972	6246557	1464			Volcanics are weakly to non-gossanous. No more dykes.
082	418099	6246530	1436			Contact volcanics / quartz monzonite dyke trending 180˚.
083	418123	6246515	1425			Contact quartz monzonite dyke / volcanics. Volcanics are moderately to non-gossanous, locally with patchy epidote and epidote on fractures. Numerous quartz monzonite to aplite dykes within 50m of contact.
084	418234	6246507	1414	454810	**X**	Gossanous siliceous pyritic schist with occasional quartz monzonite or aplite dykes to 1m. Northern side of outcrop is gossanous, southern side is not. Foliation in volcanics 120/90. Variable amounts of pyrite up to 5% as fine disseminations and hairline fracture fillings.
085	418332	6246427	1420			Contact volcanics / quartz monzonite.
086	418402	6246410	1420			Gossanous volcanics.
087	418437	6246411	1418			Quartz monzonite. Easterly extent of outcrop beside glacier.
088	418081	6246498	1429			Medium grey foliated volcanics, non-gossanous. Foliation 110/80S.
089	417990	6246527	1443			Quartz monzonite dyke, 4m wide, 160/90.
090	417940	6246538	1459			Medium grey foliated volcanics, weakly gossanous. Foliation 110/80S.
091	417916	6246537	1461			Entering area of common quartz monzonite dykes.
092	417766	6246563	1469			Still within dyke zone. Dyke orientations from steep to nearly flat to irregular.
093	417634	6246555	1463			Volcanics, weakly gossanous, not foliated. No dykes.
094	417599	6246581	1454			Volcanics, weakly gossanous, foliated 090/90. Zone of quartz monzonite dykes begins shortly after this station.
095	417585	6246630	1448			Contact volcanics / quartz monzonite. Return to 074.
096	417139	6246835	1361			Contact quartz monzonite / volcanics. Volcanics are grey-green, weakly chlorite-altered, foliated 090/80S, weakly gossanous.
097	417000	6246818	1334			Gossanous volcanics with minor disseminated pyrite.
098	416841	6246889	1295			Top of cliff, quartz monzonite. Volcanics below at bottom of cliff.
099	416828	6246945	1289			Quartz monzonite. Return to 074.
Sept 6/15	Eastern claim block					
101	425387	6243700	1597		**X**	Same location as 026. Well indurated sandstone, foliation 110/90. Gossanous, with minor disseminated pyrite.
102	425410	6243765	1602		**X**	Chilled granodiorite dyke, ~8m wide, fresh, 130/70S. Main body of dyke is more fine grained than usual granodiorite and margins are finer grained than rest of dyke. Volcanics to north of dyke are less foliated than those to south. In areas of little or no foliation, volcanics are fragmental with sub-round to sub-angular clasts to 15cm. Clasts and matrix are of simlar composition.
103	425626	6243724	1617			Granodiorite dyke 130/70S, 8m wide, fresh. Weakly gossanous foliated volcanics on both sides.
104	425660	6243703	1616			Dark grey hornfelsed ash tuff, minor disseminated pyrite, non gossanous. Non-magnetic. Just north of quartz monzonite dyke.
105	425658	6243621	1597			Fragmental volcanics with angular clasts to 15cm. Very weakly gossanous.
106	425654	6243591	1591	454811		Small area (6 x 10m) of volcanics with abundant quartz veining 1mm to 3cm wide, mostly trending 080˚ to 110˚. Weakly gossanous.
107	425631	6243531	1570	454812		Calcite vein, 1.5 to 2m wide, with included rock fragments, 020/60W. Volcanics within vein and on footwall are coated with Mn oxides. No sulphides. Some open voids within vein. Narrow shears on both walls.
108	425542	6243475	1547			Medium grey foliated ash tuff. Foliation 090/90. Very weakly gossanous with sparse fine disseminated pyrite.
109	425487	6243458	1545	454813	**X**	Short quartz-epidote veins in non-foliated volcanics, most 15-20cm wide, some irregular. Generally striking northerly and dipping 20-40˚ to east.
110	425408	6243490	1552			Quartz gash veins 090/30N to 20cm x 3m in chloritic non-foliated volcanics.

Mackie Project Field Notes 2015 - J. Hutter						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Specimen**	**Comments**
111	425305	6243602	1559			Grey-green chloritic ash tuff, non foliated, non magnetic. Local areas of maroon tuffs.
112	425066	6243775	1568			A few quartz-epidote veins in grey-green chloritic ash tuff. Veins are irregular and less than 10cm wide.
