TECHNICAL REPORT
on the
MCKENZIE ISLAND PROJECT, RED LAKE, ONTARIO
Prepared for
CROWN GOLD CORPORATION

Report for NI 43-101

Prepared by
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Date
DECEMBER 30, 2013

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3.0 Summary

This technical report details the work undertaken by Crown Gold Corporation between 2010 and 2012 on a group of Patent mining claims on the south central portion of McKenzie Island, Red Lake, Ontario. This report will replace the current technical report filed, "Technical Report on McKenzie Island Project, Red Lake, Ontario, by D. George Cargill, dated May 30th 2010. The effective date of this report is December 30th 2013.

The property is located in the Dome Township of the Red Lake mining district and is comprised of 6 Patent mining claims totaling approximately 100 Hectares, (Table 1. Patent Details). Crown Gold Corporation optioned the claims from Timore Resources in 2009 and assumed title on December 20th 2013 having met the terms of the option agreement. Timore Resources retains the rights to a three percent (3%) Net Smelter Return (NSR) royalty. Surface rights remain the property of Obisco Red Lake Inc., excepting three privately owned cottage lots along the shoreline of Patent KRL 11390, (Figure 4. Cottage Lots within Patent Claim Group (source: Cargill Technical Report 2010)).

The property lies in the Red Lake greenstone belt which is located in the Uchi Subprovince of the Archean age Superior Province and is underlain by the felsic intrusive rocks of the Dome Stock which contains inclusions of felsic meta-volcanic rocks and intermediate to felsic, intrusive rocks. Dykes ranging from gabbroic to granodiorite in composition dated at 2800-2600 Ma (mega-annum) have filled shrinkage cracks and structural weakness associated with the Dome Stock emplacement. Quartz veining, often auriferous has in many instances channeled along these pathways.

The auriferous quartz vein focused on in the project area occurs in a shear zone striking across Patent claim KLR 11419 at an azimuth of 160/340 and dipping to the north east at approximately 70 degrees. This vein referred in Ministry of Northern Development and Mines Mineral Deposit Inventory as the MacAndrew Prospect occurs in a shear zone referred to as "Bishops Break" by the Author in this report.

Following the completion of geophysical work referred to in Cargill's report, Crown contracted the Author to undertake a channel sampling program followed by a three phase drilling program with targeting augmented by soil gas hydrocarbon and soil sampling surveys. Channel sampling and drilling focused on establishing the geometry of the auriferous mineralization of the Bishop's Break vein both along strike and down dip.

The distribution of gold mineralization encountered in the vein defines a higher grade envelope raking slightly to the north east, (Figure 33. Long Section with 2010-2012 Intersects Contoured). Deep drilling established continuity of the Bishop's Break shear to over 1000 meters below surface and confirmed the existence of a parallel shear zone with similar lithology sub-cropping approximately 300 meters to the north east of Bishop's Break. It is the Authors interpretation that the Bishop's Break structure encountered on the property extends north west across the extent of the property and also extends across the Dome Stock to the south east and represents the same structure that the Red Lake Gold Shore Mines veins 3 and veins 1 & 2 are associated with, (Figure 10. Projection of Bishop's Break Across Red Lake).

In the Authors opinion this property remains highly prospective for the following reasons;

1. **The perimeter of the Dome Stock which cuts through the property is a proven "mine maker", (Figure 13. Gold Deposits in the Red Lake Area).**
2. **The Bishop's Break vein has proven to have auriferous zones with two higher grade zones primarily defined, (Figure33. Long Section with 2010-2012 Intersects Contoured).**
3. **The Bishops Break structure has been proven to extend beyond 1000 meters below surface, (Figure 32. SW NE Section with 2012 Drilling and Best Holes of 2010 & 2011).**
4. **A parallel system has been discovered 300 meters east of Bishops Break, (Figure 32. SW NE Section with 2012 Drilling and Best Holes of 2010 & 2011).**
5. **Minimal stripping has been completed north westwards along Bishop's Break geophysical trace, (Figure 18. Project Area Stripping and Road Works).**
6. **No stripping has been undertaken on the newly discovered parallel system.**
7. **The majority of drilling on the property to date has been relatively shallow in the 50-100 meter range, excepting MK-12-36. This is exceptionally shallow in the regional exploration perspective, ie. the Broulan Reef Project to the east of the project area where drill targets exceed 2000 meters depth.**

The Author recommends the continuation of the exploration program in two phases totaling a cost of approximately $262,550. The first phase would entail surface stripping to locate the sub-crop of the newly discovered parallel "Bishop's Break" type lithology to the east. Additional stripping along strike of Bishop's Break to the north west is included in this phase. Based upon channel sampling results in stripped areas a continuation of exploration drilling is recommended as the second phase of continued exploration focusing on either the extension of Bishop's Break along strike and down plunge or the secondary system to the east depending upon which appears the most prospective in any given locations and returns the best channel assays.

4.0 Introduction

This Technical Report has been prepared for Crown Gold Corporation, (TSX-V:CWM) , 401 Bay Street, Suite 2828, Toronto, Ontario, M5H 2Y4, for the purpose of filing a current technical report in accordance with NI 43-101 guidelines describing the geology, exploration history and mineral potential on their Patent claims on McKenzie Island, Red Lake, Ontario. The effective date of this report is December 30th 2013. This report will replace the current technical report filed, namely the "Technical Report on McKenzie Island Project, Red Lake, Ontario, Prepared for Crown Minerals Inc. Report for NI 43-101 by D. George Cargill, Ph.D., P.Eng. Consulting Geological Engineer Cargill Consulting Geologists Ltd., Suite 501, 55 University Ave., Toronto, On M5J 2H7 Canada", dated May 30th 2010.

All sampling and drill programs completed between July 2010 and November 2012 on the McKenzie Island property have been planned, implemented, directly supervised and reported by the Author as the designated Qualified Person. Assays were processed and reported by SGS Laboratory, Red Lake, Ontario and an SGH (Soil Gas Hydrocarbon) survey was assayed and interpreted by Dale Sutherland of Actlabs, Ancaster, Ontario. Geophysical interpretation was completed by Frank Jagodits of Toronto, Ontario. The Author has personally inspected the property and been present during each phase of exploration completed by Crown Gold Corporation between July 2010 and October 2012.

List of Abbreviations

Units of measurement used in this report conform to the SI (metric) system. All currency in this report is Canadian dollars (CN$) unless otherwise noted.

Ag	Silver	mg	milligrams
Au	Gold	mm	millimeters
Az	Azimuth	MDI	Mineral Deposit Inventory
°C	degrees Celsius	MNDM	Ministry of Northern Development and Mines
cm	centimeters	NI 43-101	National Instrument 43-101 (The Instrument)
dm	decimeters	NSR	Net Smelter Return
°F	degrees Fahrenheit	nT	nanotesla
Ga	billion years	OGS	Ontario Geological Survey
g/t	gram per tonne	opt	ounces per ton
Ha	hectare	oz	Troy ounce (31.1035g)
incl.	including	PPB	parts per billion
kg	kilograms	PPM	parts per million
l	liters	t	metric tonne
m	meters	T	Imperial ton
Ma	million years	µg	Microgram

5.0 Reliance on Other Experts

In the preparation of this report the Author has relied upon data attained from the following sources;

1. Crown Gold Corporation, specifically in reference to the title of the Patents and the contracted agreement between Timore Resources and Crown Gold Corporation.
2. Reference has been made from the current technical report on the property by Cargill Consulting in regard to land tenure and commitments which according to Crown Gold Corporation have been fulfilled as of the effective date of this report.
3. Geophysical survey data compiled by EXSICS Exploration Limited, Timmins, Ontario was provided to the Author by Crown Gold Corporation.
4. Geophysical interpretation was completed by Frank Jagodits of Toronto, Ontario.
5. Soil Gas Hydrocarbon data and interpretation was provided by Dale Sutherland of Actlabs, Ancaster, Ontario and his entire report is included as an appendix as per condition of publication of data from Actlabs.
6. Surface mapping of the southern portion of the Bishops Break stripped exposure was completed by Bob Kuehnbaum, P.Geo..
7. All assay reporting was completed by SGS Laboratory, Red Lake, Ontario excepting ICP analysis which was completed at SGS Laboratory, Lakefield, Ontario.

6.0 Property Description and Location

The property is located west of the Town of Red Lake in north western Ontario, (Figure 1. Red Lake, Ontario). The Patent mining claim group is located in the Dome Township of the Red Lake Mining District on McKenzie Island and comprises an area totaling approximately 100 Ha (hectares) and is outlined in blue, (Figure 2. Red Lake Area), and Patent details listed, (Table 1. Patent Details).

Crown Gold Corporation optioned the claims from Timore Resources in 2009 and assumed title on December 20th 2013 having met the terms of the option agreement. Timore Resources retains the rights to a three percent (3%) Net Smelter Return (NSR) royalty. Crown shall have the right to purchase half (or 1.5%) of the NSR royalty by paying Timore Resources one million dollars ($1,000,000). Surface rights remain the property of Obisco Red Lake Inc., excepting three privately owned cottage lots along the shoreline of Patent KRL 11390, (Figure 4. Cottage Lots within Patent Claim Group (source: Cargill Technical Report 2010)).

For the purpose of this report, the Author has relied on ownership information provided by Crown Gold Corporation. The Author has not researched property title or mineral rights for the McKenzie Island Project and expresses no opinion as to the ownership status of the property. Except for the purposes legislated under provincial securities laws, any use of this report by any third party, is at that party's sole risk.

The project access road originates at the shoreline landing point on McKenzie Island at NAD83 UTM coordinates 15U 439310mE, 5655925mN, which is centrally located on the southern boundary of Patent KRL 11419, (Figure 18. Project Area Stripping and Road Works). The property boundaries are delineated by traditional cut line and post staking however the overgrowth has removed any signs of the original cut lines. The Author did note some old claim posts within and bounding the property however GPS positioning was relied upon for boundary confirmation. The property is randomly pocketed with exploration trenches and pits most likely originating in the 1930's while stripping and diamond drilling was being undertaken by MacAndrew Gold Mines on the NNW striking auriferous quartz vein that cuts across Patent KRL 11419.

Figure 1. Red Lake, Ontario

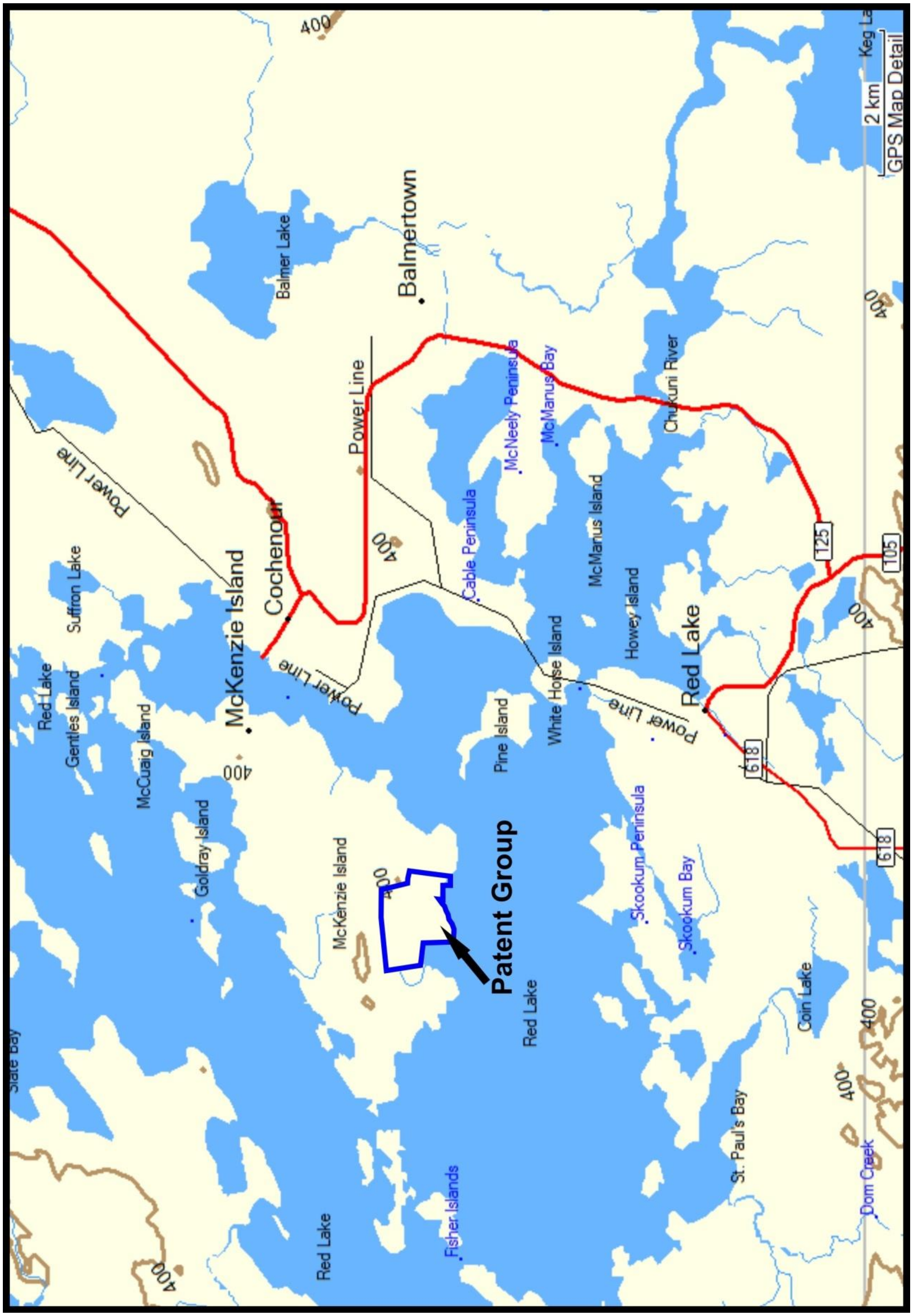


Figure 2. Red Lake Area

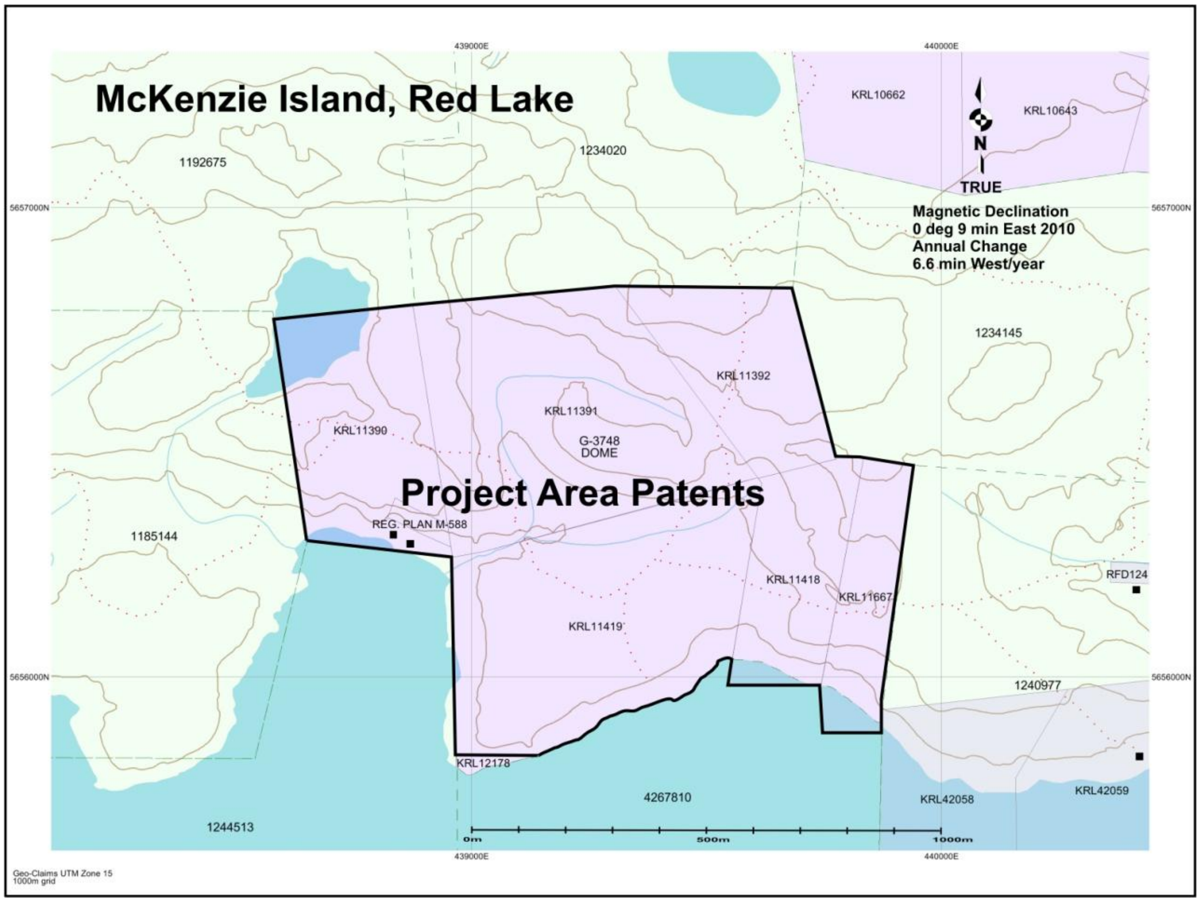


Figure3 . Project Area Patents

Claim	Township	Parcel Number	Ha	Taxes
KRL11390	Dome	3177PDF	15.09	$53.87
KRL11391	Dome	3178PDF	27.28	$110.42
KRL11392	Dome	3179PDF	10.9	$44.13
KRL11418	Dome	3180PDF	8.98	$33.23
KRL11419	Dome	3181PDF	30.34	$104.88
KRL11667	Dome	3182PDF	7.44	$25.53
Total			**100.03**	**$372.06**

Table 1. Patent Details

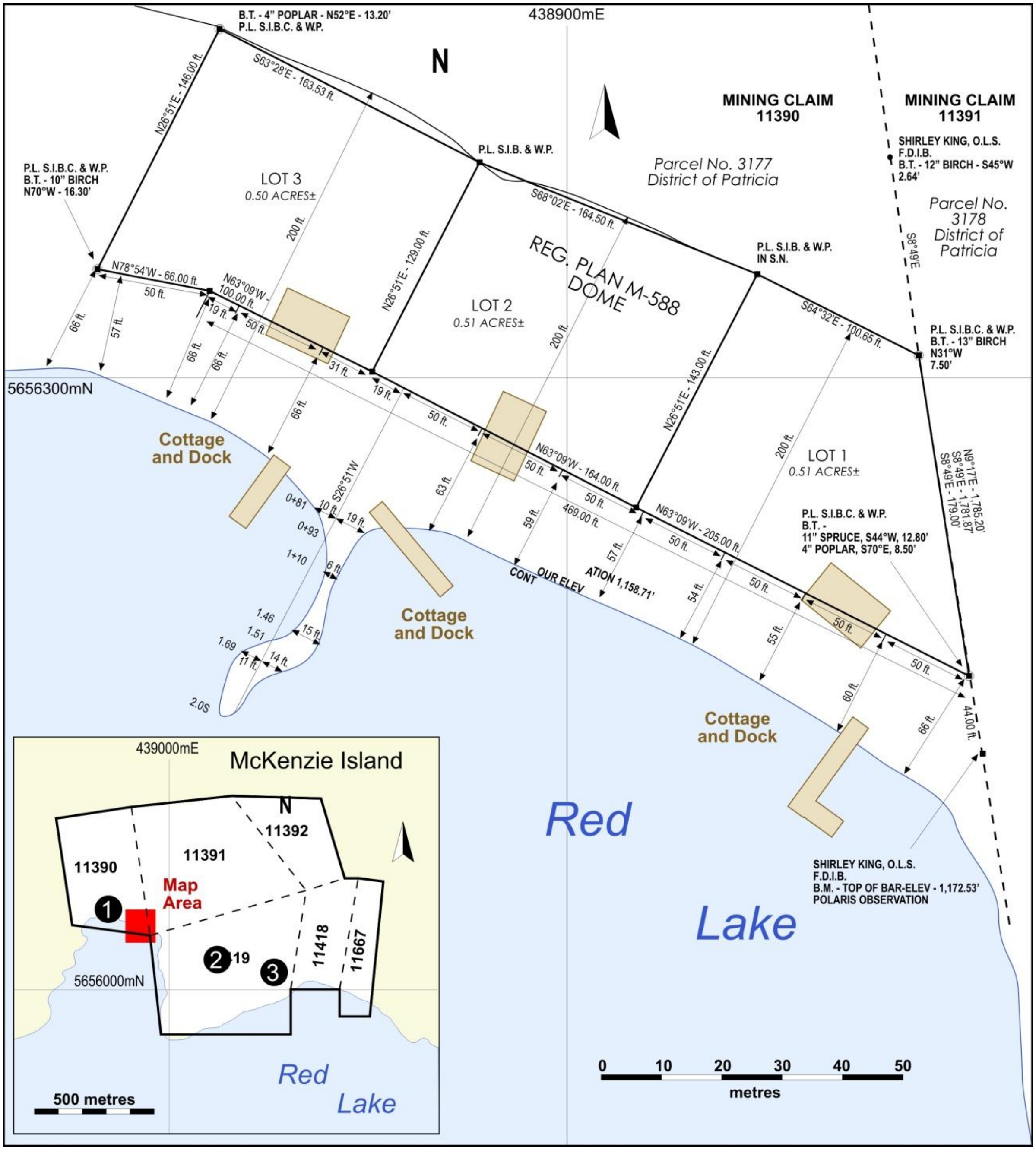
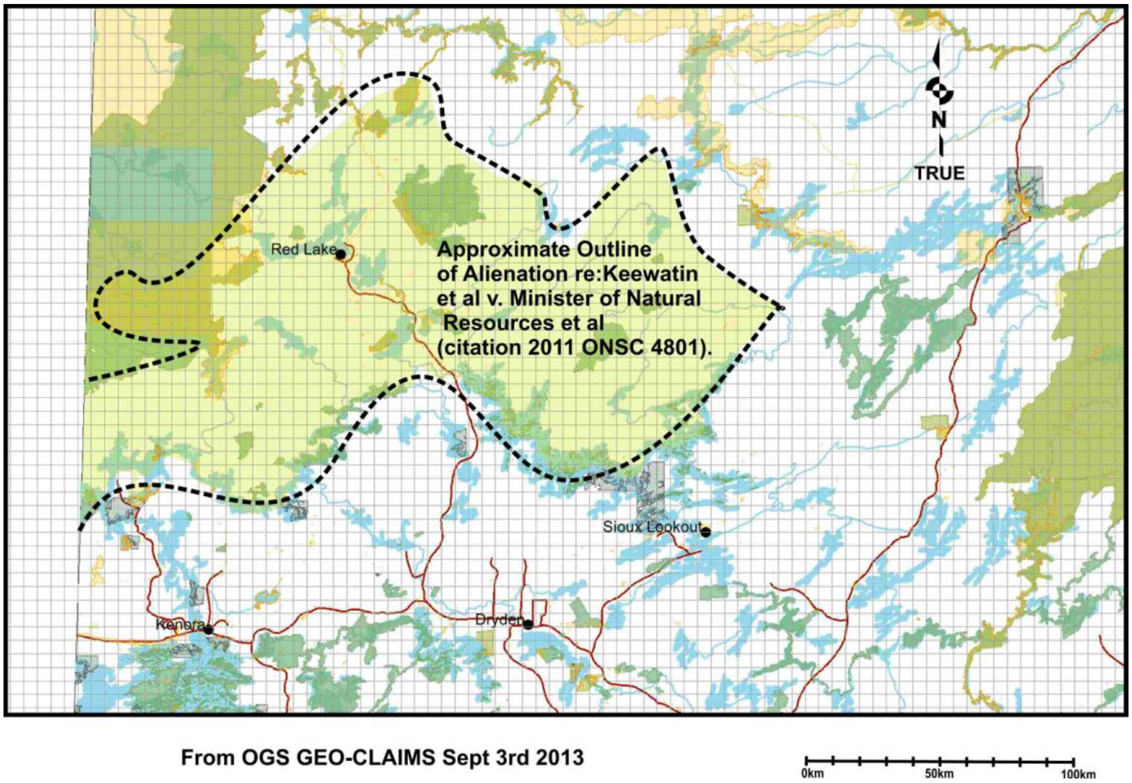


Figure 4. Cottage Lots within Patent Claim Group (source: Cargill Technical Report 2010)

To the best knowledge of the Author there are no known environmental liabilities to which the property is subject. Work to date by Crown Gold Corp. on the property has been of minimal environmental impact and no equipment or materials have been left on site excepting capped collars at drill sites and warning signs and flagging near cleared or pitted areas.

As of April 2013 amendments to the Mining Act require that low impact early exploration activities require an Exploration Plan and low to moderate impact early exploration activities require an Exploration Permit. As the project area is within Patent mining claims, permitting was not required prior to this date. Future work recommended will require application for an exploration permit in accordance with current legislation which will include notice and pre-consultation with First Nations groups and the titled surface rights owner.

A recent Ontario Supreme Court Decision has created a staking alienation across much of the Kenora and Red Lake Mining Districts, (Figure 5. Keewatin Area Alienation Notice). As noted, Ontario and other parties are in the process of appealing the trial decision, the effect of which has been suspended by a stay pending a decision from the Ontario Court of Appeal.



From OGS GEO-CLAIMS Sept 3rd 2013

Notice Regarding Staking and Mineral Exploration Activity in the Keewatin Area *"On August 16, 2011, the Ontario Superior Court of Justice released a trial decision in the case of Keewatin et al v. Minister of Natural Resources et al (citation 2011 ONSC 4801). Among other matters, the case involves a challenge to Ontario's ability to authorize land uses in an area that was added to the province in 1912 (the "Keewatin Area"). Ontario and other parties are in the process of appealing the trial decision, the effect of which has been suspended by a stay pending a decision from the Ontario Court of Appeal. We are bringing the decision to your attention as this location falls within the Keewatin Area. Before staking a mining claim and/or pursuing mineral exploration activity in the Keewatin Area, you are encouraged to obtain independent legal advice regarding any possible effect this litigation may have on your rights."*

Figure 5. Keewatin Area Alienation Notice

7.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Red Lake is approximately 180 kilometers northwest of Dryden and can be accessed by provincial Hwy 105 which begins at the Trans Canada Hwy just east of Vermillion Bay. Red Lake is currently a producing mining community with a well established infrastructure, labour pool and year round rail road and air access. Red Lake has commercial air service from Thunder Bay and Winnipeg. Spring to fall access to the property can be attained by boat or commercial ferry to McKenzie Island's north east shoreline and quad or foot access along roads and cross country ski trails. Access to the property in winter was enabled by establishing an ice road from St. Paul's Bay landing in the town of Red Lake, (Figure 6. Ice Road Access to McKenzie Island). The topography is gently sloping with occasional small ridges and scarp faces in the magnitude of one to five meters height. Elevation ranges from around 345 meters AMSL (above mean sea level) at the Red Lake shoreline to nearly 400 meters AMSL towards the northern portion of the property.

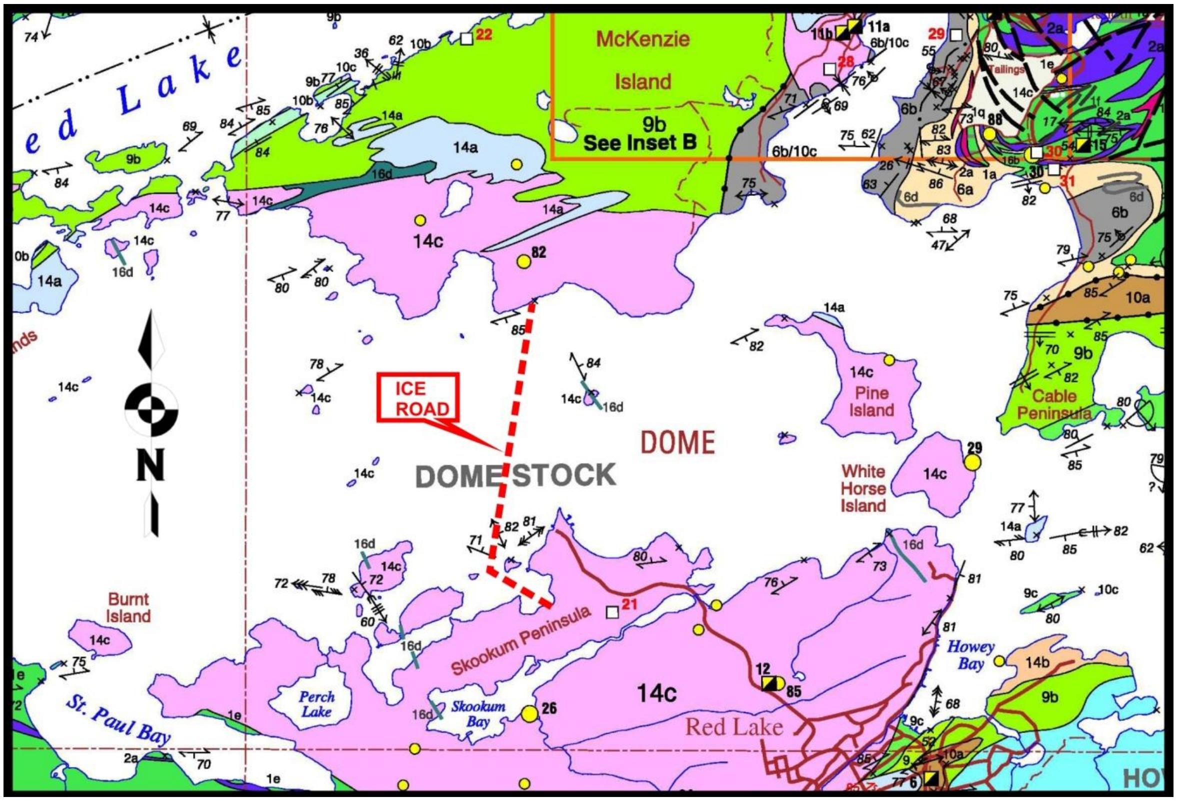
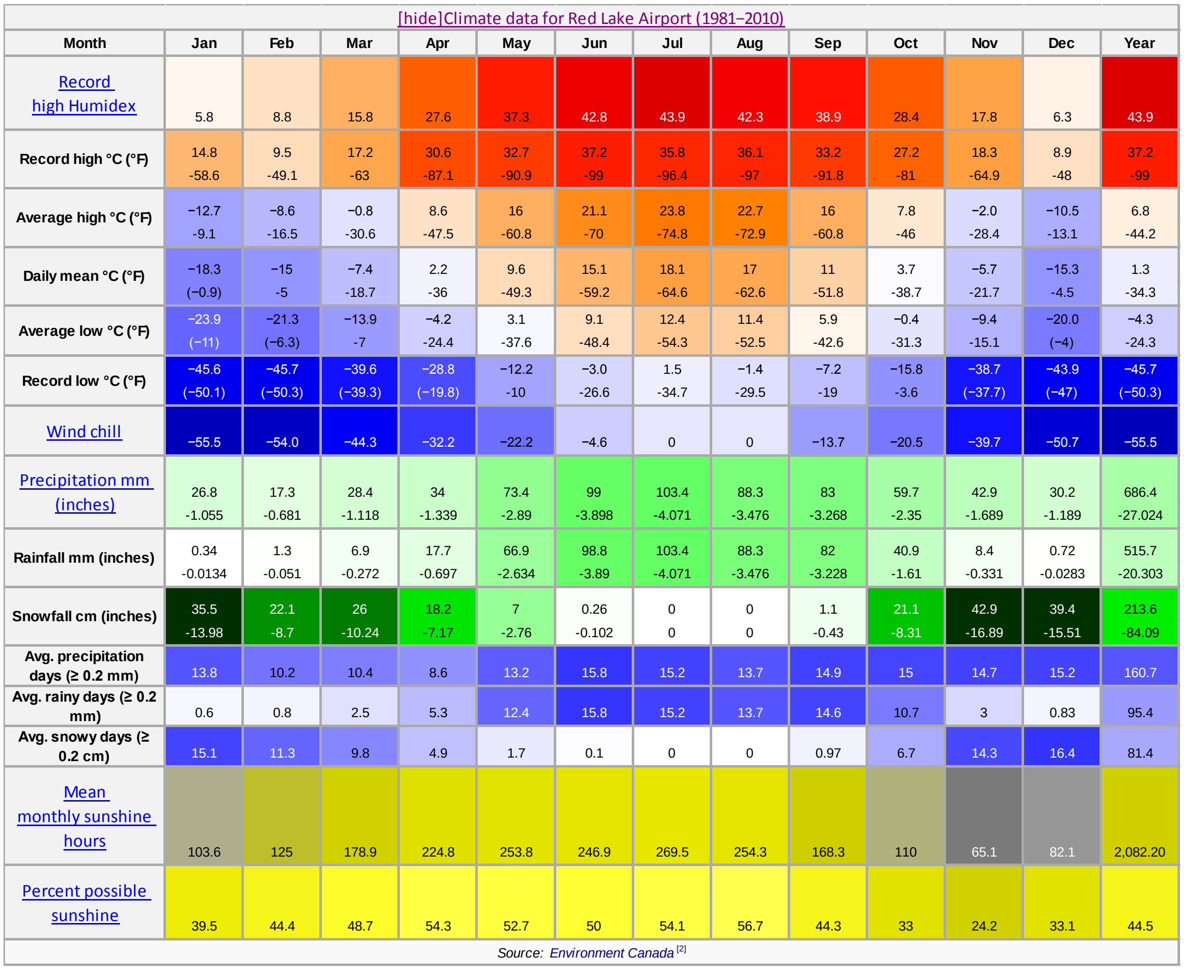


Figure 6. Ice Road Access to McKenzie Island

There are numerous perched swamps or beaver marshes across the property which tend to be densely forested with cedar. Gently to moderate sloping areas are moderately to densely forested with poplar, spruce and fir trees. Glacially polished outcrops are moss covered and meter scale erratic boulders occur across the property. Poorly sorted cobble till and sand fill low lying areas with thicknesses up to 25 meters encountered in drilling, humus cover varies from a few centimeters to decimeters.

Any planned exploration programs need to take into consideration the weather conditions in regard to planning and implementation. Winters can be extremely harsh with white out conditions common, particularly on ice roads. Warm summer afternoons on a calm Red Lake can turn into a gale with 2 meter waves with little forewarning. The climate data collected by Environment Canada at the Red Lake Airport between 1981 and 2010 is shown below, (Table 2. Climate Data Red Lake Airport 1981-2010). Ice starts forming on Red Lake in late November to early December and the ice roads are usually passable by mid January. The ice is usually clear from the lake by late April to early May.

As the property surface rights are currently owned by the same entity who will retain a share of the NSR, the Author cannot anticipate any hindrance to surface access for exploration or potential development. The proximity of old mine sites on McKenzie Island north east of the property holds potential for processing, waste disposal and tailing storage areas.



[hide]Climate data for Red Lake Airport (1981–2010)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high Humidex	5.8	8.8	15.8	27.6	37.3	42.8	43.9	42.3	38.9	28.4	17.8	6.3	43.9
Record high °C (°F)	14.8 -58.6	9.5 -49.1	17.2 -63	30.6 -87.1	32.7 -90.9	37.2 -99	35.8 -96.4	36.1 -97	33.2 -91.8	27.2 -81	18.3 -64.9	8.9 -48	37.2 -99
Average high °C (°F)	−12.7 -9.1	−8.6 -16.5	−0.8 -30.6	8.6 -47.5	16 -60.8	21.1 -70	23.8 -74.8	22.7 -72.9	16 -60.8	7.8 -46	−2.0 -28.4	−10.5 -13.1	6.8 -44.2
Daily mean °C (°F)	−18.3 (−0.9)	−15 -5	−7.4 -18.7	2.2 -36	9.6 -49.3	15.1 -59.2	18.1 -64.6	17 -62.6	11 -51.8	3.7 -38.7	−5.7 -21.7	−15.3 -4.5	1.3 -34.3
Average low °C (°F)	−23.9 (−11)	−21.3 (−6.3)	−13.9 -7	−4.2 -24.4	3.1 -37.6	9.1 -48.4	12.4 -54.3	11.4 -52.5	5.9 -42.6	−0.4 -31.3	−9.4 -15.1	−20.0 (−4)	−4.3 -24.3
Record low °C (°F)	−45.6 (−50.1)	−45.7 (−50.3)	−39.6 (−39.3)	−28.8 (−19.8)	−12.2 -10	−3.0 -26.6	1.5 -34.7	−1.4 -29.5	−7.2 -19	−15.8 -3.6	−38.7 (−37.7)	−43.9 (−47)	−45.7 (−50.3)
Wind chill	−55.5	−54.0	−44.3	−32.2	−22.2	−4.6	0	0	−13.7	−20.5	−39.7	−50.7	−55.5
Precipitation mm (inches)	26.8 -1.055	17.3 -0.681	28.4 -1.118	34 -1.339	73.4 -2.89	99 -3.898	103.4 -4.071	88.3 -3.476	83 -3.268	59.7 -2.35	42.9 -1.689	30.2 -1.189	686.4 -27.024
Rainfall mm (inches)	0.34 -0.0134	1.3 -0.051	6.9 -0.272	17.7 -0.697	66.9 -2.634	98.8 -3.89	103.4 -4.071	88.3 -3.476	82 -3.228	40.9 -1.61	8.4 -0.331	0.72 -0.0283	515.7 -20.303
Snowfall cm (inches)	35.5 -13.98	22.1 -8.7	26 -10.24	18.2 -7.17	7 -2.76	0.26 -0.102	0 0	0 0	1.1 -0.43	21.1 -8.31	42.9 -16.89	39.4 -15.51	213.6 -84.09
Avg. precipitation days (≥ 0.2 mm)	13.8	10.2	10.4	8.6	13.2	15.8	15.2	13.7	14.9	15	14.7	15.2	160.7
Avg. rainy days (≥ 0.2 mm)	0.6	0.8	2.5	5.3	12.4	15.8	15.2	13.7	14.6	10.7	3	0.83	95.4
Avg. snowy days (≥ 0.2 cm)	15.1	11.3	9.8	4.9	1.7	0.1	0	0	0.97	6.7	14.3	16.4	81.4
Mean monthly sunshine hours	103.6	125	178.9	224.8	253.8	246.9	269.5	254.3	168.3	110	65.1	82.1	2,082.20
Percent possible sunshine	39.5	44.4	48.7	54.3	52.7	50	54.1	56.7	44.3	33	24.2	33.1	44.5

Source: *Environment Canada* [2]

Table 2. Climate Data Red Lake Airport 1981-2010

8.0 History

The earliest work known to the Author to be completed on the property was reported by John W. Shaw in 1934 pertaining to trenching and diamond drilling undertaken by MacAndrew Red Lake Gold Mines Ltd., Ministry of Northern Development and Mines (MNDM) assessment file 52N04SW007963.4070 DOME TWP. In this report Shaw refers to Ontario Government Geologist classification geology underlying the property as being granite so an earlier visit and mapping is indicated. Drilling completed by MacAndrew Red Lake Gold Mines Ltd. has been tabulated by G. Cargill in his 2010 report and is included below detailing the best intersects of 6 of 15 holes completed, (Table 3. Historic Drilling Results (NI 43-101 non-compliant)). This drilling and associated assay result are considered non-compliant by NI 43-101 reporting standards. Cargill has converted the results reported in dollars per ton gold to g/t Au using a value of one troy ounce being equivalent to $20.00. Cargill used 1 oz/ton as 34.2857 grams/tonne and 1 foot as 0.3048 meter. The meaning of vertical depth is assumed to be the vertical depth as measured on a cross section. The meaning of width is undefined, being either the measured intercept or an estimated horizontal thickness.

BH #	Depth m	Width m	Au g/t
3	3.4	3.3	23.3
3	4	0.3	47.3
4	6.4	2.2	5.9
7	27.4	1.2	43.2
1	4.3	0.9	11.7
1	6.1	1.3	8.1
1	6.4	1.9	7.3
5	4.3	0.9	8.2
6	5.8	0.5	7.5
6	6.7	0.6	3.4

Table 3. Historic Drilling Results (NI 43-101 non-compliant)

Work during the 1930's focused on the N25W striking quartz vein in the central portion of KRL 11419, referred to in this report as Bishop's Break and in the Ontario Ministry of Northern Development and Mines (MNDM) Mineral Deposit Inventory as the MacAndrew Prospect. There was also a limited focus with some trenching and three diamond drill holes on an east west trending shear in the southern portion of KRL 11390 referred to in Cargill's report as the MacAndrew's Trend. MNDM assessment files indicate that 26 holes were drilled totalling approximately 1500 meters by MacAndrew Red Lake Gold Mines Ltd. between 1934-1936. Atkinson's 1994 Ontario Geologic Survey open file report 5878 reports geologic mapping undertaken by Gold Fields Canada Mining

Ltd. in 1981-1982, however the property is listed as idle from 1936-1982 with no assessment work filed. Atkinson's 1993 Open File Map 231 also displays the trenching on the MacAndrew Prospect. There is no current work since 1982 filed on the MNDM assessment system. There is record of work on the MDI database which includes Cargill's NI 43-101, sample collecting, grid cutting, geophysics and the channel sampling that are detailed in this report.

The MDI Exploration history notes the MacAndrew's Prospect are as follows;

> *"15/03/2012- 1934-1936: MacAndrew Red Lake Gold Mines acquires property, a completes stripping, trenching, and drills 26 holes totalling approximately 1500m. 1936-1982:idle. GRADE 1936 VEIN EXTENSIVELY TRENCH/DRILL: CHANNEL SAMPLING :0.544 OPT AU/1.8 FT FOR A 65 FT LENGTH. 2009: Cargill completed a N1 43-101 on the property for Crown Minerals Inc. Cargill collected samples from the area. Complete grid cutting on the property and ground magnetic and VLF-EM geophysical surveys. This MDI and MDI52NO4SWOOO78 were the areas of target, though on the website one can't see which samples belong to which areas. Highest Channel sample returned 31.37 g/t Au over 0.6m"*

Author's note; The highest channel sample referred to above was wrongly described as the highest in the set of results released on www.crowngoldcorp.com. The highest channel sample result was actually 122.42 g/t Au over 0.5m from channel cut CC24 in the B Zone, (Table 6. Primary channel sampling results).

There are no known mineral resource or mineral reserve estimates on the property nor has there been any production of which the author is aware.

9.0 Geological Setting

9.1 Regional Geology

The property lies in the Red Lake greenstone belt which is located in the Uchi Subprovince of the Archean age Superior Province, (Figure 7. Regional Geology - (source: Cargill Technical Report 2010, map after Stott & Corfu 1991)). As per Stott and Corfu 1991;

> *"The Uchi Subprovince contains a linear, belt-like collage of volcanic and sedimentary assemblages that represent discrete magmatic and erosional pulses during approximately 280 million years of Archean history. These supracrustal rocks, underlain by synvolcanic plutons, were invaded by younger felsic plutons and were shouldered aside by buoyant batholithic complexes during several orogenic periods, the most prominently preserved being the Kenoran Orogeny, which culminated in this part of the Superior Province about 2.7 Ga. Some clastic and chemical sedimentary sequences comprise the youngest units in the volcanic assemblages. Other sedimentary rocks form separate assemblages lying unconformably upon the volcanic units and formed mainly during the Kenoran Orogeny. Some volcanic assemblages are dominantly composed of tholeiitic basalt and komatiitic rocks, interpreted to have originated as oceanic mafic plain sequences, probably in a back-arc setting; most assemblages are composed of cycles or sequences comprising tholeiitic basalt platforms overlain by calc-alkalic andesite, dacite and rhyolite, interpreted to have originated in continental or oceanic arcs."*

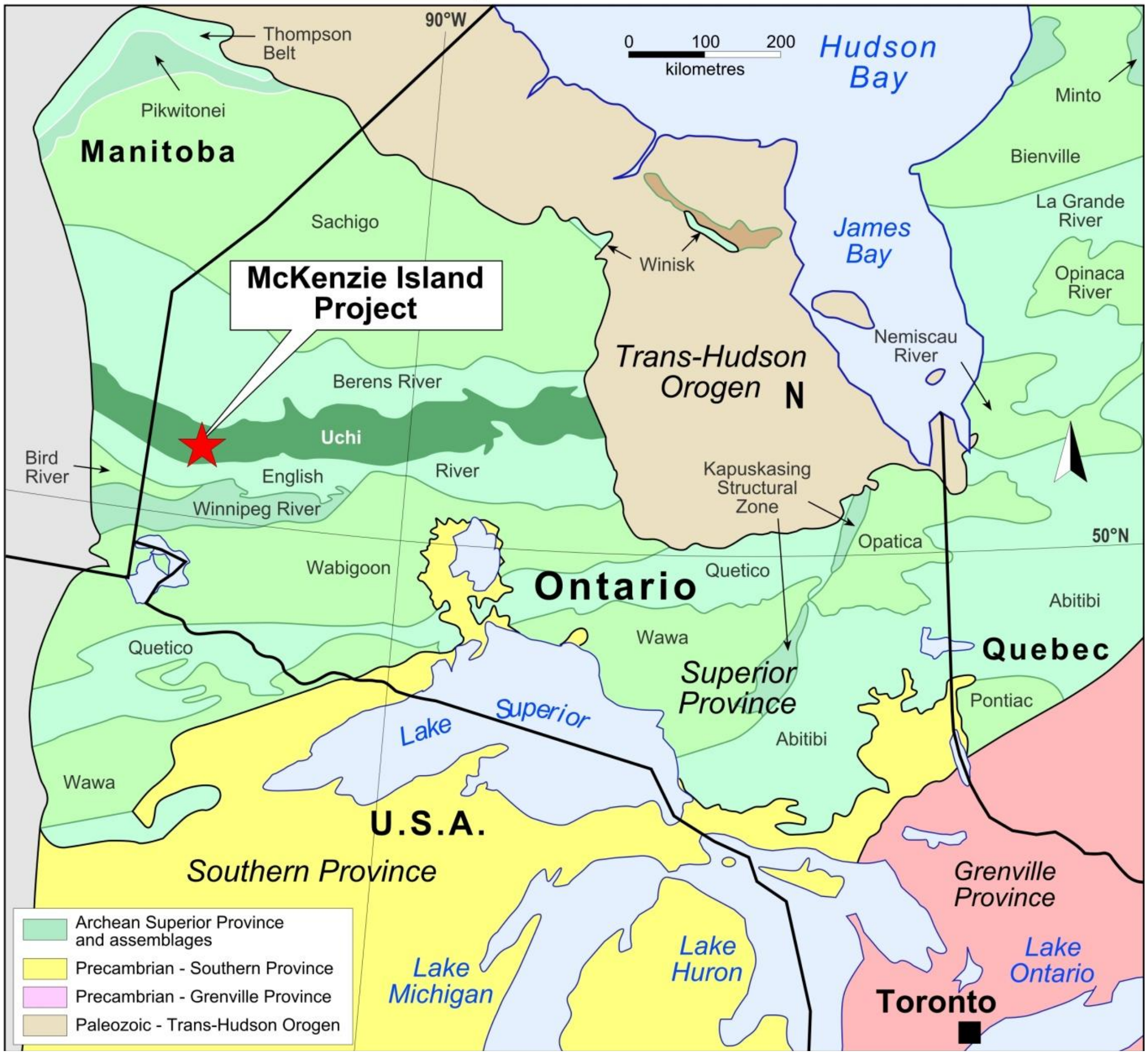


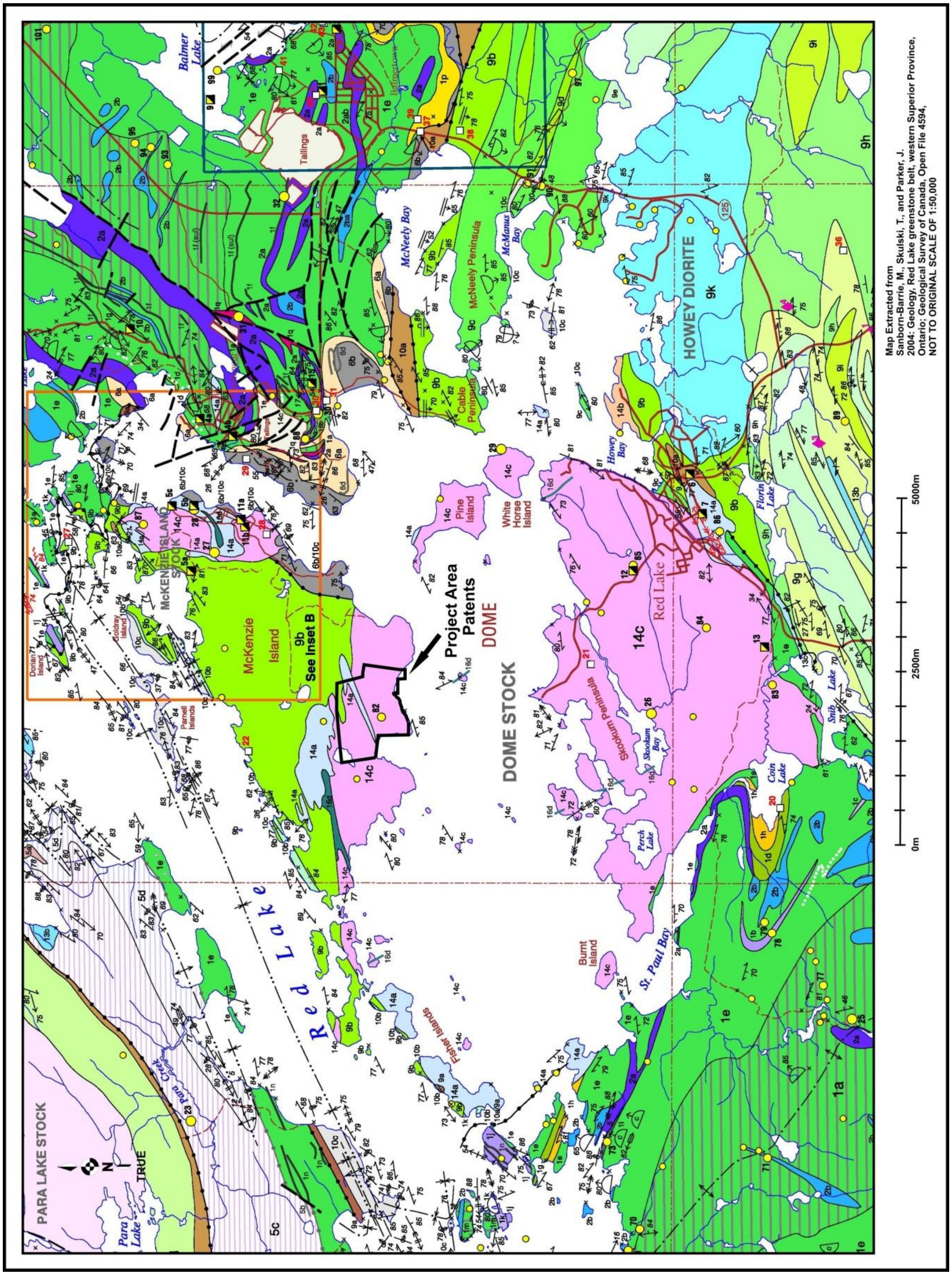
Figure 7. Regional Geology - (source: Cargill Technical Report 2010, map after Stott & Corfu 1991)

9.2 Local Geology

The property is underlain by the felsic intrusive rocks of the Dome Stock which contains inclusions of felsic meta-volcanic rocks and intermediate to felsic, intrusive rocks, (Figure 8. McKenzie Area Geology and Figure 9. Legend to Red Lake Geology OGS Open File 4594).

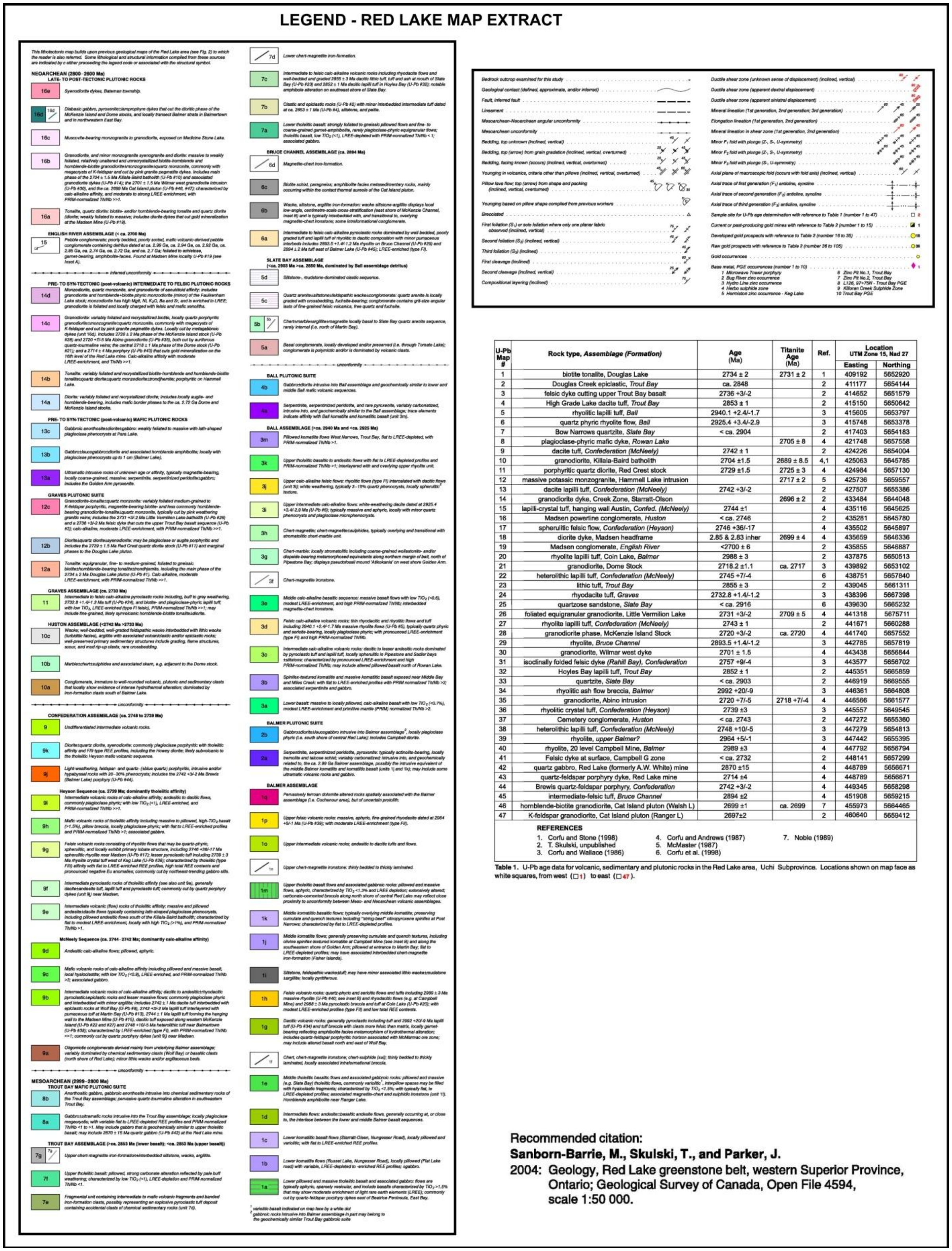
The perimeter of the Dome Stock has proven to be highly prospective as evidenced by the amount of producing mines and gold showings located around it. This is readily observed in Figure 8, and particularly in Figure 13. Gold Deposits in the Red Lake Area. The McKenzie stock is dated at 2720 +/- 2Ma and the Dome Stock has been dated younger at 2718 +/- 1Ma, (Figure 9. Legend to Red Lake Geology OGS Open File 4594). Dykes ranging from gabbroic to granodiorite in composition dated at 2800-2600 Ma have filled shrinkage cracks and structural weakness associated with the Dome Stock emplacement. Quartz veining, often auriferous, has in many instances channeled along these pathways prior to the dyke emplacement.

The auriferous quartz vein focused on in the project area occurs in a shear zone that is exposed on Kings Island south of the property in Red Lake. The Author contends that this shear zone extends across the Dome Stock to the southern shore of Red Lake where published MDI data from Red Lake Gold Shores Mines veins 1,2 & 3 bears similarity in both strike and lithology, (Figure 10. Projection of Bishop’s Break across Red Lake). Recent drilling, MK-12-36, intersected a parallel auriferous quartz chlorite vein system approximately 300 meters east of the Bishops Break outcrop which the Author contends is possibly an extension of Red Lake Gold Shores shafts 1 & 2 vein.



Map Extracted from
Sanborn-Barrie, M., Skulski, T., and Parker, J.
2004: Geology, Red Lake greenstone belt, western Superior Province,
Ontario; Geological Survey of Canada, Open File 4594,
NOT TO ORIGINAL SCALE OF 1:50,000

Figure 8. McKenzie Area Geology Extracted from Red Lake Geology OGS Open File 4594



LEGEND - RED LAKE MAP EXTRACT

This lithotectonic map builds upon previous geological maps of the Red Lake area (see Fig. 2) to which the reader is also referred. Some lithological and structural information compiled from these sources are indicated by c either preceeding the legend code or associated with the structural symbol.

NEOARCHEAN (2800–2600 Ma)

LATE- TO POST-TECTONIC PLUTONIC ROCKS

16e	Syenodiorite dykes, Bateman township.
16d	Diabasic gabbro, pyroxenite±lamprophyre dykes that cut the dioritic phase of the McKenzie Island and Dome stocks, and locally transect Balmer strata in Balmertown and in northwestern East Bay.
16c	Muscovite-bearing monzogranite to granodiorite, exposed on Medicine Stone Lake.
16b	Granodiorite, and minor monzogranite syenogranite and diorite: massive to weakly foliated, relatively unaltered and unrecrystallized biotite-hornblende and hornblende-biotite granodiorite±monzogranite±quartz monzonite, commonly with megacrysts of K-feldspar and cut by pink granite pegmatite dykes. Includes main phase of the 2704 ± 1.5 Ma Killala-Baird batholith (U-Pb #10) and associated granodiorite dykes (U-Pb #14); the 2701 ± 1.5 Ma Wilmar west granodiorite intrusion (U-Pb #30), and the ca. 2699 Ma Cat Island pluton (U-Pb #46, #47); characterized by calc-alkaline affinity, and moderate to strong LREE-enrichment, with PRIM-normalized Th/Nb >>1.
16a	Tonalite, quartz diorite: biotite- and/or hornblende-bearing tonalite and quartz diorite (diorite; weakly foliated to massive; includes diorite dykes that cut gold mineralization at the Madsen Mine (U-Pb #18).

ENGLISH RIVER ASSEMBLAGE (< ca. 2700 Ma)

15	Pebble conglomerate; poorly bedded, poorly sorted, mafic volcanic-derived pebble conglomerate containing detritus dated at ca. 2.99 Ga, ca. 2.94 Ga, ca. 2.92 Ga, ca. 2.85 Ga, ca. 2.74 Ga, ca. 2.72 Ga, and ca. 2.7 Ga; foliated to schistose, garnet-bearing, amphibolite-facies. Found at Madsen Mine locality U-Pb #19 (see Inset A).

inferred unconformity

PRE- TO SYN-TECTONIC (post-volcanic) INTERMEDIATE TO FELSIC PLUTONIC ROCKS

14d	Monzodiorite, quartz monzonite, and granodiorite of sanukitoid affinity: includes granodiorite and hornblende+biotite phyric monzodiorite (minor) of the Faulkenham Lake stock; monzodiorite has high Mg#, Ni, K_2O, Ba and Sr, and is enriched in LREE; granodiorite is foliated and locally charged with felsic and mafic xenoliths.
14c	Granodiorite: variably foliated and recrystallized biotite, locally quartz-porphyritic granodiorite±monzogranite±quartz monzonite, commonly with megacrysts of K-feldspar and cut by pink granite pegmatite dykes. Locally cut by metagabbroic dykes (unit 16d). Includes 2720 ± 2 Ma phase of the McKenzie Island stock (U-Pb #28) and 2720 +7/-5 Ma Abino granodiorite (U-Pb #35), both cut by auriferous quartz-tourmaline veins; the central 2718 ± 1 Ma phase of the Dome stock (U-Pb #21); and a 2714 ± 4 Ma porphyry (U-Pb #43) that cuts gold mineralization on the 16th level of the Red Lake mine. Calc-alkaline affinity with moderate LREE-enrichment, and Th/Nb >>1.
14b	Tonalite: variably foliated and recrystallized biotite-hornblende and hornblende-biotite tonalite±quartz diorite±quartz monzodiorite±trondhjemite; porphyritic on Hammell Lake.
14a	Diorite: variably foliated and recrystallized diorite; includes locally augite- and hornblende-bearing, includes mafic border phases to the ca. 2.72 Ga Dome and McKenzie Island stocks.

PRE- TO SYN-TECTONIC (post-volcanic) MAFIC PLUTONIC ROCKS

13c	Gabbroic anorthosite±diorite±gabbro: weakly foliated to massive with lath-shaped plagioclase phenocrysts at Pare Lake.
13b	Gabbro±leucogabbro±diorite and associated hornblende amphibolite; locally with plagioclase phenocrysts up to 1 cm (Balmer Lake).
13a	Ultramafic intrusive rocks of unknown age or affinity, typically magnetite-bearing, locally coarse-grained, massive; serpentinite, serpentinized peridotite±gabbro; includes the Golden Arm pyroxenite.

GRAVES PLUTONIC SUITE

12c	Granodiorite-tonalite±quartz monzonite: variably foliated medium-grained to K-feldspar porphyritic, magnetite-bearing biotite- and less commonly hornblende-bearing granodiorite-tonalite±quartz monzonite, typically cut by pink weathering granitic veins; includes the 2731 +3/-2 Ma Little Vermilion Lake batholith (U-Pb #26) and a 2736 +3/-2 Ma felsic dyke that cuts the upper Trout Bay basalt sequence (U-Pb #3); calc-alkaline, moderate LREE-enrichment, with PRIM-normalized Th/Nb >>1.
12b	Diorite±quartz diorite±syenodiorite: may be plagioclase or augite porphyritic and includes the 2729 ± 1.5 Ma Red Crest quartz diorite stock (U-Pb #11) and marginal phases to the Douglas Lake pluton.
12a	Tonalite: equigranular, fine- to medium-grained, foliated to gneissic biotite±hornblende-bearing tonalite±trondhjemite, including the main phase of the 2734 ± 2 Ma Douglas Lake pluton (U-Pb #1). Calc-alkaline, moderate LREE-enrichment, with PRIM-normalized Th/Nb >>1.

GRAVES ASSEMBLAGE (ca. 2733 Ma)

11	Intermediate to felsic calc-alkaline pyroclastic rocks including, buff to grey weathering, 2732.8 +1.4/-1.2 Ma tuff (U-Pb #24), and biotite- and plagioclase-phyric lapilli tuff; with low TiO_2, LREE-enriched (type FI felsic), PRIM-normalized Th/Nb >>1; may include fine-grained, likely synvolcanic hornblende-biotite tonalite±diorite.

HUSTON ASSEMBLAGE (<2742 Ma >2733 Ma)

10c	Wacke; well-bedded, well-graded feldspathic wacke interbedded with lithic wacke (turbiditic facies), argillite with associated volcaniclastic and/or epiclastic rocks; well-preserved primary sedimentary structures include grading, flame structures, scour, and mud rip-up clasts; rare crossbedding.
10b	Marble±chert±sulphides and associated skarn, e.g. adjacent to the Dome stock.
10a	Conglomerate, immature to well-rounded volcanic, plutonic and sedimentary clasts that locally show evidence of intense hydrothermal alteration; dominated by iron-formation clasts south of Balmer Lake.

unconformity

CONFEDERATION ASSEMBLAGE (ca. 2748 to 2739 Ma)

9	Undifferentiated intermediate volcanic rocks.
9k	Diorite±quartz diorite, syenodiorite: commonly plagioclase porphyritic with tholeiitic affinity and FIII-type REE profiles, including the Howey diorite; likely subvolcanic to the tholeiitic Heyson mafic volcanic sequence.
9j	Light-weathering, feldspar- and quartz- (±blue quartz) porphyritic, intrusive and/or hypabyssal rocks with 20–30% phenocrysts; includes the 2742 +3/-2 Ma Brewis (Balmer Lake) porphyry (U-Pb #44).

Heyson Sequence (ca. 2739 Ma; dominantly tholeiitic affinity)

9i	Intermediate volcanic rocks of calc-alkaline affinity; andesitic to dacitic flows, commonly plagioclase phyric; with low TiO_2 (<1), LREE-enriched, and PRIM-normalized Th/Nb >>1.
9h	Mafic volcanic rocks of tholeiitic affinity including massive to pillowed, high-TiO_2 basalt (>1.5%), pillow breccia, locally plagioclase-phyric; with flat to LREE-enriched profiles and PRIM-normalized Th/Nb >1; associated gabbro.
9g	Felsic volcanic rocks consisting of rhyolitic flows that may be quartz-phyric, spherulitic, and locally exhibit primary lobate structure, including 2746 +36/-17 Ma spherulitic rhyolite near Madsen (U-Pb #17); lesser pyroclastic tuff including 2739 ± 3 Ma rhyolite crystal tuff west of Keg Lake (U-Pb #36); characterized by tholeiitic (type FIII) affinity with flat to LREE-enriched REE profiles, high total REE contents and pronounced negative Eu anomalies; commonly cut by northeast-trending gabbro sills.
9f	Intermediate pyroclastic rocks of tholeiitic affinity (see also unit 9e), generally dacite±andesite tuff, lapilli tuff and pyroclastic tuff; commonly cut by quartz porphyry dykes (unit 9j) near Madsen.
9e	Intermediate volcanic (flow) rocks of tholeiitic affinity; massive and pillowed andesite±dacite flows typically containing lath-shaped plagioclase phenocrysts, including pillowed andesitic flows south of the Killala-Baird batholith; characterized by flat to modest LREE-enrichment, locally with high TiO_2 (>1%), and PRIM-normalized Th/Nb >1.

McNeely Sequence (ca. 2744–2742 Ma; dominantly calc-alkaline affinity)

9d	Andesitic calc-alkaline flows; pillowed, aphyric.
9c	Mafic volcanic rocks of calc-alkaline affinity including pillowed and massive basalt, local hyaloclastite; with low TiO_2 (<0.8), LREE-enriched, and PRIM-normalized Th/Nb >3; associated gabbro.
9b	Intermediate volcanic rocks of calc-alkaline affinity; dacitic to andesitic±rhyodacitic pyroclastic±epiclastic rocks and lesser massive flows; commonly plagioclase phyric and interbedded with minor argillite; includes 2742 ± 1 Ma dacite tuff interbedded with epiclastic rocks at Wolf Bay (U-Pb #9), 2742 +3/-2 Ma lapilli tuff interlayered with pumaceous tuff at Martin Bay (U-Pb #13), 2744 ± 1 Ma lapilli tuff forming the hanging wall to the Madsen Mine (U-Pb #15), dacitic tuff exposed along western McKenzie Island (U-Pb #22 and #27) and 2748 +10/-5 Ma heterolithic tuff near Balmertown (U-Pb #38); characterized by LREE-enriched (type FI), with PRIM-normalized Th/Nb >>1; commonly cut by quartz porphyry dykes (unit 9j) near Madsen.
9a	Oligomictic conglomerate derived mainly from underlying Balmer assemblage; variably dominated by chemical sedimentary clasts (Wolf Bay) or basaltic clasts (north shore of Red Lake); minor lithic wacke and/or argillaceous beds.

unconformity

MESOARCHEAN (2999–2800 Ma)

TROUT BAY MAFIC PLUTONIC SUITE

8b	Anorthositic gabbro, gabbroic anorthosite intrusive into chemical sedimentary rocks of the Trout Bay assemblage; pervasive quartz-tourmaline alteration in southeastern Trout Bay.
8a	Gabbro±ultramafic rocks intrusive into the Trout Bay assemblage; locally plagioclase megacrystic; with variable flat to LREE-depleted REE profiles and PRIM-normalized Th/Nb <1 to >1. May include gabbro that is geochemically similar to upper tholeiitic basalt; may include 2870 ± 15 Ma quartz gabbro (U-Pb #42) at the Red Lake mine.

TROUT BAY ASSEMBLAGE (>ca. 2853 Ma (lower basalt); <ca. 2853 Ma (upper basalt))

7g	Upper chert-magnetite iron-formation±interbedded siltstone, wacke, argillite.
7f	Upper tholeiitic basalt: pillowed, strong carbonate alteration reflected by pale buff weathering; characterized by low TiO_2 (<1), LREE-depletion and PRIM-normalized Th/Nb <1.
7e	Fragmental unit containing intermediate to mafic volcanic fragments and banded iron-formation clasts, possibly representing an explosive pyroclastic tuff deposit containing accidental clasts of chemical sedimentary rocks (unit 7d).
7d	Lower chert-magnetite iron-formation.
7c	Intermediate to felsic calc-alkaline volcanic rocks including rhyodacite flows and well-bedded and graded 2855 ± 3 Ma dacitic lithic tuff, tuff and ash at mouth of Slate Bay (U-Pb #23) and 2852 ± 1 Ma dacitic lapilli tuff in Hoyles Bay (U-Pb #32); notable amphibole alteration on southeast shore of Slate Bay.
7b	Clastic and epiclastic rocks (U-Pb #2) with minor interbedded intermediate tuff dated at ca. 2853 ± 1 Ma (U-Pb #4), siltstone, and pelite.
7a	Lower tholeiitic basalt: strongly foliated to gneissic pillowed flows and fine- to coarse-grained garnet-amphibolite, rarely plagioclase-phyric equigranular flows; tholeiitic basalt, low TiO_2 (<1), LREE-depleted with PRIM-normalized Th/Nb < 1; associated gabbro.

BRUCE CHANNEL ASSEMBLAGE (ca. 2894 Ma)

6d	Magnetite-chert iron-formation.
6c	Biotite schist, paragneiss; amphibolite facies metasedimentary rocks, mainly occurring within the contact thermal aureole of the Cat Island pluton.
6b	Wacke, siltstone, argillite iron-formation: wacke siltstone-argillite displays local low-angle, centimetre-scale cross-stratification (east shore of McKenzie Channel, Inset B) and is typically interbedded with, and transitional to, overlying magnetite-chert ironstone; some intraformational conglomerate.
6a	Intermediate to felsic calc-alkaline pyroclastic rocks dominated by well-bedded, poorly graded tuff and lapilli tuff of rhyolitic to dacitic composition with minor pumaceous interbeds includes 2893.5 +1.4/-1.2 Ma rhyolite on Bruce Channel (U-Pb #29) and 2894 ± 2 Ma tuff east of Balmer Lake (U-Pb #45); LREE-enriched (type FI).

SLATE BAY ASSEMBLAGE
(<ca. 2903 Ma >ca. 2850 Ma, dominated by Ball assemblage detritus)

5d	Siltstone-, mudstone-dominated clastic sequence.
5c	Quartz arenite±siltstone±feldspathic wacke±conglomerate: quartz arenite is locally graded with crossbedding, fuchsite-bearing; conglomerate contains grit-size angular lasts of fine-grained felsic volcanics, free quartz and fuchsite.
5b	Chert±marble±argillite±magnetite locally basal to Slate Bay quartz arenite sequence, rarely internal (i.e. north of Martin Bay).
5a	Basal conglomerate, locally developed and/or preserved (i.e. through Tomato Lake); conglomerate is polymictic and/or is dominated by volcanic clasts.

unconformity

BALL PLUTONIC SUITE

4b	Gabbro±diorite intrusive into Ball assemblage and geochemically similar to lower and middle Ball mafic volcanic sequences.
4a	Serpentinite, serpentinized peridotite, and rare pyroxenite, variably carbonatized, intrusive into, and geochemically similar to the Ball assemblage; trace elements indicate affinity with Ball komatiite and komatiitic basalt (unit 3m).

BALL ASSEMBLAGE (>ca. 2940 Ma and <ca. 2925 Ma)

3m	Pillowed komatiite flows West Narrows, Trout Bay, flat to LREE-depleted, with PRIM-normalized Th/Nb >1.
3k	Upper tholeiitic basaltic to andesitic flows with flat to LREE-depleted profiles and PRIM-normalized Th/Nb >1; interlayered with and overlying upper rhyolite unit.
3j	Upper calc-alkaline felsic flows: rhyolitic flows (type FI) intercalated with dacitic flows (unit 3i); white weathering, typically 3–15% quartz phenocrysts, locally spherulitic[2] texture.
3i	Upper intermediate calc-alkaline flows: white-weathering dacite dated at 2925.4 +3.4/-2.9 Ma (U-Pb #6); typically massive and aphyric, locally with minor quartz phenocrysts and plagioclase microphenocrysts.
3h	Chert-magnetite; chert-magnetite±sulphides, typically overlying and transitional with stromatolitic chert-marble unit.
3g	Chert-marble: locally stromatolitic including coarse-grained wollastonite- and/or diopside-bearing metamorphosed equivalents along northern margin of belt, north of Pipestone Bay; displays pseudofossil mound 'Atikokania' on west shore Golden Arm.
3f	Chert-magnetite ironstone.
3e	Middle calc-alkaline basaltic sequence: massive basalt flows with low TiO_2 (<0.6), modest LREE-enrichment, and high PRIM-normalized Th/Nb; interbedded magnetite-chert ironstone.
3d	Felsic calc-alkaline volcanic rocks; thin rhyodacitic and rhyolitic flows and tuff including 2940.1 +2.4/-1.7 Ma massive rhyolite flows (U-Pb #5), typically quartz phyric and sericite-bearing, locally plagioclase phyric; with pronounced LREE-enrichment (type FI) and high PRIM-normalized Th/Nb.
3c	Intermediate calc-alkaline volcanic rocks: dacitic to lesser andesitic rocks dominated by pyroclastic tuff and lapilli tuff, locally spherulitic in Pipestone and Sadler bays ±siltstone; characterized by pronounced LREE-enrichment and high PRIM-normalized Th/Nb; may include altered pillowed basalt north of Rowan Lake.
3b	Spinifex-textured komatiite and massive komatiitic basalt exposed near Middle Bay and Miles Creek: with flat to LREE-enriched profiles with PRIM normalized Th/Nb >2; associated serpentinite and gabbro.
3a	Lower basalt: massive to locally pillowed, calc-alkaline basalt with low TiO_2 (<0.7%), modest LREE-enrichment and primitive mantle (PRIM) normalized Th/Nb >2.

BALMER PLUTONIC SUITE

2b	Gabbro±diorite±leucogabbro intrusive into Balmer assemblage[2], locally plagioclase phyric (i.e. south shore of central Red Lake); includes Campbell diorite.
2a	Serpentinite, serpentinized peridotite, pyroxenite: typically actinolite-bearing, locally tremolite and talcose schist; variably carbonatized; intrusive into, and geochemically related to, the ca. 2.99 Ga Balmer assemblage, possibly the intrusive equivalent of the middle Balmer komatiite and komatiitic basalt (units 1j and 1k); may include some ultramafic volcanic rocks and gabbro.

BALMER ASSEMBLAGE

1q	Pervasively ferroan dolomite altered rocks spatially associated with the Balmer assemblage (i.e. Cochenour area), but of uncertain protolith.
1p	Upper felsic volcanic rocks: massive, aphyric, fine-grained rhyodacite dated at 2964 +5/-1 Ma (U-Pb #39); with moderate LREE-enrichment (type FII).
1o	Upper intermediate volcanic rocks; andesitic to dacitic tuffs and flows.
1n	Upper chert-magnetite ironstone: thinly bedded to thickly laminated.
1m	Upper tholeiitic basalt flows and associated gabbroic rocks: pillowed and massive flows, aphyric, characterized by TiO_2 <1.3% and LREE depletion; extensively altered; carbonate-cemented breccia along north shore of central Red Lake may reflect close proximity to unconformity between Meso- and Neoarchean volcanic assemblages.
1k	Middle komatiitic basaltic flows; typically overlying middle komatiite; preserving cumulate and quench textures including "string-beef" clinopyroxene spinifex at Post Narrows; characterized by flat to LREE-depleted profiles.
1j	Middle komatiite flows; generally preserving cumulate and quench textures, including olivine spinifex-textured komatiite at Campbell Mine (see Inset B) and along the southeastern shore of Golden Arm; pillowed at entrance to Martin Bay; flat to LREE-depleted profiles; may have associated interbedded chert-magnetite iron-formation (Fisher Islands).
1i	Siltstone, feldspathic wacke±tuff; may have minor associated lithic wacke±mudstone ±argillite; locally pyritiferous.
1h	Felsic volcanic rocks: quartz-phyric and sericitic flows and tuffs including 2989 ± 3 Ma massive rhyolite (U-Pb #40; see Inset B) and rhyodacitic flows (e.g. at Campbell Mine) and 2988 ± 3 Ma pyroclastic breccia and tuff at Coin Lake (U-Pb #20); with modest LREE-enriched profiles (type FII) and low total REE contents.
1g	Dacitic volcanic rocks: generally pyroclastic including tuff and 2992 +20/-9 Ma lapilli tuff (U-Pb #34) and tuff breccia with clasts more felsic than matrix, locally garnet-bearing reflecting amphibolite facies metamorphism of hydrothermal alteration; includes quartz-feldspar porphyritic horizon associated with McMarmac ore zone; may include altered basalt north and east of Wolf Bay.
1f	Chert, chert-magnetite ironstone; chert-sulphide (sul); thinly bedded to thickly laminated, locally associated intraformational breccia.
1e	Middle tholeiitic basaltic flows and associated gabbroic rocks: pillowed and massive (e.g. Slate Bay) tholeiitic flows, commonly variolitic[1], interpillow spaces may be filled with hyaloclastic fragments; characterized by TiO_2 <1.5%; with typically flat, to LREE-depleted profiles; associated magnetite-chert and sulphidic ironstone (unit 1f). Hornblende amphibolite near Ranger Lake.
1d	Intermediate flows: andesite±basaltic andesite flows, generally occurring at, or close to, the interface between the lower and middle Balmer basalt sequences.
1c	Lower komatiitic basalt flows (Starratt-Olsen, Nungesser Road), locally pillowed and variolitic; with flat to LREE-enriched REE profiles.
1b	Lower komatiite flows (Russet Lake, Nungesser Road), locally pillowed (Flat Lake road) with variable, LREE-depleted to -enriched REE profiles; ±gabbro.
1a	Lower pillowed and massive tholeiitic basalt and associated gabbro: flows are typically aphyric, sparsely vesicular, and include basalts characterized by TiO_2 >1.5% that may show moderate enrichment of light rare earth elements (LREE); commonly cut by quartz-feldspar porphyry dykes east of Beatrice Peninsula, East Bay.

[1] variolitic basalt indicated on map face by a white dot

[2] gabbroic rocks intrusive into Balmer assemblage in part may belong to the geochemically similar Trout Bay gabbroic suite

Bedrock outcrop examined for this study

Geological contact (defined, approximate, and/or inferred)

Fault, inferred fault

Lineament

Mesoarchean-Neoarchean angular unconformity

Mesoarchean unconformity

Bedding, top unknown (inclined, vertical)

Bedding, top (arrow) from grain gradation (inclined, vertical, overturned)

Bedding, facing known (scours) (inclined, vertical, overturned)

Younging in volcanics, criteria other than pillows (inclined, vertical, overturned)

Pillow lava flow; top (arrow) from shape and packing (inclined, vertical, overturned)

Younging based on pillow shape compiled from previous workers

Brecciated

First foliation (S_1) or sole foliation where only one planar fabric observed (inclined, vertical)

Second foliation (S_2) (inclined, vertical)

Third foliation (S_3) (inclined)

First cleavage (inclined)

Second cleavage (inclined, vertical)

Compositional layering (inclined)

Ductile shear zone (unknown sense of displacement) (inclined, vertical)

Ductile shear zone (apparent dextral displacement)

Ductile shear zone (apparent sinistral displacement)

Mineral lineation (1st generation, 2nd generation; 3rd generation)

Elongation lineation (1st generation, 2nd generation)

Mineral lineation in shear zone (1st generation, 2nd generation)

Minor F_1 fold with plunge (Z-, S-, U-symmetry)

Minor F_2 fold with plunge (Z-, S-, U-symmetry)

Minor F_3 fold with plunge (S-, U-symmetry)

Axial plane of macroscopic fold (occurs with fold axis) (inclined, vertical)

Axial trace of first generation (F_1) anticline, syncline

Axial trace of second generation (F_2) anticline, syncline

Axial trace of third generation (F_3) anticline, syncline

Sample site for U-Pb age determination with reference to Table 1 (number 1 to 47) ☐ 2

Current or past-producing gold mines with reference to Table 2 (number 1 to 15) 1

Developed gold prospects with reference to Table 2 (number 16 to 35) ○16

Raw gold prospects with reference to Table 2 (number 36 to 105) ○36

Gold occurrences ○

Base metal, PGE occurrences (number 1 to 10) ◆ 1

1 Microwave Tower porphyry
2 Bug River zinc occurence
3 Hydro Line zinc occurrence
4 Herbo sulphide zone
5 Hermiston zinc occurrence - Keg Lake
6 Zinc Pit No.1, Trout Bay
7 Zinc Pit No.2, Trout Bay
8 L126, 97+75N - Trout Bay PGE
9 Killoran Creek Sulphide Zone
10 Trout Bay PGE

U-Pb Map #	Rock type, *Assemblage (Formation)*	Age (Ma)	Titanite Age (Ma)	Ref.	Location UTM Zone 15, Nad 27	
					Easting	Northing
1	biotite tonalite, Douglas Lake	2734 ± 2	2731 ± 2	1	409192	5652920
2	Douglas Creek epiclastic, *Trout Bay*	ca. 2848		2	411177	5654144
3	felsic dyke cutting upper Trout Bay basalt	2736 +3/-2		2	414652	5651579
4	High Grade Lake dacite tuff, *Trout Bay*	2853 ± 1		2	415150	5650642
5	rhyolitic lapilli tuff, *Ball*	2940.1 +2.4/-1.7		3	415605	5653797
6	quartz phyric rhyolite flow, *Ball*	2925.4 +3.4/-2.9		3	415748	5653378
7	Bow Narrows quartzite, *Slate Bay*	< ca. 2904		2	417403	5654183
8	plagioclase-phyric mafic dyke, *Rowan Lake*		2705 ± 8	4	421748	5657558
9	dacite tuff, *Confederation (McNeely)*	2742 ± 1		2	424226	5654004
10	granodiorite, Killala-Baird batholith	2704 ±1.5	2689 ± 8.5	4,1	425063	5645785
11	porphyritic quartz diorite, Red Crest stock	2729 ±1.5	2725 ± 3	4	424984	5657130
12	massive potassic monzogranite, Hammell Lake intrusion		2717 ± 2	5	425736	5659557
13	dacite lapilli tuff, *Confederation (McNeely)*	2742 +3/-2		2	427507	5655386
14	granodiorite dyke, Creek Zone, Starratt-Olson		2696 ± 2	2	433484	5644048
15	lapilli-crystal tuff, hanging wall Austin, *Confed. (McNeely)*	2744 ±1		4	435116	5645625
16	Madsen powerline conglomerate, *Huston*	< ca. 2746		2	435281	5645780
17	spherulitic felsic flow, *Confederation (Heyson)*	2746 +36/-17		4	435502	5645897
18	diorite dyke, Madsen headframe	2.85 & 2.83 inher	2699 ± 4	4	435659	5646336
19	Madsen conglomerate, *English River*	<2700 ± 6		2	435855	5646887
20	rhyolite lapilli tuff, Coin Lake, *Balmer*	2988 ± 3		2	437875	5650513
21	granodiorite, Dome Stock	2718.2 ±1.1	ca. 2717	3	439892	5653102
22	heterolithic lapilli tuff, *Confederation (McNeely)*	2745 +7/-4		6	438751	5657840
23	lithic tuff, *Trout Bay*	2855 ± 3		2	439045	5661311
24	rhyodacite tuff, *Graves*	2732.8 +1.4/-1.2		3	438396	5667398
25	quartzose sandstone, *Slate Bay*	< ca. 2916		6	439630	5665232
26	foliated equigranular granodiorite, Little Vermilion Lake	2731 +3/-2	2709 ± 5	4	441318	5675711
27	rhyolite lapilli tuff, *Confederation (McNeely)*	2743 ± 1		2	441671	5660288
28	granodiorite phase, McKenzie Island Stock	2720 +3/-2	ca. 2720	4	441740	5657552
29	rhyolite, *Bruce Channel*	2893.5 +1.4/-1.2		3	442785	5657819
30	granodiorite, Wilmar west dyke	2701 ± 1.5		4	443438	5656844
31	isoclinally folded felsic dyke *(Rahill Bay), Confederation*	2757 +9/-4		3	443577	5656702
32	Hoyles Bay lapilli tuff, *Trout Bay*	2852 ± 1		2	445351	5665859
33	quartzite, *Slate Bay*	< ca. 2903		2	446919	5669555
34	rhyolitic ash flow breccia, *Balmer*	2992 +20/-9		3	446361	5664808
35	granodiorite, Abino intrusion	2720 +7/-5	2718 +7/-4	4	446566	5661577
36	rhyolitic crystal tuff, *Confederation (Heyson)*	2739 ±3		3	445557	5649545
37	Cemetery conglomerate, *Huston*	< ca. 2743		2	447272	5655360
38	heterolithic lapilli tuff, *Confederation (McNeely)*	2748 +10/-5		3	447279	5654813
39	rhyolite, *upper Balmer?*	2964 +5/-1		3	447442	5655395
40	rhyolite, 20 level Campbell Mine, *Balmer*	2989 ±3		4	447792	5656794
41	Felsic dyke at surface, Campbell G zone	< ca. 2732		2	448141	5657299
42	quartz gabbro, Red Lake (formerly A.W. White) mine	2870 ±15		4	448789	5656671
43	quartz-feldspar porphyry dyke, Red Lake mine	2714 ±4		4	448789	5656671
44	Brewis quartz-feldspar porphyry, *Confederation*	2742 +3/-2		4	449345	5658298
45	intermediate-felsic tuff, *Bruce Channel*	2894 ±2		4	451908	5659215
46	hornblende-biotite granodiorite, Cat Island pluton (Walsh L)	2699 ±1	ca. 2699	7	455973	5664465
47	K-feldspar granodiorite, Cat Island pluton (Ranger L)	2697±2		2	460640	5659412

REFERENCES

1. Corfu and Stone (1998)
2. T. Skulski, unpublished
3. Corfu and Wallace (1986)
4. Corfu and Andrews (1987)
5. McMaster (1987)
6. Corfu et al. (1998)
7. Noble (1989)

Table 1. U-Pb age data for volcanic, sedimentary and plutonic rocks in the Red Lake area, Uchi Subprovince. Locations shown on map face as white squares, from west (☐1) to east (☐47).

Recommended citation:
Sanborn-Barrie, M., Skulski, T., and Parker, J.
2004: Geology, Red Lake greenstone belt, western Superior Province, Ontario; Geological Survey of Canada, Open File 4594, scale 1:50 000.

Figure 9. Legend to Red Lake Geology OGS Open File 4594

9.3 Property Geology

The 1932-1934 workings exposed a quartz vein trending at Az340 dipping at 70 degrees to the east. This is listed with the Ministry of Northern Mines and Development's Mineral Deposit Inventory as MDI52N04SW00044 and described as the MacAndrew Red Lake Prospect - 1983. The Author has and will throughout this report refer to this occurrence as "Bishop's Break" in reference to the Patent surface rights holder, the Honorable Peter Bishop.

The quartz vein follows a sheared faulted contact in the Dome Stock granodiorite which bears evidence of multiple shearing and emplacement events. The shear contact strikes at Az340 and dips sub vertically to the east with a downwards displacement of between 2-6 meters to the east noted across the property. The hanging and footwall are comprised of Dome Stock granodiorite which is sheared and remobilized in segments and carries centimeter to decimeter scale, fine grained, dark green mafic xenoliths, (Figure 11. Xenolithic Granite). This xenolithic hybrid granodiorite is evidence of the primary shearing to occur with the xenoliths possibly being representative of the adjacent hosting greenstone at the time of the Dome Stock emplacement.

There is evidence of three further shearing and or emplacement events including, the quartz veining, a medium to coarse grained porphyritic diorite dyke, and a fine grained dark green to black mafic dyke, with both of the later displaying sheared versions. The quartz vein which has numerous chloritic partings parallel to the veins contacts indicates numerous cycles of shearing and or parting contemporaneous with emplacement of quartz along the chloritized sheared contact, sometimes referred to as crack and fill veining. The vein varies in thickness from millimeter scale veinlets in a sheared zone to over 1 meter wide by channel cut sample, CC-24, along an exposed strike length of more than 100 meters.

Minerals noted associated with the system included siderite, hematite, pyrite, chalcopyrite, pyrrhotite and visible gold. The quartz itself appears to have a milky phase included inside a more translucent phase with mineralization often associated with these contacts as well as with hematized or chloritic fractures. There is potential for gold mineralization in the quartz vein and sheared zone as well as in the adjacent hybrid granite and mafic dyke. Drilling has exposed the fact that the quartz vein transcends the anticipated position at the contact between the mafic dyke and the sheared granite occurring completely within each independent unit in different holes.

As mentioned in the previous sub-section on local geology, the vein occurs in a shear zone that is exposed on Kings Island and correlates with strike and position of Red Lake Gold Shore Mines MDI's on the southern shore of Red Lake. Geophysical evidence indicates a continuation of the shear zone across the extent of the claims being nearly 1 kilometer in a north westerly direction also transecting the east west MacAndrew Trend, (Figure 17. VLF-EM interpretation by Frank Jogodits).

Historical reports describe the MacAndrew Trend as a gold bearing east west trending iron carbonate shear zone dipping at 45 degrees to the north. The zone can be traced on surface via a series of shallow aging exploratory pits and a 1-3 meter east west trending, displaced down to the south, sub vertical south dipping, scarp face. Burton's 1936 report on the property refers to Shaw's recommendations to drill the intersection of these two trends. Geophysical consultant Frank Jagodit's interpretation of EM (electro-magnetic) conductors seen in Figure 17, form a three way intersection at this point as well. The Author has referred to this target area as the "Perfect Storm".

This area was one of the targets of the winter drilling program with 3 holes being directed across this zone.

Drilling has indicated the continuity of the "Bishop's Break" lithology to over 1 kilometer below surface and also revealed a similar lithology sub cropping approximately 300 meters to the north east, (Figure 32. SW NE Section with 2012 Drilling and Best Holes of 2010 & 2011).

