010

TECHNICAL REPORT
on the
Fall, 1996 DIAMOND DRILLING PROGRAM

Young-Davidson Option

Matachewan Area

Powell Twp.

NTS 41P/15

Prepared for:

ROYAL OAK MINES INC.

Project Development Group
Matachewan Project

Timmins, Ontario
March, 1997

R. Pressacco

Reno Pressacco, M.Sc(A), FGAC
Senior Geologist

TABLE OF CONTENTS

SUMMARY

An aggregate total of **11,832 feet of BQ core in 23 holes** (complete, and partials) was drilled on the Young-Davidson Option during the August 26th to September 23rd, 1996 period. Please note that the aggregate sum includes only those portions of the drill holes that fell within the Young-Davidson property boundary.

The purpose of this drilling program was to attempt to confirm the western strike extension of the Open Pit mineralization as indicated by the Winter '95 drilling and to confirm the assay data from the 1980 vintage drilling in the main portion of the Open Pit. These assay verification holes also served to provide sample material for rock mechanics testing and for metallurgical testwork.

For the most part, this most recent drilling program was successful in achieving the stated goals. The assay data forming the bulk of the proposed Open Pit has been confirmed, and the western limits of the mineralization have been located for the most part under current economic and engineering criteria. Continuous mineralization amenable to Open Pit mining methods has been traced from Section 2900E eastwards to the Property boundary with the Matachewan Consolidated Option. At present, the gold mineralization westwards of Section 2800E does not meet economic and engineering criteria, however should economic parameters improve, then this area holds good potential for contributing additional Open Pit ore. Gold mineralization is also found as quartz breccias in the footwall sediments in this western area, and this raises the possibility of additional similar mineralization in the untested portion of the property northwards to the north claim boundary. As well the area to the west of Section 2300E has not seen any diamond drilling whatsoever, and some potential remains in this area.

LIST OF TABLES

LIST OF FIGURES

CERTIFICATION

I, Reno Pressacco, residing at 181 Christine Street, Timmins, Ontario, do hereby certify the following:

1) That I am employed by Royal Oak Mines Inc. as Senior Geologist

2) That I hold the following degrees:

1982: Diploma in Geological Engineering Technology, Cambrian College, Sudbury, Ontario
1984: Bachelor of Science in Geology, Lake Superior State College, Sault Ste Marie, Michigan
1986: Master of Science (Applied), McGill University, Montreal, Quebec

3) That I have been practising my profession continuously since 1986.

4) That I am a member in good standing of the following organizations:

Fellow, Geological Association of Canada
Member, Prospectors and Developers Association

5) That the information presented in this document is true and accurate to the best of my knowledge. This information was gathered from such various sources as assessment files, newspaper articles, various publications, and by Royal Oak Mines Inc.

6) That I hold no direct or indirect interests in Matachewan Consolidated Mines Ltd., or Young-Davidson Mines Ltd.

Timmins, Ontario
March, 1997

R. Pressacco, M.Sc(A), FGAC
Senior Geologist

1.0 Introduction

An aggregate total of 11,832 feet of BQ core in 23 holes (complete, and partials) was drilled on the Young-Davidson Option during the August 26th to September 23rd, 1996 period. Please note that the aggregate sum includes only those portions of the drill holes that fell within the Young-Davidson property boundary.

The purpose of this drilling program was to attempt to confirm the western strike extension of the Open Pit mineralization as indicated by the Winter '95 drilling and to confirm the assay data from the 1980 vintage drilling in the main portion of the Open Pit. These assay verification holes also served to provide sample material for rock mechanics testing and for metallurgical testwork.

2.0 Location and Access

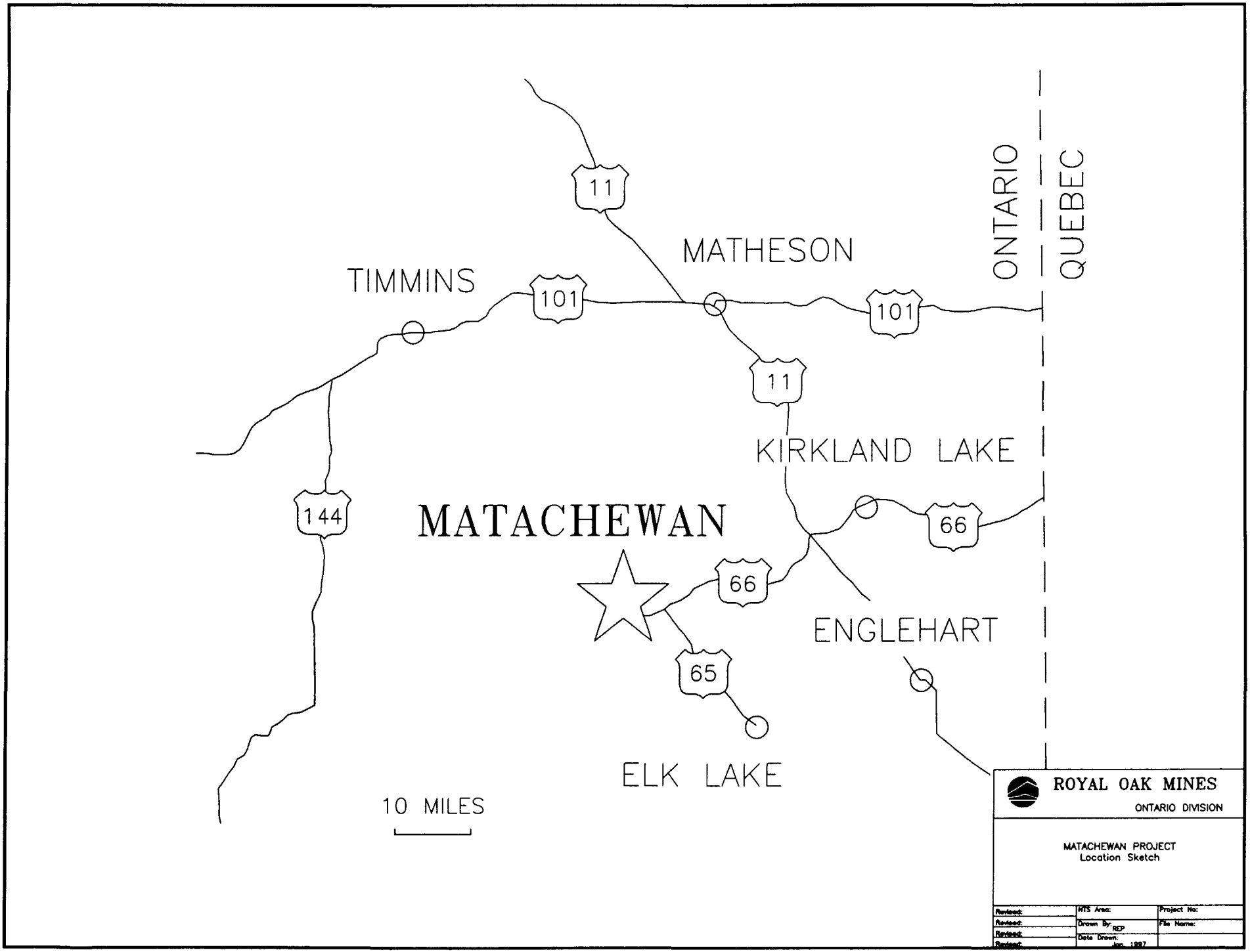
The Matachewan Project is located in Powell, Cairo and Yarrow townships of northeastern Ontario, some 30 miles southwest of Kirkland Lake, Ontario (Figure 1). The village of Matachewan, Ontario lies on the eastern boundary of the Project area, and a paved highway, No. 566, leading westwards from Matachewan provides excellent access to most portions of the property. The driving distance from Timmins to Matachewan, via Hwy 11, is some 150 km.

3.0 Claims

The entire Project comprises a number of different staked claims and Option Agreements, which in all currently totals some 3,475 hectares in size (Figure 2). The Young-Davidson Option itself consists of 17 claims (total 206.58 ha), of which 16 are 10-year mining leases and 1 is a Licence of Occupation (Table 1). Royal Oak, through agreements made by predecessor companies, is currently vested in this Option, subject to a royalty payment.

4.0 Previous Work

A great deal of work has been done on the Young-Davidson property over the years, beginning with the initial gold discovery on the Davidson Claims (Young-Davidson Mines) in 1916. Since then, much exploration and development has been done on the property, including 2 shafts, 6 production levels and 1 exploration level. Production of gold from this property took place mainly from 1934 to 1957. A brief chronological summary is detailed below:


11
MATHESON
ONTARIO
QUEBEC
TIMMINS
101
101
11
KIRKLAND LAKE
144
MATACHEWAN
66
66
ENGLEHART
65
ELK LAKE
10 MILES
ROYAL OAK MINES
ONTARIO DIVISION
MATACHEWAN PROJECT
Location Sketch
Revised:
Revised:
Revised:
Revised:
NTS Area:
Drawn By: REP
Date Drawn: Jan. 1987
Project No:
File Name:

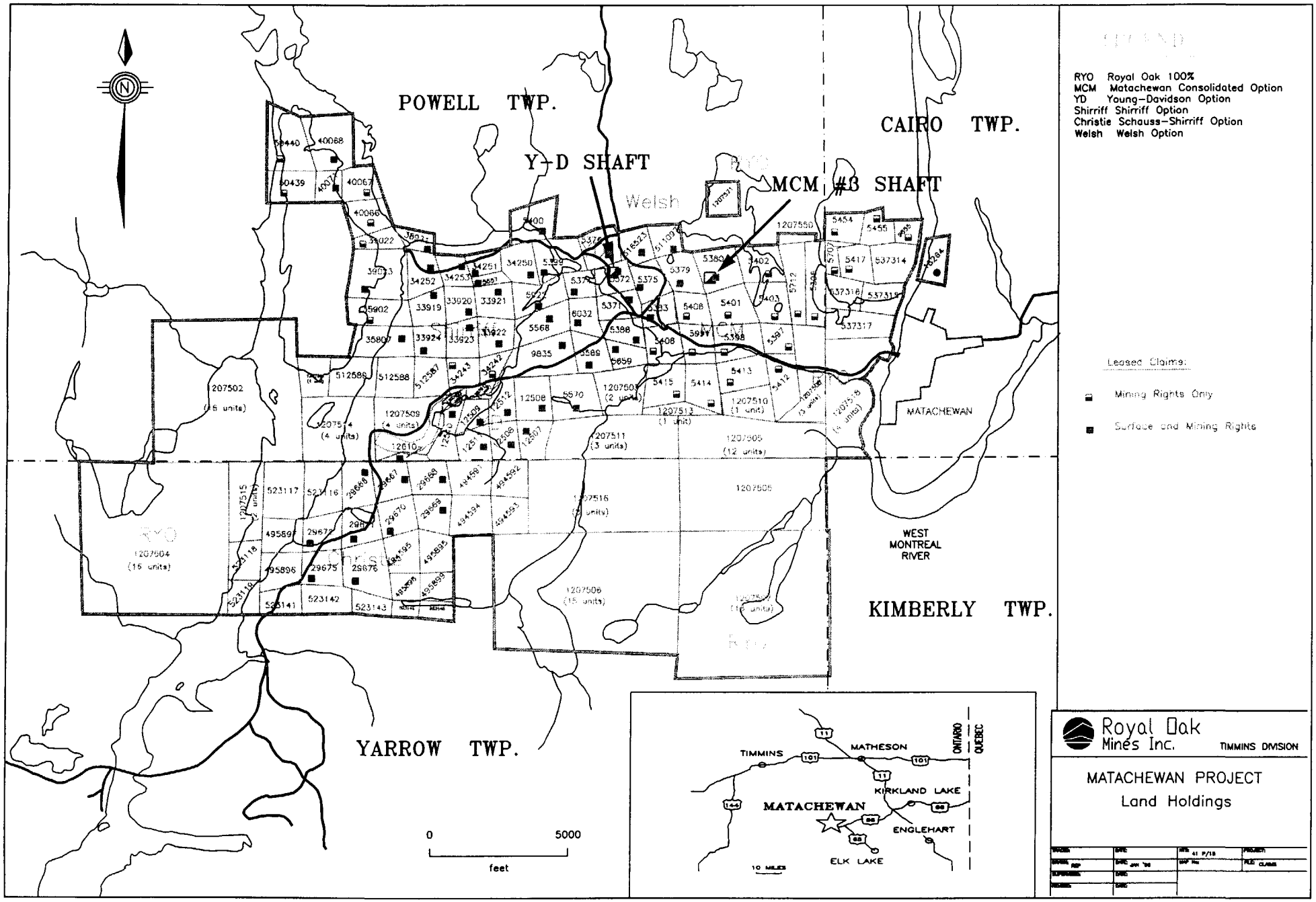

POWELL TWP.
CAIRO TWP.
Y-D SHAFT
MCM #3 SHAFT
Welsh
MATACHEWAN
WEST MONTREAL RIVER
KIMBERLY TWP.
YARROW TWP.
207502
(15 units)
1207504
(15 units)
1207505
(12 units)
1207506
(15 units)
1207507
(3 units)
1207509
(4 units)
1207510
(1 unit)
1207511
(3 units)
1207512
(1 unit)
0
5000
feet
RYO Royal Oak 100%
MCM Matachewan Consolidated Option
YD Young-Davidson Option
Shirriff Shirriff Option
Christie Schauss-Shirriff Option
Welsh Welsh Option
Leased Claims:
Mining Rights Only
Surface and Mining Rights
TIMMINS
MATHESON
KIRKLAND LAKE
MATACHEWAN
ENGLEHART
ELK LAKE
ONTARIO
QUEBEC
10 MILES
Royal Oak Mines Inc.
TIMMINS DIVISION
MATACHEWAN PROJECT
Land Holdings

Table 1

List of Claims, Young-Davidson Option

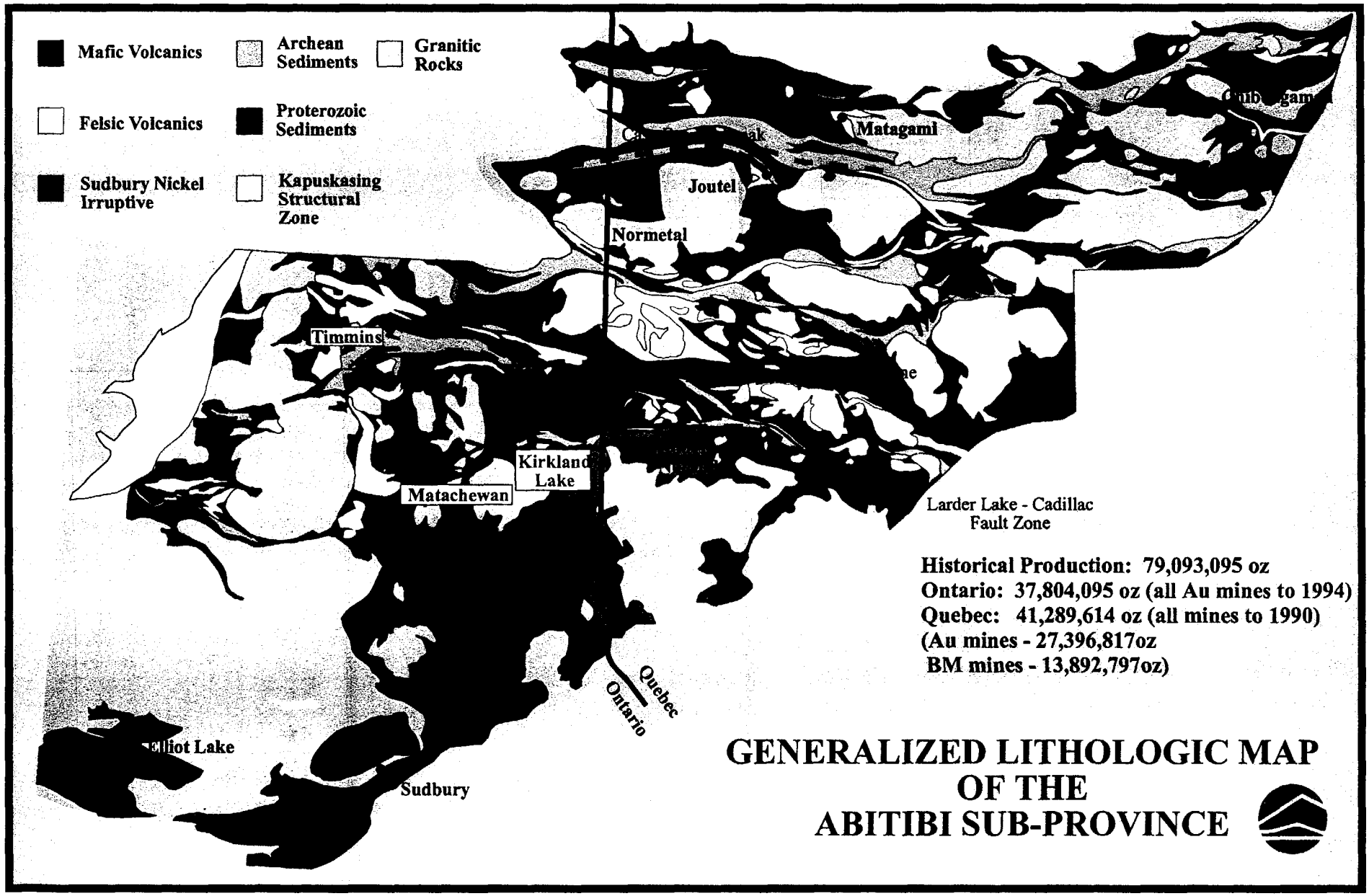
Twp.	Claim No.	Parcel No.	Agreement Name	Status	Units	Acres Surface Rights	Acres Mining Rights
Powell	MR5371	3104LT	Young Davidson	10 yr lease	1	36.90	36.90
Powell	MR5372	3105LT	Young Davidson	10 yr lease	1	33.30	33.30
Powell	MR5374	3106LT	Young Davidson	10 yr lease	1	26.00	26.00
Powell	MR5375	3107LT	Young Davidson	10 yr lease	1	37.60	37.60
Powell	MR5376	4215LT	Young Davidson	10 yr lease	1	43.90	43.90
Powell	MR5383	3108LT	Young Davidson	10 yr lease	1	28.00	28.10
Powell	MR5399	4314LT	Young Davidson	10 yr lease	1	54.10	54.10
Powell	MR12506	3858LT	Young Davidson	10 yr lease	1	54.95	54.95
Powell	MR12507	3857LT	Young Davidson	10 yr lease	1	37.96	37.96
Powell	MR12508	3856LT	Young Davidson	10 yr lease	1	31.95	31.95
Powell	MR12509	3861LT	Young Davidson	10 yr lease	1	24.07	24.07
Powell	MR12510	3860LT	Young Davidson	10 yr lease	1	35.15	35.15
Powell	MR12511	3859LT	Young Davidson	10 yr lease	1	32.43	32.43
Powell	MR12512	3855LT	Young Davidson	10 yr lease	1	30.52	30.52
Powell	MR12610	3854LT	Young Davidson	10 yr lease	1	9.51	9.51
Powell	LO11167	11167LO	Young Davidson	lic. occup.	1	59.62	0.00
Powell	3108LT	3108LT	Young Davidson	10 yr lease	1	0.10	0.00
Total	**17**						**516.44**

1916:	Discovery of gold on adjoining claims.
1916-1933:	Young-Davidson Mines Ltd.: surface prospecting, hand trenching and stripping. Pre-production activities.
1934-1957:	Hollinger Corporation: production period.
1979:	Pamorex Minerals: concluded Option Agreement.
1980:	Pamorex Minerals: diamond drilling testing for west extension of Boundary Pit.
1986:	Pamorex Minerals: additional diamond drilling in Boundary Pit area.
1988:	Pamorex Minerals: diamond drilling, 10 holes, testing shallow targets and upper portions of the Boundary Zone.
1989:	Pamorex Minerals: diamond drilling, 6 holes, testing Boundary Zone (underground).
1990:	Pamorex Minerals: diamond drilling, 34 holes, testing several targets in syenite.
1995:	Royal Oak Mines Inc: diamond drilling, 68 holes totalling 71,102 ft testing selected underground targets, and testing for the western and depth extensions of the Open Pit mineralization.