113	425974	6243741	1529			Abundant boulders with irregular quartz-epidote veins.
114	425876	6243722	1504			Medium grey ash / crystal tuff, fresh. No pyrite, not foliated, non-magnetic.
115	424771	6243707	1483			Mottled green/maroon ash tuff. Massive, no pyrite, non-magnetic.
116	424734	6243665	1447			Weakly foliated grey-green ash tuff. Foliation 110/90. Weak pervasive chlorite alteration.
117	424636	6243602	1397			Helicopter landing spot.
118	424688	6243573	1404			Medium grey-green ash tuff. Weak pervasive chlorite alteration. No pyrite, non-magnetic.
119	424828	6243540	1446			As above.
120	424850	6243581	1460	454814		Well-leached outcrop of shear (or foliated) volcanics. Rocks are bleached and all sulphides are leached out. Weakly foliated rocks on each side for a short distance (~1m) and then massive. Shear / foliation 040/70N.
121	425006	6243502	1480	454815	**X**	Leached altered zone (vein?) 50cm wide at 030/60N.
122	424939	6243365	1455			Medium grey-green ash tuff. Weak chlorite-epidote alteration. Massive, no pyrite, weakly magnetic.
Sept 7/15	Eastern claim block					
123	424748	6243275	1313			Light green foliated ash tuff. Weak pervasive chlorite alteration. Foliation 080/90. No pyrite, non-magnetic.
124	424666	6243473	1365			(Traverse along upper edge of moraine.) As above, but not foliated.
125	424605	6243635	1386			As above, not foliated.
126	424607	6243669	1392			Light green ash / lapilli tuff, scattered clasts to 8cm, weakly gossanous. Foliated 110/90. Weak pervasive chlorite alteration. Sparse disseminated pyrite.
127	424592	6243750	1414			Light grey-green ash tuff. Weak pervasive chlorite alteration. Trace disseminated pyrite, locally weakly gossanous. Occasional irregular quartz veins to 8cm. (Leave edge of moraine.)
128	424710	6243724	1450			Light grey-green ash tuff. Foliated 130/80S. Moderate pervasive chlorite alteration. No pyrite, not gossanous.
129	424792	6243739	1494		**X**	Mottled green / maroon ash tuff. Clasts are hematitiic (maroon) and matrix is chloritic. Clasts rarely up to 10mm, most <2mm. No pyrite. Moderately magnetic.
130	424836	6243749	1500			As above. Epidote to 5mm on some fractures.
131	424902	6243738	1523			Green ash tuff, locally weakly hematitic, not foliated. No pyrite. Moderately magnetic.
132	424934	6243728	1528	454816		Quartz-epidote veins, 4-40cm wide, 170/50E.
133	425013	6243751	1545			Grey ash tuff, foliated 110/90. No pyrite. Non-magnetic.
134	425046	6243749	1553			Grey ash tuff, not foliated. Weathered surface shows bedding at 120/60N. Thin epidote on some fractures. Variably magnetic from non- to moderately.
135	425137	6243745	1571			Grey-green ash tuff, not foliated. No pyrite. Non-magnetic.
136	425195	6243745	1579			Grey-green ash / lapilli tuff, not foliated. Scattered sub-round lapilli to 10cm. No pyrite. Moderately magnetic.
137	425242	6243743	1590			Grey-green lapilli tuff, not foliated. Common sub-round lighter-colored clasts to 8cm, supported by slightly darker matrix. No pyrite. Non-magnetic.
138	425261	6243758	1595	454817		Volcanics, strongly foliated, probable mylonite. (Photo.) Remnant rounded fragments in thinly foliated matrix. Foliation 100/65N. Carbonate altered, weakly gossanous, no visible pyrite. Ground to north is also foliated and carbonate altered for about 100m, with quartz monzonite dyke in approximate centre. Interpreted as a large shear zone with quartz monzonite dyke emplaced later.
139	425521	6243601	1597			Fractures running ~0˚ may be a smaller and later fault cutting off major shear zone.
140	425525	6243621	1595	454818		Small (2m x 2m) zone of quartz stockwork veining in sheared gossanous volcanics.
Sept 9/15	Eastern claim block					
149	425678	6243807	1659			Contact of dark grey pyritic sandstone (to east) with volcaniclastics. Contact (bedding) 120/45S.