The Bishop's Break quartz vein exposed at surface pinches and swells from millimeter to meter scale through what has been described previously as the A and B Zones. The 1997 MNDM, MDI description of the prospect is as follows;

> *"24/01/1997 The quartz veins strike approximately N23 degrees W and dip 68 to 77 degrees to the NE. Both veins pinch and swell considerably along strike and with depth. Both veins have been intersected in diamond drill holes down to depths in the order of 90m. Contacts between the quartz veins and the wall rocks are sharp. The quartz veins consist mainly of white glassy quartz. In places the veins have a banded appearance due to thin films and streaks of chlorite and wallrock along fractures sub-parallel to the vein margins. The most northerly vein is 7.5 meters long and varies in width from 0.2 to 0.6 meters. The south vein has been traced from 50 meters, and varies from 0.02 to 0.05 meters in width. Two small ore shoots have been outlined. Northern vein is 7.5m long, 0.7m wide on average, has an average uncut grade of 1.260 opt Au and an average cut grade of 0.360 opt Au. The Southern vein is 19.5m long, has an average uncut grade of 0.544 opt Au and an average cut grade of 0.3444 opt Au.2009 Chip and grab samples taken from available exposures in the old trenches. Of the 11 samples collected there were 7 anomalous samples. Ranging up to 13.85 PPM Au." (Authors note; 1 PPM (part per million) = 1 g/t (gram per tonne))"*

The Author is unsure of the source of the grades averaged and considers this information to be non compliant by NI 43-101 standards. Of note is that the MDI refers to a north and south vein. The Author has referred to these zones in accordance with Burton's 1934 report as the "A" and "B" Zones. The "A" zone is approximately 50 meters of continuous strike with true widths pinching down to millimeters and swelling up to just over 1 meter. There is a 12 meter section where the contact is traceable however no quartz is evident. The north vein or "B" zone extends over a 10 meter strike length however what opens up as a fairly robust vein at the southern limit quickly diminishes into a sheared segment with quartz flooding northward. This northerly segment is still highly auriferous as evidenced by the channel sample assays, (Table 5. Channel Sampling Logs & Assay Results).

A loose grab sample found in the "B" zone indicates shearing, folding and/or later dyke emplacement that seems to have truncated the quartz veining at the north end of the "B" zone and may actually be a micro-capitulation of an axial fold plane, (Figure 12. "B" Zone Grab Sample and Associated MNDM Correspondence). This sample is on display at the Red Lake Ministry of Northern Development and Mines office where as per personal communication from District Geologist Carmen Storey as of the time of this report it was one of only three samples on display that had traces of visible gold. MNDM assay results of a slab of this specimen returned 4.7 oz/ton Au and 1.3 oz/ton Ag (161.1g/t Au, 44.6g/t Ag).

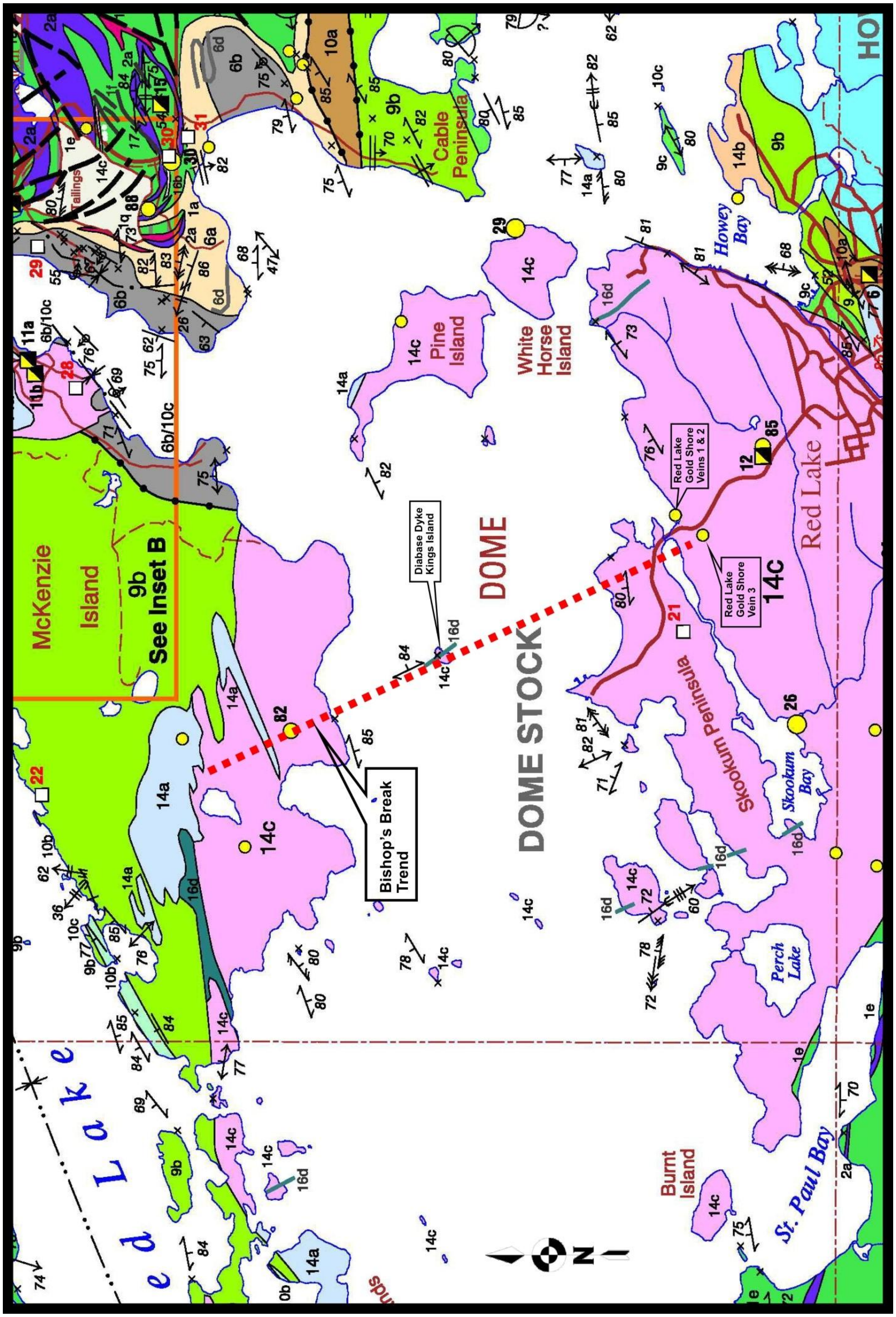


Figure 10. Projection of Bishop's Break Across Red Lake

Figure11 . Xenolithic Granite

From: carmen.storey@ontario.ca
To: eco.geo@live.com
Subject: RE: merry christmas
Date: Fri, 27 Dec 2013 17:40:26 +0000

Scott

Here is the lab certificate for the folded quartz vein sample with fine visible gold, the sample number is 2010CS052 from lab job number 10-0553. The other sample on this certificate is a surface sample from Madsen. We have the polished sample in our display along with two other samples (one from Madsen Mine and the other from the Rivard Todd Township property) that show visible gold. I have attached the digital results as a .pdf and I scanned the hard copy from my file as it has the lab signature.

Carmen Storey, B.Sc.,P.Geo.
District Geologist
Ministry of Northern Development and Mines
Mines and Minerals Division
Ontario Geological Survey, Resident Geologist Program
P.O. Box 324, 227 Howey Street
Red Lake, Ontario

(Tel) 807 727 3284
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Figure 12. "B" Zone Grab Sample and Associated MNDM Correspondence

10.0 Deposit Types

The anticipated deposit types explored for on the property are described by Stott and Corfu 1991 who referred to earlier work by Horwood 1948 and Pirie 1981. Essentially fractures and shear zones developed due to stresses imposed on the belt by the emplacement of external granitic batholiths. There is a spatial association noted between the gold deposits of the eastern part of Red Lake and a zone of pervasive iron carbonatization in the lower theolitic to komatiitic sequence, the Balmer assemblage. Andrews et al. 1986, summarized that the gold deposits are products of hydrothermal fluids introduced into ductile deformation zones at a late stage in the tectonic history of the belt probably contemporaneous with plutonic emplacements.

The Balmer assemblage has recently been drilled in the McKenzie Channel east of the project area. With projected depths of over 2000 meters, if the unit does continue to plunge westward to beneath the project area, it's depth would be economically prohibitive to traditional exploration methods. Subsequently, the deposit type focused on for exploration was modeled on second generation diorite emplacement within the Red Lake greenstone belt such as at the McKenzie and Gold Eagle Mines as well as the Howie.

In the 2009 MNDM Recommendations for Exploration, Andreas Lichtblau states;

> *"The Dome Stock, McKenzie Stock and Howie diorite are classified as second generation, internal intrusions within the Red Lake greenstone belt (Parker 2001). The Dome Stock was emplaced at 2718 ± 1 Ma (Corfu and Andrews 1987); the McKenzie Stock was emplaced at 2720 ± 2 Ma (Corfu and Andrews 1987) and is probably related to the Dome Stock. Howie "diorite" (which ranges in composition from quartz porphyry to mafic amphibole and pyroxene diorite) is speculated to be coeval with the other two intrusions (Parker 2001) and all are interpreted to have been emplaced during D2, a complex deformation event (Sanborn-Barrie et al. 2000). All 3 internal intrusions host a number of gold occurrences, with production of 714,000 ounces of gold from a total of 4 past-producers in the Dome and McKenzie Stocks."*

In the 2010 MNDM Activities Report Lichtblau refers to the large tonnage low grade potential being explored by Mega Precious Metals on the Laverty Dyke. As noted;

> *"Mega Precious Metals Inc., on its North Madsen properties (see Mega Precious Metals Inc. write-up in MNDM 2010 Exploration Activity), revealed extensive, low-grade gold mineralization within a 5 meter wide mafic dike (the Laverty Dike zone) and surrounding Dome Stock granodiorite. An NI 43-101 compliant indicated resource of 395,000 t at 2.56 g/t Au, plus an additional inferred resource of 32,000 t at 3.32 g/t Au on the Laverty Dike zone (open pit and underground, above 100m depth) was calculated with data from holes drilled to the end of April, 2010 (Harron and Puritch 2010)."*

Lichtblau also refers to Crown Gold Corporations channel sampling and primary drill program and relates both deposits to a trend set defined by Blackburn et al. (1999). As noted;

> *"Crown Gold Corporation completed channel sampling and 10 diamond drill holes (totalling 661 m) testing auriferous quartz veins along the western contact of a 155º trending mafic*

dike that cuts the Dome granodiorite stock. Both dikes fall into a southeasterly trending set defined previously by Blackburn et al. (1999); e.g., Skookum: 150º; Laverty: 150º; Red Lake Gold Shore: 145º; Buffalo: 119º; Pine Island: 160º."

(Figure 13. Gold Deposits in the Red Lake Area), details the gold mines and deposits of Red Lake, highlighting the above mentioned deposits, and (Table 4. Historic Gold Production Red Lake), sourced from the MNDM 2012 Report on Activities, details historic gold production from the Red Lake District.

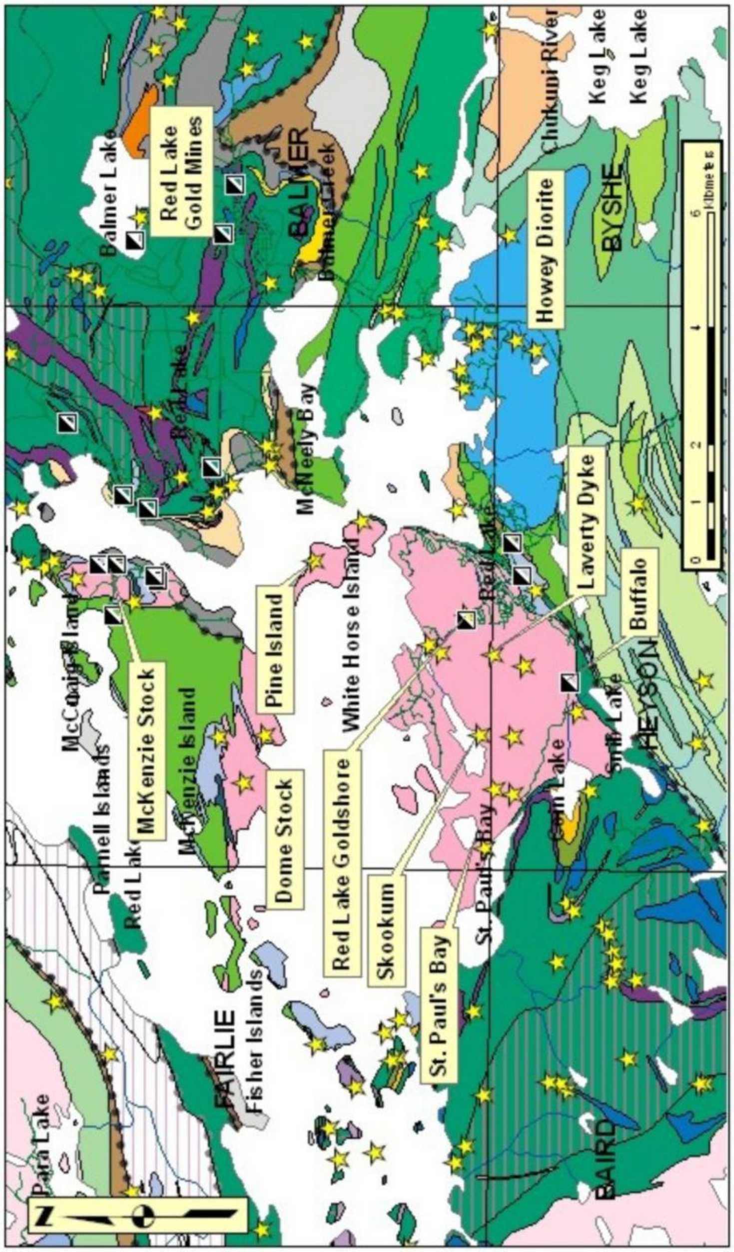
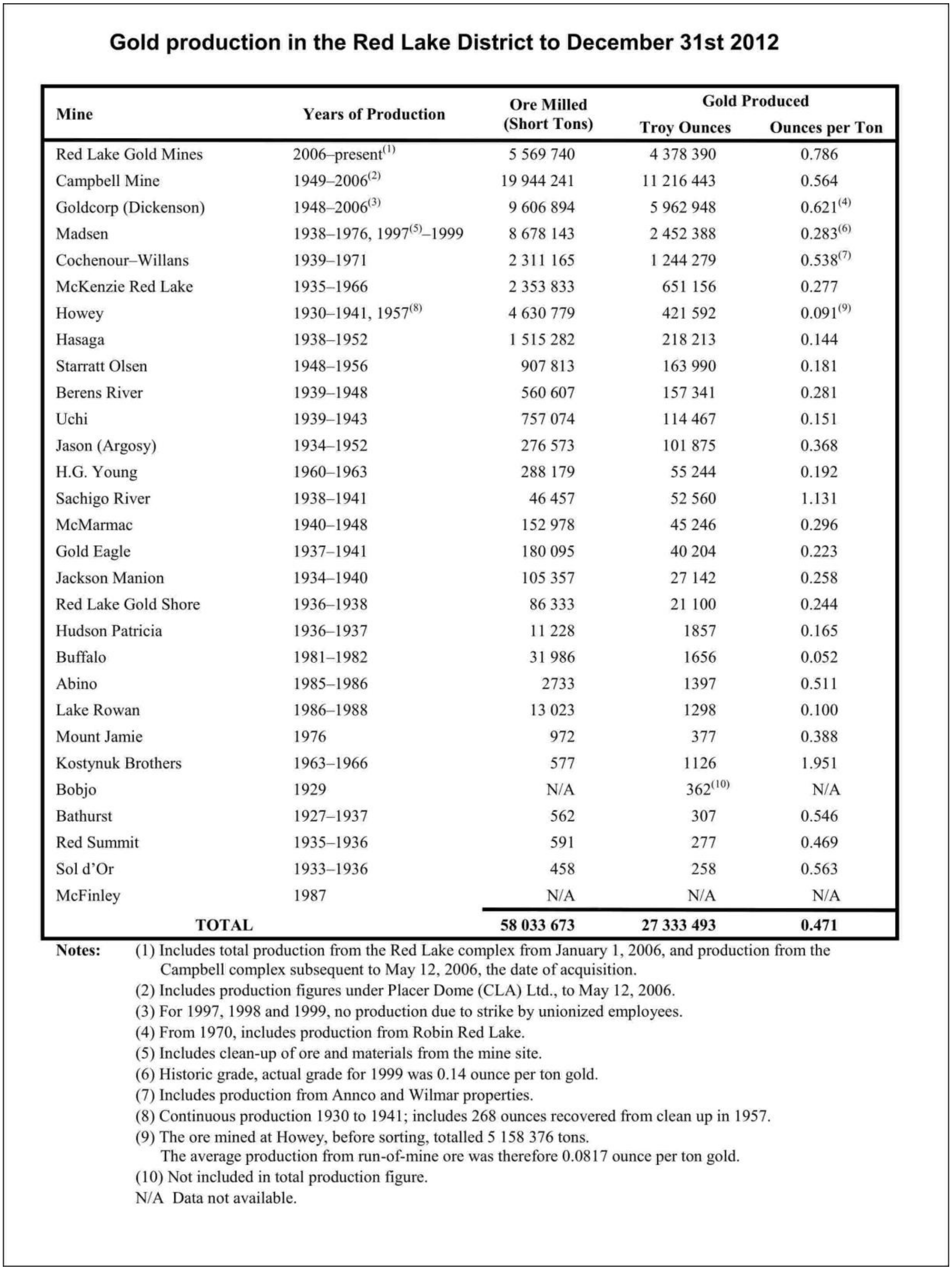


Figure 13. Gold Deposits in the Red Lake Area (source: MNDM Report on Activities 2009, Legend: □ Present and past-producing gold mine; ☆ Gold occurrence or prospect. (Adapted from Sanborn-Barrie et al. 2004))



Gold production in the Red Lake District to December 31st 2012

Mine	Years of Production	Ore Milled (Short Tons)	Gold Produced	
			Troy Ounces	Ounces per Ton
Red Lake Gold Mines	2006–present(1)	5 569 740	4 378 390	0.786
Campbell Mine	1949–2006(2)	19 944 241	11 216 443	0.564
Goldcorp (Dickenson)	1948–2006(3)	9 606 894	5 962 948	0.621(4)
Madsen	1938–1976, 1997(5)–1999	8 678 143	2 452 388	0.283(6)
Cochenour–Willans	1939–1971	2 311 165	1 244 279	0.538(7)
McKenzie Red Lake	1935–1966	2 353 833	651 156	0.277
Howey	1930–1941, 1957(8)	4 630 779	421 592	0.091(9)
Hasaga	1938–1952	1 515 282	218 213	0.144
Starratt Olsen	1948–1956	907 813	163 990	0.181
Berens River	1939–1948	560 607	157 341	0.281
Uchi	1939–1943	757 074	114 467	0.151
Jason (Argosy)	1934–1952	276 573	101 875	0.368
H.G. Young	1960–1963	288 179	55 244	0.192
Sachigo River	1938–1941	46 457	52 560	1.131
McMarmac	1940–1948	152 978	45 246	0.296
Gold Eagle	1937–1941	180 095	40 204	0.223
Jackson Manion	1934–1940	105 357	27 142	0.258
Red Lake Gold Shore	1936–1938	86 333	21 100	0.244
Hudson Patricia	1936–1937	11 228	1857	0.165
Buffalo	1981–1982	31 986	1656	0.052
Abino	1985–1986	2733	1397	0.511
Lake Rowan	1986–1988	13 023	1298	0.100
Mount Jamie	1976	972	377	0.388
Kostynuk Brothers	1963–1966	577	1126	1.951
Bobjo	1929	N/A	362(10)	N/A
Bathurst	1927–1937	562	307	0.546
Red Summit	1935–1936	591	277	0.469
Sol d'Or	1933–1936	458	258	0.563
McFinley	1987	N/A	N/A	N/A
TOTAL		**58 033 673**	**27 333 493**	**0.471**

Notes:

(1) Includes total production from the Red Lake complex from January 1, 2006, and production from the Campbell complex subsequent to May 12, 2006, the date of acquisition.

(2) Includes production figures under Placer Dome (CLA) Ltd., to May 12, 2006.

(3) For 1997, 1998 and 1999, no production due to strike by unionized employees.

(4) From 1970, includes production from Robin Red Lake.

(5) Includes clean-up of ore and materials from the mine site.

(6) Historic grade, actual grade for 1999 was 0.14 ounce per ton gold.

(7) Includes production from Annco and Wilmar properties.

(8) Continuous production 1930 to 1941; includes 268 ounces recovered from clean up in 1957.

(9) The ore mined at Howey, before sorting, totalled 5 158 376 tons. The average production from run-of-mine ore was therefore 0.0817 ounce per ton gold.

(10) Not included in total production figure.

N/A Data not available.

Table 4. Historic Gold Production Red Lake (Source MNDM Activities Report 2012)

11.0 Mineralization

The mineralized zones explored on the property have been on strike and parallel to the east of the Az340 striking "Bishop's Break" or MacAndrews Prospect as described in Section 9.3 Property Geology. The auriferous quartz veining encountered parallels a mafic dyke in an sheared hybridized xenolithic version of the Dome Stock granodiorite. **Zones described by Burton in 1934 as "A" and "B" zones have been channel sampled and drilled defining two higher grade mineralized zones at surface plunging slightly to the north west with two lenses of higher grade zones defined beneath the "A" zone with the lower open and undefined beyond 70 meters, (Figure 33. Long Section with 2010-2012 Intersects Contoured).**

The highest assay result from the project was returned from a "B" zone grab sample, (Figure 12. "B" Zone Grab Sample and Associated MNDM Correspondence), which returned 4.2 oz/ton Au and 1.3 oz/ton Ag. (161.1g/t Au, 44.6g/t Ag). This sample was collected as loose grab during the clearing of the B Zone by an excavator hence orientation was unconfirmed. The high silver assay was unexpected as the highest previous silver result as evidenced in the channel sample ICP multi-element assays was 6.5 g/t Ag at CC23, also in the B Zone. CC23 also had the highest gold result of a measured sample on the project with a cut of 122.5g/t Au over 45 centimeters. Numerous holes on the B Zone failed to define a definite plunge or continuation of mineralization more than 4 meters below surface. The 11 short holes MK-11-17 to MK-11-27 were drilled in a tight radiating series of three fan patterns from a position 2 meters west of the "B" zone trench. The intention of defining structural parameters to this portion of the vein were unsuccessful due to poor core recovery and poorly defined contacts, however the drill hole pattern resulting would allow a small blast at some future time which could facilitate a small bulk sample and possibly reveal geologic contacts or other indicators of structure. Two deeper intersect attempts on the "B" zone, MK-10-07 and MK-11-28 did not intersect significant values.

The main focus of the three phases of the drill program has entailed the exploration and definition of the mineralized lenses in the boudinaged quartz vein referred to as the "A" zone. Values ranged from trace up to 60g/t Au over 69 centimeters in MK-12-34. The higher grade area forms a narrow steeply plunging zone approximately 20 meters wide, (Figure 33. Long Section with 2010-2012 Intersects Contoured). This zone has been drilled with relatively close spacing down to approximately 70 meters below surface. **MK-11-35 intersected the Bishop's Break quartz vein at approximately 180 meters below surface intersecting only 0.5 g/t Au over 27 centimeters corrected width. MK-12-36 intersected the Bishops Break horizon at between 1103-1106 meters.** The presence of pyrite and chalcopyrite was not augmented by any gold values at this intersect. There were also intersects between 314-332 meters down hole or approximately 300 meters below surface of Bishops Break style veining though only trace gold values were returned in assays.

The Perfect Storm target, being the intersection of the MacAndrew's trend and Bishop's Break, approximately 200 meters north west of the "B" zone, was drilled with intersections at approximately 35 meters and 55 meters depth below surface returning 1.3 g/t Au over 100 centimeters and 0.4 g/t Au over 50 centimeters both in a diorite dyke adjacent to the quartz veining which was barren. An intersect of the Bishops Break vein 250 meters north west of the "B" zone returned trace values of 0.02 g/t Au over 25 centimeters at a depth below surface of approximately 45 meters.

The auriferous mineralization in the quartz veins intersected and sampled by channel proved to be subject to a nugget effect. That is to say that locally anomalously high gold values assayed can be attributed to the occurrence of coarse free gold at random positions across the vein. The gold mineralization is not confined to the quartz veining as values have been returned both in the hybrid granodiorite footwall of Bishop's Break as well as the adjacent diorite dyke at the Perfect Storm target and beyond to the north west.

12.0 Exploration

12.1 Geophysics

Exploration by Crown in 2010 included grid cutting on the property. The grid consists of lines trending east-west and north-south at 50 meter spacing with stations at 25 meter intervals on both sets of lines.

Crown also had ground magnetic and VLF-EM geophysical surveys performed by EXSICS Exploration Limited, based in Timmins, over the new, grid lines. The magnetics and VLF-EM were surveyed with an ENVI-Mag System and the maps were printed at 1:2500. (Figure 14.Total Field Magnetic Survey), data was contoured at 50 nT. (Figure 15. Gradient Magnetic Survey) , was contoured at 5 nT. (Figure 16. VLF-EM Survey), used Cutler Maine at 240 KHz and was plotted as profiles at 1 cm = 40%. These data sets were interpreted by Frank Jogodits of Toronto, (Figure 17. VLF-EM Interpretation by Frank Jogodits).

Although the Author interprets the magnetic data to be somewhat station-centric at the chosen contour interval, there does seem to be a correlation with the known geologic trends being Bishop's Break striking northwest to southeast and the MacAndrews trend striking east west. As the auriferous quartz vein on the property is in contact with a mafic dyke that bears a magnetic signature it would follow that any linear magnetic feature would be prospective for gold. It is the Authors opinion that the VLF-EM interpretation shown in Figure 17 provides a fairly clear representation of the underlying structure.

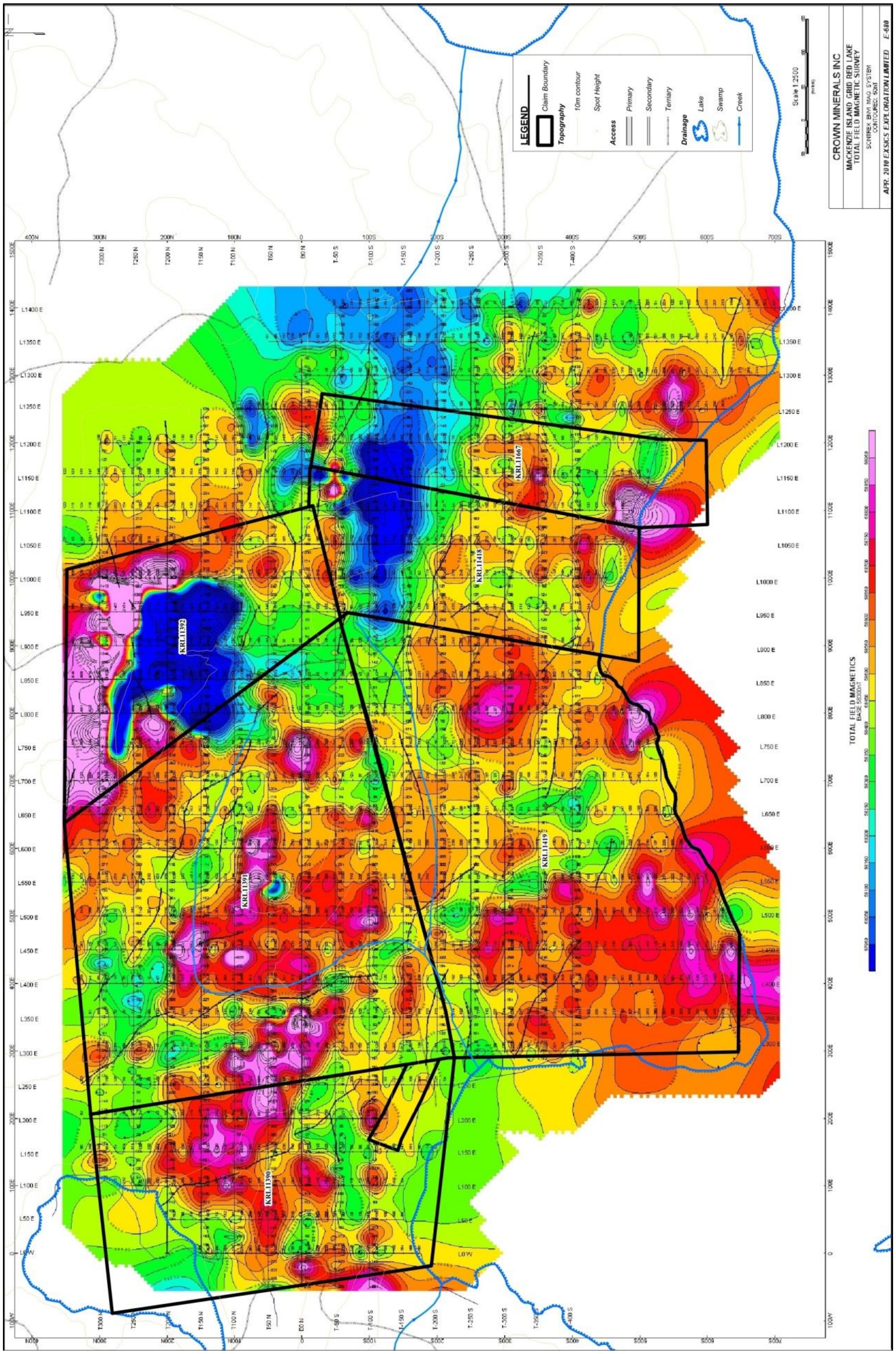


Figure 14. Total Field Magnetic Survey

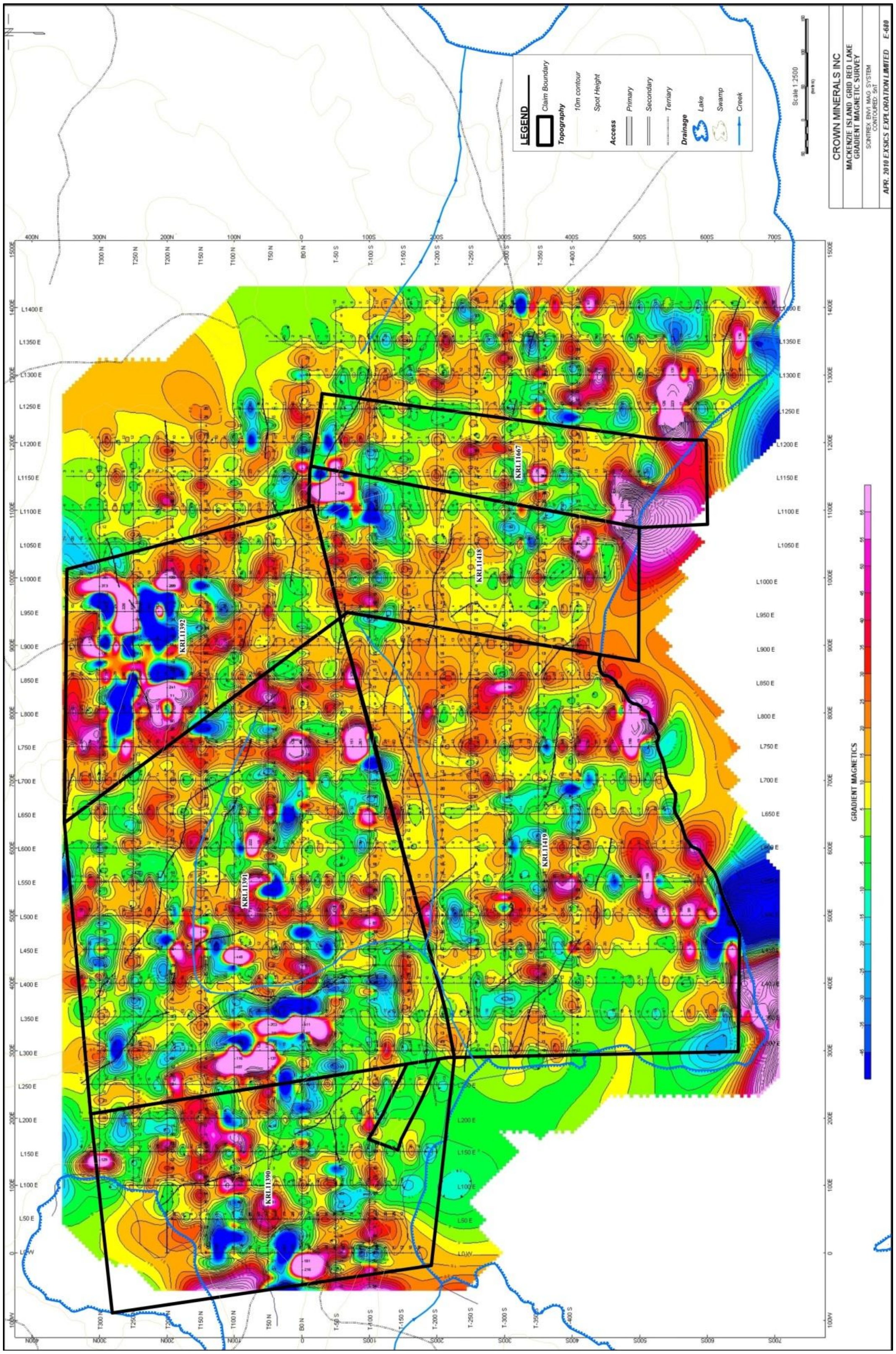


Figure 15. Gradient Magnetic Survey

Figure 16. VLF-EM Survey

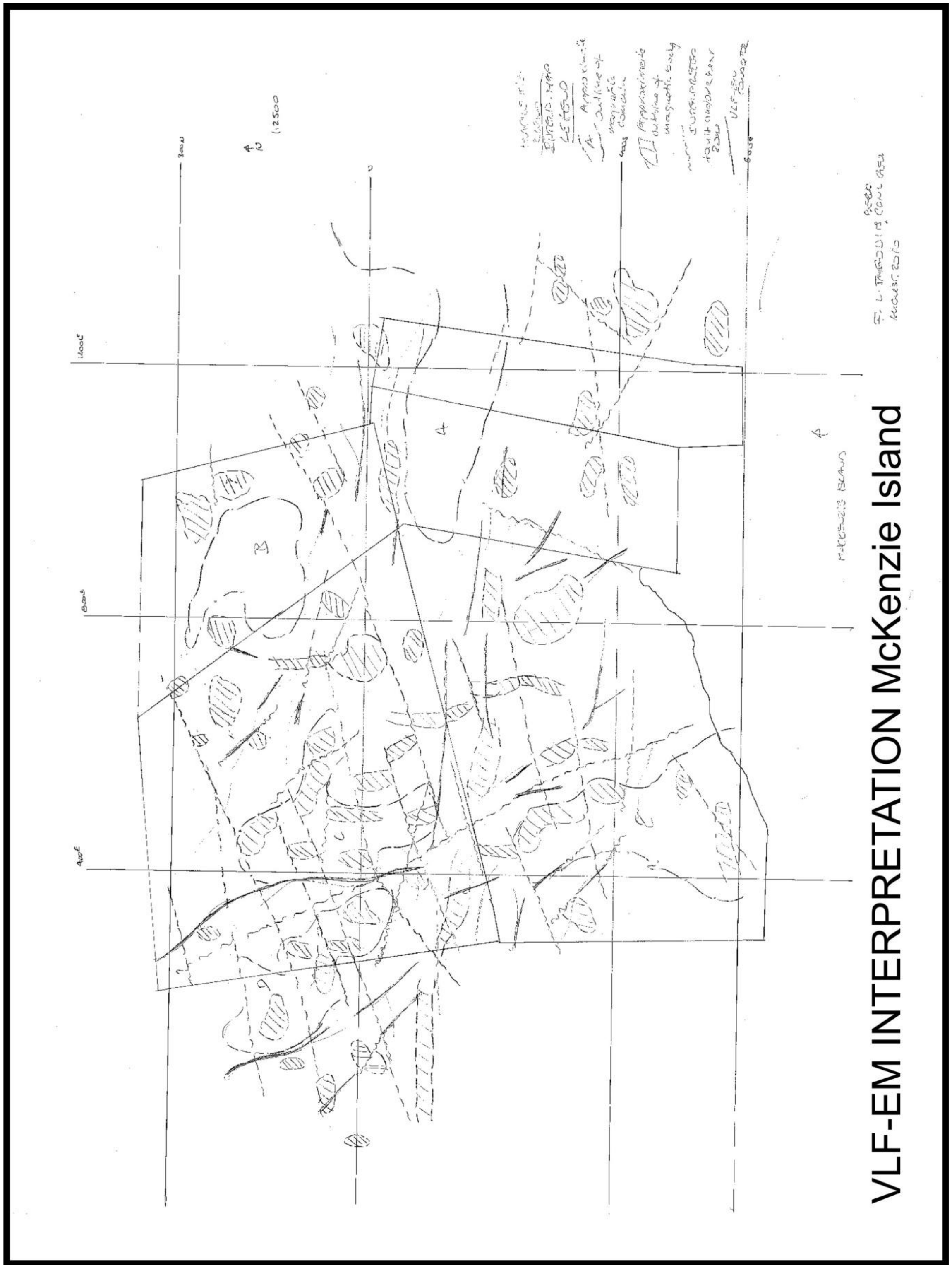


Figure 17. VLF-EM Interpretation by Frank Jogodits

12.2 Channel Sampling & Mapping

In July 2010 the author attended the property and located the 1932-1934 workings as described by Shaw and Burton, and established the position of some of the samples collected by George Cargill described in his May 2010 technical report.

A landing was cleared to enable excavating and drilling equipment to be barged across Red Lake from Cochenour. Draco (1985) Ltd. was contracted for road works and stripping as well as barge transport of equipment. A road was established by excavator from the barge landing to the area to be stripped. The target area was accessible from both the constructed road to the south and the pre-existing cross country ski trail to the north. Once the trend of the main NNW striking vein was established an area along strike approximately 220 meters long by 30-40 meters wide was stripped of vegetation and overburden by an excavator and then hand washed using a Honda pump and gas powered pressure washer, (Figure 18. Project Area Stripping and Road Works).

While the author and a technician cleared the exposed strike length of the contact in preparation for channel sampling, the southern portion of the stripped area referred to as the “A” zone was mapped by Consulting Geologist and QP Bob Kuehnbaum, (Figure 20. Geologic Mapping by Bob Kuhnenbaum). The northern portion, the “B” zone , was mapped by the Author in early November 2010. The main geologic contacts are outlined with drill traces, (Figure 27. Major Geologic Contacts, Channel Samples & 2010 Drill Traces).

All channel samples were cut perpendicular to the vein trend by the Author using a gas powered saw and chiselled by hand by the Author and a technician. Channel dimensions averaged 35-40 millimeters wide by 15-25 millimeters deep. Samples were numbered consecutively from left to right (west to east) and channels were numbered consecutively increasing northward, (Figure 19. Channel Sample Cuts Over Burton’s Geology 1936).

The first channel cut (CC01) was made in the area previously referred to as the “T Trench” from the 1932 diggings. This point was designated as “0” meters north for later cross reference against Bob Kuehnbaum’s grid, Br1, Br2, etc. The GPS position of the vein contact at CC-01 is UTM NAD83 Zone15 439246E , 5656034N, as recorded with a Magellan Explorist 500 GPS with approximately 6 meter accuracy on the day. In most instances the quartz vein comprised the center sample with at least 1.5 centimeters of “waste” included on each contact along with 2-4 flanking “waste” samples on either side of the quartz vein. The channel sampling occurred for an extent along the pre-existing scarp face of Bishops Break. Due to physical constraints of the outcrop face position some channels were limited to either vein or off vein cuts. Vertical or horizontal shifts in sample strings, when necessary, paralleled stratigraphic horizons.

All samples were individually chiselled and bagged under the direct supervision of the Author as QP, (Qualified Person). Alternating gold standards, silica blanks and lab coarse split duplicate requests were inserted on site at ten sample intervals. All samples were delivered by the Author to SGS Laboratory in Red Lake for assay by FAA313, fire assay atomic absorption, and IMS12B, 32 element by 2 acid digest. Assay results over 1 g/t Au were subsequently assayed by FAG303, fire assay gravimetric, and selected results over 10 g/t Au were assayed by metallic sieve analysis to define any nugget effect. All channels were photographed after sampling and are included in the appendices of this report. Lithologies abbreviated in the sample Table 5, are MYL – mylonite, SHR –

shear, FGR – felsic granite, FeCO3 – iron carbonate, HYB – hybridized, Q – quartz, V – vein, v – veinlet.

In August a preliminary channel sample survey of 115 samples of between 30-100 centimeters were taken from 31 channel cuts along 208 meters of strike for a total sample length of 64 meters and returned between 122 g/t gold over 0.5 meters and 0.01 g/t gold over 0.65 meters. Subsequently during the September drilling program, another 64 samples were taken from 13 channel cuts within the same strike length described above as infill to the previous data. Areas sampled concentrated on explaining the unexpected anomalously low results of CC14's Au assay and expanding on the anticipated higher grade results in the B Zone around CC23. New areas sampled included the 5 centimeter quartz vein found in the recently exposed contact with the mafic vein near the north east end of the stripped area (CC38), and the previously flooded area between CC03-CC04 (CC39-CC44).

This gives a channel cut total of 179 samples for a total sample length of 92 meters, (Table 5. Channel Sampling Logs & Assay Results). The purpose of this portion of the program was to redefine historic surface findings prior to diamond drill targeting. (Figure33. Long Section with 2010-2012 Intersects Contoured), displays a representation of grade intersected at surface on the channel sampling program.

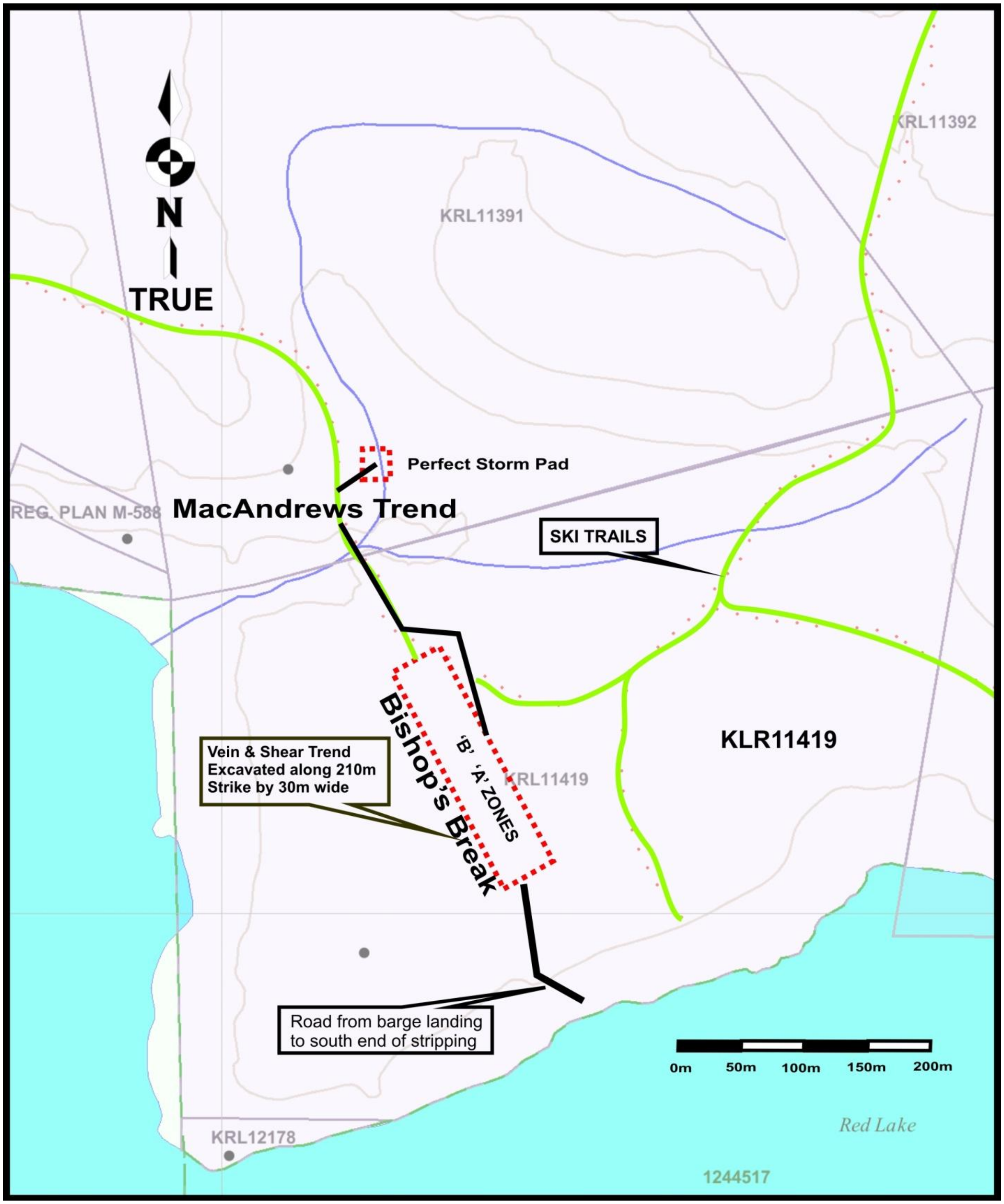


Figure 18. Project Area Stripping and Road Works

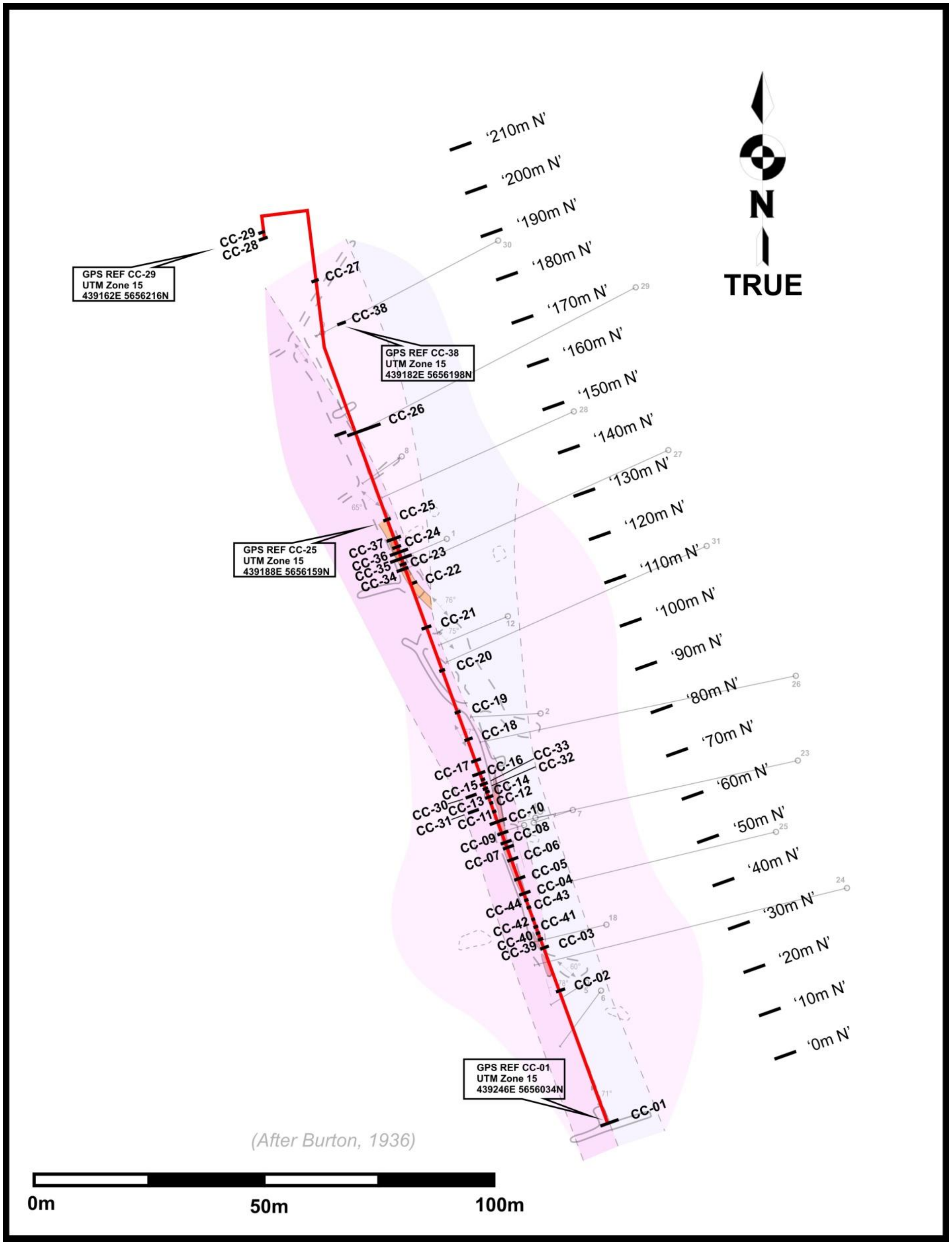


Figure 19. Channel Sample Cuts Over Burton's Geology 1936

Figure 20. Geologic Mapping by Bob Kuhnenbaum

Channel #	Sample #	Position	From (m)	To (m)	Width cm	Type	Lithology	Sample #	Au g/t	Au g/t (R)	Au Oz/t	Au g/t >10	CALCS	COMPS g/t over cm	
									FAA303/FAA313		FAG303	FAG303			
CC01	687751	0m N	0	1	100	Ch	MYL	687751	0.04						
450	687752		1	2	100	Ch	MYL	687752	0.01						
	687753		2	2.5	50	Ch	MYL	687753	<0.01						
	687754		2.5	3	50	Ch	Vein Shear contact	687754	<0.01						
	687755		3	3.5	50	Ch	SHR FGR	687755	0.02						
	687756		3.5	4	50	Ch	MAFIC DYKE	687756	0.01						
	687757		4	4.5	50	Ch	MAFIC DYKE	687757	0.06						
CC02	687758	31m N	0	0.85	85	Ch	FGR	687758	<0.01						
200	687759		0.85	1.15	30	Ch	25mm Q V	687759	0.06						
	687760		0	0	STD	Oreas 62C	STD 8.79g/t Au	687760	8.96						
	687761		1.15	2	85	Ch	FGR	687761	0.08						
CC03	687762	40.75m N	0	0.5	50	Ch	FGR	687762	0.07						
230	687763		0.5	1	50	Ch	FGR	687763	0.05						
	687764		1	1.3	30	Ch	22cm Q V	687764	0.63					0.63	over 30cm
	687765		1.3	1.8	50	Ch	SHR FGR	687765	0.02						
	687766		1.8	2.3	50	Ch	SHR FGR	687766	0.01						
CC39	280052	44.4m N	0	0.35	35	Ch		280052	0.03						
95	280053		0.35	0.65	30	Ch	20cm Q V & He	280053	<0.01						
	280054		0.65	0.95	30	Ch		280054	0.02						
CC40	280055	45.6m N	0	0.3	30	Ch		280055	<0.01						
85	280056		0.3	0.59	29	Ch	16cm Q V	280056	0.07				2.0	0.10	over 55cm
	280057		0.59	0.85	26	Ch		280057	0.14				3.6		
CC41	280058	46.9m N	0	0.36	36	Ch		280058	<0.01						
96	280059		0.36	0.66	30	Ch	17cm Q V	280059	0.82					0.82	over 30cm
	280060		0.66	0.96	Duplicate of 280061			280060	<0.01						
	280061		0.66	0.96	30	Ch		280061	0.1						
CC42	280062	47.7m N	0	0.3	30	Ch		280062	0.14				4.2	0.15	over 75cm
75	280063		0.3	0.55	25	Ch	14cm Q V	280063	0.16				4.0	0.16	over 25cm
	280064		0.55	0.75	20	Ch		280064	0.14				2.8		
CC43	280065	50.65m N	0	0.35	35	Ch		280065	0.07						
90	280066		0.35	0.6	25	Ch	18cm Q V	280066	0.18					0.18	over 25cm
	280067		0.6	0.9	30	Ch		280067	0.04						

CC44	280068	52m N	0	0.32	32	Ch		280068	0.06						
87	280069		0.32	0.57	25	Ch	13cm Q V	280069	0.04						
	280070		0	0	STD	Oreas H3	STD 2.0 g/t Au	280070	1.89						
	280071		0.57	0.87	30	Ch		280071	0.08						

CC04	687767	53m N	0	0.5	50	Ch	FGR	687767	<0.01						
180	687768		0.5	1	50	Ch	FGR	687768	<0.01						
	687769		1	1.3	30	Ch	20cm Q V	687769	0.22					0.22	over 30cm
	687770		0	0	BLK	Silica		687770	<0.01						
	687771		1.3	1.8	50	Ch	FGR & Q v	687771	0.08						

CC05	687772	57m N	0	0.5	50	Ch	FGR	687772	0.06						
225	687773		0.5	1	50	Ch	FGR	687773	0.01						
	687774		1	1.4	40	Ch	35cm Q V	687774	3.18				127.2	3.18	over 35cm
	687775		1.4	1.9	50	Ch	FGR	687775	0.18				9.0	1.51	0ver 90cm
	687776		1.9	2.25	35	Ch	FGR	687776	0.09						

CC06	687777	61m N	0	0.5	50	Ch	FGR	687777	<0.01						
215	687778		0.5	1	50	Ch	FGR	687778	0.02						
	687779		1	1.55	55	Ch	50cm Q V	687779	8.4	6.67	0.33	11.29		11.29	over 55cm
	687780		1	1.55	Duplicate of 687779			687780	<0.01	13.35					
	687781		1.55	2.15	60	Ch	FGR	687781	0.07						

CC07	687782	63.75m N	0	0.7	70	Ch	FGR	687782	0.18				12.6	9.20	over 210cm
210	687783		0.7	1	30	Ch	55cm	687783	>10		0.67	22.97	689.2	31.38	over 60cm
	687784		1	1.3	30	Ch	Q V	687784	>10		1.16	39.78	1193.3		
	687785		1.3	2.1	80	Ch	SHR FGR	687785	0.46				36.8		

CC08	687786	65.1m N	0	0.85	85	Ch	FGR & Q v	687786	0.18				15.3	7.91	over 210cm
210	687787		0.85	1.2	35	Ch	70cm	687787	>10		0.44	15.09	528.1	21.85	over 75cm
	687788		1.2	1.6	40	Ch	Q V	687788	>10		0.81	27.77	1111.0		
	687789		1.6	2.1	50	Ch	FGR	687789	0.12				6.0		
	687790		0	0	STD	Oreas H3	STD 2.0 g/t Au	687790	2.14						

CC09	687791	67m N	0	0.7	70	Ch	FGR	687791	0.11				7.7	4.98	over 170cm
170	687792		0.7	1.25	55	Ch	51cm Q V	687792	>10		0.44	15.09	829.8	15.09	over 55cm
	687793		1.25	1.7	45	Ch	FGR	687793	0.2				9.0		

CC10	687794	70m N	0	0.85	85	Ch	FGR	687794	0.14						
370	687795		0.85	1.7	85	Ch	FGR	687795	0.04						
	687796		1.7	2.2	50	Ch	32cm Q V	687796	5.7					5.7	over 50cm
	687797		2.2	2.7	50	Ch	FGR FeCO3	687797	0.06						
	687798		2.7	3.2	50	Ch	FGR FeCO3	687798	<0.01						
	687799		3.2	3.7	50	Ch	FGR FeCO3	687799	<0.01						
	687800		0	0	BLK	Silica		687800	<0.01						
Grab	1010				GRAB	Grab Sample	Granodiorite dyke 3m east of vein adjacent to CH15	1010	0.04						
Grab	1011				GRAB	Grab Sample	Granite and sulphides east of mafic dyke contact 7m east of vein adjacent to CC18	1011	0.27						
CC11	1012	72.25m N	0	0.32	32	Ch	24cm Q V	1012	4.61					4.61	over 32cm
67	1013		0.32	0.67	35	Ch	FGR	1013	0.03						
CC12	1014	74.5m N	0	0.35	35	Ch	30cm Q V	1014	>10		0.55	18.86		18.86	over 35cm
80	1015		0.35	0.8	45	Ch	FGR FeCO3	1015	0.19						
Grab	1016	74.75m N	0	0.45	GRAB	Grab sample	42cm qtz vein & 2x1.5cm waste	1016	>10		0.48	16.46		16.46	over 45cm
CC13	1017	75.5m N	0	0.5	50	Ch	SHR MAF DYKE	1017	0.1						
225	1018		0.5	1	50	Ch	SHR MAF DYKE	1018	0.37						
	1019		1	1.5	50	Ch	SHR MAF DYKE	1019	0.14	0.52				0.21	over 175cm
	1020		1	1.5	Duplicate of 01019			1020	<0.01	0.52					
	1021		1.5	2.25	75	Ch	SHR MAF DYKE	1021	0.15						
CC14	1022	76.5m N	0	0.65	65	Ch	60cm Q V	1022	0.01	<0.01					
CC32	280001	77m N	0	0.33	33	Ch		280001	0.03						
129	280002		0.33	0.61	28	Ch	51cm	280002	9.75				273.0	13.96	over 56cm
	280003		0.61	0.89	28	Ch	Q V	280003	>10		0.53	18.17	508.9		
	280004		0.89	1.29	40	Ch		280004	0.14						

CC33	280005	78.5m N	0	0.4	40	Ch		280005	0.06						
223	280006		0.4	0.78	38	Ch		280006	0.04						
	280007		0.78	1.23	45	Ch	41cm Q V	280007	>10		0.79	27.09	1219.0	27.09	over 45cm
	280008		1.23	1.73	50	Ch		280008	0.21						
	280009		1.73	2.23	50	Ch		280009	0.1						
	280010				STD	Oreas H3	STD 2.0 g/t Au	280010	1.87						

CC15	1023	79.5m N	0	0.3	30	Ch	MYL HYB FGR	1023	1.06	1.37			31.8	1.79	over 80cm
130	1024		0.3	0.8	50	Ch	35cm Q V	1024	2.23				111.5	2.23	over 50cm
	1025		0.8	1.3	50	Ch	SHR MAF DYKE	1025	0.02						

CC16	1026	81m N	0	0.5	50	Ch	MYL HYB FGR	1026	0.03						
285	1027		0.5	1	50	Ch	MYL HYB FGR-SHR & Q v	1027	0.35						
	1028		1	1.7	70	Ch	MYL HYB FGR	1028	0.03						
	1029		1.7	2.1	40	Ch	38cm Q V	1029	1.34					1.34	over 38
	1030		0	0	STD	Oreas 62C	STD 8.79g/t Au	1030	9.05						
	1031		2.1	2.85	75	Ch	SHR MAF DYKE	1031	0.06						

CC17	1032	83.75m N	0	0.6	60	Ch	MYL HYB FGR	1032	0.02						
185	1033		0.6	1.2	60	Ch	MYL HYB FGR	1033	0.06						
	1034		1.2	1.5	30	Ch	10cm Q V	1034	0.04						
	1035		1.5	1.85	35	Ch	SHR MAF DYKE	1035	0.08						

CC18	1036	88.5m N	0	0.7	70	Ch	MYL HYB FGR	1036	0.04						
150	1037		0.7	1	30	Ch	Vein Shear contact	1037	0.03						
	1038		1	1.5	50	Ch	MAFIC DYKE	1038	0.05						

CC19	1039	95.75mN	0	0.5	50	Ch	MYL HYB FGR	1039	0.07						
135	1040		0	0	BLK	Silica		1040	0.01						
	1041		0.5	0.85	35	Ch	3cm Q V	1041	0.01						
	1042		0.85	1.35	50	Ch	MAFIC DYKE	1042	<0.01						

CC20	1043	105m N	0	0.38	38	Ch	MYL HYB FGR	1043	0.03						
121	1044		0.38	0.78	40	Ch	8cm Q V	1044	0.16					0.16	over 40cm
	1045		0.78	1.21	43	Ch	MAFIC DYKE	1045	0.04						

CC21	1046	115m N	0	0.7	70	Ch	SHR	1046	0.02						
215	1047		0.7	1.45	75	Ch	SHR	1047	0.06						
	1048		1.45	2.15	70	Ch	SHR	1048	0.02						

CC22	1049	125m N	0	0.4	40	Ch	15cm Q V	1049	0.11	0.08				0.11	over 40cm
40	1050		0	0.4	Duplicate of 01049			1050	<0.01	0.1					

CC34	280011	129m N	0	0.6	60	Ch		280011	0.19						
280	280012		0.6	1.1	50	Ch		280012	0.01						
	280013		1.1	1.4	30	Ch		280013	0.03						
	280014		1.4	1.7	30	Ch		280014	0.08						
	280015		1.7	2	30	Ch		280015	<0.01						
	280016		2	2.3	30	Ch	50cm	280016	1.63				48.9	11.30	over 80cm
	280017		2.3	2.6	30	Ch	QTZ Flooding	280017	>10		0.82	28.1178	843.5	14.87	over 60cm
	280018		2.6	2.8	20	Ch		280018	0.56				11.2		

CC23	1051	129.5m N	0	0.4	40	Ch	SHR FGR	1051	0.37				14.8	51.25	over 120cm
120	1052		0.4	0.9	50	Ch	45cm QV	1052	>10		3.57	122.42	6120.8	122.42	over 50cm
	1053		0.9	1.2	30	Ch	SHR FGR	1053	0.48				14.4		

CC35	280019	130.6m N	0	0.6	60	Ch		280019	0.05						
633	280020		0	0	BLK	Silica		280020	0.01						
	280021		0.6	1.34	74	Ch		280021	0.06						
	280022		1.34	1.88	54	Ch		280022	0.36				19.4		
	280023		1.88	2.41	53	Ch		280023	0.11				5.8	2.77	over 270cm
	280024		2.41	2.8	39	Ch	1.05m	280024	0.47				18.3	6.08	over 117cm
	280025		2.8	3.17	37	Ch	SHR &	280025	0.88				32.6		
	280026		3.17	3.58	41	Ch	QTZ Flooding	280026	>10		0.47	16.1163	660.8		
	280027		3.58	4.04	46	Ch		280027	0.24				11.0		
	280028		4.04	4.66	62	Ch		280028	0.06						
	280029		4.66	5.15	49	Ch		280029	0.07						
	280030		4.66	5.15	Duplicate of 280029			280030	0.03						
	280031		5.15	5.63	48	Ch		280031	0.05						
	280032		5.63	6.33	70	Ch		280032	0.27						

CC36	280033	132.1m N	0	0.88	88	Ch		280033	0.92				81.0		
	280034		0.88	1.45	57	Ch		280034	0.98				55.9	3.92	over 330cm
	280035		1.45	1.9	45	Ch	1.80m	280035	3.46				155.7	6.26	over 185cm
	280036		1.9	2.3	40	Ch	Fe Co SHR &	280036	0.13				5.2		
	280037		2.3	2.8	50	Ch	QTZ Flooding	280037	>10		0.44	15.0876	754.4		
	280038		2.8	3.3	50	Ch		280038	4.86				243.0		
	280039		3.3	3.95	65	Ch		280039	0.1						
	280040		0	0	STD	Oreas 62C	STD 8.79g/t Au	280040	7.56						
	280041		3.95	4.75	80	Ch		280041	0.18						

CC24	1054	133.25m N	0	0.3	30	Ch	SHR	1054	9.35				280.5	12.04	over 125cm
195	1055		0.3	0.85	55	Ch	90cm	1055	>10		0.3	10.29	565.8	12.89	over 95cm
	1056		0.85	1.25	40	Ch	Q V	1056	>10		0.48	16.46	658.4		
	1057		1.25	1.95	70	Ch	SHR	1057	0.2				14.0	7.79	over 195cm

CC37	280042	134.55m N	0	0.7	70	Ch		280042	0.04						
	280043		0.7	1.6	90	Ch		280043	0.03						
	280044		1.6	2.2	60	Ch	1.7m	280044	0.26				15.6	2.71	over 120cm
	280045		2.2	2.8	60	Ch	Fe Co SHR &	280045	5.15				309.0	5.15	over 60cm
	280046		2.8	3.35	55	Ch	QTZ Flooding	280046	0.08				4.4	1.88	over 175cm
	280047		3.35	3.65	30	Ch		280047	0.03						

CC25	1058	140m N	0	0.65	65	Ch	SHR	1058	0.05						
175	1059		0.65	1.2	55	Ch	SHR	1059	0.18						
	1060		0	0	STD	Oreas H3	STD 2.0 g/t Au	1060	2.03						
	1061		1.2	1.75	55	Ch	SHR	1061	0.03						

CC26	1062	160m N	0	1	100	Ch	SHR FGR	1062	0.02						
1100	1063		1	2	100	Ch	SHR FGR	1063	<0.01						
	1064		2	3	100	Ch	SHR FGR	1064	<0.01						
	1065		3	4	100	Ch	SHR FGR	1065	0.02						
	1066		4	5	100	Ch	SHR FGR	1066	0.03						
	1067		5	6	100	Ch	SHR FGR	1067	<0.01						
	1068		6	7	100	Ch	SHR FGR	1068	<0.01						
	1069		7	8	100	Ch	SHR FGR	1069	<0.01						
	1070		0	0	BLK	Silica		1070	<0.01						
	1071		8	9	100	Ch	SHR FGR	1071	0.03						
	1072		9	10	100	Ch	SHR FGR	1072	<0.01						
	1073		10	11	100	Ch	SHR FGR	1073	<0.01						

CC38	280048	183.2m N	0	0.7	40	Ch		280048	<0.01						
	280049		0.7	1.07	70	Ch	5cm Q V	280049	<0.01						
	280050		0	0	BLK	Silica		280050	<0.01						
	280051		1.07	1.87	90	Ch		280051	0.07						

CC27	1074	194.5m N	0	0.38	38	Ch	SHR MAF DYKE	1074	0.02						
155	1075		0.38	0.82	44	Ch	FGR & Q v	1075	<0.01						
	1076		0.82	1.15	33	Ch	FGR & Q v	1076	<0.01						
	1077		1.15	1.55	40	Ch	MAFIC DYKE	1077	0.01						

CC28	1078	207m N	0	0.6	60	Ch	MYL HYB FGR	1078	<0.01						
225	1079		0.6	1.2	60	Ch	MYL HYB FGR	1079	<0.01						
	1080		0.6	1.2	Duplicate of 01079			1080	<0.01						
	1081		1.2	1.65	45	Ch	20cm Q V	1081	0.02						
	1082		1.65	2.25	60	Ch	MYL HYB FGR	1082	<0.01						

CC29	1083	208m N	0	0.3	30	Ch	MYL HYB FGR	1083	<0.01						
90	1084		0.3	0.6	30	Ch	15cm Q V	1084	<0.01						
	1085		0.6	0.9	30	Ch	MYL HYB FGR	1085	<0.01						
CC30	1086	76m N	0	0.5	50	Ch	FGR & Q v	1086	0.33						
CC31	1087	75m N	0	0.55	55	Ch	SHR FGR	1087	<0.01						
135	1088		0.55	0.95	40	Ch	SHR FGR	1088	0.01						
	1089		0.95	1.35	40	Ch	SHR FGR	1089	<0.01						
	1090		0	0	STD	Oreas 62C	STD 8.79g/t Au	1090	8.99						

TOTAL SAMPLED 9236 cm (92m)

	280072	GRAB SAMPLE A ZONE BETWEEN CC08 & CC12						280072	>10		1.62	55.55			
	280073	GRAB SAMPLE B ZONE BETWEEN CC34 & CC37						280073	>10		1.1	37.72			

Table 5. Channel Sampling Logs & Assay Results

12.3 Soil Gas Hydrocarbon & Soil Sampling

The SGH (Soil Gas Hydrocarbon) survey samples were collected by the Author and an assistant over 4 days in late October 2011, following the cut grid lines as shown, (Figure 21. SGH & Soil Sampling Grid). These samples were submitted to Actlabs in Ancaster, Ontario for analysis by their proprietary SGH process. Details of this process with case study comparisons are contained in the complete report is attached in Appendix 2 of this report.

The following summary description of the SGH survey technique is extracted from the Actlabs report;

> *"SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. SGH has been successful for delineating targets found at over 500 metres in depth. Samples of various media have been successfully analyzed such as soil (any horizon), drill core, rock, peat, lake-bottom sediments and even snow. The SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. SGH is also different from soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach to identification. The hydrocarbons in the SGH extract are separated by high resolution capillary column gas chromatography to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing in two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02)."*

In layman's terms, a hand sized near surface soil sample is collected from a regular grid pattern. Actlabs processes these samples and detects signature pathfinders specified as low, moderate or heavy molecular weight. As expressed in the report from Actlabs, the high molecular weight pathfinders indicate a shallow gold source and the low molecular weight pathfinders indicate a deep seated gold source. Medium molecular weight pathfinders are outlined by what is referred to as the redox cell indicative of a general concentration of gold in soil. These various classes of anomalies are shown, (Figure 22. SGH Low Molecular Weight Target), (Figure 23. SGH Mod High Molecular Weight Target), and (Figure 24. SGH Organo-Sulphur Class Target). These 3 Figures are extracts from Actlabs report which is included in Appendix 2 of this report.

The soil survey samples were collected by the Author and an assistant over 7 days in June 2012. These samples were submitted to SGS Laboratory in Red Lake for prep and fire assay for Au by SGS Laboratory in Don Mills, Ontario. A 1.5 meter long auger was used to collect samples as deep as possible in the "B" soil horizon. Depth varied depending upon rock and boulder content but was generally between 30-50 centimeters below surface. Samples were packaged in paper soil sampling pouches and grouped by lines into plastic sample bags and submitted to SGS Laboratory in Red Lake. Plotting of the PPB Au results is shown, (Figure 25. Contour of Au PPB in soil "B" horizon), and

(Figure 26. 3D contour of Au PPB in soil “B” horizon). The large 191 PPB (parts per billion) Au peak in the north east corner of the project area is considered by the Author to be anomalous, probably attributed to the gold showing indicated off property to the north.

The interpretation of the SGH and soil surveys combined were utilized in the targeting of the 2012 drill program, (Figure 31. 2012 Drilling with SGH & Soil Anomalies over Atkinson’s Geology).

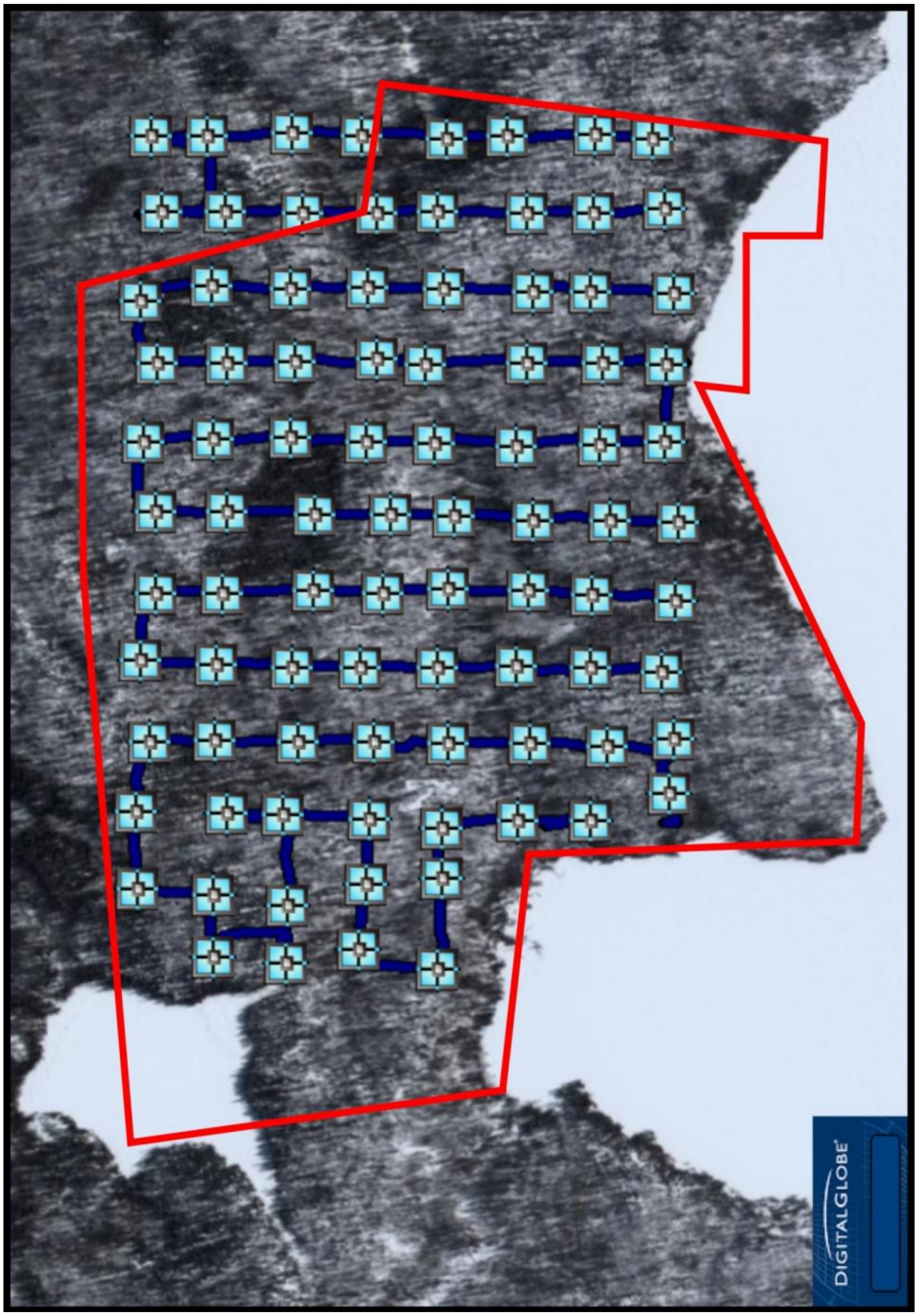


Figure 21. SGH & Soil Sampling Grid

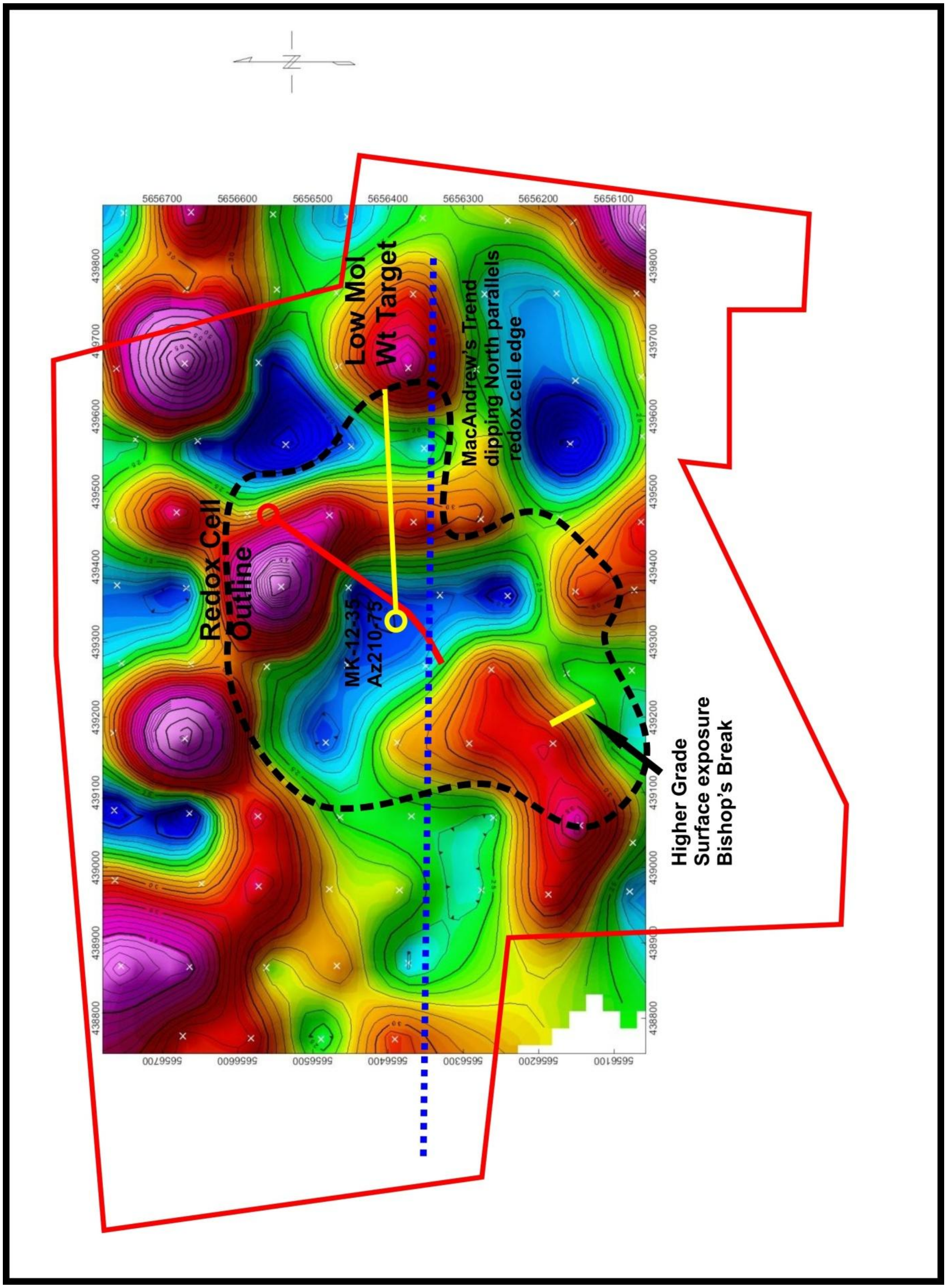


Figure 22. SGH Low Molecular Weight Target

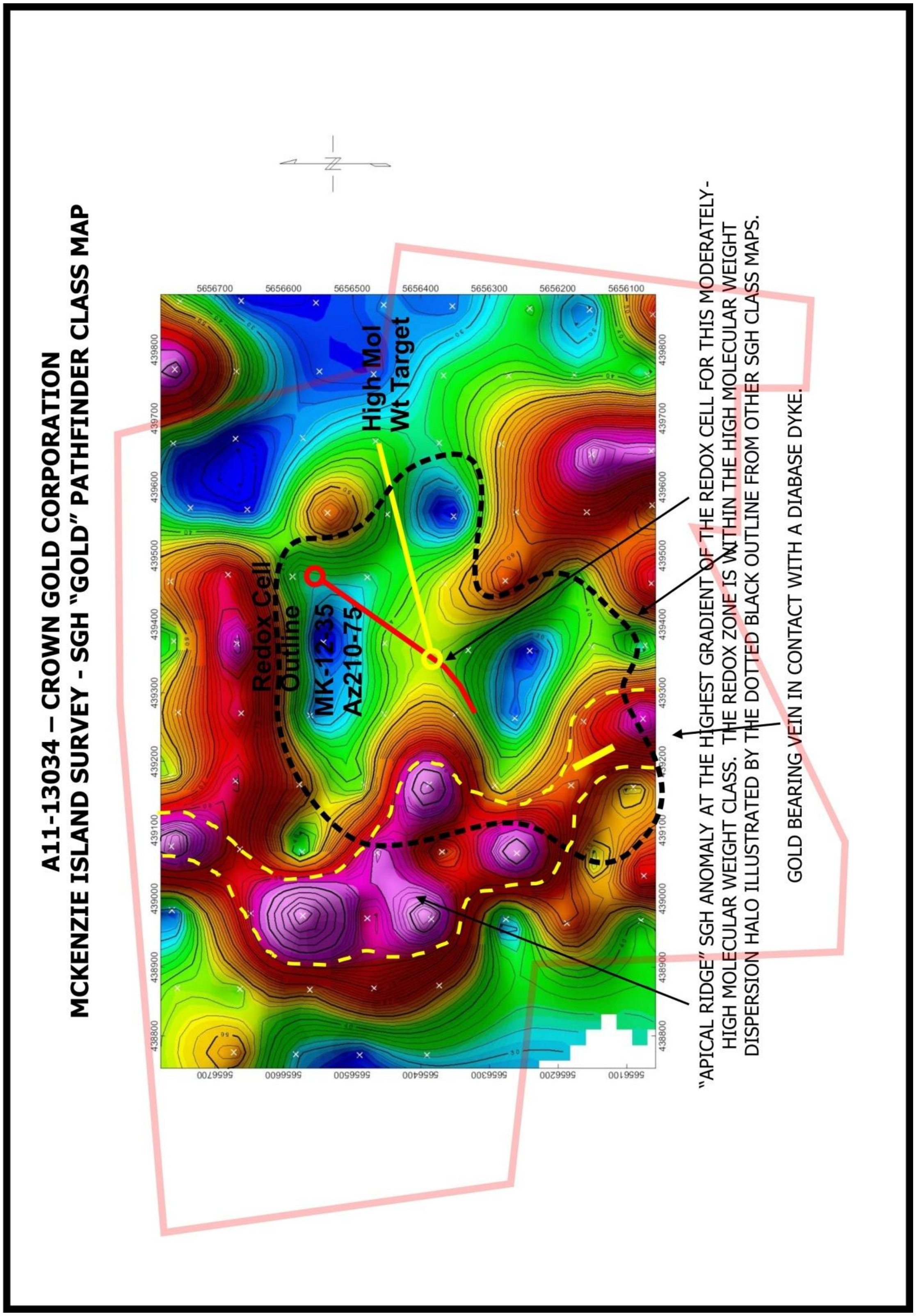


Figure 23. SGH Mod High Molecular Weight Target

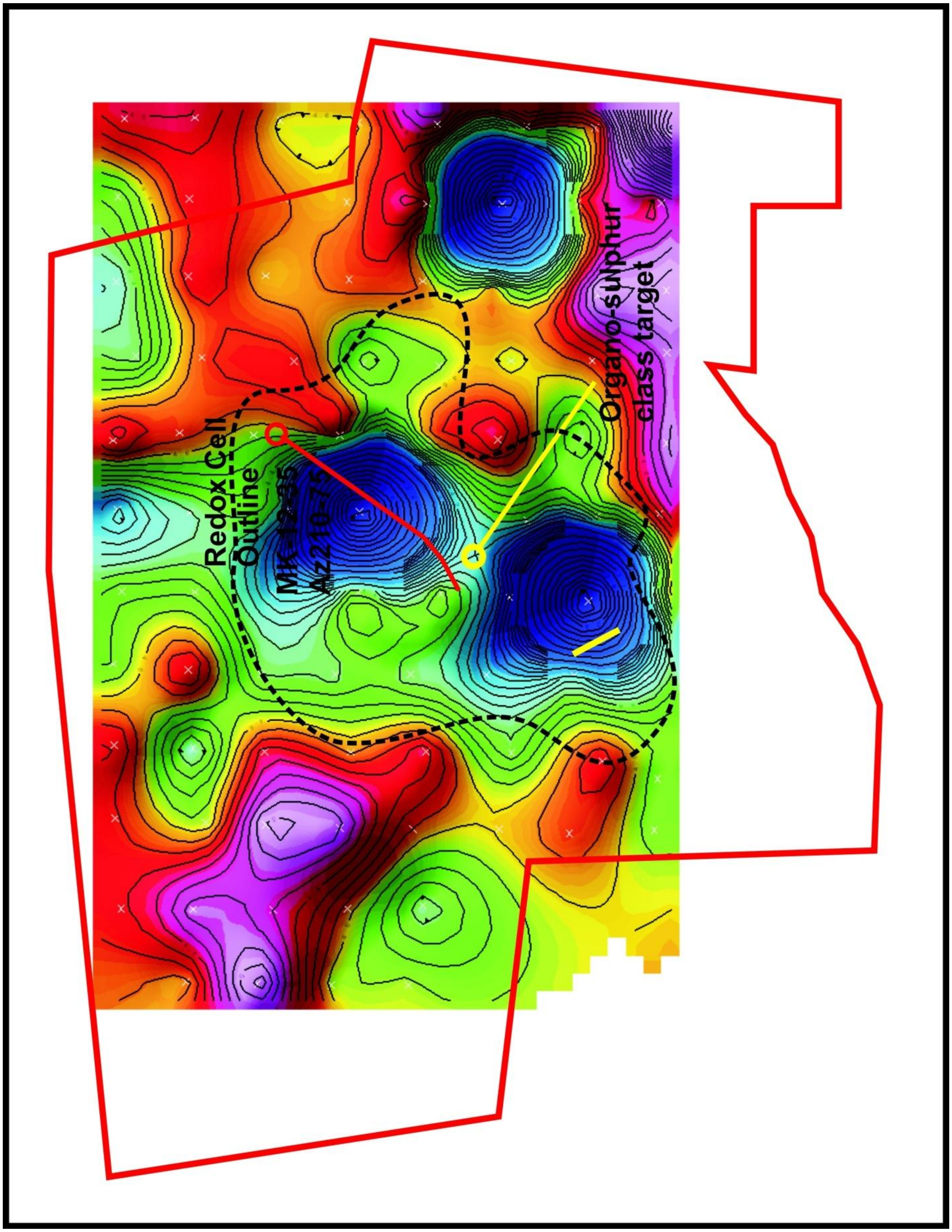


Figure 24. SGH Organo-Sulphur Class Target

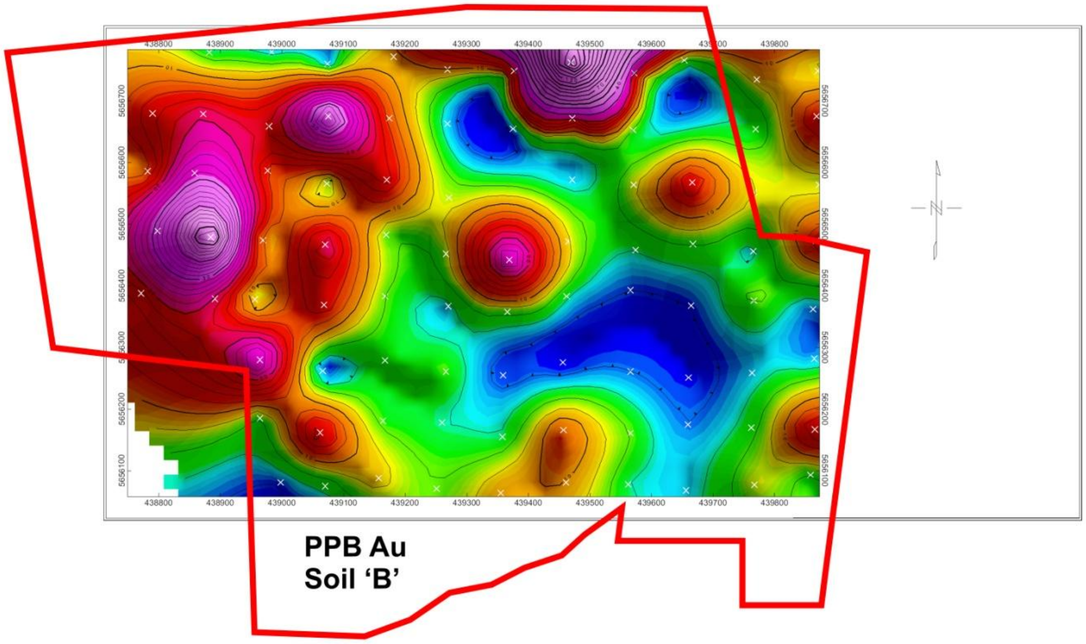


Figure 25. Contour of Au PPB in Soil 'B' Horizon

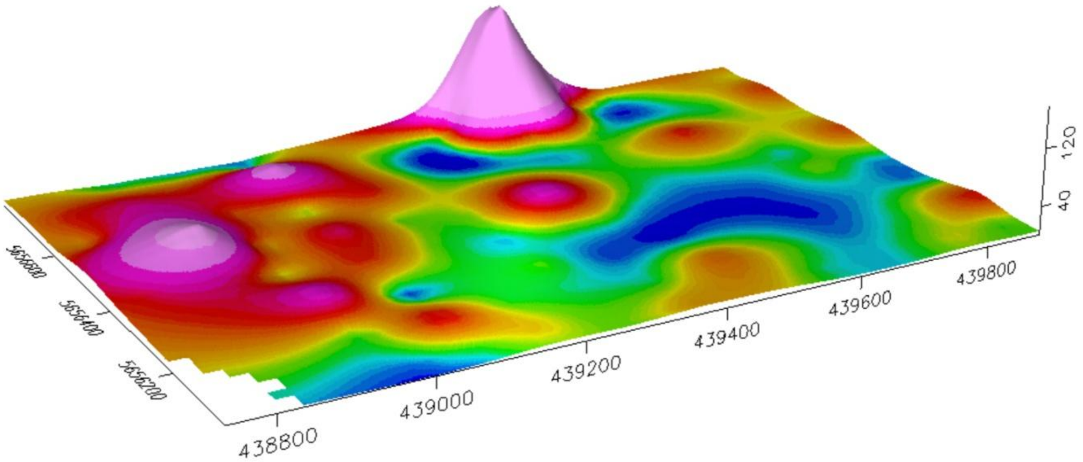


Figure 26. 3D Contour of Au PPB in Soil 'B' Horizon

13.0 Drilling

13.1 2010 Drilling

In Sept 2010 a 661 meter diamond drilling program was completed focusing on the area of historical trenching from the 1930's on a N20W striking auriferous quartz vein in the eastern portion of Patent claim # KRL 11419. This was undertaken as follow up to surface channel sampling results attained in the previous month and detailed in this report. A series of 9 BTW diamond drill holes (MK-10-01 to MK-10-06 & MK-10- 08 to MK-10-10) dipping between -45 to -70 degrees were completed by Distinctive Drilling of Dryden, with layouts being planned and adjusted during the program to attempt to attain the maximum amount of spatial and economic information pertaining to the main quartz vein in the "A" zone. Positioning was achieved using a combination of handheld GPS as previously described, a Brunton transit compass and a 30m fibreglass tape, (Figure 27.Major Geologic Contacts, Channel Samples & 2010 Drill Traces).

A single hole (MK-10-07) was drilled at -45 degrees to intersect the narrow "B" zone at depth and seemingly intersected the shear zone seen just south of the quartz vein at surface. This hole was stopped in a wide porphyritic dyke which should be penetrated on the next attempt to intersect the "B" zone vein at depth.