5.0 Regional Geology

The Matachewan Camp is located in the southwestern portion of the Abitibi Greenstone Belt (Figure 3). The regional metamorphic grade is largely greenschist facies, however local areas of amphibolite grade metamorphism can be found along the peripheries of the numerous large granitoid intrusions in the area.

The lithologies in the Powell-Cairo township area are extremely diverse, consisting of a folded sequence of Archean-aged mafic-ultramafic volcanic flows and sills and an assemblage of mixed clastic sediments, largely greywackes. These units have been intruded by younger granitoids, the largest of which (Cairo stock) occupies the northern half of Cairo Twp. and the southern half of Alma Twp. These granitoids themselves have been intruded by a northerly-trending swarm of diabase dikes belonging to the Matachewan swarm. All units in southwestern Powell Twp. and parts of Cairo Twp.


Mafic Volcanics
Archean Sediments
Granitic Rocks
Felsic Volcanics
Proterozoic Sediments
Sudbury Nickel Irruptive
Kapuskasing Structural Zone
Matagami
Joutel
Normetal
Timmins
Kirkland Lake
Matachewan
Larder Lake - Cadillac Fault Zone
Quebec
Ontario
Elliot Lake
Sudbury
Historical Production: 79,093,095 oz
Ontario: 37,804,095 oz (all Au mines to 1994)
Quebec: 41,289,614 oz (all mines to 1990)
(Au mines - 27,396,817oz
BM mines - 13,892,797oz)
GENERALIZED LITHOLOGIC MAP
OF THE
ABITIBI SUB-PROVINCE

have been covered by younger, Proterozoic-aged sediments of the Gowganda Formation.

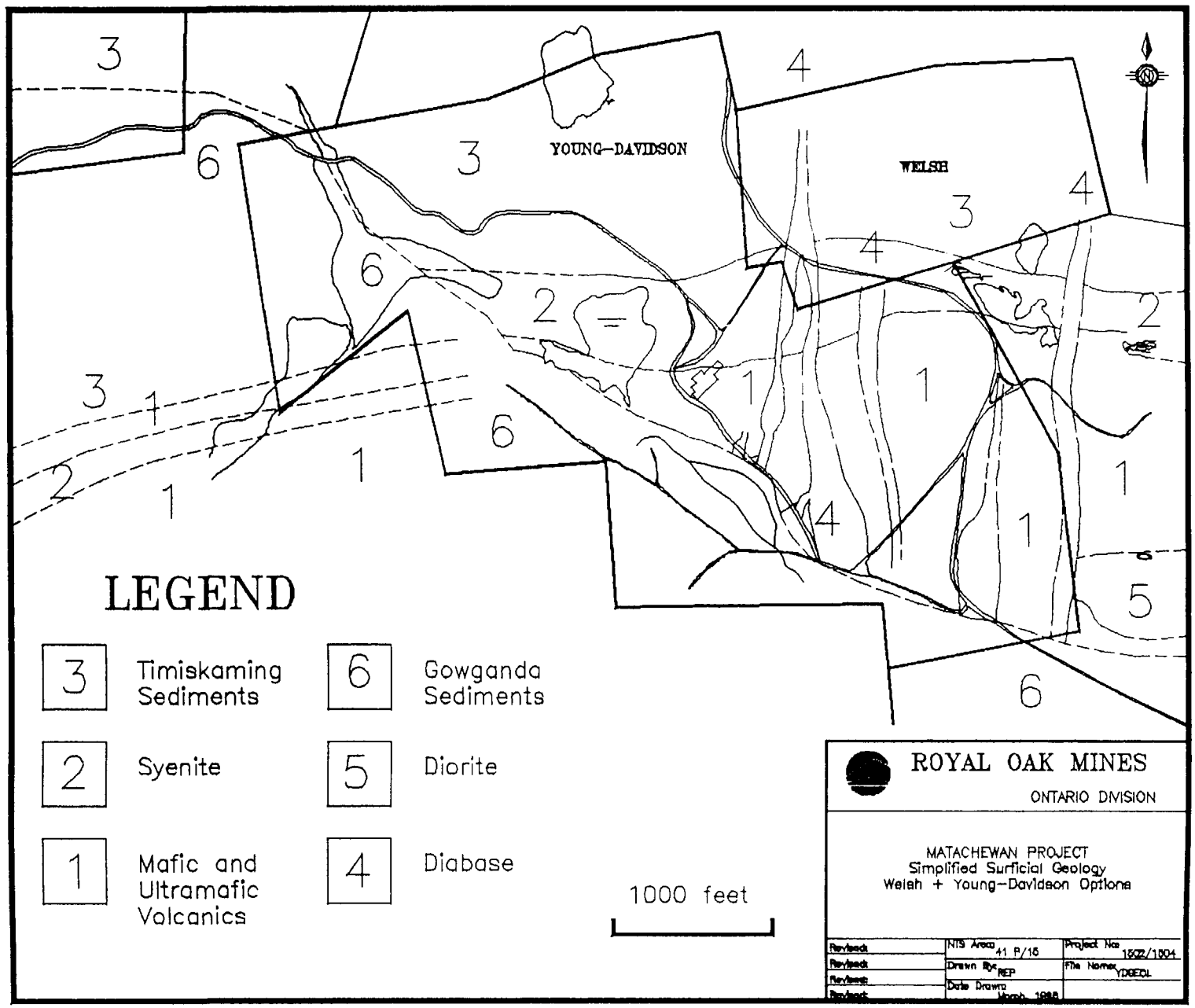
Structurally, the Archean-aged units strike in a general east-west direction in Powell Twp., gradually taking on a northeasterly strike in Cairo Twp. The volcanic and sedimentary units have all been tightly folded into easterly-trending structures in Powell Twp., such that dips are variable; both north and south dips can be found in these units. A number of late (Paleozoic?) faults are present in the area and can have apparent offsets of up to 0.5-0.75 miles. Indeed, the largest of these cross-faults, the Montreal River fault, extends from the Kidd Creek Mine area all the way to Ottawa, and forms part of the Ottawa Graben system. This system remains active, as sporadic small earthquakes occur roughly every 15-25 years.

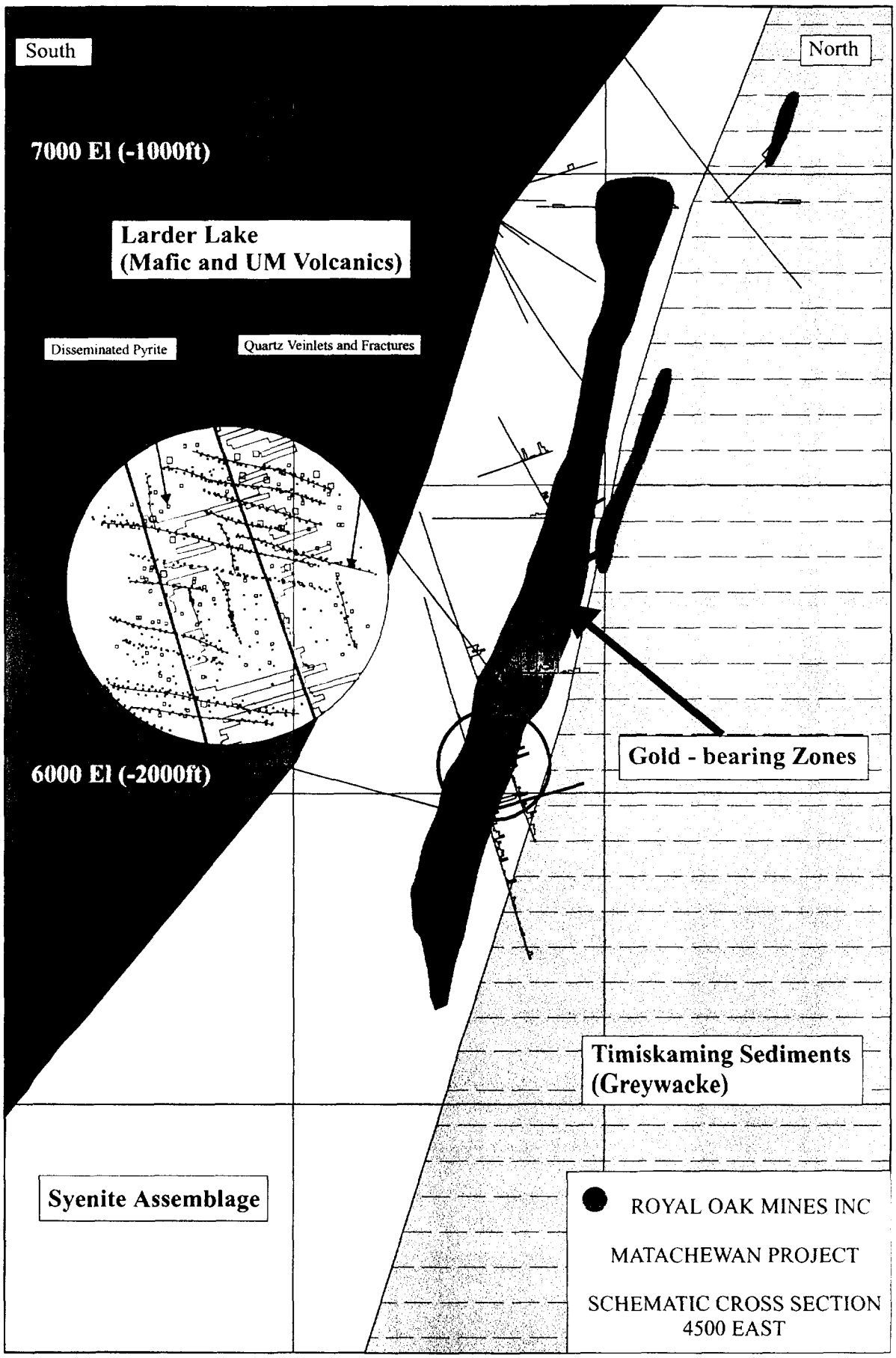
The reader is referred to Lovell (1967), Powell et. al. (1991) and Sinclair (1980) for additional details as to the regional geology of this area.

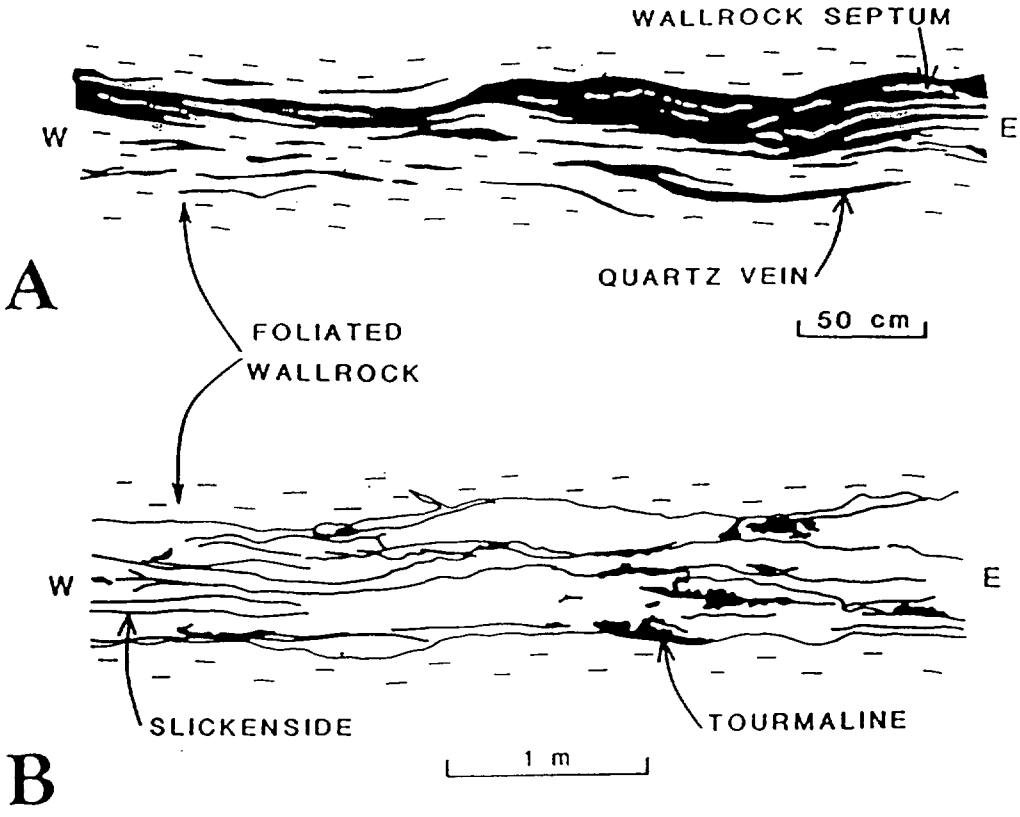
6.0 Local Geology

The claim group itself sits astride the contact between the Larder Lake volcanics to the south and the Timiskaming sediments to the north (Figure 4).

The lithologies comprising the Larder Lake Group, the hangingwall, consist of an intricately mixed assemblage of mafic to ultramafic volcanic flows and derived sediments. These are in unconformable contact with the Timiskaming Group sediments, the footwall, along much of the length of the property. The Timiskaming sediments are composed predominantly of greywackes to a fine pebble conglomerate with local sections of coarser conglomeratic material being included on occasion. The syenite occurs in 3 different styles - coarsely feldspar porphyritic, very fine grained massive and hybridized - either as large masses on the order of 10's of feet in thickness or as a myriad of small dikes on the order of 1-10 feet in thickness, all of which are concentrated near the mafic-sediment contact. The syenites seem to preferentially intrude the Timiskaming sediments and the abundance of syenite dikes seems to gradually decrease northwards, so that very few dikes are present some 500-600 feet north of the contact. The mafic-sediment contact itself is quite convoluted in shape along the length of the property, strongly suggesting deformation by folding. All units dip steeply south (70-75°). A strong structural lineation is observed to plunge some 70° SW in outcrop. Younger diabase dikes of the Matachewan swarm cross-cut all units. The reader is referred to North and Allan (1948), Southern (1940), and Cook (1919) for additional details.


YOUNG-DAVIDSON
WELSH
LEGEND
3 Timiskaming Sediments
6 Gowganda Sediments
2 Syenite
5 Diorite
1 Mafic and Ultramafic Volcanics
4 Diabase
1000 feet
ROYAL OAK MINES
ONTARIO DIVISION
MATACHEWAN PROJECT
Simplified Surficial Geology
Welsh + Young-Davidson Options
NTS Area 41 P/15
Drawn By REP
Date Drawn March 1988
Project No 15QZ/1504
File Name YDGEOL


South
North
7000 El (-1000ft)
Larder Lake
(Mafic and UM Volcanics)
Disseminated Pyrite
Quartz Veinlets and Fractures
6000 El (-2000ft)
Gold - bearing Zones
Timiskaming Sediments
(Greywacke)
Syenite Assemblage
ROYAL OAK MINES INC
MATACHEWAN PROJECT
SCHEMATIC CROSS SECTION
4500 EAST