Mackie Project Field Notes 2015 - J. Hutter						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Specimen**	**Comments**
150	425654	6243797	1648			Foliated volcaniclastics (non-gossanous) and 40cm fine-grained medium grey irregular intermediate dyke with trace pyrite.
151	425651	6243758	1633			Contact of volcaniclastics (to north) and and sandstone 090/80N. Fine-grained grey intermediate dyke at contact. Sandstone is light grey-green, non-foliated, weakly chloritic, trace pyrite.
152	425655	6243756	1635			Back into weakly foliated volcaniclastics. Contact 090/80N. Foliation approximately parallel to contact.
153	425674	6243737	1637			Contact between foliated volcaniclastics and dirty grey non-foliated sandstone. Contact cross-cuts foliation in volcaniclastics and is irregular.
154	425668	6243724	1628			Back into volcaniclastics, but massive, non-folaited. Contact covered.
155	425670	6243708	1626			Volcaniclastics with sandstone lenses and pockets. Contacts are irregular. Sandstone varies from <1m to several metres wide.
156	425677	6243672	1616			Northern contact of granodiorite dyke. Dyke 140/80S, about 8m wide. Probable fault offset near northern boundary of claim.
157	425674	6243650	1604			Mostly volcaniclastics, weakly foliated to non-foliated.
158	425627	6243617	1599	454826		Sandstone bed, 1.5m thick, 0/30W to 0/40W. Strong irregular quartz veining throughout, lesser calcite, some voids.
159	425523	6243676	1601			Eastern extent of lower granodiorite dyke. Somewhat sinuous or perhaps short right lateral fault offsets. Approximately 140/70S overall. Width 6-8m.
160	425488	6243684	1598	454827		Gossanous blocky to laminated sandstone. Foliation 085/90. Minor finely disseminated pyrite.
161	425333	6243758	1587	454828	**X**	Shattered felsic tuff(?) or sandstone(?). Pervasively wearthered light brown. Difficult-to-find fresh pieces are cream colored. Non-calcareous. Sparse fine disseminated pyrite.
162	425275	6243790	1593	454829		Mylonite(?). Foliation 115/90. Width 0.9m. Gossanous, little visible pyrite, not calcareous.
163	425271	6243778	1591	454830	**X**	Medium grey tuffaceous sandstone. Moderately to strongly foliated 100/80N. Weakly gossanous, no visible pyrite, calcareous. Mylonitic appearance.
164	425244	6243766	1594	454831		Gossanous quartz vein (leached) in strongly foliated rock. Vein 25-40cm wide, 060/60N. Foliation 100/80N.

APPENDIX D

Waypoint and Sample Descriptions - Coates

Mackie Project Field Notes 2015 - B. Coates						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Sulphides**	**Comments**
Sept 2/15	Eastern claim block					
2	425215	6243053	1269			Ash tuff, non-magnetic, 5-7% Epidote stringers, pervasive Chlorite, Qtz fracture fills (3-5%x1-2cm) flat or very low East dip 1/10-20cm causing fractured blocky look, middle of 40m E-W outcrop
3	425114	6243111	1288			Ash tuff, non-magnetic, 2-3% Epidote on fractures, pervasive Chlorite, no Qtz fracture fills or veins, middle of main cliff, but discontinuous outcrop
4	425079	6243116	1287			Lapilli tuff, unsorted, clasts visible on weathered surface, E end contact, ash tuff further to E,
5	425067	6243123	1288			Lapilli tuff, W end contact, ash tuff further to W, with calcite fracture fills and vugs (2-3%x1-10cm) crumpled and discontinuous
6	424961	6243141	1294			Volcanic, vfgr, extremely fissile (@075/90 deg), schistose, very green, still with Calcite but no Epidote or Quartz
7	424912	6243159	1297			Volcanic, vfgr, extremely fissile, schistose rock, as above, is cut off by fault? (@030/90(?)deg) under crk, W of fault is massive Ash tuff with occasional flat Quartz veins
8	424767	6243306	1331			Ash tuff, massive but with slight cleavage and vertical lineation, with 1% flat Quartz veins or very shallow E dip
9	424665	6243287	1355		2-3% py	Argillite, vfgr, str fractured with siltstone beds, (3x0.8cm, @175/58W deg) and angular shards (rip up clasts?), at S end of morraine on a knoll that sticks out to the W