The quartz vein was intersected in all "A" zone holes with a brecciated vein intersected in the southern most hole (MK-10-04) and 2 holes in the central portion (MK-10-05 & MK-10-06) intersected a second significant vein 10 meters east of the main vein in plan. Holes 1, 5 & 8 displayed the best mineralization with centimeter scale clusters of disseminated pyrite and chalcopyrite noted, mostly proximal to the footwall contact.

Best results of the program were from MK-10-01 with 6.2 g/t Au over 88 centimeters, MK-10-08 with 41.5 g/t Au over 76 centimeters and MK-10-09 with 4.4 g/t Au over 80 centimeters, all widths are uncorrected intercepts.

Core recovery was excellent in all holes and rock quality designation (RQD) was measured. A total of 260 samples mostly between 30-100 centimeters were cut and assayed sampling 174 meters of 661 meters drilled. Sampled portions of each borehole included any quartz veins with hanging and footwall sample cuts as well as various portions of the altered mylonitic granite and both variations of mafic dyke intersected.

All samples were cut under direct supervision of the Author and submitted for assay with appropriate standards, blanks and ¼ duplicates alternately inserted every 10 samples. Samples were submitted to SGS Laboratory in Red Lake for assay by FAA313 to be followed up with FAG303 for any samples over 1g/t Au. Assay results are included in the drill logs and the assay certificates are included in Appendix 3 of this report. Repeat assays of the coarse reject portion of the quartz vein samples were tested by metallic sieve analysis to define any nugget effect. All drilling was completed under the supervision of the Author and the site was cleared without any reportable incidents. All boreholes were picketed and capped with a 0.75 meter casing. The site was posted with warning signs at both the northerly and southerly access points and orange snow fence was installed across the open high point of ground south of the "B" zone.

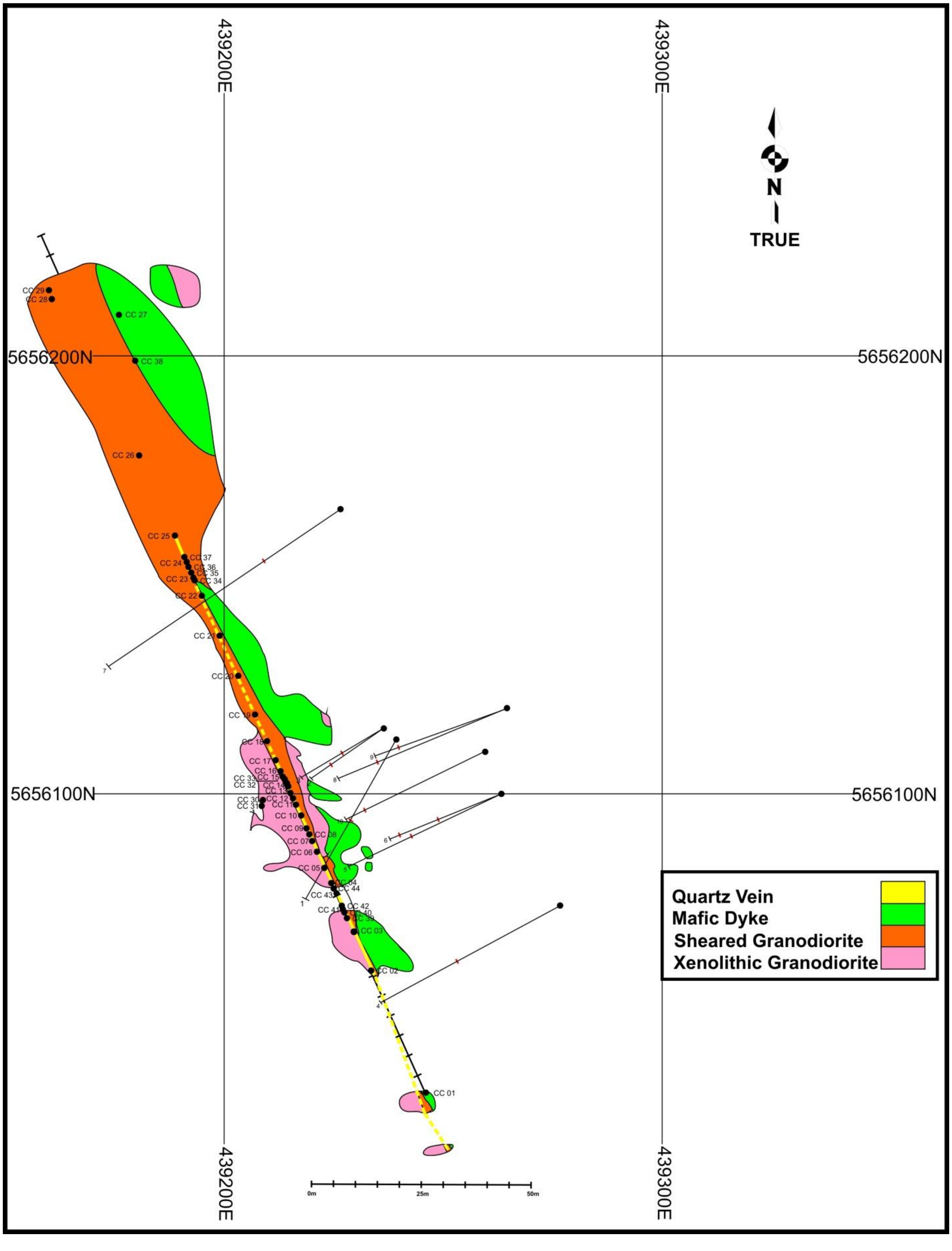


Figure 27. Major Geologic Contacts, Channel Samples & 2010 Drill Traces

13.2 2011 Drilling

In February 2011 a 1303 meter NQ2 diamond drilling program was completed by Top Rank Drilling of St. Lac de Rose, Manitoba, focusing on defining the plunge and extent of mineralization in the “A” and “B” zones on Bishop’s Break as well as testing the Perfect Storm target and extension of Bishop’s Break beyond the MacAndrew’s trend, on the western portion of Patent claim # KRL11419. This was undertaken as follow up to surface channel sampling results attained in August 2010 and a series of 10 BTW diamond drill holes totalling 660 meters in September 2010.

Positioning was achieved using a combination of handheld GPS Magellan Explorist 500, a Brunton transit compass and a 30 meter fibreglass tape for measuring reference in relation to the cut grid pickets. Core recovery was excellent in all holes and RQD was measured.

A total of 532 samples mostly between 30-100 centimeters were cut and assayed sampling 377 meters of 1303 meters drilled representing a sampling ratio of 29%. Sampled portions of each borehole included any quartz veins with hanging and footwall cuts as well as various portions of the altered mylonitic granite and both variations of mafic dyke intersected.

All samples were cut under the direct supervision of the Author and submitted for assay with appropriate standards, blanks and ¼ duplicates alternately inserted every 10 samples. Samples were submitted to SGS Laboratory in Red Lake for assay by FAA313 to be followed up with FAG303 for any samples over 10g/t Au. Assay results are included in the drill logs and the assay certificates are included in Appendix 3 of this report. Repeat assays of the coarse reject portion of the higher grade quartz vein samples have been run by metallic sieve analysis (FAS31K) to define any nugget effect.

Drilling was completed between February 7th and 28th and there were no Ministry of Labour reportable incidents or Ministry of Environment reportable spills or disturbance to the environs. Mobilization and “demobe” was by means of an ice road constructed and maintained by Draco (1985) Ltd. Hay bales and sumps were utilized at all drill sites to contain silt and drill cuttings. All drilling was completed under the supervision of the Author and the site has been cleared and inspected. All boreholes were picketed and capped with a 0.75 meter casing. The site has been posted with warning signs at both the northerly and southerly access points.

Results from 10 holes totalling 890 meters of drilling on the “A” zone have proven auriferous quartz 175 meters below surface and defined the plunge of the mineralization to over 70 meters below surface, (Figure 29. SW-NE Section Best Results Drill Holes 2010/2011) and (Figure 33. Long Section with 2010-2012 intersects contoured). The best results of this program were 60 g/t Au over 69 centimeters corrected full vein width. The mineralized zone appears to plunge at 80-85 degrees north west and narrows from 25 meters at surface to 15 meters at 70 meters below surface.

A tight fan pattern of 11 holes totalling 122 meters were drilled from 2-3 meters west of the “B” zone to establish deposit geometry, an indication as to grade and a potential blast pattern for small 150 to 200 tonne bulk sample since the exposure is located on a glacially semi-rounded scarp face conducive to excavation. Results from over 10 meters of vein intersections ranged from 0.8-14.8 g/t Au. The weighted average of these intersects is 6.13 g/t Au over 94 centimeters. A deeper hole on this zone was attempted from 10 meters further west and only 25 centimeters of quartz was intersected assaying 0.2 g/t Au.

A total of 256 meters was drilled in 3 holes on the perfect storm target. South west plunging holes MK-11-14 & MK-11-15 intersected quartz with assays from 0.5-3.4 g/t Au over 50 centimeters. Westerly hole MK-11-16 intersected ‘Bishops Break’ quartz but with only trace values Au assayed, (Figure 30. Perfect Storm Target).

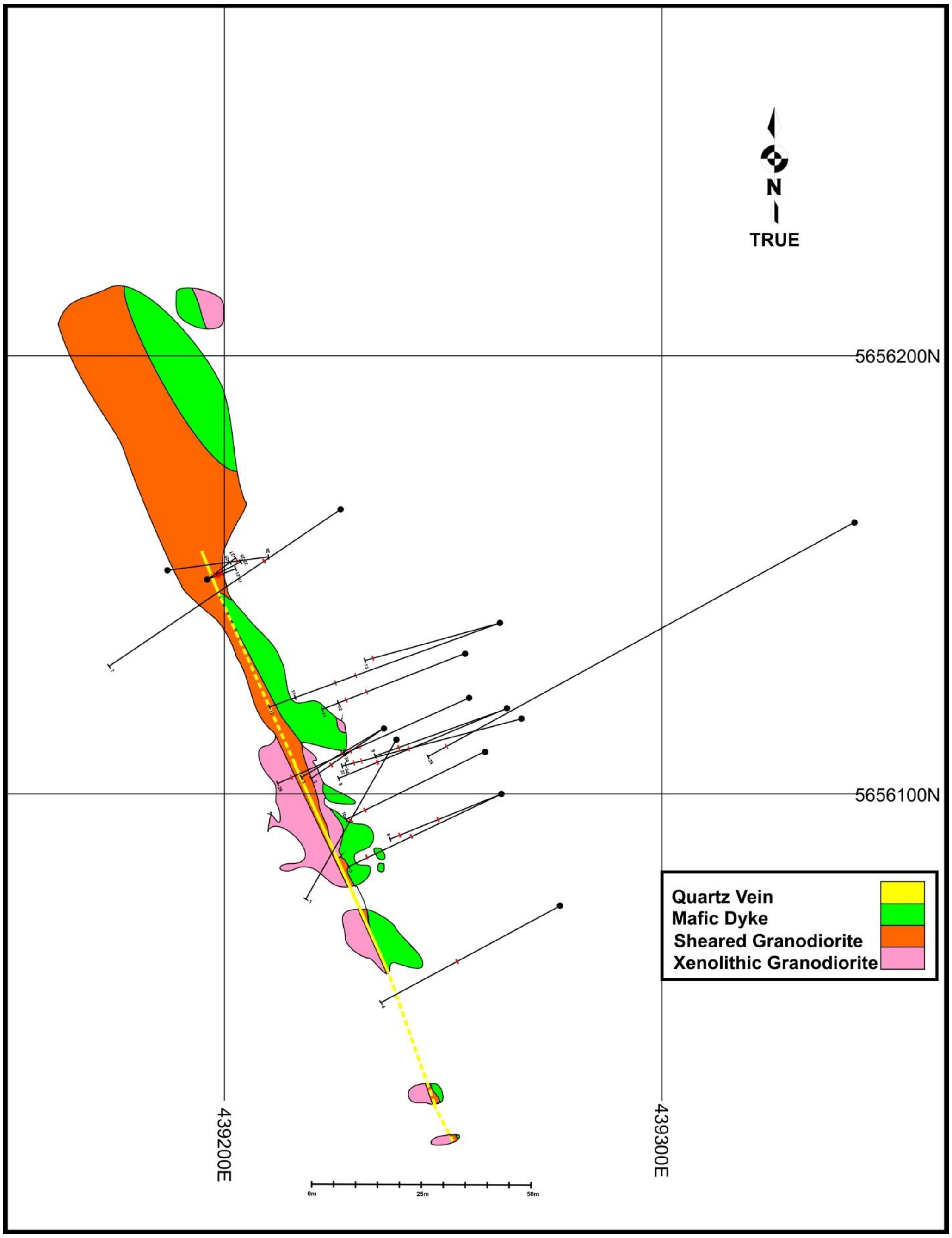


Figure28 . Major Geologic Contacts & 2010-11 Drill Traces

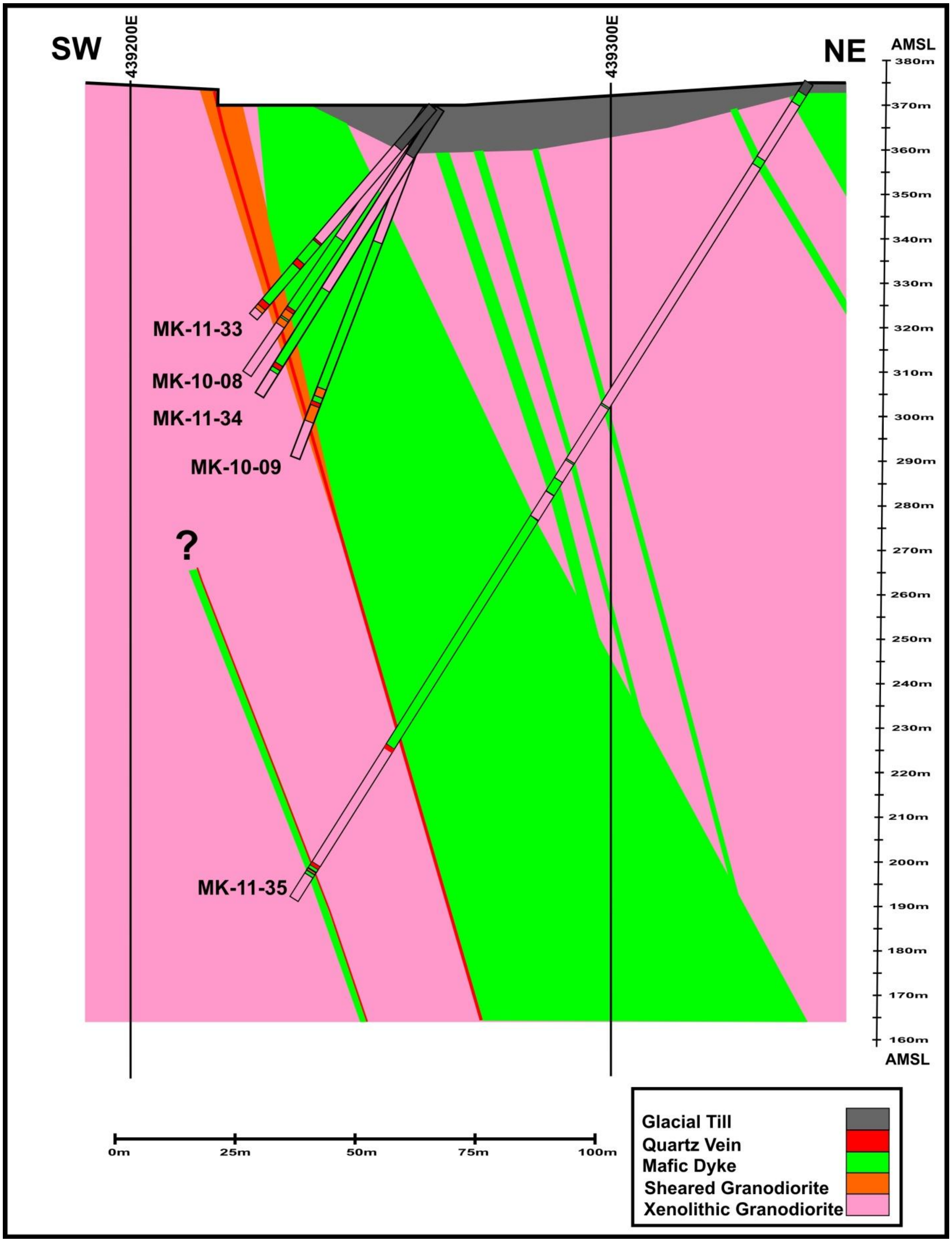


Figure 29. SW-NE Section Best Results Drill Holes 2010-2011

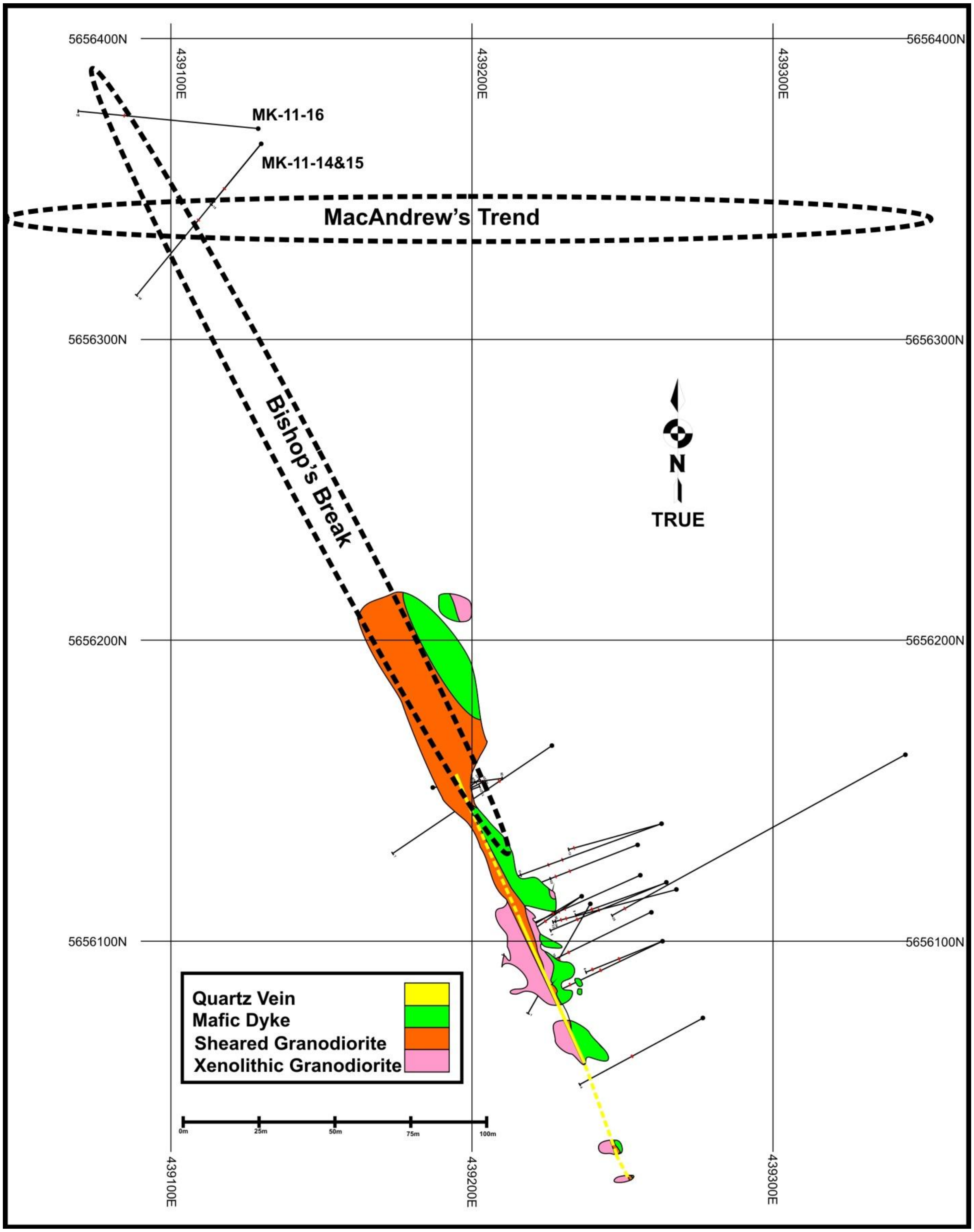


Figure 30. Perfect Storm Target

13.3 2012 Drilling

In August 2012 the Author commenced a NQ2 drilling project targeting a deep intersect of the Bishops Break vein beneath the cluster of SGS anomalies, the soil anomaly, and down plunge of the auriferous zone previously defined in the 2010-2011 drilling, (Figure 31. 2012 Drilling with SGH & Soil Anomalies over Atkinson's Geology). Borehole logs and assay results are included in the Appendices of this report.

Drilling was completed by Orbit Garant Ontario Ltd., of Wahnapitae, Ontario. Access and support was provided by barge under contract from Draco (1985) Ltd. of Red Lake, Ontario. There were no reportable incidents and the site was inspected by the Author after drilling was completed and appeared in good order. Casings were capped and their positions picketed.

Hole MK-12-36 intersected a chloritic quartz vein system similar to "Bishops Break" from 315-335 meters which was cut by later diorite and diabase dykes. Although only trace amounts of gold were detected the structure intersected bears prospective potential. The anticipated "Bishops Break" vein was intersected between 1103-1106 meters. The presence of pyrite and chalcopyrite was not augmented by any gold values at this intersect. The evidence of multiple phases of diorite encountered in this hole and the high frequency of transitions indicates an active structural realm. This is anticipated being on the edges of the Dome and McKenzie stocks which makes the area highly prospective for structural traps.

Two additional holes were targeted on the down plunge extension of the auriferous zone from the 2010-2011 drilling. MK12-37 and MK-12-38 intersected "Bishops Break" 10 meters down dip and 8 meters to the east of holes MK-10-08 and MK11-34 respectively, significantly expanding the >1500g/t x cm zone, (Figure 33. Long Section with 2010-2012 intersects contoured). **MK12-37 intersected 17 g/t Au over 150 centimeters including 25 g/t Au over 100 centimeters and 43 g/t Au over 35 centimeters. MK-12-38 intersected 28 g/t Au over 125 centimeters including 53 g/t Au over 65 centimeters.** True widths are approximately 87% of measured and reported. A geologic section with a compilation of these recent drill holes along with the best result drill holes of previous campaigns is shown, (Figure 32. SW NE Section with 2012 Drilling and Best Holes of 2010 & 2011).

Plotting of the gold values from MK-12-37, 17/130 (17 g/t Au over 130 centimeters true width), and MK-12-38, 28/108 (28 g/t Au over 108 centimeters true width), (Figure33. Long Section with 2010-2012 Intersects Contoured), has significantly increased the red high grade envelope representing the >1500 g/t x cm zone. Further exploration down plunge is still warranted to define the rake of auriferous mineralization further.

All core was logged and sampled by the author and samples submitted to SGS Laboratory in Red Lake were assayed by FAA, FAG for Au >10 g/t, and metallic sieve analysis for all ore cuts. After noting increased assay values returned from metallic sieve analysis versus fire assay the Author selectively resubmitted samples from the previous drilling programs mineralized intersects. These results are included in the drill logs and assay certificates in the appendices of this report.

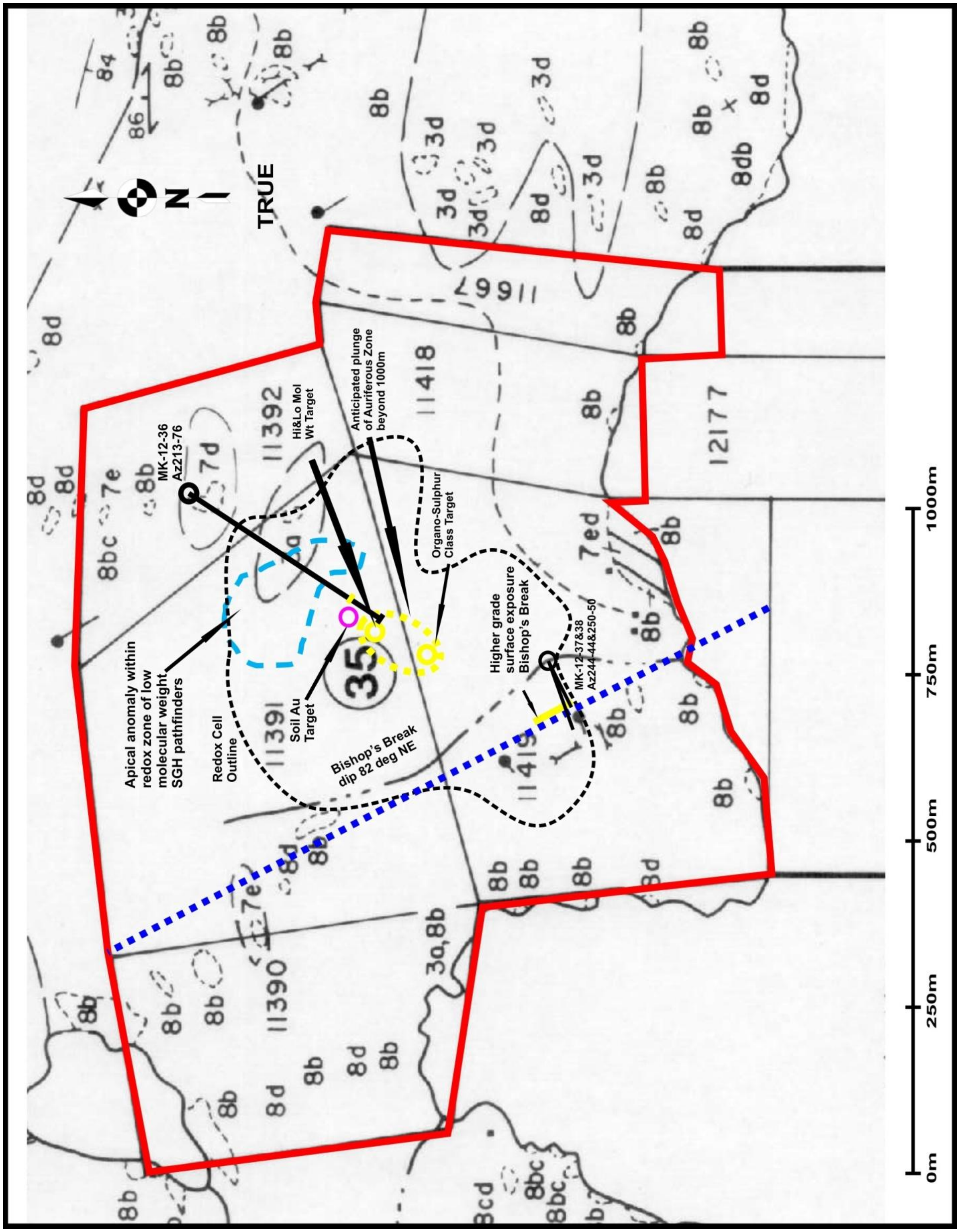


Figure 31. 2012 Drilling with SGH & Soil Anomalies over Atkinson's Geology

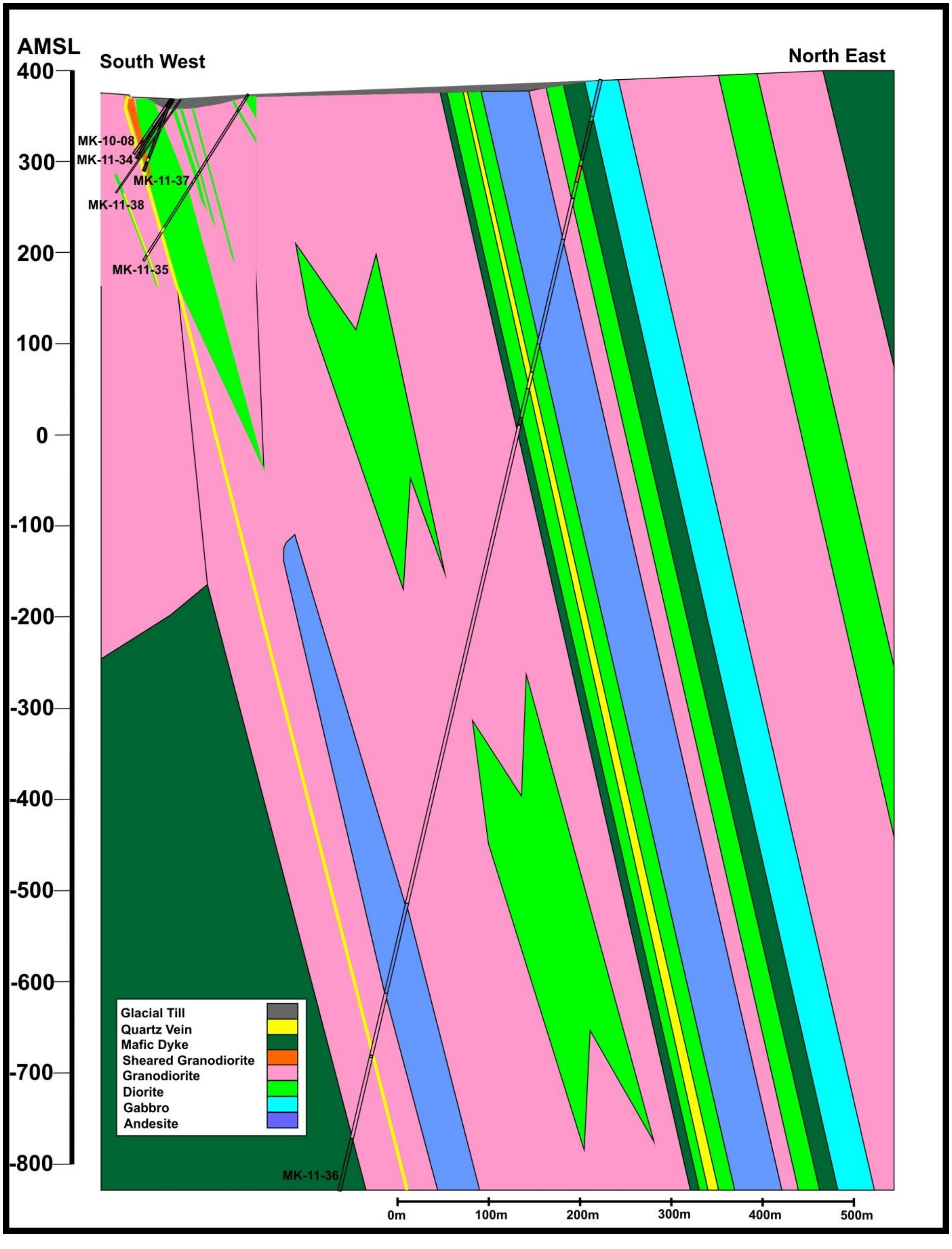


Figure 32. SW NE Section with 2012 Drilling and Best Holes of 2010 & 2011

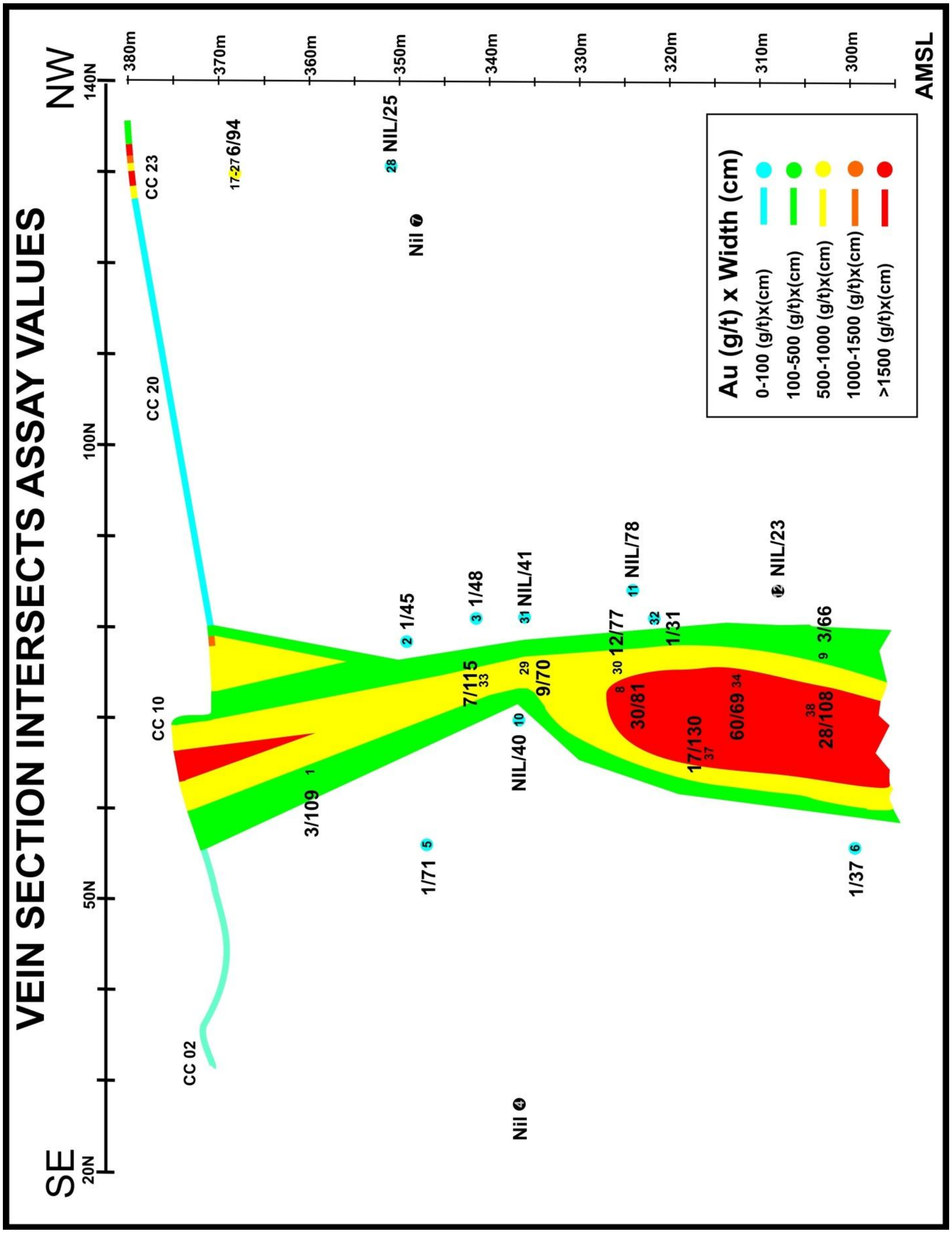


Figure33. Long Section with 2010-2012 Intersects Contoured

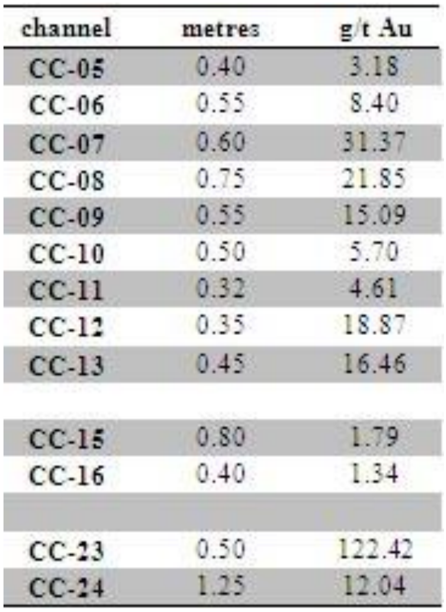
14.0 Sampling Method and Approach

All sampling detailed in this report has been completed by and of under the direct supervision of the Author, Scott Franko, B.Sc., P.Geo. who is designated as QP on this project by NI 43-101 definitions.

For the purpose of clarity the Author will refer to sample cuts as either ore or waste. This is not intended to infer any degree of economic viability of any specific sample but merely as a generalized relative classification. Channel and drill core samples were collected perpendicular to strike with care taken to include 1 centimeter of waste on the outside of the quartz vein contacts or any potentially economic zone. Where the vein width was less than 30 centimeters, one continuous sample was taken unless there was indication of a higher grade section that should be defined. Waste cuts of 20- 30 centimeters were sampled on either side of any ore cuts. Channel samples were cut with a diamond saw and hand chiselled with an average width of 3 centimeters and a depth of 4-6 centimeters.

Core recovery on all three drill programs was excellent at over 95% and the Author consistently refits all core pieces prior to splitting and sampling. Bedding and contacts angles was measured in core samples in order to correct to true width.

It is typical in the Red Lake area to experience what is referred to as the “Nugget Effect” whereby the traditional 30 gram or 50 gram fire assay procedures become less effective in determining true grade. This was noted by the Author and subsequently most of the ore cuts sampled by fire assay methods have now also been tested by metallic sieve analysis. These alternate results are listed in a column on the drill logs and have been weighted into any composite grade calculations. Of note, a metallic sieve assay does not always “sweeten the pot”, so to speak, and frequently will give a lower result than expected when repeating a relatively higher grade fire assay result.



channel	metres	g/t Au
CC-05	0.40	3.18
CC-06	0.55	8.40
CC-07	0.60	31.37
CC-08	0.75	21.85
CC-09	0.55	15.09
CC-10	0.50	5.70
CC-11	0.32	4.61
CC-12	0.35	18.87
CC-13	0.45	16.46
CC-15	0.80	1.79
CC-16	0.40	1.34
CC-23	0.50	122.42
CC-24	1.25	12.04

Table 6. Primary channel sampling results

The channel sample survey of 179 samples of between 30-100 centimeters were taken from 44 channel cuts along 208 meters of strike for a total sample length of 92 meters and returned between 122 g/t Au over 0.5 meters and 0.01 g/t Au over 0.65 meters. (Table 6. Primary channel sampling results), released by Crown Gold Corporation, September 16, 2010, details the best results of the preliminary channel sampling program. These results were considered in the targeting of the primary drill phase. These are surface channel cut samples with no correction made for true width.

A total of 1238 core samples were submitted for assay mostly being between 30-100 centimeters in length representing 855 meters of 3444 meters drilled in a total of 38 drill holes giving a sampling ratio of 25%. Drill results considered as significant for the 3 drilling programs are displayed, (Table 7. Significant drill results).

ZONE	Hole No	From (m)	To (m)	Intersected Width (m)	Corrected Width (m)	Au g/t
A	MK-10-01	26.00	32.00	6.00	4.05	1.12
	incl.	28.62	30.23	1.61	1.09	3.44
	incl.	29.40	29.88	0.48	0.32	10.73
A	MK-10-02	21.28	21.78	0.50	0.45	1.37
A	MK-10-06	73.92	74.65	0.73	0.37	1.06
A	MK-10-08	52.44	58.60	6.16	4.36	5.53
	incl.	53.94	58.60	4.66	330	7.28
	incl.	53.94	55.00	1.06	0.81	29.75
	incl.	54.54	55.00	0.46	0.35	65.38
A	MK-10-09	70.45	71.60	1.15	0.66	3.06
Perfect Storm	MK-11-14	47	47.5	0.50	0.49	3.4
B	MK-11-17	2.20	4.10	1.90	1.09	7.8
B	MK-11-18	2.50	5.50	3.00	2.30	2.2
	incl.	5.00	5.50	0.50	0.38	9.5
B	MK-11-20	4.00	6.50	2.50	0.85	14.8
	incl.	4.00	5.00	1.00	0.34	35.7
	incl.	4.00	4.50	0.50	0.14	64.9
B	MK-11-22	2.10	2.90	0.80	0.40	3.7
B	MK-11-23	6.40	7.25	0.85	0.36	17.7
	incl.	6.40	6.80	0.40	0.17	27.2
B	MK-11-26	5.40	6.00	0.60	0.30	6.6
B	MK-11-27	2.00	2.55	0.55	0.32	3.5
A	MK-11-29	43.85	44.70	0.85	0.70	8.8
	incl.	44.30	44.70	0.40	0.33	18.8
A	MK-11-30	51.27	52.27	1.00	0.77	12.2
	incl.	51.60	52.27	0.67	0.51	18.2
A	MK-11-33	57.50	59.00	1.50	1.15	7.1
	incl.	58.00	58.50	0.50	0.38	20.8
A	MK-11-34	67.93	68.83	0.90	0.69	60.3
	incl.	68.23	68.83	0.60	0.46	90.4
	incl.	68.23	68.53	0.30	0.23	174.3
A	MK-12-37	79.00	80.50	150	130	16.8
	incl.	79.65	80.00	100	87	24.8
	incl.	79.65	80.00	35	30	43.4
A	MK-12-38	84.35	85.60	125	108	28
	incl.	84.95	85.60	65	56	53

Table 7. Significant drill results

15.0 Sample Preparation, Analyses and Security

All channel samples were individually chiselled and bagged under the direct supervision of the Author as QP. Alternating gold standards, silica blanks and lab coarse split duplicate requests were inserted on site at 10 sample intervals. All samples were delivered by the author to SGS Laboratory in Red Lake for assay by FAA313, fire assay atomic absorption, and IMS12B, 32 element by 2 acid digest. Assay results over 1 g/t Au were subsequently assayed by FAG303, fire assay gravimetric, and selected results over 10 g/t Au were assayed by screen metallic's to define any nugget effect.

All drilling was completed under the supervision of the Author as project QP. Core was collected on site by the Author or his appointed technicians. Core was fit end to end while logging by the Author and RQD and core recovery was measured and recorded by a technician. All core samples were cut, bagged and tagged under the direct supervision of the Author at Crown Gold Corporations core shed in Red Lake. The diamond saw blade was cleaned regularly between cuts with a cinder brick to avoid cross contamination of samples. Core samples were halved by diamond saw and approximately one out of forty samples was quartered and submitted as a duplicate sample. All rock samples collected on this project for assay were submitted by the Author to SGS Laboratory in Red Lake whom were and are certified to report on all tests performed meeting the requirements of ISO/IEC Standard 17025 guidelines and certified by Standards Council of Canada as Laboratory Number 598. The Author submitted the samples with control samples and blanks inserted in a rotational sequence. SGS Laboratory performs its own internal quality control and quality assurance measures and reports these results with assay certificates.

The majority of assay standards, blanks and duplicate control samples submitted returned result that were acceptable to the Author as a measure of quality assurance. All core has been stored at Crowns storage area at Esker Logging in Red Lake. The coarse rejects and pulps from assay samples returned by SGS Laboratory have also been palletized and stored at Esker logging. It is the Authors opinion that adequate measures have been employed to assure quality and control of the sampling and assay procedures, sample security and analytical procedures.

16.0 Data Verification

All batches of samples submitted for assay included the insertion of silica blanks provided by Accurassay of Thunder Bay, Ontario, gold standards alternating between a high and low grade version utilizing the OREAS suite of gold standards provided by Analytical Solutions Ltd. of Toronto. The Author has verified the anticipated standard results in relation to actual results and is satisfied as to the overall reliance of the data included in this report. The remaining core as well as coarse rejects and pulps from the program are stored at Esker Logging in Red Lake should additional verification be required.

17.0 Adjacent Properties

The claims immediately adjacent to the project area to the west north and east are currently held by SKYHARBOUR RESOURCES LTD. (20.00 %) and CYPRESS DEVELOPMENT CORP. (80.00 %). There has been fairly extensive exploration undertaken on these claims and there are two listed MDI's being to the north and west of the project area. The claim immediately south of the project area is currently held by Perry English and no work has been assessed for this claim. It is presumed as discussed in this report that the ”Bishop’s Break” system extends across this claim and outcrops on Kings Island however there is no confirmed evidence to that effect.

18.0 Mineral Processing and Metallurgical Testing

No mineral processing or metallurgical testing studies have been completed in respect of the property.

19.0 Mineral Resource and Mineral Reserve Estimates

No mineral resource or mineral reserve estimates have been calculated in respect to the property.

20.0 Other Relevant Data and Information

To the best knowledge of the Author there is no additional relevant data or information that is required to clarify this report.

21.0 Interpretation and Conclusions

The main focus of exploration on this property has been in prospecting while defining the auriferous zones of the Bishops Break chloritic quartz vein system. This last year’s focus has been on finding a deep seated higher grade zone based on structural interpretation from mapping and drilling as well as the previous fall’s SGS survey and summer soil survey. Although the deep intersection target of the fall drilling proved to be somewhat barren, the discovery of the parallel vein system that extends across 20 meters width bears prospective value.

The last two holes of the program returned two of the four best results of all three years of drilling and extended the higher grade zone down plunge by 10m and south eastward along strike 8m. However, targeting the auriferous “needle in a narrow haystack” shape of the mineralized zone can make for high risk hit and miss drilling while tracing value down dip, (Figure 33. Long Section with 2010-2012 intersects contoured).

The 1100 meter deep hole targeting the interpreted down dip extension of this zone beneath the surface SGH and soil anomalies would seem overly optimistic were it not planned with the anticipation of intersecting a wider zone of mineralization than expressed at surface. The discovery of a similar vein system at 315 meters may portend an even deeper seated conjuncture of these two veins.

The Bishops Break vein though narrow and not currently economic, is accessible at surface, moderately well defined over the top 100 meters, and structurally proven beyond 1000 meters below surface.

The primary objective of the project to locate a currently economic resource of gold on the property has not yet been realized, however the ground work completed to date has fulfilled the work commitment conditions of the option agreement between Crown Gold Corporation and Timore Resources.

Though the sporadic nature of the mineralization encountered makes interpretation and prospecting problematic it is also encouraging to find such high values on any property within a world class gold camp such as Red Lake.

In the Authors opinion this property remains highly prospective in respect of the following;

1. **The perimeter of the Dome Stock which cuts through the property is a proven "mine maker", (Figure 13. Gold Deposits in the Red Lake Area).**
2. **The Bishop's Break vein has proven to have auriferous zones with two higher grade zones primarily defined, (Figure33. Long Section with 2010-2012 Intersects Contoured).**
3. **The Bishops Break structure has been proven to extend beyond 1000 meters below surface, (Figure 32. SW NE Section with 2012 Drilling and Best Holes of 2010 & 2011).**
4. **A parallel system has been discovered 300 meters east of Bishops Break, (Figure 32. SW NE Section with 2012 Drilling and Best Holes of 2010 & 2011).**
5. **Minimal stripping has been completed north westwards along Bishop's Break geophysical trace, (Figure 18. Project Area Stripping and Road Works).**
6. **No stripping has been undertaken on the newly discovered parallel system.**
7. **The majority of drilling on the property to date has been relatively shallow in the 50-100 meter range, excepting MK-12-36. This is exceptionally shallow in the regional exploration perspective, ie. the Broulan Reef Project to the east of the project area where drill targets exceed 2000 meters depth.**

22.0 Recommendations

Further exploration to define pockets of higher grade mineralization both down dip and along strike would be warranted based on the close proximity of numerous high grade gold deposits. The parallel quartz chlorite vein system intersected at 315m in drill hole MK-12-36 should be projected to sub-crop and a striping program planned. Further stripping to the northwest and southeast along the Bishops Break exposure is warranted to facilitate continuation of mapping and channel sampling prior to additional prospective drilling. Refer to Figure 34. Recommended Trenching Areas. Drilling should be planned based on the results of the stripping phase. Should the claims immediately north and south of the property on strike of Bishop's Break open up for staking the Author would recommend staking these areas as well as any adjoining claims to the east or west, as previously noted these claims would also fall on the perimeter contact zone of the Dome Stock and hence be highly prospective.

The following two phases of continued exploration work are recommended at an estimated cost of $262,550;

Recommended Phases of Work & Costs

Stripping program phase 1 (summer program)

Exploration permitting	$ 1000
Barge backhoe	$ 5000
80 hrs @ $120/hr backhoe man & machine	$ 9600
Project Geo $500/day x 18 days	$ 9000
Geotechs 2 @ $200/day x 10 days	$ 4000
Assays 200 @ $21	$ 4200
Transport	$ 2500
Accommodation & Meals	$ 4000
Tools & supplies	$ 500
Report	$ 2500
Contingency 10%	$ 4000
TOTAL	**$ 46,300**

Drilling program phase 2 (winter program)

Ice road construction & maintenance	$ 12000
Drilling 1000m NQ2 @ $150/m all in	$ 150000
Project Geo $500/day x 21 days	$ 10500
Geo tech @ $200/day x 21 days	$ 4200
Assays 300 @ $21	$ 6300
Transport	$ 3000
Accommodation & Meals	$ 4000
Tools & supplies	$ 500
Core shed rental	$ 750
Report	$ 5000
Contingency 10%	$ 20000
TOTAL	**$ 216,250**

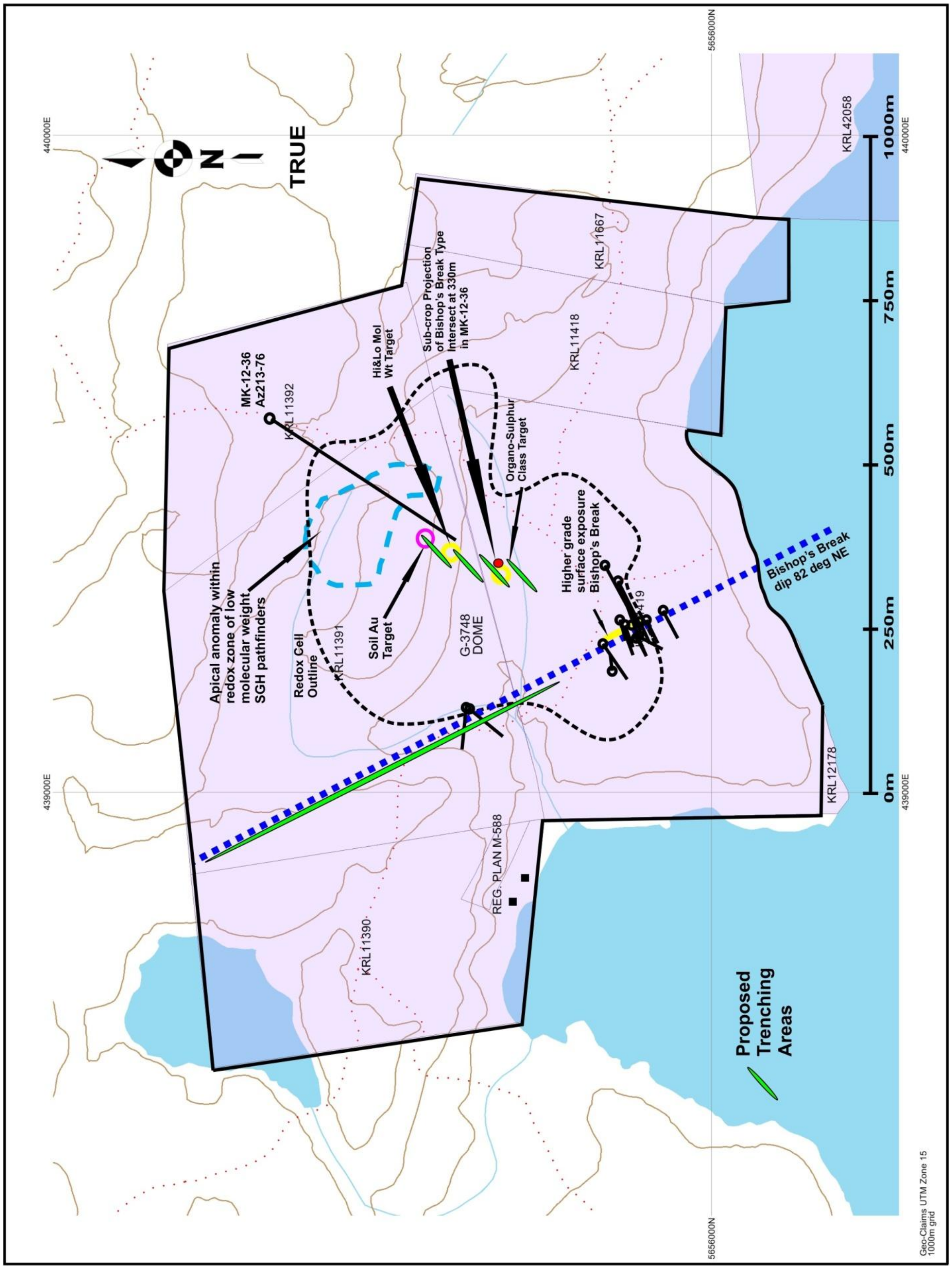


Figure 34. Recommended Trenching Areas

23.0 References

Atkinson, B.T. 1993. Precambrian geology, Dome Township; Ontario Geological Survey, Open File Map 213, scale 1:12,000.
http://www.geologyontario.mndmf.gov.on.ca/mndmfiles/pub/data/imaging/OFM0231/OFM0231.pdf

Atkinson, B. T., 1994, Precambrian Geology of Dome Township; Open File Report 5878, Ontario Geological Survey
http://www.geologyontario.mndmf.gov.on.ca/mndmfiles/pub/data/imaging/OFR5878/OFR5878.pdf

Boniwell, J.B., V.L.F. Survey Results McKenzie Island Claims Group Dome, Farlie Twps., Red Lake, Ontario for Goldfields Mining Corp. September 16, 1981
http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=afri&id=52N04SW0049

Burton, F.R., Memorandum on MacAndrew Red Lake Gold Mines, Ltd., Red Lake, Ontario June 21, 1936, Copied from Resident Geologist, Division of Mines, Red Lake, Ontario, MNDM office.

Busch, D.J., B.Sc.(hons.),P.Geo., Exploration Results Summer 2001 McKenzie Island Project Red Lake Area, Ontario, for Skyharbour Developments Ltd. Nov. 28, 2002
http://www.geologyontario.mndm.gov.on.ca/mndmfiles/afri/data/imaging/52N04SW2054//52N04SW2054.Pdf

Cameron, D.M., Report on Magnetometer Survey McKenzie Island Property Dome and Farlie Townships Red Lake Mining Division Ontario, Gold Fields Resources Canada Ltd. July 1981
http://www.geologyontario.mndm.gov.on.ca/mndmfiles/afri/data/imaging/52N04SW0052//52N04SW0052.pdf

Cargill, G.D., PH.D., P.ENG. Technical Report on McKenzie Island Project, Red Lake, Ontario, Prepared for Crown Minerals Inc. Report for NI43-101, May 30, 2010
http://www.sedar.com/CheckCode.do;jsessionid=0000onpMSswELvlcGjycrz86fr8:17lkkk26t

Chute, M.E., Geological Report on The McKenzie Island Claim Group McKenzie Island, Dome and Fairlie Townships Ontario NTS 52N/4 for GOLD FIELDS CANADIAN MINING LIMITED January, 1982
http://www.geologyontario.mndm.gov.on.ca/mndmfiles/afri/data/imaging/52N04SW0045//52N04SW0045.Pdf

Jogodits, F. VLF-EM Interpretation, Internal company document, Crown Gold Corp. 2010.

Lichtblau, A.F., Ravnaas, C., Storey, C.C., Lockwood, H.C., Bongfeldt, J. and McDonald, S. 2010. Report of Activities 2009, Resident Geologist Program, Red Lake Regional Resident Geologist Report: Red Lake and Kenora Districts; Ontario Geological Survey, Open File Report 6244, 77p.
http://www.geologyontario.mndmf.gov.on.ca/mndmfiles/pub/data/imaging/ofr6244/OFR6244.pdf

Lichtblau, A.F., Ravnaas, C., Storey, C.C., Bongfeldt, J., McDonald, S., Lockwood, H.C., Bennett, N.A. and Jeffries, T. 2011. Report of Activities 2010, Resident Geologist Program, Red Lake Regional Resident Geologist Report: Red Lake and Kenora Districts; Ontario Geological Survey, Open File Report 6261, 93p.
http://www.geologyontario.mndmf.gov.on.ca/mndmfiles/pub/data/imaging/ofr6261/OFR6261.pdf

Lichtblau, A.F., Ravnaas, C., Storey, C.C., Debicki, R.L., Lockwood, H.C., Tuomi, R.D., Zurevinski, S.E., Moses, P. and Bongfeldt, J. 2013. Report of Activities 2012, Resident Geologist Program, Red Lake Regional Resident Geologist Report: Red Lake and Kenora Districts; Ontario Geological Survey, Open File Report 6283, 132p.
http://www.geologyontario.mndmf.gov.on.ca/mndmfiles/pub/data/imaging/OFR6283//OFR6283.pdf

Pryslac, A.P., Chantigny, P. Report on Geological Mapping Claim 1234145 Dome Township Red Lake Mining Division, Ontario NTS 52 *N/4* for Goldcorp Inc., July 2,2008
http://www.geologyontario.mndm.gov.on.ca/mndmfiles/afri/data/imaging/20000003049//20004688.pdf
Rusk, S. X., B.Sc., Geological Report and Maps 1986-87 Work Programme, McKenzie Island Property, Pure Gold Resources Ltd., November 15, 1986
http://www.geologyontario.mndm.gov.on.ca/mndmfiles/afri/data/imaging/52N04SW9954//52N04SW9954.Pdf

Sanborne-Barrie, M., Skulski, T., and Parker, J., 2004 : Geology, Red Lake greenstone belt, western Superior Province, Ontario; Geological Survey of Canada, Open File 4594, scale 1:50,000.
http://geoscan.nrcan.gc.ca/starweb/geoscan/servlet.starweb?path=geoscan/downloade.web&search1=R=215464

Sequin, J.M., H.B.Sc. Geology, Geological Report for the McKenzie Island/Slate Bay Properties, Dome Farlie Townships, Red Lake Mining Division, District of Kenora, Patricia Division, July 1988
http://www.geologyontario.mndm.gov.on.ca/mndmfiles/afri/data/imaging/20000006235//20008884.Pdf

Seyler. R.P., Report on Geology and Mapping McKenzie Island Property Dome Township Red Lake Mining Division, Ontario, NTS 52 N/4 Goldcorp Inc July 02, 2002
http://www.geologyontario.mndm.gov.on.ca/mndmfiles/afri/data/imaging/52N04SW2036//52N04SW2036.Pdf

Shaw, J.W., B.Sc., Report on the MacAndrew Red Lake Gold Mines Ltd. 1934
http://www.geologyontario.mndmf.gov.on.ca/mndmaccess/mndm_dir.asp?type=afri&id=52N04SW0079

Smith, P.A., DIGHEMIII Survey of the McKenzie Island Property Red Lake Ontario N.T.S. 52 N/4 for Noramco Explorations Inc., December 16 1966
http://www.geologyontario.mndm.gov.on.ca/mndmfiles/afri/data/imaging/52N04SW0492//52N04SW0492.pdf

Stott, G. M. and Corfu, F., 1991, Uchi Sub-province, in Geology of Ontario, Ontario Geological Survey, Special Volume 4, Pt. 1, pp. 145-236, ed. Thurston, P. C., et al.
http://www.geologyontario.mndmf.gov.on.ca/mndmfiles/pub/data/imaging/SV04-01/sv04-01.pdf

Sutherland, D. , SGH – SOIL GAS HYDROCARBON Predictive Geochemistry for CROWN GOLD CORPORATION “MCKENZIE ISLAND SURVEY”, by Activation Laboratories, Dec 7, 2011. Internal Crown Gold Corp report.

24.0 Date and Signature Page

24.1 Signature and Seal

This technical report titled, TECHNICAL REPORT ON THE MCKENZIE ISLAND PROJECT, RED LAKE, ONTARIO PREPARED FOR CROWN GOLD CORPORATION REPORT FOR NI 43-101, has been completed by the author below and dated, sealed and signed as of the effective date of the report.

EFFECTIVE DATE December 30th 2013

PROFESSIONAL GEOSCIENTIST
J.S.S. FRANKO
PRACTISING MEMBER
1780
ONTARIO

Scott Franko, B.Sc., P.Geo. (Ontario) Signed December 30th 2013

24.2 Certificate of Qualifications

CERTIFICATE OF QUALIFICATIONS of Scott Franko, B.Sc., P.Geo.

I, Scott Franko, B.Sc., P.Geo. (Ontario-APGO #1780), designated Qualified Person, currently reside at 374 Walkers Line, Burlington, Ontario, L7N2C7, Canada.

In 1986 I graduated from Lake Superior State University, Sault Ste Marie, Michigan, USA, with a B.Sc. in Geology. In 1981 I graduated from Sault College, Sault Ste Marie, Ontario, Canada with a Geological Engineering Technician Diploma. I am a practising member in good standing of the APGO registered as P.Geo 1780. I am also a registered member in good standing with the AEPGM as P.Geo. 33707. I am a member of the Prospectors and Developers Association of Canada.

I have practised as a Geologist since 1886, having experience in various geological environments in South Africa, Botswana, Hong Kong, Australia, Colombia and Canada. Specific experience relating to this project on McKenzie Island was gained over decades as an exploration geologist. Knowledge specific to the region was gained through experience managing Hy Lake Gold's exploration program in West Red Lake in 2008 as well as on site throughout the sampling and drilling programs between 2010 and 2012. Additional greenstone exploration experience was attained in the Shining Tree area in 2011 whilst consulting to Platinex. My geophysical interpretation experience has been attained from direct interpretation and completion of numerous geophysical surveys since 1983. I am considered as the Qualified Person for the purposes of this instrument.

The TECHNICAL REPORT ON THE MCKENZIE ISLAND PROJECT, RED LAKE, ONTARIO, PREPARED FOR CROWN GOLD CORPORATION, REPORT FOR NI 43-101, has been prepared to the best of my abilities in accordance with Form 43-101 of the National Instrument which I have read and understand. The effective date of this report is December 30th 2013. The Author is responsible for the compilation of this report in its entirety. The Author, in his opinion, is as qualified person independent of the issuer as there are no circumstances that could interfere with the qualified person's judgment regarding the preparation of the technical report. The Author has had no involvement with the property prior to the work detailed in this report.

The Author has made numerous site visits to the property being present throughout all sampling and drilling programs. The most recent trip culminated with the completion of the third drilling program in September and October 2012.

This author hereby consents to the pubic filing of the technical report and to extract from, or a summary of, the technical report in the written disclosure; and in addition hereby confirming that at the effective date of the technical report to the best of the qualified person's knowledge, information, and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Efforts in the preparation of this technical report for the aforementioned McKenzie Island Patents have been as a consultant to Crown Gold Corporation. I presently retain no interest in the company, either direct or indirect, nor do I currently own any interest or securities in the company or its affiliates. I do retain share options totaling 200,000 common shares of TSX-V:CWM at an exercisable price well above current market value which were granted without prejudice during the period of my contractual arrangements to Crown Gold Corporation.

Dated and Signed, in the City of Burlington, Ontario, this 30th Day of December 2013.

Scott Franko B.Sc., P.Geo.

J.S.S. FRANKO
PRACTISING MEMBER
1780

December 30th 2013
Date

24.3 Consent of Qualified Person

Scott Franko B.Sc., P.Geo.
374 Walkers Line,
Burlington, Ontario
L7N2C7

CONSENT of QUALIFIED PERSON

I, Scott Franko, B.Sc., P.Geo., hereby consent to the public filing of the technical report titled, "TECHNICAL REPORT ON THE MCKENZIE ISLAND PROJECT, RED LAKE, ONTARIO PREPARED FOR CROWN GOLD CORPORATION REPORT FOR NI 43-101" and dated December 30th 2013, by Crown Gold Corporation with the OSC and TSX-V.

I also 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.

I also consent to any extracts from or a summary of the Technical Report in any news release, prospectus or on the web site of Crown Gold Corporation.

I certify that the report being filed by Crown Gold Corporation Ltd. fairly and accurately represents the information available and for which I am responsible.

Dated this 30th day of December 2013.

__________________________ [Seal or Stamp]
Signature of Qualified Person

PROFESSIONAL GEOSCIENTIST
J.S.S. FRANKO
PRACTISING MEMBER
1780
ONTARIO

SCOTT FRANKO B.Sc., P.Geo.
____
Print name of Qualified Person

25.0 Additional Req. for Technical Reports on Development and Production Properties

To the best of present knowledge and ability, the Author is of the opinion that all of the readily available pertinent data used in this technical report has been reviewed, summarized and presented in an appropriate manner, in the relevant sections of this report, with no intent to mislead.

APPENDICES

1 Borehole Logs

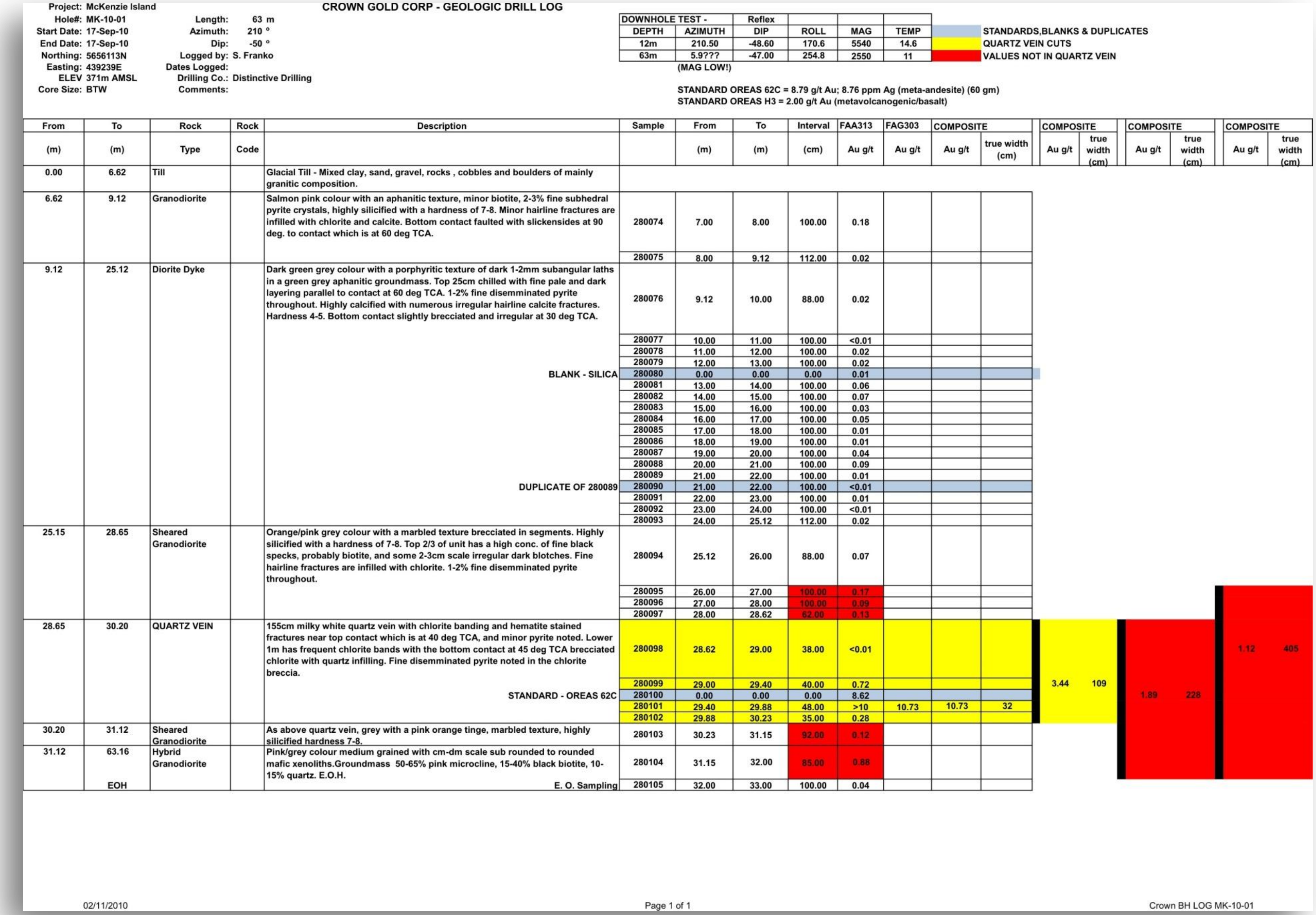
2 Soil Gas Hydrocarbon Report, Actlabs

3 Assay Certificates - on record

4 Photographic Channel Sample Logs - on record

5 Photographic Core Logs - on record

APPENDIX 1 Borehole Logs



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-10-01
Start Date: 17-Sep-10
End Date: 17-Sep-10
Northing: 5656113N
Easting: 439239E
ELEV 371m AMSL
Core Size: BTW

Length: 63 m
Azimuth: 210 °
Dip: -50 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

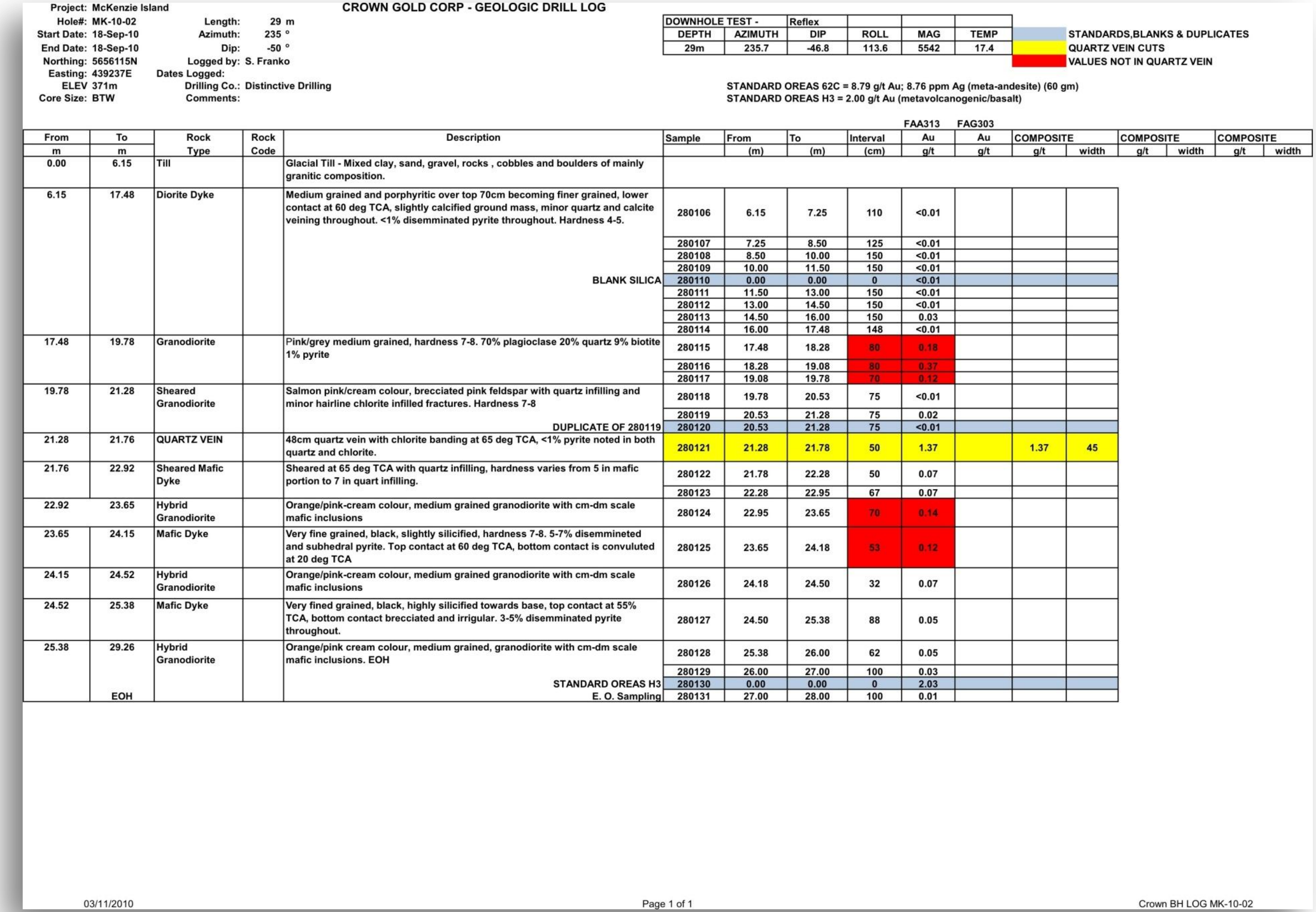
DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
12m	210.50	-48.60	170.6	5540	14.6
63m	5.9???	-47.00	254.8	2550	11
	(MAG LOW!)				

🟦	STANDARDS,BLANKS & DUPLICATES
🟨	QUARTZ VEIN CUTS
🟥	VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMPOSITE		COMPOSITE		COMPOSITE	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)	Au g/t	true width (cm)	Au g/t	true width (cm)	Au g/t	true width (cm)
0.00	6.62	Till		Glacial Till - Mixed clay, sand, gravel, rocks , cobbles and boulders of mainly granitic composition.														
6.62	9.12	Granodiorite		Salmon pink colour with an aphanitic texture, minor biotite, 2-3% fine subhedral pyrite crystals, highly silicified with a hardness of 7-8. Minor hairline fractures are infilled with chlorite and calcite. Bottom contact faulted with slickensides at 90 deg. to contact which is at 60 deg TCA.	280074	7.00	8.00	100.00	0.18									
					280075	8.00	9.12	112.00	0.02									
9.12	25.12	Diorite Dyke		Dark green grey colour with a porphyritic texture of dark 1-2mm subangular laths in a green grey aphanitic groundmass. Top 25cm chilled with fine pale and dark layering parallel to contact at 60 deg TCA. 1-2% fine disseminated pyrite throughout. Highly calcified with numerous irregular hairline calcite fractures. Hardness 4-5. Bottom contact slightly brecciated and irregular at 30 deg TCA.	280076	9.12	10.00	88.00	0.02									
					280077	10.00	11.00	100.00	<0.01									
					280078	11.00	12.00	100.00	0.02									
					280079	12.00	13.00	100.00	0.02									
				BLANK - SILICA	280080	0.00	0.00	0.00	0.01									
					280081	13.00	14.00	100.00	0.06									
					280082	14.00	15.00	100.00	0.07									
					280083	15.00	16.00	100.00	0.03									
					280084	16.00	17.00	100.00	0.05									
					280085	17.00	18.00	100.00	0.01									
					280086	18.00	19.00	100.00	0.01									
					280087	19.00	20.00	100.00	0.04									
					280088	20.00	21.00	100.00	0.09									
					280089	21.00	22.00	100.00	0.01									
				DUPLICATE OF 280089	280090	21.00	22.00	100.00	<0.01									
					280091	22.00	23.00	100.00	0.01									
					280092	23.00	24.00	100.00	<0.01									
					280093	24.00	25.12	112.00	0.02									
25.15	28.65	Sheared Granodiorite		Orange/pink grey colour with a marbled texture brecciated in segments. Highly silicified with a hardness of 7-8. Top 2/3 of unit has a high conc. of fine black specks, probably biotite, and some 2-3cm scale irregular dark blotches. Fine hairline fractures are infilled with chlorite. 1-2% fine disemminated pyrite throughout.	280094	25.12	26.00	88.00	0.07									
					280095	26.00	27.00	100.00	0.17								1.12	405
					280096	27.00	28.00	100.00	0.09									
					280097	28.00	28.62	62.00	0.13									
28.65	30.20	QUARTZ VEIN		155cm milky white quartz vein with chlorite banding and hematite stained fractures near top contact which is at 40 deg TCA, and minor pyrite noted. Lower 1m has frequent chlorite bands with the bottom contact at 45 deg TCA brecciated chlorite with quartz infilling. Fine disemminated pyrite noted in the chlorite breccia.	280098	28.62	29.00	38.00	<0.01				3.44	109	1.89	228		
					280099	29.00	29.40	40.00	0.72									
				STANDARD - OREAS 62C	280100	0.00	0.00	0.00	8.62									
					280101	29.40	29.88	48.00	>10	10.73	10.73	32						
					280102	29.88	30.23	35.00	0.28									
30.20	31.12	Sheared Granodiorite		As above quartz vein, grey with a pink orange tinge, marbled texture, highly silicified hardness 7-8.	280103	30.23	31.15	92.00	0.12									
31.12	63.16	Hybrid Granodiorite		Pink/grey colour medium grained with cm-dm scale sub rounded to rounded mafic xenoliths.Groundmass 50-65% pink microcline, 15-40% black biotite, 10-15% quartz. E.O.H.	280104	31.15	32.00	85.00	0.88									
	EOH			E. O. Sampling	280105	32.00	33.00	100.00	0.04									

02/11/2010
Page 1 of 1
Crown BH LOG MK-10-01



Project: McKenzie Island
Hole#: MK-10-02
Start Date: 18-Sep-10
End Date: 18-Sep-10
Northing: 5656115N
Easting: 439237E
ELEV 371m
Core Size: BTW

Length: 29 m
Azimuth: 235 °
Dip: -50 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

CROWN GOLD CORP - GEOLOGIC DRILL LOG

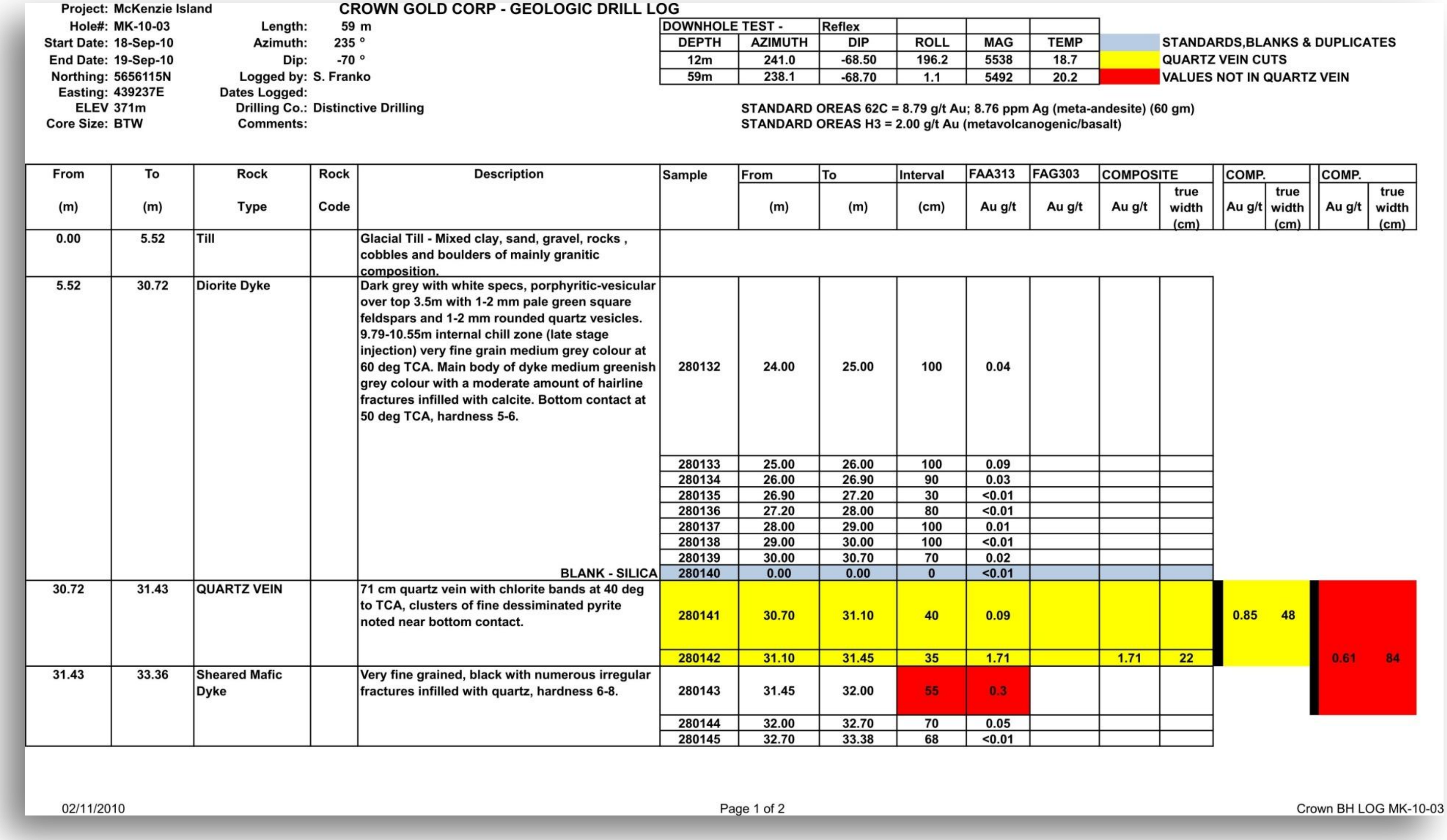
DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
29m	235.7	-46.8	113.6	5542	17.4

🟦 STANDARDS,BLANKS & DUPLICATES
🟨 QUARTZ VEIN CUTS
🟥 VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313 Au	FAG303 Au	COMPOSITE		COMPOSITE		COMPOSITE	
m	m	Type	Code			(m)	(m)	(cm)	g/t	g/t	g/t	width	g/t	width	g/t	width
0.00	6.15	Till		Glacial Till - Mixed clay, sand, gravel, rocks , cobbles and boulders of mainly granitic composition.												
6.15	17.48	Diorite Dyke		Medium grained and porphyritic over top 70cm becoming finer grained, lower contact at 60 deg TCA, slightly calcified ground mass, minor quartz and calcite veining throughout. <1% disseminated pyrite throughout. Hardness 4-5.	280106	6.15	7.25	110	<0.01							
					280107	7.25	8.50	125	<0.01							
					280108	8.50	10.00	150	<0.01							
					280109	10.00	11.50	150	<0.01							
				BLANK SILICA	280110	0.00	0.00	0	<0.01							
					280111	11.50	13.00	150	<0.01							
					280112	13.00	14.50	150	<0.01							
					280113	14.50	16.00	150	0.03							
					280114	16.00	17.48	148	<0.01							
17.48	19.78	Granodiorite		Pink/grey medium grained, hardness 7-8. 70% plagioclase 20% quartz 9% biotite 1% pyrite	280115	17.48	18.28	80	0.18							
					280116	18.28	19.08	80	0.37							
					280117	19.08	19.78	70	0.12							
19.78	21.28	Sheared Granodiorite		Salmon pink/cream colour, brecciated pink feldspar with quartz infilling and minor hairline chlorite infilled fractures. Hardness 7-8	280118	19.78	20.53	75	<0.01							
					280119	20.53	21.28	75	0.02							
				DUPLICATE OF 280119	280120	20.53	21.28	75	<0.01							
21.28	21.76	QUARTZ VEIN		48cm quartz vein with chlorite banding at 65 deg TCA, <1% pyrite noted in both quartz and chlorite.	280121	21.28	21.78	50	1.37		1.37	45				
21.76	22.92	Sheared Mafic Dyke		Sheared at 65 deg TCA with quartz infilling, hardness varies from 5 in mafic portion to 7 in quart infilling.	280122	21.78	22.28	50	0.07							
					280123	22.28	22.95	67	0.07							
22.92	23.65	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions	280124	22.95	23.65	70	0.14							
23.65	24.15	Mafic Dyke		Very fine grained, black, slightly silicified, hardness 7-8. 5-7% disemmineted and subhedral pyrite. Top contact at 60 deg TCA, bottom contact is convuluted at 20 deg TCA	280125	23.65	24.18	53	0.12							
24.15	24.52	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions	280126	24.18	24.50	32	0.07							
24.52	25.38	Mafic Dyke		Very fined grained, black, highly silicified towards base, top contact at 55% TCA, bottom contact brecciated and irrigular. 3-5% disemminated pyrite throughout.	280127	24.50	25.38	88	0.05							
25.38	29.26	Hybrid Granodiorite		Orange/pink cream colour, medium grained, granodiorite with cm-dm scale mafic inclusions. EOH	280128	25.38	26.00	62	0.05							
					280129	26.00	27.00	100	0.03							
				STANDARD OREAS H3	280130	0.00	0.00	0	2.03							
	EOH			E. O. Sampling	280131	27.00	28.00	100	0.01							

03/11/2010 Page 1 of 1 Crown BH LOG MK-10-02



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-10-03
Start Date: 18-Sep-10
End Date: 19-Sep-10
Northing: 5656115N
Easting: 439237E
ELEV 371m
Core Size: BTW

Length: 59 m
Azimuth: 235 °
Dip: -70 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

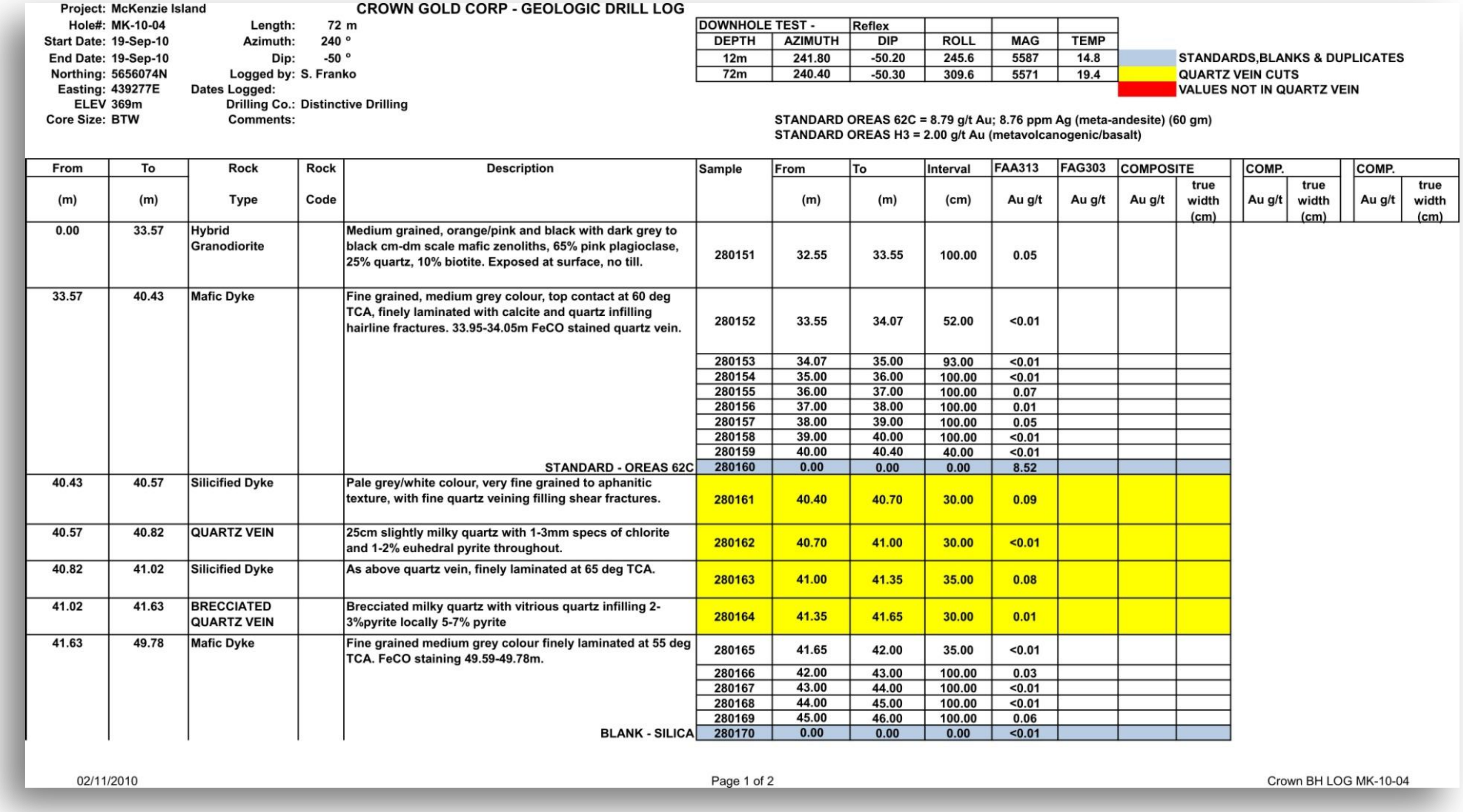
DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
12m	241.0	-68.50	196.2	5538	18.7
59m	238.1	-68.70	1.1	5492	20.2

🟦	STANDARDS,BLANKS & DUPLICATES
🟨	QUARTZ VEIN CUTS
🟥	VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.		COMP.	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)	Au g/t	true width (cm)	Au g/t	true width (cm)
0.00	5.52	Till		Glacial Till - Mixed clay, sand, gravel, rocks , cobbles and boulders of mainly granitic composition.												
5.52	30.72	Diorite Dyke		Dark grey with white specs, porphyritic-vesicular over top 3.5m with 1-2 mm pale green square feldspars and 1-2 mm rounded quartz vesicles. 9.79-10.55m internal chill zone (late stage injection) very fine grain medium grey colour at 60 deg TCA. Main body of dyke medium greenish grey colour with a moderate amount of hairline fractures infilled with calcite. Bottom contact at 50 deg TCA, hardness 5-6.	280132	24.00	25.00	100	0.04							
					280133	25.00	26.00	100	0.09							
					280134	26.00	26.90	90	0.03							
					280135	26.90	27.20	30	<0.01							
					280136	27.20	28.00	80	<0.01							
					280137	28.00	29.00	100	0.01							
					280138	29.00	30.00	100	<0.01							
					280139	30.00	30.70	70	0.02							
				BLANK - SILICA	280140	0.00	0.00	0	<0.01							
30.72	31.43	QUARTZ VEIN		71 cm quartz vein with chlorite bands at 40 deg to TCA, clusters of fine dessiminated pyrite noted near bottom contact.	280141	30.70	31.10	40	0.09				0.85	48		
					280142	31.10	31.45	35	1.71		1.71	22			0.61	84
31.43	33.36	Sheared Mafic Dyke		Very fine grained, black with numerous irregular fractures infilled with quartz, hardness 6-8.	280143	31.45	32.00	55	0.3							
					280144	32.00	32.70	70	0.05							
					280145	32.70	33.38	68	<0.01							

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.	COMP.
33.36	34.55	Sheared Hybrid Granodiorite		Salmon pink/grey colour, highly silicified, hardness 7-8, sub angular mafic and quartz clasts display 7-10% pyrite, ground mass 3-5% pyrite.	280146	33.38	34.00	62	0.04					
					280147	34.00	34.57	57	0.07					
34.55	58.80	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions. EOH	280148	34.57	35.00	43	0.09					
	EOH			E.O.Sampling	280149	35.00	36.00	100	0.07					
				DUPLICATE OF 280149	280150	35.00	36.00	100	0.14					



Project: McKenzie Island
Hole#: MK-10-04
Start Date: 19-Sep-10
End Date: 19-Sep-10
Northing: 5656074N
Easting: 439277E
ELEV 369m
Core Size: BTW

Length: 72 m
Azimuth: 240 °
Dip: -50 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