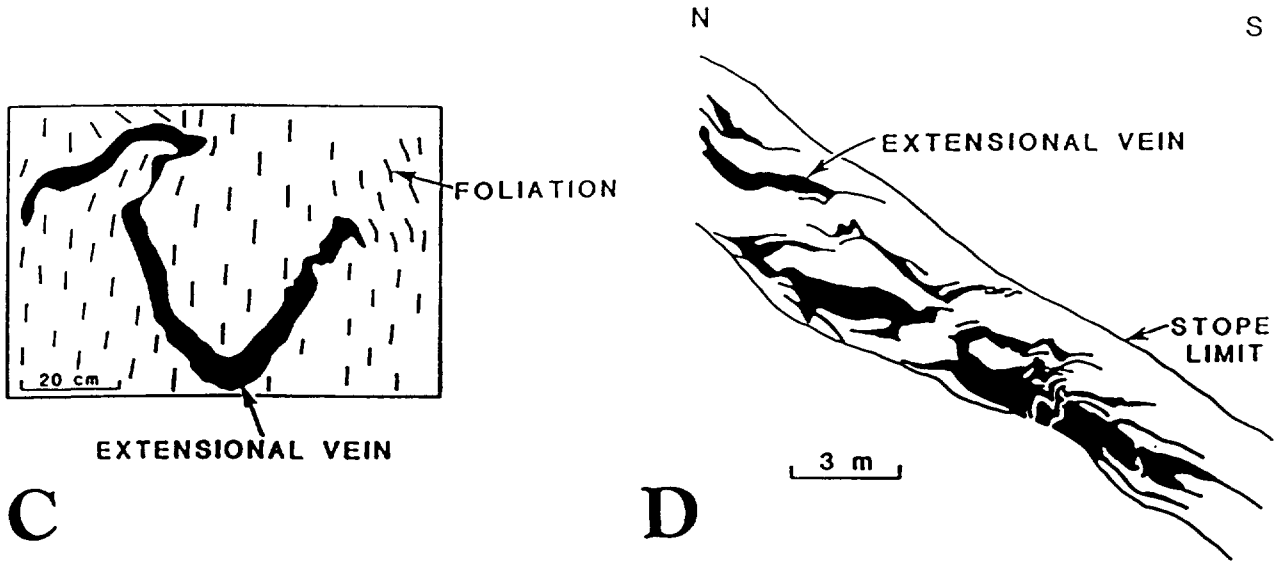


Figure 8.8: **Natural examples of veins in shear zones. (A) Plan view of a ribboned shear vein containing abundant septa of altered and foliated wallrock. Note also the small isolated quartz veinlets adjacent to the main shear vein; Sigma deposit, Val d'Or. (B) Plan view of a typical laminated shear vein containing tourmaline aggregates, as well as tourmaline-coated slip surfaces; Sigma deposit, Val d'Or. (C) Plan view of a buckled extensional vein within a shear zone, at high angle to the foliation; Cameron Lake deposit, Ontario. (D) Cross section of an array of sigmoidal extensional veins in a brittle-ductile, reverse shear zone; Pascalis Nord deposit, Val d'Or.**

in Mineralization and Shear Zones, J. T. Burnsmall ed. Figure 6

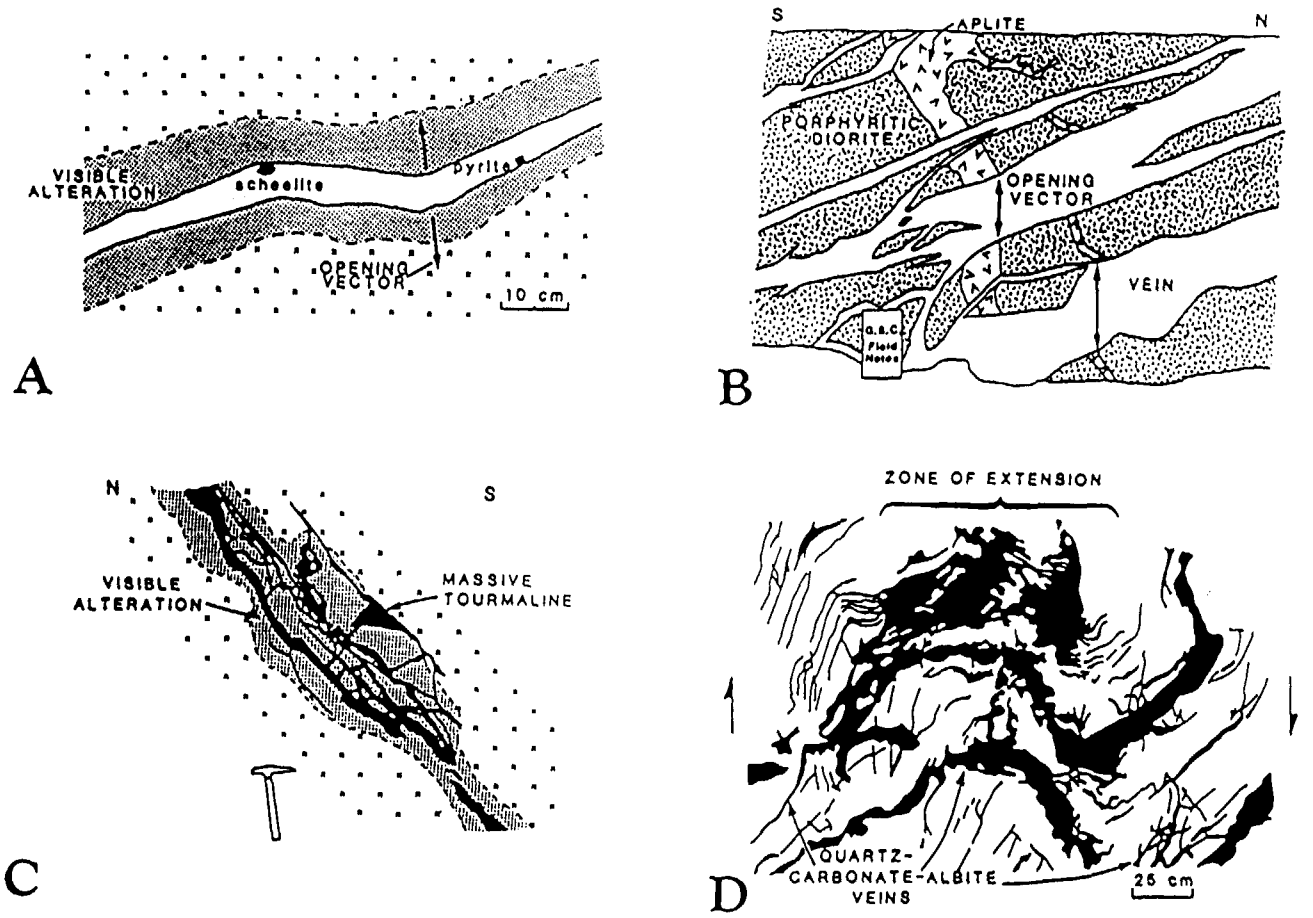


Figure 8.9: Natural examples of extensional and breccia veins (A) Cross section of a subhorizontal extensional quartz vein; note the subvertical opening vector given by the match of irregularities along the vein walls. The large scheelite and pyrite crystals in the veins indicate open space filling; Sigma deposit, Val d'Or.(B) Cross section of oblique-extension veins in a felsic sill with aplite dykes; note the subvertical opening vector of the shallow south-dipping veins; Siscoe Extension deposit, Val d'Or. (C) Cross section of a breccia vein consisting of angular wallrock fragments in a massive tourmaline matrix; Sigma deposit, Val d'Or. (D) Cross section of an array of sigmoidal extensional veins (ladder veins) with a central breccia with angular wallrock fragments. Note the subvertical movement indicated by the ladder veins; San Antonio deposit, Rice Lake.

in Mineralization and Shear Zones, J. T. Burgoll ed.

Figure 7

rock is sufficient to be considered economical to mine. In detail, each individual vein is viewed to dip shallowly to the north, but as a whole, the entire set of the quartz stockworking has an overall attitude that sub-parallels the general orientation of the enclosing wall rocks (i.e. strike approximately east-west and dip steeply to the south).

Mafic Volcanic-Hosted Gold (Matachewan Consolidated)

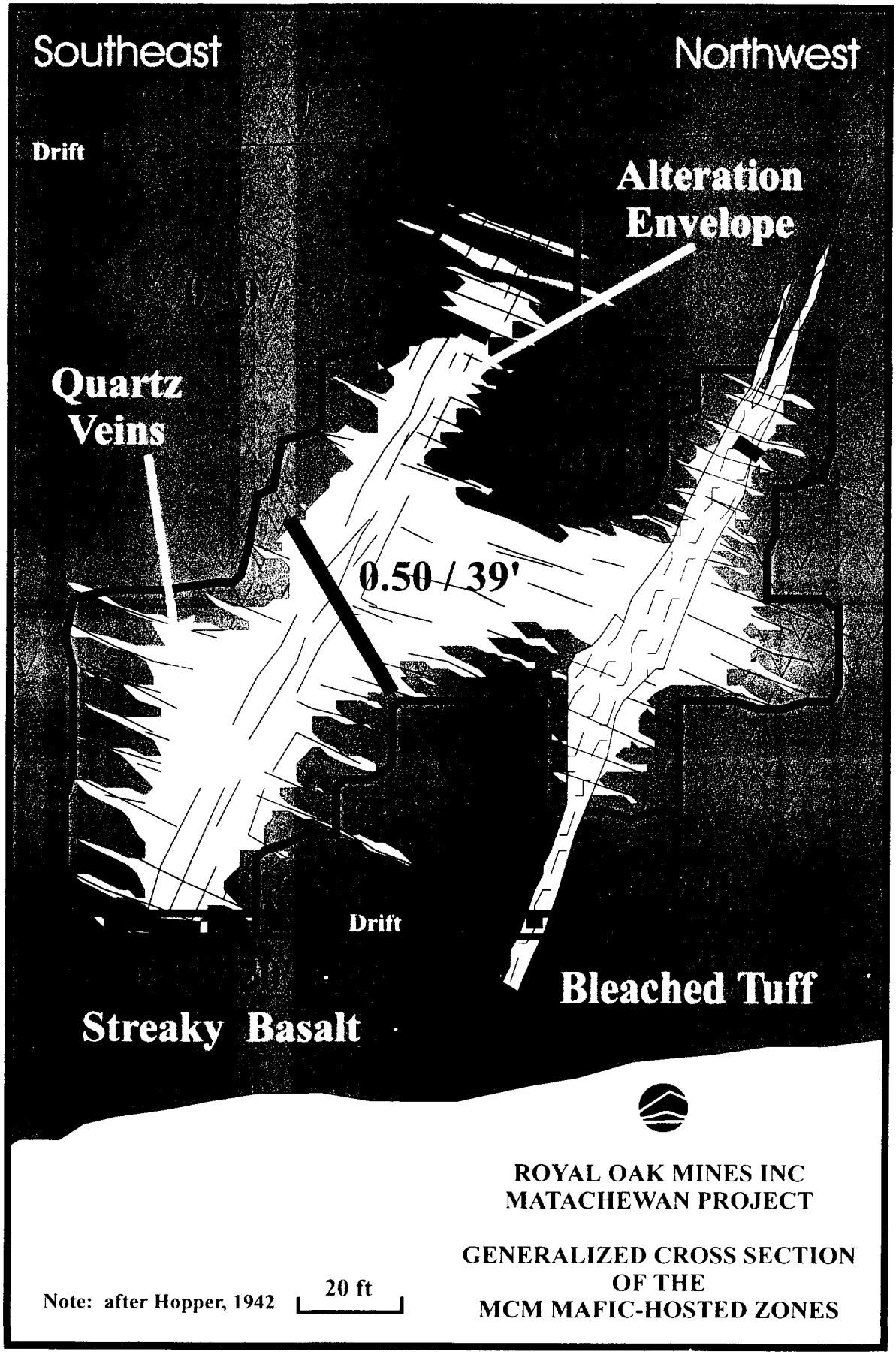
There seem to be two sub-types of this particular type of mineralization. The first is the traditional or known style of mafic volcanic-hosted conjugate quartz veins, as illustrated in Figure 8. Here a set of "shear-hosted" quartz veins follows the general stratigraphic orientation - dipping steeply to the south - and forms the conjugate set to the flat (+/- 20°) north dipping tensional quartz vein set. Gold grades in this particular style of mineralization are again associated with quartz-pyrite veins and vein breccias, but calcite also forms an important component. The second sub-type of mineralization is typified by the newly discovered "Joe Zone" mineralization. Here, strongly calcitic-pyritic altered mafic volcanics seem to form sheaths or envelopes surrounding intrusive bodies of dark grey coloured (quartz)-feldspar porphyries. The ultimate economic potential of this style of mineralization is unknown, but the several intersections that have been returned to date have returned values up to a maximum of 0.104 opt Au/51.1 ft (MCM95-3). At present, all of the drilling which has intersected this mineralization has been at shallow depths (to -200 ft), some of whose intersections have been included in the optimized pit outline. The limited drilling to date is suggesting a somewhat erratic distribution for this style of mineralization.

Timiskaming Sediment-Hosted Gold

The recent drilling has discovered what appear to be small, somewhat isolated pods of gold-bearing mineralization in the Timiskaming Sediments, or footwall units to the syenite, known as the "Kai Zone". This style of mineralization is similar to the syenite-hosted mineralized zones in that quartz flooding, veins and vein breccias containing 1-10% disseminated pyrite in the altered wall rock halos. This style of mineralization seems to be related to syenite dikes/dike swarms in the footwall, and a mild to moderate hematite alteration is also noted here. As with the grey porphyry-related mineralization discussed above, the ultimate economic potential of this style of mineralization is unknown, however values of up to 0.150 opt Au/48.0 ft (YD95-98) have been returned. These vein/vein breccias have not been observed to exhibit any type of preferred orientations in the drill core observed to date.

Ultramafic-Hosted Gold Mineralization

This style of mineralization is typically hosted by fuchsitic-altered ultramafic volcanics and sediments in the hangingwall to the syenite. Known as the "Jake's Cave" zone after one of the founders of the Young-Davidson Mine, Jake Davidson, this style of



ROYAL OAK MINES INC
MATACHEWAN PROJECT

GENERALIZED CROSS SECTION
OF THE
MCM MAFIC-HOSTED ZONES

Note: after Hopper, 1942

20 ft

mineralization consists of strong quartz-ankerite veining with sericite alteration and variable amounts of disseminated pyrite. Gold grades seem to correlate with the pyrite and the observations to date suggest that this type of mineralization is erratic in distribution, although development of steep westerly plunging shoots is suspected. The shallow nature and high grades of this type of mineralization makes these attractive open pit targets, provided an economic outline can be established.

Hangingwall Contact Gold Mineralization

This type of mineralization consists of sericite-(hematite)-altered mafic-ultramafic sediments and flows at or very near to the hangingwall contact of the syenite. Only two drill holes have intersected this mineralization to date (YD95-40 and YD96-16A), and assay results have been up to 0.025 opt Au/265.2 ft (YD95-40, incl. 0.135 opt Au/11.0 ft). Assay results for YD96-16A have returned only low values. The overall dimensions, orientations, or economic potential of these intersections cannot be estimated at this time.

8.0 Summary of the 1996 Drilling Program

An aggregate total of 11,832 feet of BQ core in some 23 holes (complete and partials (crossing property boundaries)) was drilled on the Young-Davidson Option during the August 26 to September 23rd, 1996 period. This aggregate total includes only those portions of the drill holes that fall within the confines of the Young-Davidson property.

The drilling was performed by Forages Benoit Ltée of Val d'Or, Quebec using two Acker all-hydraulic long-stroke drills working on a 5-and-2 schedule. All of the holes were drilled using BQ equipment and the core was then taken to Royal Oak's coreshack located in the village of Matachewan for logging and processing. All of the core has been saved, either as whole core, or as split BQ core and is currently in cold storage at Royal Oak's core storage facility at the MCM minesite.

During the logging process, all core was measured for its RQD by the technicians. The geologists subsequently logged the geological and structural characteristics of the core, and any core which seemed favourable of containing gold was marked off for detailed sampling. Appendix I tabulates the personnell involved with this drilling program. Samples lengths for this detailed sampling typically ranged from 1 to 5 feet in length, with many samples being 5 feet long. That core which did not seem to hold any promise for containing gold values (except the diabase dikes) were sampled by the composite method. In this method, a representative section of whole core, 1 to 4 inches in length, is selected at a nominal 5 foot spacing along an interval of up to roughly 50 feet in length. These "buttons" of core were then placed in sample bags, tagged and sent to the laboratory for analysis. In all, two laboratories were used - Royal Oak's Schumacher laboratory, and Spectrolab of Rouyn-Noranda. All gold analyses were done by Fire Assay-Atomic Absorption finish on 1AT sub-samples. Those intervals containing visible

gold were analyzed by the Pulp + Metallic Method.

The results of the gold analyses are given in the detailed diamond drill logs, and a summary of all significant gold values encountered during these drilling programs is given in Table 2. The detailed drill logs being given in Appendix II, with detailed cross-sections and a plan map showing drill hole locations are given in Appendix III.

Briefly, the results of the assay verification drilling were encouraging, as the results from these four holes (YD96-125 to YD96-128) did indeed confirm the presence and grade of that mineralization indicated by previous drilling. Of these four new holes, two holes returned gold values roughly equivalent to what was expected, one hole returned better than expected gold values, and one hole returned lower than expected gold grades. These holes were drilled in the widest parts of the projected Open Pit mineralization and did indeed confirm the large widths and continuity of the mineralization.

The drill holes testing for the western strike of the Open Pit mineralization returned mixed results. The first few drill holes on Sections 3200E to 2900E intersected gold mineralization much as predicted, but westwards of roughly line 2800E, a dramatic change in the nature of the mineralization had occured. Initial drill information from the 1995 program indicated that there was good potential for extending the western limits of the Open Pit mineralization (eg. Holes YD95-97, 98, and 99), but the recent holes drilled in this area of 2800E to 2300E revealed that the mineralization becomes more discontinuous and narrower in nature, and the gold grades are lower in general. Furthermore, a new unit of heterolithic black material was found to replace the syenite in the area of the Young-Davidson mill, the new unit seems to be less favourable for hosting gold mineralization, and grade-block modeling using Kriging methods has highlighted the presence of a possible cross-fault in the vicinity of line 2800E. The gold mineralization that has been intersected to-date west of line 2800E currently does not meet economic and engineering criteria and therefore is not included in the revised Open Pit outline. However, the western limits of this mineralization remain untested, and some potential remains to the west and to the north.

9.0 Conclusions and Recommendations

For the most part, this most recent drilling program was successful in achieving the stated goals. The assay data forming the bulk of the proposed Open Pit has been confirmed, and the western limits of the mineralization have been defined under current economic and engineering criteria. Continuous mineralization amenable to Open Pit mining methods has been traced from Section 2900E eastwards to the Property boundary with the Matachewan Consolidated Option. At present, the gold mineralization westwards of Section 2800E does not meet economic and engineering criteria, however should economic parameters improve, then this area holds good potential for contributing additional Open Pit ore. Gold mineralization is also found as quartz breccias in the

MATACHEWAN PROJECT

SUMMARY OF SIGNIFICANT ASSAY RESULTS
from the
FALL, 1996 DIAMOND DRILLING PROGRAM

Table 2.