10	424717	6243372	1353		tr-1 py	Ash tuff, N edge of very fissile section about 12m thick (@110/70S deg), a second wker fabric (@165/55W deg) gives a lineation here at the intersection, but extends further into surrounding rocks, decreasing Epidote and Chlorite in this area
11	424634	6243546	1381	454851	7-10 py, diss, vfgr	Rhyolite dike, black, vfgr, siliceous, hard, concoidal fracture with possible Quartz eyes, hard to see where this goes
12	424670	6243497	1380		2-3% py	Argillite, vfgr, black, with laminations
Sept 3/15	Western claim block					
14	416548	6247809	1135		tr py	Monzonite, fresh, little altered, feldspar up to 3cm but mostly <1cm, Biotite fresh, occasional chlorite fractures with rusty haloes (~1cm), tracks now follow bottom of Monzonite cliff outcrop on N side of valley
15	416580	6247833	1158		NVS	Andesite dike, grey-green, vfgr, str magnetic, 2.5m thick (@160/80W deg), chilled against Monzonite, trace vesicles near middle
16	416633	6247822	1142		NVS	Small fault (1x1-3cm), (@045/65NW deg) with rusty FeCO3 and Chlorite, tracks still follow base of Monzonite cliff outcrop
17	416747	6247843	1145	454852	5% py, druzy	Silicified gouge and bx'd qtz (3x2-3cm), within 0.6m rusty fault (@010/90 deg), at base of Monzonite cliff outcrop
18	416786	6247867	1159		NVS	Monzonite, tracks now leave Monzonite cliff outcrop as outcrop follows side valley toward N
19	417030	6247909	1154		tr-1% py, tr mo	Monzonite, in creek, fractures (~1/20cmx3-4mm, @060 and 010/60NW deg) have chlorite +/- qtz/py on them, and occasional k-spar +/-mo alteration haloes (~1cm)
20	417034	6247890	1141	454853	1-2% py, cgr, tr mo? tr ccpy?	Granite dike(12B), grey/green, ~8m thick cutting Monzonite (@060 deg) with suphide and qtz on fracture coatings (1/20cm x 1cm)
21	417112	6248026	1195		1-2% py	Monzonite, talus near base of slope, outcrop above has strongest gossan in area but is E of claim boundary, otherwise rocks are similar to those at WPT19 but with more pyrite chlorite fractures and less K-spar +/- mo haloes
22	415983	6247397	1045		NVS	Monzonite, tracks follow base of Monzonite cliff outcrop from here down valley
23	415964	6247379	1036		NVS	Monzonite, tracks following mostly continuous Monzonite cliff outcrop, some Andesite dike rock is being shed from above
24	415916	6247356	1035		NVS	Monzonite, tracks following mostly continuous Monzonite cliff outcrop, some tight fractures (@ 060/70NW deg) have chlorite (no quartz/py) on them
25	415873	6247356	1042		NVS	Monzonite, with fracture set (@150/90 deg) forming waterfall, and an Andesite dike (see WPT15)(@025/90 deg) cut off to E by fracs in falls
26	415887	6247295	1018		NVS	Monzonite with Andesite dikes (1x15cm, 1x2cm), grey-green, vfgr, str magnetic, (@060/70NW deg), cut off to E by falls fracture set as above
27	415817	6247316	1031	454854	3-5% py/po, mgr, diss	Volcanic, drk green to black, very str silicified, near Monzonite contact
28	415835	6247316	1034		tr py	Monzonite, in small creek up and down for 10m at least
Sept 4/15	Western claim block					
29	417161	6245216	1362	454855	1-3% py, diss, tr po?	Volcanic, light yellow to very rusty, sheared and very str silicified, forms ~5x100m ridge (@170/70E deg)

Mackie Project Field Notes 2015 - B. Coates						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Sulphides**	**Comments**
30	417213	6245299	1364	454856	1-3% py, diss	Volcanic, light yellow to very rusty, similar to above, likely same structure, forms 50m long gulley (@180 deg) with variable shear/silicification especially near margins
31	417166	6245305	1362	454857	1-3% py diss	Rhyolite, flow banded, concoidal fracture, not sheared, light yellow and less rust, green volcanic next to it all along same ridgeline trend as above
32	417159	6245344	1354		3% py diss	Gabbro, massive, no shear, no silicification, mgr-cgr mafic rock
33	417205	6245365	1359		1-2% py diss	Volcanic, no shear, no silicification, fgr, green, wk cleavage E-W, outcrop extends toward E
34	417106	6245448	1318	454858	10% py, tr ccpy?, tr aspy?	Rhyolite, fgr, sugary textured, in sequence of foot wall mafic flow and black fgr ash tufff, and hanging wall of laminated interbedded argillite, south on same trend as above samples, distal VMS?