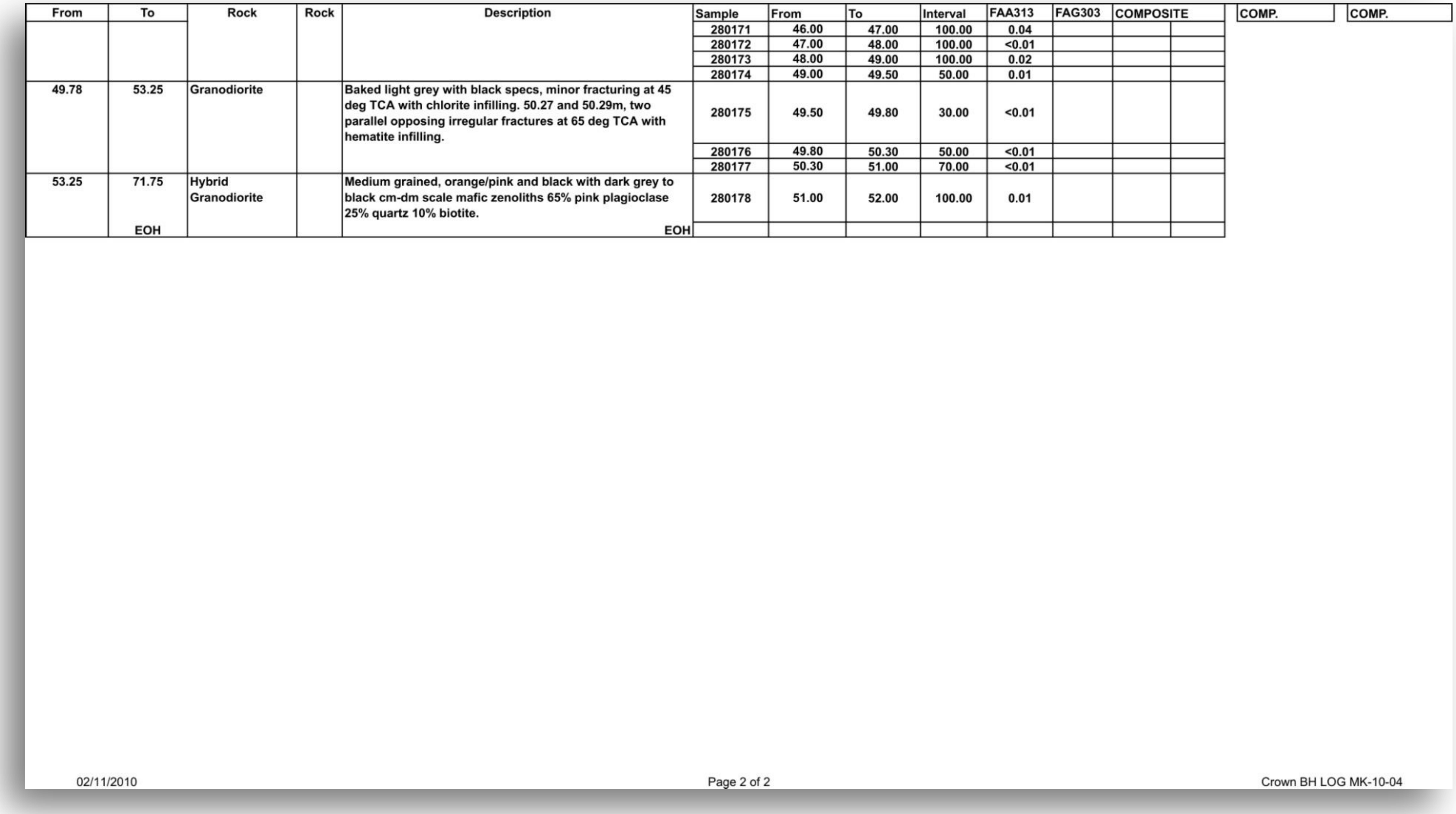
CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -	Reflex				
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
12m	241.80	-50.20	245.6	5587	14.8
72m	240.40	-50.30	309.6	5571	19.4

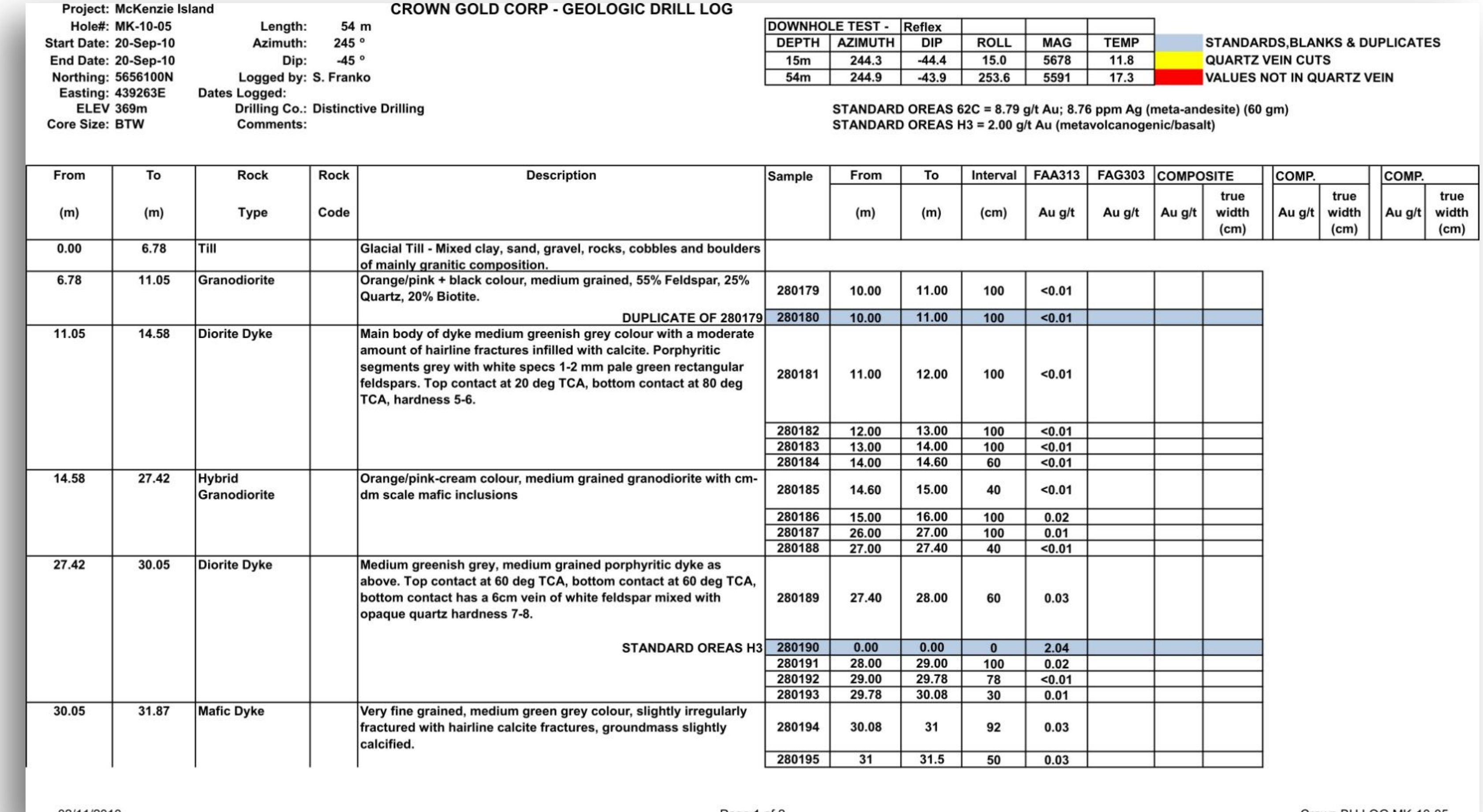
🟦	STANDARDS,BLANKS & DUPLICATES
🟨	QUARTZ VEIN CUTS
🟥	VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.		COMP.	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)	Au g/t	true width (cm)	Au g/t	true width (cm)
0.00	33.57	Hybrid Granodiorite		Medium grained, orange/pink and black with dark grey to black cm-dm scale mafic zenoliths, 65% pink plagioclase, 25% quartz, 10% biotite. Exposed at surface, no till.	280151	32.55	33.55	100.00	0.05							
33.57	40.43	Mafic Dyke		Fine grained, medium grey colour, top contact at 60 deg TCA, finely laminated with calcite and quartz infilling hairline fractures. 33.95-34.05m FeCO stained quartz vein.	280152	33.55	34.07	52.00	<0.01							
					280153	34.07	35.00	93.00	<0.01							
					280154	35.00	36.00	100.00	<0.01							
					280155	36.00	37.00	100.00	0.07							
					280156	37.00	38.00	100.00	0.01							
					280157	38.00	39.00	100.00	0.05							
					280158	39.00	40.00	100.00	<0.01							
					280159	40.00	40.40	40.00	<0.01							
				STANDARD - OREAS 62C	280160	0.00	0.00	0.00	8.52							
40.43	40.57	Silicified Dyke		Pale grey/white colour, very fine grained to aphanitic texture, with fine quartz veining filling shear fractures.	280161	40.40	40.70	30.00	0.09							
40.57	40.82	QUARTZ VEIN		25cm slightly milky quartz with 1-3mm specs of chlorite and 1-2% euhedral pyrite throughout.	280162	40.70	41.00	30.00	<0.01							
40.82	41.02	Silicified Dyke		As above quartz vein, finely laminated at 65 deg TCA.	280163	41.00	41.35	35.00	0.08							
41.02	41.63	BRECCIATED QUARTZ VEIN		Brecciated milky quartz with vitrious quartz infilling 2-3%pyrite locally 5-7% pyrite	280164	41.35	41.65	30.00	0.01							
41.63	49.78	Mafic Dyke		Fine grained medium grey colour finely laminated at 55 deg TCA. FeCO staining 49.59-49.78m.	280165	41.65	42.00	35.00	<0.01							
					280166	42.00	43.00	100.00	0.03							
					280167	43.00	44.00	100.00	<0.01							
					280168	44.00	45.00	100.00	<0.01							
					280169	45.00	46.00	100.00	0.06							
				BLANK - SILICA	280170	0.00	0.00	0.00	<0.01							



From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.	COMP.
					280171	46.00	47.00	100.00	0.04					
					280172	47.00	48.00	100.00	<0.01					
					280173	48.00	49.00	100.00	0.02					
					280174	49.00	49.50	50.00	0.01					
49.78	53.25	Granodiorite		Baked light grey with black specs, minor fracturing at 45 deg TCA with chlorite infilling. 50.27 and 50.29m, two parallel opposing irregular fractures at 65 deg TCA with hematite infilling.	280175	49.50	49.80	30.00	<0.01					
					280176	49.80	50.30	50.00	<0.01					
					280177	50.30	51.00	70.00	<0.01					
53.25	71.75	Hybrid Granodiorite		Medium grained, orange/pink and black with dark grey to black cm-dm scale mafic zenoliths 65% pink plagioclase 25% quartz 10% biotite.	280178	51.00	52.00	100.00	0.01					
	EOH			EOH										



Project: McKenzie Island
Hole#: MK-10-05
Start Date: 20-Sep-10
End Date: 20-Sep-10
Northing: 5656100N
Easting: 439263E
ELEV 369m
Core Size: BTW

Length: 54 m
Azimuth: 245 °
Dip: -45 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -	Reflex				
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	244.3	-44.4	15.0	5678	11.8
54m	244.9	-43.9	253.6	5591	17.3

🟦	STANDARDS,BLANKS & DUPLICATES
🟨	QUARTZ VEIN CUTS
🟥	VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.		COMP.	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)	Au g/t	true width (cm)	Au g/t	true width (cm)
0.00	6.78	Till		Glacial Till - Mixed clay, sand, gravel, rocks, cobbles and boulders of mainly granitic composition.												
6.78	11.05	Granodiorite		Orange/pink + black colour, medium grained, 55% Feldspar, 25% Quartz, 20% Biotite.	280179	10.00	11.00	100	<0.01							
				DUPLICATE OF 280179	280180	10.00	11.00	100	<0.01							
11.05	14.58	Diorite Dyke		Main body of dyke medium greenish grey colour with a moderate amount of hairline fractures infilled with calcite. Porphyritic segments grey with white specs 1-2 mm pale green rectangular feldspars. Top contact at 20 deg TCA, bottom contact at 80 deg TCA, hardness 5-6.	280181	11.00	12.00	100	<0.01							
					280182	12.00	13.00	100	<0.01							
					280183	13.00	14.00	100	<0.01							
					280184	14.00	14.60	60	<0.01							
14.58	27.42	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions	280185	14.60	15.00	40	<0.01							
					280186	15.00	16.00	100	0.02							
					280187	26.00	27.00	100	0.01							
					280188	27.00	27.40	40	<0.01							
27.42	30.05	Diorite Dyke		Medium greenish grey, medium grained porphyritic dyke as above. Top contact at 60 deg TCA, bottom contact at 60 deg TCA, bottom contact has a 6cm vein of white feldspar mixed with opaque quartz hardness 7-8.	280189	27.40	28.00	60	0.03							
				STANDARD OREAS H3	280190	0.00	0.00	0	2.04							
					280191	28.00	29.00	100	0.02							
					280192	29.00	29.78	78	<0.01							
					280193	29.78	30.08	30	0.01							
30.05	31.87	Mafic Dyke		Very fine grained, medium green grey colour, slightly irregularly fractured with hairline calcite fractures, groundmass slightly calcified.	280194	30.08	31	92	0.03							
					280195	31	31.5	50	0.03							

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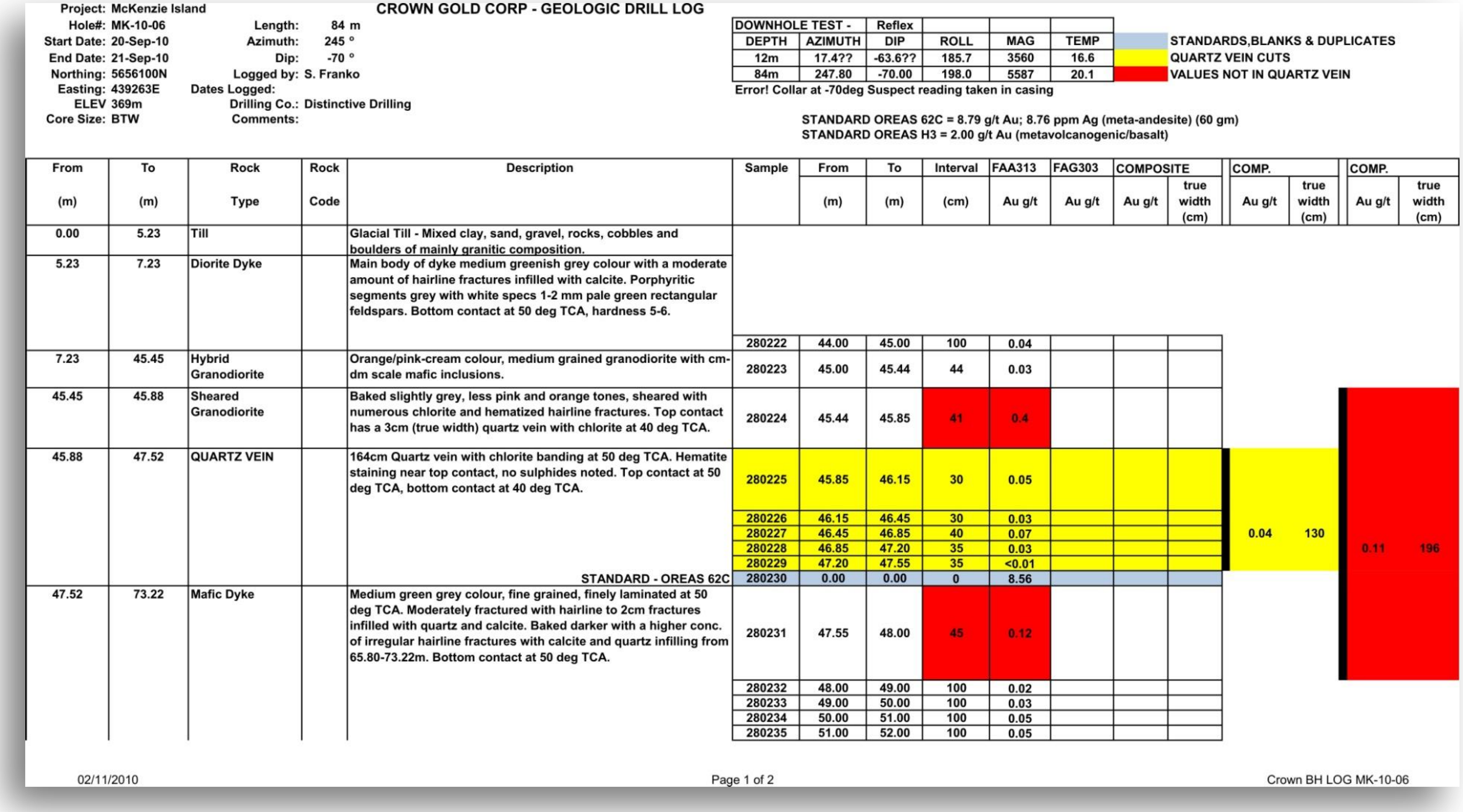
From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.		COMP.	
					280196	31.5	31.85	35	0.13						0.46	102
31.87	32.60	QUARTZ VEIN		73cm Quartz vein with chlorite banding at 65 deg TCA. Well mineralized with 3 x 1cm blebs of disseminated pyrite near 32.12m.	280197	31.85	32.2	35	0.79				0.60	71		
					280198	32.2	32.63	43	0.45							
32.60	46.78	Mafic Dyke		Very fine grained, medium green grey colour, finely laminated at 50 deg TCA, scattered quartz and feldspar veinlets along partings, groundmass strongly calcified. 44.10-46.78m moderately brecciated with quartz infilling.	280199	32.63	33	37	0.02							
				BLANK - SILICA	280200	0	0	0	<0.01							
					280201	33.00	34.00	100	0.02							
					280202	34.00	35.00	100	0.04							
					280203	35.00	36.00	100	0.03							
					280204	36.00	37.00	100	0.03							
					280205	37.00	38.00	100	0.03							
					280206	38.00	39.00	100	0.05							
					280207	39.00	40.00	100	0.1							
					280208	40.00	41.00	100	0.05							
					280209	41.00	42.00	100	0.08							
				DUPLICATE OF 280209	280210	41.00	42.00	100	0.08							
					280211	42.00	43.00	100	0.07							
					280212	43.00	44.00	100	0.16				0.17	153		
					280213	44.00	45.00	100	0.18							
					280214	45.00	46.00	100	0.07							
					280215	46.00	46.75	75	0.02							
46.78	47.03	QUARTZ VEIN		25cm quartz vein with chlorite bands at 40 deg TCA. No sulphides noted. Top and bottom contacts both at 40 deg TCA.	280216	46.75	47.05	30	0.03							
47.03	53.50	Hybrid Graodiorite		Top 2.75m of unit baked to a grey/black colour from contact metamorphism and containing xenoliths as usual, remainder of unit same as typical orange/pink + black hybrid granodiorite with mafic xenoliths.	280217	47.05	47.50	45	0.02							
					280218	47.50	48.00	50	0.02							
					280219	48.00	49.00	100	0.02							
				BLANK - SILICA	280220	0.00	0.00	0	0.02							
				E.O.Sampling	280221	49.00	50.00	100	0.03							
	EOH			EOH												



Project: McKenzie Island
Hole#: MK-10-06
Start Date: 20-Sep-10
End Date: 21-Sep-10
Northing: 5656100N
Easting: 439263E
ELEV 369m
Core Size: BTW

Length: 84 m
Azimuth: 245 °
Dip: -70 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
12m	17.4??	-63.6??	185.7	3560	16.6
84m	247.80	-70.00	198.0	5587	20.1

Error! Collar at -70deg Suspect reading taken in casing

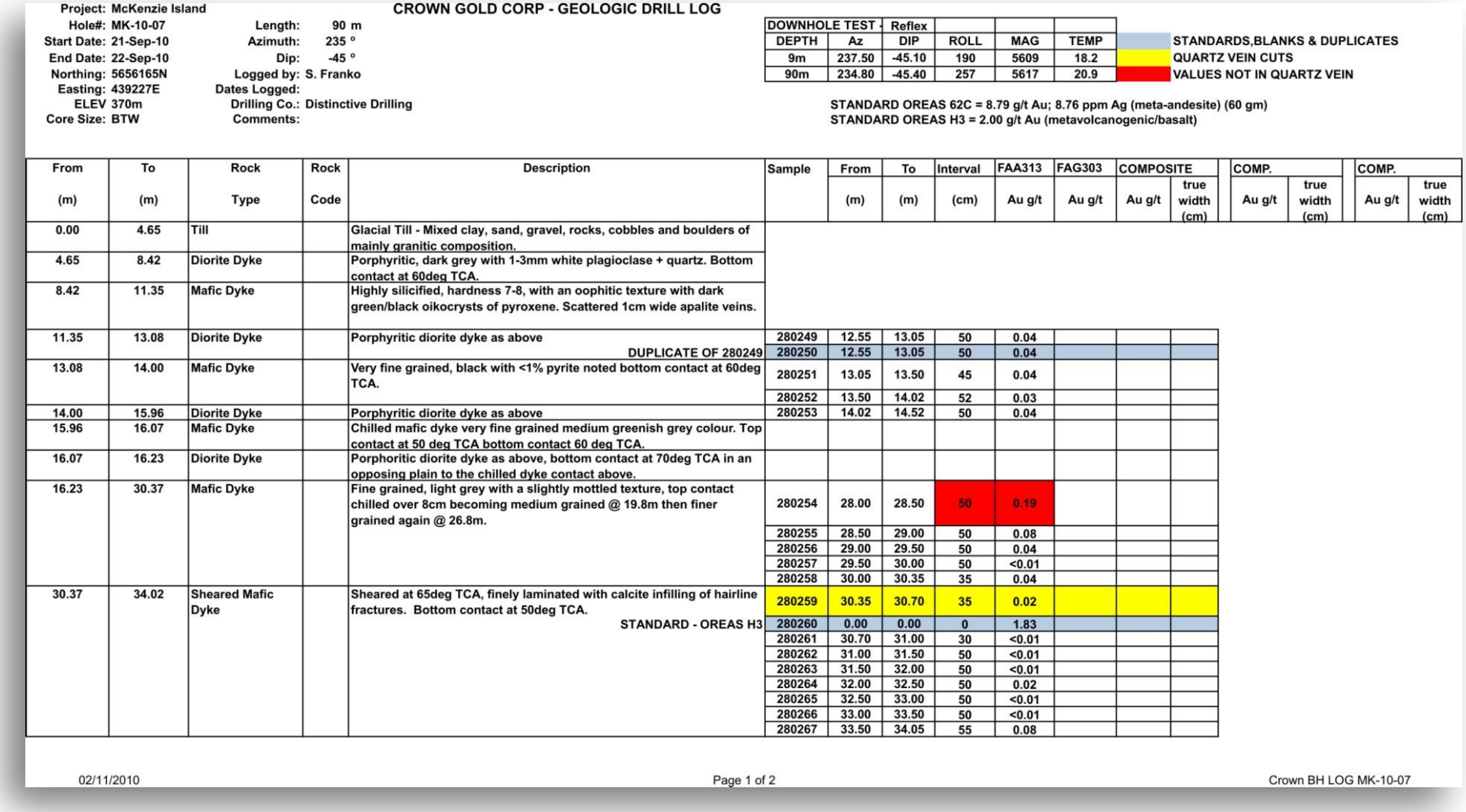
▨	STANDARDS,BLANKS & DUPLICATES
🟨	QUARTZ VEIN CUTS
🟥	VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.		COMP.	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)	Au g/t	true width (cm)	Au g/t	true width (cm)
0.00	5.23	Till		Glacial Till - Mixed clay, sand, gravel, rocks, cobbles and boulders of mainly granitic composition.												
5.23	7.23	Diorite Dyke		Main body of dyke medium greenish grey colour with a moderate amount of hairline fractures infilled with calcite. Porphyritic segments grey with white specs 1-2 mm pale green rectangular feldspars. Bottom contact at 50 deg TCA, hardness 5-6.												
					280222	44.00	45.00	100	0.04							
7.23	45.45	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions.	280223	45.00	45.44	44	0.03							
45.45	45.88	Sheared Granodiorite		Baked slightly grey, less pink and orange tones, sheared with numerous chlorite and hematized hairline fractures. Top contact has a 3cm (true width) quartz vein with chlorite at 40 deg TCA.	280224	45.44	45.85	41	0.4						0.11	196
45.88	47.52	QUARTZ VEIN		164cm Quartz vein with chlorite banding at 50 deg TCA. Hematite staining near top contact, no sulphides noted. Top contact at 50 deg TCA, bottom contact at 40 deg TCA.	280225	45.85	46.15	30	0.05				0.04	130		
					280226	46.15	46.45	30	0.03							
					280227	46.45	46.85	40	0.07							
					280228	46.85	47.20	35	0.03							
					280229	47.20	47.55	35	<0.01							
				STANDARD - OREAS 62C	280230	0.00	0.00	0	8.56							
47.52	73.22	Mafic Dyke		Medium green grey colour, fine grained, finely laminated at 50 deg TCA. Moderately fractured with hairline to 2cm fractures infilled with quartz and calcite. Baked darker with a higher conc. of irregular hairline fractures with calcite and quartz infilling from 65.80-73.22m. Bottom contact at 50 deg TCA.	280231	47.55	48.00	45	0.12							
					280232	48.00	49.00	100	0.02							
					280233	49.00	50.00	100	0.03							
					280234	50.00	51.00	100	0.05							
					280235	51.00	52.00	100	0.05							

02/11/2010 Page 1 of 2 Crown BH LOG MK-10-06

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.		COMP.	
					280236	52.00	53.00	100	0.04							
					280237	71.00	72.00	100	0.06							
					280238	72.00	72.45	45	0.05							
					280239	72.45	72.90	45	0.05							
				BLANK - SILICA	280240	0.00	0.00	0	0.04							
					280241	72.90	73.20	30	0.05							
73.22	73.95	Sheared Granodiorite		Pale pink grey colour, finely brecciated and sheared. Bottom contact at 40 deg TCA.	280242	73.20	73.55	35	0.05							
					280243	73.55	73.92	37	0.27						0.79	55
73.95	74.63	QUARTZ VEIN		68cm Quartz vein with chlorite banding at 30 deg TCA. No sulphides noted.	280244	73.92	74.30	38	0.04				1.06	37		
					280245	74.30	74.65	35	2.16		2.16	18				
74.63	75.12	Sheared Granodiorite		As above quartz vein excepting medium grey in colour.	280246	74.65	75.15	50	0.06							
75.12	83.90	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions	280247	75.15	76.00	85	0.04							
				E.O.Sampling	280248	76.00	77.00	100	0.06							
	EOH			EOH												



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-10-07
Start Date: 21-Sep-10
End Date: 22-Sep-10
Northing: 5656165N
Easting: 439227E
ELEV 370m
Core Size: BTW

Length: 90 m
Azimuth: 235 °
Dip: -45 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

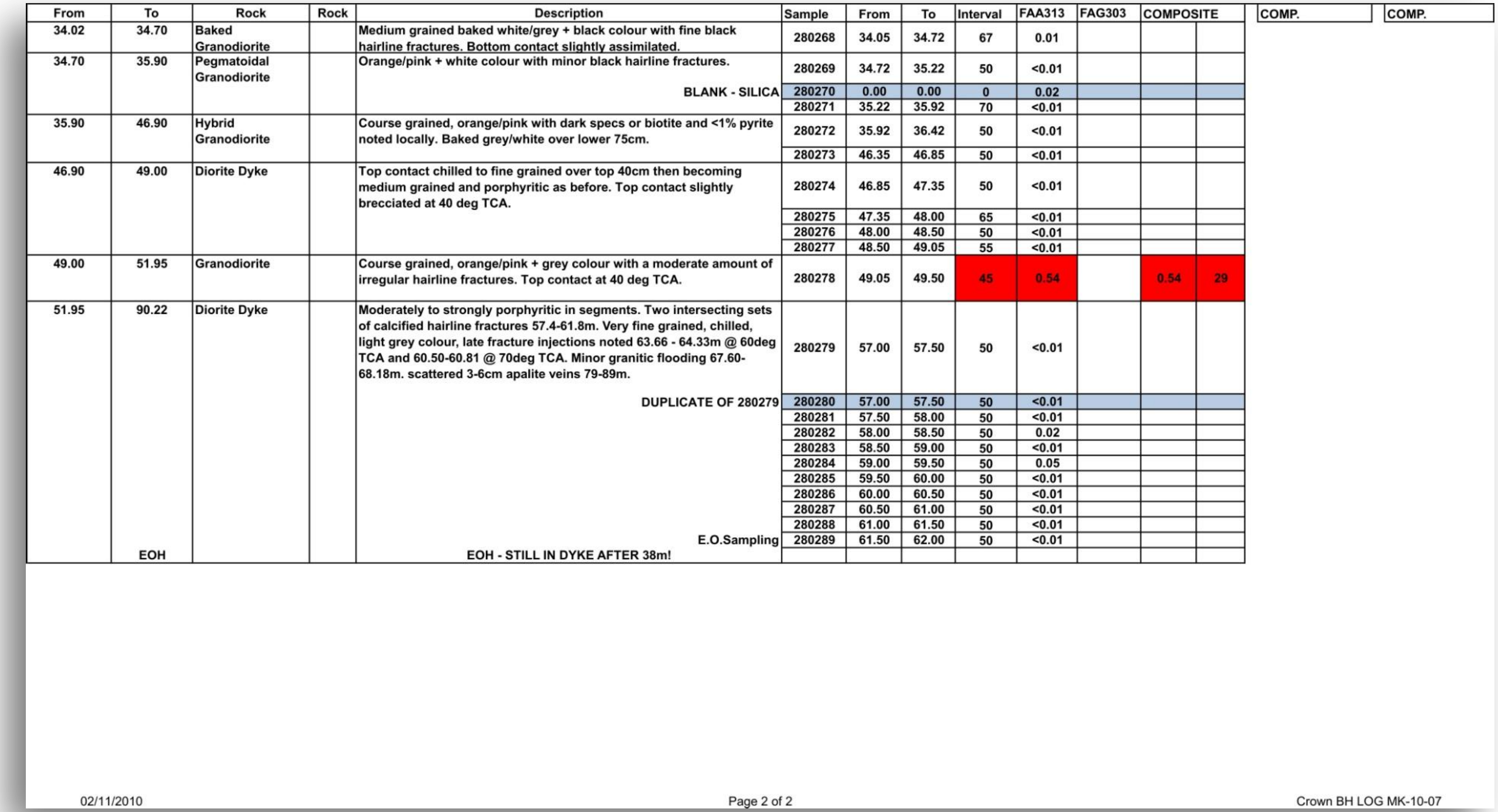
DOWNHOLE TEST -	Reflex			
DEPTH	Az	DIP	ROLL	MAG	TEMP
9m	237.50	-45.10	190	5609	18.2
90m	234.80	-45.40	257	5617	20.9

🟦 STANDARDS,BLANKS & DUPLICATES
🟨 QUARTZ VEIN CUTS
🟥 VALUES NOT IN QUARTZ VEIN

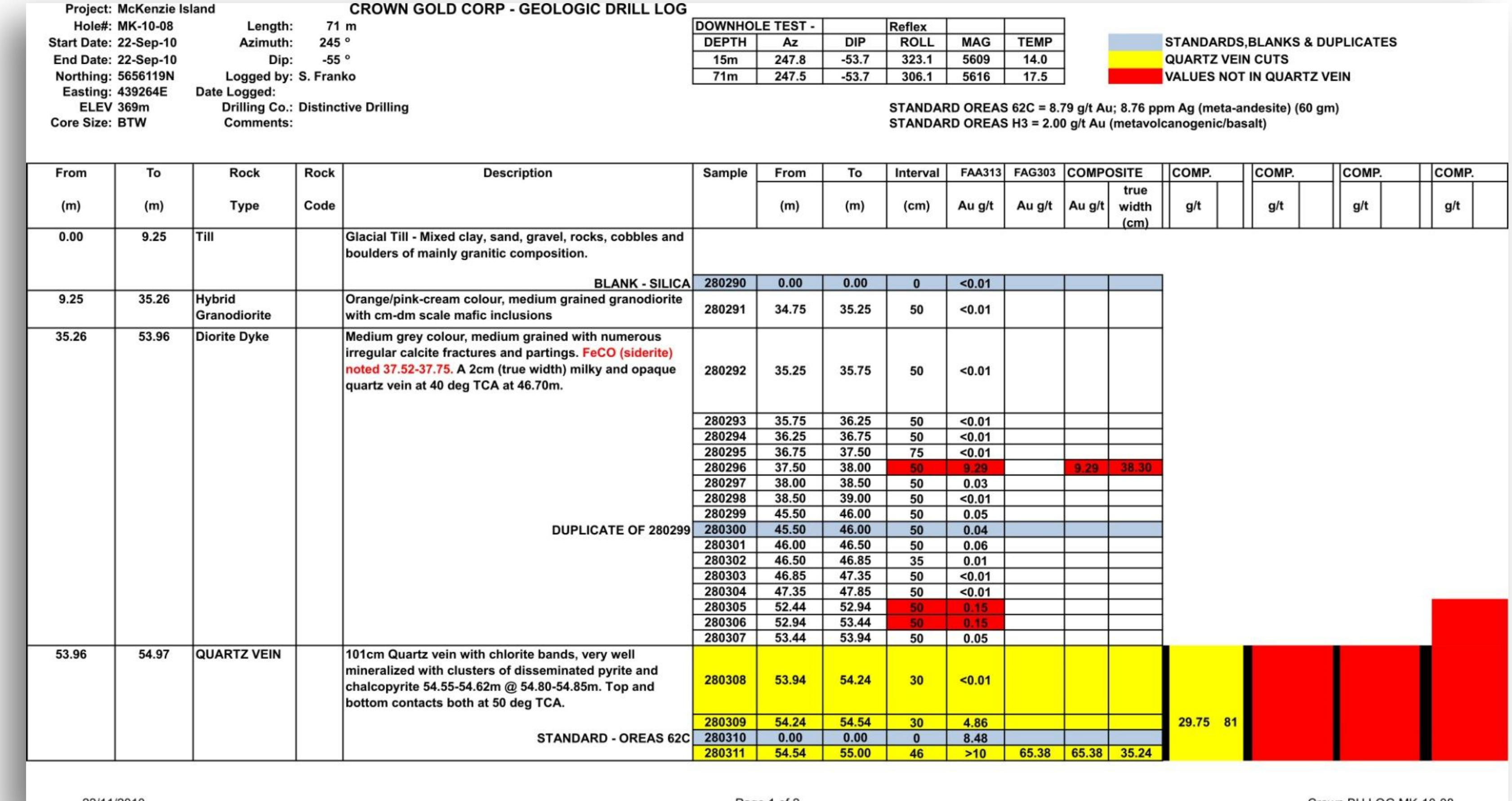
STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.		COMP.	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)	Au g/t	true width (cm)	Au g/t	true width (cm)
0.00	4.65	Till		Glacial Till - Mixed clay, sand, gravel, rocks, cobbles and boulders of mainly granitic composition.												
4.65	8.42	Diorite Dyke		Porphyritic, dark grey with 1-3mm white plagioclase + quartz. Bottom contact at 60deg TCA.												
8.42	11.35	Mafic Dyke		Highly silicified, hardness 7-8, with an oophitic texture with dark green/black oikocrysts of pyroxene. Scattered 1cm wide apalite veins.												
11.35	13.08	Diorite Dyke		Porphyritic diorite dyke as above	280249	12.55	13.05	50	0.04							
				DUPLICATE OF 280249	280250	12.55	13.05	50	0.04							
13.08	14.00	Mafic Dyke		Very fine grained, black with <1% pyrite noted bottom contact at 60deg TCA.	280251	13.05	13.50	45	0.04							
					280252	13.50	14.02	52	0.03							
14.00	15.96	Diorite Dyke		Porphyritic diorite dyke as above	280253	14.02	14.52	50	0.04							
15.96	16.07	Mafic Dyke		Chilled mafic dyke very fine grained medium greenish grey colour. Top contact at 50 deg TCA bottom contact 60 deg TCA.												
16.07	16.23	Diorite Dyke		Porphoritic diorite dyke as above, bottom contact at 70deg TCA in an opposing plain to the chilled dyke contact above.												
16.23	30.37	Mafic Dyke		Fine grained, light grey with a slightly mottled texture, top contact chilled over 8cm becoming medium grained @ 19.8m then finer grained again @ 26.8m.	280254	28.00	28.50	50	0.19							
					280255	28.50	29.00	50	0.08							
					280256	29.00	29.50	50	0.04							
					280257	29.50	30.00	50	<0.01							
					280258	30.00	30.35	35	0.04							
30.37	34.02	Sheared Mafic Dyke		Sheared at 65deg TCA, finely laminated with calcite infilling of hairline fractures. Bottom contact at 50deg TCA.	280259	30.35	30.70	35	0.02							
				STANDARD - OREAS H3	280260	0.00	0.00	0	1.83							
					280261	30.70	31.00	30	<0.01							
					280262	31.00	31.50	50	<0.01							
					280263	31.50	32.00	50	<0.01							
					280264	32.00	32.50	50	0.02							
					280265	32.50	33.00	50	<0.01							
					280266	33.00	33.50	50	<0.01							
					280267	33.50	34.05	55	0.08							

02/11/2010 Page 1 of 2 Crown BH LOG MK-10-07



From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.	COMP.
34.02	34.70	Baked Granodiorite		Medium grained baked white/grey + black colour with fine black hairline fractures. Bottom contact slightly assimilated.	280268	34.05	34.72	67	0.01					
34.70	35.90	Pegmatoidal Granodiorite		Orange/pink + white colour with minor black hairline fractures.	280269	34.72	35.22	50	<0.01					
				BLANK - SILICA	280270	0.00	0.00	0	0.02					
					280271	35.22	35.92	70	<0.01					
35.90	46.90	Hybrid Granodiorite		Course grained, orange/pink with dark specs or biotite and <1% pyrite noted locally. Baked grey/white over lower 75cm.	280272	35.92	36.42	50	<0.01					
					280273	46.35	46.85	50	<0.01					
46.90	49.00	Diorite Dyke		Top contact chilled to fine grained over top 40cm then becoming medium grained and porphyritic as before. Top contact slightly brecciated at 40 deg TCA.	280274	46.85	47.35	50	<0.01					
					280275	47.35	48.00	65	<0.01					
					280276	48.00	48.50	50	<0.01					
					280277	48.50	49.05	55	<0.01					
49.00	51.95	Granodiorite		Course grained, orange/pink + grey colour with a moderate amount of irregular hairline fractures. Top contact at 40 deg TCA.	280278	49.05	49.50	45	0.54		0.54	29		
51.95	90.22	Diorite Dyke		Moderately to strongly porphyritic in segments. Two intersecting sets of calcified hairline fractures 57.4-61.8m. Very fine grained, chilled, light grey colour, late fracture injections noted 63.66 - 64.33m @ 60deg TCA and 60.50-60.81 @ 70deg TCA. Minor granitic flooding 67.60-68.18m. scattered 3-6cm apalite veins 79-89m.	280279	57.00	57.50	50	<0.01					
				DUPLICATE OF 280279	280280	57.00	57.50	50	<0.01					
					280281	57.50	58.00	50	<0.01					
					280282	58.00	58.50	50	0.02					
					280283	58.50	59.00	50	<0.01					
					280284	59.00	59.50	50	0.05					
					280285	59.50	60.00	50	<0.01					
					280286	60.00	60.50	50	<0.01					
					280287	60.50	61.00	50	<0.01					
					280288	61.00	61.50	50	<0.01					
				E.O.Sampling	280289	61.50	62.00	50	<0.01					
	EOH			EOH - STILL IN DYKE AFTER 38m!										



Project: McKenzie Island
Hole#: MK-10-08
Start Date: 22-Sep-10
End Date: 22-Sep-10
Northing: 5656119N
Easting: 439264E
ELEV 369m
Core Size: BTW

Length: 71 m
Azimuth: 245 °
Dip: -55 °
Logged by: S. Franko
Date Logged:
Drilling Co.: Distinctive Drilling
Comments:

CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -			Reflex		
DEPTH	Az	DIP	ROLL	MAG	TEMP
15m	247.8	-53.7	323.1	5609	14.0
71m	247.5	-53.7	306.1	5616	17.5

🟦 STANDARDS,BLANKS & DUPLICATES
🟨 QUARTZ VEIN CUTS
🟥 VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.		COMP.		COMP.		COMP.	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)	g/t		g/t		g/t		g/t	
0.00	9.25	Till		Glacial Till - Mixed clay, sand, gravel, rocks, cobbles and boulders of mainly granitic composition.																
				BLANK - SILICA	280290	0.00	0.00	0	<0.01											
9.25	35.26	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions	280291	34.75	35.25	50	<0.01											
35.26	53.96	Diorite Dyke		Medium grey colour, medium grained with numerous irregular calcite fractures and partings. FeCO (siderite) noted 37.52-37.75. A 2cm (true width) milky and opaque quartz vein at 40 deg TCA at 46.70m.	280292	35.25	35.75	50	<0.01											
					280293	35.75	36.25	50	<0.01											
					280294	36.25	36.75	50	<0.01											
					280295	36.75	37.50	75	<0.01											
					280296	37.50	38.00	50	9.29		9.29	38.30								
					280297	38.00	38.50	50	0.03											
					280298	38.50	39.00	50	<0.01											
					280299	45.50	46.00	50	0.05											
				DUPLICATE OF 280299	280300	45.50	46.00	50	0.04											
					280301	46.00	46.50	50	0.06											
					280302	46.50	46.85	35	0.01											
					280303	46.85	47.35	50	<0.01											
					280304	47.35	47.85	50	<0.01											
					280305	52.44	52.94	50	0.15											
					280306	52.94	53.44	50	0.15											
					280307	53.44	53.94	50	0.05											
53.96	54.97	QUARTZ VEIN		101cm Quartz vein with chlorite bands, very well mineralized with clusters of disseminated pyrite and chalcopyrite 54.55-54.62m @ 54.80-54.85m. Top and bottom contacts both at 50 deg TCA.	280308	53.94	54.24	30	<0.01											
					280309	54.24	54.54	30	4.86				29.75	81						
				STANDARD - OREAS 62C	280310	0.00	0.00	0	8.48											
					280311	54.54	55.00	46	>10	65.38	65.38	35.24								

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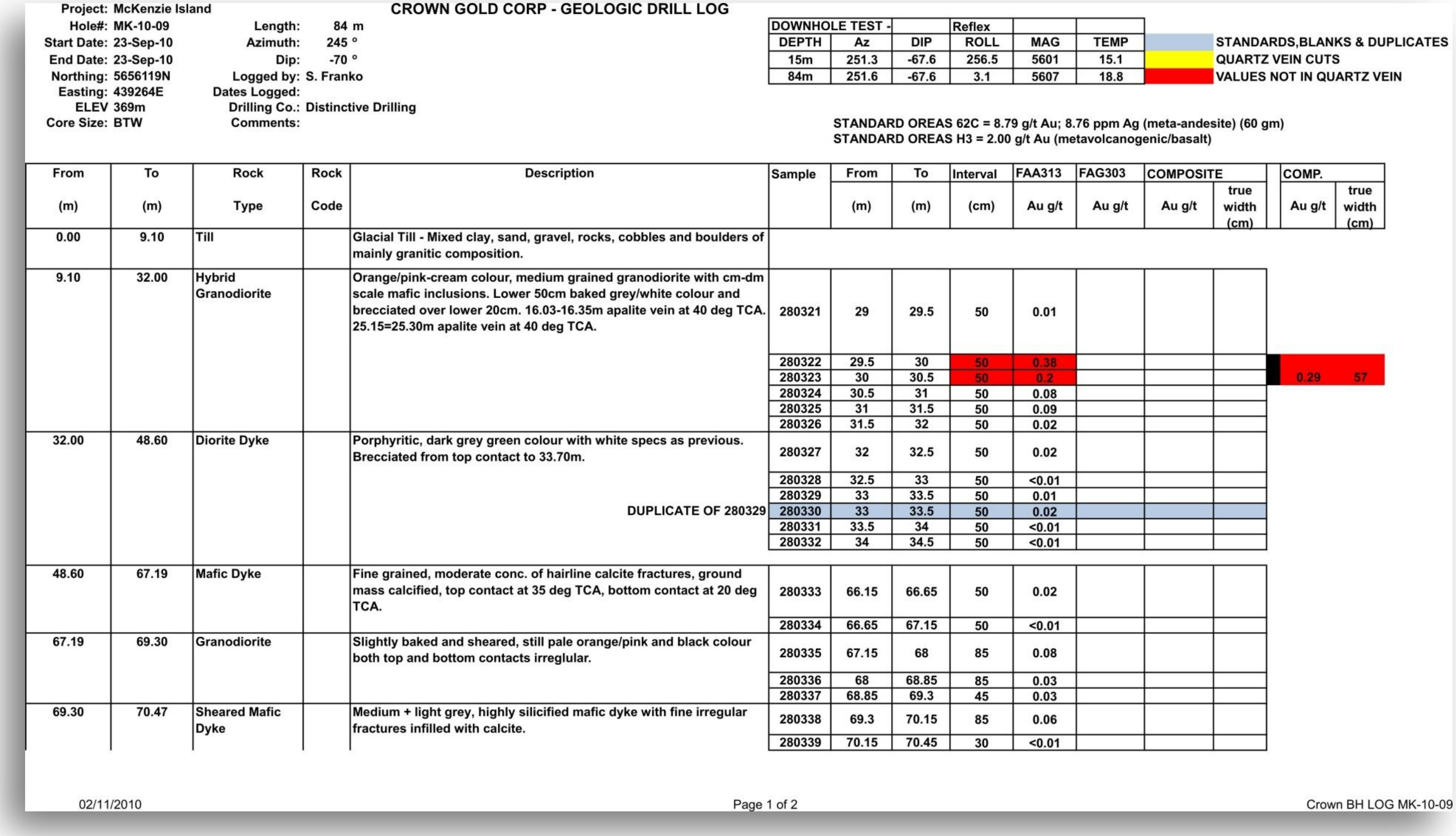
Crown BH LOG MK-10-08

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.	COMP.	COMP.	COMP.
54.97	55.55	Sheared Granodiorite		Light grey colour, highly silicified, aphanitic texture.	280312	55.00	55.50	50	0.29					10.03 238		5.53 436
55.55	56.45	Granodiorite		Moderately baked to medium grey colour, central portain displays an orange hue	280313	55.50	56.00	50	0.14						7.28 330	
					280314	56.00	56.50	50	0.26							
56.45	56.73	Mafic Dyke		Fine grained, medium grey colour, <1% pyrite noted. Top contact at 40 deg TCA bottom contact at 30 deg TCA.	280315	56.50	57.00	50	1.50				2.30 46			
56.73	58.57	Sheared Granodiorite		Pegmatoidal in remobilized segments, orange/pink and grey colour, highly silicified, hardness 7-8.	280316	57.00	57.30	30	3.62							
					280317	57.30	57.80	50	0.22							
					280318	57.80	58.60	80	0.11							
58.57	71.45	Hybrid Granodiorite		E.O.Sampling	280319	58.60	59.10	50	0.03							
				BLANK - SILICA	280320	0.00	0.00	0	0.05							
				Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions												
	EOH			EOH												



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-10-09
Start Date: 23-Sep-10
End Date: 23-Sep-10
Northing: 5656119N
Easting: 439264E
ELEV 369m
Core Size: BTW

Length: 84 m
Azimuth: 245 °
Dip: -70 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

DOWNHOLE TEST -			Reflex		
DEPTH	Az	DIP	ROLL	MAG	TEMP
15m	251.3	-67.6	256.5	5601	15.1
84m	251.6	-67.6	3.1	5607	18.8

🟦 STANDARDS,BLANKS & DUPLICATES
🟨 QUARTZ VEIN CUTS
🟥 VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)	Au g/t	true width (cm)
0.00	9.10	Till		Glacial Till - Mixed clay, sand, gravel, rocks, cobbles and boulders of mainly granitic composition.										
9.10	32.00	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions. Lower 50cm baked grey/white colour and brecciated over lower 20cm. 16.03-16.35m apalite vein at 40 deg TCA. 25.15=25.30m apalite vein at 40 deg TCA.	280321	29	29.5	50	0.01					
					280322	29.5	30	50	0.38				0.29	57
					280323	30	30.5	50	0.2					
					280324	30.5	31	50	0.08					
					280325	31	31.5	50	0.09					
					280326	31.5	32	50	0.02					
32.00	48.60	Diorite Dyke		Porphyritic, dark grey green colour with white specs as previous. Brecciated from top contact to 33.70m.	280327	32	32.5	50	0.02					
					280328	32.5	33	50	<0.01					
					280329	33	33.5	50	0.01					
				DUPLICATE OF 280329	280330	33	33.5	50	0.02					
					280331	33.5	34	50	<0.01					
					280332	34	34.5	50	<0.01					
48.60	67.19	Mafic Dyke		Fine grained, moderate conc. of hairline calcite fractures, ground mass calcified, top contact at 35 deg TCA, bottom contact at 20 deg TCA.	280333	66.15	66.65	50	0.02					
					280334	66.65	67.15	50	<0.01					
67.19	69.30	Granodiorite		Slightly baked and sheared, still pale orange/pink and black colour both top and bottom contacts irreglular.	280335	67.15	68	85	0.08					
					280336	68	68.85	85	0.03					
					280337	68.85	69.3	45	0.03					
69.30	70.47	Sheared Mafic Dyke		Medium + light grey, highly silicified mafic dyke with fine irregular fractures infilled with calcite.	280338	69.3	70.15	85	0.06					
					280339	70.15	70.45	30	<0.01					

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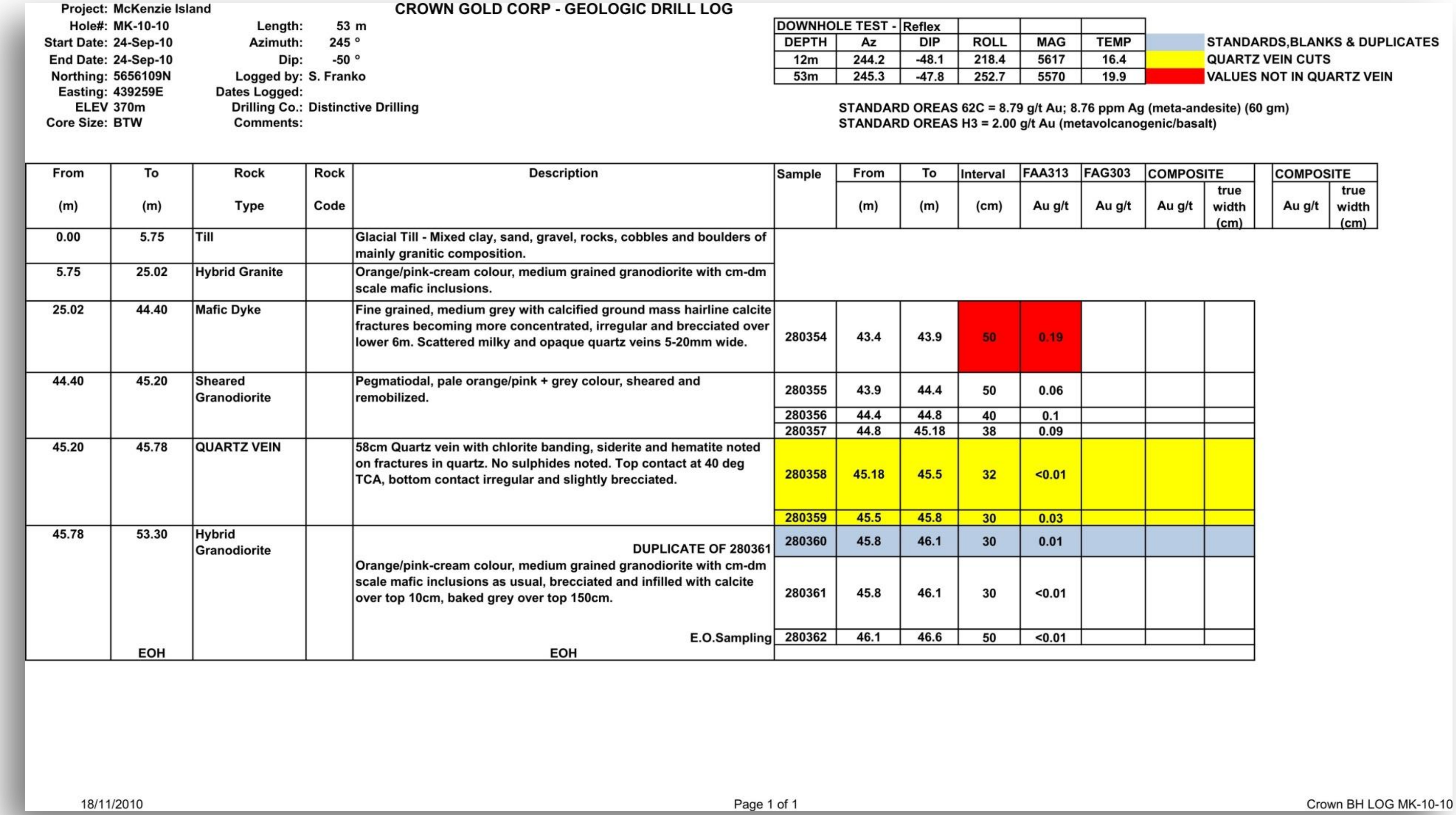
Page 1 of 2
Crown BH LOG MK-10-09

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE		COMP.	
				STANDARD - OREAS H3	280340	0	0	0	1.98					
70.47	71.56	QUARTZ VEIN		109cm quartz vein with chlorite banding, hematite + siderite noted in hairline fractures in quartz. No sulphides noted. Top contact at 30 deg TCA bottom contact 40 deg TCA.	280341	70.45	70.8	35	0.02				3.06	66
					280342	70.8	71.2	40	1.17					
					280343	71.2	71.6	40	7.61		7.61	23		
71.56	75.60	Sheared Granodiorite		Pegmatoidal orange/pink with black specs and hairline fractures. 1-2% pyrite noted locally. Minor irregular quartz veinlets 5-10mm.	280344	71.6	72	40	0.08					
					280345	72	72.5	50	0.02					
					280346	72.5	73	50	0.03					
					280347	73	73.5	50	0.1					
					280348	73.5	74	50	0.09					
					280349	74	74.5	50	0.04					
				BLANK - SILICA	280350	0	0	0	<0.01					
					280351	74.5	75	50	0.01					
					280352	75	75.62	62	0.25				0.24	57
75.60	84.14	Hybrid Granodiorite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions as usual though moderately to highly fractured locally with fine black irregular hairline fractures.	280353	75.62	76	38	0.22					
	EOH			EOH										



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-10-10
Start Date: 24-Sep-10
End Date: 24-Sep-10
Northing: 5656109N
Easting: 439259E
ELEV 370m
Core Size: BTW

Length: 53 m
Azimuth: 245 °
Dip: -50 °
Logged by: S. Franko
Dates Logged:
Drilling Co.: Distinctive Drilling
Comments:

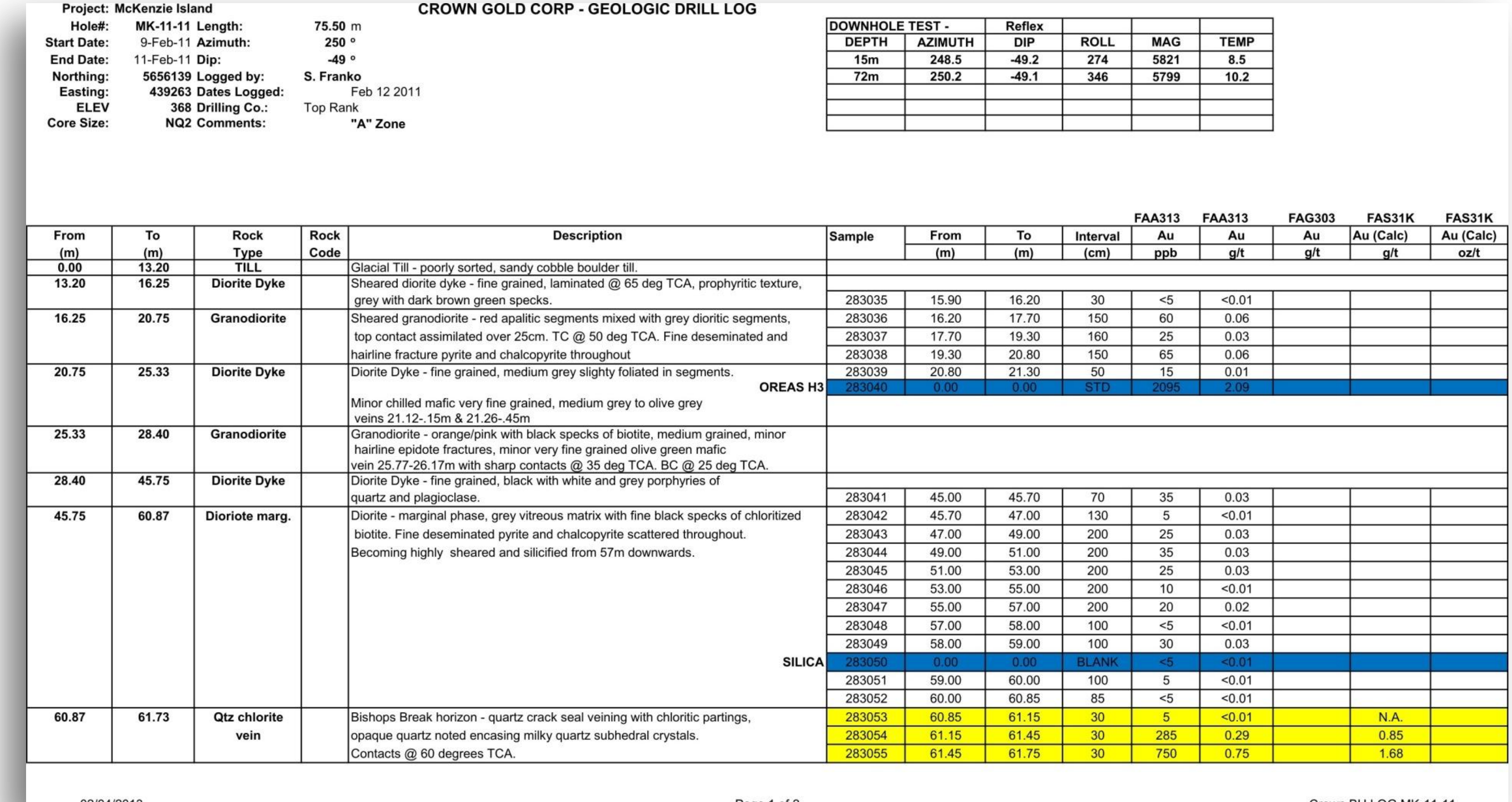
DOWNHOLE TEST -	Reflex				
DEPTH	Az	DIP	ROLL	MAG	TEMP
12m	244.2	-48.1	218.4	5617	16.4
53m	245.3	-47.8	252.7	5570	19.9

🟦 STANDARDS,BLANKS & DUPLICATES
🟨 QUARTZ VEIN CUTS
🟥 VALUES NOT IN QUARTZ VEIN

STANDARD OREAS 62C = 8.79 g/t Au; 8.76 ppm Ag (meta-andesite) (60 gm)
STANDARD OREAS H3 = 2.00 g/t Au (metavolcanogenic/basalt)

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAG303	COMPOSITE			COMPOSITE	
(m)	(m)	Type	Code			(m)	(m)	(cm)	Au g/t	Au g/t	Au g/t	true width (cm)		Au g/t	true width (cm)
0.00	5.75	Till		Glacial Till - Mixed clay, sand, gravel, rocks, cobbles and boulders of mainly granitic composition.											
5.75	25.02	Hybrid Granite		Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions.											
25.02	44.40	Mafic Dyke		Fine grained, medium grey with calcified ground mass hairline calcite fractures becoming more concentrated, irregular and brecciated over lower 6m. Scattered milky and opaque quartz veins 5-20mm wide.	280354	43.4	43.9	50	0.19						
44.40	45.20	Sheared Granodiorite		Pegmatiodal, pale orange/pink + grey colour, sheared and remobilized.	280355	43.9	44.4	50	0.06						
					280356	44.4	44.8	40	0.1						
					280357	44.8	45.18	38	0.09						
45.20	45.78	QUARTZ VEIN		58cm Quartz vein with chlorite banding, siderite and hematite noted on fractures in quartz. No sulphides noted. Top contact at 40 deg TCA, bottom contact irregular and slightly brecciated.	280358	45.18	45.5	32	<0.01						
					280359	45.5	45.8	30	0.03						
45.78	53.30	Hybrid Granodiorite		DUPLICATE OF 280361	280360	45.8	46.1	30	0.01						
				Orange/pink-cream colour, medium grained granodiorite with cm-dm scale mafic inclusions as usual, brecciated and infilled with calcite over top 10cm, baked grey over top 150cm.	280361	45.8	46.1	30	<0.01						
				E.O.Sampling	280362	46.1	46.6	50	<0.01						
	EOH			EOH											

18/11/2010 Page 1 of 1 Crown BH LOG MK-10-10



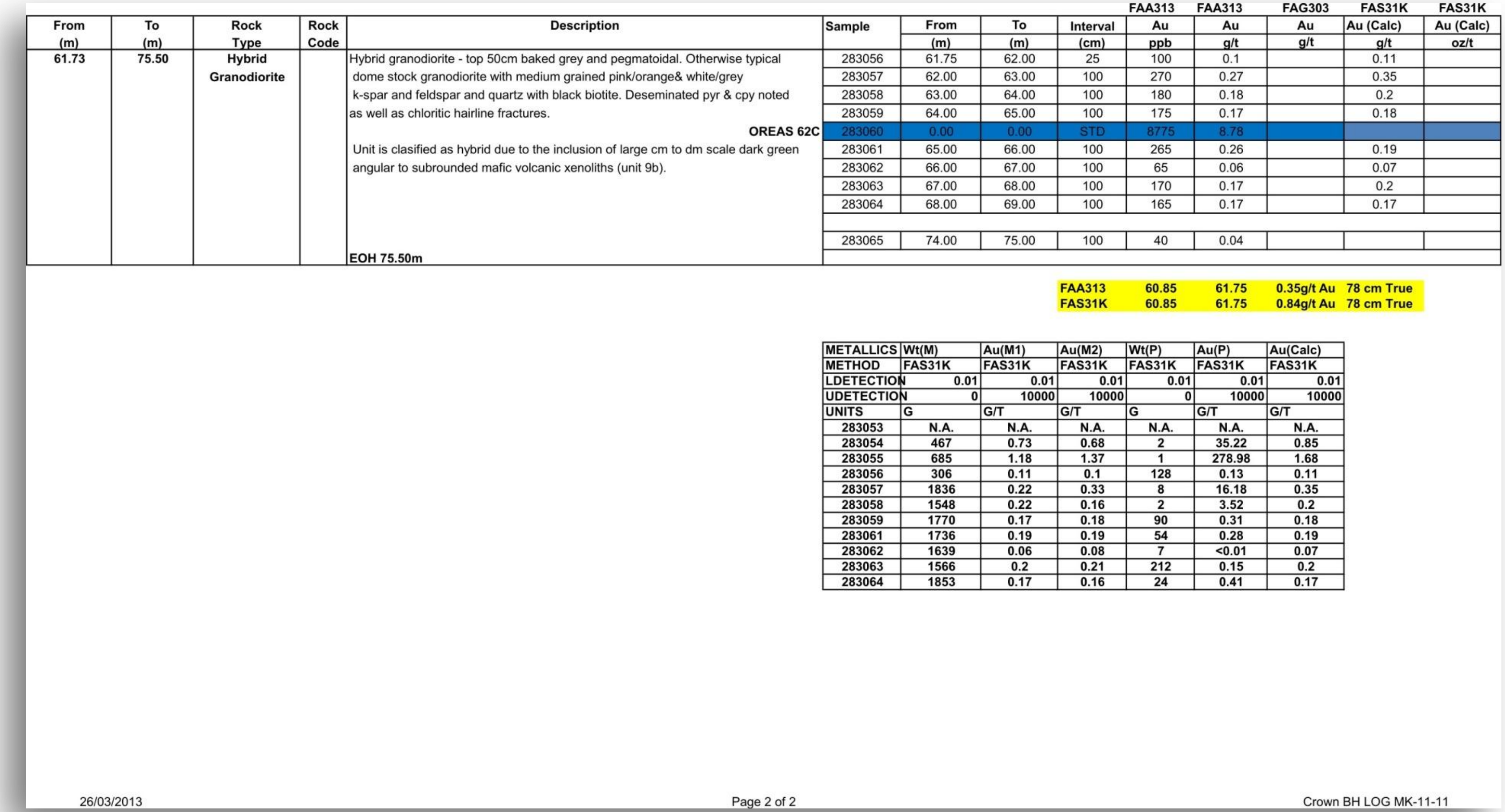
Project:	McKenzie Island		
Hole#:	MK-11-11	Length:	75.50 m
Start Date:	9-Feb-11	Azimuth:	250 °
End Date:	11-Feb-11	Dip:	-49 °
Northing:	5656139	Logged by:	S. Franko
Easting:	439263	Dates Logged:	Feb 12 2011
ELEV	368	Drilling Co.:	Top Rank
Core Size:	NQ2	Comments:	"A" Zone

CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	248.5	-49.2	274	5821	8.5
72m	250.2	-49.1	346	5799	10.2

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	Au ppb	Au g/t	Au g/t	Au (Calc) g/t	Au (Calc) oz/t
0.00	13.20	TILL		Glacial Till - poorly sorted, sandy cobble boulder till.									
13.20	16.25	Diorite Dyke		Sheared diorite dyke - fine grained, laminated @ 65 deg TCA, prophyritic texture, grey with dark brown green specks.	283035	15.90	16.20	30	<5	<0.01			
16.25	20.75	Granodiorite		Sheared granodiorite - red apalitic segments mixed with grey dioritic segments, top contact assimilated over 25cm. TC @ 50 deg TCA. Fine deseminated and hairline fracture pyrite and chalcopyrite throughout	283036	16.20	17.70	150	60	0.06			
					283037	17.70	19.30	160	25	0.03			
					283038	19.30	20.80	150	65	0.06			
20.75	25.33	Diorite Dyke		Diorite Dyke - fine grained, medium grey slighty foliated in segments.	283039	20.80	21.30	50	15	0.01			
				OREAS H3	283040	0.00	0.00	STD	2095	2.09			
				Minor chilled mafic very fine grained, medium grey to olive grey veins 21.12-.15m & 21.26-.45m									
25.33	28.40	Granodiorite		Granodiorite - orange/pink with black specks of biotite, medium grained, minor hairline epidote fractures, minor very fine grained olive green mafic vein 25.77-26.17m with sharp contacts @ 35 deg TCA. BC @ 25 deg TCA.									
28.40	45.75	Diorite Dyke		Diorite Dyke - fine grained, black with white and grey porphyries of quartz and plagioclase.	283041	45.00	45.70	70	35	0.03			
45.75	60.87	Dioriote marg.		Diorite - marginal phase, grey vitreous matrix with fine black specks of chloritized biotite. Fine deseminated pyrite and chalcopyrite scattered throughout. Becoming highly sheared and silicified from 57m downwards.	283042	45.70	47.00	130	5	<0.01			
					283043	47.00	49.00	200	25	0.03			
					283044	49.00	51.00	200	35	0.03			
					283045	51.00	53.00	200	25	0.03			
					283046	53.00	55.00	200	10	<0.01			
					283047	55.00	57.00	200	20	0.02			
					283048	57.00	58.00	100	<5	<0.01			
					283049	58.00	59.00	100	30	0.03			
				SILICA	283050	0.00	0.00	BLANK	<5	<0.01			
					283051	59.00	60.00	100	5	<0.01			
					283052	60.00	60.85	85	<5	<0.01			
60.87	61.73	Qtz chlorite vein		Bishops Break horizon - quartz crack seal veining with chloritic partings, opaque quartz noted encasing milky quartz subhedral crystals. Contacts @ 60 degrees TCA.	283053	60.85	61.15	30	5	<0.01		N.A.	
					283054	61.15	61.45	30	285	0.29		0.85	
					283055	61.45	61.75	30	750	0.75		1.68	

02/04/2013 Page 1 of 2 Crown BH LOG MK-11-11



									FAA313	FAA313	FAG303	FAS31K	FAS31K
From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
(m)	(m)	Type	Code			(m)	(m)	(cm)	ppb	g/t	g/t	g/t	oz/t
61.73	75.50	Hybrid		Hybrid granodiorite - top 50cm baked grey and pegmatoidal. Otherwise typical	283056	61.75	62.00	25	100	0.1		0.11	
		Granodiorite		dome stock granodiorite with medium grained pink/orange& white/grey	283057	62.00	63.00	100	270	0.27		0.35	
				k-spar and feldspar and quartz with black biotite. Deseminated pyr & cpy noted	283058	63.00	64.00	100	180	0.18		0.2	
				as well as chloritic hairline fractures.	283059	64.00	65.00	100	175	0.17		0.18	
				OREAS 62C	283060	0.00	0.00	STD	8775	8.78			
				Unit is clasified as hybrid due to the inclusion of large cm to dm scale dark green	283061	65.00	66.00	100	265	0.26		0.19	
				angular to subrounded mafic volcanic xenoliths (unit 9b).	283062	66.00	67.00	100	65	0.06		0.07	
					283063	67.00	68.00	100	170	0.17		0.2	
					283064	68.00	69.00	100	165	0.17		0.17	
					283065	74.00	75.00	100	40	0.04			
				EOH 75.50m									

FAA313	**60.85**	**61.75**	**0.35g/t Au**	**78 cm True**
FAS31K	**60.85**	**61.75**	**0.84g/t Au**	**78 cm True**

METALLICS	**Wt(M)**	**Au(M1)**	**Au(M2)**	**Wt(P)**	**Au(P)**	**Au(Calc)**
METHOD	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**
LDETECTION	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
UDETECTION	**0**	**10000**	**10000**	**0**	**10000**	**10000**
UNITS	**G**	**G/T**	**G/T**	**G**	**G/T**	**G/T**
283053	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
283054	**467**	**0.73**	**0.68**	**2**	**35.22**	**0.85**
283055	**685**	**1.18**	**1.37**	**1**	**278.98**	**1.68**
283056	**306**	**0.11**	**0.1**	**128**	**0.13**	**0.11**
283057	**1836**	**0.22**	**0.33**	**8**	**16.18**	**0.35**
283058	**1548**	**0.22**	**0.16**	**2**	**3.52**	**0.2**
283059	**1770**	**0.17**	**0.18**	**90**	**0.31**	**0.18**
283061	**1736**	**0.19**	**0.19**	**54**	**0.28**	**0.19**
283062	**1639**	**0.06**	**0.08**	**7**	**<0.01**	**0.07**
283063	**1566**	**0.2**	**0.21**	**212**	**0.15**	**0.2**
283064	**1853**	**0.17**	**0.16**	**24**	**0.41**	**0.17**

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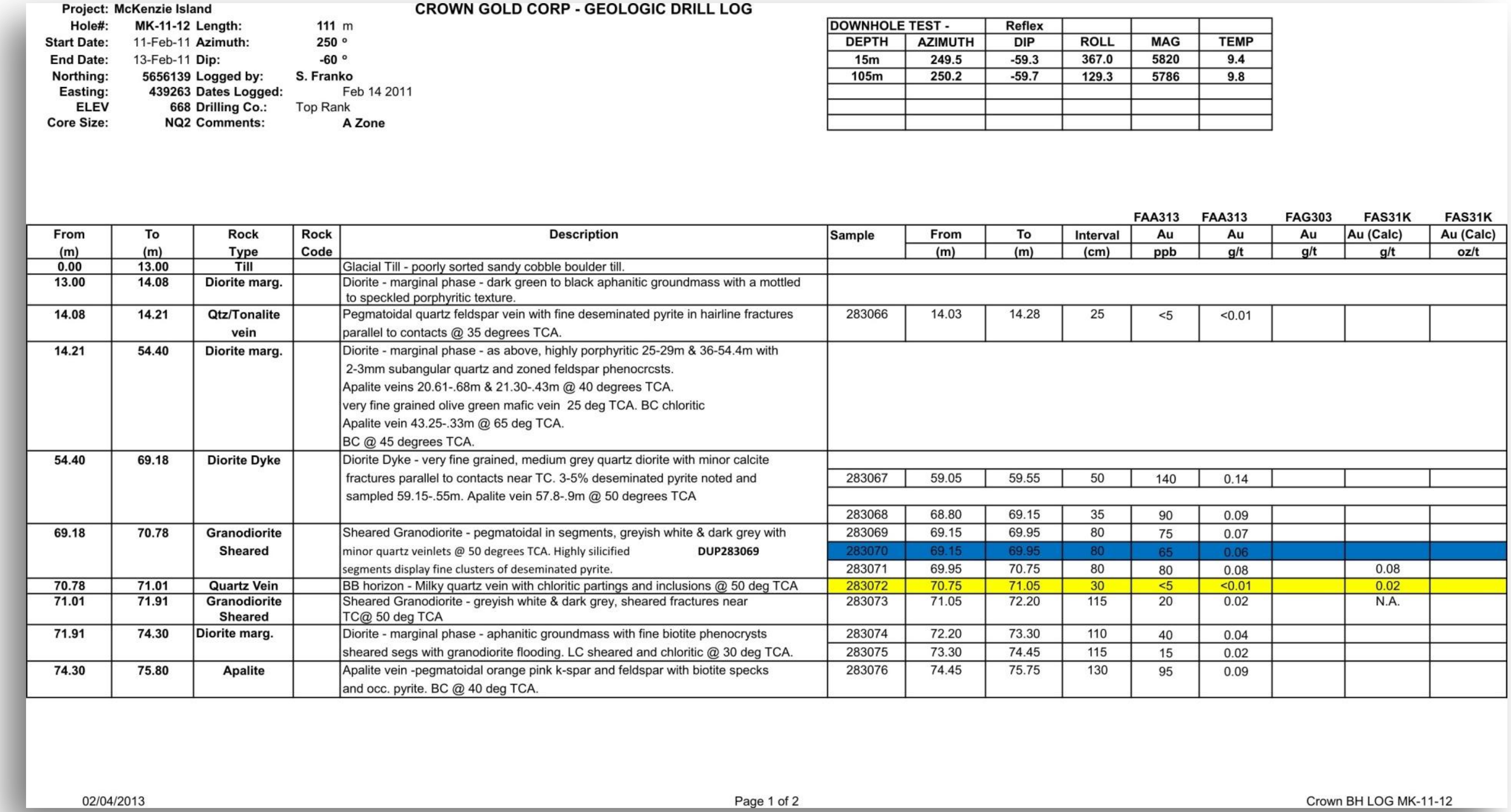

CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project:	**McKenzie Island**		
Hole#:	**MK-11-12**	**Length:**	**111** m
Start Date:	11-Feb-11	**Azimuth:**	**250 °**
End Date:	13-Feb-11	**Dip:**	**-60 °**
Northing:	**5656139**	**Logged by:**	**S. Franko**
Easting:	**439263**	**Dates Logged:**	Feb 14 2011
ELEV	**668**	**Drilling Co.:**	Top Rank
Core Size:	**NQ2**	**Comments:**	**A Zone**

DOWNHOLE TEST -		Reflex			
DEPTH	**AZIMUTH**	**DIP**	**ROLL**	**MAG**	**TEMP**
15m	249.5	-59.3	367.0	5820	9.4
105m	250.2	-59.7	129.3	5786	9.8

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	**13.00**	**Till**		Glacial Till - poorly sorted sandy cobble boulder till.									
13.00	**14.08**	**Diorite marg.**		Diorite - marginal phase - dark green to black aphanitic groundmass with a mottled to speckled porphyritic texture.									
14.08	**14.21**	**Qtz/Tonalite vein**		Pegmatoidal quartz feldspar vein with fine deseminated pyrite in hairline fractures parallel to contacts @ 35 degrees TCA.	283066	14.03	14.28	25	<5	<0.01			
14.21	**54.40**	**Diorite marg.**		Diorite - marginal phase - as above, highly porphyritic 25-29m & 36-54.4m with 2-3mm subangular quartz and zoned feldspar phenocrcsts. Apalite veins 20.61-.68m & 21.30-.43m @ 40 degrees TCA. very fine grained olive green mafic vein 25 deg TCA. BC chloritic Apalite vein 43.25-.33m @ 65 deg TCA. BC @ 45 degrees TCA.									
54.40	**69.18**	**Diorite Dyke**		Diorite Dyke - very fine grained, medium grey quartz diorite with minor calcite fractures parallel to contacts near TC. 3-5% deseminated pyrite noted and sampled 59.15-.55m. Apalite vein 57.8-.9m @ 50 degrees TCA	283067	59.05	59.55	50	140	0.14			
					283068	68.80	69.15	35	90	0.09			
69.18	**70.78**	**Granodiorite Sheared**		Sheared Granodiorite - pegmatoidal in segments, greyish white & dark grey with	283069	69.15	69.95	80	75	0.07			
				minor quartz veinlets @ 50 degrees TCA. Highly silicified **DUP283069**	283070	69.15	69.95	80	65	0.06			
				segments display fine clusters of deseminated pyrite.	283071	69.95	70.75	80	80	0.08		0.08	
70.78	**71.01**	**Quartz Vein**		BB horizon - Milky quartz vein with chloritic partings and inclusions @ 50 deg TCA	283072	70.75	71.05	30	<5	<0.01		0.02	
71.01	**71.91**	**Granodiorite Sheared**		Sheared Granodiorite - greyish white & dark grey, sheared fractures near TC@ 50 deg TCA	283073	71.05	72.20	115	20	0.02		N.A.	
71.91	**74.30**	**Diorite marg.**		Diorite - marginal phase - aphanitic groundmass with fine biotite phenocrysts	283074	72.20	73.30	110	40	0.04			
				sheared segs with granodiorite flooding. LC sheared and chloritic @ 30 deg TCA.	283075	73.30	74.45	115	15	0.02			
74.30	**75.80**	**Apalite**		Apalite vein -pegmatoidal orange pink k-spar and feldspar with biotite specks and occ. pyrite. BC @ 40 deg TCA.	283076	74.45	75.75	130	95	0.09			

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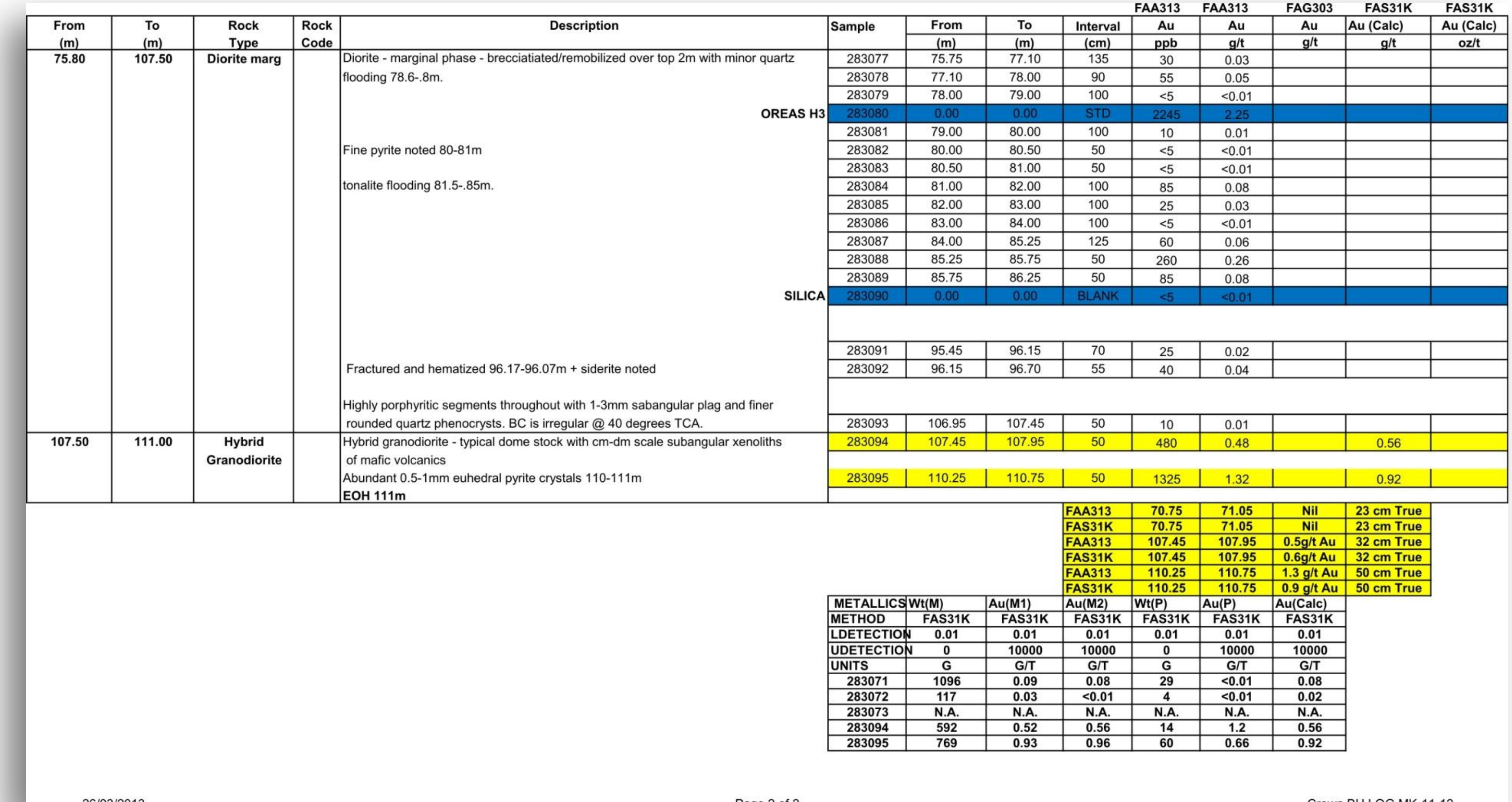
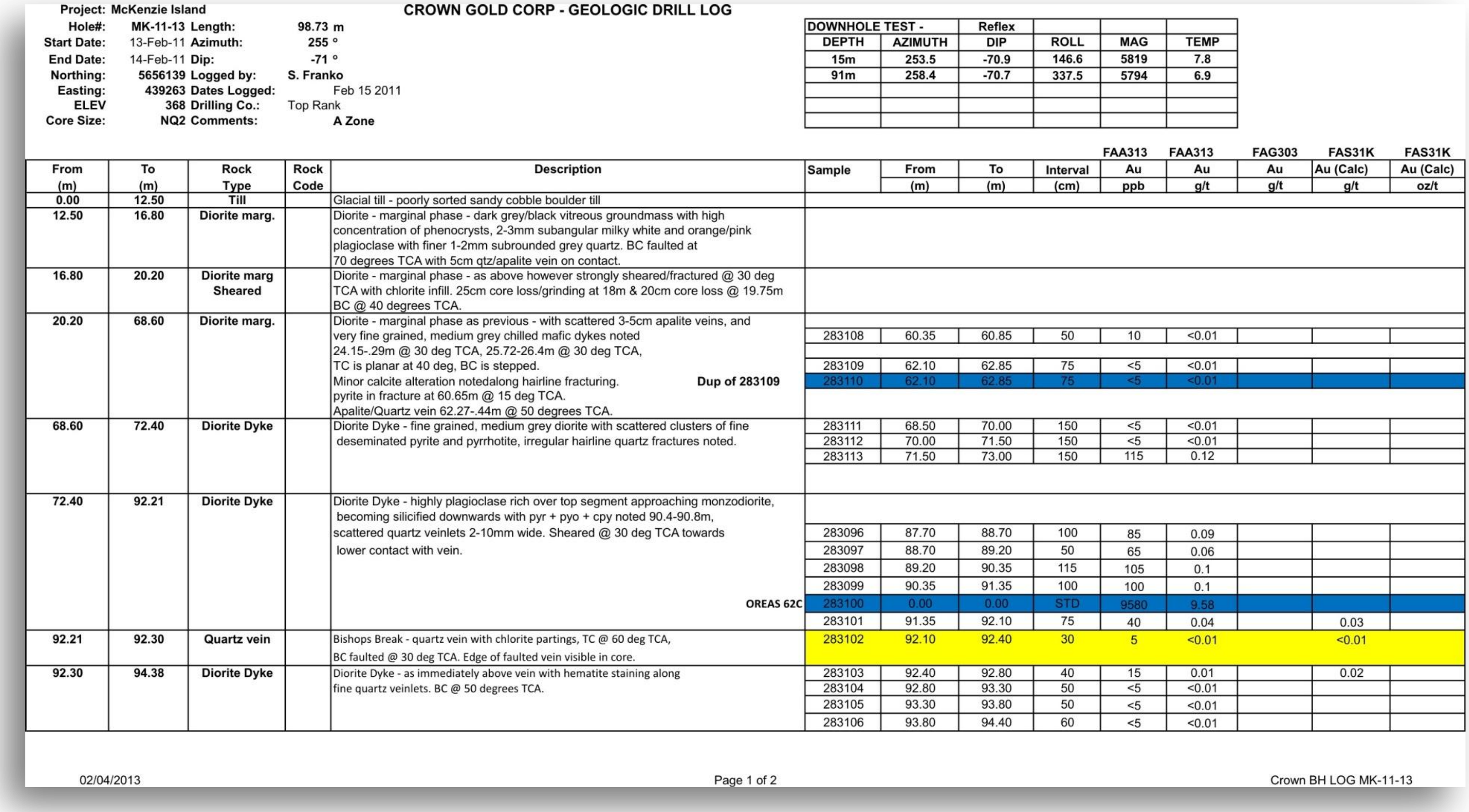


From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
75.80	**107.50**	**Diorite marg**		Diorite - marginal phase - brecciatiated/remobilized over top 2m with minor quartz flooding 78.6-.8m.	283077	75.75	77.10	135	30	0.03			
					283078	77.10	78.00	90	55	0.05			
					283079	78.00	79.00	100	<5	<0.01			
				OREAS H3	283080	0.00	0.00	STD	2245	2.25			
					283081	79.00	80.00	100	10	0.01			
				Fine pyrite noted 80-81m	283082	80.00	80.50	50	<5	<0.01			
					283083	80.50	81.00	50	<5	<0.01			
				tonalite flooding 81.5-.85m.	283084	81.00	82.00	100	85	0.08			
					283085	82.00	83.00	100	25	0.03			
					283086	83.00	84.00	100	<5	<0.01			
					283087	84.00	85.25	125	60	0.06			
					283088	85.25	85.75	50	260	0.26			
					283089	85.75	86.25	50	85	0.08			
				SILICA	283090	0.00	0.00	BLANK	<5	<0.01			
					283091	95.45	96.15	70	25	0.02			
				Fractured and hematized 96.17-96.07m + siderite noted	283092	96.15	96.70	55	40	0.04			
				Highly porphyritic segments throughout with 1-3mm sabangular plag and finer rounded quartz phenocrysts. BC is irregular @ 40 degrees TCA.	283093	106.95	107.45	50	10	0.01			
107.50	**111.00**	**Hybrid Granodiorite**		Hybrid granodiorite - typical dome stock with cm-dm scale subangular xenoliths of mafic volcanics	283094	107.45	107.95	50	480	0.48		0.56	
				Abundant 0.5-1mm euhedral pyrite crystals 110-111m	283095	110.25	110.75	50	1325	1.32		0.92	
				EOH 111m									

FAA313	**70.75**	**71.05**	**Nil**	**23 cm True**
FAS31K	**70.75**	**71.05**	**Nil**	**23 cm True**
FAA313	**107.45**	**107.95**	**0.5g/t Au**	**32 cm True**
FAS31K	**107.45**	**107.95**	**0.6g/t Au**	**32 cm True**
FAA313	**110.25**	**110.75**	**1.3 g/t Au**	**50 cm True**
FAS31K	**110.25**	**110.75**	**0.9 g/t Au**	**50 cm True**

METALLICS	**Wt(M)**	**Au(M1)**	**Au(M2)**	**Wt(P)**	**Au(P)**	**Au(Calc)**
METHOD	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**
LDETECTION	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
UDETECTION	**0**	**10000**	**10000**	**0**	**10000**	**10000**
UNITS	**G**	**G/T**	**G/T**	**G**	**G/T**	**G/T**
283071	**1096**	**0.09**	**0.08**	**29**	**<0.01**	**0.08**
283072	**117**	**0.03**	**<0.01**	**4**	**<0.01**	**0.02**
283073	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
283094	**592**	**0.52**	**0.56**	**14**	**1.2**	**0.56**
283095	**769**	**0.93**	**0.96**	**60**	**0.66**	**0.92**



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-13 Length: 98.73 m
Start Date: 13-Feb-11 Azimuth: 255 °
End Date: 14-Feb-11 Dip: -71 °
Northing: 5656139 Logged by: S. Franko
Easting: 439263 Dates Logged: Feb 15 2011
ELEV 368 Drilling Co.: Top Rank
Core Size: NQ2 Comments: A Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	253.5	-70.9	146.6	5819	7.8
91m	258.4	-70.7	337.5	5794	6.9