Hole No.	Co-ordinates	From	To	Length (Ft)	Au (raw)	Au (cut 0.19)	Lithology	Comments
YD96-105	3200E 2690N -45 @ 360	178.0	322.2	144.2	**0.103**	**0.081**	Syenite (Main)	
YD96-106	3100E 3059N -45 @ 360	288.9	318.0	29.1	**0.050**	**0.047**	Timiskaming Seds	ncl. 0.208 opt / 4.9ft in IFo
YD96-108	3100E 2780N -45 @ 360	373.0	413.0	40.0	**0.035**	- -	Syenite (Main)	
YD96-109	3100E 2780N -63 @ 360	393.0	433.0	40.0	**0.034**	- -	Syenite (Main)	
YD96-110	3100E 2560N -60 @ 360	448.0	513.0	65.0	**0.036**	- -	Timiskaming Seds	
YD96-111	3000E 2980N -45 @ 360	88.0	228.0	140.0	**0.070**	**0.055**	Syenite (Main)	
YD96-112	2900E 3035N -45 @ 360	18.0	158.0	140.0	**0.044**	- -	Syenite (Main)	
YD96-113	2900E 2730N	88.0	103.0	15.0	**0.035**	- -	Syenite (Main)	
	-45 @ 360	443.0	463.0	20.0	**0.043**	- -	Syenite (Main)	
		612.0	615.0	3.0	**0.255**	- -	FW Syp dike	
YD96-114	2700E 3089N -45 @ 360	225.3	263.0	37.7	**0.030**	- -	Timiskaming Seds	Central Zone
YD96-115	2700E 2800N	11.5	73.0	61.5	**0.034**	- -	Syenite (Main)	
	-45 @ 360	393.0	488.0	95.0	**0.047**	- -	Timiskaming Seds	
YD96-116	2690E 2550N -45 @ 360	283.0	313.0	30.0	**0.024**	- -	Syenite (Main)	
YD96-117	2600E 3230N	47.0	138.0	91.0	**0.041**	- -	Timiskaming Seds	Central Zone
	-45 @ 360	346.0	348.0	2.0	**1.610**	**0.190**	Mafic Dike ???	MBx Zone (coarse VG)
YD96-118	2500E 3240N	53.0	68.0	15.0	**0.025**	- -	Timiskaming Seds	
	-45 @ 360	113.0	123.0	10.0	**0.071**	- -	Timiskaming Seds	
YD96-119	2500E 2970N -45 @ 360	206.7	221.4	14.7	**0.080**	- -	Timiskaming Seds	
YD96-120	2515E 2750N	378.0	383.0	5.0	**0.144**	- -	FW Syp Dike	
	-45 @ 360	403.0	408.0	5.0	**0.076**	- -	FW Syp Dike	
		468.0	483.0	15.0	**0.047**	- -	Timiskaming Seds	
		523.0	528.0	5.0	**0.106**	- -	Timiskaming Seds	
		653.0	668.0	15.0	**0.033**	- -	Timiskaming Seds	
YD96-121	2500E 2550N -68 @ 360				**NSV**			
YD96-122	2500E 2550N -45 @ 360				**NSV**			
YD96-123	2300E 3070N -45 @ 360	132.9	211.6	78.7	**0.048**	**0.037**	Timiskaming Seds	Central Zone
YD96-124	2300E 2800N	11.0	28.0	17.0	**0.053**	- -	Syenite (Main)	
	-45 @ 360	236.0	256.4	20.4	**0.037**	- -	Syenite (FW?)	1 speck VG
		365.0	393.0	28.0	**0.047**	- -	Syenite (FW?)	
		458.0	468.0	10.0	**0.097**	- -	Syenite (FW?)	
YD96-125	4150E 2810N -73 @ 360	159.5	413.4	253.9	**0.079**	**0.057**	Syenite (Main)	Assay verification hole
YD96-126	4050E 2900N	23.0	226.4	203.4	**0.047**	- -	Syenite (Main)	Assay verification hole
	-45 @ 360	290.3	364.2	68.9	**0.040**	- -	Syenite (FW contact)	New zone?
YD96-127	3900E 2840N -45 @ 360	162.4	334.6	172.2	**0.075**	**0.060**	Syenite (Main)	Assay verification hole
YD96-128	3450E 2880N -45 @ 360	12.0	369.1	357.1	**0.037**	**0.036**	Syenite (Main)	Assay verification hole

footwall sediments in this western area, and this raises the possibility of additional similar mineralization in the untested portion of the property northwards to the north claim boundary. As well the area to the west of Section 2300E has not seen any diamond drilling whatsoever, and some potential remains in this area.

10.0 References

------, 1984, Lithostratigraphic Map of the Abitibi Subprovince: OGS - MERQ Joint Publication, Map 2484

Burrows, A.G., 1918, The Matachewan Gold Area: Ont. Bur. Mines Vol. 27 (1918) and Vol. 29 Part 3 (1970)

Cooke, H.C., 1919, Geology of the Matachewan District: GSC Memoir 115

Derry, D.R., Hopper, C.H., and McGowan, H.S., 1948, Matachewan Consolidated Mine in Structural Geology of Canadian Ore Deposits: CIMM Jubilee Volume I, p 638-643

Dyer, W.S., 1935, Geology and Ore Deposits of the Matachewan-Kenogami Area: ODM Ann. Rpt., Vol. 33, Part 2, pp 31-36

Hopper, C.H., 1942, Geology of the Matachewan Consolidated Mine, Northern Ontario: in CIMM Transactions Volume 45, pp 387-400

Hopper, C.H., 1943, The Engineer and the Diamond Drill in Northern Ontario: in CIMM Transactions Volume 46, pp 480-505

Lovell, H.L., 1967, Geology of the Matachewan Area: ODM Geological Report 51, 55 p, 2 maps

Meyer, G., Guindon, D., Boucher, F.M., Madon, Z., and Gaudreau, M., 1992, Kirkland Lake Resident Geologist's District in Report of Activities 1992 Resident Geologists: OGS Misc. Paper 161, Fenwick, K.G., Newson, J.W., and Pitts, A.E., eds. p 276-277

North, H.H., and Allen, C.C., 1948, Young-Davidson Mine in Structural Geology of Canadian Ore Deposits: CIMM Jubilee Volume I, p 633-637

Powell, W.G., Kilbourne, M.W., and Hodgson, C.J., 1991, Gold-Related Geology of the Matachewan Camp in Archean Gold Deposits of the Matachewan-Kirkland Lake-Larder Lake Area: Soc. Econ. Geol. Guidebook series, Volume 2, Lovell, H.L., Robinson, D.R., and Guindon, D.L., eds., p 72-88

Sinclair, W.D., 1980, Gold Deposits of the Matachewan Area, Ontario in Geology of Canadian Gold Deposits: CIMM Spec. Volume 24, Hodder, R.W., and Petruk, W., eds., p 83-93

Sloan, D.A., 1942, Low-Cost Mining at Young-Davidson in CIMM Volume

Southern, N.J., 1940, Lower Grade Ore at Young-Davidson Mine in CIMM Volume

R. Lemieux

Feb 22 97

APPENDIX I

List of Personnel, 1996 Drilling

Matachewan Project

List of Personnel, 1996 Diamond Drilling

Name	Position
Reno Pressacco	Senior Geologist
Stephen Harding	Geologist
Ray Letellier	Technician
Marc Richard	Technician

APPENDIX II

Field Drill Logs

ROYAL OAK MINES INC.

DIVISION: | PROJECT: MATACHEWAN | LOGGED BY: R. Pressacco | DATE LOGGED: Aug 28/96 | DRILL HOLE NO: YD96-105

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2683.98	3203.36	7999.06	378.0ft	3200E	
Engineering Grid:						

single shot

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
208	360	-43												
378	358°~~002~~	-42												

START DATE: August 26/96

FINISH DATE: August 27/96

TOWNSHIP: Powell

CLAIM NO.: MR5372 (22%), MR5375 (78%)

DRILLING CONTRACTOR: Benoit ND - Val d'Or

PURPOSE: Open Pit In-fill → West End

RESULTS: 0.103 opt Au / 144.2 ft (178.0 - 322.2 ft), raw assays
- 0.081 opt Au / 144.2 ft (cut to 0.19 opt).

WHY HOLE TERMINATED: normal termination in very blocky diabase

CORE SIZE: BQ

CASING: removed

HOLE CEMENTED: no

NO. OF ASSAYS: 54 Au assays

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Mine site.

CORE STORED (LOCATION): Bunker, MCM mine site

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD96-105

DIST	ID	ROCK DESCRIPTION							STRUCTURE				GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU	COMMENTS
		Com	Grs	Text	Co	Alt	Name 1	Name 2	B/S B	B/S A1	J/F J	J/F A2	Qtz	cc	Ank	Py						c / opt grams	
9.0								CAS															BW casing. All casing removed upon termination of hole.
51.9		B	Fg	POR	BK			DIA	C	5													Diabase. weakly plag. porphyritic 10-20ft, occasional cc-Py veinlet. Lower contact @ low CA.
58.0		M	MG	POR	RB	CHL1		SYN					1	1	-	-			AX 31770	6.1		0.001	weakly fragmental texture. Fragments weakly magnetic.
63.0		M	vfg	MSV	RB	CHL2		SYN					1	1	-	-			31771	5.0		0.001	mod. well developed "chl" alteration
68.0		M	vfg	ful	RGY	CHL3		SYN					1	1	-	0.1			31772	5.0		0.001	well developed patchy + veinlet chloritic (talc?) alt^n
73.0		M	vfg	ful	BLK	CHL3		SYN	V	40			1	3	-	-			31773	5.0		0.002	patchy + veinlet chl alt^n, thin cc veinlets common.
78.0		M	vfg	frag	BLK	CHL3		SYN					1	3	-				31774	5.0		0.001	well developed patchy / fragmental texture. Frags are weakly magnetic.
83.0		M	vfg	ful	BLK	CHL3		SYN					1	1	-				31775	5.0		0.003	occassional red-brown syenitic patches.
88.0		M	vfg	MSV	BLK	CHL3		SYN					-	1	-				31776	5.0		0.007	possible 1-2ft thick mafic dike.
93.0		M	vfg	MSV	RB	CHL2		SYN					-	1	-				31777	5.0		0.002	approx 50% red-brown syenitic patches.
98.0		M	vfg	POR	RB	C		SYN					-	1	-	0.5			31778	5.0		0.022	0.5ft section of RQD 0% @ 96ft. Diss vfg euhedral pyrite.

DRILL HOLE NO: YD96-105

PAGE 3 OF 6

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
103.0		M	MG	PPR	RB	—		SYP	Y	45			1	01	—	—			31779	5.0		0.002	0.1 ft qtz-tour vein @ 102ft, 25% tourmaline (black)
108.0		M	MG	PPR	RB	CHL1		SYP	Y	45			1	3	—	—			31780	5.0		0.008	pervasive black (chl?) alt^n destroys matrix to feldspar phen's, 0.1 ft cc-chl veinlet @ 104 ft.
113.0		M	MG	PPR	RB	CHL1		SYP					1	1	—	—			31781	5.0		0.001	strongly porphyritic, common hairline cc veinlets.
118.0		M	VFG	MG	BY	CHL2		SYN					—	1	—	—			31782	5.0		0.007	incipient, pervasive dark (chl?) alt^n
123.0		M	FG	FOL	RB	CHL1		SYN					—	0.1	—	—			31783	5.0		0.001	a few hairline cc veinlets.
128.0		M	VFG	FOL	RB	CAL1		SYN					—	7	—	1			31784	5.0		0.001	patchy/veinlet cc alt^n mixed with patchy chl alt^n, vfg py with chl-cc alt^n
133.0		M	VFG	COT	RB	CCH1		SYN					—	7	—	1			31785	5.0		0.001	patchy cal-chl alt^n contains vfg clots py.
138.0		M	VFG	FOL	RB	CHL1		SYN					—	1	—	0.1			31786	5.0		0.001	veinlet/banded black chl alt^n
143.0		M	VFG	FOL	RB	CHL1		SYN	F	55			—	5	—	0.1			31787	5.0		0.001	multiple generations of cc veinlets
148.0		M	MG	PPR	RB	CHL1		SYN					—	1	—	—			31788	5.0		0.002	pervasive chl alt^n attacking feldspar matrix.
153.0		M	MG	PPR	RB	BL1		SYP					3	1	—	—			31789	5.0		0.001	weak "bleaching", qtz-cc-chl vein/patches @ low angles TCA.
158.0		M	MG	PPR	RB	BL1		SYP					1	1	—	—			31790	5.0		0.002	trace qtz-cc-chl veinlets @ 5° TCA.

P.A.P. 35362

DRILL HOLE NO: VM96-105

Avg = 0.103 opt (raw) / 144.2 ft
or 0.081 opt / 144.2 (cut to 0.10)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	carb	METALLIC py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
163.0		m	ufg	msv	Gry	—		MDIKE											31794	5.0		0.001	diorite dike 157 - 162.5 ft
168.0		m	mg	PPR	Bk	ep/cl		SYN					—	1	—	—			31797	5.0		0.001	pervasive black alt=
173.0		m	ufg	msv	RB	(cc±)		SYN					—	3	—	0.1			31793	5.0		0.011	vein/barrel + patchy chl alt=
178.0		m	mg	PPR	RGN	chl 2		SYN					1	1	—	0.1			31799	5.0		0.019	ufg diss pyrite.
183.0		m	mg	PPR	RB	BL3		SYP					3	1	—	1			31795	5.0		0.102	MINERALIZED ZONE 178 -> 322 ft
																							ufg-fg, euhedral -> anhedral pyrite, irregular QV's
188.0		m	mg	PPR	RB	BL3		SYP	V	30			5	1	0.1	3			31796	5.0		0.042 0.026	QV's mostly @ 30-45° TCA. Trace anhedral along vein walls.
193.0		m	mg	PPR	RB	BL3		SYP	V	0			10	1	1	5			31797	5.0		0.026	QV's vary 0-30° TCA, diss py.
198.0		m	mg	PPR	RB	BL3		SYP					3	1	—	7			31798	5.0		0.384	mg euhedral py more common around inclusions/ dikes
203.0		m	mg	PPR	RB	HEM 2		SYP					3	1	0.1	10			31799	5.0		0.194	fragmental inclusions contain common pyrite. Hem alt= increasing down-hole.
208.0		m	mg	PPR	RB	HEM 3		SYP					3	0.1	0.1	5			31800	5.0		0.060	Strg Hem alt= overprinted by diss pyrite, pervasive cc alt=
213.0		m	mg	PPR	RB	HEM 3		SYP					3	0.1	0.1	3			31801	5.0		0.052	0.5 ft magnetite stringer + pervasive @ 209 ft. MAGNETITE APPEARS TO BE RETROGRADE THE PYRITE
218.0		m	mg	PPR	RB	HEM 3		SYP					1	1	0.1	3			31802	5.0		0.030	diss ufg pyrite.

P.A.P. 35362

DRILL HOLE NO: YB86-105

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
223.0		M	mg	PGR	RT	CHL 2		SVP					-	1	-	1			31803	5.0		0.038	pervasive dark green-black alt^{n}, minor cc veinlets
238.0		M	mg	PGR	RB	HEM 1		SVP					1	1	-	1			31804	5.0		0.019	mostly dark chl alt^{n}, last 1ft shy hem alt^{n} with 5% mg-cg pyrite. Trace mt stringers
233.0		M	mg	PGR	RB	HEM 3		SVP					1	1	-	5			31805	5.0		0.056	pervasive hem alt^{n} destroying feldspar xtals, diss, rare stringer pyrite.
238.0		M	mg	PGR	RB	HEM 3		SVP					3	1	-	3			31806	5.0		0.077	patchy milky QV's
243.0		M	mg	PGR	GY	CHL 1		SVP	V	20			1	1	-	5			31807	5.0		0.025	patchy + fracture controlled hem alt^{n} trace microcline along QV walls.
248.0		M	fg	PGR	BW	HEM 1		SVP					1	5	-	10			31808	5.0		0.404	abundant pervasive cc alt^{n}, mixed diss & patchy euhedral pyrite. Trace cpy
253.0		M	mg	PGR	GY	CAL 2		SVP					1	1	-	5			31809	5.0		0.099	mixed diss ufg + stringer py.
258.0		M	mg	PGR	RB	HEM 2		SVP	V	30			3	1	-	3			31810	5.0		0.361	thin qtz-cc veinlets to ½ inch.
263.0		M	mg	PGR	RB	BL 2		SVP					1	1	-	10			31811	5.0		0.258	coarse patchy pyrite. 1% cpy diss throughout py patches.
268.0		M	mg	PGR	RB	BL 2		SVP					3	1	-	1			31812	5.0		0.073	drillers report water flow @ 263 ft
273.0		M	mg	PGR	RB	HEM 2		SVP					1	1	-	3			31813	5.0		0.118	patchy + pervasive magnetite alteration, ~ 5%.
278.0		M	fg	PGR	GY	—		SVN					1	1	-	5			31814	5.0		0.073	0.5 ft of mt-qtz-cc-py veining @ 274 ft, ufg diss py otherwise

P.A.P. 35362

DRILL HOLE NO: 93-05

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
283.0		m	fg	por	GBR	CAL 1		SYP					3	1	-	3			318'5	5.0		0.046	vfg diss pyrite.
288.0		m	fg	por	BW	—		SYP	V	25			1	1	-	1			318'6	5.0		0.018	
293.0		m	mg	por	NB	HEM 1		SYP					1	1	-	1			318'7	5.0		0.022	some coarse, zoned feldspars
298.0		m	mg	por	NB	HEM 2		SYP					1	1	-	1			318'8	5.0		0.048	Sl mafic porphyritic
303.0		m	mg	por	NB	HEM 1		SYP	V	20			5	1	-	1			318'9	5.0		0.074	coarse patchy py in qtz veins + vein hrs.
308.0		m	mg	por	NB	HEM 2		SYP					1	3	-	1			318'10	5.0		0.082	diss vfg py, orthoclase lining some qtz veinlets.
313.0		m	mg	por	NB	HEM 3		SYP					1	3	-	1			318'11	5.0		0.016	patchy + stringer hem alt^n, some pervasive also.
318.0		m	fg	por	NB	HEM 3		SYN					-	3	-	1			318'12	5.0		0.040	pervasive hem alt^n destroys feldspar phenos.
322.2		m	fg	por	BW	HEM 1		SYN					3	1	-	3			318'13	4.2		0.184	mostly fracture controlled hem alt^n, mixed diss + (stringer) pyrite.
378.0		B	fg	msv	DGY	—		DIA					-	-	-	-			—				DIABASE, vfg chill margin to 379 ft. fg thereafter. Very blocky, 1-3% mixed epi-cc veining.
378.0								EOH															END OF HOLE.

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Bressacco DATE LOGGED: Aug 29/96 DRILL HOLE NO: YD96-106

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3044.22	3103.84	8010.49	398.0 ft	3100 E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
200	~~360~~ 004	-42												
~~398~~ 398	~~352~~ 004°	-41												

START DATE: August 27/96

FINISH DATE: August 28/96

TOWNSHIP: Powell

CLAIM NO.: L316523 (95%), MR 5372 (5%)

DRILLING CONTRACTOR: Benoit DD - Val d'or

PURPOSE: in-fill drilling, west Enel pit

RESULTS: 0.050 opt Au / 29.1 ft (288.9 - 318.0 ft), raw assays
- 0.047 opt Au / 29.1 ft (cut to 0.19 opt)

WHY HOLE TERMINATED: normal termination in footwall units

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: NO

NO. OF ASSAYS: 36 Au assays

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Minesite.

CORE STORED (LOCATION): Bunker, Mcm minesite.