35	417096	6245519	1296		tr-1% py	Lapilli tuff, banded (1cm scale, stretched clasts?) with occasional small argillite laminations
36	417083	6245530	1290	454859	5-7% py, diss	Mylonite, extremely fgr, siliceous, rusty, laminated
37	417104	6245591	1282		1-2% py	Mafic tuff talus, shedding from ~100m long NE trending outcrop above, some rust and stronger cleavage (close to mylonite) at SW edge
38	417114	6245614	1280	454860	2-3% py, 2% aspy clots	Quartz boulder (~1x1m), very rusty, sugary quartz
39	417113	6245657	1272		tr py	Volcanic, massive, green, no cleavage, no silicification, outcrop uphill is same
40	417121	6245736	1253		2-3% py	Gabbro, massive, no shear, no silicification, mgr-cgr (2-5mm) mafic rock
41	417120	6245765	1240	454861	2-3% py	Breccia vein, angular Argilllite +/- py clasts (2-5cm x 20%) in white quartz > chlorite "matrix" showing as stockwork on O/C surface
42	417096	6245775	1233		tr py	Volcanic tuff, fgr, green, rounded outcrops, N-S fabric bedding/cleavage (stretched clasts?)
43	417201	6245785	1246		tr py	As above
44	417169	6245873	1183		tr py	As above
45	417056	6245862	1164		tr py	As above
46	416988	6246069	1092		1%py	Volcanic tuff, fgr, massive, green Chlorite altered, with 3%x1-2mm qtz stringers in all directions and a grey, vfgr dike (15cm wide) (@~000/90 deg)
47	417278	6246009	1144		3-5% py clots	Volcanic Intrusive hybrid "proto-gneiss", with felsic phases in Chlorite schist
48	417417	6245943	1171		3-5% py clots	As above
Sept 5/15	Western claim block					
50	417199	6246896	1386			Monzonite, as on North side of claim, rock garden of outcrops all around
51	417147	6246828	1370		3-5% py variably	Contact of Monzonite and Volcanics with fabric parallel to contact (@~100/70SW deg), traces of pink garnet in hornfels, and some quartz sweats
52	417121	6246838	1364		3-5% py variably	Picture facing N of irregular contact with dikes of Monzonite intruding volcanics and rusty pyrite rich contact rocks
53	417081	6246828	1361	454862	5-7% py, diss evenly	Monzonite, vfgr, sugary, wk rust, border phase at contact
54	417086	6246807	1354		2-3% py, diss evenly	Monzonite, vfgr, sugary, wk rust, border phase at contact (@~150 deg)
56	417042	6246798	1348		2-3% py, diss evenly	Monzonite, vfgr, sugary, wk rust, border phase at contact (@~150 deg)
57	417023	6246817	1352			Gabbro, with cleavage fabric (@80 deg) and 2x30cm mgr, Monzonite dikes perpendicular
58	417007	6246809	1349	454863	2-7% py, variable	Volcanic, very rusty, gossanous knoll, abundant chlorite alteration, possibly altered by nearby Granitic dike
59	417018	6246833	1351			Contact of Monzonite and Volcanics with fabric parallel to contact (@~115/90 deg), traces of pink garnet in hornfels, and some quartz sweats
60	416988	6246844	1337			Photo looking back at ontact at WPT59 with numerous outcrops of barren Monzonite to N
61	416911	6246805	1313	454864	3-5% py, diss evenly	Monzonite, vfgr, sugary, wk rust, border phase at contact, similar to WPT53 but with qtz stringers, all barren Granite to N
62	416936	6246886	1331			Linear gulley (@005/90? deg) probable fault
63	416865	6246891	1317			Monzonite along broad ridge to E of fault with tight fractures (@ 025-030/70NW deg) showing as ridges (1-3cm) of quartz k-spar rich material,
64	416808	6246889	1286			Volcanic, vfgr, dark green, unaltered, massive on cliff face of same ridge as above

Mackie Project Field Notes 2015 - B. Coates						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Sulphides**	**Comments**
65	416800	6246897	1278			Two or three major brittle faults here (@150/70W deg), (@~090/40S deg) (Volcanics on top) and the (@~005/~90? Deg) fault mentioned above at WPT62
66	416785	6246915	1262			Monzonite outcrop in middle of gulley, rusty, with 3x<10cm open space Quartz stringers (@005/80E deg)
67	416727	6246879	1235		NVS	Volcanic, fgr, green, str pervasive chlorite alteration, minor epidote along foliation (@~105/~90 deg), bottom edge of steep 25m outcrop