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	12.50	Till		Glacial till - poorly sorted sandy cobble boulder till									
12.50	16.80	Diorite marg.		Diorite - marginal phase - dark grey/black vitreous groundmass with high concentration of phenocrysts, 2-3mm subangular milky white and orange/pink plagioclase with finer 1-2mm subrounded grey quartz. BC faulted at 70 degrees TCA with 5cm qtz/apalite vein on contact.									
16.80	20.20	Diorite marg Sheared		Diorite - marginal phase - as above however strongly sheared/fractured @ 30 deg TCA with chlorite infill. 25cm core loss/grinding at 18m & 20cm core loss @ 19.75m BC @ 40 degrees TCA.									
20.20	68.60	Diorite marg.		Diorite - marginal phase as previous - with scattered 3-5cm apalite veins, and very fine grained, medium grey chilled mafic dykes noted 24.15-.29m @ 30 deg TCA, 25.72-26.4m @ 30 deg TCA, TC is planar at 40 deg, BC is stepped. Minor calcite alteration notedalong hairline fracturing. pyrite in fracture at 60.65m @ 15 deg TCA. Apalite/Quartz vein 62.27-.44m @ 50 degrees TCA.									
					283108	60.35	60.85	50	10	<0.01			
					283109	62.10	62.85	75	<5	<0.01			
				Dup of 283109	283110	62.10	62.85	75	<5	<0.01			
68.60	72.40	Diorite Dyke		Diorite Dyke - fine grained, medium grey diorite with scattered clusters of fine deseminated pyrite and pyrrhotite, irregular hairline quartz fractures noted.	283111	68.50	70.00	150	<5	<0.01			
					283112	70.00	71.50	150	<5	<0.01			
					283113	71.50	73.00	150	115	0.12			
72.40	92.21	Diorite Dyke		Diorite Dyke - highly plagioclase rich over top segment approaching monzodiorite, becoming silicified downwards with pyr + pyo + cpy noted 90.4-90.8m, scattered quartz veinlets 2-10mm wide. Sheared @ 30 deg TCA towards lower contact with vein.									
					283096	87.70	88.70	100	85	0.09			
					283097	88.70	89.20	50	65	0.06			
					283098	89.20	90.35	115	105	0.1			
					283099	90.35	91.35	100	100	0.1			
				OREAS 62C	283100	0.00	0.00	STD	9580	9.58			
					283101	91.35	92.10	75	40	0.04		0.03	
92.21	92.30	Quartz vein		Bishops Break - quartz vein with chlorite partings, TC @ 60 deg TCA, BC faulted @ 30 deg TCA. Edge of faulted vein visible in core.	283102	92.10	92.40	30	5	<0.01		<0.01	
92.30	94.38	Diorite Dyke		Diorite Dyke - as immediately above vein with hematite staining along fine quartz veinlets. BC @ 50 degrees TCA.	283103	92.40	92.80	40	15	0.01		0.02	
					283104	92.80	93.30	50	<5	<0.01			
					283105	93.30	93.80	50	<5	<0.01			
					283106	93.80	94.40	60	<5	<0.01			

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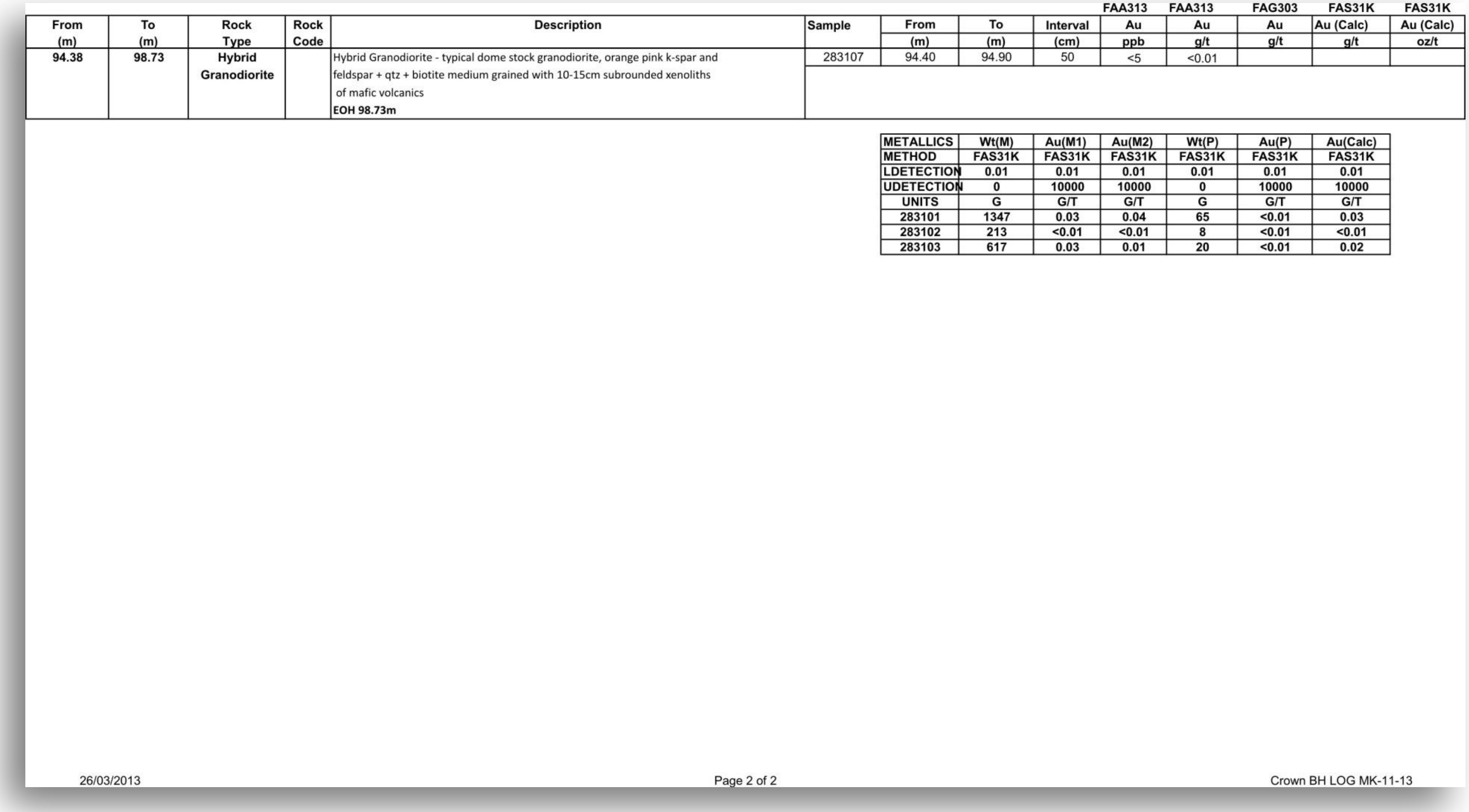


									FAA313	FAA313	FAG303	FAS31K	FAS31K
From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
						(m)	(m)	(cm)	ppb	g/t	g/t	g/t	oz/t
94.38	**98.73**	**Hybrid Granodiorite**		Hybrid Granodiorite - typical dome stock granodiorite, orange pink k-spar and feldspar + qtz + biotite medium grained with 10-15cm subrounded xenoliths of mafic volcanics **EOH 98.73m**	283107	94.40	94.90	50	<5	<0.01			

METALLICS	Wt(M)	Au(M1)	Au(M2)	Wt(P)	Au(P)	Au(Calc)
METHOD	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K
LDETECTION	0.01	0.01	0.01	0.01	0.01	0.01
UDETECTION	0	10000	10000	0	10000	10000
UNITS	G	G/T	G/T	G	G/T	G/T
283101	1347	0.03	0.04	65	<0.01	0.03
283102	213	<0.01	<0.01	8	<0.01	<0.01
283103	617	0.03	0.01	20	<0.01	0.02

CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-14 **Length:** 94.70 m
Start Date: 15-Feb-11 **Azimuth:** 219 °
End Date: 15-Feb-11 **Dip:** -47 °
Northing: 5656361N **Logged by:** S. Franko
Easting: 439131E **Dates Logged:** 16-Feb-11
ELEV 374 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** Perfect Storm target

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	219.1	-47.1	186.7	5833	7.2
89m	219.9	-46.5	30.8	5838	7.5

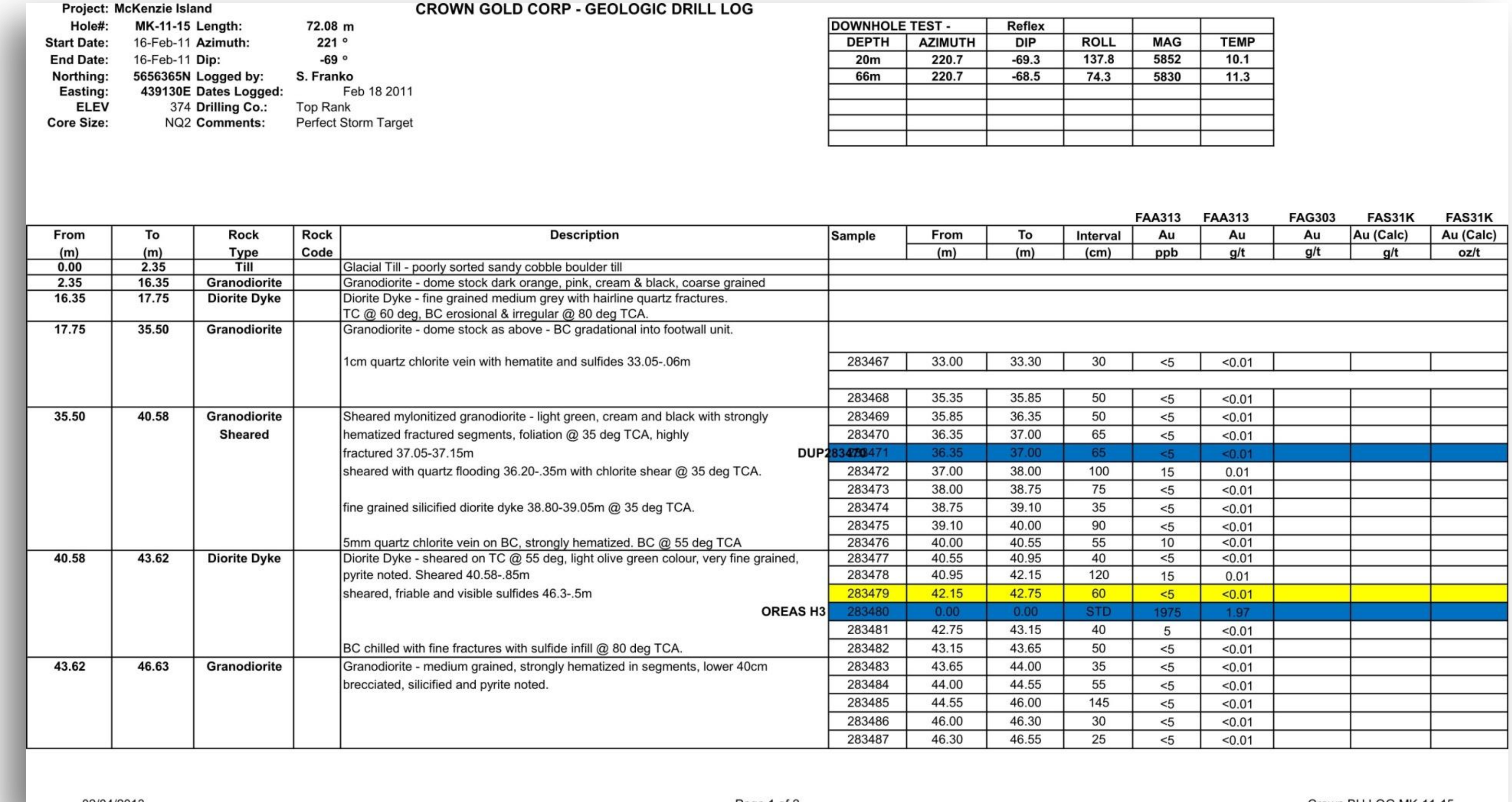
From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	**4.45**	**Till**		Glacial Till - poorly sorted, sandy cobble boulder till.									
4.45	**35.70**	**Granodiorite**		Granodiorite - coarse grained, orange, pink, cream & black, k-spar, plag, quartz & biotite..scattered pegmatoidal segments. fine grained olive green veins noted; 16.70-.76m @ 85 deg TCA, 16.85-.97m irregular contacts, 29.42-.50m @ 60 deg, 31.05-.48 irregular contacts. minor epidote and hematite hairline fractures.	283297	35.15	35.65	50	<5	<0.01			
35.70	**39.25**	**Diorite marg.**		Diorite - marginal phase - light to medium grey aphanitic groundmass with fine biotite specks and fine deseminated pyrite.	283298	35.65	36.15	50	5	<0.01			
					283299	36.15	36.65	50	10	0.01			
				OREAS 62C	283300	0.00	0.00	STD	9015	9.01			
					283301	38.70	39.20	50	110	0.11			
39.25	**43.75**	**Granodiorite**		Granodiorite - medium grained, high k-spar content with dark chloritic interstitial material. Becoming moderately to strongly hematized in segments beyond 42m **Fault Zone 42.2-45.5m** Quartz, hematite and sulfides fracture infill at 42.9 7& 43.2m	283302	39.20	39.50	30	15	0.01			
					283303	39.50	40.50	100	5	<0.01			
					283304	40.50	41.50	100	<5	<0.01			
					283305	41.50	41.95	45	35	0.04			
					283306	41.95	42.50	55	<5	<0.01			
					283307	42.50	43.00	50	<5	<0.01			
					283308	43.00	43.50	50	<5	<0.01			
					283309	43.50	44.00	50	<5	<0.01			
43.75	**47.50**	**Diorite Dyke**		Diorite Dyke-fine grained medium grey, highly fractured over top 2m, **DUP283309** becoming strongly layered @ 85 deg TCA with fine quartz partings.	283310	43.50	44.00	50	<5	<0.01			
					283311	44.00	44.50	50	<5	<0.01			
					283312	44.50	45.00	50	<5	<0.01			
					283313	45.00	45.50	50	<5	<0.01			
					283314	45.50	46.00	50	<5	<0.01			
					283315	46.00	46.50	50	<5	<0.01			
					283316	46.50	47.00	50	195	0.19		0.44	
				vuggy with hematite and oxidized sulfides. Strongly hematized from 47-47.6m	283317	47.00	47.50	50	3360	3.36		1.12	
47.50	**47.60**	**Quartz Vein**		Quartz chlorite vein - **Bishops break style** quartz chlorite parting	283318	47.50	47.80	30	25	0.03		<0.01	
47.60	**48.20**	**Diorite Dyke**		Diorite dyke - as above.	283319	47.80	48.25	45	55	0.05			

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
48.20	**49.40**	**Granodiorite**		**OREAS H3**	283320	0.00	0.00	STD	2200	2.2			
				Granodiorite remobilized, strongly hematized, mainly green over cream plagioclase	283321	48.25	49.00	75	30	0.03			
				with minor black interstitial biotite, hematite and pyrite noted.	283322	49.00	49.50	50	<5	<0.01			
49.40	**55.55**	**Granodiorite**		Granodiorite - as at top of hole, tough medium to coarse grained.	283323	49.50	50.50	100	<5	<0.01			
					283324	50.50	51.50	100	10	0.01			
				fine grained medium grey mafic vein 51.85-.98m	283325	51.50	52.05	55	<5	<0.01			
					283326	52.05	52.50	45	10	0.01			
					283327	52.50	53.50	100	<5	<0.01			
					283328	53.50	54.50	100	<5	<0.01			
				BC @ 50 deg TCA	283329	54.50	55.70	120	<5	<0.01			
55.55	**55.73**	**Granodiorite**		Sheared mylonitic granodiorite - finely laminated @ 50 deg TCA **SILICA**	283330	0.00	0.00	BLANK	55	0.05			
55.73	**55.80**	**Quartz Vein**		**Bishops break style** - quartz chlorite vein 80/20 split, milky & translucent quartz ,greenish/black chlorite and fine pyrite. TC @ 50 deg, BC @ 85 deg TCA.	283331	55.70	56.30	60	85	0.09			
55.80	**56.13**	**Granodiorite**		Sheared mylonitic granodiorite - khaki brown & grey with fine quartz chlorite veinlets & pyrite.									
56.13	**56.25**	**Quartz Vein**		**Bishops break style** - quartz chlorite vein 90/10 split, milky & translucent quartz , with finely laminated chlorite partings with pyrite. Contacts @ 85 deg TCA									
56.25	**57.75**	**Granodiorite**		Sheared remobilized granodiorite - quartz flooding near BC.	283332	56.30	57.00	70	30	0.03			
				Brecciatiated segments with translucent quartz infill noted.	283333	57.00	57.70	70	20	0.02			
57.75	**58.40**	**Diorite marg.**		Diorite marginal phase - grey aphanitic,fine phenocrysts and pyrite.	283334	57.70	58.45	75	15	0.02			
58.40	**62.60**	**Granodiorite**		Granodiorite - with scattered very fine grained grey veins at;	283335	58.45	59.50	105	5	<0.01			
				59.8-.9m @ 85 deg, 62.45-.46 @ 35 deg, 62.50-62.51m @ 45 deg TCA.	283336	59.50	60.00	50	<5	<0.01			
					283337	60.00	61.00	100	5	<0.01			
					283338	61.00	62.55	155	20	0.02			
62.60	**63.15**	**Diorite Dyke**		Diorite Dyke - very fine grained, light grey top 10cm displays 5mm quartz eyes	283339	62.55	63.15	60	<5	<0.01			
				4cm qtz vein, milky and translucent 62.97-63.01m **OREAS 62C**	283340	0.00	0.00	STD	9100	9.1			
63.15	**65.30**	**Granodiorite**		Sheared remobilized granodiorite - highly silicified 64.8-65m. Cm scale brecciation	283341	63.15	64.00	85	<5	<0.01			
				over lower 20cm. 5mm chlorite shear on BC @ 75 deg TCA	283342	64.00	64.70	70	30	0.03			
					283343	64.70	65.00	30	<5	<0.01			
					283344	65.00	65.30	30	<5	<0.01			
65.30	**67.00**	**Diorite Dyke**		Sheared diorite dyke - very fine grained finely laminated @ 75 deg TCA, light	283345	65.30	66.00	70	<5	<0.01			
				greenish grey with fine black specks. BC sheared @ 20 deg TCA	283346	66.00	67.00	100	<5	<0.01			
67.00	**91.13**	**Diorite marg.**		Diorite marginal phase - dark grey aphanitic,sub angular white and grey phenocrysts,	283347	67.00	67.30	30	40	0.04			
				top 2m slightly bleached. BC is errosional and irregular	283348	67.30	68.00	70	<5	<0.01			
					283349	68.00	69.00	100	<5	<0.01			
				DUP283349	283350	68.00	69.00	100	<5	<0.01			
					283351	90.15	90.85	70	<5	<0.01			
					283352	90.85	91.15	30	<5	<0.01			

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
91.13	**94.70**	**Hybrid Granodiorite**		Hybrid granodiorite - typical dome stock, pink, white & black medium grained, with dm scale xenoliths of mafic volcanics. **EOH 94.7m**	283353	91.15	91.65	50	<5	<0.01			
					283354	91.65	92.15	50	<5	<0.01			

FAA313	**46.50**	**47.50**	**1.8g/tAu**	**100cm True**
FAS31K	**46.50**	**47.50**	**0.8g/tAu**	**100cm True**

METALLICS	Wt(M)	Au(M1)	Au(M2)	Wt(P)	Au(P)	Au(Calc)
METHOD	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**
LDETECTION	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
UDETECTION	**0**	**10000**	**10000**	**0**	**10000**	**10000**
UNITS	**G**	**G/T**	**G/T**	**G**	**G/T**	**G/T**
283316	**916**	**0.36**	**0.45**	**34**	**1.48**	**0.44**
283317	**540**	**0.92**	**1.2**	**158**	**1.34**	**1.12**
283318	**419**	**<0.01**	**<0.01**	**92**	**<0.01**	**<0.01**

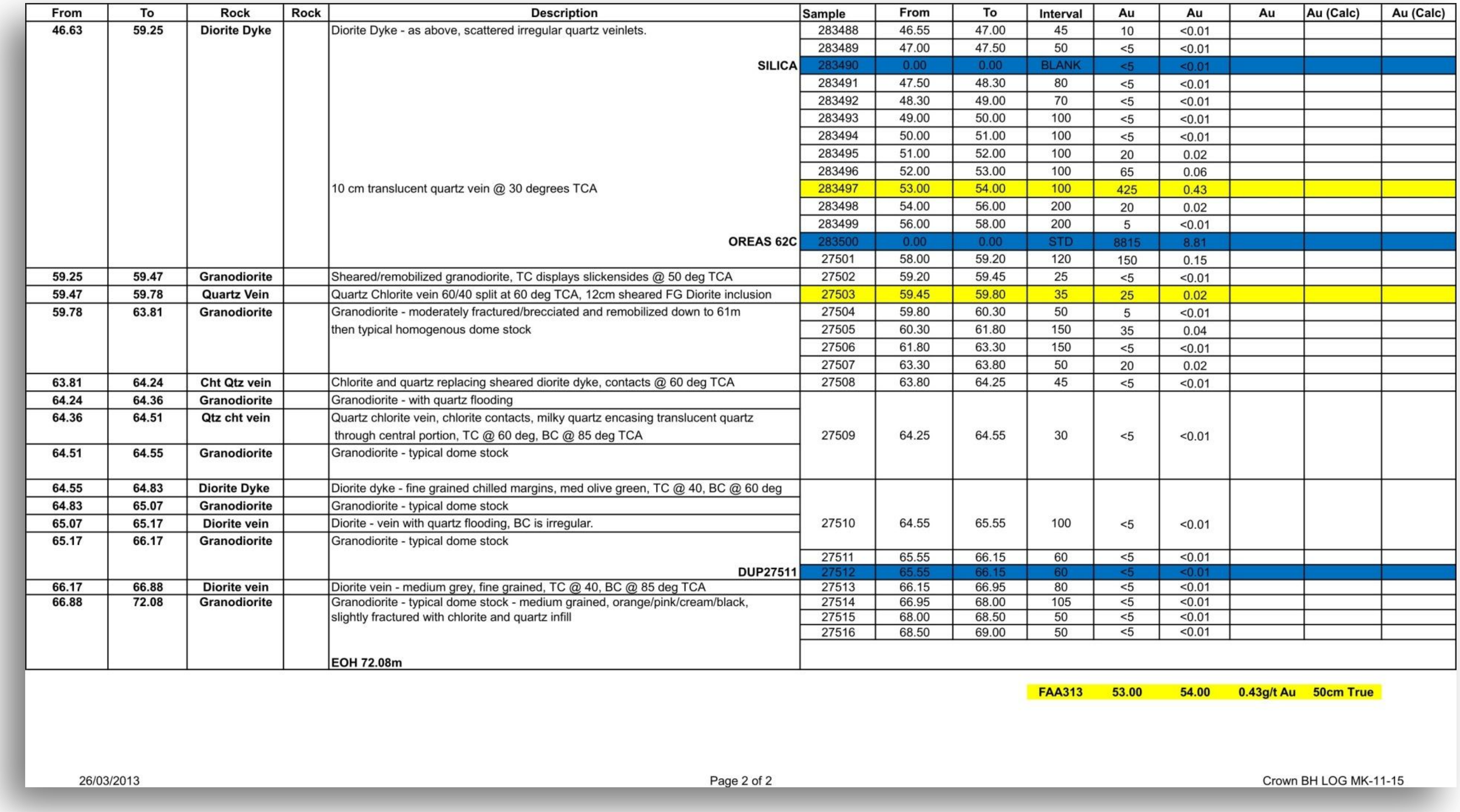


Project: McKenzie Island
Hole#: MK-11-15 **Length:** 72.08 m
Start Date: 16-Feb-11 **Azimuth:** 221 °
End Date: 16-Feb-11 **Dip:** -69 °
Northing: 5656365N **Logged by:** S. Franko
Easting: 439130E **Dates Logged:** Feb 18 2011
ELEV 374 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** Perfect Storm Target

CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
20m	220.7	-69.3	137.8	5852	10.1
66m	220.7	-68.5	74.3	5830	11.3

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
(m)	(m)	Type	Code			(m)	(m)	(cm)	ppb	g/t	g/t	g/t	oz/t
0.00	2.35	Till		Glacial Till - poorly sorted sandy cobble boulder till									
2.35	16.35	Granodiorite		Granodiorite - dome stock dark orange, pink, cream & black, coarse grained									
16.35	17.75	Diorite Dyke		Diorite Dyke - fine grained medium grey with hairline quartz fractures. TC @ 60 deg, BC erosional & irregular @ 80 deg TCA.									
17.75	35.50	Granodiorite		Granodiorite - dome stock as above - BC gradational into footwall unit.									
				1cm quartz chlorite vein with hematite and sulfides 33.05-.06m	283467	33.00	33.30	30	<5	<0.01			
					283468	35.35	35.85	50	<5	<0.01			
35.50	40.58	Granodiorite Sheared		Sheared mylonitized granodiorite - light green, cream and black with strongly	283469	35.85	36.35	50	<5	<0.01			
				hematized fractured segments, foliation @ 35 deg TCA, highly	283470	36.35	37.00	65	<5	<0.01			
				fractured 37.05-37.15m **DUP283470**	283471	36.35	37.00	65	<5	<0.01			
				sheared with quartz flooding 36.20-.35m with chlorite shear @ 35 deg TCA.	283472	37.00	38.00	100	15	0.01			
					283473	38.00	38.75	75	<5	<0.01			
				fine grained silicified diorite dyke 38.80-39.05m @ 35 deg TCA.	283474	38.75	39.10	35	<5	<0.01			
					283475	39.10	40.00	90	<5	<0.01			
				5mm quartz chlorite vein on BC, strongly hematized. BC @ 55 deg TCA	283476	40.00	40.55	55	10	<0.01			
40.58	43.62	Diorite Dyke		Diorite Dyke - sheared on TC @ 55 deg, light olive green colour, very fine grained,	283477	40.55	40.95	40	<5	<0.01			
				pyrite noted. Sheared 40.58-.85m	283478	40.95	42.15	120	15	0.01			
				sheared, friable and visible sulfides 46.3-.5m	283479	42.15	42.75	60	<5	<0.01			
				OREAS H3	283480	0.00	0.00	STD	1975	1.97			
					283481	42.75	43.15	40	5	<0.01			
				BC chilled with fine fractures with sulfide infill @ 80 deg TCA.	283482	43.15	43.65	50	<5	<0.01			
43.62	46.63	Granodiorite		Granodiorite - medium grained, strongly hematized in segments, lower 40cm	283483	43.65	44.00	35	<5	<0.01			
				brecciated, silicified and pyrite noted.	283484	44.00	44.55	55	<5	<0.01			
					283485	44.55	46.00	145	<5	<0.01			
					283486	46.00	46.30	30	<5	<0.01			
					283487	46.30	46.55	25	<5	<0.01			



From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
46.63	**59.25**	**Diorite Dyke**		Diorite Dyke - as above, scattered irregular quartz veinlets.	283488	46.55	47.00	45	10	<0.01			
					283489	47.00	47.50	50	<5	<0.01			
				SILICA	283490	0.00	0.00	BLANK	<5	<0.01			
					283491	47.50	48.30	80	<5	<0.01			
					283492	48.30	49.00	70	<5	<0.01			
					283493	49.00	50.00	100	<5	<0.01			
					283494	50.00	51.00	100	<5	<0.01			
					283495	51.00	52.00	100	20	0.02			
					283496	52.00	53.00	100	65	0.06			
				10 cm translucent quartz vein @ 30 degrees TCA	283497	53.00	54.00	100	425	0.43			
					283498	54.00	56.00	200	20	0.02			
					283499	56.00	58.00	200	5	<0.01			
				OREAS 62C	283500	0.00	0.00	STD	8815	8.81			
					27501	58.00	59.20	120	150	0.15			
59.25	**59.47**	**Granodiorite**		Sheared/remobilized granodiorite, TC displays slickensides @ 50 deg TCA	27502	59.20	59.45	25	<5	<0.01			
59.47	**59.78**	**Quartz Vein**		Quartz Chlorite vein 60/40 split at 60 deg TCA, 12cm sheared FG Diorite inclusion	27503	59.45	59.80	35	25	0.02			
59.78	**63.81**	**Granodiorite**		Granodiorite - moderately fractured/brecciated and remobilized down to 61m	27504	59.80	60.30	50	5	<0.01			
				then typical homogenous dome stock	27505	60.30	61.80	150	35	0.04			
					27506	61.80	63.30	150	<5	<0.01			
					27507	63.30	63.80	50	20	0.02			
63.81	**64.24**	**Cht Qtz vein**		Chlorite and quartz replacing sheared diorite dyke, contacts @ 60 deg TCA	27508	63.80	64.25	45	<5	<0.01			
64.24	**64.36**	**Granodiorite**		Granodiorite - with quartz flooding									
64.36	**64.51**	**Qtz cht vein**		Quartz chlorite vein, chlorite contacts, milky quartz encasing translucent quartz through central portion, TC @ 60 deg, BC @ 85 deg TCA	27509	64.25	64.55	30	<5	<0.01			
64.51	**64.55**	**Granodiorite**		Granodiorite - typical dome stock									
64.55	**64.83**	**Diorite Dyke**		Diorite dyke - fine grained chilled margins, med olive green, TC @ 40, BC @ 60 deg									
64.83	**65.07**	**Granodiorite**		Granodiorite - typical dome stock									
65.07	**65.17**	**Diorite vein**		Diorite - vein with quartz flooding, BC is irregular.	27510	64.55	65.55	100	<5	<0.01			
65.17	**66.17**	**Granodiorite**		Granodiorite - typical dome stock									
					27511	65.55	66.15	60	<5	<0.01			
				DUP27511	27512	65.55	66.15	60	<5	<0.01			
66.17	**66.88**	**Diorite vein**		Diorite vein - medium grey, fine grained, TC @ 40, BC @ 85 deg TCA	27513	66.15	66.95	80	<5	<0.01			
66.88	**72.08**	**Granodiorite**		Granodiorite - typical dome stock - medium grained, orange/pink/cream/black,	27514	66.95	68.00	105	<5	<0.01			
				slightly fractured with chlorite and quartz infill	27515	68.00	68.50	50	<5	<0.01			
					27516	68.50	69.00	50	<5	<0.01			
				EOH 72.08m									

FAA313 53.00 54.00 0.43g/t Au 50cm True

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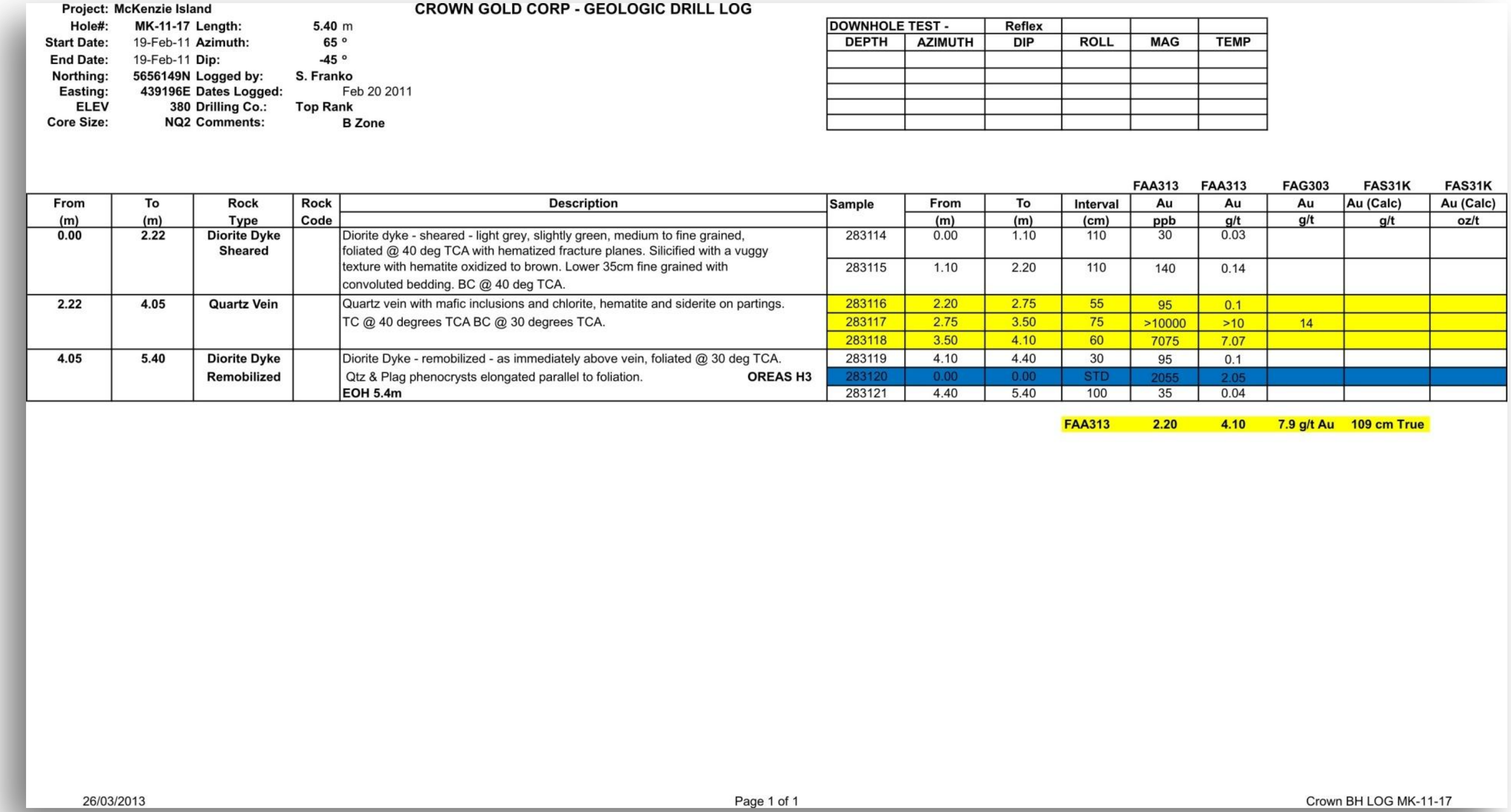
CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-16 **Length:** 89.0 m
Start Date: 17-Feb-11 **Azimuth:** 277 °
End Date: 18-Feb-11 **Dip:** -48 °
Northing: 5656372N **Logged by:** S. Franko
Easting: 439135E **Dates Logged:** Feb 22 2011
ELEV 374 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** Bishops Break North of Perfect Storm

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	276.8	-48.6	21.4	5827	12.6
83m	277.6	-48.1	326.4	5807	12.4

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
(m)	(m)	Type	Code			(m)	(m)	(cm)	ppb	g/t	g/t	g/t	oz/t
0.00	1.80	Till		Glacial Till - poorly sorted sandy cobble boulder till.									
1.80	46.32	Granodiorite		Granodiorite - typical dome stock, coarse with medium grained segments, orangek-spar, pink & cream feldspar & quartz, black biotite									
					27517	46.00	46.30	30	15	0.01			
46.32	60.50	Diorite Dyke		Diorite dyke - fine grained medium grey, top 10cm chilled . TC @ 55 deg TCA	27518	46.30	46.60	30	<5	<0.01			
					27519	46.60	47.00	40	<5	<0.01			
				(low?!?) OREAS H3	27520	0.00	0.00	STD	1500	1.5			
					27521	47.00	47.30	30	<5	<0.01			
				medium grained and slightly hematized 52-56m									
				55.08 5mm quartz, calcite & pyrite veinlet	27522	55.00	55.50	50	<5	<0.01			
				BC sheared @ 55 deg TCA	27523	60.00	60.50	50	<5	<0.01			
60.50	66.55	Granodiorite		Granodiorite - typical dome stock becoming bleached light green and	27524	60.50	61.00	50	65	0.06			
				foliated @ 50 deg TCA towards BC									
					27525	65.50	66.00	50	<5	<0.01			
					27526	66.00	66.50	50	10	<0.01			
66.55	66.65	Qtz Cht vein		Quartz chlorite vein sheared @ 50 degrees TCA	27527	66.50	66.80	30	25	0.02			
66.65	71.65	Granodiorite		Granodiorite - green and black and foliated @ 50 deg TCA.	27528	66.80	67.30	50	<5	<0.01			
				highly friable and crumbled 67.35-69.2m	27529	67.30	68.00	70	20	0.02			
				SILICA	27530	0.00	0.00	BLANK	<5	<0.01			
					27531	68.00	69.00	100	10	0.01			
					27532	69.00	70.00	100	10	0.01			
					27533	70.00	71.00	100	<5	<0.01			
					27534	71.00	71.60	60	<5	<0.01			
71.65	73.35	Mafic Dyke		Mafic Dyke - fine grained, medium olive green, foliated @ 40 degrees TCA	27535	71.60	72.50	90	<5	<0.01			
				with irregular calcite partings and lenses.	27536	72.50	73.40	90	<5	<0.01			

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
73.35	**89.00**	**Granodiorite**		Granodiorite - light green/black foliated @ 25-30 degrees TCA.	27537	73.40	74.00	60	<5	<0.01			
					27538	74.00	75.00	100	<5	<0.01			
					27539	82.35	82.85	50	<5	<0.01			
				OREAS 62C	27540	0.00	0.00	STD	9015	9.01			
				1cm quartz chlorite veinlet 83.07-83.12@ 20 deg TCA	27541	82.85	83.25	40	25	0.02			
					27542	83.25	84.00	75	25	0.03			
				EOH 89m									



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-17 **Length:** 5.40 m
Start Date: 19-Feb-11 **Azimuth:** 65 °
End Date: 19-Feb-11 **Dip:** -45 °
Northing: 5656149N **Logged by:** S. Franko
Easting: 439196E **Dates Logged:** Feb 20 2011
ELEV 380 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	2.22	Diorite Dyke Sheared		Diorite dyke - sheared - light grey, slightly green, medium to fine grained, foliated @ 40 deg TCA with hematized fracture planes. Silicified with a vuggy texture with hematite oxidized to brown. Lower 35cm fine grained with convoluted bedding. BC @ 40 deg TCA.	283114	0.00	1.10	110	30	0.03			
					283115	1.10	2.20	110	140	0.14			
2.22	4.05	Quartz Vein		Quartz vein with mafic inclusions and chlorite, hematite and siderite on partings.	283116	2.20	2.75	55	95	0.1			
				TC @ 40 degrees TCA BC @ 30 degrees TCA.	283117	2.75	3.50	75	>10000	>10	14		
					283118	3.50	4.10	60	7075	7.07			
4.05	5.40	Diorite Dyke Remobilized		Diorite Dyke - remobilized - as immediately above vein, foliated @ 30 deg TCA.	283119	4.10	4.40	30	95	0.1			
				Qtz & Plag phenocrysts elongated parallel to foliation. **OREAS H3**	283120	0.00	0.00	STD	2055	2.05			
				EOH 5.4m	283121	4.40	5.40	100	35	0.04			

FAA313 2.20 4.10 7.9 g/t Au 109 cm True

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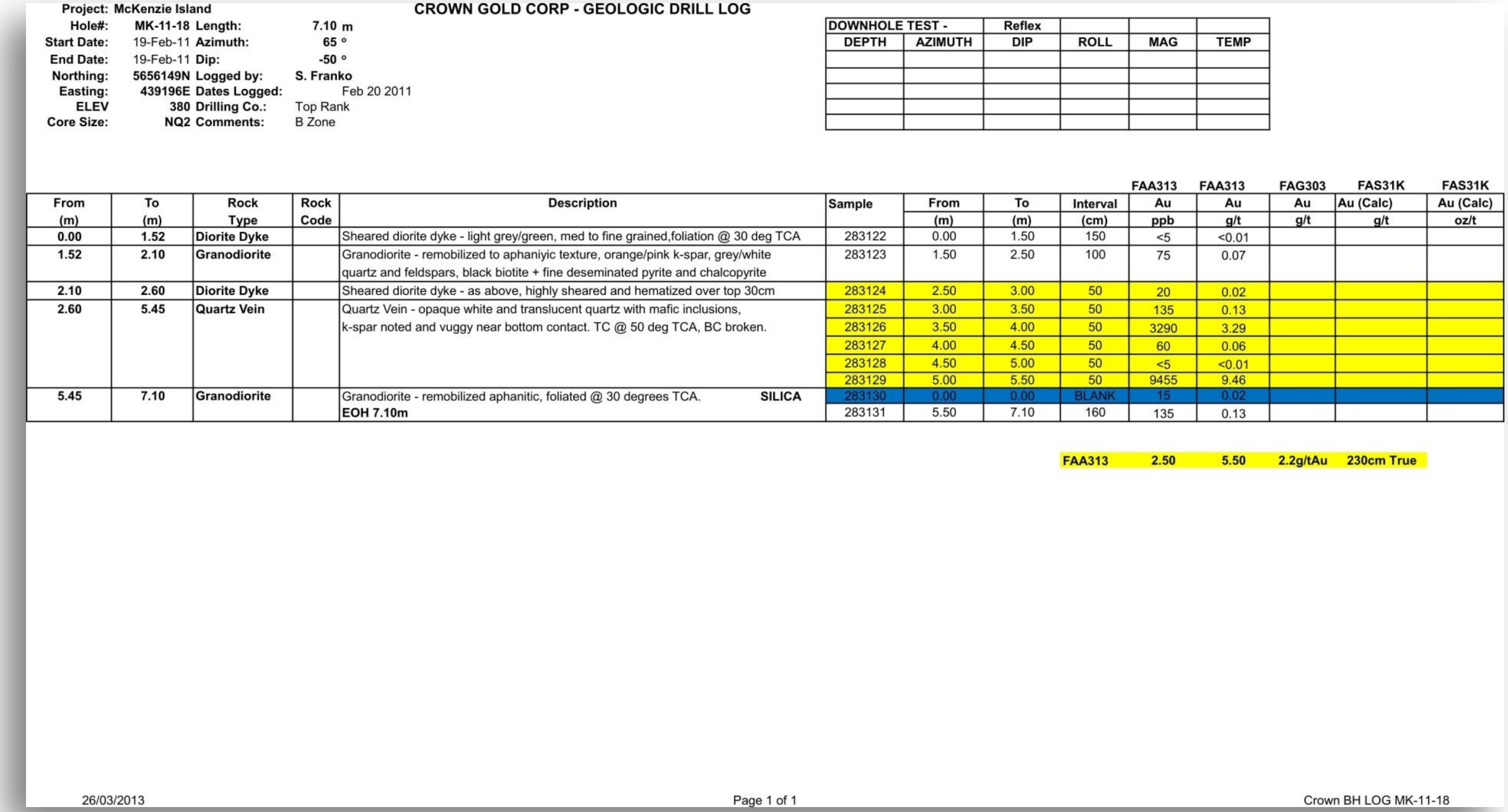

Project: McKenzie Island
Hole#: MK-11-18 **Length:** 7.10 m
Start Date: 19-Feb-11 **Azimuth:** 65 °
End Date: 19-Feb-11 **Dip:** -50 °
Northing: 5656149N **Logged by:** S. Franko
Easting: 439196E **Dates Logged:** Feb 20 2011
ELEV 380 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** B Zone

CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From (m)	**To (m)**	**Rock Type**	**Rock Code**	**Description**	**Sample**	**From (m)**	**To (m)**	**Interval (cm)**	**Au ppb**	**Au g/t**	**Au g/t**	**Au (Calc) g/t**	**Au (Calc) oz/t**
0.00	**1.52**	**Diorite Dyke**		Sheared diorite dyke - light grey/green, med to fine grained,foliation @ 30 deg TCA	283122	0.00	1.50	150	<5	<0.01			
1.52	**2.10**	**Granodiorite**		Granodiorite - remobilized to aphaniyic texture, orange/pink k-spar, grey/white quartz and feldspars, black biotite + fine deseminated pyrite and chalcopyrite	283123	1.50	2.50	100	75	0.07			
2.10	**2.60**	**Diorite Dyke**		Sheared diorite dyke - as above, highly sheared and hematized over top 30cm	283124	2.50	3.00	50	20	0.02			
2.60	**5.45**	**Quartz Vein**		Quartz Vein - opaque white and translucent quartz with mafic inclusions, k-spar noted and vuggy near bottom contact. TC @ 50 deg TCA, BC broken.	283125	3.00	3.50	50	135	0.13			
					283126	3.50	4.00	50	3290	3.29			
					283127	4.00	4.50	50	60	0.06			
					283128	4.50	5.00	50	<5	<0.01			
					283129	5.00	5.50	50	9455	9.46			
5.45	**7.10**	**Granodiorite**		Granodiorite - remobilized aphanitic, foliated @ 30 degrees TCA. **SILICA**	283130	0.00	0.00	BLANK	15	0.02			
				EOH 7.10m	283131	5.50	7.10	160	135	0.13			

FAA313 2.50 5.50 2.2g/tAu 230cm True

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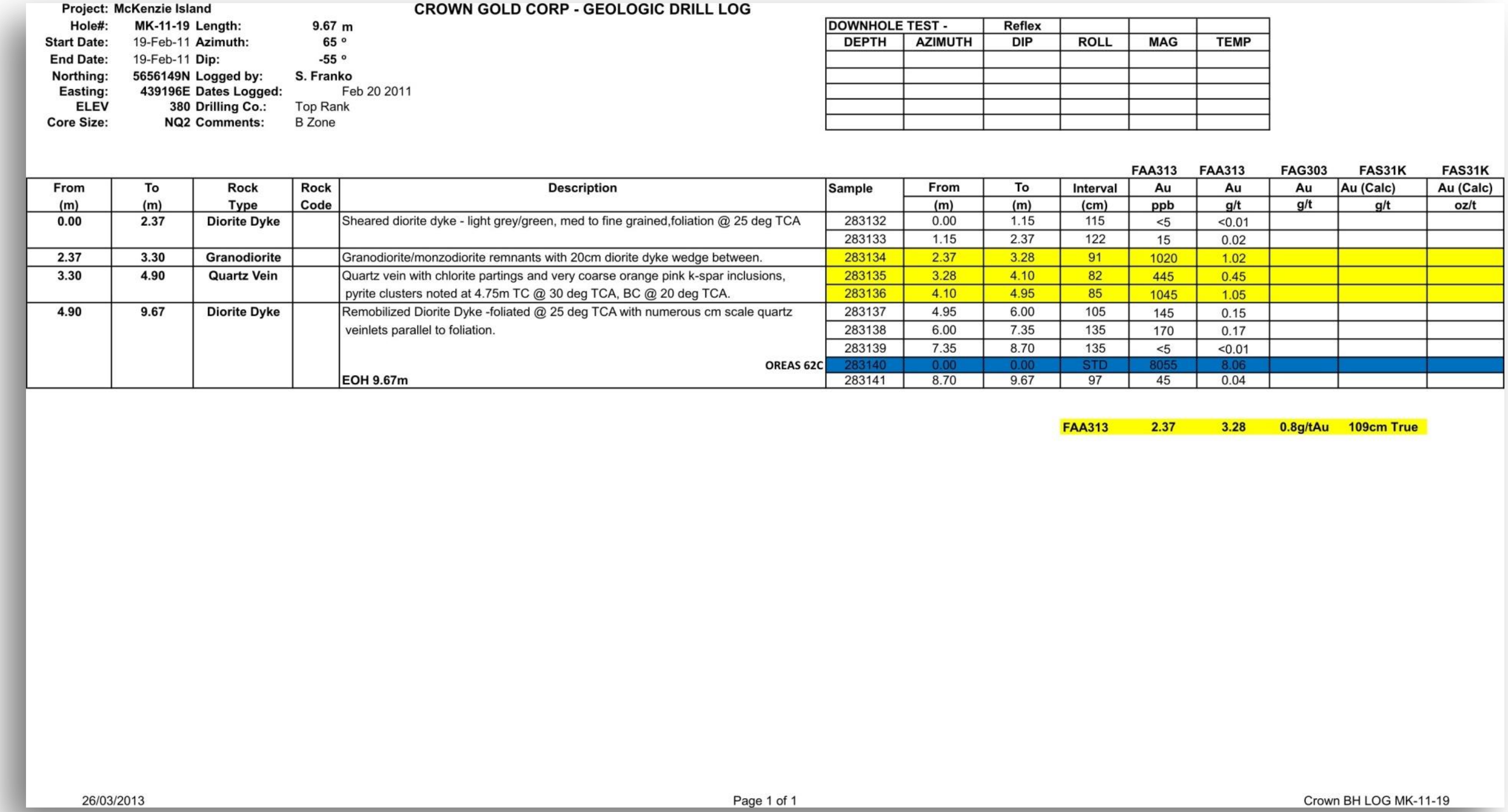


Project: McKenzie Island

CROWN GOLD CORP - GEOLOGIC DRILL LOG

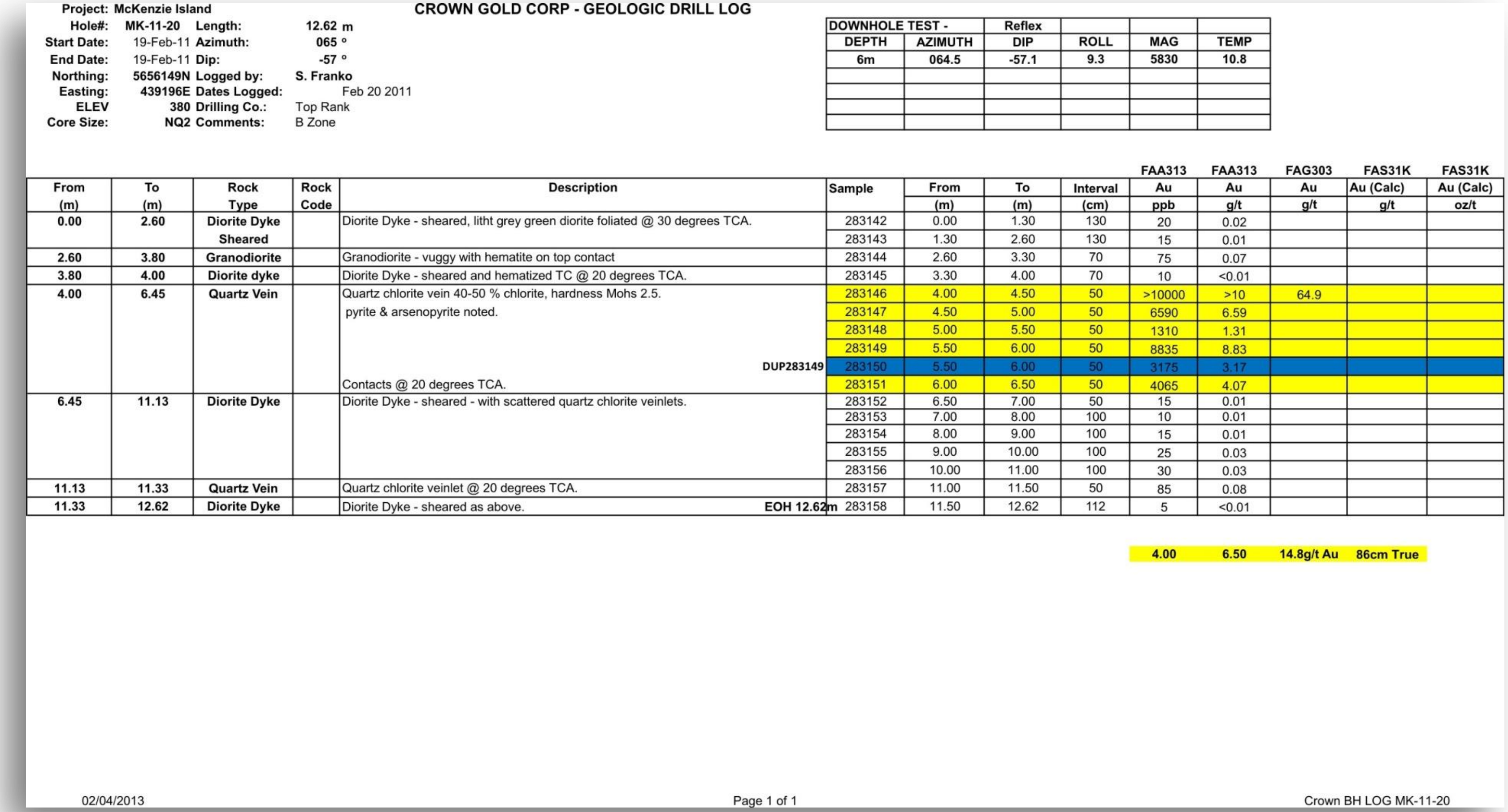
Hole#: MK-11-19 Length: 9.67 m
Start Date: 19-Feb-11 Azimuth: 65 °
End Date: 19-Feb-11 Dip: -55 °
Northing: 5656149N Logged by: S. Franko
Easting: 439196E Dates Logged: Feb 20 2011
ELEV 380 Drilling Co.: Top Rank
Core Size: NQ2 Comments: B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	**2.37**	**Diorite Dyke**		Sheared diorite dyke - light grey/green, med to fine grained,foliation @ 25 deg TCA	283132	0.00	1.15	115	<5	<0.01			
					283133	1.15	2.37	122	15	0.02			
2.37	**3.30**	**Granodiorite**		Granodiorite/monzodiorite remnants with 20cm diorite dyke wedge between.	283134	2.37	3.28	91	1020	1.02			
3.30	**4.90**	**Quartz Vein**		Quartz vein with chlorite partings and very coarse orange pink k-spar inclusions,	283135	3.28	4.10	82	445	0.45			
				pyrite clusters noted at 4.75m TC @ 30 deg TCA, BC @ 20 deg TCA.	283136	4.10	4.95	85	1045	1.05			
4.90	**9.67**	**Diorite Dyke**		Remobilized Diorite Dyke -foliated @ 25 deg TCA with numerous cm scale quartz	283137	4.95	6.00	105	145	0.15			
				veinlets parallel to foliation.	283138	6.00	7.35	135	170	0.17			
					283139	7.35	8.70	135	<5	<0.01			
				OREAS 62C	283140	0.00	0.00	STD	8055	8.06			
				EOH 9.67m	283141	8.70	9.67	97	45	0.04			

FAA313 2.37 3.28 0.8g/tAu 109cm True

26/03/2013 Page 1 of 1 Crown BH LOG MK-11-19



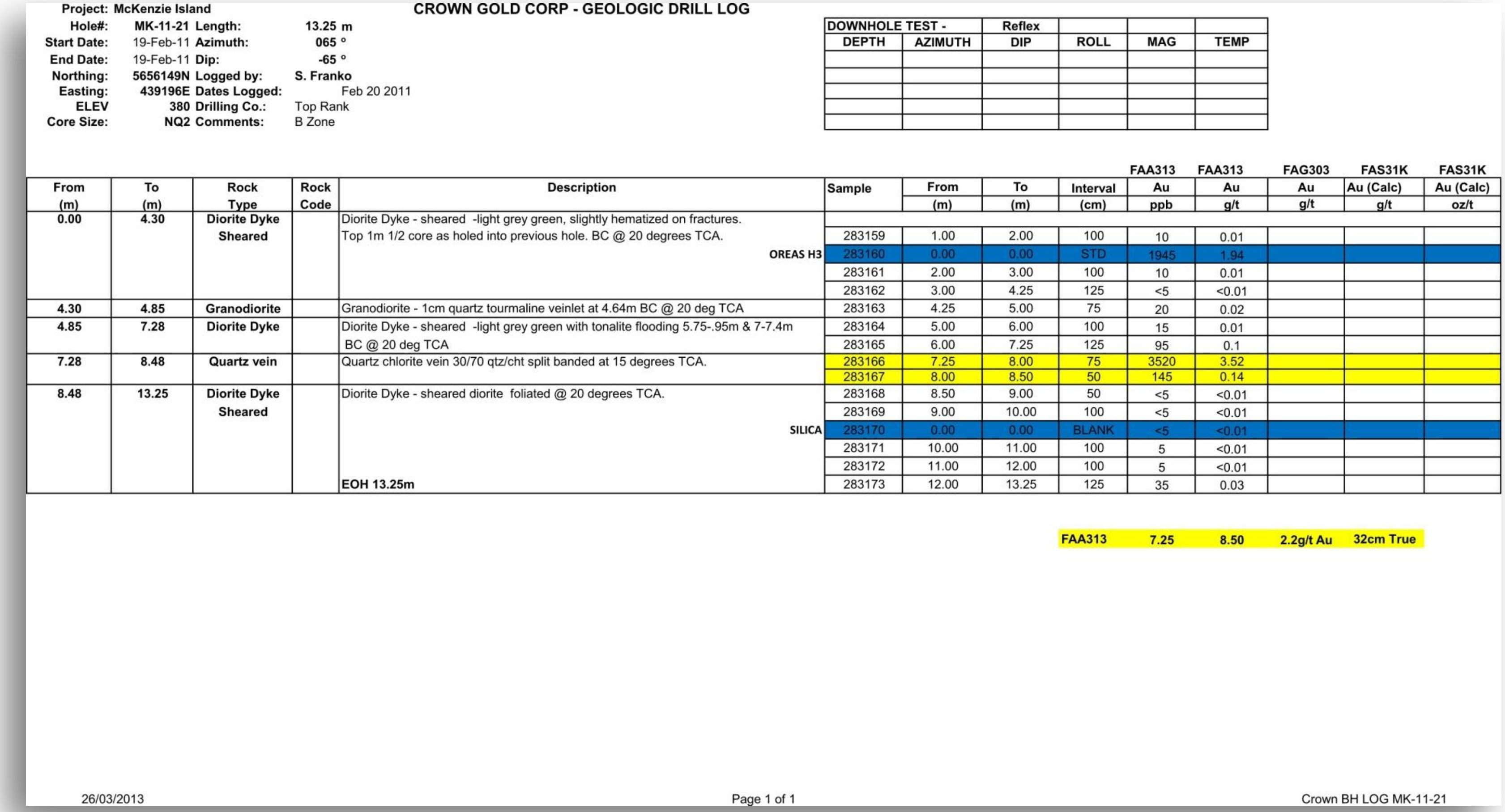
CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-20 **Length:** 12.62 m
Start Date: 19-Feb-11 **Azimuth:** 065 °
End Date: 19-Feb-11 **Dip:** -57 °
Northing: 5656149N **Logged by:** S. Franko
Easting: 439196E **Dates Logged:** Feb 20 2011
ELEV 380 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	**AZIMUTH**	**DIP**	**ROLL**	**MAG**	**TEMP**
6m	**064.5**	**-57.1**	**9.3**	**5830**	**10.8**

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From (m)	**To (m)**	**Rock Type**	**Rock Code**	**Description**	**Sample**	**From (m)**	**To (m)**	**Interval (cm)**	**Au ppb**	**Au g/t**	**Au g/t**	**Au (Calc) g/t**	**Au (Calc) oz/t**
0.00	**2.60**	**Diorite Dyke**		Diorite Dyke - sheared, litht grey green diorite foliated @ 30 degrees TCA.	283142	0.00	1.30	130	20	0.02			
		Sheared			283143	1.30	2.60	130	15	0.01			
2.60	**3.80**	**Granodiorite**		Granodiorite - vuggy with hematite on top contact	283144	2.60	3.30	70	75	0.07			
3.80	**4.00**	**Diorite dyke**		Diorite Dyke - sheared and hematized TC @ 20 degrees TCA.	283145	3.30	4.00	70	10	<0.01			
4.00	**6.45**	**Quartz Vein**		Quartz chlorite vein 40-50 % chlorite, hardness Mohs 2.5.	283146	4.00	4.50	50	>10000	>10	64.9		
				pyrite & arsenopyrite noted.	283147	4.50	5.00	50	6590	6.59			
					283148	5.00	5.50	50	1310	1.31			
					283149	5.50	6.00	50	8835	8.83			
				DUP283149	283150	5.50	6.00	50	3175	3.17			
				Contacts @ 20 degrees TCA.	283151	6.00	6.50	50	4065	4.07			
6.45	**11.13**	**Diorite Dyke**		Diorite Dyke - sheared - with scattered quartz chlorite veinlets.	283152	6.50	7.00	50	15	0.01			
					283153	7.00	8.00	100	10	0.01			
					283154	8.00	9.00	100	15	0.01			
					283155	9.00	10.00	100	25	0.03			
					283156	10.00	11.00	100	30	0.03			
11.13	**11.33**	**Quartz Vein**		Quartz chlorite veinlet @ 20 degrees TCA.	283157	11.00	11.50	50	85	0.08			
11.33	**12.62**	**Diorite Dyke**		Diorite Dyke - sheared as above. **EOH 12.62m**	283158	11.50	12.62	112	5	<0.01			
									4.00	**6.50**	**14.8g/t Au**	**86cm True**	

02/04/2013 Page 1 of 1 Crown BH LOG MK-11-20



Project: McKenzie Island

CROWN GOLD CORP - GEOLOGIC DRILL LOG

Hole#: MK-11-21 **Length:** 13.25 m
Start Date: 19-Feb-11 **Azimuth:** 065 °
End Date: 19-Feb-11 **Dip:** -65 °
Northing: 5656149N **Logged by:** S. Franko
Easting: 439196E **Dates Logged:** Feb 20 2011
ELEV 380 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	**4.30**	**Diorite Dyke**		Diorite Dyke - sheared -light grey green, slightly hematized on fractures.									
		Sheared		Top 1m 1/2 core as holed into previous hole. BC @ 20 degrees TCA.	283159	1.00	2.00	100	10	0.01			
				OREAS H3	283160	0.00	0.00	STD	1945	1.94			
					283161	2.00	3.00	100	10	0.01			
					283162	3.00	4.25	125	<5	<0.01			
4.30	**4.85**	**Granodiorite**		Granodiorite - 1cm quartz tourmaline veinlet at 4.64m BC @ 20 deg TCA	283163	4.25	5.00	75	20	0.02			
4.85	**7.28**	**Diorite Dyke**		Diorite Dyke - sheared -light grey green with tonalite flooding 5.75-.95m & 7-7.4m	283164	5.00	6.00	100	15	0.01			
				BC @ 20 deg TCA	283165	6.00	7.25	125	95	0.1			
7.28	**8.48**	**Quartz vein**		Quartz chlorite vein 30/70 qtz/cht split banded at 15 degrees TCA.	283166	7.25	8.00	75	3520	3.52			
					283167	8.00	8.50	50	145	0.14			
8.48	**13.25**	**Diorite Dyke**		Diorite Dyke - sheared diorite foliated @ 20 degrees TCA.	283168	8.50	9.00	50	<5	<0.01			
		Sheared			283169	9.00	10.00	100	<5	<0.01			
				SILICA	283170	0.00	0.00	BLANK	<5	<0.01			
					283171	10.00	11.00	100	5	<0.01			
					283172	11.00	12.00	100	5	<0.01			
				EOH 13.25m	283173	12.00	13.25	125	35	0.03			

FAA313	**7.25**	**8.50**	**2.2g/t Au**	**32cm True**

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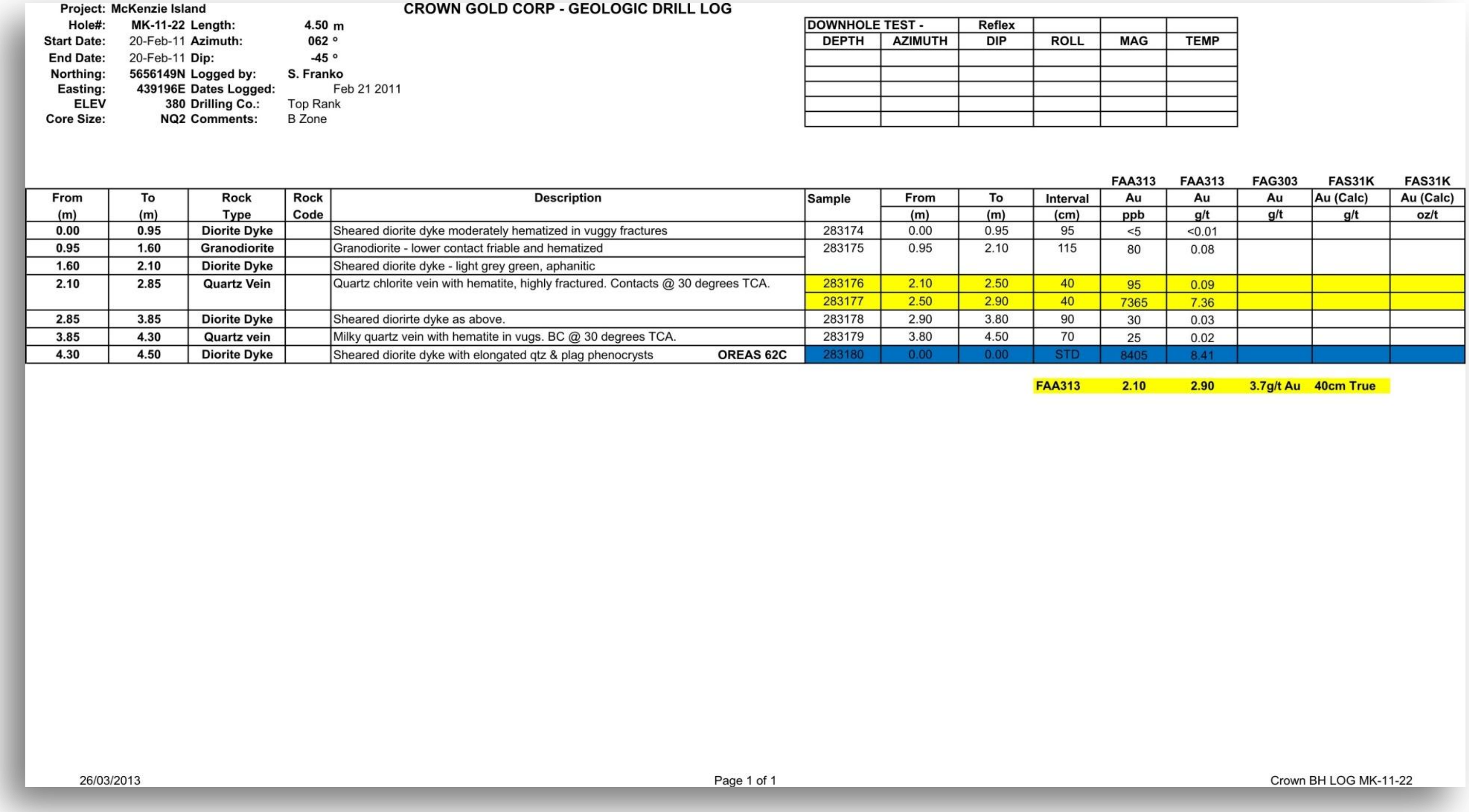


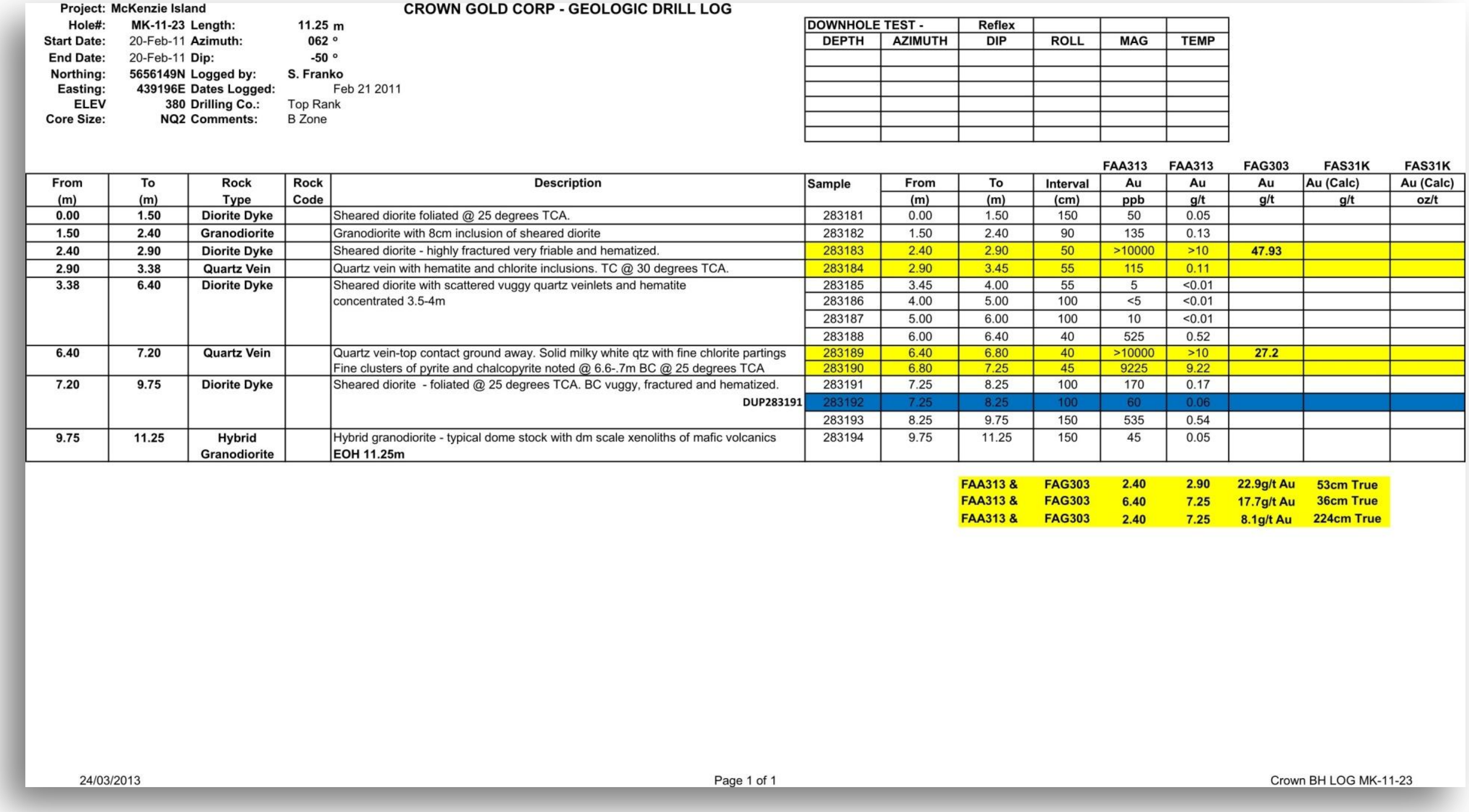
CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project:	**McKenzie Island**		
Hole#:	**MK-11-22**	**Length:**	**4.50** m
Start Date:	20-Feb-11	**Azimuth:**	**062 °**
End Date:	20-Feb-11	**Dip:**	**-45 °**
Northing:	**5656149N**	**Logged by:**	**S. Franko**
Easting:	**439196E**	**Dates Logged:**	Feb 21 2011
ELEV	**380**	**Drilling Co.:**	Top Rank
Core Size:	**NQ2**	**Comments:**	B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	**AZIMUTH**	**DIP**	**ROLL**	**MAG**	**TEMP**

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	**0.95**	**Diorite Dyke**		Sheared diorite dyke moderately hematized in vuggy fractures	283174	0.00	0.95	95	<5	<0.01			
0.95	**1.60**	**Granodiorite**		Granodiorite - lower contact friable and hematized	283175	0.95	2.10	115	80	0.08			
1.60	**2.10**	**Diorite Dyke**		Sheared diorite dyke - light grey green, aphanitic									
2.10	**2.85**	**Quartz Vein**		Quartz chlorite vein with hematite, highly fractured. Contacts @ 30 degrees TCA.	283176	2.10	2.50	40	95	0.09			
					283177	2.50	2.90	40	7365	7.36			
2.85	**3.85**	**Diorite Dyke**		Sheared diorirte dyke as above.	283178	2.90	3.80	90	30	0.03			
3.85	**4.30**	**Quartz vein**		Milky quartz vein with hematite in vugs. BC @ 30 degrees TCA.	283179	3.80	4.50	70	25	0.02			
4.30	**4.50**	**Diorite Dyke**		Sheared diorite dyke with elongated qtz & plag phenocrysts **OREAS 62C**	283180	0.00	0.00	STD	8405	8.41			

FAA313 2.10 2.90 3.7g/t Au 40cm True



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-23 **Length:** 11.25 m
Start Date: 20-Feb-11 **Azimuth:** 062 °
End Date: 20-Feb-11 **Dip:** -50 °
Northing: 5656149N **Logged by:** S. Franko
Easting: 439196E **Dates Logged:** Feb 21 2011
ELEV 380 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	**1.50**	**Diorite Dyke**		Sheared diorite foliated @ 25 degrees TCA.	283181	0.00	1.50	150	50	0.05			
1.50	**2.40**	**Granodiorite**		Granodiorite with 8cm inclusion of sheared diorite	283182	1.50	2.40	90	135	0.13			
2.40	**2.90**	**Diorite Dyke**		Sheared diorite - highly fractured very friable and hematized.	283183	2.40	2.90	50	>10000	>10	**47.93**		
2.90	**3.38**	**Quartz Vein**		Quartz vein with hematite and chlorite inclusions. TC @ 30 degrees TCA.	283184	2.90	3.45	55	115	0.11			
3.38	**6.40**	**Diorite Dyke**		Sheared diorite with scattered vuggy quartz veinlets and hematite concentrated 3.5-4m	283185	3.45	4.00	55	5	<0.01			
					283186	4.00	5.00	100	<5	<0.01			
					283187	5.00	6.00	100	10	<0.01			
					283188	6.00	6.40	40	525	0.52			
6.40	**7.20**	**Quartz Vein**		Quartz vein-top contact ground away. Solid milky white qtz with fine chlorite partings	283189	6.40	6.80	40	>10000	>10	**27.2**		
				Fine clusters of pyrite and chalcopyrite noted @ 6.6-.7m BC @ 25 degrees TCA	283190	6.80	7.25	45	9225	9.22			
7.20	**9.75**	**Diorite Dyke**		Sheared diorite - foliated @ 25 degrees TCA. BC vuggy, fractured and hematized.	283191	7.25	8.25	100	170	0.17			
				DUP283191	283192	7.25	8.25	100	60	0.06			
					283193	8.25	9.75	150	535	0.54			
9.75	**11.25**	**Hybrid Granodiorite**		Hybrid granodiorite - typical dome stock with dm scale xenoliths of mafic volcanics **EOH 11.25m**	283194	9.75	11.25	150	45	0.05			

FAA313 &	**FAG303**	**2.40**	**2.90**	**22.9g/t Au**	**53cm True**
FAA313 &	**FAG303**	**6.40**	**7.25**	**17.7g/t Au**	**36cm True**
FAA313 &	**FAG303**	**2.40**	**7.25**	**8.1g/t Au**	**224cm True**

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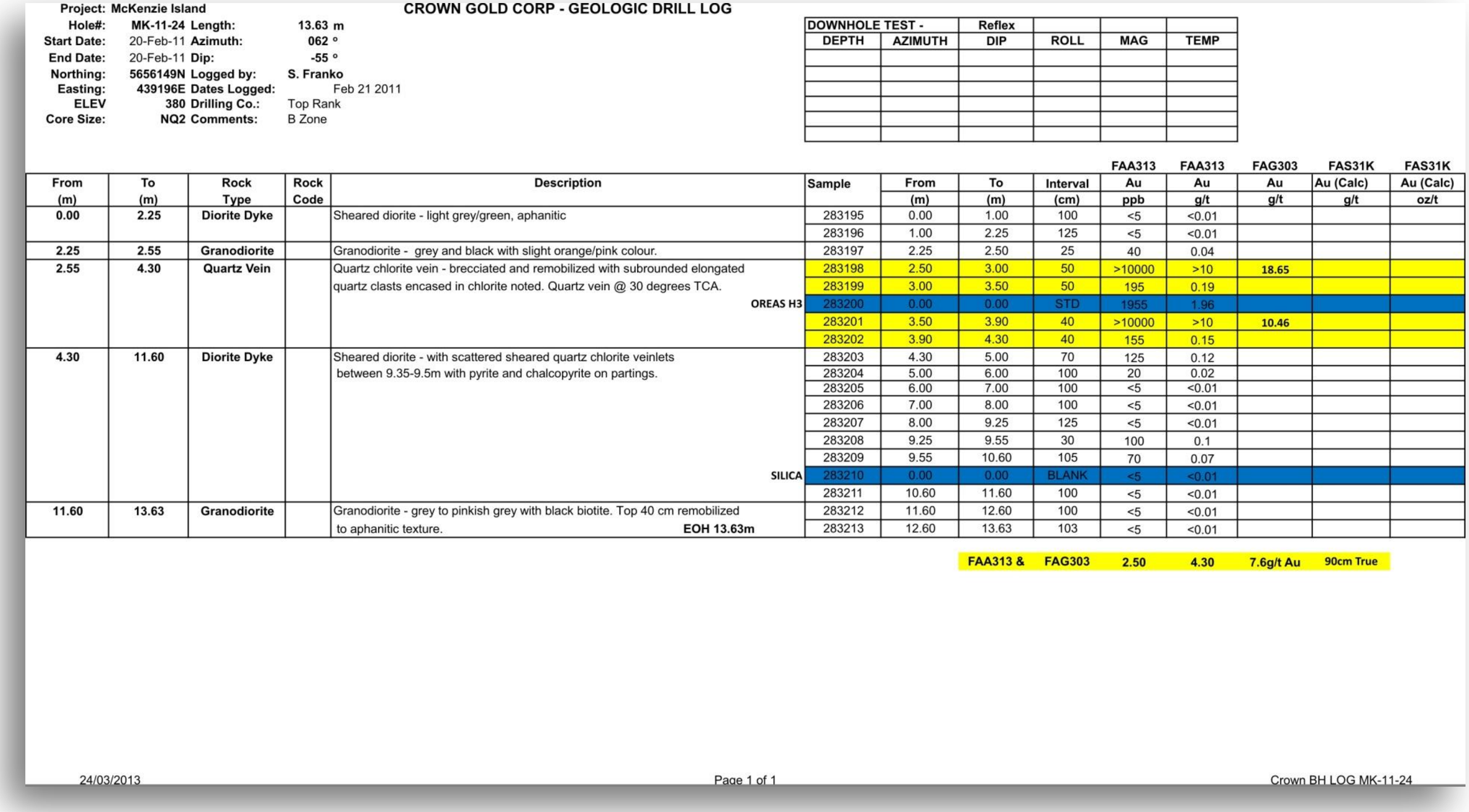
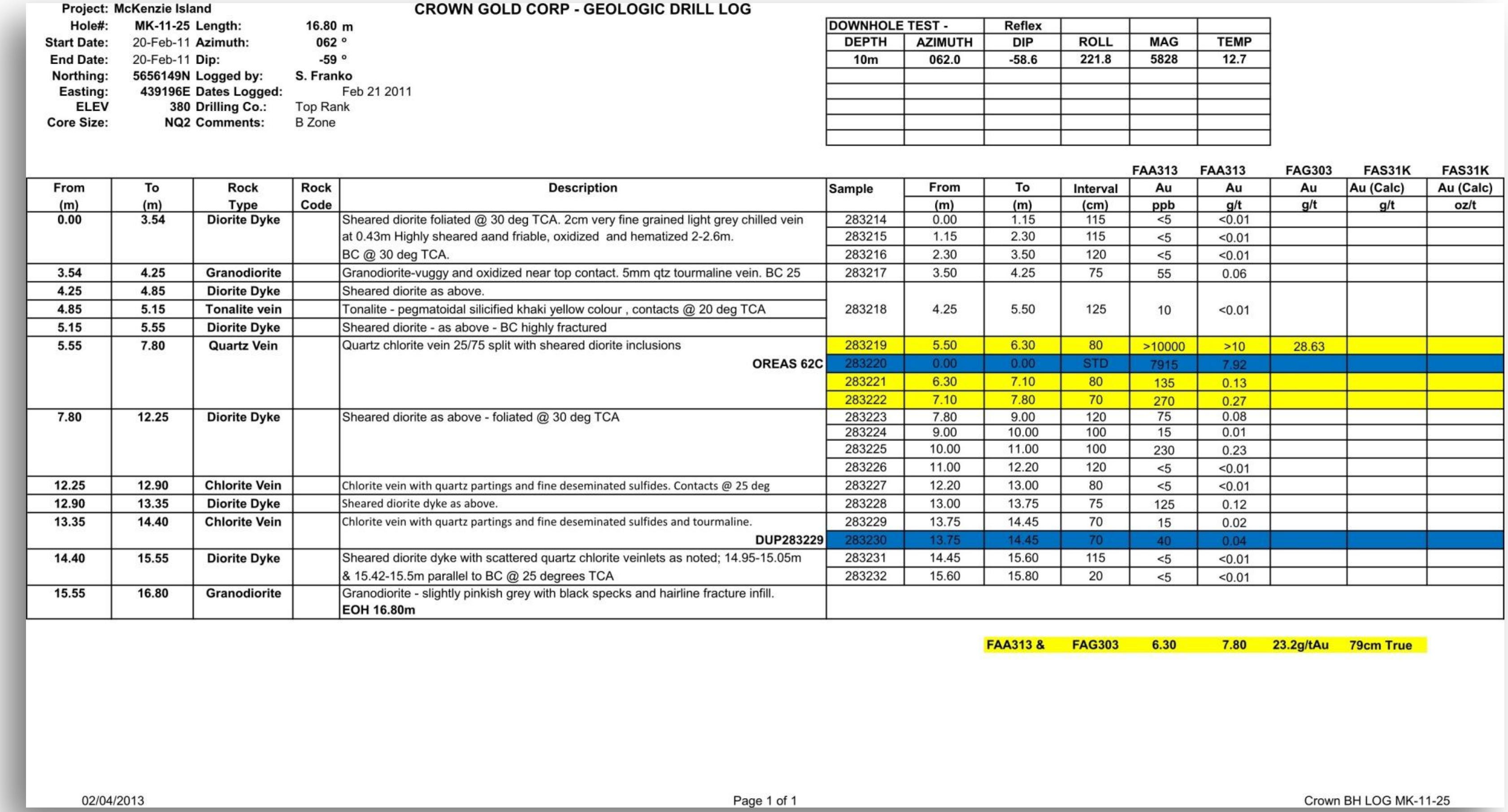


CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project:	**McKenzie Island**		
Hole#:	**MK-11-24**	**Length:**	**13.63 m**
Start Date:	20-Feb-11	**Azimuth:**	**062 °**
End Date:	20-Feb-11	**Dip:**	**-55 °**
Northing:	**5656149N**	**Logged by:**	**S. Franko**
Easting:	**439196E**	**Dates Logged:**	Feb 21 2011
ELEV	**380**	**Drilling Co.:**	Top Rank
Core Size:	**NQ2**	**Comments:**	B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	Au ppb	Au g/t	Au g/t	Au (Calc) g/t	Au (Calc) oz/t
0.00	**2.25**	**Diorite Dyke**		Sheared diorite - light grey/green, aphanitic	283195	0.00	1.00	100	<5	<0.01			
					283196	1.00	2.25	125	<5	<0.01			
2.25	**2.55**	**Granodiorite**		Granodiorite - grey and black with slight orange/pink colour.	283197	2.25	2.50	25	40	0.04			
2.55	**4.30**	**Quartz Vein**		Quartz chlorite vein - brecciated and remobilized with subrounded elongated	283198	2.50	3.00	50	>10000	>10	**18.65**		
				quartz clasts encased in chlorite noted. Quartz vein @ 30 degrees TCA.	283199	3.00	3.50	50	195	0.19			
				OREAS H3	283200	0.00	0.00	STD	1955	1.96			
					283201	3.50	3.90	40	>10000	>10	**10.46**		
					283202	3.90	4.30	40	155	0.15			
4.30	**11.60**	**Diorite Dyke**		Sheared diorite - with scattered sheared quartz chlorite veinlets	283203	4.30	5.00	70	125	0.12			
				between 9.35-9.5m with pyrite and chalcopyrite on partings.	283204	5.00	6.00	100	20	0.02			
					283205	6.00	7.00	100	<5	<0.01			
					283206	7.00	8.00	100	<5	<0.01			
					283207	8.00	9.25	125	<5	<0.01			
					283208	9.25	9.55	30	100	0.1			
					283209	9.55	10.60	105	70	0.07			
				SILICA	283210	0.00	0.00	BLANK	<5	<0.01			
					283211	10.60	11.60	100	<5	<0.01			
11.60	**13.63**	**Granodiorite**		Granodiorite - grey to pinkish grey with black biotite. Top 40 cm remobilized	283212	11.60	12.60	100	<5	<0.01			
				to aphanitic texture. **EOH 13.63m**	283213	12.60	13.63	103	<5	<0.01			
							FAA313 &	**FAG303**	**2.50**	**4.30**	**7.6g/t Au**	**90cm True**	



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-25 **Length:** 16.80 m
Start Date: 20-Feb-11 **Azimuth:** 062 °
End Date: 20-Feb-11 **Dip:** -59 °
Northing: 5656149N **Logged by:** S. Franko
Easting: 439196E **Dates Logged:** Feb 21 2011
ELEV 380 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
10m	062.0	-58.6	221.8	5828	12.7

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	Au ppb	Au g/t	Au g/t	Au (Calc) g/t	Au (Calc) oz/t
0.00	**3.54**	**Diorite Dyke**		Sheared diorite foliated @ 30 deg TCA. 2cm very fine grained light grey chilled vein	283214	0.00	1.15	115	<5	<0.01			
				at 0.43m Highly sheared aand friable, oxidized and hematized 2-2.6m.	283215	1.15	2.30	115	<5	<0.01			
				BC @ 30 deg TCA.	283216	2.30	3.50	120	<5	<0.01			
3.54	**4.25**	**Granodiorite**		Granodiorite-vuggy and oxidized near top contact. 5mm qtz tourmaline vein. BC 25	283217	3.50	4.25	75	55	0.06			
4.25	**4.85**	**Diorite Dyke**		Sheared diorite as above.	283218	4.25	5.50	125	10	<0.01			
4.85	**5.15**	**Tonalite vein**		Tonalite - pegmatoidal silicified khaki yellow colour , contacts @ 20 deg TCA									
5.15	**5.55**	**Diorite Dyke**		Sheared diorite - as above - BC highly fractured									
5.55	**7.80**	**Quartz Vein**		Quartz chlorite vein 25/75 split with sheared diorite inclusions	283219	5.50	6.30	80	>10000	>10	28.63		
				OREAS 62C	283220	0.00	0.00	STD	7915	7.92			
					283221	6.30	7.10	80	135	0.13			
					283222	7.10	7.80	70	270	0.27			
7.80	**12.25**	**Diorite Dyke**		Sheared diorite as above - foliated @ 30 deg TCA	283223	7.80	9.00	120	75	0.08			
					283224	9.00	10.00	100	15	0.01			
					283225	10.00	11.00	100	230	0.23			
					283226	11.00	12.20	120	<5	<0.01			
12.25	**12.90**	**Chlorite Vein**		Chlorite vein with quartz partings and fine deseminated sulfides. Contacts @ 25 deg	283227	12.20	13.00	80	<5	<0.01			
12.90	**13.35**	**Diorite Dyke**		Sheared diorite dyke as above.	283228	13.00	13.75	75	125	0.12			
13.35	**14.40**	**Chlorite Vein**		Chlorite vein with quartz partings and fine deseminated sulfides and tourmaline.	283229	13.75	14.45	70	15	0.02			
				DUP283229	283230	13.75	14.45	70	40	0.04			
14.40	**15.55**	**Diorite Dyke**		Sheared diorite dyke with scattered quartz chlorite veinlets as noted; 14.95-15.05m	283231	14.45	15.60	115	<5	<0.01			
				& 15.42-15.5m parallel to BC @ 25 degrees TCA	283232	15.60	15.80	20	<5	<0.01			
15.55	**16.80**	**Granodiorite**		Granodiorite - slightly pinkish grey with black specks and hairline fracture infill.									
				EOH 16.80m									

FAA313 & FAG303 6.30 7.80 23.2g/tAu 79cm True

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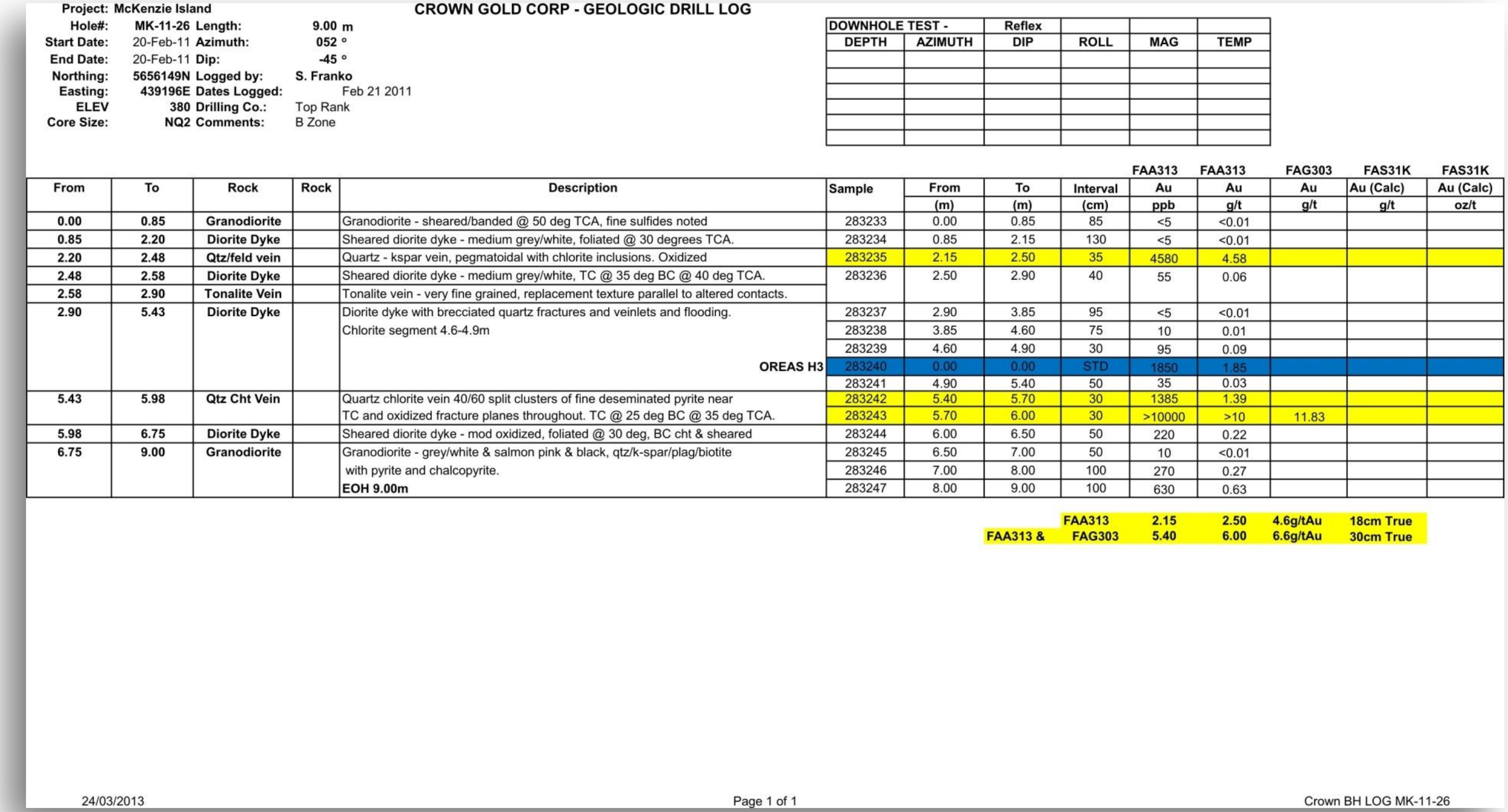

CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-26 **Length:** 9.00 m
Start Date: 20-Feb-11 **Azimuth:** 052 °
End Date: 20-Feb-11 **Dip:** -45 °
Northing: 5656149N **Logged by:** S. Franko
Easting: 439196E **Dates Logged:** Feb 21 2011
ELEV 380 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** B Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
						(m)	(m)	(cm)	ppb	g/t	g/t	g/t	oz/t
0.00	**0.85**	**Granodiorite**		Granodiorite - sheared/banded @ 50 deg TCA, fine sulfides noted	283233	0.00	0.85	85	<5	<0.01			
0.85	**2.20**	**Diorite Dyke**		Sheared diorite dyke - medium grey/white, foliated @ 30 degrees TCA.	283234	0.85	2.15	130	<5	<0.01			
2.20	**2.48**	**Qtz/feld vein**		Quartz - kspar vein, pegmatoidal with chlorite inclusions. Oxidized	283235	2.15	2.50	35	4580	4.58			
2.48	**2.58**	**Diorite Dyke**		Sheared diorite dyke - medium grey/white, TC @ 35 deg BC @ 40 deg TCA.	283236	2.50	2.90	40	55	0.06			
2.58	**2.90**	**Tonalite Vein**		Tonalite vein - very fine grained, replacement texture parallel to altered contacts.									
2.90	**5.43**	**Diorite Dyke**		Diorite dyke with brecciated quartz fractures and veinlets and flooding.	283237	2.90	3.85	95	<5	<0.01			
				Chlorite segment 4.6-4.9m	283238	3.85	4.60	75	10	0.01			
					283239	4.60	4.90	30	95	0.09			
				OREAS H3	283240	0.00	0.00	STD	1850	1.85			
					283241	4.90	5.40	50	35	0.03			
5.43	**5.98**	**Qtz Cht Vein**		Quartz chlorite vein 40/60 split clusters of fine deseminated pyrite near	283242	5.40	5.70	30	1385	1.39			
				TC and oxidized fracture planes throughout. TC @ 25 deg BC @ 35 deg TCA.	283243	5.70	6.00	30	>10000	>10	11.83		
5.98	**6.75**	**Diorite Dyke**		Sheared diorite dyke - mod oxidized, foliated @ 30 deg, BC cht & sheared	283244	6.00	6.50	50	220	0.22			
6.75	**9.00**	**Granodiorite**		Granodiorite - grey/white & salmon pink & black, qtz/k-spar/plag/biotite	283245	6.50	7.00	50	10	<0.01			
				with pyrite and chalcopyrite.	283246	7.00	8.00	100	270	0.27			
				EOH 9.00m	283247	8.00	9.00	100	630	0.63			

	FAA313	**2.15**	**2.50**	**4.6g/tAu**	**18cm True**
FAA313 &	**FAG303**	**5.40**	**6.00**	**6.6g/tAu**	**30cm True**

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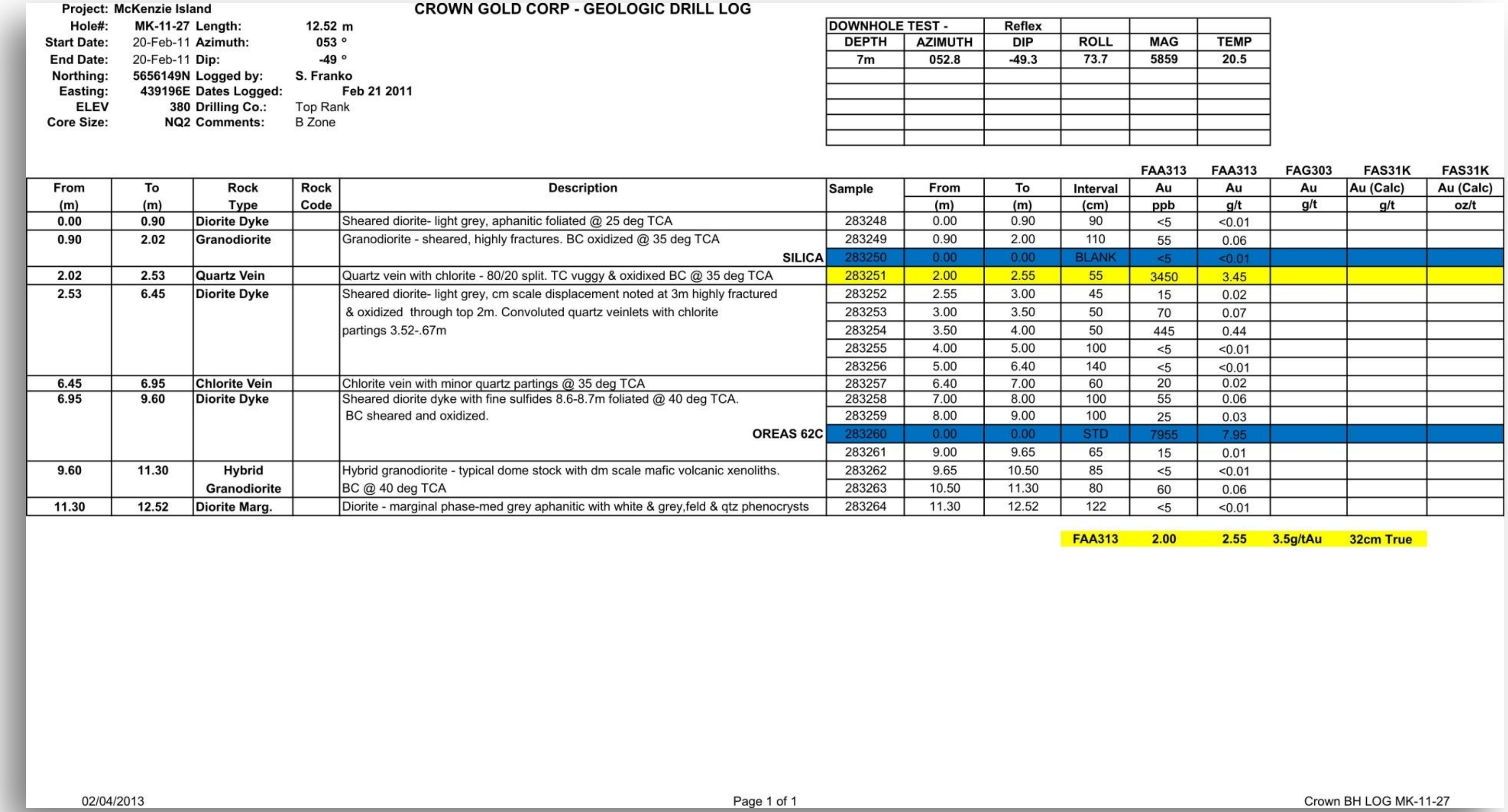

Project: McKenzie Island
Hole#: MK-11-27 **Length:** 12.52 m
Start Date: 20-Feb-11 **Azimuth:** 053 °
End Date: 20-Feb-11 **Dip:** -49 °
Northing: 5656149N **Logged by:** S. Franko
Easting: 439196E **Dates Logged:** Feb 21 2011
ELEV 380 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** B Zone

CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -		Reflex			
DEPTH	**AZIMUTH**	**DIP**	**ROLL**	**MAG**	**TEMP**
7m	052.8	-49.3	73.7	5859	20.5

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	**0.90**	**Diorite Dyke**		Sheared diorite- light grey, aphanitic foliated @ 25 deg TCA	283248	0.00	0.90	90	<5	<0.01			
0.90	**2.02**	**Granodiorite**		Granodiorite - sheared, highly fractures. BC oxidized @ 35 deg TCA	283249	0.90	2.00	110	55	0.06			
				SILICA	283250	0.00	0.00	BLANK	<5	<0.01			
2.02	**2.53**	**Quartz Vein**		Quartz vein with chlorite - 80/20 split. TC vuggy & oxidixed BC @ 35 deg TCA	283251	2.00	2.55	55	3450	3.45			
2.53	**6.45**	**Diorite Dyke**		Sheared diorite- light grey, cm scale displacement noted at 3m highly fractured & oxidized through top 2m. Convoluted quartz veinlets with chlorite partings 3.52-.67m	283252	2.55	3.00	45	15	0.02			
					283253	3.00	3.50	50	70	0.07			
					283254	3.50	4.00	50	445	0.44			
					283255	4.00	5.00	100	<5	<0.01			
					283256	5.00	6.40	140	<5	<0.01			
6.45	**6.95**	**Chlorite Vein**		Chlorite vein with minor quartz partings @ 35 deg TCA	283257	6.40	7.00	60	20	0.02			
6.95	**9.60**	**Diorite Dyke**		Sheared diorite dyke with fine sulfides 8.6-8.7m foliated @ 40 deg TCA. BC sheared and oxidized.	283258	7.00	8.00	100	55	0.06			
					283259	8.00	9.00	100	25	0.03			
				OREAS 62C	283260	0.00	0.00	STD	7955	7.95			
					283261	9.00	9.65	65	15	0.01			
9.60	**11.30**	**Hybrid Granodiorite**		Hybrid granodiorite - typical dome stock with dm scale mafic volcanic xenoliths. BC @ 40 deg TCA	283262	9.65	10.50	85	<5	<0.01			
					283263	10.50	11.30	80	60	0.06			
11.30	**12.52**	**Diorite Marg.**		Diorite - marginal phase-med grey aphanitic with white & grey,feld & qtz phenocrysts	283264	11.30	12.52	122	<5	<0.01			

FAA313 2.00 2.55 3.5g/tAu 32cm True

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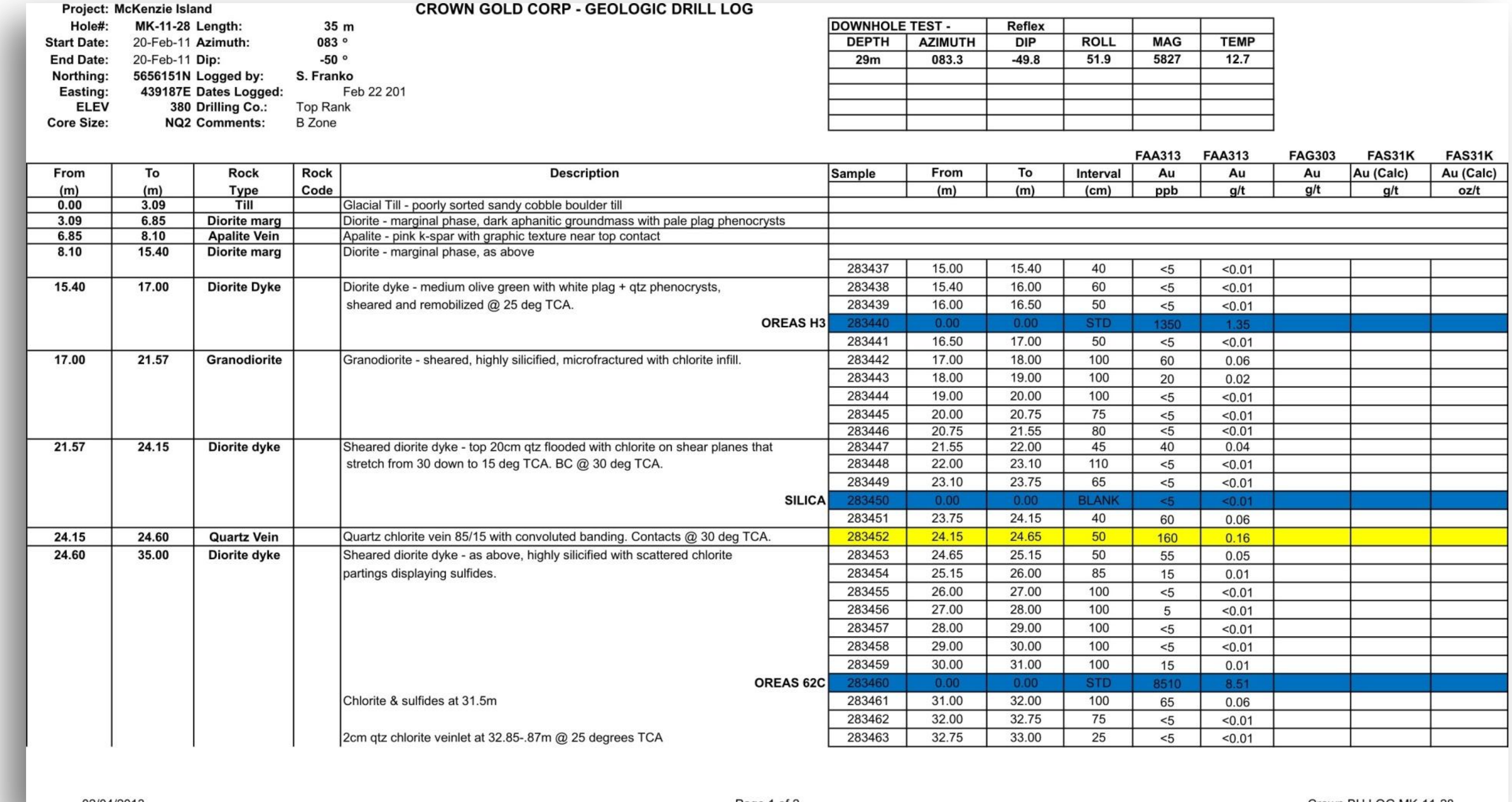

CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project:	McKenzie Island			
Hole#:	MK-11-28	Length:	35 m	
Start Date:	20-Feb-11	Azimuth:	083 °	
End Date:	20-Feb-11	Dip:	-50 °	
Northing:	5656151N	Logged by:	S. Franko	
Easting:	439187E	Dates Logged:		Feb 22 201
ELEV	380	Drilling Co.:	Top Rank	
Core Size:	NQ2	Comments:	B Zone	

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
29m	083.3	-49.8	51.9	5827	12.7

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	3.09	Till		Glacial Till - poorly sorted sandy cobble boulder till									
3.09	6.85	Diorite marg		Diorite - marginal phase, dark aphanitic groundmass with pale plag phenocrysts									
6.85	8.10	Apalite Vein		Apalite - pink k-spar with graphic texture near top contact									
8.10	15.40	Diorite marg		Diorite - marginal phase, as above									
					283437	15.00	15.40	40	<5	<0.01			
15.40	17.00	Diorite Dyke		Diorite dyke - medium olive green with white plag + qtz phenocrysts,	283438	15.40	16.00	60	<5	<0.01			
				sheared and remobilized @ 25 deg TCA.	283439	16.00	16.50	50	<5	<0.01			
				OREAS H3	283440	0.00	0.00	STD	1350	1.35			
					283441	16.50	17.00	50	<5	<0.01			
17.00	21.57	Granodiorite		Granodiorite - sheared, highly silicified, microfractured with chlorite infill.	283442	17.00	18.00	100	60	0.06			
					283443	18.00	19.00	100	20	0.02			
					283444	19.00	20.00	100	<5	<0.01			
					283445	20.00	20.75	75	<5	<0.01			
					283446	20.75	21.55	80	<5	<0.01			
21.57	24.15	Diorite dyke		Sheared diorite dyke - top 20cm qtz flooded with chlorite on shear planes that	283447	21.55	22.00	45	40	0.04			
				stretch from 30 down to 15 deg TCA. BC @ 30 deg TCA.	283448	22.00	23.10	110	<5	<0.01			
					283449	23.10	23.75	65	<5	<0.01			
				SILICA	283450	0.00	0.00	BLANK	<5	<0.01			
					283451	23.75	24.15	40	60	0.06			
24.15	24.60	Quartz Vein		Quartz chlorite vein 85/15 with convoluted banding. Contacts @ 30 deg TCA.	283452	24.15	24.65	50	160	0.16			
24.60	35.00	Diorite dyke		Sheared diorite dyke - as above, highly silicified with scattered chlorite	283453	24.65	25.15	50	55	0.05			
				partings displaying sulfides.	283454	25.15	26.00	85	15	0.01			
					283455	26.00	27.00	100	<5	<0.01			
					283456	27.00	28.00	100	5	<0.01			
					283457	28.00	29.00	100	<5	<0.01			
					283458	29.00	30.00	100	<5	<0.01			
					283459	30.00	31.00	100	15	0.01			
				OREAS 62C	283460	0.00	0.00	STD	8510	8.51			
				Chlorite & sulfides at 31.5m	283461	31.00	32.00	100	65	0.06			
					283462	32.00	32.75	75	<5	<0.01			
				2cm qtz chlorite veinlet at 32.85-.87m @ 25 degrees TCA	283463	32.75	33.00	25	<5	<0.01			

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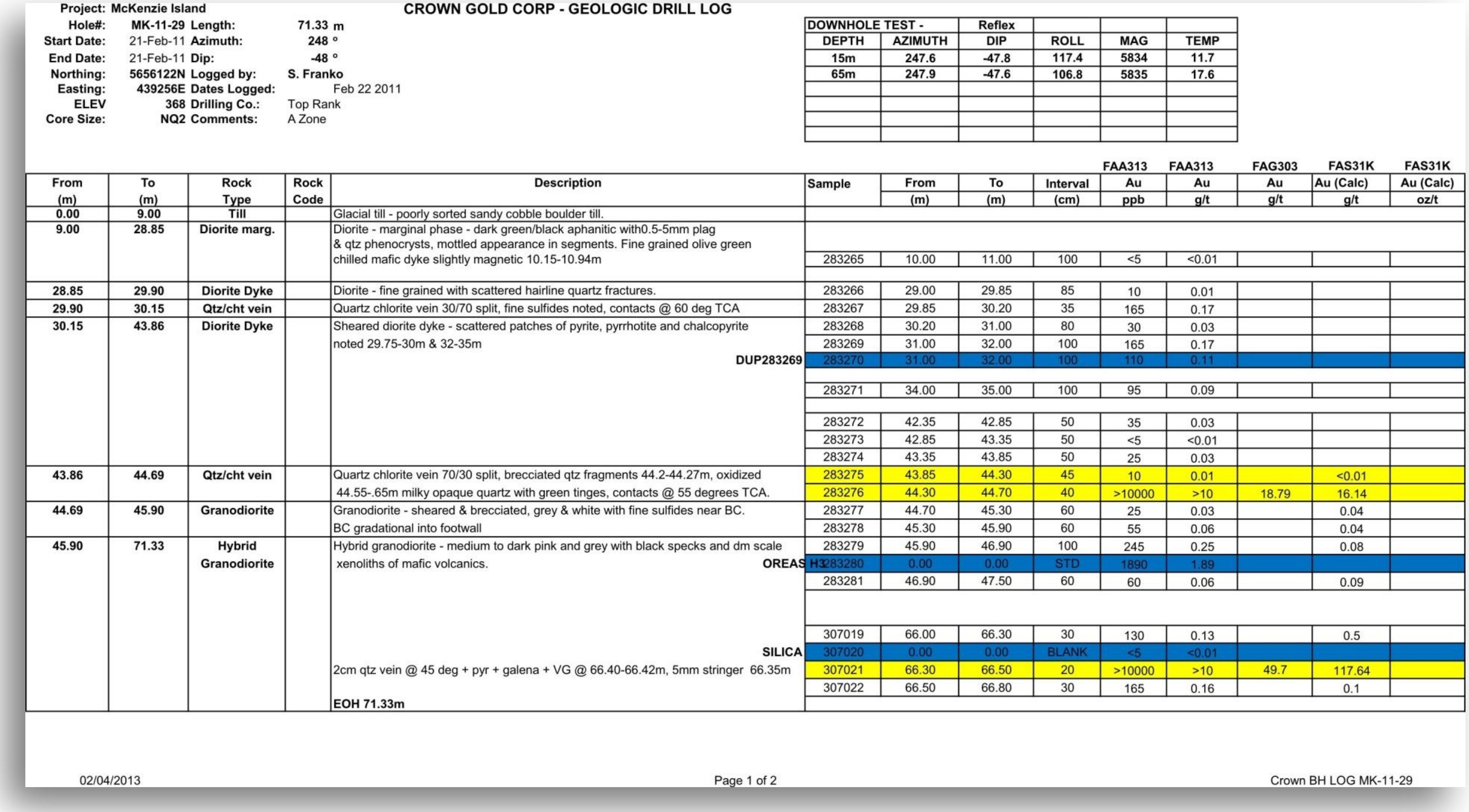
From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
					283464	33.00	34.00	100	<5	<0.01			
				EOH 35m	283465	34.00	35.00	100	<5	<0.01			

FAA313 24.15 24.65 .16g/t Au 25cm True



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-29 **Length:** 71.33 m
Start Date: 21-Feb-11 **Azimuth:** 248 °
End Date: 21-Feb-11 **Dip:** -48 °
Northing: 5656122N **Logged by:** S. Franko
Easting: 439256E **Dates Logged:** Feb 22 2011
ELEV 368 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** A Zone

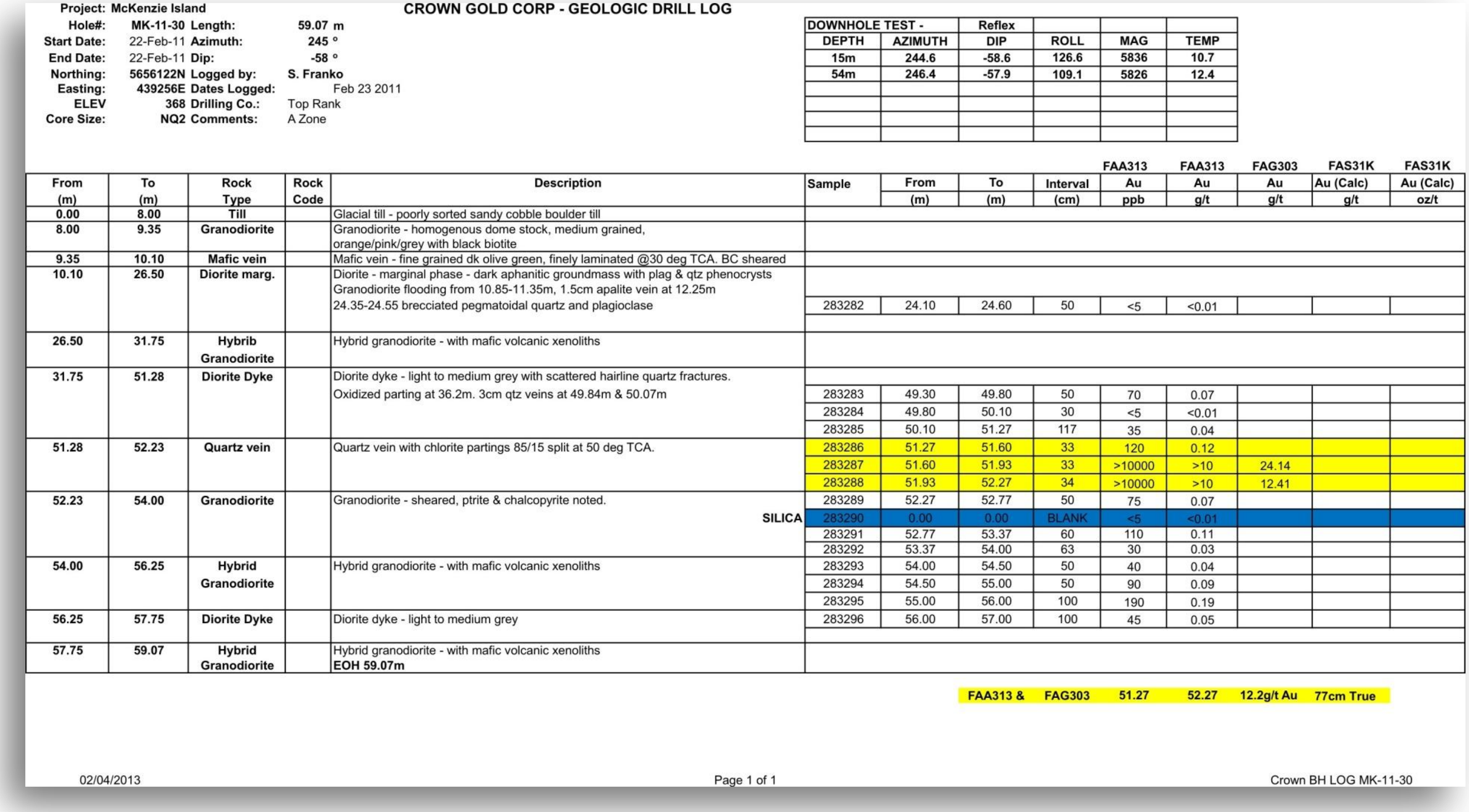
DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	247.6	-47.8	117.4	5834	11.7
65m	247.9	-47.6	106.8	5835	17.6

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313	FAA313	FAG303	FAS31K	FAS31K
									Au	Au	Au	Au (Calc)	Au (Calc)
(m)	(m)	Type	Code			(m)	(m)	(cm)	ppb	g/t	g/t	g/t	oz/t
0.00	9.00	Till		Glacial till - poorly sorted sandy cobble boulder till.									
9.00	28.85	Diorite marg.		Diorite - marginal phase - dark green/black aphanitic with0.5-5mm plag & qtz phenocrysts, mottled appearance in segments. Fine grained olive green chilled mafic dyke slightly magnetic 10.15-10.94m	283265	10.00	11.00	100	<5	<0.01			
28.85	29.90	Diorite Dyke		Diorite - fine grained with scattered hairline quartz fractures.	283266	29.00	29.85	85	10	0.01			
29.90	30.15	Qtz/cht vein		Quartz chlorite vein 30/70 split, fine sulfides noted, contacts @ 60 deg TCA	283267	29.85	30.20	35	165	0.17			
30.15	43.86	Diorite Dyke		Sheared diorite dyke - scattered patches of pyrite, pyrrhotite and chalcopyrite	283268	30.20	31.00	80	30	0.03			
				noted 29.75-30m & 32-35m	283269	31.00	32.00	100	165	0.17			
				DUP283269	283270	31.00	32.00	100	110	0.11			
					283271	34.00	35.00	100	95	0.09			
					283272	42.35	42.85	50	35	0.03			
					283273	42.85	43.35	50	<5	<0.01			
					283274	43.35	43.85	50	25	0.03			
43.86	44.69	Qtz/cht vein		Quartz chlorite vein 70/30 split, brecciated qtz fragments 44.2-44.27m, oxidized	283275	43.85	44.30	45	10	0.01		<0.01	
				44.55-.65m milky opaque quartz with green tinges, contacts @ 55 degrees TCA.	283276	44.30	44.70	40	>10000	>10	18.79	16.14	
44.69	45.90	Granodiorite		Granodiorite - sheared & brecciated, grey & white with fine sulfides near BC.	283277	44.70	45.30	60	25	0.03		0.04	
				BC gradational into footwall	283278	45.30	45.90	60	55	0.06		0.04	
45.90	71.33	Hybrid Granodiorite		Hybrid granodiorite - medium to dark pink and grey with black specks and dm scale	283279	45.90	46.90	100	245	0.25		0.08	
				xenoliths of mafic volcanics. **OREAS H3**	283280	0.00	0.00	STD	1890	1.89			
					283281	46.90	47.50	60	60	0.06		0.09	
					307019	66.00	66.30	30	130	0.13		0.5	
				SILICA	307020	0.00	0.00	BLANK	<5	<0.01			
				2cm qtz vein @ 45 deg + pyr + galena + VG @ 66.40-66.42m, 5mm stringer 66.35m	307021	66.30	66.50	20	>10000	>10	49.7	117.64	
					307022	66.50	66.80	30	165	0.16		0.1	
				EOH 71.33m									

FAA313	43.85	44.70	8.8g/t Au	70cm True
FAS31K	43.85	44.70	7.6g/t Au	70cm True

FAA313	66.30	66.50	49.7g/t Au	14cm True
FAS31K	66.30	66.50	117.6g/t Au	14cm True

METALLICS	Wt(M)	Au(M1)	Au(M2)	Wt(P)	Au(P)	Au(Calc)
METHOD	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K
LDETECTION	0.01	0.01	0.01	0.01	0.01	0.01
UDETECTION	0	10000	10000	0	10000	10000
UNITS	G	G/T	G/T	G	G/T	G/T
283275	852	<0.01	<0.01	22	<0.01	<0.01
283276	513	13.97	14.6	122	23.94	16.14
283277	635	0.03	0.05	16	<0.01	0.04
283278	766	0.05	0.05	142	<0.01	0.04
283279	223	0.12	0.13	136	<0.01	0.08
283281	1791	0.09	0.08	22	0.51	0.09
307019	454	0.66	0.31	1	5.46	0.5
307021	256	52.57	55.99	1	>10000	117.64
307022	484	0.07	0.09	5	2.23	0.1



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-30 **Length:** 59.07 m
Start Date: 22-Feb-11 **Azimuth:** 245 °
End Date: 22-Feb-11 **Dip:** -58 °
Northing: 5656122N **Logged by:** S. Franko
Easting: 439256E **Dates Logged:** Feb 23 2011
ELEV 368 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** A Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	244.6	-58.6	126.6	5836	10.7
54m	246.4	-57.9	109.1	5826	12.4

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	**8.00**	**Till**		Glacial till - poorly sorted sandy cobble boulder till									
8.00	**9.35**	**Granodiorite**		Granodiorite - homogenous dome stock, medium grained, orange/pink/grey with black biotite									
9.35	**10.10**	**Mafic vein**		Mafic vein - fine grained dk olive green, finely laminated @30 deg TCA. BC sheared									
10.10	**26.50**	**Diorite marg.**		Diorite - marginal phase - dark aphanitic groundmass with plag & qtz phenocrysts									
				Granodiorite flooding from 10.85-11.35m, 1.5cm apalite vein at 12.25m									
				24.35-24.55 brecciated pegmatoidal quartz and plagioclase	283282	24.10	24.60	50	<5	<0.01			
26.50	**31.75**	**Hybrib Granodiorite**		Hybrid granodiorite - with mafic volcanic xenoliths									
31.75	**51.28**	**Diorite Dyke**		Diorite dyke - light to medium grey with scattered hairline quartz fractures.									
				Oxidized parting at 36.2m. 3cm qtz veins at 49.84m & 50.07m	283283	49.30	49.80	50	70	0.07			
					283284	49.80	50.10	30	<5	<0.01			
					283285	50.10	51.27	117	35	0.04			
51.28	**52.23**	**Quartz vein**		Quartz vein with chlorite partings 85/15 split at 50 deg TCA.	283286	51.27	51.60	33	120	0.12			
					283287	51.60	51.93	33	>10000	>10	24.14		
					283288	51.93	52.27	34	>10000	>10	12.41		
52.23	**54.00**	**Granodiorite**		Granodiorite - sheared, ptrite & chalcopyrite noted.	283289	52.27	52.77	50	75	0.07			
				SILICA	283290	0.00	0.00	BLANK	<5	<0.01			
					283291	52.77	53.37	60	110	0.11			
					283292	53.37	54.00	63	30	0.03			
54.00	**56.25**	**Hybrid Granodiorite**		Hybrid granodiorite - with mafic volcanic xenoliths	283293	54.00	54.50	50	40	0.04			
					283294	54.50	55.00	50	90	0.09			
					283295	55.00	56.00	100	190	0.19			
56.25	**57.75**	**Diorite Dyke**		Diorite dyke - light to medium grey	283296	56.00	57.00	100	45	0.05			
57.75	**59.07**	**Hybrid Granodiorite**		Hybrid granodiorite - with mafic volcanic xenoliths **EOH 59.07m**									

FAA313 & FAG303 51.27 52.27 12.2g/t Au 77cm True

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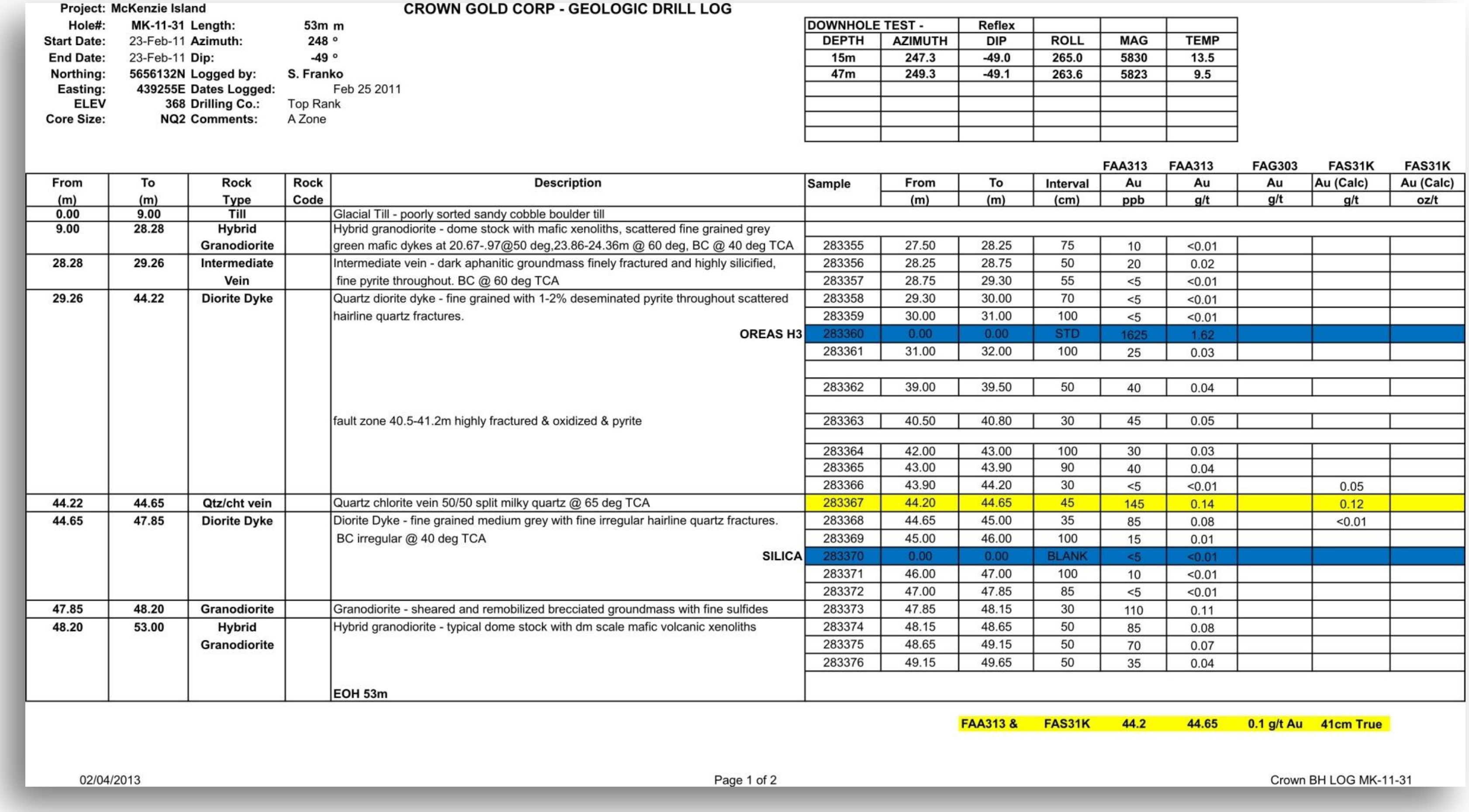

Project: McKenzie Island
Hole#: MK-11-31 Length: 53m m
Start Date: 23-Feb-11 Azimuth: 248 °
End Date: 23-Feb-11 Dip: -49 °
Northing: 5656132N Logged by: S. Franko
Easting: 439255E Dates Logged: Feb 25 2011
ELEV 368 Drilling Co.: Top Rank
Core Size: NQ2 Comments: A Zone

CROWN GOLD CORP - GEOLOGIC DRILL LOG

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	247.3	-49.0	265.0	5830	13.5
47m	249.3	-49.1	263.6	5823	9.5

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	FAS31K Au (Calc) g/t	FAS31K Au (Calc) oz/t
0.00	9.00	Till		Glacial Till - poorly sorted sandy cobble boulder till									
9.00	28.28	Hybrid Granodiorite		Hybrid granodiorite - dome stock with mafic xenoliths, scattered fine grained grey green mafic dykes at 20.67-.97@50 deg,23.86-24.36m @ 60 deg, BC @ 40 deg TCA	283355	27.50	28.25	75	10	<0.01			
28.28	29.26	Intermediate Vein		Intermediate vein - dark aphanitic groundmass finely fractured and highly silicified, fine pyrite throughout. BC @ 60 deg TCA	283356	28.25	28.75	50	20	0.02			
					283357	28.75	29.30	55	<5	<0.01			
29.26	44.22	Diorite Dyke		Quartz diorite dyke - fine grained with 1-2% deseminated pyrite throughout scattered hairline quartz fractures.	283358	29.30	30.00	70	<5	<0.01			
					283359	30.00	31.00	100	<5	<0.01			
				OREAS H3	283360	0.00	0.00	STD	1625	1.62			
					283361	31.00	32.00	100	25	0.03			
					283362	39.00	39.50	50	40	0.04			
				fault zone 40.5-41.2m highly fractured & oxidized & pyrite	283363	40.50	40.80	30	45	0.05			
					283364	42.00	43.00	100	30	0.03			
					283365	43.00	43.90	90	40	0.04			
					283366	43.90	44.20	30	<5	<0.01		0.05	
44.22	44.65	Qtz/cht vein		Quartz chlorite vein 50/50 split milky quartz @ 65 deg TCA	283367	44.20	44.65	45	145	0.14		0.12	
44.65	47.85	Diorite Dyke		Diorite Dyke - fine grained medium grey with fine irregular hairline quartz fractures. BC irregular @ 40 deg TCA	283368	44.65	45.00	35	85	0.08		<0.01	
					283369	45.00	46.00	100	15	0.01			
				SILICA	283370	0.00	0.00	BLANK	<5	<0.01			
					283371	46.00	47.00	100	10	<0.01			
					283372	47.00	47.85	85	<5	<0.01			
47.85	48.20	Granodiorite		Granodiorite - sheared and remobilized brecciated groundmass with fine sulfides	283373	47.85	48.15	30	110	0.11			
48.20	53.00	Hybrid Granodiorite		Hybrid granodiorite - typical dome stock with dm scale mafic volcanic xenoliths	283374	48.15	48.65	50	85	0.08			
					283375	48.65	49.15	50	70	0.07			
					283376	49.15	49.65	50	35	0.04			
				EOH 53m									

FAA313 & FAS31K 44.2 44.65 0.1 g/t Au 41cm True

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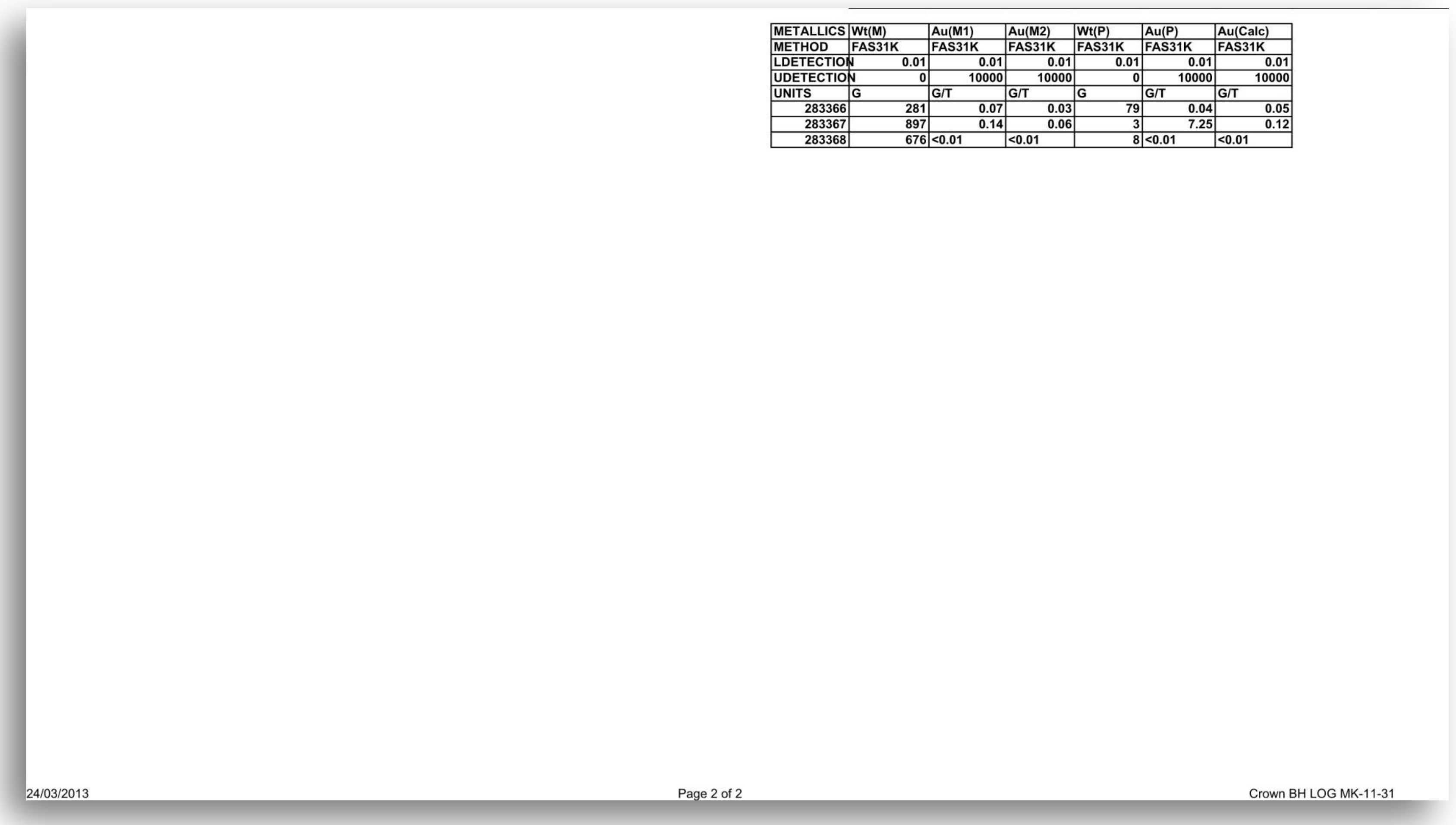
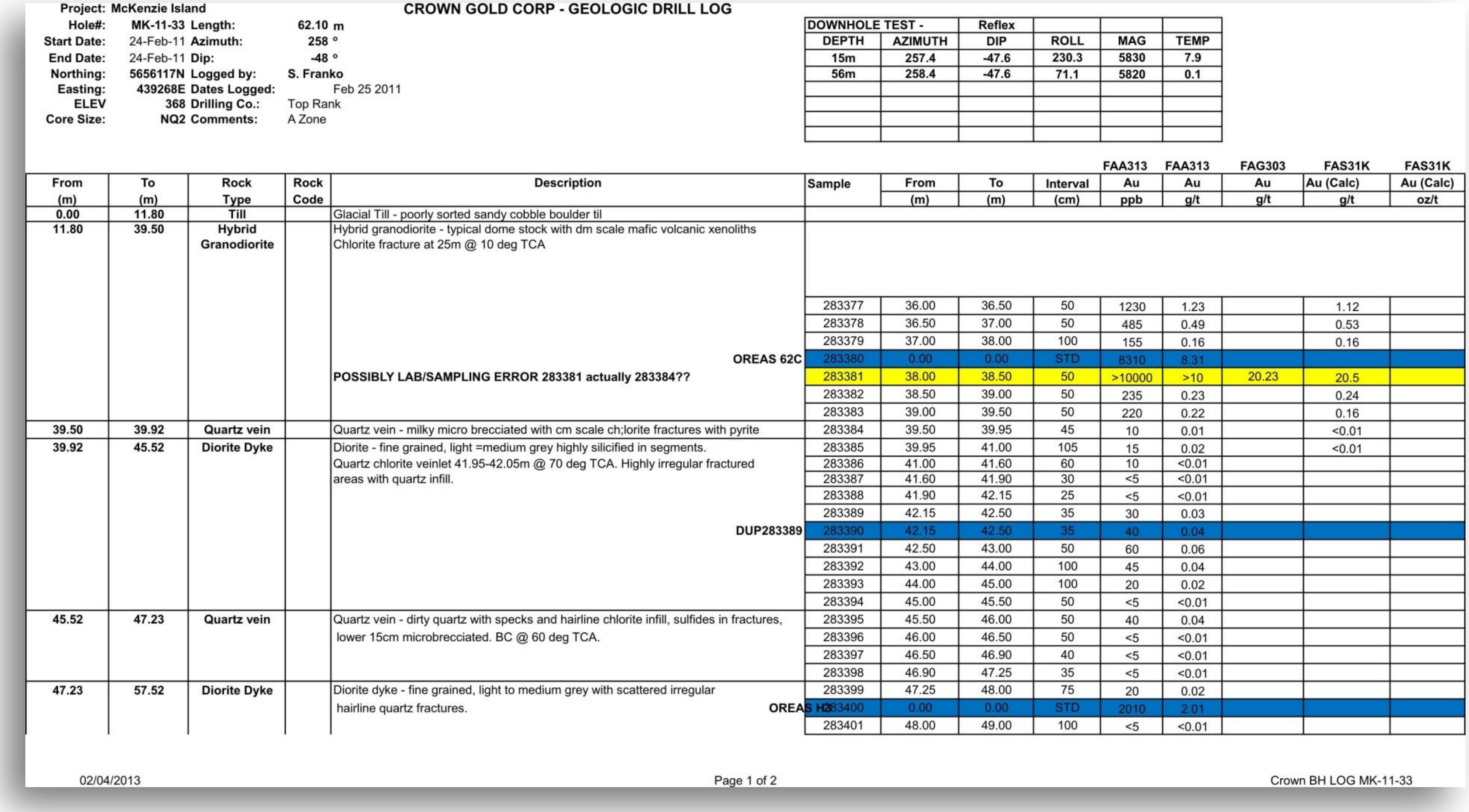


METALLICS	Wt(M)	Au(M1)	Au(M2)	Wt(P)	Au(P)	Au(Calc)
METHOD	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K
LDETECTION	0.01	0.01	0.01	0.01	0.01	0.01
UDETECTION	0	10000	10000	0	10000	10000
UNITS	G	G/T	G/T	G	G/T	G/T
283366	281	0.07	0.03	79	0.04	0.05
283367	897	0.14	0.06	3	7.25	0.12
283368	676	<0.01	<0.01	8	<0.01	<0.01



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-33 **Length:** 62.10 m
Start Date: 24-Feb-11 **Azimuth:** 258 °
End Date: 24-Feb-11 **Dip:** -48 °
Northing: 5656117N **Logged by:** S. Franko
Easting: 439268E **Dates Logged:** Feb 25 2011
ELEV 368 **Drilling Co.:** Top Rank
Core Size: NQ2 **Comments:** A Zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
15m	257.4	-47.6	230.3	5830	7.9
56m	258.4	-47.6	71.1	5820	0.1

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	Au ppb	Au g/t	Au g/t	Au (Calc) g/t	Au (Calc) oz/t
0.00	11.80	Till		Glacial Till - poorly sorted sandy cobble boulder til									
11.80	39.50	Hybrid Granodiorite		Hybrid granodiorite - typical dome stock with dm scale mafic volcanic xenoliths Chlorite fracture at 25m @ 10 deg TCA									
					283377	36.00	36.50	50	1230	1.23		1.12	
					283378	36.50	37.00	50	485	0.49		0.53	
					283379	37.00	38.00	100	155	0.16		0.16	
				OREAS 62C	283380	0.00	0.00	STD	8310	8.31			
				POSSIBLY LAB/SAMPLING ERROR 283381 actually 283384??	283381	38.00	38.50	50	>10000	>10	20.23	20.5	
					283382	38.50	39.00	50	235	0.23		0.24	
					283383	39.00	39.50	50	220	0.22		0.16	
39.50	39.92	Quartz vein		Quartz vein - milky micro brecciated with cm scale ch;lorite fractures with pyrite	283384	39.50	39.95	45	10	0.01		<0.01	
39.92	45.52	Diorite Dyke		Diorite - fine grained, light =medium grey highly silicified in segments. Quartz chlorite veinlet 41.95-42.05m @ 70 deg TCA. Highly irregular fractured areas with quartz infill.	283385	39.95	41.00	105	15	0.02		<0.01	
					283386	41.00	41.60	60	10	<0.01			
					283387	41.60	41.90	30	<5	<0.01			
					283388	41.90	42.15	25	<5	<0.01			
					283389	42.15	42.50	35	30	0.03			
				DUP283389	283390	42.15	42.50	35	40	0.04			
					283391	42.50	43.00	50	60	0.06			
					283392	43.00	44.00	100	45	0.04			
					283393	44.00	45.00	100	20	0.02			
					283394	45.00	45.50	50	<5	<0.01			
45.52	47.23	Quartz vein		Quartz vein - dirty quartz with specks and hairline chlorite infill, sulfides in fractures, lower 15cm microbrecciated. BC @ 60 deg TCA.	283395	45.50	46.00	50	40	0.04			
					283396	46.00	46.50	50	<5	<0.01			
					283397	46.50	46.90	40	<5	<0.01			
					283398	46.90	47.25	35	<5	<0.01			
47.23	57.52	Diorite Dyke		Diorite dyke - fine grained, light to medium grey with scattered irregular hairline quartz fractures.	283399	47.25	48.00	75	20	0.02			
				OREAS H3	283400	0.00	0.00	STD	2010	2.01			
					283401	48.00	49.00	100	<5	<0.01			

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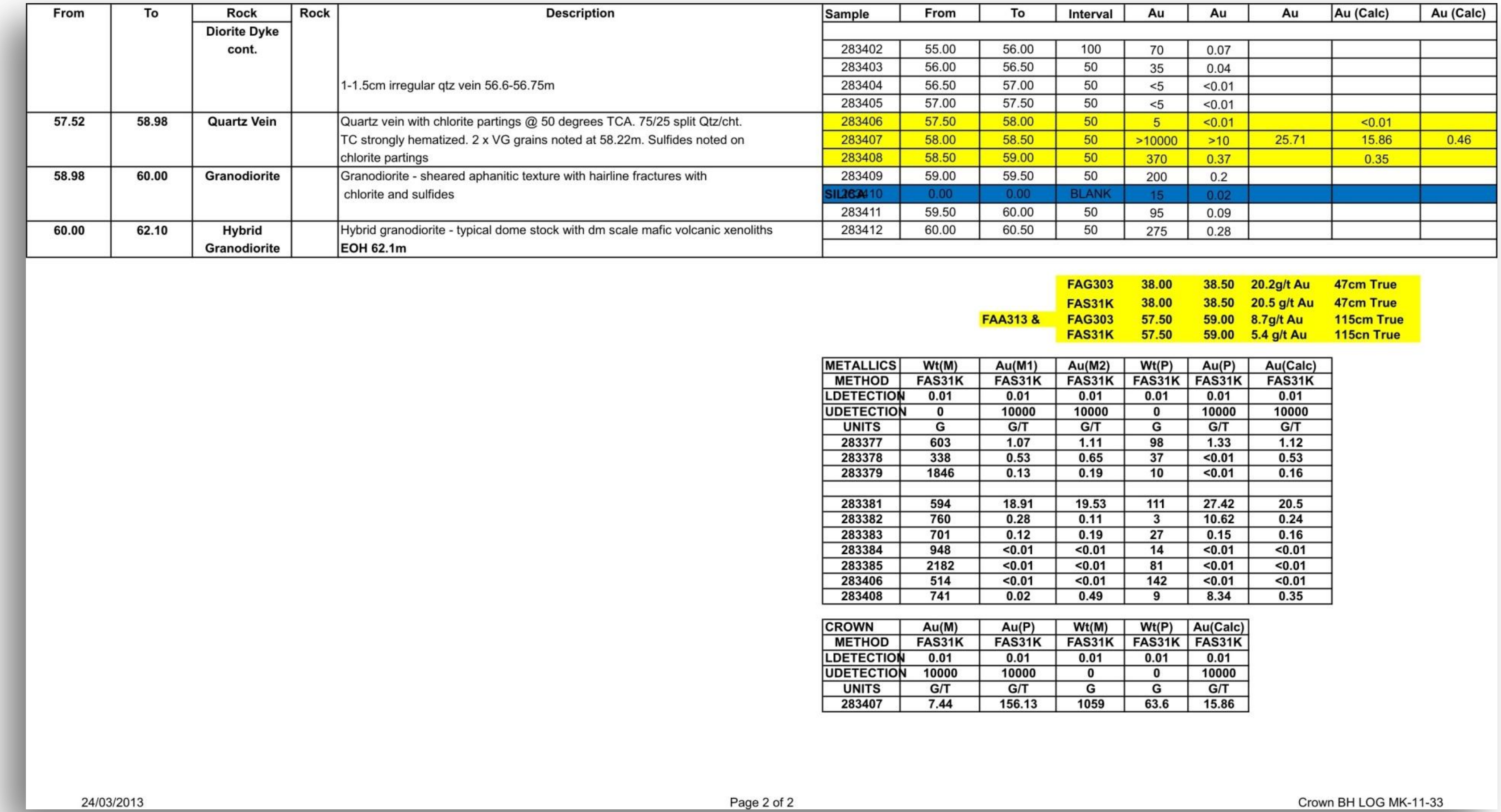
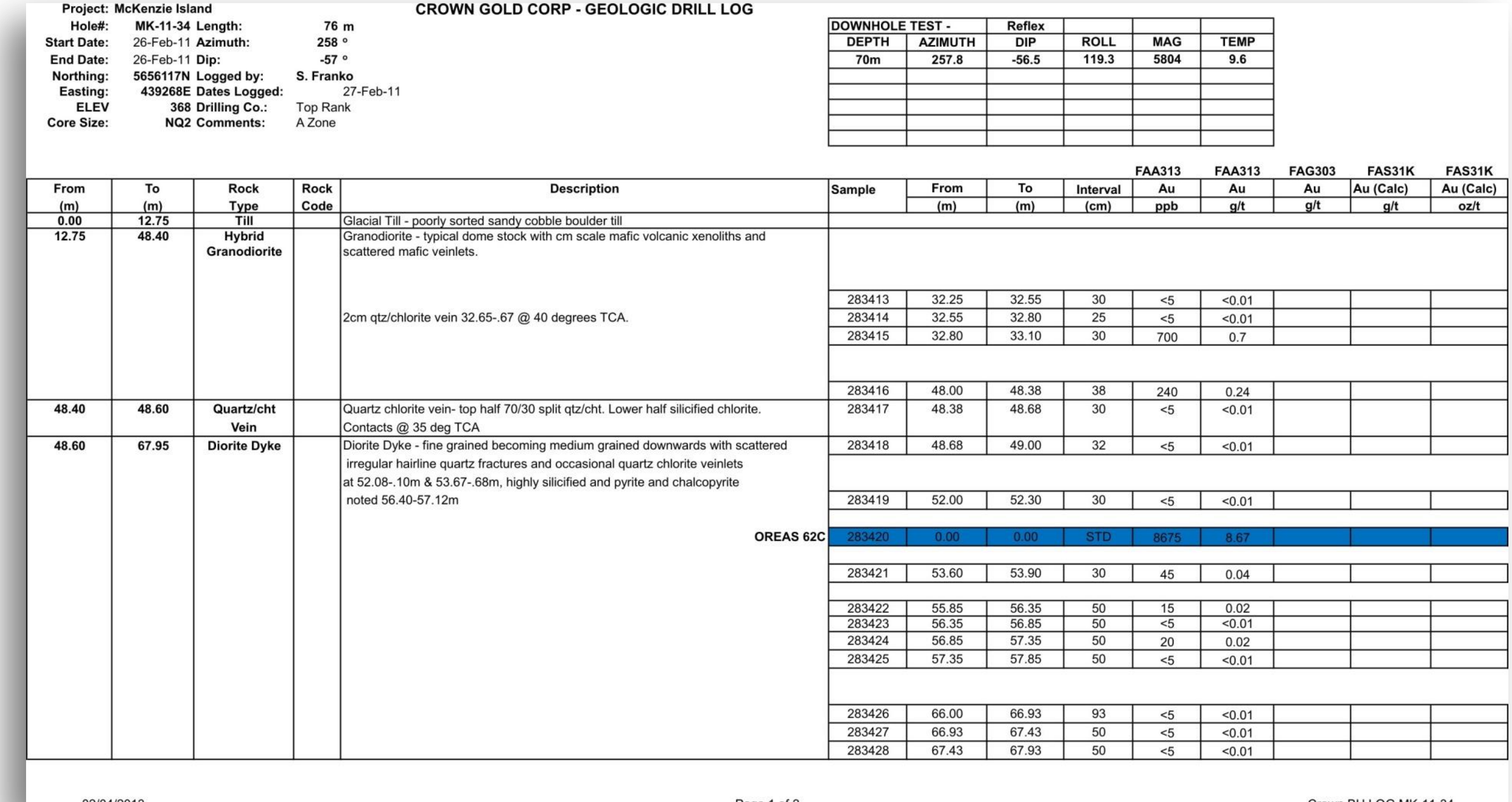


From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
		Diorite Dyke cont.											
					283402	55.00	56.00	100	70	0.07			
					283403	56.00	56.50	50	35	0.04			
				1-1.5cm irregular qtz vein 56.6-56.75m	283404	56.50	57.00	50	<5	<0.01			
					283405	57.00	57.50	50	<5	<0.01			
57.52	**58.98**	**Quartz Vein**		Quartz vein with chlorite partings @ 50 degrees TCA. 75/25 split Qtz/cht. TC strongly hematized. 2 x VG grains noted at 58.22m. Sulfides noted on chlorite partings	283406	57.50	58.00	50	5	<0.01		<0.01	
					283407	58.00	58.50	50	>10000	>10	25.71	15.86	0.46
					283408	58.50	59.00	50	370	0.37		0.35	
58.98	**60.00**	**Granodiorite**		Granodiorite - sheared aphanitic texture with hairline fractures with chlorite and sulfides	283409	59.00	59.50	50	200	0.2			
					SILICA 283410	0.00	0.00	BLANK	15	0.02			
					283411	59.50	60.00	50	95	0.09			
60.00	**62.10**	**Hybrid Granodiorite**		Hybrid granodiorite - typical dome stock with dm scale mafic volcanic xenoliths	283412	60.00	60.50	50	275	0.28			
				EOH 62.1m									

	FAG303	**38.00**	**38.50**	**20.2g/t Au**	**47cm True**
	FAS31K	**38.00**	**38.50**	**20.5 g/t Au**	**47cm True**
FAA313 &	**FAG303**	**57.50**	**59.00**	**8.7g/t Au**	**115cm True**
	FAS31K	**57.50**	**59.00**	**5.4 g/t Au**	**115cn True**

METALLICS	Wt(M)	Au(M1)	Au(M2)	Wt(P)	Au(P)	Au(Calc)
METHOD	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K
LDETECTION	0.01	0.01	0.01	0.01	0.01	0.01
UDETECTION	0	10000	10000	0	10000	10000
UNITS	G	G/T	G/T	G	G/T	G/T
283377	603	1.07	1.11	98	1.33	1.12
283378	338	0.53	0.65	37	<0.01	0.53
283379	1846	0.13	0.19	10	<0.01	0.16
283381	594	18.91	19.53	111	27.42	20.5
283382	760	0.28	0.11	3	10.62	0.24
283383	701	0.12	0.19	27	0.15	0.16
283384	948	<0.01	<0.01	14	<0.01	<0.01
283385	2182	<0.01	<0.01	81	<0.01	<0.01
283406	514	<0.01	<0.01	142	<0.01	<0.01
283408	741	0.02	0.49	9	8.34	0.35

CROWN	Au(M)	Au(P)	Wt(M)	Wt(P)	Au(Calc)
METHOD	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K
LDETECTION	0.01	0.01	0.01	0.01	0.01
UDETECTION	10000	10000	0	0	10000
UNITS	G/T	G/T	G	G	G/T
283407	7.44	156.13	1059	63.6	15.86



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: MK-11-34 Length: 76 m
Start Date: 26-Feb-11 Azimuth: 258 °
End Date: 26-Feb-11 Dip: -57 °
Northing: 5656117N Logged by: S. Franko
Easting: 439268E Dates Logged: 27-Feb-11
ELEV 368 Drilling Co.: Top Rank
Core Size: NQ2 Comments: A Zone

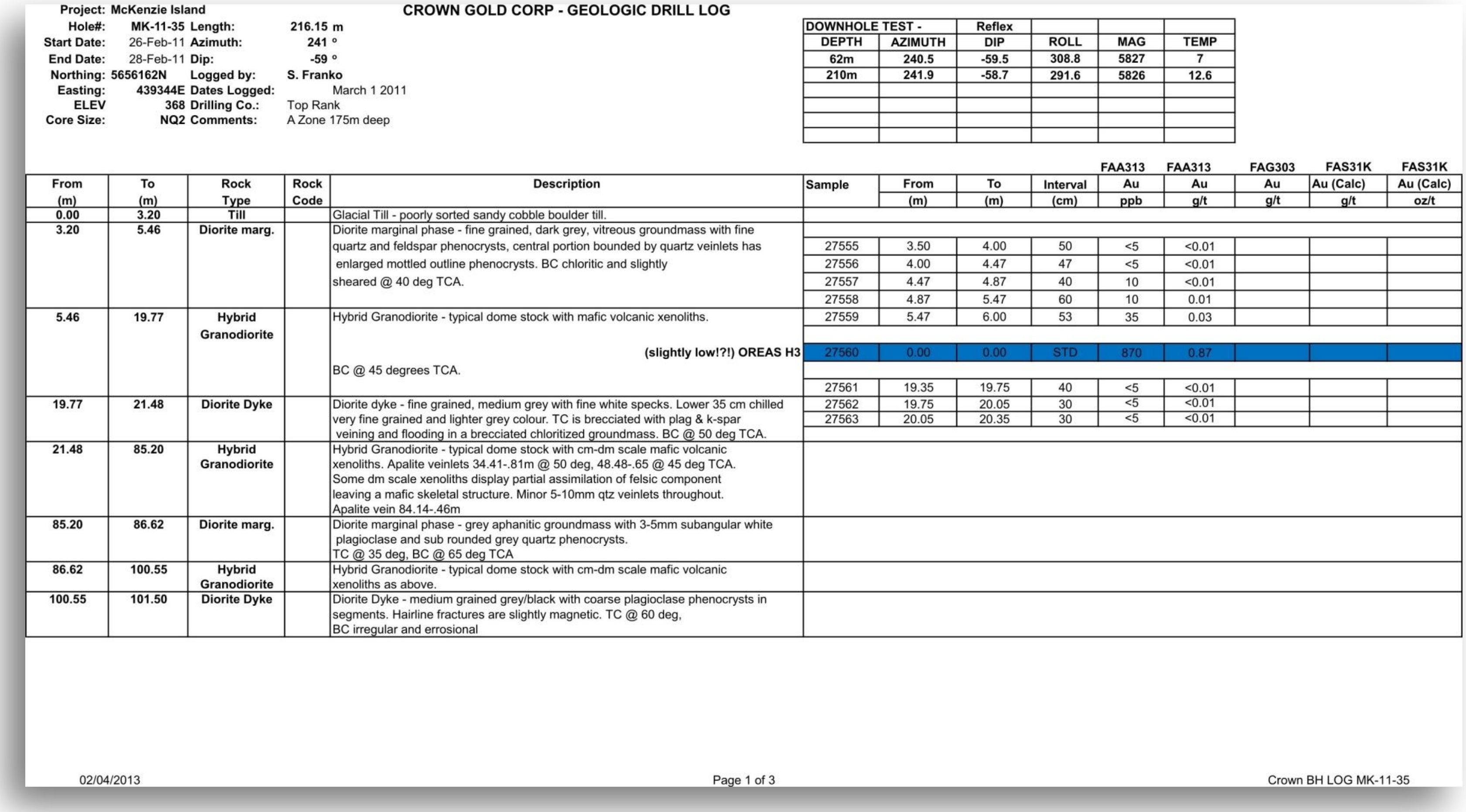
DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
70m	257.8	-56.5	119.3	5804	9.6

									FAA313	FAA313	FAG303	FAS31K	FAS31K
From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	Au ppb	Au g/t	Au g/t	Au (Calc) g/t	Au (Calc) oz/t
0.00	12.75	Till		Glacial Till - poorly sorted sandy cobble boulder till									
12.75	48.40	Hybrid Granodiorite		Granodiorite - typical dome stock with cm scale mafic volcanic xenoliths and scattered mafic veinlets.									
					283413	32.25	32.55	30	<5	<0.01			
				2cm qtz/chlorite vein 32.65-.67 @ 40 degrees TCA.	283414	32.55	32.80	25	<5	<0.01			
					283415	32.80	33.10	30	700	0.7			
					283416	48.00	48.38	38	240	0.24			
48.40	48.60	Quartz/cht Vein		Quartz chlorite vein- top half 70/30 split qtz/cht. Lower half silicified chlorite. Contacts @ 35 deg TCA	283417	48.38	48.68	30	<5	<0.01			
48.60	67.95	Diorite Dyke		Diorite Dyke - fine grained becoming medium grained downwards with scattered irregular hairline quartz fractures and occasional quartz chlorite veinlets at 52.08-.10m & 53.67-.68m, highly silicified and pyrite and chalcopyrite noted 56.40-57.12m	283418	48.68	49.00	32	<5	<0.01			
					283419	52.00	52.30	30	<5	<0.01			
				OREAS 62C	283420	0.00	0.00	STD	8675	8.67			
					283421	53.60	53.90	30	45	0.04			
					283422	55.85	56.35	50	15	0.02			
					283423	56.35	56.85	50	<5	<0.01			
					283424	56.85	57.35	50	20	0.02			
					283425	57.35	57.85	50	<5	<0.01			
					283426	66.00	66.93	93	<5	<0.01			
					283427	66.93	67.43	50	<5	<0.01			
					283428	67.43	67.93	50	<5	<0.01			

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
67.95	**68.81**	**Quartz vein**		Quartz chlorite crack seal vein 90/10 qtz/cht split @ 50 degrees TCA.	283429	67.93	68.23	30	<5	<0.01			
				Mainy milky quartz, 7 VG grains noted 68.43-.53m	283430	68.23	68.53	30	>10000	>10	224.3	124.34	3.6
					283431	68.53	68.83	30	6555	6.56			
68.81	**69.51**	**Brecciated Quartz vein**		Quartz vein - brecciated dirty quartz with fine sulfides noted, chlorite veinlets and flooding prominent. Contacts @ 50 deg TCA	283432	68.83	69.18	35	55	0.05			
					283433	69.18	69.53	35	395	0.4			
69.51	**69.75**	**Diorite Dyke**		Diorite Dyke - very fine grained, BC is diffuse @ 20 degrees TCA.	283434	69.53	70.00	47	185	0.18			
69.75	**76.00**	**Hybrid Granite**		Hybrid Granodiorite - typical dome stock with dm scale mafic volcanic xenoliths	283435	70.00	71.00	100	<5	<0.01			
				DUP283435	283436	70.00	71.00	100	<5	<0.01			
				EOH 76m									

FAA313 &	**FAG303**	**67.93**	**68.83**	**77g/t Au**	**69cm True**
FAA313 &	**FAS31K**	**67.93**	**68.83**	**43.6g/t Au**	**69cm True**

CROWN	Au(M)	Au(P)	Wt(M)	Wt(P)	Au(Calc)
METHOD	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**
LDETECTION	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
UDETECTION	**10000**	**10000**	**0**	**0**	**10000**
UNITS	**G/T**	**G/T**	**G**	**G**	**G/T**
283430	**16.41**	**7863.43**	**245.22**	**3.42**	**124.34**



CROWN GOLD CORP - GEOLOGIC DRILL LOG

Project: McKenzie Island
Hole#: **MK-11-35** **Length:** **216.15 m**
Start Date: 26-Feb-11 **Azimuth:** **241 °**
End Date: 28-Feb-11 **Dip:** **-59 °**
Northing: **5656162N** **Logged by:** **S. Franko**
Easting: **439344E** **Dates Logged:** March 1 2011
ELEV **368** **Drilling Co.:** Top Rank
Core Size: **NQ2** **Comments:** A Zone 175m deep

DOWNHOLE TEST -		Reflex			
DEPTH	**AZIMUTH**	**DIP**	**ROLL**	**MAG**	**TEMP**
62m	**240.5**	**-59.5**	**308.8**	**5827**	**7**
210m	**241.9**	**-58.7**	**291.6**	**5826**	**12.6**

From	To	Rock	Rock	Description	Sample	From	To	Interval	FAA313 Au	FAA313 Au	FAG303 Au	FAS31K Au (Calc)	FAS31K Au (Calc)
(m)	(m)	Type	Code			(m)	(m)	(cm)	ppb	g/t	g/t	g/t	oz/t
0.00	**3.20**	**Till**		Glacial Till - poorly sorted sandy cobble boulder till.									
3.20	**5.46**	**Diorite marg.**		Diorite marginal phase - fine grained, dark grey, vitreous groundmass with fine quartz and feldspar phenocrysts, central portion bounded by quartz veinlets has enlarged mottled outline phenocrysts. BC chloritic and slightly sheared @ 40 deg TCA.	27555	3.50	4.00	50	<5	<0.01			
					27556	4.00	4.47	47	<5	<0.01			
					27557	4.47	4.87	40	10	<0.01			
					27558	4.87	5.47	60	10	0.01			
5.46	**19.77**	**Hybrid Granodiorite**		Hybrid Granodiorite - typical dome stock with mafic volcanic xenoliths.	27559	5.47	6.00	53	35	0.03			
				(slightly low!?!) OREAS H3	27560	0.00	0.00	STD	870	0.87			
				BC @ 45 degrees TCA.	27561	19.35	19.75	40	<5	<0.01			
19.77	**21.48**	**Diorite Dyke**		Diorite dyke - fine grained, medium grey with fine white specks. Lower 35 cm chilled very fine grained and lighter grey colour. TC is brecciated with plag & k-spar veining and flooding in a brecciated chloritized groundmass. BC @ 50 deg TCA.	27562	19.75	20.05	30	<5	<0.01			
					27563	20.05	20.35	30	<5	<0.01			
21.48	**85.20**	**Hybrid Granodiorite**		Hybrid Granodiorite - typical dome stock with cm-dm scale mafic volcanic xenoliths. Apalite veinlets 34.41-.81m @ 50 deg, 48.48-.65 @ 45 deg TCA. Some dm scale xenoliths display partial assimilation of felsic component leaving a mafic skeletal structure. Minor 5-10mm qtz veinlets throughout. Apalite vein 84.14-.46m									
85.20	**86.62**	**Diorite marg.**		Diorite marginal phase - grey aphanitic groundmass with 3-5mm subangular white plagioclase and sub rounded grey quartz phenocrysts. TC @ 35 deg, BC @ 65 deg TCA									
86.62	**100.55**	**Hybrid Granodiorite**		Hybrid Granodiorite - typical dome stock with cm-dm scale mafic volcanic xenoliths as above.									
100.55	**101.50**	**Diorite Dyke**		Diorite Dyke - medium grained grey/black with coarse plagioclase phenocrysts in segments. Hairline fractures are slightly magnetic. TC @ 60 deg, BC irregular and errosional									

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From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
101.50	**105.17**	**Hybrid Granodiorite**		Hybrid Granodiorite - as above.									
					27564	104.85	105.15	30	<5	<0.01			
105.17	**108.40**	**Diorite Dyke**		Diorite Dyke - fine to medium grained, olive grey colour, chilled margins, moderately to strongly magnetic throughout, central portion medium grained and plagioclase rich. <1% 1-3mm clusters of fine pyrite and pyrrhotite. TC @ 80 deg, BC @ 50 deg TCA.	27565	105.15	105.65	50	<5	<0.01			
					27566	105.65	106.15	50	<5	<0.01			
					27567	106.15	106.65	50	<5	<0.01			
					27568	106.65	107.15	50	<5	<0.01			
					27569	107.15	107.65	50	<5	<0.01			
				SILICA	27570	0.00	0.00	BLANK	<5	<0.01			
					27571	107.65	108.15	50	<5	<0.01			
					27572	108.15	108.45	30	<5	<0.01			
108.40	**115.47**	**Granodiorite**		Granodiorite - medium grained typical dome stock. 4cm fine grained chilled mafic vein with 5% fine deseminated pyrite 115.32-.36m	27573	108.45	108.85	40	10	0.01			
					27574	115.20	115.50	30	<5	<0.01			
115.47	**157.29**	**Diorite marg.**		Diorite - marginal phase - medium grey aphanitic with grey quartz and orange pink plagioclase phenocrysts. Central portion 120.60-131.25m fractured and silicified with a bleached appearance and minor fine sulfides. Lower portion strongly porphyritic from 136.40-137.50m with coarse, up to 10mm									
					27575	120.50	121.00	50	5	<0.01			
					27576	121.00	121.50	50	<5	<0.01			
					27577	121.50	122.00	50	5	<0.01			
					27578	122.00	122.50	50	10	<0.01			
157.29	**176.04**	**Diorite Dyke**		Diorite Dyke - fine grained medium grey with fine white specks, becoming sheared towards base @ 40 degrees TCA. Minor fine pyrite noted in sheared zone. Poorly developed brecciated quartz vein in chlorite 172.38-.44m @ 60 deg TCA. Subrounded elongared milky quartz fragments give an imbricated pebble appearance. Pyrite and pyrrhotite noted. Possible offshoot of Bishops Break zone. BC chilled @ 25 deg TCA.									
					27579	171.50	172.00	50	25	0.03			
				OREAS 62C	27580	0.00	0.00	STD	8535	8.54			
				10-15% fine sulfides 172.50-.65m	27581	172.00	172.50	50	20	0.02			
					27582	172.50	173.00	50	55	0.06			
					27583	173.00	174.00	100	50	0.05			
					27584	174.00	175.00	100	80	0.08			
					27585	175.00	175.50	50	25	0.02			
					27586	175.50	175.80	30	25	0.03			
					27587	175.80	176.10	30	10	0.01			
176.04	**205.80**	**Hybrid Granodiorite**		Hybrid granodiorite - typical dome stock medium grained, pink/orange/grey/black with mafic volcanic xenoliths. Lower 10cm baked white.	27588	176.10	176.50	40	5	<0.01			
					27543	205.20	205.70	50	15	0.02		0.07	
205.80	**205.90**	**Quartz Vein**		Quartz vein - Bishop's Break horizon - quartz with chlorite partings @ 65 deg TCA. Fine sulfides noted. Core broken by drilling, some core loss.	27544	205.70	206.00	30	390	0.39		0.55	

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (Calc)	Au (Calc)
205.90	**207.45**	**Diorite Dyke**		Diorite Dyke - fine grained medium grey, moderately to strongly magnetic, 7-10% fine pyrite	27545	206.00	206.50	50	<5	<0.01		<0.01	
					27546	206.50	207.00	50	<5	<0.01		<0.01	
					27547	207.00	207.50	50	70	0.07		<0.01	
207.45	**208.20**	**Granodiorite**		Granodiorite - cream & black with orange tinge with magnetite, pyrite and chalcopyrite.	27548	207.50	208.20	70	210	0.21		0.22	
208.20	**209.50**	**Diorite Dyke**		Diorite dyke - as above, BC friable and crumbled.	27549	208.20	208.70	50	<5	<0.01			
					27550	208.70	209.20	50	<5	<0.01			
					27551	209.20	209.55	35	30	0.03			
209.50	**216.15**	**Hybrid Granodiorite**		Hybrid granodiorite - typical dome stock medium grained, pink/orange/grey/black	27552	209.55	210.00	45	55	0.05			
				with dm scale mafic volcanic xenoliths. **DUP27552**	27553	209.55	210.00	45	95	0.1			
					27554	210.00	210.50	50	<5	<0.01			
				EOH 216.15									

FAA313	**205.70**	**206.00**	**0.39g/tAu**	**27cm True**
FAS31K	**205.70**	**206.00**	**0.55g/tAu**	**27cm True**
FAA313	**207.50**	**208.20**	**0.21g/tAu**	**63cm True**
FAS31K	**207.50**	**208.20**	**0.22g/tAu**	**63cm True**

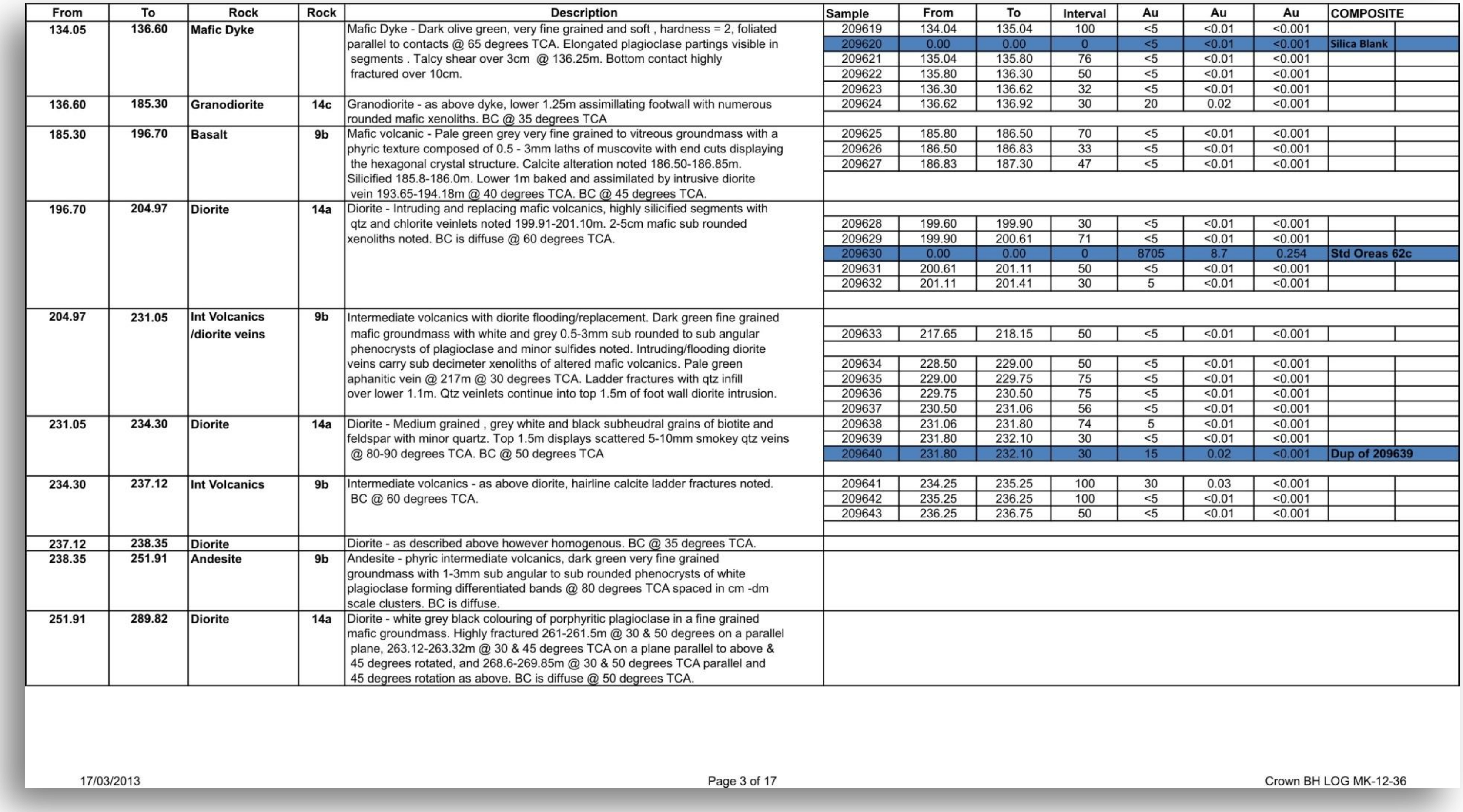
METALLICS	**Wt(M)**	**Au(M1)**	**Au(M2)**	**Wt(P)**	**Au(P)**	**Au(Calc)**
METHOD	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**	**FAS31K**
LDETECTION	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
UDETECTION	**0**	**10000**	**10000**	**0**	**10000**	**10000**
UNITS	**G**	**G/T**	**G/T**	**G**	**G/T**	**G/T**
27543	**671**	**0.03**	**0.08**	**2**	**4.64**	**0.07**
27544	**225**	**0.47**	**0.51**	**1**	**14.82**	**0.55**
27545	**1166**	**<0.01**	**<0.01**	**2**	**<0.01**	**<0.01**
27546	**688**	**<0.01**	**<0.01**	**14**	**<0.01**	**<0.01**
27547	**899**	**<0.01**	**<0.01**	**10**	**<0.01**	**<0.01**
27548	**125**	**0.18**	**0.27**	**7**	**<0.01**	**0.22**

Project:	**McKenzie Island**		
Hole#:	**MK-12-36**	**Length:**	**1263** m
Start Date:	28-Aug-12	**Azimuth:**	**212** °
End Date:	22-Sep-12	**Dip:**	**-79** °
Northing:	**5656643**	**Logged by:**	**S. Franko**
Easting:	**439536**	**Date Logged:**	29 Aug -23 Sept 2012
ELEV	**408**	**Drilling Co.:**	Orbit
Core Size:	NQ2	**Comments:**	Targeting Bishops Break at 1km deep based on SGH survey target

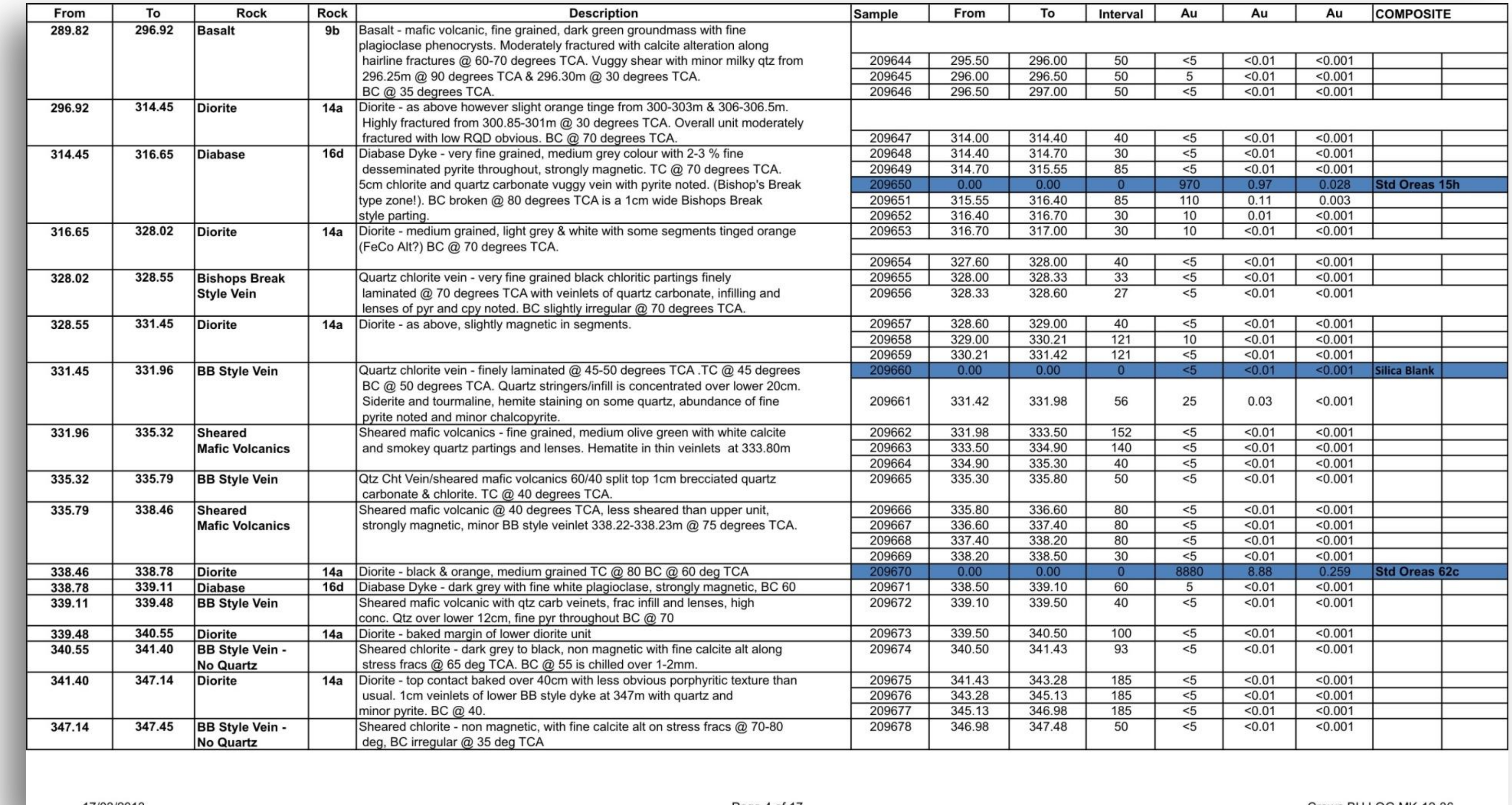
DOWNHOLE TEST -		**Reflex**			
DEPTH	**AZIMUTH**	**DIP**	**ROLL**	**MAG**	**TEMP**
Collar	**212.0**	**79.0**			
12m	**212.4**	**78.0**	**47.2**	**5986**	**28.1**
150m	**212.5**	**77.7**	**323.3**	**5804**	
300m	**214.5**	**77.4**	**34.8**	**5775**	**12.7**
450m	**209.8**	**77.1**	**116.8**	**5869**	**15.4**
600m	**212.7**	**76.9**	**141.1**	**5835**	**15.7**
801m	**216.4**	**76.2**	**164.1**	**5870**	**13.6**
999m	**213.6**	**75.5**		**5832**	
1149m	**212.2**	**74.6**	**108.7**	**5802**	**12.1**
1260m	**213.2**	**74.1**	**275.2**	**5860**	**13.7**

									FAA313	**FAG303**			
From	**To**	**Rock**	**Rock**	**Description**	**Sample**	**From**	**To**	**Interval**	**Au**	**Au**	**Au**	**COMPOSITE**	
(m)	**(m)**	**Type**	**Code**			**(m)**	**(m)**	**(cm)**	**ppb**	**g/t**	**oz/t**	**g/t**	**width**
0.00	**1.30**	**Till**		Glacial Till - Poorly sorted boulder/cobble and sand till									
1.30	**8.68**	**Metagabbro**	**16d**	Turkey Track Metagabbro - Dark green fine grained mafic groundmass with 0.5-2mm x up to 30mm long pale grey/white plag laths. End cuts of laths display a mottled texture. Unit coorelates with 16d on Marie Sanbourn map Neoarchean age 2800-2600MA. BC eroded at 65 deg to CA.									
8.68	**10.33**	**Syenodiorite Dyke**	**16e**	Syenodiorite dyke - Black fine grained mafic groundmass with minor <10% interstitial quartz and medium grained pink and cream feldspars. Decimetre scale xenoliths of turkey track metagabbro confirms the younger age relationship of this unit. Hairline epidote fractures have altered feldspars within 2.5mm. 1cm milky quartz vein at 10.30m @ 40 deg to CA is just above the lower contact which is erosional into turkey track at 60 deg to CA	209601	10.12	10.42	30	<5	<0.01	<0.001		
10.33	**17.96**	**Metagabbro**	**16d**	Turkey Track Metagabbro - as above, scattered 0.5-1cm apalite veinlets at 20-40 deg to CA. Hairline epidote fractures display up to 3mm lateral offset as evidenced by displaced fractured feldspar laths. BC is slightly undulatory at 60 deg to CA.	209602	17.64	17.94	30	<5	<0.01	<0.001		
17.96	**19.61**	**Diabase Dyke**	**16d**	Diabase dyke - Medium grey, fine grained with 1-2% fine pyrite noted. Non magnetic. Scattered 0.5-2mm calcified fractures at 60 deg to CA. BC broken by drilling.	209603	17.94	18.54	60	<5	<0.01	<0.001		
					209604	18.54	19.04	50	<5	<0.01	<0.001		
					209605	19.04	19.64	60	<5	<0.01	<0.001		
19.61	**29.63**	**Metagabbro**	**16d**	Turkey Track Metagabbro - as above, minor hairline calcified fractures are highlighted by altered feldspar laths which are prominently lighter coloured. BC at 50 deg to CA.	209606	19.64	19.94	30	<5	<0.01	<0.001		
29.63	**31.08**	**Syenodiorite Dyke**	**16e**	Syenodiorite Dyke - As previous 8.68-10.33m with the inclusion of a segment of nearly pure apalite/k-spar 30.70-30.98m with <5% mafic specks, probably biotite. BC is irregular and slightly errosional at nearly 90 deg to CA.									
31.08	**39.10**	**Metagabbro**	**16d**	Turkey Track Metagabbro - as above, top 20cm baked and altered by overlying syenodiorite intrusion. Minor granodiorite veinlet 31.24-31.27. BC at 20 deg TCA.									