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YB%-106

DIST 10	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	CAS Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gtz	cc	cmk	METALLIC py			SAMPLE #	WIDTH	T	AU ☑ opt grams	0-10 CASING	COMMENTS
204.0		m	fg	msv	DGY	-		DIA																DIABASE DIKE. Lwr contact obscured by broken core.
208.0		m	ufg	cgT	GY	CAL1		SYN					L	3	-	1			AX 31824	4.0		0.002		pervasive + patchy calcite alt'n. Magnetic sections
213.0		m	ufg	cgT	GY	CAL1		SYN					-	1	-	0.1			31825	5.0		0.004		patchy-stringer + (pervasive) magnetite present
218.0		m	ufg	PGR	GY	CAL1		SYN					L	1	-	1			31826	5.0		0.005		1 ft of qtz-tem-mt veining. Hematite is along vein walls, mt textures suggest overprinting of hem alt'n
223.0		m	mg	PGR	GY	CAL1		SYN					-	1	-	-			31827	5.0		0.002		patchy + stringer mt, at times assoc. with cc patches and veinlets.
228.0		m	mg	PGR	GY	CAL1		SYN					-	L	-	-			31828	5.0		0.004		mostly thin wormy cc veinlets rare mt patches.
233.0		m	mg	PGR	RB	HEM2		SYP					+	1	-	-			31829	5.0		0.001		Hem alt'n beginning @ 230ft
238.0		m	mg	PGR	RB	HEM3		SYP					L	3	-	-			31830	5.0		0.001		textures suggest cc veinlets overprint hem alt'n
240.5		m	mg	PGR	RB	HEM3		SYP					-	1	-	-			31831	2.5		0.001		mixed pervasive + stringer hem alt'n, Lwr contact irregular shape.
243.0		m	ufg	msv	DGY	CAL1		Tsed					-	3	2	-			31832	2.5		0.008		
248.0		m	ufg	msv	GY	CAL1		Tsed					-	1	-	-			31833	5.0		0.001		

DRILL HOLE NO: YU 96-106

PAGE 3 OF 5

Average = 0.050 opt Au / 29.1 ft (raw)
or 0.047 opt / 29.1 (cut to 0.1)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
253.0		m	ufg	MSV	RBY	HEM 1		Tsed					-	3	-	-			31934	5.0		0.006	mixed pervasive + stringer hem alt= accompanied by cc veinlets
258.0		m	ufg	MSV	GY	HEM 1		Tsed					-	3	-	-			31935	5.0		0.001	weak patchy hem alt=
263.0		m	ufg	MSV	GY	CAL 1		Tsed					-	1	-	-			31936	5.0		0.001	
268.0		m	ufg	MSV	GY	CAL 1		Tsed					-	1	-	-			31937	5.0		0.006	
273.0		m	ufg	MSV	GY	CAL 1		Tsed					-	3	-	-			31938	5.0		0.001	
278.0		m	ufg	MSV	GY	CAL 1		Tsed	V.	20			1	1	-	r			31939	5.0		0.004	½" qtz-mt veinlet @ 278.9 ft
283.0		m	ufg	MSV	GY	CAL 1		Tsed					-	1	-	0.1			31940	5.0		0.001	
288.9		m	ufg	MSV	GY	CAL 1		Tsed					-	1	-	-			31941	5.9		0.001	
293.8		m	ufg	BED	GRY	ANK 1		IFo	F	50			-	1	3	-			31942	4.9		0.208	mixed patchy + bedded recrystd beds max ½-1" thick
297.4		m	vfg	BED	GRY	ANK 2		IFo					-	3	3	-			31943	3.6		0.012	mostly disrupted mt beds/patches, common irregular ank veining.
303.0		m	ufg	MSV	GY	CAL 1		Tsed					-	1	-	-			31944	5.6		0.012	weak patchy hem alt= in last 1 ft of section
308.9		m	ufg	MSV	RB	HEM 1		Tsed					-	1	-	0.1			31945	5.9		0.014	weak patchy + pervasive hem alt=, ufg diss py.
313.0		m	ufg	MSV	GY	CAL 1		Tsed					-	1	-	1			31946	5.0		0.030	diss + (stringer) pyrite, 1-3% chl veinlets

DRILL HOLE NO: YD96-106

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
318.0		m	vfg	MSV	GY	CAL1		Tsed					-	1	-	gl			3184.7	5.0	↳	0.020	vfg diss pyrite
323.0		m	vfg	FGV	GY	CAL1		Tsed					-	1	-	-			3184.8	5.0		0.008	occassional mt patches/ fragments
328.0		m	vfg	MSV	RB	HEM1		Tsed					-	1	-	-			3184.9	5.0		0.010	pervasive fg alt?
333.0		m	vfg	MSV	RB	HEM1		Tsed					-	1	-	-			3185.0	5.0		0.008	alt? decreasing down hole.
338.0		m	vfg	MSV	GY	CAL1		Tsed					-	1	-	-			3185.1	5.0		0.004	
343.0		m	vfg	MSV	GY	CAL1		Tsed					-	0.1	-	-			3185.2	5.0		0.004	
349.0		B	vfg	MSV	RB	HEM2		Tsed					-	0.1	-	-			3185.3	6.0		0.010	1 ft ground / last core @ 348.0 ft
353.0		m	mg	PPR	RB	CAL1		SYP					-	1	-	gl			3185.4	4.0		0.001	mg porphyritic syenite dike ("Purple Porphyry")
358.0		m	mg	PPR	RB	CAL1		SYP					1	3	-	0.1			3185.5	5.0		0.002	common cc veinlets at all angles TCA
360.9		m	mg	PPR	RB	CAL1		SYP					1	3	-	-			3185.6	2.9		0.001	occassional chloritic stringers within 1ft of lwr contact.
363.2		m	vfg	MSV	GY	CAL1		Tsed					-	1	-	-			3185.7	2.3		0.004	
368.0		m	vfg	MSV	GY	CAL1		Tsed					-	1	-	0.1			3185.8	4.8		0.004	

DRILL HOLE NO: YD96-106

PAGE 5 OF 5

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
398.0		M	vfg	MSV	GY	ANKI		TRAIL					qtz	cc	ank	py			31859	30.0		0.006	wavy irregular ankerite veining to 1" common.
398.0								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Bressacco DATE LOGGED: August 30/96 DRILL HOLE NO: YD96-108

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2780.26	3106.43	7994.69	658.0ft	3100E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
700	~~359~~ 001	-43												
400	003	-42°												
608	004	-41°												

START DATE: August 28/96

FINISH DATE: August 29/96

TOWNSHIP: Powell

CLAIM NO.: MR 5372 (60%), L 316 523 (40%)

DRILLING CONTRACTOR: Benoit DD - Val d'Or

PURPOSE: In-fill drilling, west End of Pit

RESULTS: 0.035 opt Au/ 40.0 ft (373.0 - 413.0 ft)

WHY HOLE TERMINATED: normal termination past target.

CORE SIZE: BQ

CASING: Left in place

HOLE CEMENTED: No

NO. OF ASSAYS: 59 Au assays

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Mine site.

CORE STORED (LOCATION): Bunke, Mcm mine site.

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: MB-02

Average = 0.035 opt Au / 40.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gk	cc	mk	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
19								CAS															CASING.
368.7		M	mg	MSV	DGY	CAL 1		DIA															DIABASE. Occassional cc and epidote veinlets, some blocky sections. 5ft chill margin on lower contact.
373.9		M	mg	PVR	NB	HEM 1		SVP	C	30			-	1	-	1			AX 31860	4.3		0.008	occassional mt-cc-chl veining containing fine stringer/class pyrite.
378.0		M	mg	PVR	NB	HEM 1		SVP	V	30			-	3	-	0.1			31861	5.0		0.022	common thin cc veinlets with fine pyrite
383.4		M	mg	PVR	NB	HEM 1		SVP					-	1	-	1			31862	5.0		0.056	mixed pervasive + stringer fine alt^{n}, occassional mt patches.
388.0		M	mg	PVR	NB	HEM 1		SVP					-	1	-	0.1			31863	5.0		0.089	common mt-chl-cc veining @ 60° TCA
391.9		M	mg	PVR	NB	HEM 2		SVP					-	1	-	1			31864	3.9		0.040	mixed vfg disst patchy pyrite.
398.0		M	vfg	MSV	DGY	MAG 2		TSed					-	1	-	-			31865	6.1		0.006	pervasive + patchy magnetite alt^{n} with calcite
403.0		M	vfg	MSV	DGY	MAG 3		TSed					-	1	-	-			31866	5.0		0.014	pervasive magnetite-calcite alt^{n} in dark grey colour to core.
408.0		M	vfg	MSV	DGY	MAG 2		TSed					-	1	-	-			31867	5.0		0.004	magnetite alteration weaker.
413.0		M	vfg	MSV	NB	MAG 2		SVN					-	1	-	0.1			31868	5.0		0.058	minor coarse pyrite in cc-mt veinlets/stringers, several 6-12 in sections of pervasive mt alt^{n}

DRILL HOLE NO: YD96-108

PAGE 3 OF 6

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
416.9		M	vfg	MSV	GY	CAL1		SYN					-	0.1	-	-			31869	3.9		0.004	
421.0		M	vfg	MSV	BK	CAL1		MDike	C	70			-	0.1	-	-			31870	4.1		0.004	3 inch chill margin on lower contact
423.0		M	vfg	MSV	RB	CAL1		SYN					0	1	-	-			31871	2.0		0.011	
428.0		M	mg	PGR	RB	CAL2		SYP					-	0.1	-	0.1			31872	5.0		0.006	3% mt stringers, patches + clots. Rare cpy stringer
433.0		M	mg	PGR	RB	CAL2		SYP					-	1	-	0.1			31873	5.0		0.042	Coarse anhedral py healed by ½" cc veinlet, trace mt stringers
438.0		M	mg	PGR	RB	CAL2		SYP					-	1	-	3			31874	5.0		0.016	mostly vfg clots anhedral - subhedral pyrite.
443.0		M	mg	PGR	RB	CAL2		SYP					-	1	-	1			31875	5.0		0.008	mostly anhedral - subhedral py, fg to mg, 1% mt stringers
448.0		M	mg	PGR	RB	CAL2		SYP					0	t	0	0.1			31876	5.0		0.006	weak fracture controlled tem alt=
453.0		M	fg	PGR	RB	HEM1		SYP					-	1	-	-			31877	5.0		0.008	3% mt stringers cross-cut pervasive tem alt=
458.0		M	fg	PGR	RB	HEM1		SYP					-	0.1	-	-			31878	5.0		0.002	3% mt stringers throughout
463.0		M	mg	PGR	RB	HEM1		SYP	V	65			-	1	-	3			31879	5.0		0.014	fg-mg anhedral - anhedral clots pyrite
468.0		M	fg	PGR	BK	CAL2?		SYN	V	55			-	1	-	0.1			31880	5.0		0.001	3in cc veinlet @ 463.5 ft.
473.0		M	mg	PGR	RB	HEM2		SYP					-	1	-	-			31881	5.0		0.001	1in orthoclase vein @ 470', 3in cc hem vein @

P.A.P. 35362

DRILL HOLE NO: CD26-108

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Wk	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
																							473 ft contains traces of moly-pyrite (65° TCA)
478.0		M	MG	PMR	PB	HEM 2		SYP					-	1	-	0.1			31892	5.0		0.009	
483.0		M	MG	PMR	PB	HEM 1		SYP					-	1	-	-			31893	5.0		0.001	
488.0		M	MG	PM	PB	CAL 1		SYP					-	1	-	0.1			31894	5.0		0.001	
493.0		M	MG	PM	PB	CAL 1		SYP					-	1	-	-			31895	5.0		0.016	
498.0		M	MG	PM	PB	CAL 1		SYP					-	1	-	-			31896	5.0		0.001	
503.0		M	MG	PM	PB	HEM 3		SYP					1	3	-	1			31897	5.0		0.080	pervasive hem alt^{n}
508.0		M	MG	PM	PB	CAL 1		SYP					-	1	-	0.1			31898	5.0		0.010	
513.0		M	MG	PM	PB	CAL 1		SYP					-	1	-	-			31899	4.0		0.003	lower contact is diffuse/gradational, difficult to pinpoint.
518.0		M	VFG	MSV	RGY	CAL 2		Tsed					1	3	-	-			31900	6.0		0.008	feldspar phenos are commonly observed.
523.0		M	VFG	PM	PB	CAL 2		Tsed					-	3	1	0.1			31901	5.0		0.006	feldspar phenos common.
528.0		M	VFG	MSV	PB	CAL 3		Tsed					-	3	3	-			31902	5.0		0.003	cc veins to 1", calc-cal veins to 2"
533.0		M	VFG	MSV	GY	CAL 2		Tsed					1	3	-	-			31903	5.0		0.003	10% patchy cpy / 2 inches @ 533 ft.

DRILL HOLE NO: YB16-108

PAGE 5 OF 6

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
538.0		m	ub	MSV	GY	CALC		TSed					-	3	-	-			31814	5.0		0.003	
543.0		m	ub	MSV	GY	CALC		TSed					-	5	-	-			31815	5.0		0.002	
548.0		m	ub	MSV	GY	CALC		TSed					-	1	-	-			31816	5.0		0.003	
553.0		m	ub	MSV	GY	CALC		TSed					1	1	-	-			31817	5.0		0.006	1" qtz-mt vein @ 551 ft (5° TCA)
558.0		m	ub	MSV	GY	CALC		TSed					-	1	-	-			31818	5.0		0.002	possible mafic (ultramafic) dike 538-559 ft.
563.0		m	ub	MSV	RGY	CALC		TSed					-	1	3	-			31819	5.0		0.004	
568.0		m	ub	MSV	GY	CALC		TSed					-	1	-	-			31820	5.0		0.002	
573.0		m	ub	FGV	GY	CALC		TSed	F	55			-	1	-	-			31821	5.0		0.003	
578.0		m	ub	FGV	GY	CALC		TSed					-	1	-	-			31822	5.0		0.002	
583.0		m	mg	PVM	DB	CALC		SYP					-	1	-	-			31823	5.0		0.002	
588.0		m	mg	PVM	DB	CALC		SYP					-	1	-	-			31824	5.0		0.010	
593.0		m	ub	MSV	GY	CALC		TSed					-	0.1	-	-			31825	5.0		0.003	
598		m	ub	MSV	GY	CALC		TSed					1	1	1	1			31826	5.0		0.009	hairline qtz in 5mm qtz veinlet (80° TCA)

P.A.P. 35362

DRILL HOLE NO: YB16-108

PAGE 5 OF 6

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
538.0		m	vfg	MSV	GY	CALC		Tgsd					-	3	-	-			31804	5.0		0.003	
543.0		m	vfg	MSV	GY	CALC		Tgsd					-	5	-	-			31805	5.0		0.002	
548.0		m	vfg	MSV	GY	CALC		Tgsd					-	1	-	-			31806	5.0		0.003	
553.0		m	vfg	MSV	GY	CALC		Tgsd					1	1	-	-			31807	5.0		0.006	1" qtz-mt vein @ 551 ft (5° TCA)
558.0		m	vfg	MSV	GY	CALC		Tgsd					-	1	-	-			31808	5.0		0.002	possible mafic (ultramafic) dike 535-559ft.
563.0		m	vfg	MSV	RGY	CALC		Tgsd					-	1	3	-			31809	5.0		0.004	
568.0		m	vfg	MSV	GY	CALC		Tgsd					-	1	-	-			31900	5.0		0.002	
573.0		m	vfg	FGL	GY	CALC		Tgsd	F	55			-	1	-	-			31901	5.0		0.003	
578.0		m	vfg	FGL	GY	CALC		Tgsd					-	1	-	-			31902	5.0		0.002	
583.0		m	mg	PMX	DB	CALC		SYP					-	1	-	-			31903	5.0		0.002	
588.0		m	mg	PMX	DB	CALC		SYP					-	1	-	-			31904	5.0		0.010	
593.0		m	vfg	MSV	GY	CALC		Tgsd					-	0.1	-	-			31905	5.0		0.003	
598		m	vfg	MSV	GY	CALC		Tgsd					1	1	1	1			31906	5.0		0.009	hairline qtz vn 5mm qtz veinlet (80° TCA)

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Rassacco DATE LOGGED: Sept 3/96 DRILL HOLE NO: YD96-109

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2779.34	3106.12	7993.38	858.0 ft	3100 E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-63												
208	003	-61												
408	002	-60												
608	008	-58												
858	006	-56												

START DATE: August 29/96

FINISH DATE: Sept 3/96

TOWNSHIP: Powell

CLAIM NO.: MR 5372 (70%), L316523 (30%)

DRILLING CONTRACTOR: Benoit Bros - Val d'Or

PURPOSE: Test for northern target (central zone), west end drilling.

RESULTS: 0.034 opt Au / 40.0 ft (393.0 - 433.0 ft)

WHY HOLE TERMINATED: normal termination in clean FW rocks

CORE SIZE: BQ

CASING: all casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Mine site

CORE STORED (LOCATION): Bunker, Mcm mine site

☒ ft
☐ m

Location Sketch

P.A.P. 35361

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Rassacco DATE LOGGED: Sept 3/96 DRILL HOLE NO: YM96-109

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2779.34	3106.12	7993.38	958.0 ft	3100 E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-63												
208	003	-61												
408	002	-60												
608	008	-58												
858	006	-56												

START DATE: August 29/96

FINISH DATE: Sept 3/96

TOWNSHIP: Powell

CLAIM NO.: MR 5372 (70%), L 316523 (30%)

DRILLING CONTRACTOR: Benoit Bros - Val d'Or

PURPOSE: Test for northern target (central zone), west end drilling.

RESULTS: 0.034 opt Au / 40.0 ft (393.0 - 433.0 ft)

WHY HOLE TERMINATED: normal termination in clean FW rocks

CORE SIZE: BQ

CASING: all casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Mine site

CORE STORED (LOCATION): Bunker, Mcm mine site

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YCD96-109

Avg = 0.039 opt Au / 40.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
398.0		m	mg	PGR	MB	HEM 1		SYP					-	3	-	1			31230	5.0		0.058	
403.0		m	MG	MSV	MB	HEM 3		SYN					-	1	1	0.1			31231	5.0		0.001	6" mt(?) vein, strong, pervasive hem alt^{n} obliterates feldspars
408.0		m	mg	PGR	MB	BL 2		SYP					-	1	-	3			31232	5.0		0.024	mixed stringers + diss anhedral-subhedral pyrite.
413.0		m	mg	PGR	MB	BL 2		SYP					-	1	-	5			31233	5.0		0.060	mixed anhedral-euhedral pyrite, vfg-mg.
418.0		m	mg	PGR	MB	HEM 2		SYP					-	1	-	1			31234	5.0		0.036	trace-1% patchy + diss pyrite
423.0		m	mg	PGR	MB	HEM 3		SYP					1	3	-	1			31235	5.0		0.022	
428.0		m	mg	PGR	MB	HEM 2		SYP	V	45			3	1	1	0.1			31236	5.0		0.009	trace mt stringers to 1mm.
433.0		m	mg	PGR	MB	BL 2		SYP					3	1	1	3			31237	5.0		0.064	wavy textured flow banded feldspar xtals
438.0		m	mg	PGR	MB	HEM 1		SYP					1	1	1	1			31238	5.0		0.018	pervasive mt alt^{n} dominant in last ft of section, 2" mvo fragment @ 437.5 ft contains 1mm qtz-cpy veinlet.
443.0		m	mg	PGR	MB	MAG 1		SYP					1	-	1	-			31239	5.0		0.004	pervasive mt alt^{n} common, trace fragments of country rock.
448.0		m	mg	PGR	MB	MAG 2		SYP					1	-	1	0.1			31240	5.0		0.008	mt alt^{n} clearly overprints hem alt^{n}
454.6		m	fg	PGR	MB	HEM 1		SYN					-	1	1	0.1			31241	4.6		0.010	fragmental texture common, olive-grey carbonate

DRILL HOLE NO: 96-109

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
459.4		m	fg	FOL	GY	CHL		DIO	C	B									31942	4.8		0.002	diorite dike, upper contact @ 75° TCA
463.0		m	fg	MSV	NB	HEM3		SYN					-	1	1	-			31943	3.6		0.002	strong pervasive fracture controlled fol @ 14°
468.0		m	fg	POR	NB	HEM1		SYP					1	-	1	1			31944	5.0		0.010	gtz-ank-mt veinlets are common.
473.0		m	fg	POR	NB	HEM1		SYP					1	-	3	1			31945	5.0		0.008	mt-gtz-ank stringers to 1cm common.
478.0		m	fg	POR	NB	HEM1		SYP					1	-	3	0.1			31946	5.0		0.007	
483.0		m	vfg	MSV	NB	ANK1		Tsed					1	-	3	-			31947	5.0		0.021	mixed syn dike (to 479ft) and fragmental textured Tseds.
488.0		m	mg	POR	NB	BL2		SYP					1	-	5	1			31948	5.0		0.029	gtz-mt veinlets common.
493.0		m	cg	FRA	DGY	MAG1		Tsed					-	-	1	-			31949	5.0		0.005	well developed dark coloured fragments in reddish matrix.
498.0		m	vfg	FOL	DGY	ANK1		Tsed					-	1	1	1			31950	5.0		0.008	mixed porphyritic syenite (SUB) and porphyritized seds.
503.0		m	fg	CGT	GGY	ANK1		Tsed?					-	-	3	1			31951	5.0		0.002	gtz-ank-py veins to 3° @ 498.5ft, trace cpy @ 499 ft possible altered, cooked seds.
508.0		m	vfg	MSV	RGY	ANK1		Tsed					-	1	1	-			31952	5.0		0.001	mixed seds + thin syenite dikes
513.0		m	fg	POR	RGY	ANK1		SYN					1	-	5	-			31953	5.0		0.001	porphyritized seds?
518.0		m	mg	POR	NBS	ANK1		SYP					1	-	3	-			31954	5.0		0.001	strongly porphyritic syenite.