68	416708	6246861	1224		NVS	Volcanic, fgr, similar chlorite/epidote to above, and in addition 5%x<0.5cm quartz stringers (@150/90 deg), bit of a sharp 2-3m wide ridge here
69	416718	6246844	1225		NVS	Hybrid?, silicified, foliated, sugary, grey mottled volcanic with 1x1cm Granite diklet in middle
70	416694	6246787	1205		NVS	Monzonite, similar to WPT61 with quartz stringers (all angles and wormy <1cm), but no sulphides
71	416628	6246626	1151		NVS	Volcanic, fgr, green, pervasive chlorite alteration, along N-S ridge at top of old growth forest
72	416730	6246560	1155		NVS	Volcanic, fgr, green, pervasive chlorite alteration, similar to above but with 3-5%x<1cm quartz "sweats"
73	416737	6246545	1156		NVS	As above
74	416814	6246483	1151	454865	7-10% py clots, 0.5% aspy, vfgr	Volcanic, int silicified, grey, in small southern creek branch, 7m up from junction - 40 cm chip sample
75	416868	6246519	1167		tr py, 0.5mm clots	Sub-volcanic intrusive?, mod to str magnetic, mgr equigranular, above water spring at base of outcrop
76	416869	6246400	1129		NVS	Volcanic, fgr, green, pervasive chlorite alteration, as at WPT71, at edge of steep drop toward S
77	416885	6246313	1084		NVS	Volcanic, as above, at small creek and waterfall
78	416900	6246280	1088		1-3% py on fractures	Volcanic, massive, fgr, chlorite altered, fractured, very rusty, S end of same outcrop as below
79	416941	6246264	1098	454866	1-3% py on fractures	Volcanic, massive, fgr, chlorite altered, fractured, very rusty, N end of same outcrop as above (grab sampled across whole length), near 3m thick, grey, Dacite(?) Dike
80	416914	6246247	1081		1-3% py on fractures	Volcanic, as above
81	416878	6246179	1053		1-3% py on fractures	Volcanic, as above
82	417029	6246120	1093			Dacite dikes, grey, fgr, 4x3m thick with volcanics between, contacts (@145/85W deg), i.e. striking toward WPT79, rounded outcrops in creek, 3% quartz on fractures, fault gouge on some contacts up to 40cm so they may follow a larger fault.
83	416990	6246117	1082		3-5% py	Volcanic, fgr, chloritic, creek smoothing elucidates fabric (@~145/90 deg)
Sept 6/15	Eastern claim block					
84	424608	6243627	1387			Horneblende Porphyry, wk sheared
85	424608	6243679	1398	454867	tr py	Horneblende Porphyry, green, chloritic, wk gossanous, sheared (@115 and 90/90 deg) gives vertical lineation, with discontinuous quartz veinlets along shear/lineation (<5cm x 3-5%) but can't see this structure going anywhere
86	424596	6243726	1409			Horneblende Porphyry, wk sheared, continuous outcrop to here from WPT85
87	424599	6243748	1414			Horneblende Porphyry, rounded outcrop, no foliation, very wk gossan, 7-8% quartz "knots" often open space and flat
88	424601	6243782	1412	454868	tr py	Volcanic, green, chloritic, wk gossanous, sheared (@140 and 90/90 deg) gives vertical lineation, traces of quartz stringers, main shear is 30cm with blocky and rounded outcrops all around
89	424585	6243791	1411			Claim Post: Krystof Mastaler Tag#243948 (2004), CP David 4, S-3,E-6
90	424616	6243819	1418			Volcanic tuff, vfgr to occasional lapilli textured, yellow weathering rounded outcrops, pervasive chlorite and quartz stringers as 1/ discontinuous, blobbly, ~1cm veins (@160/~90 deg), with epidote haloes (<10cm), and 2/ straighter, more continuous (earlier?), 0.5-1cm flat or slight (i.e. 10 deg) E dipping veins with no epidote haloes
91	424641	6243909	1414			Volcanic tuff, as above, mostly vfgr (ash?), with both same quartz stringers, outcrop is 100m across and is a cliff above
92	424533	6243882	1361			Volcanic tuff, N end of bottom of cliff (~75m high and 75m wide), to S barely touches claim bloc for 35m and then is on claims for another 75m
93	424429	6243895	1308			Edge of Frank Mackie glacier, tracks follow ice edge though talus covers ~30-40m further west (see photo)

Mackie Project Field Notes 2015 - B. Coates						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Sulphides**	**Comments**
94	424405	6244398	1339			Four photos looking W, S, E, N
95	424298	6244854	1347			Tracks leave ice edge for outcrop