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
39.10	**39.50**	**(Qtz) Diorite**	**14a**	Diorite - verging on quartz diorite - medium grained white and grey subhedral 2-3mm plagioclase feldspars with interstitial fine grained black hornblend/biotite? Minor quartz <5%								
39.50	**39.80**	**Metagabbro**	**16d**	Turkey Track Metagaggro - xenolith, slightly calcified. BC at 45 deg to CA.								
39.80	**52.28**	**Qtz Diorite**	**14a**	Quartz Diorite - medium grained white and grey as above, slightly orange hue from iron staining in fractured segments. Increased feldspar and quartz content towards base with a lighter CI of 40. 2 x 3-7cm xenoliths of footwall mafic volcanics noted in lower 50cm. BC at 30 deg to CA.								
52.28	**56.75**	**Basalt**	**9b**	Mafic Volcanic - Basalt/Andesite - dark green fine grained, CI 80. Amygdaloidal texture over top 70cm becoming somewhat homogenous then tuff like with colour from dark green to grey. BC at 30 deg to CA is slightly convoluted from lower dykes erosion.								
56.75	**63.03**	**Diorite**	**14a**	Diorite - medium grained white, black and grey colour, plag and biotite subhedral laths. 20cm mafic vein 59.75-59.95 @ 35 deg to CA slightly sheared and altered, fractured near top contact. 30cm partially assimilated mafic xenolith 62.20-62.50m. BC at 45 deg to CA.								
63.03	**94.31**	**Basalt**	**9b**	Intermediate to Mafic Volcanic - Basalt/Andesite - fine grained, medium to dark green amygdaloidal flows interbedded with fine tuffs or possibly metasediments, bedding plane noted at 70m at 35 deg to CA. Highly silicified segments with numerous scattered hairline fractures with fine pyr & pyo. Minor intrusions of diorite with somewhat diffuse margins 80.65-80.70m, 81.35-81.40m, 82.80-82.90m, 83.15-83.30m. General bedding of tuff 69.65-70.55 at 40 deg to CA. BC diffuse at approx. 35 deg to CA.								
					209607	69.00	69.30	30	<5	<0.01	<0.001	
					209608	69.30	69.70	40	<5	<0.01	<0.001	
					209609	69.70	70.00	30	<5	<0.01	<0.001	
					209610	0.00	0.00	0	1000	1	0.029	**Std Oreas 15h**
					209611	72.25	72.75	50	<5	<0.01	<0.001	
					209612	85.85	86.15	30	10	0.01	<0.001	
					209613	86.15	86.55	40	<5	<0.01	<0.001	
					209614	86.55	86.85	30	15	0.02	<0.001	
					209615	87.90	88.20	30	<5	<0.01	<0.001	
					209616	88.20	88.60	40	<5	<0.01	<0.001	
					209617	88.60	88.90	30	30	0.03	<0.001	
94.31	**101.80**	**Granodiorite**	**14c**	Granodiorite - medium grained, central portion higher K-spar portion than margins, BC diffuse at 35 degrees TCA.								
101.80	**114.15**	**Marginal Diorite**		Marginal Diorite - Very Fine grained/aphanitic dark green groundmass with subheudral 1-3mm plagioclase phenocrysts throughout. BC @ 25 degrees TCA.								
114.15	**134.05**	**Diorite/ Granodiorite**	**14a/c**	Diorite/ Granodiorite - 5mm chill margin on top contact, top 4 m dioritic central portion more orange colour with minor interstitial pyrite noted. Partially assimilated 10-15cm mafic xenoliths noted @ 123m	209618	133.74	134.04	30	10	<0.01	<0.001	

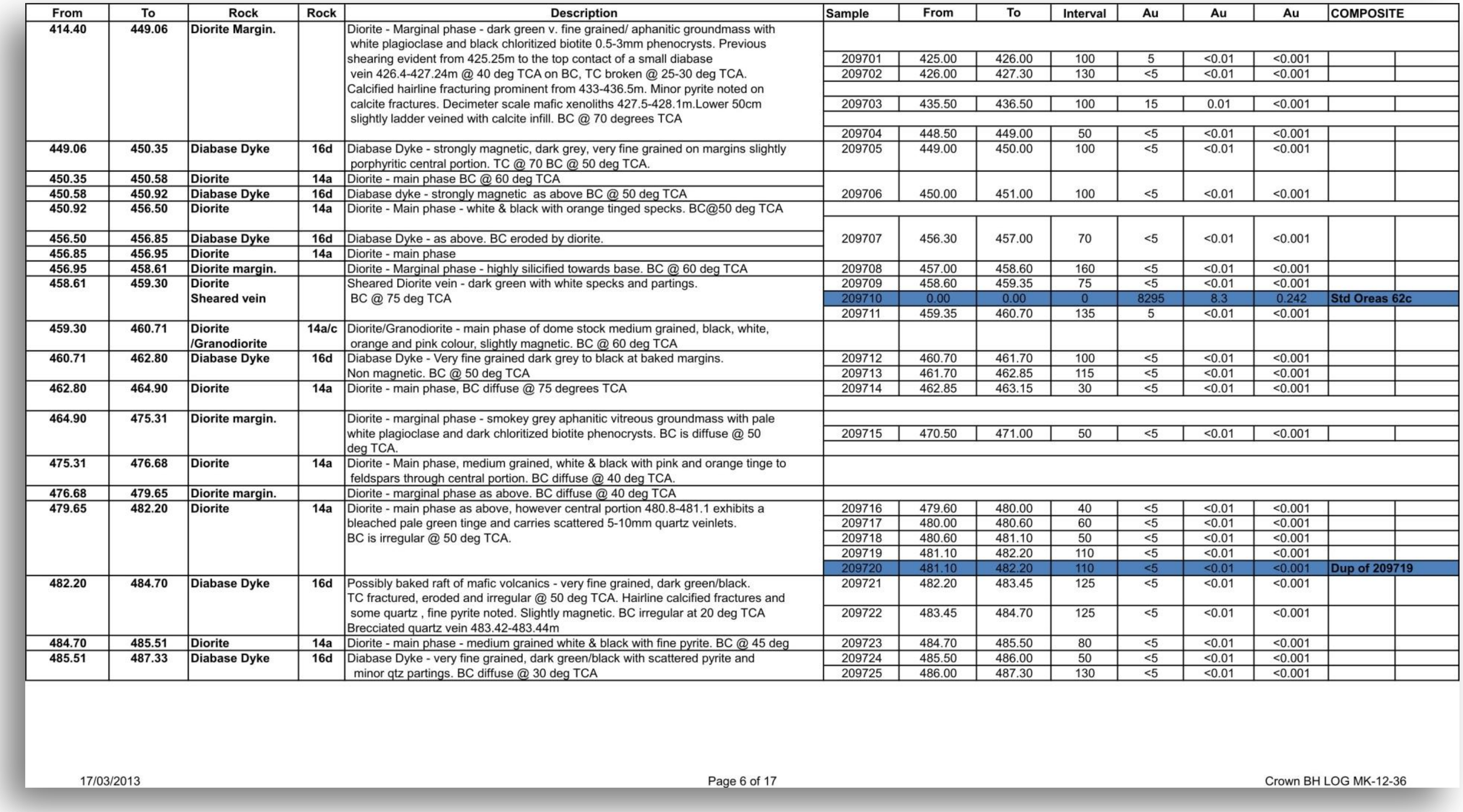


From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
134.05	**136.60**	**Mafic Dyke**		Mafic Dyke - Dark olive green, very fine grained and soft , hardness = 2, foliated parallel to contacts @ 65 degrees TCA. Elongated plagioclase partings visible in segments . Talcy shear over 3cm @ 136.25m. Bottom contact highly fractured over 10cm.	209619	134.04	135.04	100	<5	<0.01	<0.001	
					209620	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
					209621	135.04	135.80	76	<5	<0.01	<0.001	
					209622	135.80	136.30	50	<5	<0.01	<0.001	
					209623	136.30	136.62	32	<5	<0.01	<0.001	
136.60	**185.30**	**Granodiorite**	**14c**	Granodiorite - as above dyke, lower 1.25m assimillating footwall with numerous rounded mafic xenoliths. BC @ 35 degrees TCA	209624	136.62	136.92	30	20	0.02	<0.001	
185.30	**196.70**	**Basalt**	**9b**	Mafic volcanic - Pale green grey very fine grained to vitreous groundmass with a phyric texture composed of 0.5 - 3mm laths of muscovite with end cuts displaying the hexagonal crystal structure. Calcite alteration noted 186.50-186.85m. Silicified 185.8-186.0m. Lower 1m baked and assimilated by intrusive diorite vein 193.65-194.18m @ 40 degrees TCA. BC @ 45 degrees TCA.	209625	185.80	186.50	70	<5	<0.01	<0.001	
					209626	186.50	186.83	33	<5	<0.01	<0.001	
					209627	186.83	187.30	47	<5	<0.01	<0.001	
196.70	**204.97**	**Diorite**	**14a**	Diorite - Intruding and replacing mafic volcanics, highly silicified segments with qtz and chlorite veinlets noted 199.91-201.10m. 2-5cm mafic sub rounded xenoliths noted. BC is diffuse @ 60 degrees TCA.								
					209628	199.60	199.90	30	<5	<0.01	<0.001	
					209629	199.90	200.61	71	<5	<0.01	<0.001	
					209630	0.00	0.00	0	8705	8.7	0.254	**Std Oreas 62c**
					209631	200.61	201.11	50	<5	<0.01	<0.001	
					209632	201.11	201.41	30	5	<0.01	<0.001	
204.97	**231.05**	**Int Volcanics /diorite veins**	**9b**	Intermediate volcanics with diorite flooding/replacement. Dark green fine grained mafic groundmass with white and grey 0.5-3mm sub rounded to sub angular phenocrysts of plagioclase and minor sulfides noted. Intruding/flooding diorite veins carry sub decimeter xenoliths of altered mafic volcanics. Pale green aphanitic vein @ 217m @ 30 degrees TCA. Ladder fractures with qtz infill over lower 1.1m. Qtz veinlets continue into top 1.5m of foot wall diorite intrusion.								
					209633	217.65	218.15	50	<5	<0.01	<0.001	
					209634	228.50	229.00	50	<5	<0.01	<0.001	
					209635	229.00	229.75	75	<5	<0.01	<0.001	
					209636	229.75	230.50	75	<5	<0.01	<0.001	
					209637	230.50	231.06	56	<5	<0.01	<0.001	
231.05	**234.30**	**Diorite**	**14a**	Diorite - Medium grained , grey white and black subheudral grains of biotite and feldspar with minor quartz. Top 1.5m displays scattered 5-10mm smokey qtz veins @ 80-90 degrees TCA. BC @ 50 degrees TCA	209638	231.06	231.80	74	5	<0.01	<0.001	
					209639	231.80	232.10	30	<5	<0.01	<0.001	
					209640	231.80	232.10	30	15	0.02	<0.001	**Dup of 209639**
234.30	**237.12**	**Int Volcanics**	**9b**	Intermediate volcanics - as above diorite, hairline calcite ladder fractures noted. BC @ 60 degrees TCA.	209641	234.25	235.25	100	30	0.03	<0.001	
					209642	235.25	236.25	100	<5	<0.01	<0.001	
					209643	236.25	236.75	50	<5	<0.01	<0.001	
237.12	**238.35**	**Diorite**		Diorite - as described above however homogenous. BC @ 35 degrees TCA.								
238.35	**251.91**	**Andesite**	**9b**	Andesite - phyric intermediate volcanics, dark green very fine grained groundmass with 1-3mm sub angular to sub rounded phenocrysts of white plagioclase forming differentiated bands @ 80 degrees TCA spaced in cm -dm scale clusters. BC is diffuse.								
251.91	**289.82**	**Diorite**	**14a**	Diorite - white grey black colouring of porphyritic plagioclase in a fine grained mafic groundmass. Highly fractured 261-261.5m @ 30 & 50 degrees on a parallel plane, 263.12-263.32m @ 30 & 45 degrees TCA on a plane parallel to above & 45 degrees rotated, and 268.6-269.85m @ 30 & 50 degrees TCA parallel and 45 degrees rotation as above. BC is diffuse @ 50 degrees TCA.								

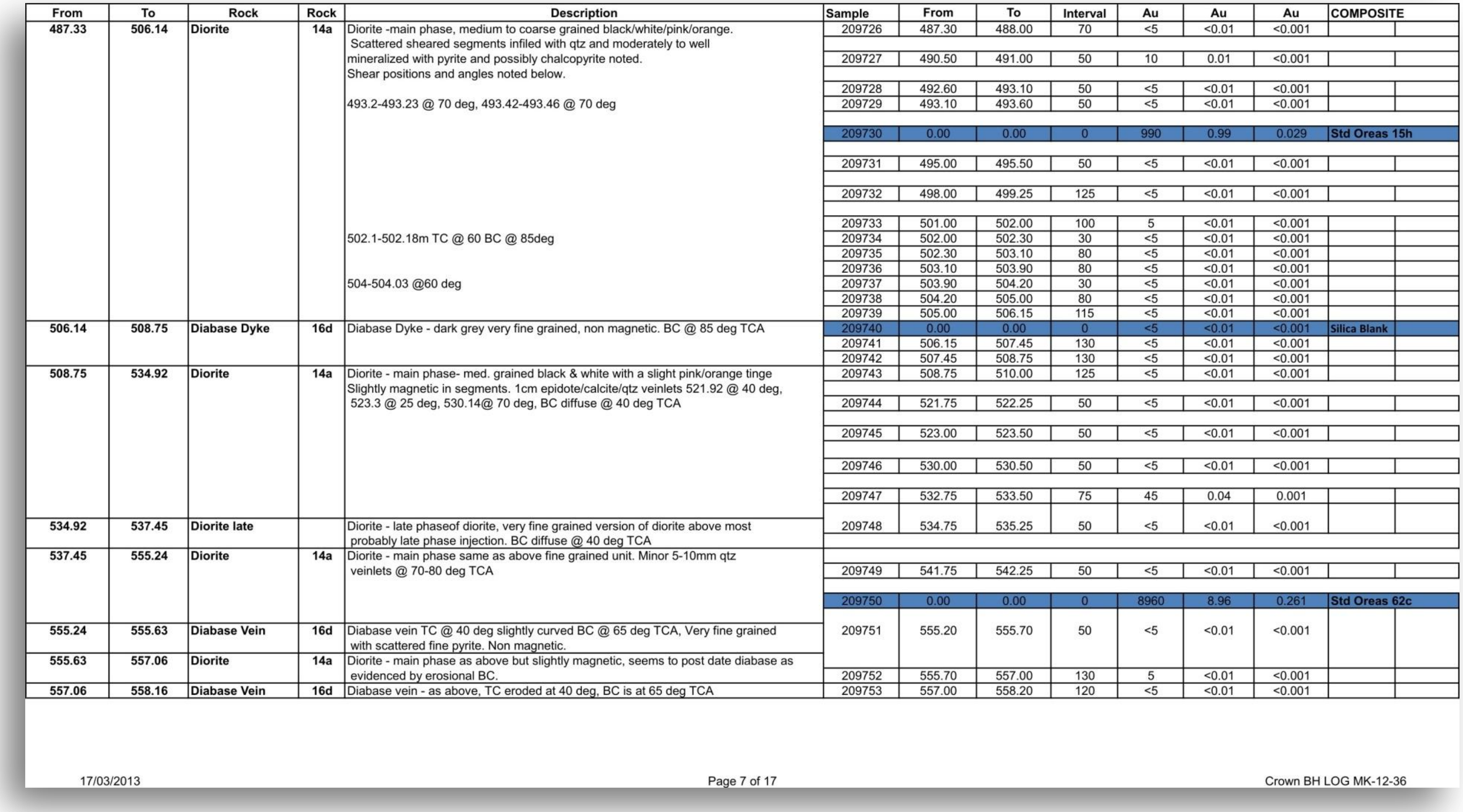


From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
289.82	296.92	**Basalt**	**9b**	Basalt - mafic volcanic, fine grained, dark green groundmass with fine plagioclase phenocrysts. Moderately fractured with calcite alteration along hairline fractures @ 60-70 degrees TCA. Vuggy shear with minor milky qtz from 296.25m @ 90 degrees TCA & 296.30m @ 30 degrees TCA. BC @ 35 degrees TCA.	209644	295.50	296.00	50	<5	<0.01	<0.001	
					209645	296.00	296.50	50	5	<0.01	<0.001	
					209646	296.50	297.00	50	<5	<0.01	<0.001	
296.92	314.45	**Diorite**	**14a**	Diorite - as above however slight orange tinge from 300-303m & 306-306.5m. Highly fractured from 300.85-301m @ 30 degrees TCA. Overall unit moderately fractured with low RQD obvious. BC @ 70 degrees TCA.	209647	314.00	314.40	40	<5	<0.01	<0.001	
314.45	316.65	**Diabase**	**16d**	Diabase Dyke - very fine grained, medium grey colour with 2-3 % fine desseminated pyrite throughout, strongly magnetic. TC @ 70 degrees TCA. 5cm chlorite and quartz carbonate vuggy vein with pyrite noted. (Bishop's Break type zone!). BC broken @ 80 degrees TCA is a 1cm wide Bishops Break style parting.	209648	314.40	314.70	30	<5	<0.01	<0.001	
					209649	314.70	315.55	85	<5	<0.01	<0.001	
					209650	0.00	0.00	0	970	0.97	0.028	**Std Oreas 15h**
					209651	315.55	316.40	85	110	0.11	0.003	
					209652	316.40	316.70	30	10	0.01	<0.001	
316.65	328.02	**Diorite**	**14a**	Diorite - medium grained, light grey & white with some segments tinged orange (FeCo Alt?) BC @ 70 degrees TCA.	209653	316.70	317.00	30	10	<0.01	<0.001	
					209654	327.60	328.00	40	<5	<0.01	<0.001	
328.02	328.55	**Bishops Break Style Vein**		Quartz chlorite vein - very fine grained black chloritic partings finely laminated @ 70 degrees TCA with veinlets of quartz carbonate, infilling and lenses of pyr and cpy noted. BC slightly irregular @ 70 degrees TCA.	209655	328.00	328.33	33	<5	<0.01	<0.001	
					209656	328.33	328.60	27	<5	<0.01	<0.001	
328.55	331.45	**Diorite**	**14a**	Diorite - as above, slightly magnetic in segments.	209657	328.60	329.00	40	<5	<0.01	<0.001	
					209658	329.00	330.21	121	10	<0.01	<0.001	
					209659	330.21	331.42	121	<5	<0.01	<0.001	
331.45	331.96	**BB Style Vein**		Quartz chlorite vein - finely laminated @ 45-50 degrees TCA .TC @ 45 degrees BC @ 50 degrees TCA. Quartz stringers/infill is concentrated over lower 20cm. Siderite and tourmaline, hemite staining on some quartz, abundance of fine pyrite noted and minor chalcopyrite.	209660	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
					209661	331.42	331.98	56	25	0.03	<0.001	
331.96	335.32	**Sheared Mafic Volcanics**		Sheared mafic volcanics - fine grained, medium olive green with white calcite and smokey quartz partings and lenses. Hematite in thin veinlets at 333.80m	209662	331.98	333.50	152	<5	<0.01	<0.001	
					209663	333.50	334.90	140	<5	<0.01	<0.001	
					209664	334.90	335.30	40	<5	<0.01	<0.001	
335.32	335.79	**BB Style Vein**		Qtz Cht Vein/sheared mafic volcanics 60/40 split top 1cm brecciated quartz carbonate & chlorite. TC @ 40 degrees TCA.	209665	335.30	335.80	50	<5	<0.01	<0.001	
335.79	338.46	**Sheared Mafic Volcanics**		Sheared mafic volcanic @ 40 degrees TCA, less sheared than upper unit, strongly magnetic, minor BB style veinlet 338.22-338.23m @ 75 degrees TCA.	209666	335.80	336.60	80	<5	<0.01	<0.001	
					209667	336.60	337.40	80	<5	<0.01	<0.001	
					209668	337.40	338.20	80	<5	<0.01	<0.001	
					209669	338.20	338.50	30	<5	<0.01	<0.001	
338.46	338.78	**Diorite**	**14a**	Diorite - black & orange, medium grained TC @ 80 BC @ 60 deg TCA	209670	0.00	0.00	0	8880	8.88	0.259	**Std Oreas 62c**
338.78	339.11	**Diabase**	**16d**	Diabase Dyke - dark grey with fine white plagioclase, strongly magnetic, BC 60	209671	338.50	339.10	60	5	<0.01	<0.001	
339.11	339.48	**BB Style Vein**		Sheared mafic volcanic with qtz carb veinets, frac infill and lenses, high conc. Qtz over lower 12cm, fine pyr throughout BC @ 70	209672	339.10	339.50	40	<5	<0.01	<0.001	
339.48	340.55	**Diorite**	**14a**	Diorite - baked margin of lower diorite unit	209673	339.50	340.50	100	<5	<0.01	<0.001	
340.55	341.40	**BB Style Vein - No Quartz**		Sheared chlorite - dark grey to black, non magnetic with fine calcite alt along stress fracs @ 65 deg TCA. BC @ 55 is chilled over 1-2mm.	209674	340.50	341.43	93	<5	<0.01	<0.001	
341.40	347.14	**Diorite**	**14a**	Diorite - top contact baked over 40cm with less obvious porphyritic texture than usual. 1cm veinlets of lower BB style dyke at 347m with quartz and minor pyrite. BC @ 40.	209675	341.43	343.28	185	<5	<0.01	<0.001	
					209676	343.28	345.13	185	<5	<0.01	<0.001	
					209677	345.13	346.98	185	<5	<0.01	<0.001	
347.14	347.45	**BB Style Vein - No Quartz**		Sheared chlorite - non magnetic, with fine calcite alt on stress fracs @ 70-80 deg, BC irregular @ 35 deg TCA	209678	346.98	347.48	50	<5	<0.01	<0.001	

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
347.45	**354.20**	**Diorite marg.**		Diorite - marginal phase, finer grained, less porphyrie, plag forming haloes around biotites? BC diffuse @ 40 deg TCA.	209679	347.48	348.00	52	<5	<0.01	<0.001	
					209680	347.48	348.00	52	40	0.04	0.001	**Dup of 209679**
354.20	**367.57**	**Diorite/ Granodiorite**	**14a/c**	Diorite - typical medium grained black & white diorite with orange tinge in segments, hairline epidote fractures 356.70-356.90m. Very high RQD unit, lower 50cm alt. by dyke.Minor sulfides and slightly magnetic towards BC @ 20	209681	367.00	367.55	55	<5	<0.01	<0.001	
367.57	**369.39**	**Diabase Sill**	**16d**	Diabase sill - strongly magnetic, dark grey, very fine grained with hairline calcified fractures @70-80 deg TCA. 2 low angle curved fracs 368-368.75m. BC@75TCA	209682	367.55	368.48	93	<5	<0.01	<0.001	
					209683	368.48	369.41	93	<5	<0.01	<0.001	
369.39	**372.51**	**Diorite**	**14a**	Diorite - Strongly magnetic, medium grained, grey black & white with scattered orange tinted segments 1cm diabase veinlet @ 369.75 @ 40 deg TCA	209684	369.41	369.95	54	<5	<0.01	<0.001	
					209685	369.95	370.95	100	<5	<0.01	<0.001	
					209686	370.95	371.95	100	<5	<0.01	<0.001	
					209687	371.95	372.45	50	<5	<0.01	<0.001	
372.51	**373.39**	**Diabase sill**	**16d**	Diabase sill - as above, strongly magnetic, TC @ 50 BC erosional & convoluted	209688	372.45	373.45	100	<5	<0.01	<0.001	
373.39	**383.93**	**Diorite**	**14a**	Diorite - as above but only slightly magnetic in segments. Bottom 30 cm coarser grained. 5cm diabase vein, magnetic at 373.80, TC @ 40 BC erosional @ 90. Apalite vein 378.78-378.96m @ 65 degrees TCA. BC diffuse @ 40 degrees TCA.	209689	373.45	374.20	75	<5	<0.01	<0.001	
					209690	0.00	0.00	0	945	0.95	0.028	**Std Oreas 15h**
					209691	374.20	375.00	80	<5	<0.01	<0.001	
					209692	378.50	379.00	50	<5	<0.01	<0.001	
					209693	383.00	383.50	50	<5	<0.01	<0.001	
					209694	383.50	384.00	50	<5	<0.01	<0.001	
383.93	**393.82**	**Basalt**	**9b**	Basalt - Mafic volcanic - very fine grained, dark green, moderately to highly fractured with hairline calcification. Minor brecciation & qtz veinlet 391-391.1m. Minor fine pyrite throughout. BC @ 70 degrees TCA.	209695	384.00	384.50	50	<5	<0.01	<0.001	
					209696	387.85	388.55	70	<5	<0.01	<0.001	
					209697	390.75	391.25	50	<5	<0.01	<0.001	
393.82	**397.56**	**Diorite**	**14a**	Diorite - medium grained white & black, non magnetic, BC @ 40 deg TCA (Main phase)	209698	397.55	398.28	73	30	0.03	<0.001	
397.56	**398.25**	**Diorite Marginal phase**		Diorite - Marginal phase of diorite, dark smokey grey aphanitic groundmass with 0.5-2mm plag phenocrysts and fine desseminated sulfides noted. Moderately magnetic. BC @ 35 deg TCA.								
398.25	**398.38**	**Diorite**	**14a**	Diorite - Main phase vein. BC @ 35 deg TCA.								
398.38	**400.14**	**Diorite Margin.**		Diorite - marginal phase as above however non magnetic								
400.14	**402.20**	**Diorite**	**14a**	Diorite - main phase TC sharp @ 50 deg BC convoluted and sub parallel TCA.								
402.20	**407.66**	**Diorite Margin.**		Diorite - Marginal phase of diorite with some differentiating bands of plagioclase evident. BC is diffuse @ 50 deg TCA.								
407.66	**407.90**	**Diorite**	**14a**	Diorite - Main phase, as above BC @ 40 deg TCA								
407.90	**414.40**	**Diabase Dyke**	**16d**	Diabase Dyke - non magnetic, very fine grained, porphyritic with a speckled appearance. Pale grey and dark green 0.5-2mm phenocrysts of plagioclase and chloritized biotite.	209699	407.75	408.22	47	<5	<0.01	<0.001	
					209700	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**



From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE	
414.40	**449.06**	**Diorite Margin.**		Diorite - Marginal phase - dark green v. fine grained/ aphanitic groundmass with white plagioclase and black chloritized biotite 0.5-3mm phenocrysts. Previous shearing evident from 425.25m to the top contact of a small diabase vein 426.4-427.24m @ 40 deg TCA on BC, TC broken @ 25-30 deg TCA. Calcified hairline fracturing prominent from 433-436.5m. Minor pyrite noted on calcite fractures. Decimeter scale mafic xenoliths 427.5-428.1m.Lower 50cm slightly ladder veined with calcite infill. BC @ 70 degrees TCA	209701	425.00	426.00	100	5	<0.01	<0.001		
					209702	426.00	427.30	130	<5	<0.01	<0.001		
					209703	435.50	436.50	100	15	0.01	<0.001		
					209704	448.50	449.00	50	<5	<0.01	<0.001		
449.06	**450.35**	**Diabase Dyke**	**16d**	Diabase Dyke - strongly magnetic, dark grey, very fine grained on margins slightly porphyritic central portion. TC @ 70 BC @ 50 deg TCA.	209705	449.00	450.00	100	<5	<0.01	<0.001		
450.35	**450.58**	**Diorite**	**14a**	Diorite - main phase BC @ 60 deg TCA									
450.58	**450.92**	**Diabase Dyke**	**16d**	Diabase dyke - strongly magnetic as above BC @ 50 deg TCA	209706	450.00	451.00	100	<5	<0.01	<0.001		
450.92	**456.50**	**Diorite**	**14a**	Diorite - Main phase - white & black with orange tinged specks. BC@50 deg TCA									
456.50	**456.85**	**Diabase Dyke**	**16d**	Diabase Dyke - as above. BC eroded by diorite.	209707	456.30	457.00	70	<5	<0.01	<0.001		
456.85	**456.95**	**Diorite**	**14a**	Diorite - main phase									
456.95	**458.61**	**Diorite margin.**		Diorite - Marginal phase - highly silicified towards base. BC @ 60 deg TCA	209708	457.00	458.60	160	<5	<0.01	<0.001		
458.61	**459.30**	**Diorite** **Sheared vein**		Sheared Diorite vein - dark green with white specks and partings. BC @ 75 deg TCA	209709	458.60	459.35	75	<5	<0.01	<0.001		
					209710	0.00	0.00	0	8295	8.3	0.242	**Std Oreas 62c**	
					209711	459.35	460.70	135	5	<0.01	<0.001		
459.30	**460.71**	**Diorite /Granodiorite**	**14a/c**	Diorite/Granodiorite - main phase of dome stock medium grained, black, white, orange and pink colour, slightly magnetic. BC @ 60 deg TCA									
460.71	**462.80**	**Diabase Dyke**	**16d**	Diabase Dyke - Very fine grained dark grey to black at baked margins. Non magnetic. BC @ 50 deg TCA	209712	460.70	461.70	100	<5	<0.01	<0.001		
					209713	461.70	462.85	115	<5	<0.01	<0.001		
462.80	**464.90**	**Diorite**	**14a**	Diorite - main phase, BC diffuse @ 75 degrees TCA	209714	462.85	463.15	30	<5	<0.01	<0.001		
464.90	**475.31**	**Diorite margin.**		Diorite - marginal phase - smokey grey aphanitic vitreous groundmass with pale white plagioclase and dark chloritized biotite phenocrysts. BC is diffuse @ 50 deg TCA.	209715	470.50	471.00	50	<5	<0.01	<0.001		
475.31	**476.68**	**Diorite**	**14a**	Diorite - Main phase, medium grained, white & black with pink and orange tinge to feldspars through central portion. BC diffuse @ 40 deg TCA.									
476.68	**479.65**	**Diorite margin.**		Diorite - marginal phase as above. BC diffuse @ 40 deg TCA									
479.65	**482.20**	**Diorite**	**14a**	Diorite - main phase as above, however central portion 480.8-481.1 exhibits a bleached pale green tinge and carries scattered 5-10mm quartz veinlets. BC is irregular @ 50 deg TCA.	209716	479.60	480.00	40	<5	<0.01	<0.001		
					209717	480.00	480.60	60	<5	<0.01	<0.001		
					209718	480.60	481.10	50	<5	<0.01	<0.001		
					209719	481.10	482.20	110	<5	<0.01	<0.001		
					209720	481.10	482.20	110	<5	<0.01	<0.001	**Dup of 209719**	
482.20	**484.70**	**Diabase Dyke**	**16d**	Possibly baked raft of mafic volcanics - very fine grained, dark green/black. TC fractured, eroded and irregular @ 50 deg TCA. Hairline calcified fractures and some quartz , fine pyrite noted. Slightly magnetic. BC irregular at 20 deg TCA Brecciated quartz vein 483.42-483.44m	209721	482.20	483.45	125	<5	<0.01	<0.001		
					209722	483.45	484.70	125	<5	<0.01	<0.001		
484.70	**485.51**	**Diorite**	**14a**	Diorite - main phase - medium grained white & black with fine pyrite. BC @ 45 deg	209723	484.70	485.50	80	<5	<0.01	<0.001		
485.51	**487.33**	**Diabase Dyke**	**16d**	Diabase Dyke - very fine grained, dark green/black with scattered pyrite and minor qtz partings. BC diffuse @ 30 deg TCA	209724	485.50	486.00	50	<5	<0.01	<0.001		
					209725	486.00	487.30	130	<5	<0.01	<0.001		



From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
487.33	**506.14**	**Diorite**	**14a**	Diorite -main phase, medium to coarse grained black/white/pink/orange. Scattered sheared segments infiled with qtz and moderately to well mineralized with pyrite and possibly chalcopyrite noted. Shear positions and angles noted below.	209726	487.30	488.00	70	<5	<0.01	<0.001	
					209727	490.50	491.00	50	10	0.01	<0.001	
					209728	492.60	493.10	50	<5	<0.01	<0.001	
				493.2-493.23 @ 70 deg, 493.42-493.46 @ 70 deg	209729	493.10	493.60	50	<5	<0.01	<0.001	
					209730	0.00	0.00	0	990	0.99	0.029	**Std Oreas 15h**
					209731	495.00	495.50	50	<5	<0.01	<0.001	
					209732	498.00	499.25	125	<5	<0.01	<0.001	
					209733	501.00	502.00	100	5	<0.01	<0.001	
				502.1-502.18m TC @ 60 BC @ 85deg	209734	502.00	502.30	30	<5	<0.01	<0.001	
					209735	502.30	503.10	80	<5	<0.01	<0.001	
					209736	503.10	503.90	80	<5	<0.01	<0.001	
				504-504.03 @60 deg	209737	503.90	504.20	30	<5	<0.01	<0.001	
					209738	504.20	505.00	80	<5	<0.01	<0.001	
					209739	505.00	506.15	115	<5	<0.01	<0.001	
506.14	**508.75**	**Diabase Dyke**	**16d**	Diabase Dyke - dark grey very fine grained, non magnetic. BC @ 85 deg TCA	209740	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
					209741	506.15	507.45	130	<5	<0.01	<0.001	
					209742	507.45	508.75	130	<5	<0.01	<0.001	
508.75	**534.92**	**Diorite**	**14a**	Diorite - main phase- med. grained black & white with a slight pink/orange tinge Slightly magnetic in segments. 1cm epidote/calcite/qtz veinlets 521.92 @ 40 deg, 523.3 @ 25 deg, 530.14@ 70 deg, BC diffuse @ 40 deg TCA	209743	508.75	510.00	125	<5	<0.01	<0.001	
					209744	521.75	522.25	50	<5	<0.01	<0.001	
					209745	523.00	523.50	50	<5	<0.01	<0.001	
					209746	530.00	530.50	50	<5	<0.01	<0.001	
					209747	532.75	533.50	75	45	0.04	0.001	
534.92	**537.45**	**Diorite late**		Diorite - late phaseof diorite, very fine grained version of diorite above most probably late phase injection. BC diffuse @ 40 deg TCA	209748	534.75	535.25	50	<5	<0.01	<0.001	
537.45	**555.24**	**Diorite**	**14a**	Diorite - main phase same as above fine grained unit. Minor 5-10mm qtz veinlets @ 70-80 deg TCA								
					209749	541.75	542.25	50	<5	<0.01	<0.001	
					209750	0.00	0.00	0	8960	8.96	0.261	**Std Oreas 62c**
555.24	**555.63**	**Diabase Vein**	**16d**	Diabase vein TC @ 40 deg slightly curved BC @ 65 deg TCA, Very fine grained with scattered fine pyrite. Non magnetic.	209751	555.20	555.70	50	<5	<0.01	<0.001	
555.63	**557.06**	**Diorite**	**14a**	Diorite - main phase as above but slightly magnetic, seems to post date diabase as evidenced by erosional BC.	209752	555.70	557.00	130	5	<0.01	<0.001	
557.06	**558.16**	**Diabase Vein**	**16d**	Diabase vein - as above, TC eroded at 40 deg, BC is at 65 deg TCA	209753	557.00	558.20	120	<5	<0.01	<0.001	

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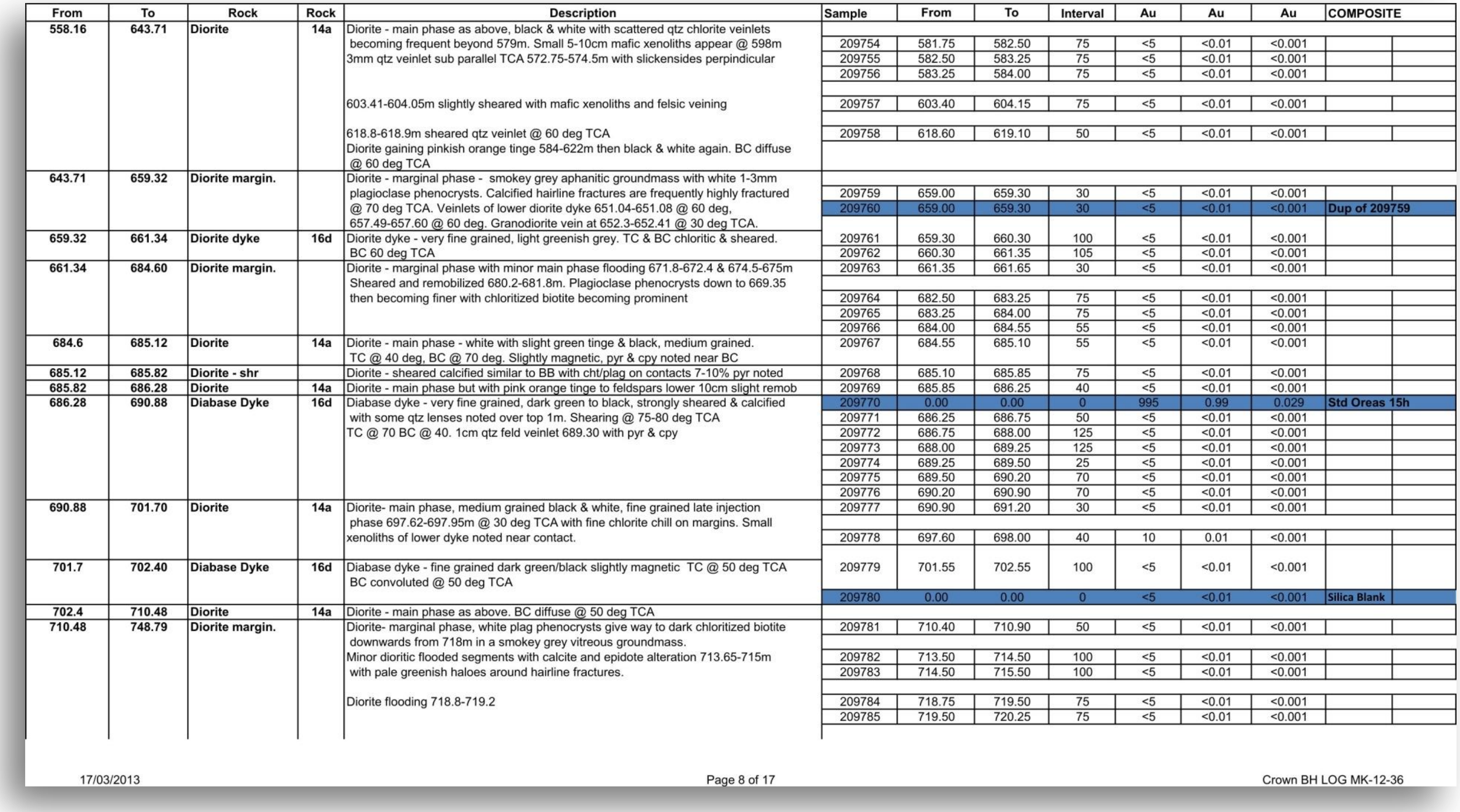
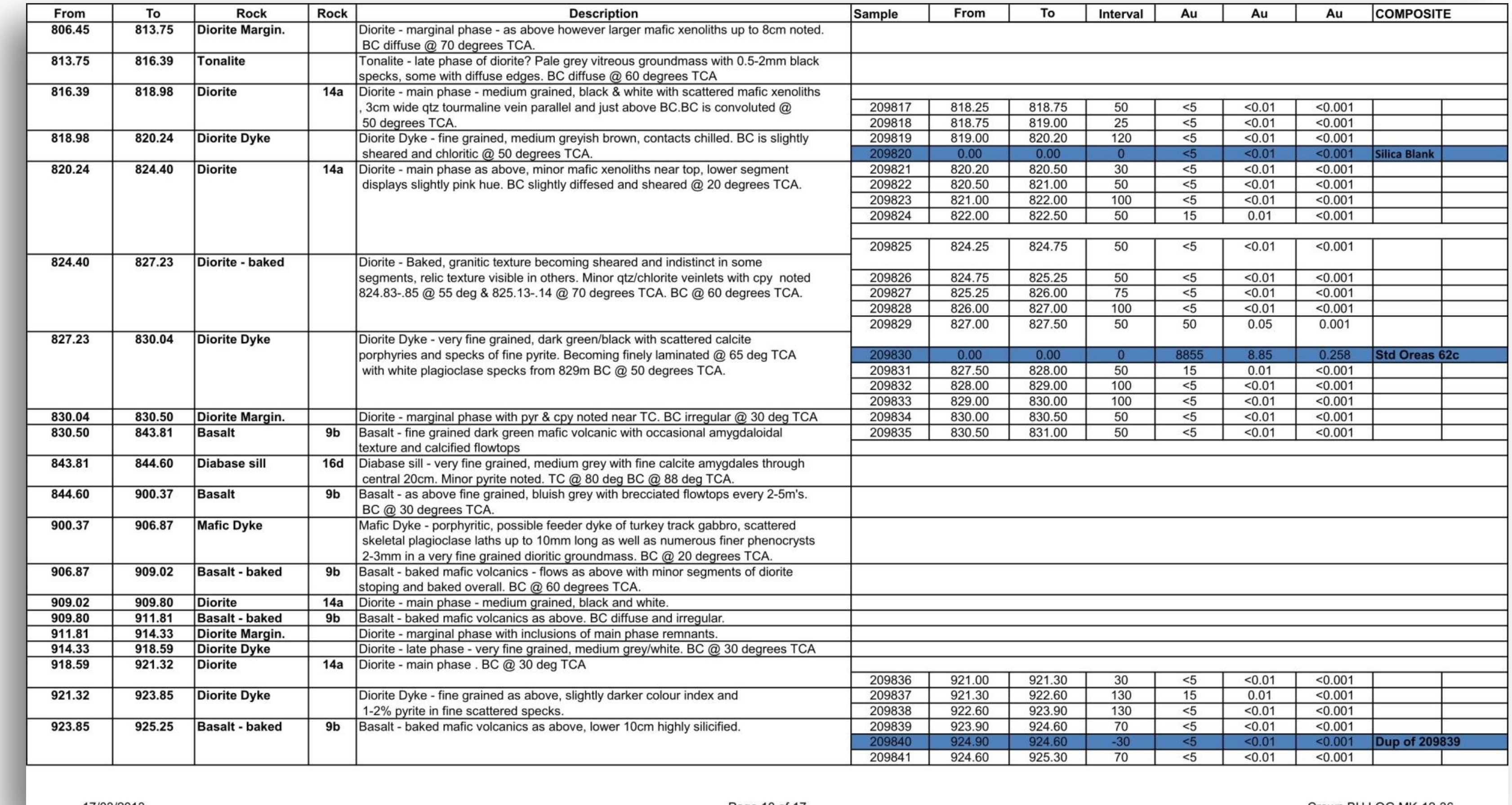


From	To	Rock	Rock	Description
558.16	**643.71**	**Diorite**	**14a**	Diorite - main phase as above, black & white with scattered qtz chlorite veinlets becoming frequent beyond 579m. Small 5-10cm mafic xenoliths appear @ 598m 3mm qtz veinlet sub parallel TCA 572.75-574.5m with slickensides perpindicular 603.41-604.05m slightly sheared with mafic xenoliths and felsic veining 618.8-618.9m sheared qtz veinlet @ 60 deg TCA Diorite gaining pinkish orange tinge 584-622m then black & white again. BC diffuse @ 60 deg TCA
643.71	**659.32**	**Diorite margin.**		Diorite - marginal phase - smokey grey aphanitic groundmass with white 1-3mm plagioclase phenocrysts. Calcified hairline fractures are frequently highly fractured @ 70 deg TCA. Veinlets of lower diorite dyke 651.04-651.08 @ 60 deg, 657.49-657.60 @ 60 deg. Granodiorite vein at 652.3-652.41 @ 30 deg TCA.
659.32	**661.34**	**Diorite dyke**	**16d**	Diorite dyke - very fine grained, light greenish grey. TC & BC chloritic & sheared. BC 60 deg TCA
661.34	**684.60**	**Diorite margin.**		Diorite - marginal phase with minor main phase flooding 671.8-672.4 & 674.5-675m Sheared and remobilized 680.2-681.8m. Plagioclase phenocrysts down to 669.35 then becoming finer with chloritized biotite becoming prominent
684.6	**685.12**	**Diorite**	**14a**	Diorite - main phase - white with slight green tinge & black, medium grained. TC @ 40 deg, BC @ 70 deg. Slightly magnetic, pyr & cpy noted near BC
685.12	**685.82**	**Diorite - shr**		Diorite - sheared calcified similar to BB with cht/plag on contacts 7-10% pyr noted
685.82	**686.28**	**Diorite**	**14a**	Diorite - main phase but with pink orange tinge to feldspars lower 10cm slight remob
686.28	**690.88**	**Diabase Dyke**	**16d**	Diabase dyke - very fine grained, dark green to black, strongly sheared & calcified with some qtz lenses noted over top 1m. Shearing @ 75-80 deg TCA TC @ 70 BC @ 40. 1cm qtz feld veinlet 689.30 with pyr & cpy
690.88	**701.70**	**Diorite**	**14a**	Diorite- main phase, medium grained black & white, fine grained late injection phase 697.62-697.95m @ 30 deg TCA with fine chlorite chill on margins. Small xenoliths of lower dyke noted near contact.
701.7	**702.40**	**Diabase Dyke**	**16d**	Diabase dyke - fine grained dark green/black slightly magnetic TC @ 50 deg TCA BC convoluted @ 50 deg TCA
702.4	**710.48**	**Diorite**	**14a**	Diorite - main phase as above. BC diffuse @ 50 deg TCA
710.48	**748.79**	**Diorite margin.**		Diorite- marginal phase, white plag phenocrysts give way to dark chloritized biotite downwards from 718m in a smokey grey vitreous groundmass. Minor dioritic flooded segments with calcite and epidote alteration 713.65-715m with pale greenish haloes around hairline fractures. Diorite flooding 718.8-719.2

Sample	From	To	Interval	Au	Au	Au	COMPOSITE
209754	581.75	582.50	75	<5	<0.01	<0.001	
209755	582.50	583.25	75	<5	<0.01	<0.001	
209756	583.25	584.00	75	<5	<0.01	<0.001	
209757	603.40	604.15	75	<5	<0.01	<0.001	
209758	618.60	619.10	50	<5	<0.01	<0.001	
209759	659.00	659.30	30	<5	<0.01	<0.001	
209760	659.00	659.30	30	<5	<0.01	<0.001	**Dup of 209759**
209761	659.30	660.30	100	<5	<0.01	<0.001	
209762	660.30	661.35	105	<5	<0.01	<0.001	
209763	661.35	661.65	30	<5	<0.01	<0.001	
209764	682.50	683.25	75	<5	<0.01	<0.001	
209765	683.25	684.00	75	<5	<0.01	<0.001	
209766	684.00	684.55	55	<5	<0.01	<0.001	
209767	684.55	685.10	55	<5	<0.01	<0.001	
209768	685.10	685.85	75	<5	<0.01	<0.001	
209769	685.85	686.25	40	<5	<0.01	<0.001	
209770	0.00	0.00	0	995	0.99	0.029	**Std Oreas 15h**
209771	686.25	686.75	50	<5	<0.01	<0.001	
209772	686.75	688.00	125	<5	<0.01	<0.001	
209773	688.00	689.25	125	<5	<0.01	<0.001	
209774	689.25	689.50	25	<5	<0.01	<0.001	
209775	689.50	690.20	70	<5	<0.01	<0.001	
209776	690.20	690.90	70	<5	<0.01	<0.001	
209777	690.90	691.20	30	<5	<0.01	<0.001	
209778	697.60	698.00	40	10	0.01	<0.001	
209779	701.55	702.55	100	<5	<0.01	<0.001	
209780	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
209781	710.40	710.90	50	<5	<0.01	<0.001	
209782	713.50	714.50	100	<5	<0.01	<0.001	
209783	714.50	715.50	100	<5	<0.01	<0.001	
209784	718.75	719.50	75	<5	<0.01	<0.001	
209785	719.50	720.25	75	<5	<0.01	<0.001	

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
710.48	748.79	Diorite margin. cont.			209786	727.00	727.50	50	<5	<0.01	<0.001	
				727-731.5m qtz feldspar veinlets + tourmaline + pyrite								
					209787	729.00	729.75	75	<5	<0.01	<0.001	
					209788	729.75	730.25	50	5	<0.01	<0.001	
				730-732m 1-2% fine pyrite + chalcopyrite in groundmass	209789	730.25	731.00	75	15	0.02	<0.001	
					209790	0.00	0.00	0	8490	8.49	0.248	Std Oreas 62c
					209791	731.00	731.50	50	5	<0.01	<0.001	
					209792	731.50	732.00	50	40	0.04	0.001	
				Quartz feldspar veinlets 742.06-.11, 742.30-.34, 743.26-.34, all @ 80-90 degrees TCA	209793	742.00	742.75	75	25	0.02	<0.001	
					209794	742.75	743.50	75	<5	<0.01	<0.001	
				746.2-746.5m fine ladder veining 5mm scale + pyr + cpy	209795	746.00	747.00	100	10	0.01	<0.001	
					209796	747.00	748.00	100	<5	<0.01	<0.001	
					209797	748.00	748.75	75	<5	<0.01	<0.001	
748.75	749.70	Diorite Dyke		Diorite Dyke - very fine grained, black with fine white specks, non magnetic, sheared @ 70 deg, TC @ 80 deg BC @ 75 deg TCA.	209798	748.75	749.75	100	<5	<0.01	<0.001	
749.70	771.40	Diorite Margin.		Diorite - marginal phase as above, phenocrysts becoming finer1-2mm chloritized biotite with pale greenish haloes and occasional pyrite in a light grey vitreous groundmass, fine pyrite and chalcopyrite noted in hairline fractures	209799	749.75	750.50	75	<5	<0.01	<0.001	
					209800	749.75	750.50	75	<5	<0.01	<0.001	Dup of 209799
					209801	753.50	754.00	50	20	0.02	<0.001	
					209802	755.50	756.00	50	10	0.01	<0.001	
					209803	759.50	760.25	75	10	0.01	<0.001	
					209804	760.25	761.00	75	15	0.01	<0.001	
				761-762m Sheared and quartz flooded with minor brecciation	209805	761.00	761.75	75	10	<0.01	<0.001	
					209806	761.75	762.50	75	10	<0.01	<0.001	
					209807	767.20	767.70	50	5	<0.01	<0.001	
				BC diffuse @ 30 degrees TCA.	209808	771.00	771.75	75	5	<0.01	<0.001	
771.40	778.62	Diorite	14a	Diorite - main phase - medium grained black & white. BC diffuse @ 50 degrees TCA								
778.62	785.20	Diorite Margin.		Diorite - marginal phase as previous, vitreous grey groundmass with numerous white & grey plagioclase 2-3mm phenocrysts.	209809	784.50	785.00	50	5	<0.01	<0.001	
785.20	785.95	Diabase Dyke	16d	Diabase Dyke - very fine grained, black, moderately sheared with hairline calcite fractured @ 70 degrees TCA. TC @ 40 deg, BC @ 30 deg TCA	209810	0.00	0.00	0	1040	1.04	0.03	Std Oreas 15h
					209811	785.00	786.00	100	5	<0.01	<0.001	
785.95	795.03	Diorite Margin.		Diorite - marginal phase - not as vitreous as previous, somewhat "dirty" lower 2m highly sheared with calcite infill on hairline fractures @ 50-80 degrees TCA. BC convoluted & faulted contact @ 40 degrees TCA	209812	786.00	786.50	50	10	<0.01	<0.001	
					209813	792.00	792.90	90	<5	<0.01	<0.001	
					209814	792.90	794.00	110	<5	<0.01	<0.001	
					209815	794.00	795.10	110	<5	<0.01	<0.001	
795.03	802.53	Diorite Margin.		Diorite - marginal phase but medium to fine grained with more chloritized biotite than plagioclase phenocrysts. Scattered 2-4 cm mafic xenoliths throughout. BC irregular @ 60 degrees TCA.	209816	795.10	795.60	50	5	<0.01	<0.001	
802.53	806.45	Turkey Track Gabbro	16d	Gabbro - Turkey Track marker bed - as before fine grained black groundmass with 1-2 x 10x20mm laths of white plagioclase. BC @ 65 degrees TCA.								

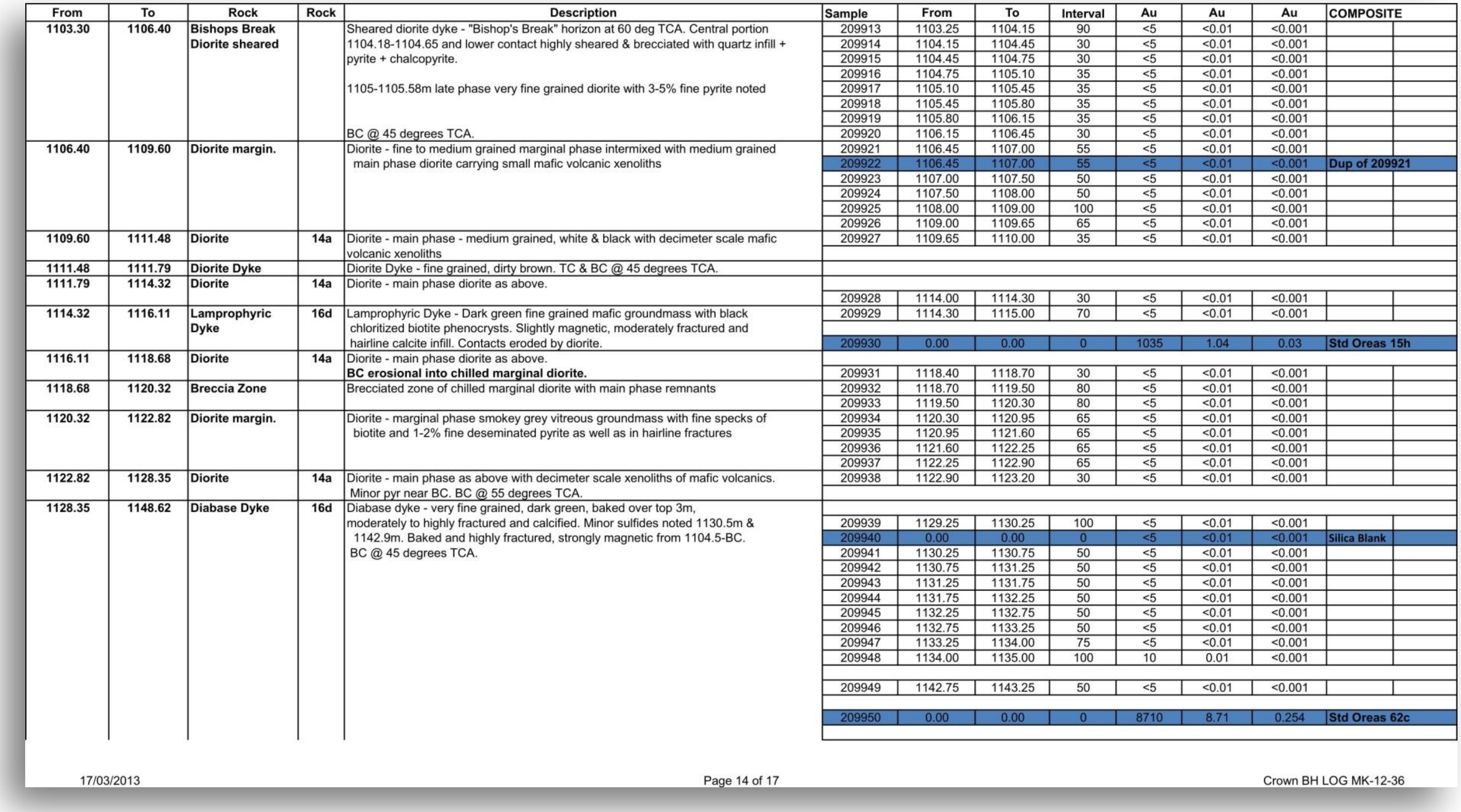


From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
806.45	**813.75**	**Diorite Margin.**		Diorite - marginal phase - as above however larger mafic xenoliths up to 8cm noted. BC diffuse @ 70 degrees TCA.								
813.75	**816.39**	**Tonalite**		Tonalite - late phase of diorite? Pale grey vitreous groundmass with 0.5-2mm black specks, some with diffuse edges. BC diffuse @ 60 degrees TCA								
816.39	**818.98**	**Diorite**	**14a**	Diorite - main phase - medium grained, black & white with scattered mafic xenoliths , 3cm wide qtz tourmaline vein parallel and just above BC.BC is convoluted @ 50 degrees TCA.	209817	818.25	818.75	50	<5	<0.01	<0.001	
					209818	818.75	819.00	25	<5	<0.01	<0.001	
818.98	**820.24**	**Diorite Dyke**		Diorite Dyke - fine grained, medium greyish brown, contacts chilled. BC is slightly sheared and chloritic @ 50 degrees TCA.	209819	819.00	820.20	120	<5	<0.01	<0.001	
					209820	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
820.24	**824.40**	**Diorite**	**14a**	Diorite - main phase as above, minor mafic xenoliths near top, lower segment displays slightly pink hue. BC slightly diffesed and sheared @ 20 degrees TCA.	209821	820.20	820.50	30	<5	<0.01	<0.001	
					209822	820.50	821.00	50	<5	<0.01	<0.001	
					209823	821.00	822.00	100	<5	<0.01	<0.001	
					209824	822.00	822.50	50	15	0.01	<0.001	
					209825	824.25	824.75	50	<5	<0.01	<0.001	
824.40	**827.23**	**Diorite - baked**		Diorite - Baked, granitic texture becoming sheared and indistinct in some segments, relic texture visible in others. Minor qtz/chlorite veinlets with cpy noted 824.83-.85 @ 55 deg & 825.13-.14 @ 70 degrees TCA. BC @ 60 degrees TCA.	209826	824.75	825.25	50	<5	<0.01	<0.001	
					209827	825.25	826.00	75	<5	<0.01	<0.001	
					209828	826.00	827.00	100	<5	<0.01	<0.001	
					209829	827.00	827.50	50	50	0.05	0.001	
827.23	**830.04**	**Diorite Dyke**		Diorite Dyke - very fine grained, dark green/black with scattered calcite porphyries and specks of fine pyrite. Becoming finely laminated @ 65 deg TCA with white plagioclase specks from 829m BC @ 50 degrees TCA.	209830	0.00	0.00	0	8855	8.85	0.258	**Std Oreas 62c**
					209831	827.50	828.00	50	15	0.01	<0.001	
					209832	828.00	829.00	100	<5	<0.01	<0.001	
					209833	829.00	830.00	100	<5	<0.01	<0.001	
830.04	**830.50**	**Diorite Margin.**		Diorite - marginal phase with pyr & cpy noted near TC. BC irregular @ 30 deg TCA	209834	830.00	830.50	50	<5	<0.01	<0.001	
830.50	**843.81**	**Basalt**	**9b**	Basalt - fine grained dark green mafic volcanic with occasional amygdaloidal texture and calcified flowtops	209835	830.50	831.00	50	<5	<0.01	<0.001	
843.81	**844.60**	**Diabase sill**	**16d**	Diabase sill - very fine grained, medium grey with fine calcite amygdales through central 20cm. Minor pyrite noted. TC @ 80 deg BC @ 88 deg TCA.								
844.60	**900.37**	**Basalt**	**9b**	Basalt - as above fine grained, bluish grey with brecciated flowtops every 2-5m's. BC @ 30 degrees TCA.								
900.37	**906.87**	**Mafic Dyke**		Mafic Dyke - porphyritic, possible feeder dyke of turkey track gabbro, scattered skeletal plagioclase laths up to 10mm long as well as numerous finer phenocrysts 2-3mm in a very fine grained dioritic groundmass. BC @ 20 degrees TCA.								
906.87	**909.02**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics - flows as above with minor segments of diorite stoping and baked overall. BC @ 60 degrees TCA.								
909.02	**909.80**	**Diorite**	**14a**	Diorite - main phase - medium grained, black and white.								
909.80	**911.81**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics as above. BC diffuse and irregular.								
911.81	**914.33**	**Diorite Margin.**		Diorite - marginal phase with inclusions of main phase remnants.								
914.33	**918.59**	**Diorite Dyke**		Diorite - late phase - very fine grained, medium grey/white. BC @ 30 degrees TCA								
918.59	**921.32**	**Diorite**	**14a**	Diorite - main phase . BC @ 30 deg TCA	209836	921.00	921.30	30	<5	<0.01	<0.001	
921.32	**923.85**	**Diorite Dyke**		Diorite Dyke - fine grained as above, slightly darker colour index and 1-2% pyrite in fine scattered specks.	209837	921.30	922.60	130	15	0.01	<0.001	
					209838	922.60	923.90	130	<5	<0.01	<0.001	
923.85	**925.25**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics as above, lower 10cm highly silicified.	209839	923.90	924.60	70	<5	<0.01	<0.001	
					209840	924.90	924.60	-30	<5	<0.01	<0.001	**Dup of 209839**
					209841	924.60	925.30	70	<5	<0.01	<0.001	

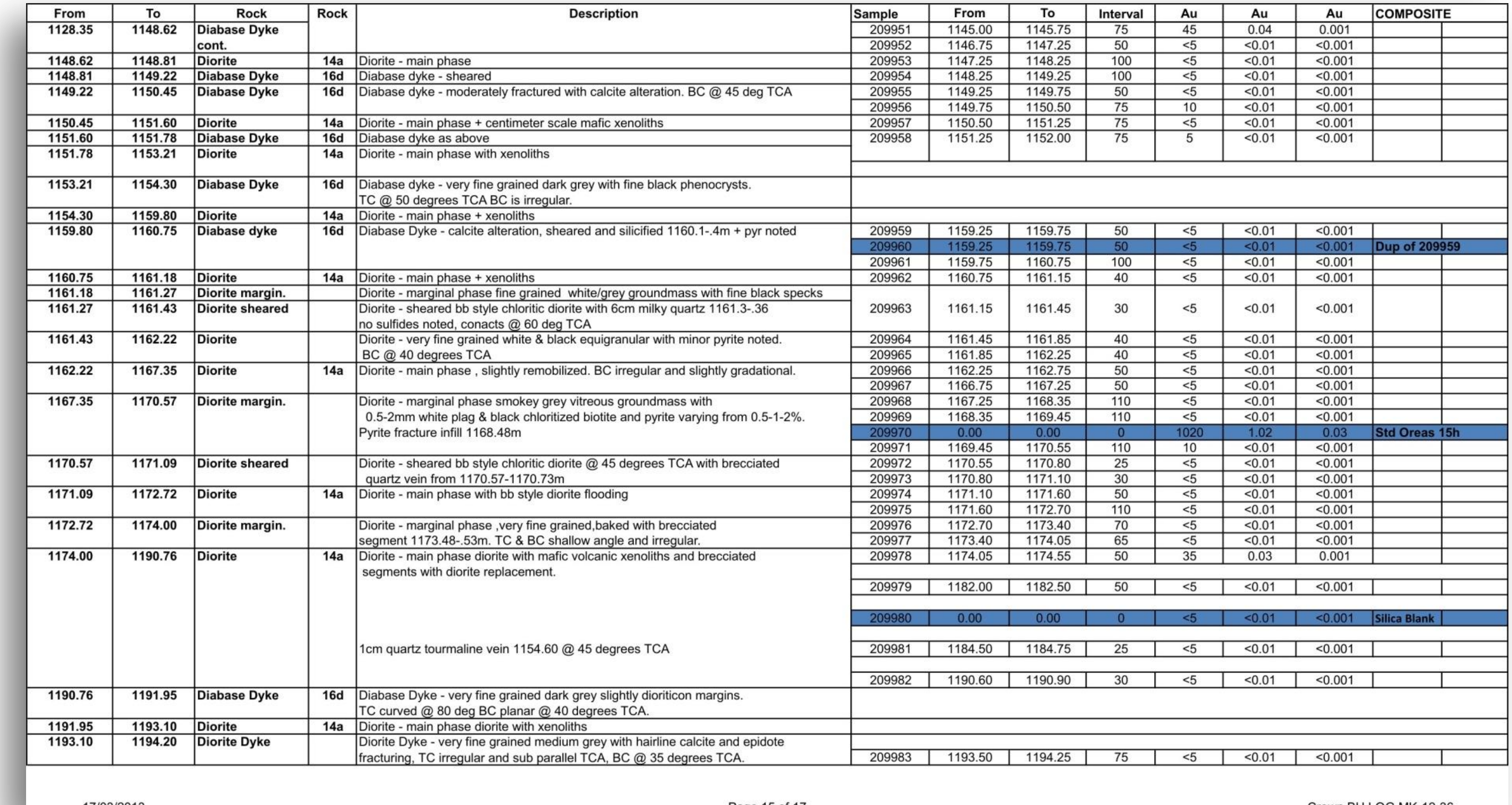
From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
925.25	926.75	Diorite	14a	Diorite - main phase with scattered 5-10cm mafic xenoliths	209842	925.30	925.60	30	<5	<0.01	<0.001	
926.75	928.87	Diorite margin.		Diorite -marginal phase, fine to medium grained, porphyritic. BC @ 60 deg TCA								
928.87	929.00	Diorite Dyke		Diorite - late phase - very fine grained as before.	209843	928.70	929.20	50	<5	<0.01	<0.001	
929.00	932.12	Diorite	14c	Diorite - main phase - with 5-10cm mafic volcanic xenoliths. BC @ 50 deg TCA								
932.12	935.32	Basalt - baked	9b	Basalt - baked mafic flows, bluish green grey colour with a diffuse mottled texture. BC @ 30 degrees TCA.								
935.32	935.96	Diorite vein		Diorite - vein of main phase diorite. BC @ 80 degrees TCA.								
935.96	937.42	Basalt - baked	9b	Basalt - baked mafic flows as above. BC @ 50 degrees TCA.								
937.42	938.17	Diorite vein *		Diorite - vein of marginal phase diorite, light grey, very fine grained groundmass with fine black specks. BC @ 50 degrees TCA.								
938.17	944.64	Basalt - baked	9b	Basalt - baked mafic flows as above. Pyrite & pyrrhotite noted 940.3-940.4m	209844	940.20	940.50	30	<5	<0.01	<0.001	
944.64	949.65	Diorite margin.		Diorite - marginal phase - as before, smokey grey viteous groundmass with fine plagioclase and biotite phenocrysts.Minor main phase flooding 946.45-.75m 5-10mm qtz vein at 946.30m. Mod. fractured/broken by drilling 947.25-.55m.	209845	946.25	946.75	50	<5	<0.01	<0.001	
949.65	950.05	Diorite	14a	Diorite - main phase with mafic volcanic xenoliths								
950.05	959.55	Basalt - baked	9b	Basalt - baked mafic volcanics, very fine grained, medium to dark grey with calcified hairline fractures. Brecciatiated fault with qtz infill 953.34-.41m. Minor shear 955.27-.30m @ 50 degrees TCA.	209846	953.25	953.75	50	<5	<0.01	<0.001	
959.55	963.32	Diorite margin.		Diorite - marginal phase light grey vitreous groundmass with fine white and black porphyries. BC @ 65 degrees TCA								
963.32	967.45	Basalt - baked	9b	Basalt - baked mafic volcanics, as above with minor marginal diorite flooding								
967.45	971.60	Diorite	14a	Diorite - main phase, medium grained, white and black with mafic volcanic xenoliths throughout and increasing towards base. TC @ 40 deg BC @ 60 deg								
971.60	974.65	Diorite margin.		Diorite - marginal phase as above.								
974.65	975.30	Diorite vein		Diorite vein - main phase TC @ 45 deg BC @ 30 degrees TCA								
975.30	983.90	Diorite margin.		Diorite - marginal phase - as above, 2cm shear with pyrite 982.14 @ 50 deg TCA. BC diffuse into lower baked volcanics.	209847	982.00	982.50	50	<5	<0.01	<0.001	
983.90	989.66	Diorite margin.*		Diorite - marginal diorite replacing rafts of mafic volcanics, textures vary between igneous and volcanic.								
989.66	992.88	Basalt - baked	9b	Basalt - baked mafic volcanic, very fine grained, blueish green grey, minor pyrite and calcite on fractures. BC eroded by main phase diorite								
992.88	996.00	Diorite	14a	Diorite - main phase, BC irregular								
996.00	997.40	Diorite margin.		Diorite - marginal phase with scattered main phase flooding.								
997.40	1002.05	Andesite - baked	9b	Andesite - baked mafic to intermediate volcanics, fine grained, medium greenish grey with feldspathic segments 999-1001m. 1-2mm calcite amygdales are orientated @ 40 degrees TCA from 1001.15-1002m.	209848	1001.50	1002.00	50	<5	<0.01	<0.001	
1002.05	1005.85	Diorite	14a	Diorite - main phase diorite replacing mafic volcanic unit, with main diorite prominent over lower 1.1m with 10-15cm scale mafic xenoliths.	209849	1002.00	1003.00	100	<5	<0.01	<0.001	
					209850	0.00	0.00	0	1030	1.03	0.03	Std Oreas 15h
					209851	1003.00	1003.90	90	<5	<0.01	<0.001	
					209852	1003.90	1004.40	50	25	0.03	<0.001	
					209853	1004.40	1004.90	50	<5	<0.01	<0.001	
					209854	1004.90	1006.00	110	<5	<0.01	<0.001	

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
1005.85	**1010.43**	**Diorite margin.**		Diorite - marginal phase as usual except 7-10% pyrite throughout unit in fine deseminated specks and clusters as well as hairline fracture infill.	209855	1006.00	1006.68	68	<5	<0.01	<0.001	
					209856	1006.68	1007.18	50	<5	<0.01	<0.001	
					209857	1007.18	1007.95	77	<5	<0.01	<0.001	
					209858	1007.95	1008.45	50	<5	<0.01	<0.001	
					209859	1008.45	1008.95	50	<5	<0.01	<0.001	
					209860	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
					209861	1008.95	1009.45	50	<5	<0.01	<0.001	
					209862	1009.45	1009.95	50	<5	<0.01	<0.001	
					209863	1009.95	1010.45	50	<5	<0.01	<0.001	
1010.43	**1014.01**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanic, very fine grained, dark greenish grey with fine black specks. BC is irregular at 30 degrees TCA.	209864	1010.45	1011.00	55	<5	<0.01	<0.001	
1014.01	**1017.45**	**Dorite**	**14a**	Diorite - main phase, with numerous 20cm plus xenoliths of mafic volcanics.								
1017.45	**1019.26**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanic, very fine grained, dark green with minor diorite replacement. BC @ 85 degrees TCA.								
1019.26	**1019.49**	**Diorite**	**14a**	Diorite - main phase medium grained white & black, BC @ 85 degrees TCA.	209865	1019.23	1019.48	25	<5	<0.01	<0.001	
1019.49	**1021.56**	**Lamprophyric Dyke**	**16d**	Lamprophyric Dyke - very fine grained, dark brown grey groundmass with biotite, plagioclase and specks of pyrite throughout. Central portion is sheared 1020.82-1021.12 @ 85 degrees TCA and has a similar appearance to sheared diorite dyke encountered higher that resembled the Bishops Break lithology.	209866	1019.48	1020.20	72	<5	<0.01	<0.001	
					209867	1020.20	1020.80	60	<5	<0.01	<0.001	
					209868	1020.80	1021.15	35	<5	<0.01	<0.001	
					209869	1021.15	1021.58	43	<5	<0.01	<0.001	
1021.56	**1023.02**	**Diorite**	**14a**	Diorite - main phase with large xenoliths of mafic volcanics.	209870	0.00	0.00	0	8955	8.96	0.261	**Std Oreas 62c**
					209871	1021.58	1022.08	50	10	0.01	<0.001	
1023.02	**1027.08**	**Diorite margin.**		Diorite - marginal phase, fine grained, white and black with scattered intrusions of medium grained main phase diorite. BC is convoluted.								
1027.08	**1028.55**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics sheared at 1027.6m @ 40 degrees TCA with fine bands of pyrite noted. Hairline fractures 1028-1028.5m with calcite.	209872	1027.10	1027.85	75	<5	<0.01	<0.001	
					209873	1027.85	1028.60	75	<5	<0.01	<0.001	
1028.55	**1045.70**	**Diorite margin.**		Diorite - marginal phase, fine grained, brownish grey with scattered intrusions of diorite becoming prominent downwards. 1042.4-.45m is a BB style sheared diorite with quartz and chlorite partings.								
					209874	1031.00	1031.40	40	<5	<0.01	<0.001	
					209875	1031.40	1032.00	60	<5	<0.01	<0.001	
					209876	1032.00	1032.60	60	<5	<0.01	<0.001	
					209877	1032.60	1033.00	40	<5	<0.01	<0.001	
					209878	1041.30	1042.30	100	<5	<0.01	<0.001	
					209879	1042.30	1042.80	50	<5	<0.01	<0.001	
					209880	1042.80	1043.30	50	<5	<0.01	<0.001	**Dup of 209881**
					209881	1042.80	1043.30	50	<5	<0.01	<0.001	
					209882	1043.30	1044.00	70	<5	<0.01	<0.001	

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
1045.70	**1060.38**	**Diorite**	**14a**	Diorite - main phase - coarse to very coarse grained in segments. Mafic xenoliths 1049-1052 & 1061-1062m. Some sheared and calcified segments sampled, pyrite and chalcopyrite noted 1047.23m								
					209883	1047.00	1047.50	50	<5	<0.01	<0.001	
					209884	1047.50	1048.00	50	<5	<0.01	<0.001	
					209885	1054.20	1054.70	50	5	<0.01	<0.001	
				1054.75-1054.95m 7cm milky qtz vein @ 20 deg TCA with 2mm dia fuzzy garnets	209886	1054.70	1055.20	50	5	<0.01	<0.001	
					209887	1055.20	1055.80	60	15	0.02	<0.001	
					209888	1055.80	1056.30	50	5	<0.01	<0.001	
					209889	1060.00	1060.35	35	<5	<0.01	<0.001	
1060.38	**1060.79**	**Diorite Dyke**		Diorite Dyke - sheared fine grained, TC friable @ 60 degrees TCA. Fine pyrite.	209890	0.00	0.00	0	1020	1.02	0.03	**Std Oreas 15h**
					209891	1060.35	1060.85	50	5	<0.01	<0.001	
1060.79	**1085.42**	**Diorite**	**14a**	Diorite - Main phase - very coarse grained, sheared in segments with 1cm qtz carbonate vein at 1063.27m @ 70 deg @ 1cm Qtz vein at 1065.79@ 40 degrees TCA. 1cm qtz lense on shear at 1072.5m @ 35 degrees TCA. Epidote hairline fractures 1075m & 1082.5m	209892	1060.85	1061.15	30	<5	<0.01	<0.001	
					209893	1063.00	1063.50	50	135	0.14	0.004	
					209894	1065.50	1066.00	50	<5	<0.01	<0.001	
					209895	1072.25	1072.75	50	<5	<0.01	<0.001	
1085.42	**1090.80**	**Diorite margin.**		Diorite - marginal phase - medium to fine grained plagioclase phenocrysts in a dirty grey brown vitreous groundmass. Minor main phase diorite flooding noted.								
1090.80	**1095.65**	**Diorite**	**14a**	Diorite - main phase, highly sheared with vuggy quartz and crystals noted 1091.20-1092m. Decimeter scale xenoliths of mafic volcanics towards base.	209896	1090.50	1091.00	50	<5	<0.01	<0.001	
					209897	1091.00	1091.50	50	<5	<0.01	<0.001	
					209898	1091.50	1092.00	50	<5	<0.01	<0.001	
					209899	1092.00	1092.50	50	<5	<0.01	<0.001	
					209900	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
					209901	1094.50	1095.00	50	<5	<0.01	<0.001	
				1cm milky qtz vein at 1095.45 @ 25 degrees TCA. BC sheared @ 35 degrees TCA.	209902	1095.00	1095.75	75	<5	<0.01	<0.001	
1095.65	**1103.30**	**Diorite margin.**		Diorite - marginal phase - fine grained dirty grey groundmass with 1-3mm plag phenocrysts. Scattered shears have calcite alteration and minor up to 2cm wide quartz veins. 1098-1099m is coarser grained and appears more like main phase. 1098.8-.95m well mineralized with pyrite and chalcopyrite at 3-5%. Minor BB style shear at 1099.65 @ 50 degrees TCA	209903	1095.75	1096.75	100	<5	<0.01	<0.001	
					209904	1096.75	1097.75	100	<5	<0.01	<0.001	
					209905	1097.75	1098.75	100	<5	<0.01	<0.001	
					209906	1098.75	1099.00	25	<5	<0.01	<0.001	
					209907	1099.00	1099.75	75	<5	<0.01	<0.001	
					209908	1099.75	1100.75	100	<5	<0.01	<0.001	
				1101.35-1103.3m strongly sheared @ 30 degrees TCA near the top zone and at 65 degrees TCA towards bottom contact. BC is @ 60 degrees TCA.	209909	1100.75	1101.75	100	<5	<0.01	<0.001	
					209910	0.00	0.00	0	8970	8.97	0.262	**Std Oreas 62c**
					209911	1101.75	1102.75	100	45	0.04	0.001	
					209912	1102.75	1103.25	50	<5	<0.01	<0.001	



From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
1103.30	**1106.40**	**Bishops Break Diorite sheared**		Sheared diorite dyke - "Bishop's Break" horizon at 60 deg TCA. Central portion 1104.18-1104.65 and lower contact highly sheared & brecciated with quartz infill + pyrite + chalcopyrite. 1105-1105.58m late phase very fine grained diorite with 3-5% fine pyrite noted BC @ 45 degrees TCA.	209913	1103.25	1104.15	90	<5	<0.01	<0.001	
					209914	1104.15	1104.45	30	<5	<0.01	<0.001	
					209915	1104.45	1104.75	30	<5	<0.01	<0.001	
					209916	1104.75	1105.10	35	<5	<0.01	<0.001	
					209917	1105.10	1105.45	35	<5	<0.01	<0.001	
					209918	1105.45	1105.80	35	<5	<0.01	<0.001	
					209919	1105.80	1106.15	35	<5	<0.01	<0.001	
					209920	1106.15	1106.45	30	<5	<0.01	<0.001	
1106.40	**1109.60**	**Diorite margin.**		Diorite - fine to medium grained marginal phase intermixed with medium grained main phase diorite carrying small mafic volcanic xenoliths	209921	1106.45	1107.00	55	<5	<0.01	<0.001	
					209922	1106.45	1107.00	55	<5	<0.01	<0.001	**Dup of 209921**
					209923	1107.00	1107.50	50	<5	<0.01	<0.001	
					209924	1107.50	1108.00	50	<5	<0.01	<0.001	
					209925	1108.00	1109.00	100	<5	<0.01	<0.001	
					209926	1109.00	1109.65	65	<5	<0.01	<0.001	
1109.60	**1111.48**	**Diorite**	**14a**	Diorite - main phase - medium grained, white & black with decimeter scale mafic volcanic xenoliths	209927	1109.65	1110.00	35	<5	<0.01	<0.001	
1111.48	**1111.79**	**Diorite Dyke**		Diorite Dyke - fine grained, dirty brown. TC & BC @ 45 degrees TCA.								
1111.79	**1114.32**	**Diorite**	**14a**	Diorite - main phase diorite as above.	209928	1114.00	1114.30	30	<5	<0.01	<0.001	
1114.32	**1116.11**	**Lamprophyric Dyke**	**16d**	Lamprophyric Dyke - Dark green fine grained mafic groundmass with black chloritized biotite phenocrysts. Slightly magnetic, moderately fractured and hairline calcite infill. Contacts eroded by diorite.	209929	1114.30	1115.00	70	<5	<0.01	<0.001	
					209930	0.00	0.00	0	1035	1.04	0.03	**Std Oreas 15h**
1116.11	**1118.68**	**Diorite**	**14a**	Diorite - main phase diorite as above. **BC erosional into chilled marginal diorite.**	209931	1118.40	1118.70	30	<5	<0.01	<0.001	
1118.68	**1120.32**	**Breccia Zone**		Brecciated zone of chilled marginal diorite with main phase remnants	209932	1118.70	1119.50	80	<5	<0.01	<0.001	
					209933	1119.50	1120.30	80	<5	<0.01	<0.001	
1120.32	**1122.82**	**Diorite margin.**		Diorite - marginal phase smokey grey vitreous groundmass with fine specks of biotite and 1-2% fine deseminated pyrite as well as in hairline fractures	209934	1120.30	1120.95	65	<5	<0.01	<0.001	
					209935	1120.95	1121.60	65	<5	<0.01	<0.001	
					209936	1121.60	1122.25	65	<5	<0.01	<0.001	
					209937	1122.25	1122.90	65	<5	<0.01	<0.001	
1122.82	**1128.35**	**Diorite**	**14a**	Diorite - main phase as above with decimeter scale xenoliths of mafic volcanics. Minor pyr near BC. BC @ 55 degrees TCA.	209938	1122.90	1123.20	30	<5	<0.01	<0.001	
1128.35	**1148.62**	**Diabase Dyke**	**16d**	Diabase dyke - very fine grained, dark green, baked over top 3m, moderately to highly fractured and calcified. Minor sulfides noted 1130.5m & 1142.9m. Baked and highly fractured, strongly magnetic from 1104.5-BC. BC @ 45 degrees TCA.	209939	1129.25	1130.25	100	<5	<0.01	<0.001	
					209940	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
					209941	1130.25	1130.75	50	<5	<0.01	<0.001	
					209942	1130.75	1131.25	50	<5	<0.01	<0.001	
					209943	1131.25	1131.75	50	<5	<0.01	<0.001	
					209944	1131.75	1132.25	50	<5	<0.01	<0.001	
					209945	1132.25	1132.75	50	<5	<0.01	<0.001	
					209946	1132.75	1133.25	50	<5	<0.01	<0.001	
					209947	1133.25	1134.00	75	<5	<0.01	<0.001	
					209948	1134.00	1135.00	100	10	0.01	<0.001	
					209949	1142.75	1143.25	50	<5	<0.01	<0.001	
					209950	0.00	0.00	0	8710	8.71	0.254	**Std Oreas 62c**



From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
1128.35	**1148.62**	**Diabase Dyke cont.**			209951	1145.00	1145.75	75	45	0.04	0.001	
					209952	1146.75	1147.25	50	<5	<0.01	<0.001	
1148.62	**1148.81**	**Diorite**	**14a**	Diorite - main phase	209953	1147.25	1148.25	100	<5	<0.01	<0.001	
1148.81	**1149.22**	**Diabase Dyke**	**16d**	Diabase dyke - sheared	209954	1148.25	1149.25	100	<5	<0.01	<0.001	
1149.22	**1150.45**	**Diabase Dyke**	**16d**	Diabase dyke - moderately fractured with calcite alteration. BC @ 45 deg TCA	209955	1149.25	1149.75	50	<5	<0.01	<0.001	
					209956	1149.75	1150.50	75	10	<0.01	<0.001	
1150.45	**1151.60**	**Diorite**	**14a**	Diorite - main phase + centimeter scale mafic xenoliths	209957	1150.50	1151.25	75	<5	<0.01	<0.001	
1151.60	**1151.78**	**Diabase Dyke**	**16d**	Diabase dyke as above	209958	1151.25	1152.00	75	5	<0.01	<0.001	
1151.78	**1153.21**	**Diorite**	**14a**	Diorite - main phase with xenoliths								
1153.21	**1154.30**	**Diabase Dyke**	**16d**	Diabase dyke - very fine grained dark grey with fine black phenocrysts. TC @ 50 degrees TCA BC is irregular.								
1154.30	**1159.80**	**Diorite**	**14a**	Diorite - main phase + xenoliths								
1159.80	**1160.75**	**Diabase dyke**	**16d**	Diabase Dyke - calcite alteration, sheared and silicified 1160.1-.4m + pyr noted	209959	1159.25	1159.75	50	<5	<0.01	<0.001	
					209960	1159.25	1159.75	50	<5	<0.01	<0.001	**Dup of 209959**
					209961	1159.75	1160.75	100	<5	<0.01	<0.001	
1160.75	**1161.18**	**Diorite**	**14a**	Diorite - main phase + xenoliths	209962	1160.75	1161.15	40	<5	<0.01	<0.001	
1161.18	**1161.27**	**Diorite margin.**		Diorite - marginal phase fine grained white/grey groundmass with fine black specks	209963	1161.15	1161.45	30	<5	<0.01	<0.001	
1161.27	**1161.43**	**Diorite sheared**		Diorite - sheared bb style chloritic diorite with 6cm milky quartz 1161.3-.36 no sulfides noted, conacts @ 60 deg TCA								
1161.43	**1162.22**	**Diorite**		Diorite - very fine grained white & black equigranular with minor pyrite noted. BC @ 40 degrees TCA	209964	1161.45	1161.85	40	<5	<0.01	<0.001	
					209965	1161.85	1162.25	40	<5	<0.01	<0.001	
1162.22	**1167.35**	**Diorite**	**14a**	Diorite - main phase , slightly remobilized. BC irregular and slightly gradational.	209966	1162.25	1162.75	50	<5	<0.01	<0.001	
					209967	1166.75	1167.25	50	<5	<0.01	<0.001	
1167.35	**1170.57**	**Diorite margin.**		Diorite - marginal phase smokey grey vitreous groundmass with 0.5-2mm white plag & black chloritized biotite and pyrite varying from 0.5-1-2%. Pyrite fracture infill 1168.48m	209968	1167.25	1168.35	110	<5	<0.01	<0.001	
					209969	1168.35	1169.45	110	<5	<0.01	<0.001	
					209970	0.00	0.00	0	1020	1.02	0.03	**Std Oreas 15h**
					209971	1169.45	1170.55	110	10	<0.01	<0.001	
1170.57	**1171.09**	**Diorite sheared**		Diorite - sheared bb style chloritic diorite @ 45 degrees TCA with brecciated quartz vein from 1170.57-1170.73m	209972	1170.55	1170.80	25	<5	<0.01	<0.001	
					209973	1170.80	1171.10	30	<5	<0.01	<0.001	
1171.09	**1172.72**	**Diorite**	**14a**	Diorite - main phase with bb style diorite flooding	209974	1171.10	1171.60	50	<5	<0.01	<0.001	
					209975	1171.60	1172.70	110	<5	<0.01	<0.001	
1172.72	**1174.00**	**Diorite margin.**		Diorite - marginal phase ,very fine grained,baked with brecciated segment 1173.48-.53m. TC & BC shallow angle and irregular.	209976	1172.70	1173.40	70	<5	<0.01	<0.001	
					209977	1173.40	1174.05	65	<5	<0.01	<0.001	
1174.00	**1190.76**	**Diorite**	**14a**	Diorite - main phase diorite with mafic volcanic xenoliths and brecciated segments with diorite replacement.	209978	1174.05	1174.55	50	35	0.03	0.001	
					209979	1182.00	1182.50	50	<5	<0.01	<0.001	
					209980	0.00	0.00	0	<5	<0.01	<0.001	**Silica Blank**
				1cm quartz tourmaline vein 1154.60 @ 45 degrees TCA	209981	1184.50	1184.75	25	<5	<0.01	<0.001	
					209982	1190.60	1190.90	30	<5	<0.01	<0.001	
1190.76	**1191.95**	**Diabase Dyke**	**16d**	Diabase Dyke - very fine grained dark grey slightly dioriticon margins. TC curved @ 80 deg BC planar @ 40 degrees TCA.								
1191.95	**1193.10**	**Diorite**	**14a**	Diorite - main phase diorite with xenoliths								
1193.10	**1194.20**	**Diorite Dyke**		Diorite Dyke - very fine grained medium grey with hairline calcite and epidote fracturing, TC irregular and sub parallel TCA, BC @ 35 degrees TCA.	209983	1193.50	1194.25	75	<5	<0.01	<0.001	

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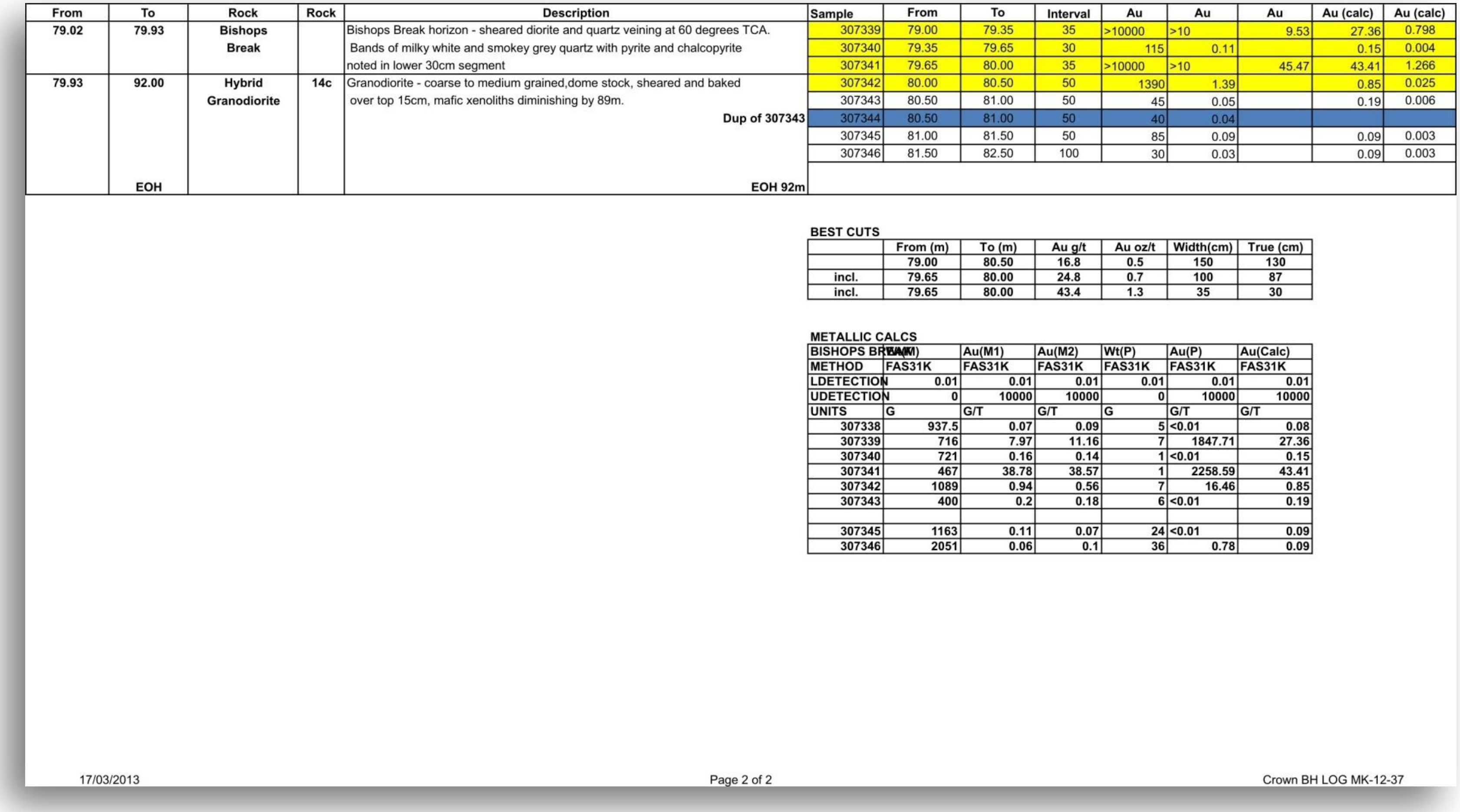
From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE
1194.20	**1203.60**	**Diorite**	**14a**	Diorite - main phase diorite with xenoliths, BC @ 35 degrees TCA. Scattered 1cm scale qtz veinlets noted 1198.7-1200.95m	209984	1198.50	1199.00	50	<5	<0.01	<0.001	
					209985	1202.50	1203.00	50	<5	<0.01	<0.001	
1203.60	**1215.08**	**Basalt - baked**	**9b**	Basalt - Dark green fine grained baked mafic flows with scattered diorite intrusions becoming prominent downwards. Minor pyrite noted throughout	209986	1214.00	1214.50	50	<5	<0.01	<0.001	
1215.08	**1218.42**	**Diorite**	**14a**	Diorite - main phase diorite with xenoliths. Small chloritic shear at 1216.2m @ 30 degrees TCA, epidotized shear at 1217.45 @ 50 degrees TCA. Lower 30cm of unit 1-2% fine pyrite.	209987	1215.90	1216.40	50	<5	<0.01	<0.001	
					209988	1217.30	1217.60	30	<5	<0.01	<0.001	
					209989	1218.00	1218.42	42	380	0.38	0.011	
1218.42	**1221.23**	**Diorite Dyke**		Diorite dyke -very fine grained medium khaki grey 1-2% fine pyr, lower 20cm strongly sheared @ 40 degrees TCA, chloritic and well mineralized with pyrite and chalcopyrite	209990	0.00	0.00	0	8620	8.62	0.251	**Std Oreas 62c**
					209991	1218.42	1219.00	58	10	0.01	<0.001	
					209992	1219.00	1220.00	100	<5	<0.01	<0.001	
					209993	1220.00	1221.00	100	<5	<0.01	<0.001	
					209994	1221.00	1221.25	25	<5	<0.01	<0.001	
1221.23	**1224.12**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics flooded with diorite	209995	1221.25	1222.00	75	<5	<0.01	<0.001	
1224.12	**1224.43**	**Diorite Dyke**		Diorite Dyke - very fine grained medium khaki grey finely laminated @ 60 degrees	209996	1224.00	1224.50	50	<5	<0.01	<0.001	
1224.43	**1227.55**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics as above with pegmatoidal feldspar flooding and pyrite on bottom contact. BC @ 70 degrees TCA	209997	1225.65	1226.40	75	<5	<0.01	<0.001	
					209998	1227.00	1227.50	50	<5	<0.01	<0.001	
1227.55	**1228.94**	**Diorite Dyke**		Diorite Dyke - very fine grained medium khaki grey colour with less sulfides than previous. BC @ 70 degrees TCA.	209999	1227.50	1228.20	70	<5	<0.01	<0.001	
					210000	1227.50	1228.20	70	<5	<0.01	<0.001	**Dup of 209999**
					307301	1228.20	1228.94	74	<5	<0.01	<0.001	
1228.94	**1129.30**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanic with minor pyrite.	307302	1228.94	1229.54	60	<5	<0.01	<0.001	
1129.30	**1129.45**	**Diorite Dyke**		Diorite Dyke - as above , highly fractured, TC @ 70 degrees TCA BC broken	307303	1229.54	1230.00	46	5	<0.01	<0.001	
1129.45	**1230.75**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanic with pyrite over top 15cm.	307304	1230.00	1230.75	75	<5	<0.01	<0.001	
1230.75	**1231.55**	**Diorite Dyke**		Diorite Dyke - top 15cm pale green from calcite alteration remainder medium khaki grey as previous and finely laminated parallel to contacts @ 70 degrees TCA.	307305	1230.75	1231.55	80	<5	<0.01	<0.001	
1231.55	**1234.68**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics with diorite flooding. Lower 35cm well baked & highly fractured with pyrite noted.	307306	1231.55	1232.00	45	<5	<0.01	<0.001	
					307307	1233.80	1234.30	50	15	0.02	<0.001	
					307308	1234.30	1234.70	40	<5	<0.01	<0.001	
1234.68	**1235.45**	**Diorite Dyke**		Diorite Dyke as above but with slightly porphyritic central portion with fine chlorite	307309	1234.70	1235.45	75	<5	<0.01	<0.001	