P.A.P. 35362

DRILL HOLE NO: YD96-109

PAGE 5 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
													qtz	cc	ank	py							
523.0		m	mg	por	nb	ank1		SYP					1	-	5	0.1			31955	5.0		0.002	
528.0		m	mg	por	nb	Hem1		SYP					1	-	3	1			31956	5.0		0.012	
533.0		m	mg	por	nb	Hem2		SYP					1	1	3	1			31957	5.0		0.010	
539.0		m	mg	por	nb	Hem1		SYP	V	60			1	-	3	1			31958	5.0		0.046	2 inch gnk-chl vein @ 534 ft, trace patchy ank partially replaced by pyrite
543.0		m	mg	por	nb	Hem1		SYP					-	-	1	1			31959	5.0		0.009	1% ank patches + stringers partially replaced by pyrite
548.0		m	mg	por	nb	Hem1		SYP					-	-	1	1			31960	5.0		0.016	3% ank-qtz-chl stringers + patches
553.0		m	mg	por	nb	Hem1		SYP					1	-	3	1			31961	5.0		0.012	1% ank-qtz-calc patches / veinlets.
558.0		m	mg	por	nb	CAL1		SYP					-	-	1	-			31962	5.0		0.004	carbonate becoming predominantly calcite below 553 ft.
563.0		m	mg	por	nb	CAL1		SYP					-	-	1	0.1			31963	5.0		0.006	trace ank veinlets to 1-3mm
568.0		m	mg	por	nb	CAL1		SYP					1	1	-	-			31964	5.0		0.001	
573.0		m	mg	por	GGY	CAL1		SYP					1	-	1	0.1			31965	5.0		0.002	greenish chloritic alt= after ank matrix.
578.0		m	mg	por	GGY	CAL1		SYP					1	-	3	-			31966	5.0		0.009	pervasive matrix chloritization decreasing.
583.0		m	mg	por	nb	Hem1		SYP					1	-	1	3			31967	5.0		0.021	mostly disseminated py + some pyrite veinlets

P.A.P. 35362

DRILL HOLE NO: [illegible]

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
																							Thin gtz veinlets + patches.
588.0		m	mg	PPH	MB	HEM1		SVP					1	-	3	1			31968	5.0		0.022	trace-1% mt-cc patches
593.0		m	mg	PPH	MB	HEM1		SVP	V	55			-	5	-	-			31969	5.0		0.004	3" cc vein @ 589 ft, trace diss mt throughout.
598.0		m	mg	PPH	MB	HEM1		SVP					1	1	1	3			31970	5.0		0.012	vfg diss pyrite is interstitial to feldspar phenos
																							1% patchy mt-gtz-cc.
603.0		m	mg	PPH	MB	HEM1		SVP					-	1	1	0.1			31971	5.0		0.004	trace diss mt
608.0		m	mg	PPH	MB	HEM1		SVP					-	1	1	0.1			31972	5.0		0.002	1-3% thin mt stringers + veinlets
610.2		m	mg	PPH	MB	HEM2		SVP	C	55			-	1	1	0.1			31973	2.2		0.002	3% mt patches + stringers
613.0		m	vfg	MSV	RGN	HEM1		Tsed					1	1	-	-			31974	2.8		0.004	5% chl veins to 1-2 inches
618.0		m	vfg	MSV	RGN	CHL1		Tsed					1	-	3	1			31975	5.0		0.002	vfg diss pyrite throughout
623.0		m	vfg	MSV	GY	CAL2		Tsed					1	3	1	-			31976	5.0		0.001	weak pervasive hematite alt², conglomerate pebbles
																							easily visible
628.0		m	vfg	MSV	RGN	CAL2		Tsed					1	3	1	-			31977	5.0		0.015	
633.0		m	vfg	MSV	GY	CHL1		Tsed					1	3	3	0.1			31978	5.0		0.002	1% diss vfg py in last 6" of interval
638.0		m	vfg	MSV	GY	ANK1		Tsed					1	1	3	-			31979			0.002	well developed ank stockworking.

P.A.P. 35362

DRILL HOLE NO: 1996-109

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU 6pt grams	COMMENTS
643.0		m	vfg	msv	YBr	ANK 2		Tsed					-	1	3	-			31990	5.0		0.003	
648.0		m	vfg	msv	GY	CHL 2		Tsed					-	1	3	-			31991	5.0		0.003	mixed chl-ank alt=
653.0		m	vfg	msv	YBr	ANK 2		Tsed	V	30			3	1	3	1			31992	5.0		0.009	2" qv @ 648.5 ft contains 5% diss vfg py in walls, 6"
																							qtz-ank vein @ 651 ft
658.0		m	vfg	msv	YBr	SER 1		Tsed					1	1	-	1			31993	5.0		0.012	trace qtz-carbonate-ank veining / patches, vfg diss py
663.0		m	vfg	fol	RBr	SER 1		Tsed					1	1	1	1			31994	5.0		0.001	mixed hem-chl-ser alt=, vfg diss py
668.0		m	vfg	msv	YBr	HEM 1		Tsed					-	1	1	01			31995	5.0		0.004	mixed hem-chl-ser-ank alt=
673.0		m	vfg	msv	YBr	HEM 1		Tsed					-	1	3	-			31996	5.0		0.018	chl vein/band to 6" overprints incipient hem-ser alt=
678.0		m	vfg	msv	YBr	ANK 1		Tsed					-	1	5	-			31997	5.0		0.003	quite well developed ank crackle veining
683.0		m	vfg	msv	YBr	ANK 1		Tsed					-	1	5	-			31998	5.0		0.013	crackle-textured ank alt=
688.0		m	vfg	msv	RBr	ANK 2		Tsed					-	1	5	-			31999	5.0		0.001	mixed incipient hem alt= and crackle ank alt=
																							trace qtz-tour-ank veining @ 688 ft.
693.0		m	vfg	msv	Brn	CHL 1		Tsed					-	3	3	-			32000	5.0		0.007	mixed pervasive hem and chl alt=
698.0		m	vfg	msv	OR	HEM 1		Tsed					-	1	1	-			32001	5.0		0.009	alteration decreasing to nil below 696 ft
703.0		m	vfg	msv	GY	CAL 1		Tsed					1	1	-	-			32002	5.0		1.006	

DRILL HOLE NO: 11-96-109

PAGE 7 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU 6pt grams	COMMENTS
643.0		m	ufg	msv	YGN	ANK 2		Tsed					–	1	3	–			31230	5.0		0.003	
648.0		m	ufg	msv	GN	CHL 2		Tsed					–	1	3	–			31231	5.0		0.003	mixed chl-ank alt^n
653.0		m	ufg	msv	YGN	ANK 2		Tsed	V	30			3	1	3	1			31232	5.0		0.009	2" qv @ 648.5 ft contains 5% diss py in walls, 6"
																							qtz-ank vein @ 651 ft
658.0		m	ufg	msv	YGN	SER 1		Tsed					1	1	–	1			31233	5.0		0.012	trace qtz-arfvedson-ank veining / patches, ufg diss py
663.0		m	ufg	fol	RHN	SER 1		Tsed					1	1	1	1			31234	5.0		0.001	mixed fem-chl-ser alt^n, ufg diss py
668.0		m	ufg	msv	YGN	[illegible]		Tsed					–	1	1	0			31235	5.0		0.004	mixed fem-chl-ser-ank alt^n
673.0		m	ufg	msv	YGN	[illegible]		Tsed					–	1	3	–			31236	5.0		0.018	chl veinlband to 6" overprnt incipient fem-ser alt^n
678.0		m	ufg	msv	YGN	ANK 1		Tsed					–	1	5	–			31237	5.0		0.003	quite well developed ank crackle veining
683.0		m	ufg	msv	YGN	ANK 1		Tsed					–	1	5	–			31238	5.0		0.013	crackle-textured ank alt^n
688.0		m	ufg	msv	RHN	ANK 2		Tsed					–	1	5	–			31239	5.0		0.001	mixed incipient fem alt^n and crackle ank alt^n
																							trace qtz-tour-ank veining @ 688 ft.
693.0		m	ufg	msv	GN	CAL 1		Tsed					–	3	3	–			31240	5.0		0.007	mixed pervasive fem and chl alt^n
698.0		m	ufg	msv	ORB	[illegible]		Tsed					–	1	1	–			31241	5.0		0.004	alteration decreasing to nil below 695 ft.
703.0		m	ufg	msv	GY	CAL 1		Tsed					1	1	–	–			31242	5.0		0.006	

P.A.P. 35362

DRILL HOLE NO: YSX-109

PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	cmk	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
773.0		B	vfg	mSv	GY	CALC		Tsed					-	1	-	-			27756	6.6		0.022	broken, blocky core.
778.0		B	vfg	mSv	GY	CALC		Tsed					-	1	-	-			27757	5.0		0.006	blocky core
783.0		B	vfg	mSv	GY	CALC		Tsed					-	0.1	-	-			27758	5.0		0.004	
788.0		M	vfg	mSv	GY	CALC		Tsed					-	1	-	-			27759	5.0		0.004	
828.0		M	vfg	mSv	GY	CALC		Tsed					-	3	-	-			27760	40.0	C	0.008	composite sample.
858.0		M	vfg	mSv	GY	CALC		Tsed					-	3	-	-			27761	30.0	C	0.006	hematitic SIP dike 837.5 - 843 ft. chl-cc altered zone 850.5 - 851.5 ft.
858.0								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Bressacco DATE LOGGED: Sept 5, 1996 DRILL HOLE NO: Y096-110

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2563.44	3096.14	7978.76	605.0 ft	3100E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-60												
208	004	-57°												
408	001	-56												
598	005	-56°												

START DATE: Sept 3, 1996

FINISH DATE: Sept 4, 1996

TOWNSHIP: Powell

CLAIM NO.: MR 5372

DRILLING CONTRACTOR: Benoit DD - Val d'Or

PURPOSE: test southern min. zone on section 3100E

RESULTS: 0.036 opt Au / 65.0ft (448.0 - 513.0ft)

WHY HOLE TERMINATED: normal termination, target zone was not present

CORE SIZE: BQ

CASING: Left in place

HOLE CEMENTED: NO

NO. OF ASSAYS: _____

NO. OF ICP: _____

NO. OF WRA: _____

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Minesite.

CORE STORED (LOCATION): Bunker, Mcm Minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: NB-110

PAGE 2 OF 5

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
10								CAS															CASING
375.6		M	fg	MSV	GY	CAL1		DIA					-	1	-	-							occassional epidote cc veinlets, gradational lower contact
418.3		B	vfg	MSV	BK	MAG 1		SYN					1	3	-	0.1			AX27262	42.7	C	0.006	variably moderate syenite, occassional mt stringers
																							weak-mod pervasive alt 402 - 409ft
479.0		B	fg	MSV	GY	CAL1		DIA					1	3	-	-							gradational upper & lower contacts
433.0		M	msg	PPR	GY	CAL1		SYP					1	1	-	0.1			27263	4.0		0.004	narrow syp dike
438.0		M	fg	PPR	GY	CAL1		SYP					1	1	-	0.1			27264	5.0		0.006	mixed chlorite Tsed & syp dike
443.0		M	fg	MSV	GY	-		Tsed					1	1	-	0.1			27265	5.0		0.004	weakly porphyritic sections, heterolithic pebbles common
448.0		M	fg	MSV	GY	-		Tsed					-	1	-	0.1			27266	5.0		0.001	
453.0		M	fg	MSV	GY	-		Tsed					-	1	-	0.1			27267	5.0		0.094	
458.0		M	fg	MSV	GRY	CHL1		Tsed	V	30			1	-	-	0.1			27268	5.0		0.030	1" qtz-chl-(py) vein @ 457.5 ft
463.0		M	vfg	MSV	GRY	CHL1		Tsed	-				-	0.1	-	0.1			27269	5.0		0.007	
468.0		M	vfg	MSV	GY	CHL2		Tsed					0.1	0.1	-	0.1			27270	5.0		0.008	

P.A.P. 35362

DRILL HOLE NO: YBb-110

PAGE 3 OF 5

Average = 0.036 opt Au / 65.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
473.0		m	mg	FINE	YBW	SER1		Tsed					0.1	3	-	0.1			77271	5.0		0.004	
478.0		m	mg	FINE	YBW	MAG1		Tsed					0.1	1	-	-			77272	6.0		0.008	
483.0		m	mg	PGR	RB	HEM1		SYP					-	0.1	-	-			77273	4.0		0.004	incipient pervasive hematite alt=
488.0		m	mg	PGR	RB	HEM1		SYP					-	0.1	-	-			77274	5.0		0.024	
493.0		m	vfg	MSV	RB	HEM1		SVM					1	3	3	0.1			77275	5.0		0.034	1ft wallrock inclusion @ 488.5 ft, minor bleaching along some qtz veins.
498.6		m	mg	PGR	RB	HEM1		SYP	V	55			3	1	-	0.1			77276	5.6		0.160	1 inch qtz-hem vein @ 497.5 ft, minor chloritic bands along lower contact
503.0		m	vfg	MSV	GY	MAG2		Tsed							-	0.1			77277	4.4		0.032	mt patches to 5mm commonly observed.
508.0		m	vfg	MSV	YGY	MAG1		Tsed					0.1	-	-	0.1			77278	5.0		0.020	mt stringers/patches weakening down-hole.
513.0		m	vfg	MSV	YGY	SER1		Tsed					1	1	-	0.1			77279	5.0		0.022	
518.0		m	mg	FINE	RY	HEM1		Tsed	B	55			-	0.1	-	-			77280	5.0		0.006	3 inch mt bed @ 516.5 ft
521.0		m	vfg	MSV	YGY	SER1		Tsed					1	-	-	-			77281	3.0		0.007	trace thin qtz-mt veinlets to 5mm.
527.9		m	fg	PGR	RB	-		SYP					1	-	5	-			77282	6.9		0.017	trace qtz-mt veins to 1cm.
533.0		m	vfg	MSV	YGY	HEM1		Tsed					1	-	1	-			77283	5.1		0.009	trace mt patches-stringers, trace qtz-mt patches

DRILL HOLE NO: YB96-110

Average = 0.036 opt Au / 65.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Gtz	Cc	Chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
473.0		m	mg	FINE	YBW	SER1		Tsed					a1	3	-	a1			27271	5.0		0.004	
478.0		m	mg	FINE	YBW	MAG1		Tsed					0.1	1	-	-			27272	6.0		0.008	
483.0		m	mg	PUR	RB	HEM1		SYP					-	0.1	-	-			27273	4.0		0.004	incipient pervasive Lamprite alt=
488.0		m	mg	PUR	RB	HEM1		SYP					-	0.1	-	-			27274	5.0		0.024	
493.0		m	vfg	MSV	RB	HEM1		SYM					1	3	3	0.1			27275	5.0		0.034	1ft wallrock inclusion @ 488.5 ft, minor bleaching along some gtz veins.
498.6		m	mg	PUR	RB	HEM1		SYP	V	SS			3	1	-	0.1			27276	5.6		0.160	1 inch gtz-tour vein @ 497.5 ft, minor chloritic bands along lower contact
503.0		m	vfg	MSV	GY	MAG2		Tsed					1	1	-	0.1			27277	4.4		0.032	mt patches to 5mm commonly observed.
508.0		m	vfg	MSV	YGY	MAG1		Tsed					0.1	-	-	0.1			27278	5.0		0.020	mt stringent patches weakening down hole.
513.0		m	vfg	MSV	YGY	SER1		Tsed					1	1	-	0.1			27279	5.0		0.022	
518.0		m	mg	FINE	RY	HEM1		Tsed	B	SS			-	0.1	-	-			27280	5.0		0.006	3 inch mt bed @ 516.5 ft
521.0		m	vfg	MSV	YGY	SER1		Tsed					1	-	-	-			27281	3.0		0.007	trace thin gtz-mt veinlets to 5mm.
527.9		m	fg	PUR	RB	-		SYP					1	-	5	-			27282	6.9		0.017	trace gtz-mt veins to 1cm.
533.0		m	vfg	MSV	YGY	HEM1		Tsed					1	-	1	-			27283	5.1		0.009	trace mt patches-stringers, trace gtz-mt patches

DRILL HOLE NO: YD96-110

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
590.0		M	fg	POR	NB	HEM Z		SHP					1	-	3	-			27727	5.0		0.004	minor mt veinlets.
600.5		M	mg	POR	NB	ANL		SHP					1	1	1	-			27728	2.5		0.004	minor qtz-mt veinlets
605.0		M	vfg	SHR	GN	CHL Z		SHR	F	35			-	3	5	-			27729	4.5		0.013	chloritic-carbonate sheared zone?
605.0								EOH															END OF HOLE

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Pressacco DATE LOGGED: Sept 6, 1996 DRILL HOLE NO: YD96-111

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2980.80	3000.14	7984.91	458.0 ft	3000E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-54°												
200	360	-52°												
408	001	-50												

START DATE: Sept 4, 1996

FINISH DATE: Sept 5, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5372 (95%), L316523 (5%)

DRILLING CONTRACTOR: Benoit ND, Val d'Or

PURPOSE: Test for west extension of Welsh Pit mineralization.