96	424404	6244876	1360		1%py	Talus on lateral moraine (glacier comes down from east), mostly siltstone/sandstone interbedded (~10cm scale) with laminated argillite and FeCO3 as bedding parallel stringers (5%x0.25cm) and pervasive gives gossan (graded bedding, flame, mud chip, sedimentary breccias and dike structures all highlighted by this alteration too, about 5-10% of talus are undeformed, volcanic conglomerate with clasts of rounded diorite (1-3cm)>subrounded volcanics>angular white quartz (2-10mm) supported in black (argillite) matrix - all from uphill and off claims
97	424513	6244939	1401			As above, photo of remnant lateral glacier with lateral morraines on N and S sides, outcrop at base of cliffs is E of claim boundary
98	424241	6245377	1418			Argillite, typical laminations, minor siltstone (@~160/20E deg), at bottom of very tall cliff and E edge of claims
99	424212	6245461	1413			Volcanic, greenish grey, fgr, rounded or smooth outcrop very massive, same cliff as above, but no access between to examine contact
100	424208	6245489	1419			As above, outcrop (cliff) continues about 10m further N then only moraine
101	424190	6245825	1455			Volcanic tuff, conglomerate, greenish grey, fgr, mostly smooth or rounded, occasional angular argillite? clasts visible on weathered surface, 1-2%x2cm quartz stringers at all angles, S end of another cliff along the E claim boundary
102	424187	6245849	1455			Volcanic tuff, conglomerate, with rounded argillite and other volcanic clasts visible supported by green, fgr tuff matrix, no bedding visible, but possibly some stretching?
103	424177	6245886	1453	454869	NVS	Sandstone, with occasional clasts up to 1cm, pervasive FeCO3 causes strong gossan, random chips from 5 boulders
104	424199	6245882	1467	454870	3-5% po, diss	Rhyolite dike, black, vfgr, very hard, siliceous, concoidal fracture, ~3-4m thick (@100/90 deg)
Sept 7/15	Eastern claim block					
105	424186	6245913	1463	454871	tr py?	Volcanic tuff/conglomerate, rounded clasts up to 2-3cm, variably silicified, FeCO3 and CaCo3 veining and alteration, some with epidote alteration haloes up to 20cm
106	424185	6245926	1461	454872	tr py?	Volcanic tuff/conglomerate, likely similar to above but here sheared, variably silicified, with FeCO3 and CaCo3 veining and alteration, sampled under ice shelf - chipped across 30cm
107	424209	6245934	1474	454873	tr py?	Shear/breccia vein filled with FeCO3 - chipped across 20cm
108	424189	6245965	1467			Volcanic Conglomerate, clast supported, unsorted, unbedded, unstretched heterolithic (but mostly volcanic) clasts (<1-15cm), no FeCO3 or epidote alteration or gossan, wk chlorite, no foliation, outcrop continues 25m N and 25m E
109	424214	6246034	1480			Sharp contact (@065/065NW deg) of fgr purplish brown siltstone/tuff with cgr Volcanic Conglomerate (as above), with FeCO3 on contact (fault?) and as alteration extending <2m into cgr Conglomerate, and flat or slight E dipping CaCO3 veins in the fgr tuff
110	424208	6246061	1479			Volcanic tuff, fgr, massive, light green, pervasive chlorite and epidote altered, with no veins or shearing
111	424213	6246076	1483			Siltstone, with occasional Argillite clasts, and 1x15cm rounded Sandstone clast, with wormy chlorite/CaCO3 "veins" after autobrecciation, at bottom of O/C going up 100m on steep, slippery slope
112	424219	6246101	1488			As above, but with more Argillite clasts, and less autobrecciation, more massive but finely shattered
114	424221	6246099	1490			Rhyolite dike, slight purplish dark grey, very fgr, very hard, siliceous, fractured throughout, ~3m thick
115	424222	6246141	1497			Volcanic tuff, green to tan color, fgr, massive rounded outcrops with CaCO3 extention gash veins, striking @180 deg dipping both flat to shallow (10deg) and steep E
116	424230	6246145	1501			Volcanic tuff, as above, but here with Argillite clasts (5%x<2cm), and 1x10cm Limestone clast
117	424249	6246188	1512	454874	1-2% py, diss	Rhyolite dike, black, very fgr, very hard, siliceous, fractured throughout, ~5m thick (@~090/90 deg), weathered surface light grey, hairline brittle fractures and larger straighter fractures filled with black chlorite, hornfelsed black Argillite to N for 30-40cm