From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	COMPOSITE	
1235.45	**1255.97**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics with diorite flooding. Some segments highly fractured and infilled with calcite & pyrite.	307310	0.00	0.00	0	990	0.99	0.029	**Std Oreas 15h**	
					307311	1235.45	1236.20	75	10	0.01	<0.001		
					307313	1240.70	1241.20	50	<5	<0.01	<0.001		
					307314	1241.20	1241.70	50	<5	<0.01	<0.001		
					307315	1242.65	1242.95	30	<5	<0.01	<0.001		
					307312	1252.55	1252.85	30	20	0.02	<0.001		
1255.97	**1257.44**	**Diorite**		Diorite - fine to medium grained, medium green to pale grey with a varied texture. Numerous xenoliths of mafic volcanics are nearly totally assimilated. Faint stringers of pyrite 1256.6-.7m									
					307316	1256.50	1256.80	30	<5	<0.01	<0.001		
1257.44	**1257.95**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics with diorite flooding.									
1257.95	**1258.70**	**Diorite Dyke**		Diorite Dyke - porphyritic texture with 2x10mm chloritized laths of biotits in a fine diorite groundmass. TC @ 25 degrees TCA, BC @ 35 degrees TCA.									
1258.70	**1263.00**	**Basalt - baked**	**9b**	Basalt - baked mafic volcanics with diorite flooding. EOH									
					307317	1260.70	1261.00	30	<5	<0.01	<0.001		
	EOH			**EOH 1263m**									

Project: **McKenzie Island**
Hole#: **MK-12-37** **Length:** **92 m**
Start Date: 22-Sep-12 **Azimuth:** **244 °**
End Date: 24-Sep-12 **Dip:** **-45 °**
Northing: **5656127N** **Logged by:** **S. Franko**
Easting: **439287E** **Date Logged:** 25th September 2012
ELEV **370** **Drilling Co.:** Orbit
Core Size: NQ2 **Comments:** Targeting Bishops Break down dip of 2011 high grade zone

DOWNHOLE TEST -		Reflex			
DEPTH	**AZIMUTH**	**DIP**	**ROLL**	**MAG**	**TEMP**
Collar	**244.0**	**-45.0**			
89.0	**244.0**	**-43.4**	**313.9**	**5767.0**	**15.5**

									FAA313	FAA313	FAG303	METALLICS FAS31K	FAS31K
From (m)	**To (m)**	**Rock Type**	**Rock Code**	**Description**	**Sample**	**From (m)**	**To (m)**	**Interval (cm)**	**Au ppb**	**Au g/t**	**Au g/t**	**Au (calc) g/t**	**Au (calc) oz/t**
0.00	**18.10**	**Till**		Glacial Till - Poorly sorted, sandy/cobble boulder till									
18.10	**21.75**	**Granodiorite**	**14c**	Granodiorite - very clean/fresh pink/orange/black medium grained with centimeter scale mafic volcanic xenoliths.									
21.75	**28.92**	**Diorite margin.**		Diorite - marginal phase, smokey grey vitreous groundmass with plag over chloritized biotite porphyries. Brecciatiated with minor sulfides 22.4-22.65m BC @ 80 degrees TCA.	307318	21.70	22.20	50	<5	<0.01			
					307319	22.20	22.70	50	5	<0.01			
				Silica Blank	307320	0.00	0.00	0	<5	<0.01			
28.92	**30.44**	**Diorite Dyke**		Diorite Dyke - porphyritic, fine grained dioritic groundmass with sub angular laths of white plagioclase. BC @ 35 degrees TCA.									
30.44	**52.27**	**Hybrid Granodiorite**	**14c**	Granodiorite - typical pink white black medium grained dome stock with decimeter to meter scale xenoliths of mafic volcanics (unit 9b)									
52.27	**58.44**	**Diorite margin.**		Diorite - marginal phase as above with numerous rounded plagioclase phenocrysts in a fine diorite groundmass. BC is diffuse.									
58.44	**61.91**	**Hybrid Granodiorite**	**14c**	Granodiorite - with mafic xenoliths as above.									
					307321	61.40	61.90	50	<5	<0.01			
61.91	**62.47**	**Diorite sheared**		Diorite - chilled sheared diorite with quartz, calcite and diorite flooding. Finely laminated @ 80 degrees TCA.	307322	61.90	62.50	60	<5	<0.01			
62.47	**79.02**	**Diorite Dyke**		Diorite Dyke -medium to light grey, very fine grained, sheared in segments, scattered hairline - 1cm quartz and calcite veins. Lower 50cm strongly sheared and flooded with quartz.	307323	62.50	64.00	150	<5	<0.01			
					307324	64.00	65.50	150	<5	<0.01			
					307325	65.50	66.25	75	<5	<0.01			
					307326	66.25	67.00	75	10	<0.01			
					307327	67.00	68.00	100	5	<0.01			
					307328	68.00	69.50	150	<5	<0.01			
					307329	69.50	71.00	150	<5	<0.01			
				Std Oreas 62c	307330	0.00	0.00	0	8510	8.51			
					307331	71.00	72.50	150	<5	<0.01			
					307332	72.50	74.00	150	20	0.02			
					307333	74.00	75.50	150	<5	<0.01			
					307334	75.50	76.25	75	<5	<0.01			
					307335	76.25	77.00	75	30	0.03			
					307336	77.00	78.00	100	<5	<0.01			
					307337	78.00	78.50	50	<5	<0.01			
					307338	78.50	79.00	50	<5	<0.01		0.08	0.002



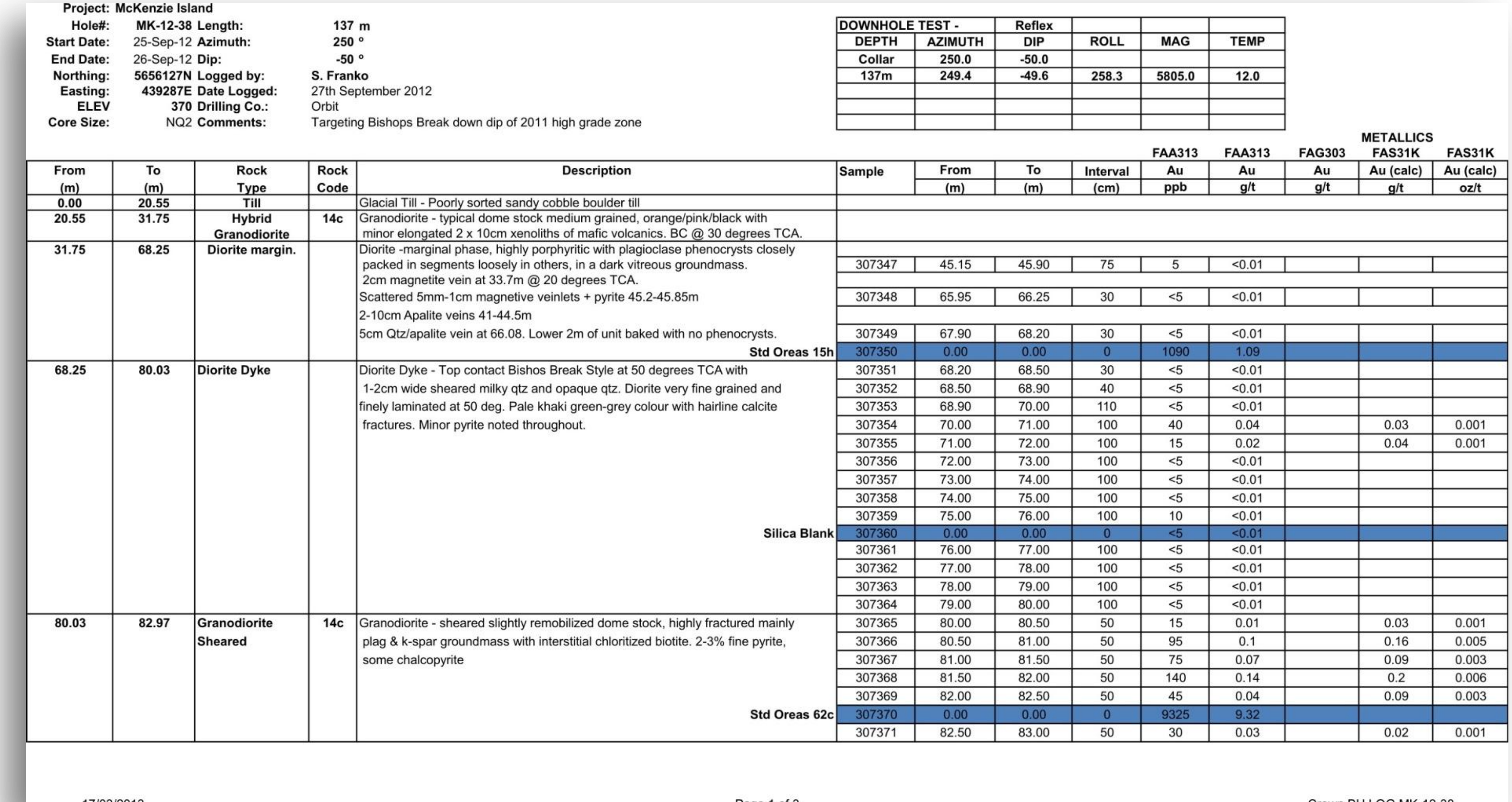
From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (calc)	Au (calc)
79.02	79.93	Bishops Break		Bishops Break horizon - sheared diorite and quartz veining at 60 degrees TCA.	307339	79.00	79.35	35	>10000	>10	9.53	27.36	0.798
				Bands of milky white and smokey grey quartz with pyrite and chalcopyrite	307340	79.35	79.65	30	115	0.11		0.15	0.004
				noted in lower 30cm segment	307341	79.65	80.00	35	>10000	>10	45.47	43.41	1.266
79.93	92.00	Hybrid Granodiorite	14c	Granodiorite - coarse to medium grained,dome stock, sheared and baked	307342	80.00	80.50	50	1390	1.39		0.85	0.025
				over top 15cm, mafic xenoliths diminishing by 89m.	307343	80.50	81.00	50	45	0.05		0.19	0.006
				Dup of 307343	307344	80.50	81.00	50	40	0.04			
					307345	81.00	81.50	50	85	0.09		0.09	0.003
					307346	81.50	82.50	100	30	0.03		0.09	0.003
	EOH			EOH 92m									

BEST CUTS

	From (m)	To (m)	Au g/t	Au oz/t	Width(cm)	True (cm)
	79.00	80.50	16.8	0.5	150	130
incl.	79.65	80.00	24.8	0.7	100	87
incl.	79.65	80.00	43.4	1.3	35	30

METALLIC CALCS

BISHOPS BREAK	Wt(M)	Au(M1)	Au(M2)	Wt(P)	Au(P)	Au(Calc)
METHOD	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K
LDETECTION	0.01	0.01	0.01	0.01	0.01	0.01
UDETECTION	0	10000	10000	0	10000	10000
UNITS	G	G/T	G/T	G	G/T	G/T
307338	937.5	0.07	0.09	5	<0.01	0.08
307339	716	7.97	11.16	7	1847.71	27.36
307340	721	0.16	0.14	1	<0.01	0.15
307341	467	38.78	38.57	1	2258.59	43.41
307342	1089	0.94	0.56	7	16.46	0.85
307343	400	0.2	0.18	6	<0.01	0.19
307345	1163	0.11	0.07	24	<0.01	0.09
307346	2051	0.06	0.1	36	0.78	0.09



Project:	**McKenzie Island**		
Hole#:	**MK-12-38**	**Length:**	**137 m**
Start Date:	25-Sep-12	**Azimuth:**	**250 °**
End Date:	26-Sep-12	**Dip:**	**-50 °**
Northing:	**5656127N**	**Logged by:**	**S. Franko**
Easting:	**439287E**	**Date Logged:**	27th September 2012
ELEV	**370**	**Drilling Co.:**	Orbit
Core Size:	NQ2	**Comments:**	Targeting Bishops Break down dip of 2011 high grade zone

DOWNHOLE TEST -		Reflex			
DEPTH	AZIMUTH	DIP	ROLL	MAG	TEMP
Collar	250.0	-50.0			
137m	249.4	-49.6	258.3	5805.0	12.0

From (m)	To (m)	Rock Type	Rock Code	Description	Sample	From (m)	To (m)	Interval (cm)	FAA313 Au ppb	FAA313 Au g/t	FAG303 Au g/t	METALLICS FAS31K Au (calc) g/t	FAS31K Au (calc) oz/t
0.00	20.55	Till		Glacial Till - Poorly sorted sandy cobble boulder till									
20.55	31.75	Hybrid Granodiorite	14c	Granodiorite - typical dome stock medium grained, orange/pink/black with minor elongated 2 x 10cm xenoliths of mafic volcanics. BC @ 30 degrees TCA.									
31.75	68.25	Diorite margin.		Diorite -marginal phase, highly porphyritic with plagioclase phenocrysts closely									
				packed in segments loosely in others, in a dark vitreous groundmass.	307347	45.15	45.90	75	5	<0.01			
				2cm magnetite vein at 33.7m @ 20 degrees TCA.									
				Scattered 5mm-1cm magnetive veinlets + pyrite 45.2-45.85m	307348	65.95	66.25	30	<5	<0.01			
				2-10cm Apalite veins 41-44.5m									
				5cm Qtz/apalite vein at 66.08. Lower 2m of unit baked with no phenocrysts.	307349	67.90	68.20	30	<5	<0.01			
				Std Oreas 15h	307350	0.00	0.00	0	1090	1.09			
68.25	80.03	Diorite Dyke		Diorite Dyke - Top contact Bishos Break Style at 50 degrees TCA with	307351	68.20	68.50	30	<5	<0.01			
				1-2cm wide sheared milky qtz and opaque qtz. Diorite very fine grained and	307352	68.50	68.90	40	<5	<0.01			
				finely laminated at 50 deg. Pale khaki green-grey colour with hairline calcite	307353	68.90	70.00	110	<5	<0.01			
				fractures. Minor pyrite noted throughout.	307354	70.00	71.00	100	40	0.04		0.03	0.001
					307355	71.00	72.00	100	15	0.02		0.04	0.001
					307356	72.00	73.00	100	<5	<0.01			
					307357	73.00	74.00	100	<5	<0.01			
					307358	74.00	75.00	100	<5	<0.01			
					307359	75.00	76.00	100	10	<0.01			
				Silica Blank	307360	0.00	0.00	0	<5	<0.01			
					307361	76.00	77.00	100	<5	<0.01			
					307362	77.00	78.00	100	<5	<0.01			
					307363	78.00	79.00	100	<5	<0.01			
					307364	79.00	80.00	100	<5	<0.01			
80.03	82.97	Granodiorite	14c	Granodiorite - sheared slightly remobilized dome stock, highly fractured mainly	307365	80.00	80.50	50	15	0.01		0.03	0.001
		Sheared		plag & k-spar groundmass with interstitial chloritized biotite. 2-3% fine pyrite,	307366	80.50	81.00	50	95	0.1		0.16	0.005
				some chalcopyrite	307367	81.00	81.50	50	75	0.07		0.09	0.003
					307368	81.50	82.00	50	140	0.14		0.2	0.006
					307369	82.00	82.50	50	45	0.04		0.09	0.003
				Std Oreas 62c	307370	0.00	0.00	0	9325	9.32			
					307371	82.50	83.00	50	30	0.03		0.02	0.001

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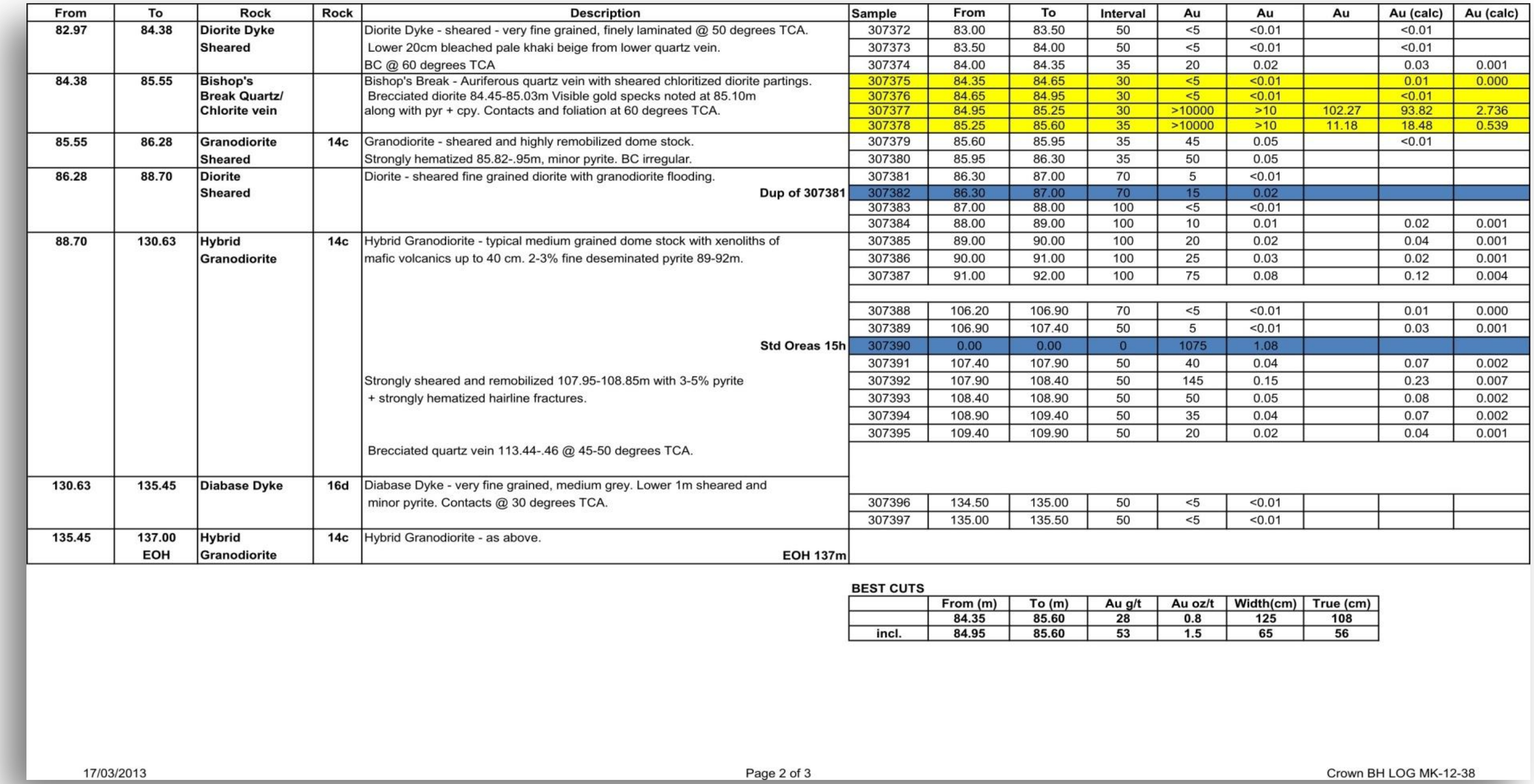
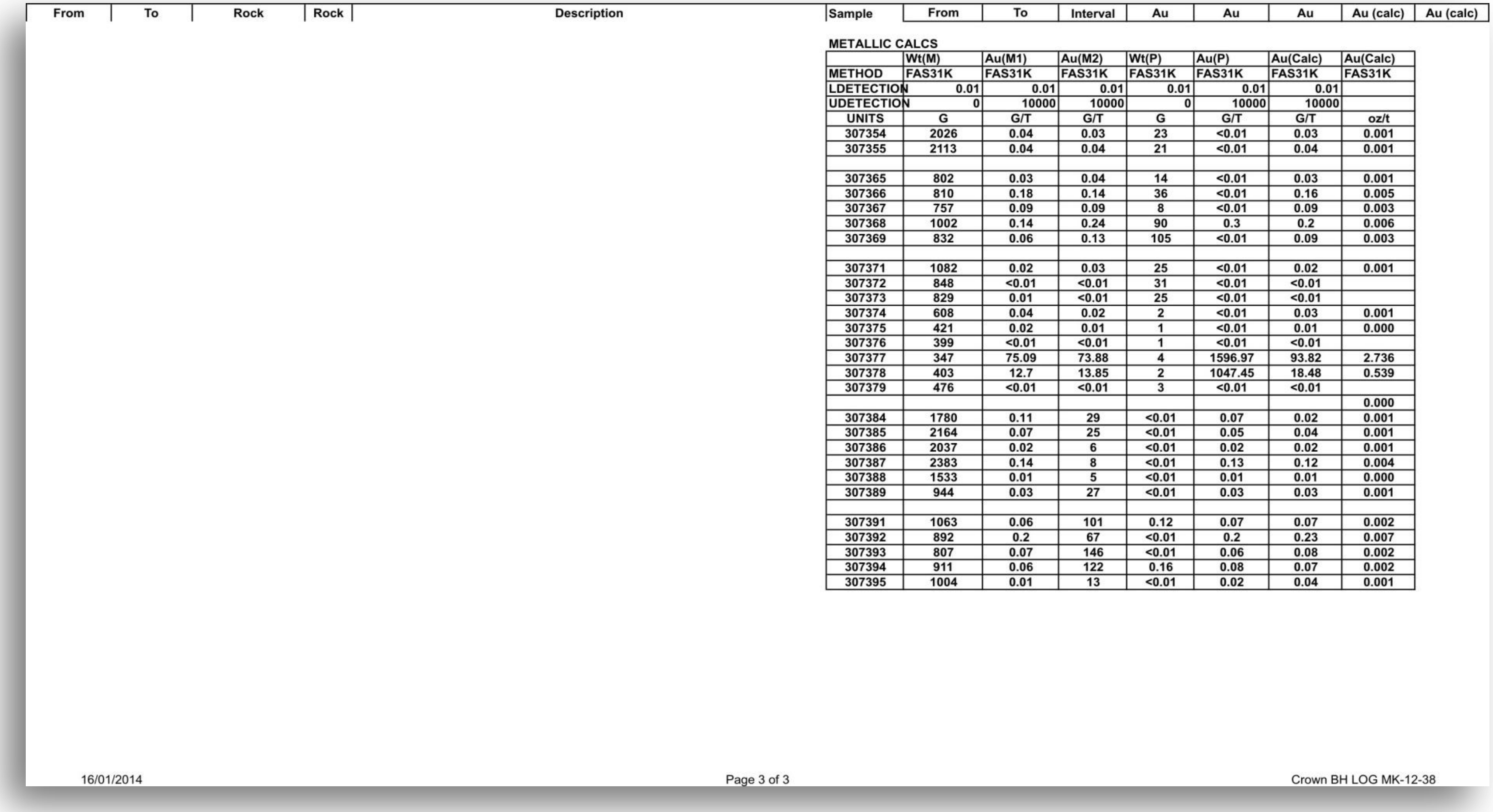


From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (calc)	Au (calc)
82.97	**84.38**	**Diorite Dyke**		Diorite Dyke - sheared - very fine grained, finely laminated @ 50 degrees TCA.	307372	83.00	83.50	50	<5	<0.01		<0.01	
		Sheared		Lower 20cm bleached pale khaki beige from lower quartz vein.	307373	83.50	84.00	50	<5	<0.01		<0.01	
				BC @ 60 degrees TCA	307374	84.00	84.35	35	20	0.02		0.03	0.001
84.38	**85.55**	**Bishop's Break Quartz/ Chlorite vein**		Bishop's Break - Auriferous quartz vein with sheared chloritized diorite partings.	307375	84.35	84.65	30	<5	<0.01		0.01	0.000
				Brecciated diorite 84.45-85.03m Visible gold specks noted at 85.10m	307376	84.65	84.95	30	<5	<0.01		<0.01	
				along with pyr + cpy. Contacts and foliation at 60 degrees TCA.	307377	84.95	85.25	30	>10000	>10	102.27	93.82	2.736
					307378	85.25	85.60	35	>10000	>10	11.18	18.48	0.539
85.55	**86.28**	**Granodiorite**	**14c**	Granodiorite - sheared and highly remobilized dome stock.	307379	85.60	85.95	35	45	0.05		<0.01	
		Sheared		Strongly hematized 85.82-.95m, minor pyrite. BC irregular.	307380	85.95	86.30	35	50	0.05			
86.28	**88.70**	**Diorite**		Diorite - sheared fine grained diorite with granodiorite flooding.	307381	86.30	87.00	70	5	<0.01			
		Sheared		**Dup of 307381**	307382	86.30	87.00	70	15	0.02			
					307383	87.00	88.00	100	<5	<0.01			
					307384	88.00	89.00	100	10	0.01		0.02	0.001
88.70	**130.63**	**Hybrid**	**14c**	Hybrid Granodiorite - typical medium grained dome stock with xenoliths of	307385	89.00	90.00	100	20	0.02		0.04	0.001
		Granodiorite		mafic volcanics up to 40 cm. 2-3% fine deseminated pyrite 89-92m.	307386	90.00	91.00	100	25	0.03		0.02	0.001
					307387	91.00	92.00	100	75	0.08		0.12	0.004
					307388	106.20	106.90	70	<5	<0.01		0.01	0.000
					307389	106.90	107.40	50	5	<0.01		0.03	0.001
				Std Oreas 15h	307390	0.00	0.00	0	1075	1.08			
					307391	107.40	107.90	50	40	0.04		0.07	0.002
				Strongly sheared and remobilized 107.95-108.85m with 3-5% pyrite	307392	107.90	108.40	50	145	0.15		0.23	0.007
				+ strongly hematized hairline fractures.	307393	108.40	108.90	50	50	0.05		0.08	0.002
					307394	108.90	109.40	50	35	0.04		0.07	0.002
					307395	109.40	109.90	50	20	0.02		0.04	0.001
				Brecciated quartz vein 113.44-.46 @ 45-50 degrees TCA.									
130.63	**135.45**	**Diabase Dyke**	**16d**	Diabase Dyke - very fine grained, medium grey. Lower 1m sheared and									
				minor pyrite. Contacts @ 30 degrees TCA.	307396	134.50	135.00	50	<5	<0.01			
					307397	135.00	135.50	50	<5	<0.01			
135.45	**137.00**	**Hybrid**	**14c**	Hybrid Granodiorite - as above.									
	EOH	**Granodiorite**		**EOH 137m**									

BEST CUTS

	From (m)	To (m)	Au g/t	Au oz/t	Width(cm)	True (cm)
	84.35	**85.60**	**28**	**0.8**	**125**	**108**
incl.	**84.95**	**85.60**	**53**	**1.5**	**65**	**56**



From	To	Rock	Rock	Description	Sample	From	To	Interval	Au	Au	Au	Au (calc)	Au (calc)

METALLIC CALCS

	Wt(M)	Au(M1)	Au(M2)	Wt(P)	Au(P)	Au(Calc)	Au(Calc)
METHOD	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K	FAS31K
LDETECTION	0.01	0.01	0.01	0.01	0.01	0.01	
UDETECTION	0	10000	10000	0	10000	10000	
UNITS	G	G/T	G/T	G	G/T	G/T	oz/t
307354	2026	0.04	0.03	23	<0.01	0.03	0.001
307355	2113	0.04	0.04	21	<0.01	0.04	0.001
307365	802	0.03	0.04	14	<0.01	0.03	0.001
307366	810	0.18	0.14	36	<0.01	0.16	0.005
307367	757	0.09	0.09	8	<0.01	0.09	0.003
307368	1002	0.14	0.24	90	0.3	0.2	0.006
307369	832	0.06	0.13	105	<0.01	0.09	0.003
307371	1082	0.02	0.03	25	<0.01	0.02	0.001
307372	848	<0.01	<0.01	31	<0.01	<0.01	
307373	829	0.01	<0.01	25	<0.01	<0.01	
307374	608	0.04	0.02	2	<0.01	0.03	0.001
307375	421	0.02	0.01	1	<0.01	0.01	0.000
307376	399	<0.01	<0.01	1	<0.01	<0.01	
307377	347	75.09	73.88	4	1596.97	93.82	2.736
307378	403	12.7	13.85	2	1047.45	18.48	0.539
307379	476	<0.01	<0.01	3	<0.01	<0.01	
							0.000
307384	1780	0.11	29	<0.01	0.07	0.02	0.001
307385	2164	0.07	25	<0.01	0.05	0.04	0.001
307386	2037	0.02	6	<0.01	0.02	0.02	0.001
307387	2383	0.14	8	<0.01	0.13	0.12	0.004
307388	1533	0.01	5	<0.01	0.01	0.01	0.000
307389	944	0.03	27	<0.01	0.03	0.03	0.001
307391	1063	0.06	101	0.12	0.07	0.07	0.002
307392	892	0.2	67	<0.01	0.2	0.23	0.007
307393	807	0.07	146	<0.01	0.06	0.08	0.002
307394	911	0.06	122	0.16	0.08	0.07	0.002
307395	1004	0.01	13	<0.01	0.02	0.04	0.001

APPENDIX 2 Soil Gas Hydrocarbon Report, Actlabs

SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

CROWN GOLD CORPORATION
"MCKENZIE ISLAND SURVEY"

December 7, 2011

** Dale Sutherland,*

Activation Laboratories Ltd

(- author, originator)*

EVALUATION OF SAMPLES

DATA EXPLORATION FOR: "GOLD" TARGETS

SGH GOLD TEMPLATE USED FOR THIS REPORT

Workorder: A11-13034

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as inorganic geochemistries, this report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1976 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over hundreds of surveys for a wide variety of target types in various lithologies from many geographical locations. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses non-gaseous semi-volatile organic compounds interpreted using a forensic signature approach It is based solely on SGH data and does not include the consideration or interpretation from any other geochemistry (inorganic), geology, or geophysics that may exist related to this survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced.

"SUPPLEMENTAL REPORT": ($ 1,500.00, as of July 1, 2011)

Those clients who have determined that these SGH results will add an important aspect to their exploration effort can request a "Supplemental Report". This report contains the additional SGH Pathfinder Classes and an explanation of their use in the SGH interpretation that supports the initial applied "Rating" for the survey as a relative comparison to the results previously obtained in case studies that were used to create the SGH template for the general target type.

"ADDITIONAL INTERPRETATION": ($ 1,500.00, as of July 1, 2011)

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1,500 per area, thus a total of $3,000.

"BASIC OR SUPPLEMENTAL REPORT GIS PACKAGE": ($ 120.00)

Those clients that wish to import the SGH results into their GIS software can request a "GIS Package", which will include the geo-referenced image files that reflect the mapped SGH Pathfinder Class or Classes contained in the Standard or Supplemental Report and an Excel CSV file(s) containing the associated Class Sum data.

SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for minerals and elements, geology requires tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Organic material requires many minerals and elements, so organic materials can be biomarker of the present of the minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. SGH has been successful for delineating targets found at over 500 metres in depth. Samples of various media have been successfully analyzed such as soil (any horizon), drill core, rock, peat, lake-bottom sediments and even snow. The SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. SGH is also different from soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach to identification. The hydrocarbons in the SGH extract are separated by high resolution capillary column gas chromatography to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing in two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 14 years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in the shortest time frame and provide the benefit from past research sponsored by Actlabs, CAMIRO, OMET and other projects.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 400 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were selected since other inorganic geochemistries were unsuccessful at illustrating anomalies related to the target.

Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. SGH has recently been very successful in exploration and discovery of unknown targets e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com)

Sample Type and Survey Design It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemistries. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways.

In conclusion, the conditions for the sample type and survey design include:

- Minimum of 50 samples "locations"
- Evenly spaced in the target area – one-third over the target and one-third on each side of the target
- Different sample types even "within" the same survey or transect
- Evenly spaced samples – lines spaced in a 4:1 ratio
- Samples can be drip dried.
- No special preservation for shipping is needed.

Sample Preparation and Analysis

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -60 mesh sieve fraction (<250 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transported from our sample preparation building to our analytical building on the same street in Ancaster Ontario. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "*blind*" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for inorganic geochemistries from surveys over copper, gold, lead, nickel, etc. type targets.

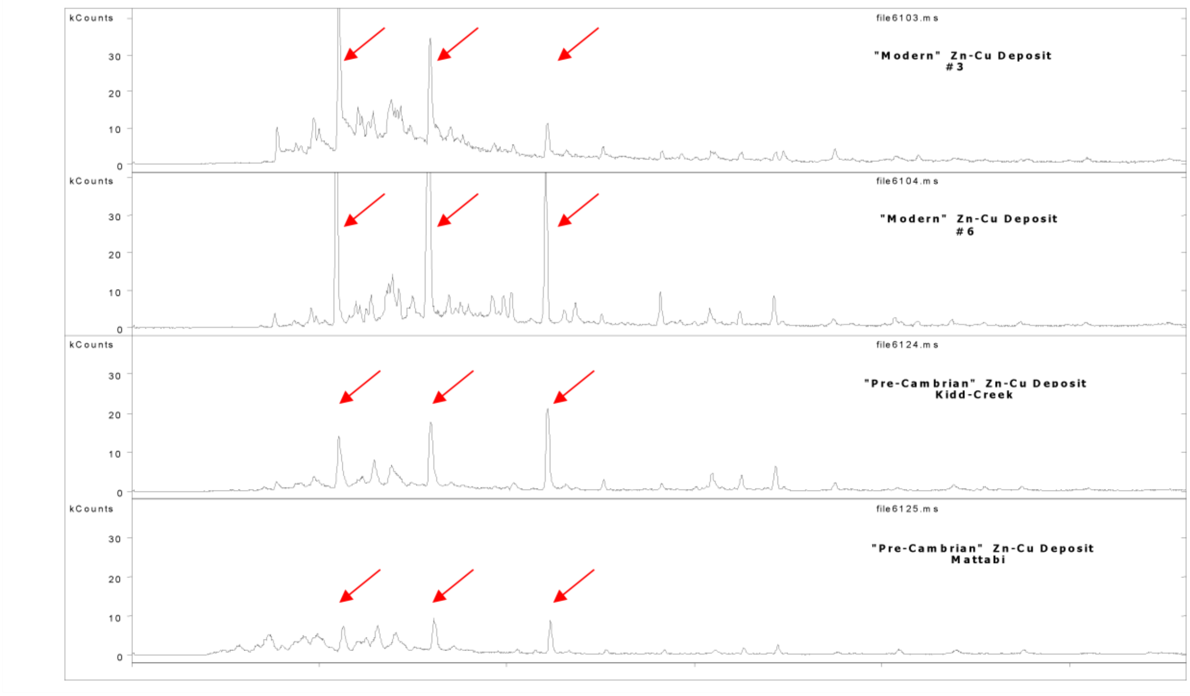
SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH – FORENSIC GEOCHEMICAL SIGNATURES

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.

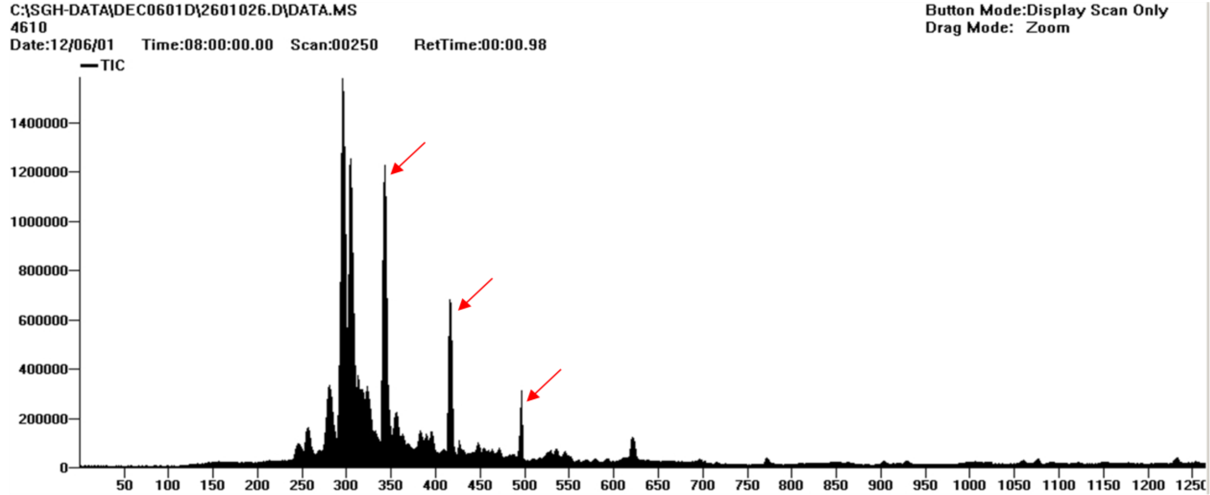


The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

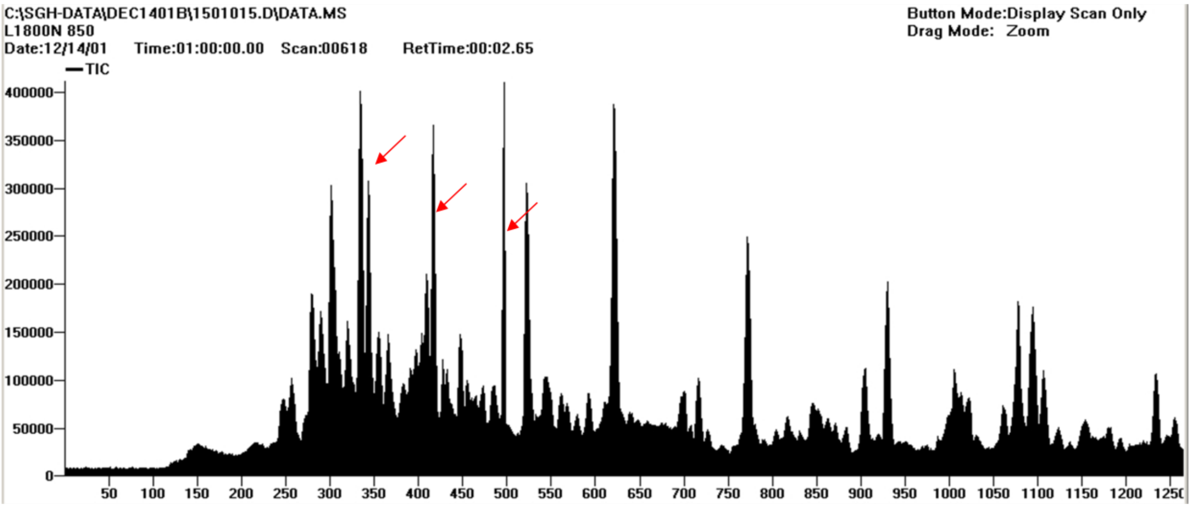
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



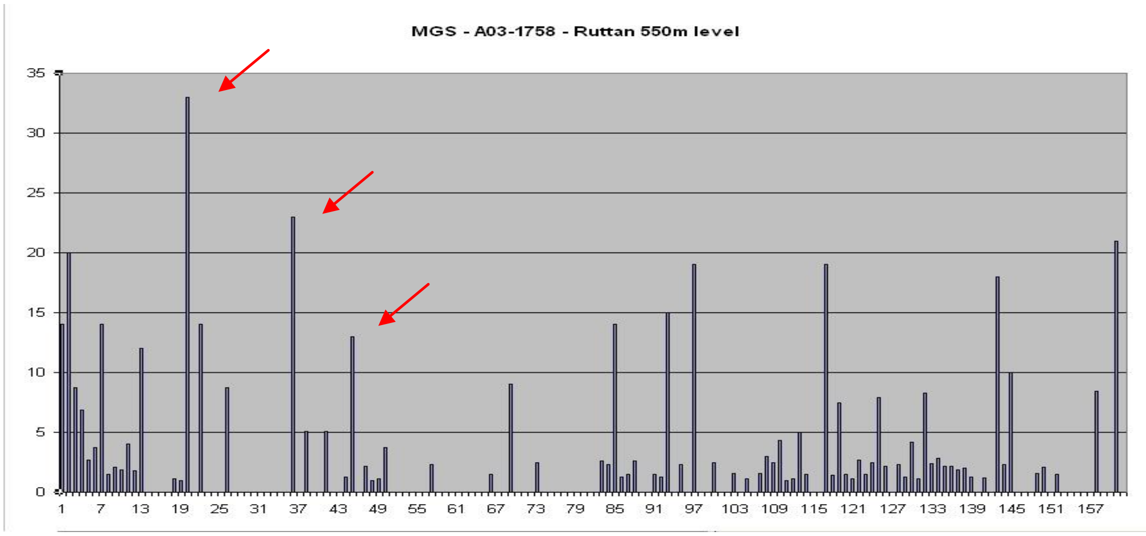
The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



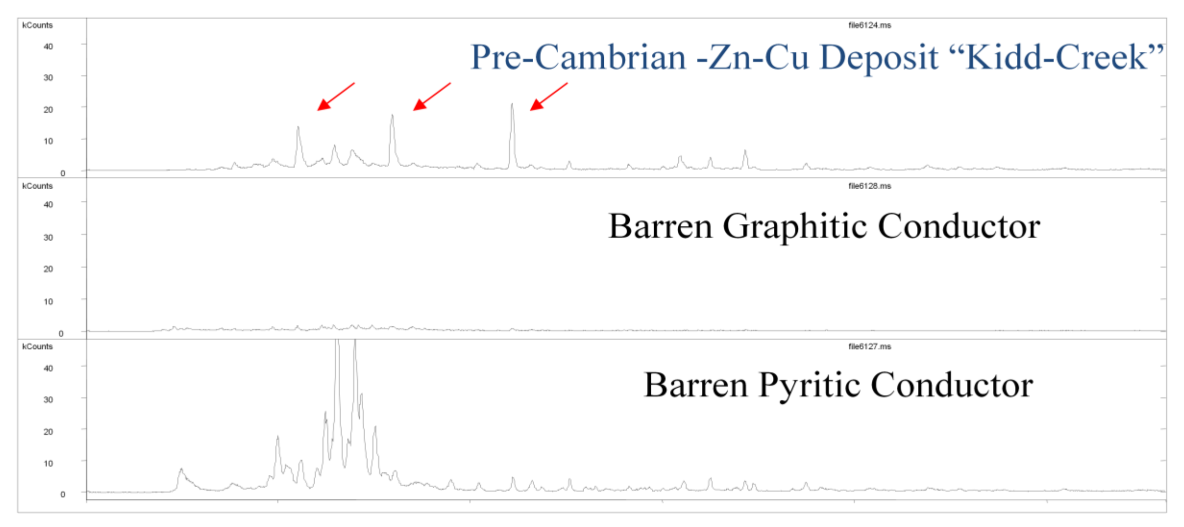
In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the complete SGH VMS signature**. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.



SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

SGH DATA QUALITY

Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number has a range having a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

LABORATORY MATERIALS BLANK – QUALITY ASSURANCE (LMB-QA)

The Laboratory Materials Blank Quality Assurance measurements (LMB-QA) shown in the SGH spreadsheet of results are matrix free blanks analyzed for SGH. These blanks are not standard laboratory blanks as they do not accurately reflect an amount expected to be from laboratory handling or laboratory conditions that may be present and affect the sample analysis result. The LMB-QA measurements are a pre-warning system to only detect any contamination originating from laboratory glassware, vials or caps. As there is no substrate to emulate the sample matrix, the full solvating power of the SGH leaching solution, effectively a water leach, is fully directed at the small surface area of the glassware, vials or caps. In a sample analysis the solvating power of the SGH leaching solution is distributed between the large sample surface area (from soil, humus, sediments, peat, till, etc.) and the relatively small contribution from the laboratory materials surfaces. The sample matrix also buffers the solvating or leaching effect in the sample versus the more vigorous leaching of the laboratory materials which do not experience this buffering effect. Thus the level of the LMB-QA reported is biased high relative to the sample concentration and the actual contribution of the laboratory reagents, equipment, handling, etc. to the values in samples is significantly lower. This situation in organic laboratory analysis only occurs at such extremely low part-per-trillion (ppt) measurement levels. This is one of the reasons that SGH uses a reporting limit and not a detection limit. The 1 ppt reporting limit used in the SGH spreadsheet of raw concentration data is 3 to 5 times greater than a detection limit. The reporting limit automatically filters out analytical noise, the actual LMB-QA, and most of the sample survey site background. This has been proven as SGH values of 1 to 3 parts-per-trillion (ppt) have very often illustrated the outline of anomalies directly related to mineral targets. **Thus all SGH values greater than or equal to 1 or 2 ppt should be used as reliable values for interpretations.**

The LMB-QA values thus should not be used to background subtract any SGH data. The LMB-QA values are only an early warning as a quality assurance procedure to indicate the relative cleanliness of laboratory glassware, vials, caps, and the laboratory water supply at the ppt concentration level. *Do not subtract the LMB-QA values from SGH sample data.*

SGH DATA INTERPRETATION

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data in sectioned into quartiles and each section is assigned specific leveling factors that is then applied to one data set. It should be noted that any type of data leveling is an approximation.

SGH RATING SYSTEM

DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.

- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.

- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with well defined anomalies. Supporting classes may also be present.

- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with fairly well defined anomalies. Some supporting classes may or may not be present.

- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present

- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with ever submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),

- (ii) how well do these SGH Pathfinder Classes agree in describing an particular area,

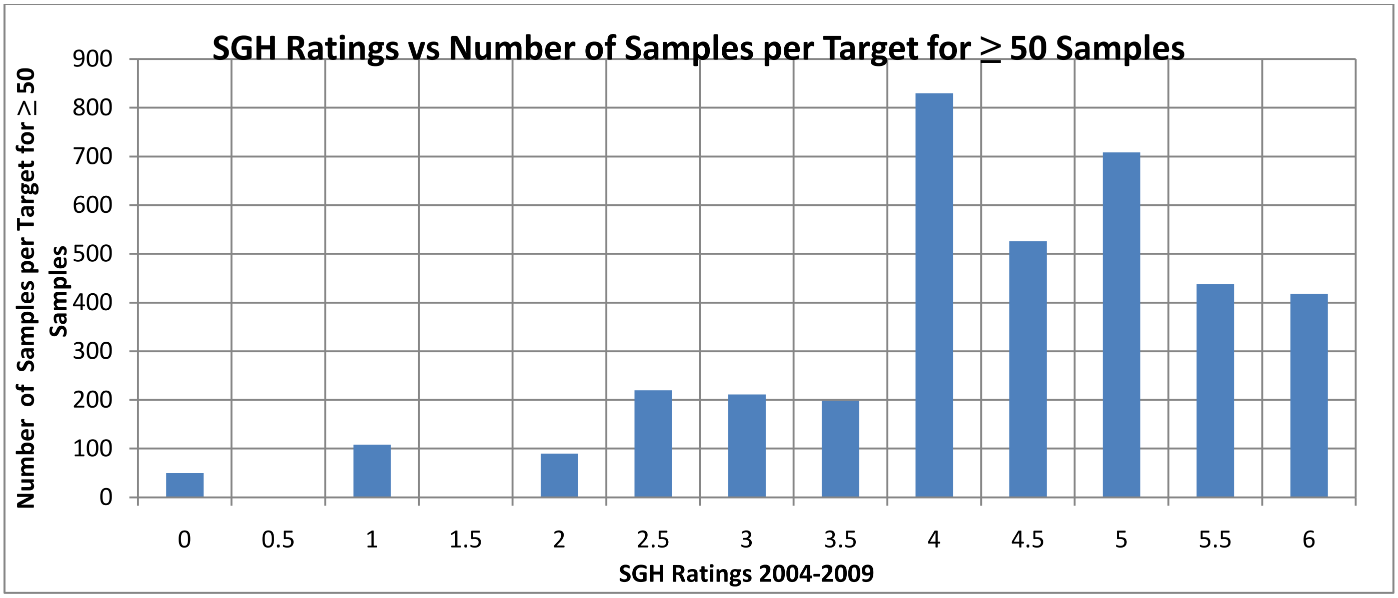
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,

- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and

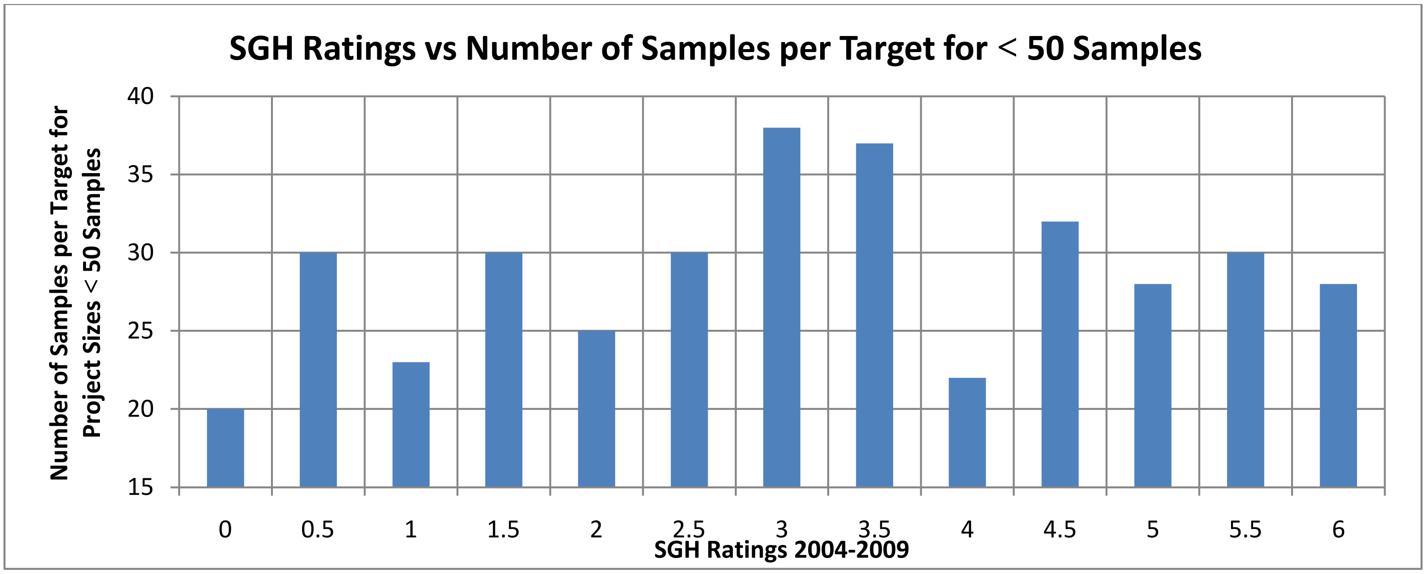
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

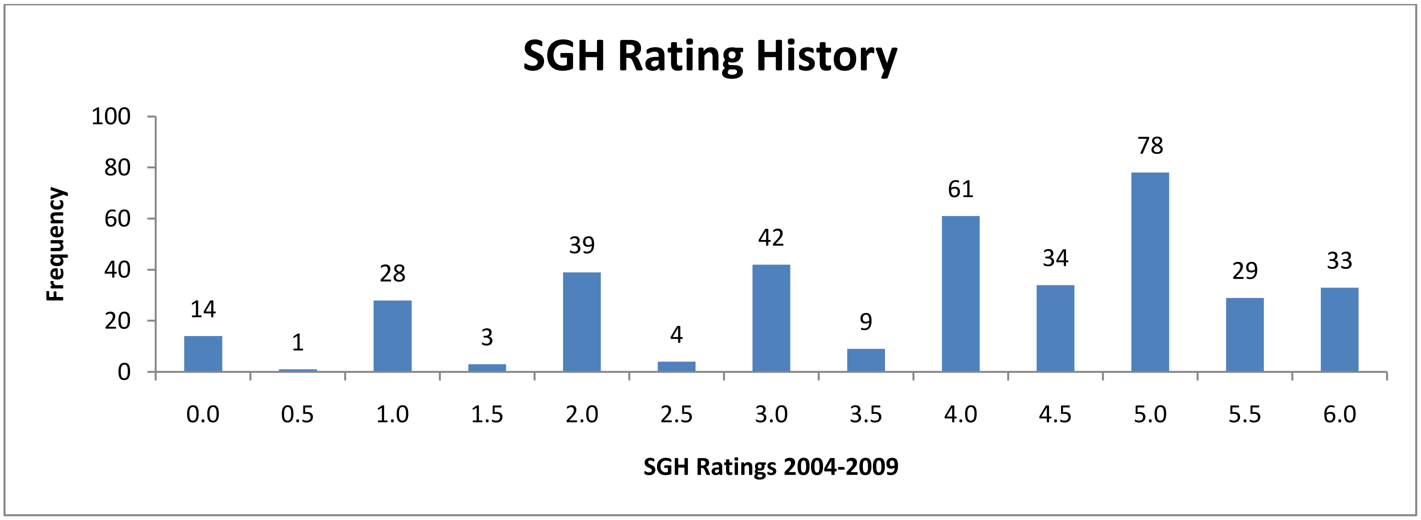
A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



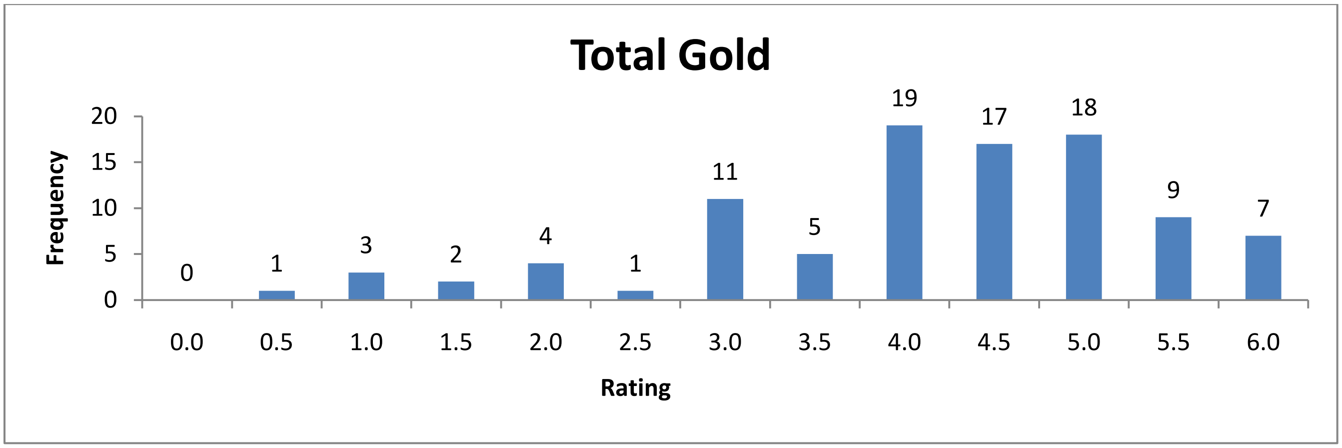
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations is submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



DISCLAIMER

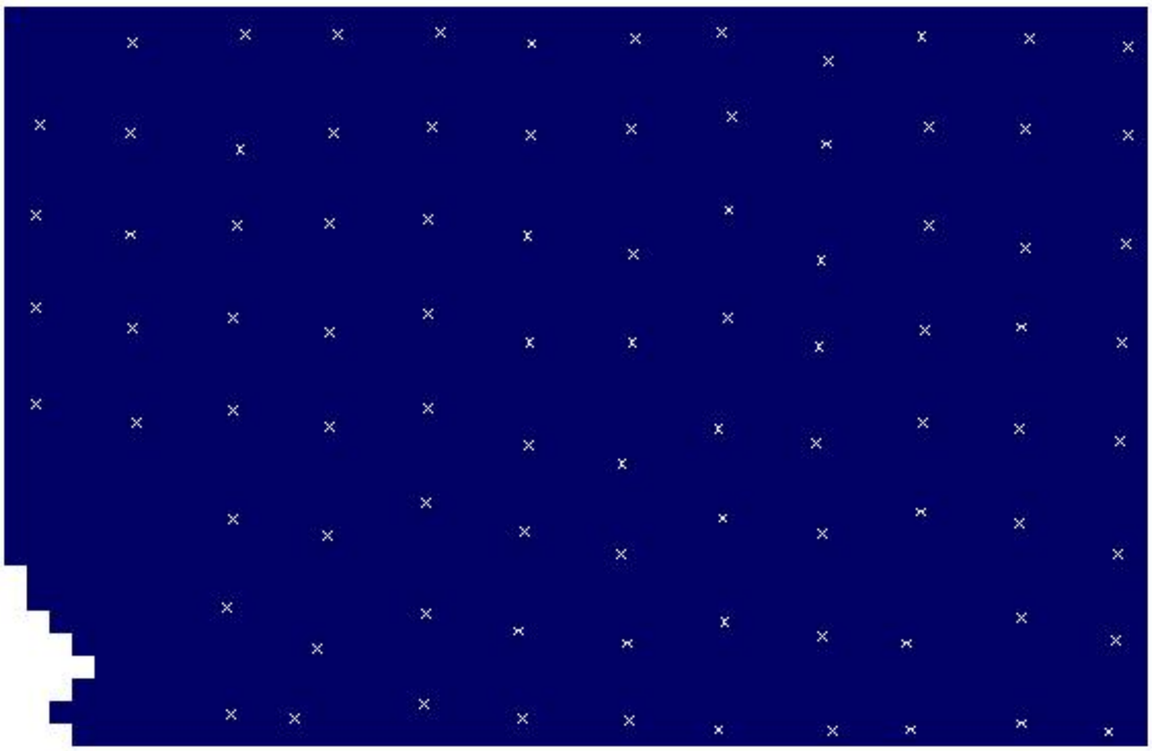
This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for gold, copper, VMS, uranium, etc.). Although the template of SGH Pathfinder Classes that has been developed through research and review of case studies has proven to be able to address many lithologies, Activation Laboratories Ltd. cannot guarantee that the template is applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting geochemical data as a general service. As the author is the originator of the SGH geochemistry, has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 500 surveys, he is perhaps the best qualified to prepare this interpretation as assistance to clients wishing to use SGH. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid location design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees, does not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly form using any information or material contained in this report or using data from the associated spreadsheet of results.

INTERPRETATION OF SGH RESULTS
A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY

SAMPLE SURVEY INTERPRETATION

This report is based on the SGH results from the analysis of a total of 89 samples. The McKenzie Island Survey is comprised of a regular grid of samples that are spaced at about 100 metres. The grid is approximately 1.2 km by 0.7 km is size. Sample coordinates were provided for mapping of the SGH results for these samples as Easting and Northing UTM coordinates based on the NAD83 datum. A sample location map is shown below.

SGH SURVEY – SAMPLE LOCATION MAP PROVIDED

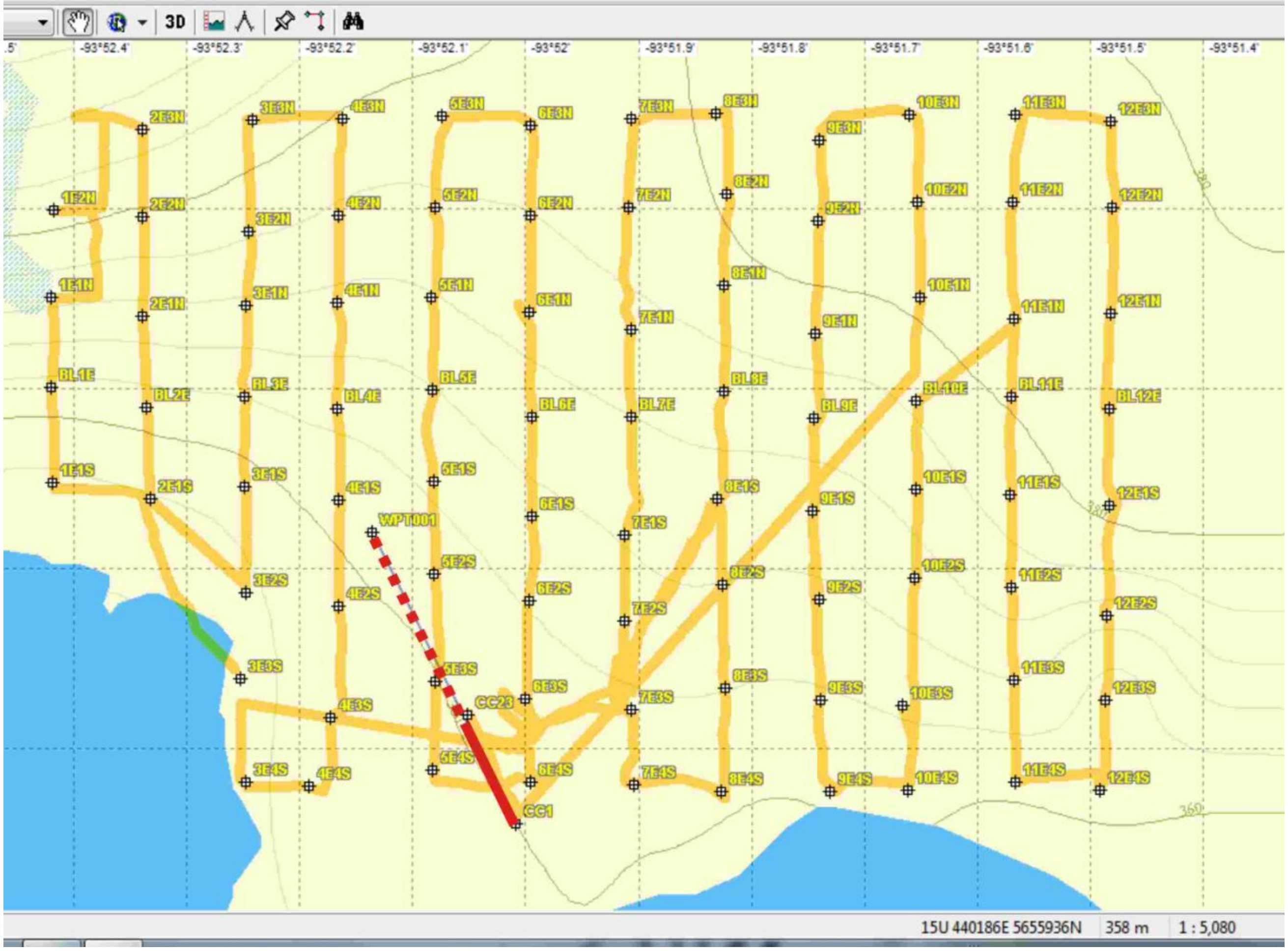


INTERPRETATION OF SGH RESULTS
A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY

SAMPLE SURVEY INTERPRETATION

On November 4, 2011 Mr. Scott Franko provided the following map and description as background information. "Sample positions attached. As discussed the solid red line denotes a 1m wide 1/2 oz/ton Au Oz vein contacting a diabase dyke which strikes along the dashed line under till. This should give you a good signature to look for across the rest of the claims. Please note my sample bags are labeled as listed however Base line samples are BL1E BL2E etc not 1EBL 2EBL as on the spreadsheet (of sample location coordinates)".

SGH SURVEY – SAMPLE LOCATION MAP PROVIDED



SGH SURVEY INTERPRETATION
A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is adequate to use SGH as an exploration tool. As SGH is an organic geochemistry it is essentially "blind" to the elemental presence of any inorganic species as actual metallic gold, silver, uranium, etc. content in the each sample analyzed. SGH has been proven to discriminate between false or mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate gold and other types of mineralization at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of Gold mineralization. It is also initially assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and the increased complexity of resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized and which ones are not.

The overall precision of the SGH analysis for the samples at this McKenzie Island Survey was excellent as demonstrated by 6 samples taken from this survey which were used for laboratory replicate analysis. The average Coefficient of Variation (%CV) of the replicate results for the Survey samples in this submission was 7.0 % which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

No leveling or statistics were conducted on the data in this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on this survey and on these SGH results.**

The maps shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various hydrocarbon flux signatures related to specific types of mineralization. These maps represent the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 (unless otherwise stated) chemically related SGH compounds which are simply summed to create each class map. Thus each map has a higher level of confidence as it is not illustrating just one compound measurement. A legend of the compound classes appears at the bottom of the SGH data spreadsheet.

The *overall* SGH interpretation Rating has even a higher level of confidence as it further relies on the consensus between at least two additional pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present.

SGH SURVEY INTERPRETATION
A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH "GOLD" PATHFINDER CLASS MAPS

The Gold template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed for Gold must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known Gold based mineralization. The Pathfinder Class anomalies must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class.

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type anomalies are all typically observed within the SGH data set from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization at depth. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization present and the grade of mineralization, which probably defines the characteristics of the biofilm(s) in contact with the deposit, as well as being related to the depth to mineralization. SGH results have also been shown to correlate well with geophysical anomalies such as magnetic anomalies and those of CSAMT.

SGH is a "deep penetrating" geochemistry but also works well for relatively shallow targets. Targets shallower than about 3 to 5 metres will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various processes on these volatile and semi-volatile organic hydrocarbons.

Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the type of mineralization discussed. Each pathfinder class map is still just one of the Pathfinder Class maps used in each of the interpretation templates (other SGH Pathfinder Class maps are not shown at this price point and report turnaround time). Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see page 4).

A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH SURVEY INTERPRETATION

SGH INTERPRETATION RATING AND CLARIFICATION

Often the use of a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client of an anomaly even if it is only a part of the mineral signature or template requested. The anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of the geological or geophysical target which may be valuable to the client. In addition it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well defined rabbit-ear anomaly on the SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the identification Rating.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, Nickel, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

SGH SURVEY INTERPRETATION
A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH “GOLD” PATHFINDER CLASS MAPS

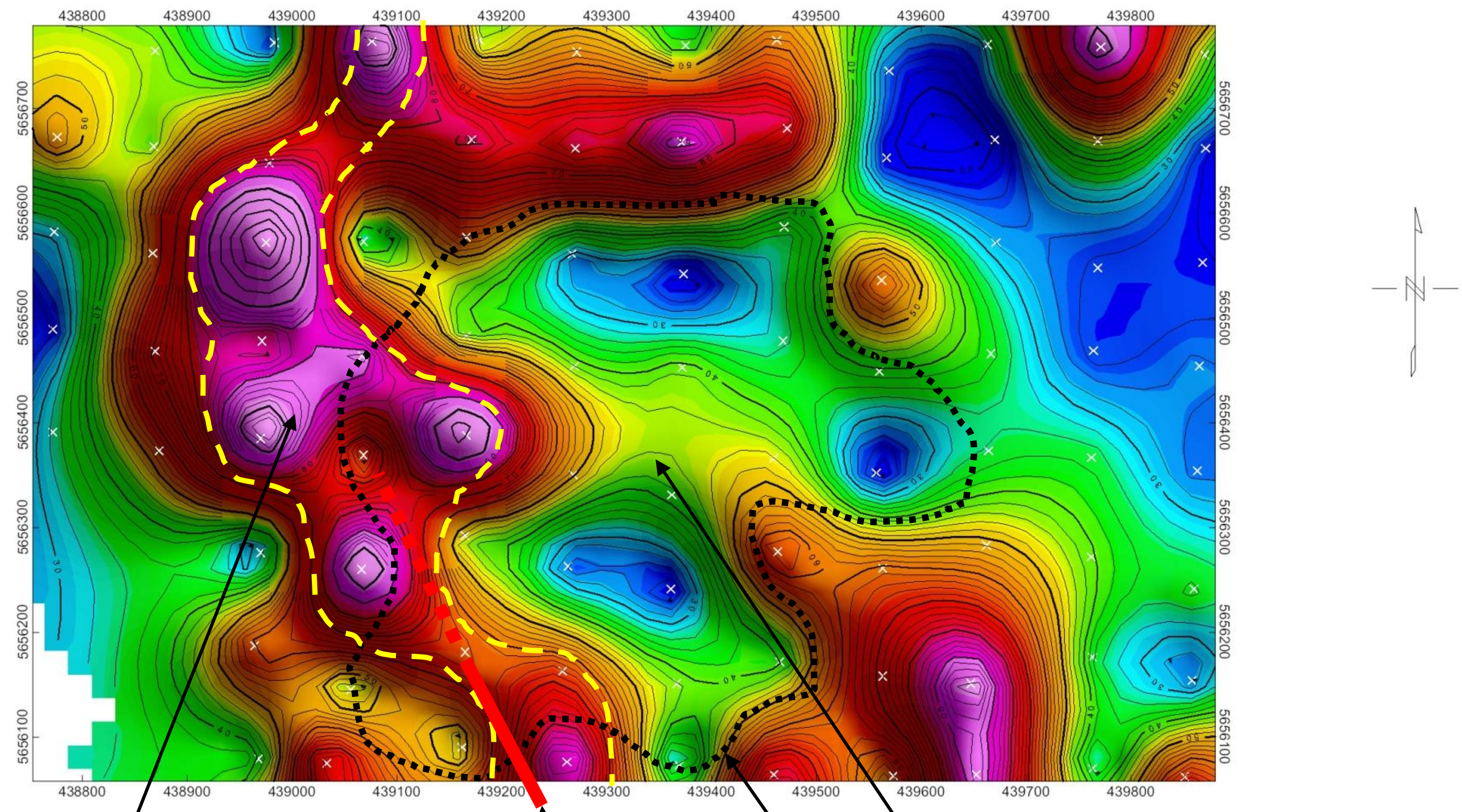
As a general comment regarding the SGH results at the McKenzie Island Survey, there is an excellent set of evidence to illustrate and confirm the presence of Redox conditions in the overburden in the central portion of this survey with a high degree of confidence. As this is the first time that Crown Gold Corporation has used the SGH geochemistry we have developed this more comprehensive report at no extra cost. In general most reports would contain only one SGH Pathfinder Class map that would have an interpretation applied and discussed. This report discusses and illustrates another SGH Pathfinder Class maps that is representative of many other SGH Class maps and shows more of the supporting information that was used to arrive at the interpretation of the existence of a Redox Cell and determine an overall SGH Rating.

The plan view map for one of the moderately-high molecular weight SGH Classes that has been associated with Gold mineralization is shown on page 30. This SGH Class map is very important to the interpretation of the McKenzie Island Survey. This SGH Class illustrated in Plan view on page 30, and 3D view on page 31, is expected to have halo or nested-halo anomalies. As these moderately-heavy hydrocarbons are slower in their migration through the overburden from the location of the mineralization at depth than for smaller and lower molecular weight hydrocarbons, they have a longer residence time within the Redox zone and the associated Electrochemical cell, to disperse away from the target. In the case of the McKenzie Island Survey a dotted black outline is applied to the map on page 30 that illustrates the approximate extent of the Redox conditions in the overburden for other high molecular weight SGH classes (not shown in this report). It can be observed that the depleted region in green and dark blue lies within the dotted black outline indicating that this class of moderately-high molecular weight hydrocarbons is slightly less dispersed. This agrees with the expected geochromatographic separation between these SGH Classes.

As more easily observed in 3D on page 31, at the western edge of the Redox cell there is a significantly higher response as a NNW trending apical ridge. The edge of the Redox zone is where the greatest chemical Redox gradient is located. This apical ridge, shown within the dashed yellow outlines, is detected by this SGH Gold Pathfinder Class and agrees very well with the information supplied (page 25) that indicated the presence of a gold bearing vein in contact with a diabase dyke.

As other SGH Class maps support this interpretation, there is thus a relatively high degree of confidence in the existence of a Redox Cell and delineation of the Redox conditions in the overburden. It must be remembered that many other SGH Class maps not shown in this report have been reviewed to support the interpretation shown.

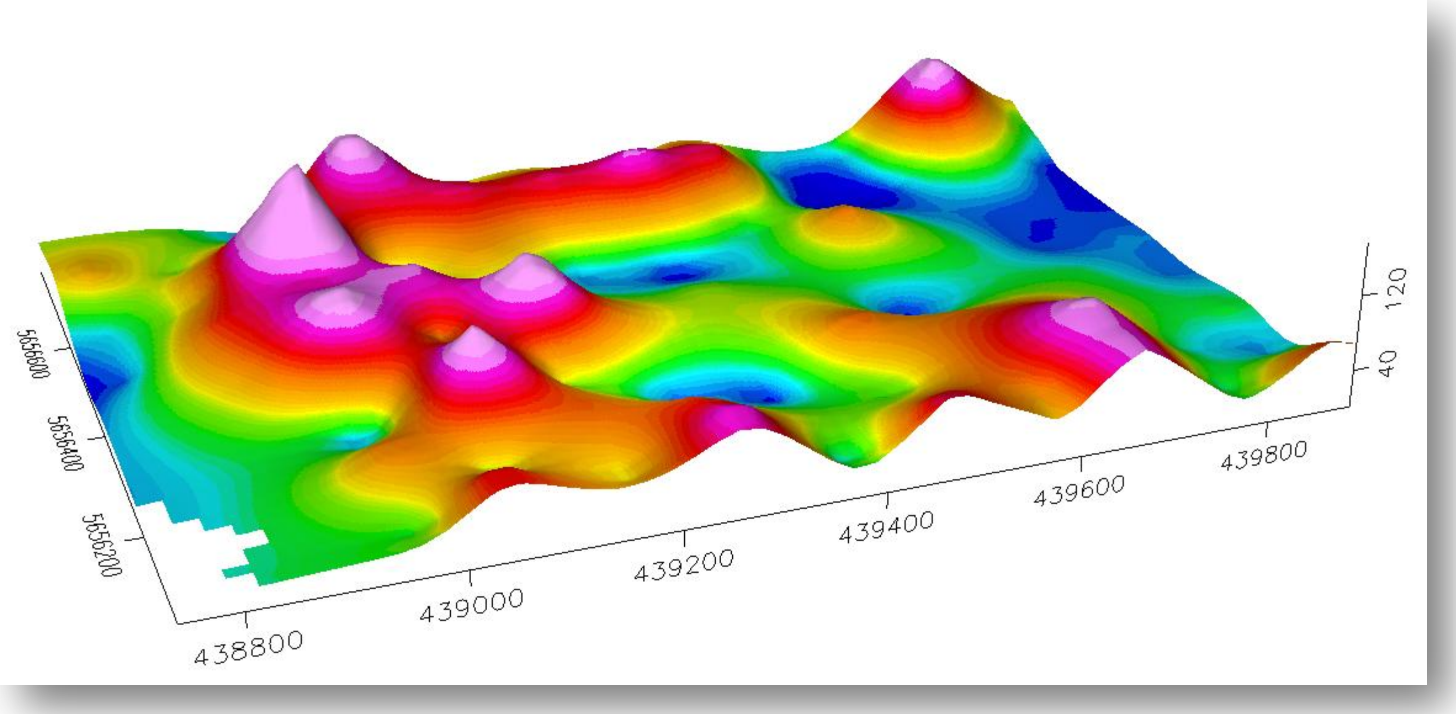
A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH “GOLD” PATHFINDER CLASS MAP



“APICAL RIDGE” SGH ANOMALY AT THE HIGHEST GRADIENT OF THE REDOX CELL FOR THIS MODERATELY-HIGH MOLECULAR WEIGHT CLASS. THE REDOX ZONE IS WITHIN THE HIGH MOLECULAR WEIGHT DISPERSION HALO ILLUSTRATED BY THE DOTTED BLACK OUTLINE FROM OTHER SGH CLASS MAPS.

GOLD BEARING VEIN IN CONTACT WITH A DIABASE DYKE.

A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH "GOLD" PATHFINDER CLASS MAP



SGH SURVEY INTERPRETATION
A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH "GOLD" PATHFINDER CLASS MAPS

The plan view map for a low molecular weight SGH Class is shown on page 33. This is one of the SGH Class maps that have proven to be the most definitive in its association with Gold mineralization. This map is quite complex. SGH anomalies for the SGH Class are expected to be apical as the vertical projection of gold mineralization at depth. These anomalies are also confirmed with the association of Redox cells and the halo anomalies of higher molecular weight SGH Class maps such as the one on page 30.

The interpretation relative to the presence of Gold mineralization at the McKenzie Island Survey is directly supported by the association with the Redox zone in this area as shown from the previously discussed higher molecular weight SGH classes associated with Gold mineralization.

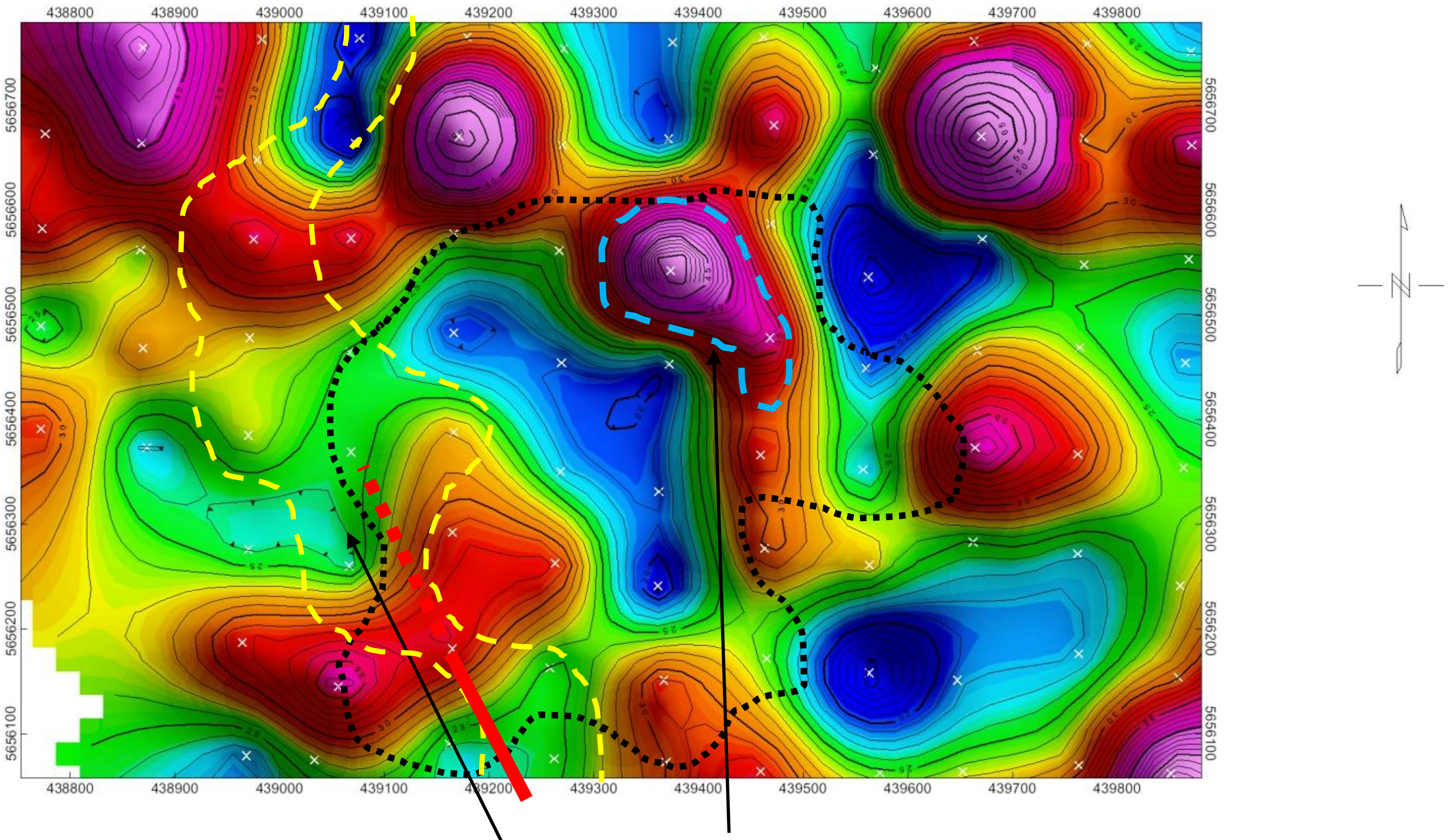
It is predicted by this SGH data that Gold mineralization, if present, would be within the central blue dashed thin oval on page 33 as a vertical projection of Gold mineralization at depth.

The central halo anomalous zone as the black dotted and dashed oval from page 29 has been shown again on page 32 for reference.

As mentioned on page 27, gold mineralization that is shallower than about 3 to 5 metres will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering. Thus the area within the yellow dashed outlines on page 33 does not exhibit a higher response as the mineralization is very shallow, yet due to the advantage of using a forensic signature related to Gold mineralization, the shallow mineralization is well depicted using the associated moderately-high molecular weight class as shown on page 29. These moderately-high molecular weight hydrocarbons are much more robust and not affected very much by near-surface weathering processes.

It must be remembered that many other SGH Class maps not shown in this report have been reviewed to support the interpretation shown.

A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH “GOLD” PATHFINDER CLASS MAP

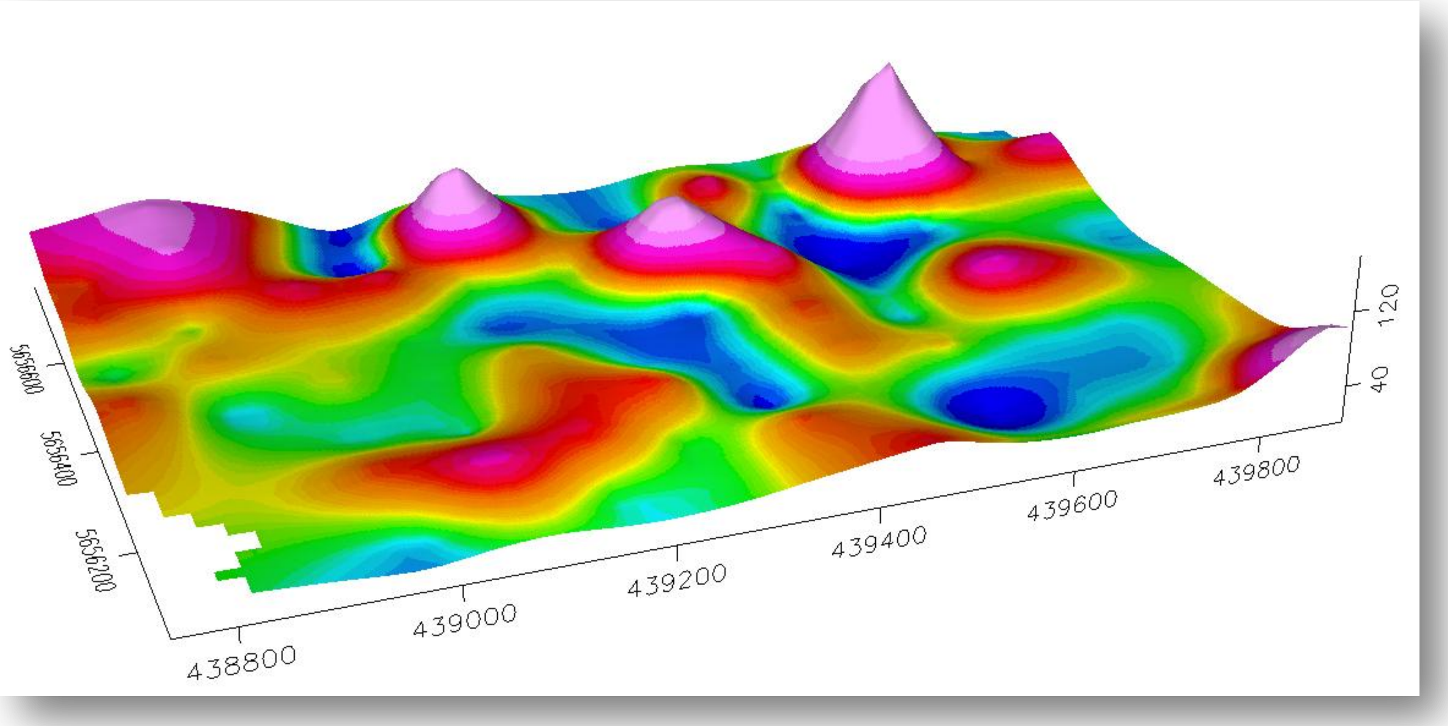


LOW MOLECULAR WEIGHT SGH HAVING AN APICAL ANOMALY WITHIN THE REDOX ZONE.

THIS SGH GOLD PATHFINDER CLASS DOES NOT ILLUSTRATE GOLD MINERALIZATION THAT IS NEAR OR AT SURFACE, KNOWN TO BE WITHIN THE YELLOW DASHED OUTLINE, DUE TO WEATHERING EFFECTS.

SGH SIGNATURE RATING RELATED TO GOLD MINERALIZATION = 5.5 OF 6.0

A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH “GOLD” PATHFINDER CLASS MAP



SGH SURVEY INTERPRETATION
A11-13034 – CROWN GOLD CORPORATION
MCKENZIE ISLAND SURVEY - SGH "GOLD" RATING

After review of all of the SGH Class maps, the SGH results from the McKenzie Island survey suggests a **"rating of 5.5"** out of a possible 6.0 (6.0 being the best) as the confidence in predicting that mineralization in the central blue dashed oval on page 33 as potentially moderately deep Gold mineralization and within the yellow dashed outlines as shallow Gold mineralization.

The rating shown in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. This rating represents the similarity of these SGH results, and the associated Pathfinder Class maps, primarily to case studies for a Gold case study in Nunavut, shear hosted as well as sediment hosted deposits in Nevada, and Paleochannel Gold deposits in Australia. The general SGH template used for Gold has been developed primarily from these study areas. It has since been enhanced and has been proven effective from the interpretation over many other surveys in many different geographical regions and for a wide variety of lithologies for Gold.

Note that other individual apical responses in the low molecular weight SGH Class map on page 33 may also represent pods of Gold mineralization, especially when they occur at the edge of the Redox cell, however this prediction has an associated lower level of confidence. This lower confidence is primarily due to the lack of data as most of the apical anomalies of this class are located near the outer boundary of the survey and thus have less surrounding data to observe.

Again, the degree of confidence in the rating only starts to be "good" at a level of 4.0. A Rating of 4.0 is an indicated that SGH predicts that the zone described may warrant more work or more consideration.

It must be remembered that many other SGH Class maps not shown in this report have been reviewed to support the interpretation shown.

A11-13034 – CROWN GOLD CORPORATION MCKENZIE ISLAND SURVEY SGH SURVEY – RECOMMENDATIONS

The McKenzie Island survey could be extended with additional sampling to the north and south to help determine whether the ridge of predicted gold mineralization, in contact with the diabase dyke, could be traced further. It is suggested that the same grid spacing be used in order to not mix the survey resolution.

Please refer to the general recommendations for additional or in-fill sampling for SGH in the next section if this is considered.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

Based on the results of this report and/or other information, the client may decide that in-fill sampling may be warranted. To obtain the best results from additional sampling for SGH it is recommended that sample locations within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection. The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and in additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower that the interpretation from samples collected during one excursion to the field and submitted as one survey. As of September 2010, an additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain certain forward-looking information related to a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on other geochemistries, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. The rating does not imply ore grade and is not to be used in mineral resource estimate calculations. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemistries, the implied rating and anticipated target characteristics may be different than that actually encountered if the target is drilled or the property developed.

Activation Laboratories Ltd. may also make a scientifically based reference in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a “possible drill target” location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used, season, handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client’s assigned laboratory. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended.

In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These “scientifically based educated theories” should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.

Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

Date Submitted at Actlabs Ancaster: November 4, 2011

Date Analyzed: November 10 – November 16, 2011

Interpretation Report: December 7, 2011

CROWN GOLD CORPORATION

130 Adelaide Street West,

Toronto, Ontario, Canada

M5H 3P5

Attention: Mr. Scott Franko, P.Geo, Exploration Manager

RE: Your Reference: McKenzie Island Survey

Activation Laboratories Workorder: A11-13034

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

89 Samples were analyzed.

Interpretation relative to Gold mineralization was requested.

Samples were received and prepared at Actlabs' Ancaster facility using preparation code S4

The following analytical package was requested:
Code SGH – Soil Gas Hydrocarbon Geochemistry

REPORT/WORKORDER: A11-13034

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

The author of this SGH Interpretation Report, Mr. Dale Sutherland, is the creator of the SGH organic geochemistry. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry, and a member of The Association of Applied Geochemists. He is not a professional geologist or a professional geochemist.

CERTIFIED BY:

D Sutherland

Dale Sutherland, B.Sc.,B.Sc.,B.Ed.,C.Chem.

Forensic Scientist, Organics Manager,

Director of Research

Activation Laboratories Ltd.

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CHARTERED
Dale A. Sutherland
CHEMIST