RESULTS: 0.070 opt Au / 140.0 ft (88.0 - 228.0 ft) raw assays
- 0.055 opt Au / 140.0 ft (cut to 0.19 opt)

WHY HOLE TERMINATED: normal termination in barren FW sads

CORE SIZE: BQ

CASING: Pulled

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Minesite.

CORE STORED (LOCATION): Bunker, Mcm minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Frescacco DATE LOGGED: Sept 6, 1996 DRILL HOLE NO: YO96-111

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2980.80	3000.14	7984.91	458.0 ft	3000E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-54°												
200	360	-52°												
408	001	-50												

START DATE: Sept 4, 1996

FINISH DATE: Sept 5, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5372 (95%), L316523 (5%)

DRILLING CONTRACTOR: Benoit DD, Val d'Or

PURPOSE: Test for west extension of welsh pit mineralization.

RESULTS: 0.070 opt Au / 140.0 ft (88.0 - 228.0 ft) raw assays

– 0.055 opt Au / 140.0 ft (cut to 0.1 opt)

WHY HOLE TERMINATED: normal termination in barren FW sads

CORE SIZE: BQ

CASING: Pulled

HOLE CEMENTED: NO

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Minesite.

CORE STORED (LOCATION): Bunker, Mcm minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD96-111

DIST	ID	Com	Grs	Text	Co	Alt	Name 1	Name 2	B	A1	J	A2	qtz	cc	ank	Py			SAMPLE #	WIDTH	T	AU opt/grams	COMMENTS
																							@ 62.5 ft contains 3% diss pyrite
73.0		m	fg	POR	BW	—		DIO?					—	10	—	—			27312	2.4		0.028	Intermediate(?) feldspar porphyritic intrusive?
78.0		m	fg	POR	BW	—		DIO					—	3	—	—			27313	5.0		0.001	
84.2		m	fg	POR	BW	—		DIO											27314	6.2		0.002	lower contact obscured by broken core.
88.0		m	mg	POR	RB	BL1		SYP					1	1	1	0.1			27315	3.8		0.002	
93.0		m	mg	POR	RB	HEM1		SYP					3	1	—	1			27316	5.0		0.029	mostly m.g. diss euhedral pyrite, qtz-mt-cc-ortho-
																							cpy vein @ 92 ft contains 5% coarse cpy and is
																							oriented @ low angle TCA (0-5°). Some coarse
																							patchy pyrite along vein walls.
98.0		m	mg	POR	RB	HEM1		SYP					3	1	—	0.1			27317	5.0		0.007	trace cpy in some qtz-cc veinlets, chl-cc patches
																							common.
103.0		m	fg	POR	RB	BL2		SYP					3	3	—	3			27318	5.0		0.056	chl-cc patches common
108.0		m	fg	POR	RB	BL3		SYP					5	3	—	5			27319	5.0		0.066	vfg-fg anhedral-subhedral pyrite, minor qtz-tour
																							veinlets.
113.0		m	fg	POR	RB	BL3		SYP					1	1	—	1			27320	5.0		0.046	½" cc-py vein @ 108 ft throws diss py up to
																							2 ft into [illegible] rocks.

DRILL HOLE NO: YD86-111

PAGE 3 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
																							@ 61.5 ft contains 3% disc pyrite
73.9		m	fg	PWR	BW	/		D10?					-	10	-	-			27312	2.4		0.028	Intermediate (?) feldspar porphyritic intrusive?
78.0		m	fg	PWR	BW	-		D10					-	3	-	-			27313	5.0		0.001	
83.2		m	fg	PWR	BW	-		D10											27314	6.2		0.002	lower contact obscured by broken core.
88.0		m	mg	PWR	MB	BL1		S1P					1	1	1	0.1			27315	3.8		0.002	
93.0		m	mg	PWR	MB	HEM1		S1P					3	1	-	1			27316	5.0		0.029	mostly mg. disc pyrite, qtz-mt-cc-arfa-cpy vein @ 92 ft contains 5% coarse cpy and is oriented @ low angle TCA (0-5°). Some coarse patchy pyrite along vein walls.
98.0		m	mg	PWR	MB	HEM1		S1P					3	1	-	0.1			27317	5.0		0.007	trace cpy in some qtz-cc veinlets, chl-cc patches common.
103.0		m	fg	PWR	MB	BL2		S1P					3	3	-	3			27318	5.0		0.056	chl-cc patches common
108.0		m	fg	PWR	MB	BL3		S1P					5	3	-	5			27319	5.0		0.066	vfg-fg anhedral-subhedral pyrite, minor qtz-tur veinlets.
113		m	fg	PWR	MB	BL3		S1P					1	1	-	1			27320	5.0		0.046	½" cc-py vein @ 109 ft; thereafter disc py up to 2 ft [illegible]

P.A.P. 35362

DRILL HOLE NO: YB96-111

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	carb	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
178.0		m	mg	PXR	NB	BL2		SVP					1	7	1	0.1			27333	5.0		0.106	fg stringers mostly assoc. with qtz-cc-carb veinlets
183.0		m	mg	PXR	NB	BL2		SVP					5	1	–	1			27334	5.0		0.090	well developed qtz stockwork 181-183 ft contains 5% coarse pyrite.
188.0		m	mg	PXR	NB	BL3		SVP					10	3	3	5			27335	5.0		0.298	coarse patchy pyrite hosted in qtz stockwork.
193.0		m	mg	PXR	NB	HFM2		SVP					1	1	–	0.1			27336	5.0		0.010	pervasive fem alt=
198.0		m	mg	PXR	NB	HFM3		SVP					–	1	3	1			27337	5.0		0.010	mostly coarse patchy pyrite
203.0		m	mg	PXR	NB	HFM3		SVP					–	1	1	0.1			27338	5.0		0.019	
208.0		m	mg	PXR	NB	HFM3		SVP	–				–	1	3	1			27339	5.0		0.052	diss & stringer pyrite mostly assoc. with carb-cc veins & stringers
213.0		m	mg	PXR	NB	HFM2		SVP					–	1	3	1			27340	5.0		0.025	chl-cc alt= flanks ½" ank vein @ 209ft
218.0		m	mg	PXR	NB	HFM3		SVP					–	1	1	1			27341	5.0		0.056	mixed stringer & diss pyrite
223.0		m	mg	PXR	NB	HFM3		SVP					3	1	–	1			27342	5.0		0.501	mostly coarse patchy pyrite in qtz veins & patches, 1" fine-ank vein @ 222 ft.
228.0		m	mg	PXR	NB	HFM3		SVP					3	3	1	0.1			27343	5.0		0.039	
233.0		m	mg	PXR	NB	HFM2		SVP					1	–	–	0.1			27344	5.0		0.010	

DRILL HOLE NO: YDR-111

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	carb	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
178.0		m	mg	PXR	NB	Bl 2		SVP					1	7	1	0.1			27333	5.0		0.106	fr stringers mostly assoc. with grey ark veinlets
193.0		m	mg	PXR	NB	Bl 2		SVP					5	1	–	1			27334	5.0		0.090	well developed qtz stockwork 181-183 ft contains 5% coarse pyrite.
198.0		m	mg	PXR	NB	Bl 3		SVP					10	3	3	5			27335	5.0		0.298	coarse patchy pyrite hosted in qtz stockwork.
193.0		m	mg	PXR	NB	Hem 2		SVP					1	1	–	0.1			27336	5.0		0.010	pervasive Hem alt=
198.0		m	mg	PXR	NB	Hem 3		SVP					–	1	3	1			27337	5.0		0.010	mostly coarse patchy pyrite
203.0		m	mg	PXR	NB	Hem 3		SVP					–	1	1	0.1			27338	5.0		0.019	
208.0		m	mg	PXR	NB	Hem 3		SVP	–				–	1	3	1			27339	5.0		0.052	diss + stringer pyrite mostly assoc. with ankerite veins + stringers
213.0		m	mg	PXR	NB	Hem 2		SVP					–	1	3	1			27340	5.0		0.025	chl-cc alt= flanks ½" ark veins 209 ft
218.0		m	mg	PXR	NB	Hem 3		SVP					–	1	1	1			27341	5.0		0.056	mixed stringer + diss pyrite
223.0		m	mg	PXR	NB	Hem 3		SVP					3	1	–	1			27342	5.0		0.501	mostly coarse patchy pyrite in qtz veins + patches, 1" four-ark vein @ 222 ft.
228.0		m	mg	PXR	NB	Hem 3		SVP					3	3	1	0.1			27343	5.0		0.039	
233.0		m	mg	PXR	NB	Hem 2		SVP					1	–	–	0.1			27349	5.0		0.010	

DRILL HOLE NO: YD96-111

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
303.0		m	fg	PM	MB	HEM 3		SIN					1	-	3	0.1			27358	5.0		0.001	
309.7		m	Ag	PM	MB	HEM 3		SIN	C	40			1	-	3	0.1			27359	5.7		0.004	sharp lower contact
313.0		m	vfg	MSV	GY	HEM 1		TSed					1	-	5	-			27360	4.3		0.004	
318.0		m	Cg	FMX	GY	HEM 1		TSed	V	60			1	3	-	-			27361	5.0		0.003	coarse fragments common, 3" cc vein @ 315 ft
323.0		m	vfg	MSV	MB	ANK 1		SIN					1	1	1	-			27362	5.0		0.002	
328.0		MB	vfg	MSV	MB	ANK 1		SIN					1	-	1	-			27363	5.0		0.001	
333.0		m	vfg	FOL	GN	CHL 3		TSed					-	-	1	-			27364	5.0		0.002	shear chl - ser alt =
338.0		m	fg	MSV	GN	CHL 2		TSed					1	-	1	-			27365	5.0		0.003	
343.0		m	fg	PM	MB	ANK 1		SIP					1	1	1				27366	5.0		0.001	
348.0		m	fg	PM	MB	ANK 1		SIP					1	-	5	-			27367	5.0		0.001	
353.0		m	fg	MSV	YGN	ANK 1		TSed					1	-	3	-			27368	5.0		0.002	
358.0		m	vfg	MSV	YGN	ANK 1		TSed					1	-	1	-			27369	5.0		0.003	
363.0		m	vfg	MSV	MB	ANK 1		TSed					1	-	3	-			27370	5.0		0.012	2 ft mafic porphyritic dike 359-361 ft

DRILL HOLE NO: VD96-111

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
303.0		m	fg	PPh	NB	HEM3		SYN					1	-	3	0.1			27358	5.0		0.001	
308.7		m	Ag	PPh	NB	HEM3		SYN	C	40			1	-	3	0.1			27359	5.7		0.004	sharp lower contact
313.0		m	vfg	MSV	GY	HEM1		Tsed					1	-	5	-			27360	4.3		0.004	
318.0		m	Cg	FNPh	GY	HEM1		Tsed	V	60			1	3	-	-			27361	5.0		0.003	coarse fragments common, 3" cc vein @ 315 ft
323.0		m	vfg	MSV	NB	ANK1		SYN					1	1	1	-			27362	5.0		0.002	
328.0		B	vfg	MSV	NB	ANK1		SYN					1	-	1	-			27363	5.0		0.001	
333.0		m	vfg	FGN	GN	CHL3		Tsed					-	-	1	-			27364	5.0		0.002	silty interval alt?
338.0		m	fg	MSV	GN	CHL2		Tsed					1	-	1	-			27365	5.0		0.003	
343.0		m	fg	PPh	NB	ANK1		SYN					1	1	1				27366	5.0		0.001	
348.0		m	fg	PPh	NB	ANK1		SYN					1	-	5	-			27367	5.0		0.001	
353.0		m	fg	MSV	YGN	ANK1		Tsed					1	-	3	-			27368	5.0		0.002	
358.0		m	vfg	MSV	YGN	ANK1		Tsed					1	-	1	-			27369	5.0		0.003	
363.0		m	vfg	MSV	NB	ANK1		Tsed					1	-	3	-			27370	5.0		0.012	2 ft mafic porphyritic dike 359-361 ft

DRILL HOLE NO: YD96-111

PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	clk	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
433.0		m	vfg	MSV	RB	HEM1		Tsed					-	-	1	-			77384	5.0		0.002	
438.0		m	vfg	MSV	RB	SER1		Tsed					-	-	1	-			77385	5.0		0.002	minor chlorite veins to 1-2"
443.0		m	vfg	MSV	GY	ANK1		Tsed					1	-	7	-			77386	5.0		0.004	
448.0		m	vfg	FOL	RBY	HEM1		Tsed					-	-	1	-			77387	5.0		0.003	
453.0		m	vfg	MSV	RB	HEM1		Tsed					-	-	1	-			77388	5.0		0.006	pervasive hem alt, minor chlorite stringers
458.0		m	vfg	MSV	GY	ANK1		TSED					1	-	5	-			77389	5.0		0.018	
458.0								Gslt															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: | PROJECT: MATACHEWAN | LOGGED BY: S. HARDING | DATE LOGGED: SEPT 8/96 | DRILL HOLE NO: YD96-112

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3025.96	2903.08	7980.91	438.0	2900E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
200	358	-43												
438	347	-42												

START DATE: Sept 5, 1996

FINISH DATE: Sept 6, 1996

TOWNSHIP: Purell

CLAIM NO.: MR5372 (66%), L316523 (34%)

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: Test west extension of Welsh Pit mineralization.

RESULTS: 0.044 opt Au / 140.0 ft (18.0 - 158.0 ft)

WHY HOLE TERMINATED: Normal termination in FW sediments

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: No.

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Minesite

CORE STORED (LOCATION): Bunker, MCM minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YA-96-112

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	SNK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
11.6								CAS															- 0 - 11.6 - CASING, ALL CASING RECOVERED
13.0		m	fm	POR	RD	HEM 2		SYP					0.1	-	1	0.1			AX 27390	1.4	C	0.004	- 11.6 - 197.0 - SYENITE
18.0													1	-	2	1			91	5.0	C	0.016	
23.0													1	-	2	4			92			0.076	- MAG/QZ STG
28.0													1	-	2	5			93			0.092	
33.0													1	-	2	3			94			0.062	
38.0													1	-	3	5			95			0.052	- CG PY PATCHES
43.0													0.1	-	2	1			96			0.028	
48.0													1	-	2	6			97			0.078	- CG PY PATCHES
53.0									V	35			2	-	3	3			98			0.046	
58.0													1	-	1	2			99			0.024	
63.0													1	-	2	1			400			0.010	
68.0													0.1	-	1	2			01			0.020	- TR LIM STAINING
73.0													0.1	-	1	4			02			0.112	
78.0									V	35			1	-	0.1	6			03			0.024	
83.0													1	-	2	7			04			0.070	
88.0					RB	MAG 2		SYN	V	65			2	2	3	8			05			0.048	- SYN - SYP
93.0					RB	MAG 2		SYN	V	70			1	2	-	0.1			06			0.004	
98.0					RB	MAG 2		SYN					0.1	2	0.1	0.1			07			0.026	
103.0					RD	HEM 2		SYP					0.1	2	2	1			08			0.001	
108.0													0.1	2	0.1	0.1			09			0.001	
113.0													1	2	2	5			10			0.026	VF-MG DISSEM/SUB PY
118.0													0.1	0.1	0.1	6			11			0.118	
123.0													0.1	1	0.1	3			12			0.094	- MN MAG/CC PATCHES

P.A.P. 35362

DRILL HOLE NO: YD-96-112

PAGE 3 OF 5

Average = 0.049 opt Au / 140.0 ft (raw)
(no cut grade)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
128.0		m	FM	PR	RD	HEM 2		SYP	V	25			1	–	1	0.1			AX 27413	5.0	C	0.006	– MN MAG PATCHES / QZ / MAG STGS
133.0													1	–	2	1			14			0.050	– Tr CPY IN QZ STG
138.0									V	25			2	–	2	2			15			0.046	
143.0													1	–	1	0.1			16			0.008	– Tr CPY IN 3 QZ STGS
148.0													3	1	–	3			17			0.032	– Tr - 1% CG CPY IN QZ STGS
153.0									V	65			3	2	–	3			18			0.036	– 1% SMSV CPY IN QZ/CC VLETS
158.0													1	1	–	3			19			0.050	– 2% SMSV PY/CPY, Tr - 1% SPEC HEM
163.0									V	60			2	1	5	4			20			0.020	– 5" QZ/ANK/CC VEIN
168.0				MSV		MAG 1		SYN					0.1	0.1	0.1	0.1			21			0.007	
173.0					RB								1	1	3	3			22			0.004	– Tr CPY, SMSV PY IN QZ/ANK VEINING
178.0													1	–	3	1			23			0.001	– Tr CPY, MAG/CC ALT'N, ORTHOCLASE STG
183.0													1	–	2	0.1			24			0.003	
188.0													1	–	0.1	0.1			25			0.001	
193.0					PK	ANK 1							1	–	3	0.1			26			0.002	
197.0					PK	ANK 1							1	–	3	0.1			27	4.0	C	0.003	– GRAD CONTACT WITH TSEDS
200.0		m	FM	GLAS	RB	MAG 1		TSED					1	–	3	0.1			28	3.0	C	0.008	– 197.0 – 340.0 – T SEDS
203.0					RB	MAG 1			V	50			1	–	1	0.1			29	3.0	C	0.014	
208.0					GG	CC 2							1	1	3	0.1			30	5.0	C	0.005	– PERVASIVE CC ALT'N / MN MAG / SER
213.0					RG	HEM 1							1	–	2	0.1			31			0.006	– MN ANK CRAC BRX
218.0					GG	ANK 1							1	–	1	0.1			32			0.005	
223.0					GG	SER 2							1	–	2	0.1			33			0.003	
228.0					BN	ACM 1							0.1	–	2	0.1			34			0.005	
233.0					GG	CC 1							2	2	1	0.1			35			0.009	
238.0					GY	ANK 1							0.1	0.1	2	0.1			36			0.002	