118	424281	6246198	1531			Volcanic Conglomerate, clast supported, unsorted, unbedded, unstretched heterolithic (but mostly volcanic) clasts (<1-15cm), no FeCO3 or epidote alteration or gossan, wk chlorite, 5% flat to shallow E dipping CaCO3 gash veins, photo is of FeCO3 altered clasts and veins in argillite matrix, similar to WPT108
119	424317	6246208	1548			Sedimentary Conglomerate, Sandstone/Siltstone with occasional argillite clasts <20-30cm that themselves contain clasts of siltstone <2-3cm (autobrecciation), outcrop just N of E-W glacier at S end and bottom of cliff near claim boundary
120	424412	6246466	1574			Talus field, 2/3 laminated and massive Argillite (52B) and 1/3 Siltstone/Sandstone (53B) (most of which is angular to subrounded pebble conglomerate), heterolithic, non bedded

Mackie Project Field Notes 2015 - B. Coates						
Station	**Easting**	**Northing**	**Elevation**	**Sample**	**Sulphides**	**Comments**
121	424506	6246417	1630			Argillite and Siltstone, laminated and interbedded (@150/90), tops W by graded bedding, 5%x<10cm oblong rounded clasts of argillite, bottom of cliff outcrop at E property boundary
122	424482	6246575	1594			As above, base of very large cliff outcrop continuous with, but off claim to E, between here and WPT121
123	424491	6246615	1598			As above, tracks trace bottom of of cliff outcrop, more Argillite along the way, with FeCO3 breccias uphill not accessable
124	424432	6246812	1563			Volcanic tuff, fgr, green, rounded outcrop, chlorite/epidote altered, no argillite, base of cliff outcrop which goes at same elevation for about 100m N of this and then goes uphill to property boundary
Sept 9/15	Eastern claim block					
125	425656	6243759	1645			Volcanic Agglomerate, globby, with irregular voids between "clasts" (5-7%), here and to the NE corner of claims, also a small (20-50cm) brittle, grey, fgr, late, Andesite Dike, both vessicular and amygdaloidal with sharp but wormy contacts (@090/60N deg)
126	425643	6243702	1625			Contact of Volcanic Agglomerate and Granitic Dike (upper edge) (@135/40SW deg), cleavage parallels contact
127	425671	6243668	1615			Contact of Volcanic Agglomerate and Granitic Dike (upper edge) (@135/70SW deg), about 12m thick
128	425673	6243555	1588			Volcanic Agglomerate, as above, but here with a Limestone bed (15cmx3m) (@115/90 deg) which doesn't apppear stretched or deformed - original bedding?
129	425679	6243517	1562			Gulley, narrow, barren, but persistent - probable structure (@~100-110 deg), photos to E and W
130	425667	6243515	1563	454875	1-2% py, vfgr, diss	Volcanic agglomerate, pink and green colored, sampled at south edge of gulley (edge of probable structure @110 deg), non-magnetic, mod foliated
131	425622	6243521	1566	454876	5-7% py, po?	Volcanic agglomerate, str schistose, silicified and sheared, many clasts have black horneblende(?) in blueish siliceous matrix, variably magnetic, weathers white (no gossan, no rust, round greenish Olivine(?)
132	425568	6243484	1561	454877	Probably some py	Volcanic Agglomerate, str schistose fabric (@~100/90 deg) containing some rusty quartz, schistosity continues for about 20m downhill
133	425521	6243471	1550			Gulley, narrow, barren, but persistent - probable structure (@~125 deg), photo to W
134	425440	6243472	1554			Gulley, with str shear fabric <8m wide, intersects another (@075 deg), all Sandstone in this area,photo to E, follow tracks for intersection of structures.
135	425699	6243343	1441			Sandstone, with occasional Argillite clasts up to 1cm, no gossan, no shearing, follow tracks
136	425660	6243314	1432			Sandstone, or fgr tuff, outcrop ~40m wide follows ridge (@110 deg), no shearing or structural overprint
137	425646	6243276	1422			As above
138	425664	6243215	1381			Sandstone or fgr tuff, similar to above, no shearing or structural overprint, all rounded outcrops, small gulley (@125/90 deg), but with outcrop to E