DRILL HOLE NO: YD-96-112

PAGE 3 OF 5

Average = 0.044 opt Au / 140.0 ft (raw)
(no cut grade)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
128.0		m	FM	PPR	PD	HEM 2		SYP	V	25			1	–	1	0.1			AX27413	5.0	C	0.006	– MN MAG PATCHES / QZ/MAG STGS
133.0													1	–	2	1			14			0.050	– Tr CPY IN QZ STG
138.0									V	25			2	–	2	2			15			0.046	
143.0													1	–	1	0.1			16			0.008	– Tr CPY IN 3 QZ STGS
148.0													3	1	–	3			17			0.032	– Tr - 1% CG CPY IN QZ STGS
153.0									V	65			3	2	–	3			18			0.036	– 1% SMSV CPY IN QZ/CC VLETS
158.0													1	1	–	3			19			0.050	– 2% SMSV PY/CPY, Tr - 1% SEC HEM
163.0									V	60			2	1	5	4			20			0.020	– 5" QZ/ANK/CC VEIN
168.0				MSX		MAG 1		SYN					0.1	0.1	0.1	0.1			21			0.007	
173.0					RB								1	1	3	3			22			0.004	– Tr CPY, SMSV PY IN QZ/ANK VEINING
178.0													1	–	3	1			23			0.001	– Tr CPY, MAG/CC ALT'N, ORTHOCLASE STG
183.0													1	–	2	0.1			24			0.003	
188.0													1	–	0.1	0.1			25			0.001	
193.0					PK	ANK 1							1	–	3	0.1			26			0.002	
197.0					PK	ANK 1							1	–	3	0.1			27	4.0	C	0.003	– GRAD CONTACT WITH TSEDS
200.0		m	FM	CLAS	RB	MAG 1		TSED					1	–	3	0.1			28	3.0	C	0.008	– 197.0 – 340.0 – T SEDS
203.0					RB	MAG 1			V	50			1	–	1	0.1			29	3.0	C	0.014	
208.0					GG	CC 2							1	1	3	0.1			30	5.0	C	0.005	– PERVASIVE CC ALT'N / MN MAG / SER
213.0					RG	HEM 1							1	–	2	0.1			31			0.006	– MN ANK CRAC BRX
218.0					GG	ANK 1							1	–	1	0.1			32			0.005	
223.0					GG	SER 2							1	–	2	0.1			33			0.003	
228.0					BN	HEM 1							0.1	–	2	0.1			34			0.005	
233.0					GG	CC 1							2	2	1	0.1			35			0.004	
238.0					GY	ANK 1							0.1	0.1	2	0.1			36			0.002	

P.A.P. 35362

DRILL HOLE NO: YD-96-112

PAGE 5 OF 5

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANH	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
358.0		M	FM	PDR	RD	HEM 2		SYP					2	3	—	0.1			AX 27461	5.0	C	0.004	
363.0		M	FM	GLAS	RG	ANK 1		TSED					0.1	—	1	2			62	5.0	C	0.006	-358.0 - 438.0 - TSEDS, FREEDOM CONGL
368.0					RB	ANK 1							0.1	—	1	1			63			0.018	WITH MINOR GLWK, VARYING HEM, MAG,
373.0						HEM 1							0.1	—	1	1			64			0.009	CC, CHL ALT'N, VEG DISSEM PY
378.0						HEM 1							1	—	1	3			65			0.004	
383.0						MAG 1							1	1	1	2			66			0.001	
385.0						MAG 1							1	—	1	3			67			0.008	
393.0						MAG 1							0.1	—	0.1	2			68			0.006	
398.0						MAG 2							0.1	2	—	1			69			0.004	- MOD-STR MAG/CC ALT'N
403.0						MAG 2							0.1	2	—	2			70			0.008	
408.0						HEM 1							0.1	1	—	1			71			0.006	-408.0 - 438.0 - MOD-STR MAG/CC
413.0						MAG 2							0.1	1	—	0.1			72			0.006	ALT'N, WK-MOD HEM
418.0													0.1	0.1	—	1			73			0.004	
423.0													0.1	0.1	—	0.1			74			0.004	
428.0													0.1	0.1	—	1			75			0.008	
433.0													0.1	0.1	—	1			76			0.006	
438.0													0.1	0.1	—	0.1			77			0.006	EOH.

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 10/96 DRILL HOLE NO: YA-96-113

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2736.27	2893.78	795.76	847 ft	2900 E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°															
208	001	-43°															
408	001	-42°															
608	360	-40°															
808	360	-39°															

START DATE: SEPT 6, 1996

FINISH DATE: SEPT 11, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR5372 (43%), L316523 (57%)

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: test for depth extension of open pit mineralization on Section 2900 East.

RESULTS: 0.035 opt / 15.0 ft (88.0 - 113.0 ft), 0.043 opt / 20.0 ft (443.0-463.0 ft), 0.255 opt / 3.0 ft (612.0-615.0 ft)

WHY HOLE TERMINATED: Normal termination in FW seds.

CORE SIZE: BQ

CASING: Casing recovered

HOLE CEMENTED: No.

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION):

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-113

Average = 0.035 opt Au / 15.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
10.0								CAS															0 - 10.0 - CASING
13.0		M	F	MSV	GY	CHL2		SYN					1	-	2	0.5			AX 27478	3.0	C	0.002	- 10.0 - 123.0 - SYENITE, LIM STAINED
18.0					GY	CHL2							1	-	1	0.1			79	5.0	C	0.009	AT TOP OF HOLE
23.0					RB	HEM1							15	-	1	0.1			80			0.001	- 1.5' QZ/TOURM VEINING
28.0					RB	ANK1							1	-	3	0.1			81			0.004	
33.0					RG	CHL1							6	-	1	0.1			82			0.002	- 3" QZ/TOURM VEINING
38.0						CHL1							1	-	2	0.1			83			0.001	- Tr SPEC HEM/MAG
43.0						CHL1							1	-	2	0.1			84			0.001	- Tr SPEC HEM/MAG
48.0						CHL2							1	-	2	0.1			85			0.001	
53.0						ANK1			V	45			2	-	20	2			86			0.010	- 0.8 ANK/QZ VEIN, 2% PY, MN LIM STAINING
58.0						CHL1							1	-	5	0.1			87			0.005	- Tr CPY, 1% MAG/QZ STGS
63.0						CHL2							1	-	4	0.1			88			0.003	- Tr CPY, MN MAG
68.0						CHL2							1	-	1	0.1			89			0.001	- MN MAG
73.0						CHL2							2	-	5	0.1			90			0.009	- Tr MO IN 0.5" QZ/ANK/ORTHOCLASE? VLET
78.0				POR	RB	ANK2		SYP					1	-	1	1			91			0.001	
83.0						HEM2							2	-	2	1			92			0.001	
88.0									V	45			2	-	1	2			93			0.009	
93.0									V	25			3	-	1	2			94			0.028	- Tr CPY IN QZ STG
98.0									V	30			3	-	1	4			95			0.056	
103.0													2	-	1	2			96			0.022	- Tr TOURM
108.0									V	20			3	-	1	0.1			97			0.001	- 0.5" QZ/TOURM VLET
113.0													1	-	1	0.1			98			0.001	
118.0													1	-	0.1	0.1			99			0.001	
123.0						CHL1							1	-	2	0.1			500			0.001	

P.A.P. 35362

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
248.0		M	F	PGR	RB	HEM2		SYP	V	30			1	-	3	0.5			AX28025	5.0	C	0.008	- QZ/MAG VLET/STGS
253.0					RB	HEM2			V	30			2	-	-	0.1			26			0.002	- QZ/TOURM VLET
258.0					RG	CHL1							-	-	1	0.1			27			0.001	- QZ/MAG STGS
263.0					GG	CHL2			V	50			2	-	10	1			28			0.001	- QZ/ANK (DOL?) VEINS WITH 2% MO, TR
268.0					RG	CHL1							1	-	3	0.5			29			0.008	CPY/PY
273.0					RG	CHL1							-	-	2	0.1			30			0.005	
278.0					RB	HEM2							2	-	2	0.1			31			0.002	- QZ/TOURM VLETS, TR CPY
283.0					RB	HEM2							-	-	1	0.1			32			0.001	
288.0					RG	CHL1							-	-	3	0.1			33			0.001	- TR CPY IN ANK VLET
293.0					GG	CHL1							-	-	3	0.1			34			0.001	
298.0					RB	HEM1							1	-	2	0.1			35			0.001	
303.0					RB	HEM2							1	-	5	0.5			36			0.001	
308.0					RB	HEM1							1	-	3	0.1			37			0.001	- ANK VLET WITH VFG DISSEM PY
313.0					RB	HEM2							-	-	1	0.1			38			0.001	
318.0					RB	HEM1							-	-	2	0.1			39			0.001	
323.0					RB	HEM1							-	-	2	0.1			40			0.008	
328.0					RB	HEM1			V	50			3	-	4	0.5			41			0.001	- TR MAG/CPY IN QZ/ANK VLET
333.0					RB	HEM2							1	-	1	0.1			42			0.001	
338.0					RB	HEM2							1	-	3	0.1			43			0.001	- TR CPY IN ANK STG
343.0					RB	HEM2							-	-	2	0.1			44			0.001	
348.0					RB	HEM1			V	15			2	-	4	1			45			0.001	- MAG STGS
353.0					GG	CHL1							1	-	3	0.5			46			0.001	- MM HEM
358.0					GG	ANK1							1	-	5	2			47			0.001	- CHL/ANK ALT'N
363.0					RB	HEM1							-	-	2	0.1			48			0.001	
368.0					RB	HEM1							-	-	2	0.1			49			0.001	

P.A.P. 35362

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
248.0		M	F	PGR	RB	HEM 2		SYP	V	30			1	-	3	0.5			AX 28035	5.0	C	0.008	- QZ/MAG VLET/STGS
253.0					RB	HEM 2			V	30			2	-	-	0.1			26			0.002	- QZ/TOURM VLET
258.0					RG	CHL 1							-	-	1	0.1			27			0.001	- QZ/MAG STGS
263.0					GG	CHL 2			V	50			2	-	10	1			28			0.001	- QZ/ANK (DOL?) VEINS WITH 2% MO, TR CPY/PY
268.0					RG	CHL 1							1	-	3	0.5			29			0.002	
273.0					RG	CHL 1							-	-	2	0.1			30			0.005	
278.0					RB	HEM 2							2	-	2	0.1			31			0.002	- QZ/TOURM VLETS, TR CPY
283.0					RB	HEM 2							-	-	1	0.1			32			0.001	
288.0					RG	CHL 1							-	-	3	0.1			33			0.001	- TR CPY IN ANK VLET
293.0					GG	CHL 1							-	-	3	0.1			34			0.001	
298.0					RB	HEM 1							1	-	2	0.1			35			0.001	
303.0					RB	HEM 2							1	-	5	0.5			36			0.001	
308.0					RB	HEM 1							1	-	3	0.1			37			0.001	- ANK VLET WITH VFG DISSEM PY
313.0					RB	HEM 2							-	-	1	0.1			38			0.001	
318.0					RB	HEM 1							-	-	2	0.1			39			0.001	
323.0					RB	HEM 1							-	-	2	0.1			40			0.008	
328.0					RB	HEM 1			V	50			3	-	4	0.5			41			0.001	- TR MAG/CPY IN QZ/ANK VLET
333.0					RB	HEM 2							1	-	1	0.1			42			0.001	
338.0					RB	HEM 2							1	-	3	0.1			43			0.001	- TR CPY IN ANK STG
343.0					RB	HEM 2							-	-	2	0.1			44			0.001	
348.0					RB	HEM 1			V	15			2	-	4	1			45			0.001	- MAG STGS
353.0					GG	CHL 1							1	-	3	0.5			46			0.001	- M ∅ HEM
358.0					GG	ANK 1							1	-	5	2			47			0.001	- CHL/ANK ALT'N
363.0					RB	HEM 1							-	-	2	0.1			48			0.001	
368.0					RB	HEM 1							-	-	2	0.1			49			0.001	

DRILL HOLE NO: YD-96-113

PAGE 5 OF 9

Average = 0.093 opt Au/20.0ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
373.0		M	F.	PGR	RB	HEM 1		SYP					-	-	1	0.1			AX 78050	5.0	<	0.002	- MAG/ANK STG
378.0					BN	CC 1							-	1	1	0.1			51			0.002	- CC/HEM ALT'N
383.0				MSV	RB	HEM 1		SYN					1	0.1	1	0.5			52			0.001	- PY SEAM CUTTING QZ/ANK VLET, TR CPY/MAG
388.0					RD	HEM 2							1	-	3	0.5			53			0.004	- MAG STGS
393.0					RD	HEM 2							2	1	-	0.1			54			0.004	
398.0					RB	HEM 2							2	1	-	0.1			55			0.034	- TR CPY IN QZ/CC STG
403.0					RB	HEM 2			V	30			2	2	-	0.1			56			0.001	- TR CPY
408.0					BN	HEM 1							1	2	-	0.1			57			0.005	- TR CPY
413.0					RB	HEM 2			V	60			1	1	-	1			58			0.020	- TR CPY
418.0													-	1	-	2			59			0.027	- TR CPY, SMSV PY PATCHES
423.0													1	1	2	2			60			0.013	- QZ/MAG STGS
428.0									V	30			3	1	-	0.1			61			0.014	- QZ/MAG VLETS/STGS
433.0													1	1	-	0.1			62			0.001	- MN CHL/MAG ALT'N
438.0													-	1	-	0.1			63			0.001	- TR CPY/MAG IN CC STG
443.0									V	60			2	12	-	0.1			64			0.001	- CC/QZ VEINS UP TO 5" WIDE
448.0					RD	HEM 3			V	35			1	3	-	1			65			0.040	- SMSV PY PATCHES/IN VLETS
453.0					RD	HEM 3			V	65			1	4	-	1			66			0.054	
458.0					RD	HEM 3			V	70			1	3	-	0.1			67			0.010	- MN MAG STGS
463.0					RD	HEM 3							-	1	-	0.5			68			0.066	- MN MAG
468.0					RD	HEM 3			V	45			1	3	-	0.1			69			0.016	- 1.5" CC/QZ VLET
473.0					RD	HEM 3			V	25			1	2	-	0.1			70			0.014	- TR CPY IN CC STGS
478.0					RB	HEM 2							1	0.1	3	0.5			71			0.002	- MN PY/CPY IN 4" QZ/ANK VLET
483.0					RB	HEM 2			V	55			1	-	5	0.5			72			0.008	- 3% CPY/PY IN 0.8' ANK VEIN, TR MAG
488.0					RG	CHL 1							-	-	5	1			73			0.050	- TR CPY IN ANK VLETS
493.0					RB	HEM 1							0.1	-	0.1	0.1			74			0.001	- MN MAG

P.A.P. 35362

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
498.0		m	F	MSV	RB	HEM 2		SYN					0.1	-	2	2			AX28075	5.0	C	0.012	VF-FG DISSEM PY
503.0					RB	HEM 2							-	-	1	0.1			76	5.0	C	0.001	
505.5					RB	HEM 1							-	-	1	0.1			77	2.5	C	0.001	
508.0		m	F	MSV	GG	CHL 2		TSED					1	-	1	0.5			78	2.5	C	0.001	- 505.5 - 609.5 - TSEDS
513.0					GG	CHL 2							-	-	1	0.1			79	5.0	C	0.001	- VFG DISSEM PY
518.0					RB	HEM 1							-	-	1	0.1			80			0.001	- MAG STGS
523.0					GY	CHL 1			V	60			1	-	1	2			81			0.005	- VFG DISSEM PY
528.0					G,Y	CHL 1							-	-	1	4			82			**0.040**	
533.0					RG	CHL 1							-	-	1	1			83			0.019	
538.0					GG	CHL 2							-	1	1	0.1			84			0.001	
543.0					GG	CHL 1							-	-	0.1	0.1			85			0.002	
548.0					GG	CHL 1							-	-	1	0.1			86			0.004	
553.0					GG	CHL 2							-	2	-	0.1			87			0.004	
593.0		m	F	MSV	GG	CHL 2		TSED					0.1	-	2	0.1			88	40.0	G	0.003	- MN HEM ALT'N
598.0		m	F	MSV	GG	CHL 1		TSED					-	-	2	0.1			89	5.0	C	0.005	
603.0					GY	ANK 1							-	-	2	0.1			90	5.0	C	0.006	
608.0					GY	ANK 1							-	-	1	0.1			91	5.0	C	0.004	
609.5					RB	HEM 1							-	-	3	0.5			92	1.5	C	0.002	
612.0		m	F	POR	RB	HEM 2		SYP	V	20			2	-	2	2			93	2.5	C	0.007	
615.0		m	F	POR	RB	HEM 2		SYP					5	3	3	3			94	3.0	C	**0.255**	

P.A.P. 35362

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
620.9		m	F	MSV	GY	MAG 1		TSED					-	-	1	0.1			AX28095	5.0	C	0.004	
625.9					RB	HEM1			V	10			1	-	-	1			96	5.0	C	0.036	- MAG/CC ALT'N, TR CPY IN QZ STG
630.0					GY	MAG1			V	20			1	1	-	1			97	5.0	C	0.008	- CC/MN HEM ALT'N, MAG STGS
634.5					GY	MAG1							-	1	-	1			98	4.5	C	0.004	- TR CPY IN QZ/CC STG
639.7		m	F	MSV	GG	CC1		LAMP?					-	4	-	0.1			99	5.2	C	0.008	- MAFIC DYKE/LAMP? - DK GREY/GREEN-BLACK, CC/CHL ALT'N, CC STGS/VLETS, MOD-STR MAGNETIC
645.2		m	F	MSV	GY	MAG 1		TSED					-	2	-	1			AX28100	5.5	C	0.004	- MAG/CC ALT'N, VFG DISSEM PY
650.2		m	F	MSV	GY	MAG 1		TSED					-	1	-	1			01	5.0	C	0.014	
654.2		m	Fm	MSV	GY	CHL2		LAMP					-	2	-	0.1			02	4.0	C	0.004	- CHL/CC ALT'N, MN HEM TSEDS
656.9		m	F	MSV	RB	HEM 1		TSED?					-	3	-	0.1			03	2.0	C	0.004	- SHARP UPPER CONTACT, GRAD LOWR CONTACT - MOD CC ALT'N, TR CPY
659.0		m	Fm	MSV	GG	CHL2		LAMP					-	4	-	0.1			04	3.0	C	0.001	- CHL/CC LAMP DYKE
662.0		m	FM	MSV	GG	CHL 2		LAMP					-	2	-	0.1			05	3.0	C	0.001	
664.0		m	F	MSV	GY	MAG 2		TSED					-	2	-	0.1			96	2.0	C	0.003	- MAG/CC ALT'N
668.0		m	Fm	MSV	GG	CAL 2		LAMP					-	2	-	0.1			97	4.0	C	0.002	

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANH	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
673.0		m	F	msv	GY	MAG1		TSED					-	1	-	0.1			AX 28108	5.0	C	0.004	- Tr CPY, 1.6' LAMP DYKE
678.0					GY	MAG1							-	2	-	0.1			09	5.0	C	0.017	
683.0					GY	MAG1							-	1	-	0.1			10	5.0	C	0.009	- Tr CPY
687.0					GY	MAG1							1	1	-	0.1			11	4.0	C	0.014	
692.0		m	FM	msv	GG	MAG2		LAMP					-	2	-	0.1			12	5.0	C	0.004	- LAMP DYKE, MAG/CHL/CC ALT'N,
697.0					GG	MAG2							-	4	-	0.1			13	5.0	C	0.009	MN HEM
701.4					GG	MAG2													14	4.4	C	0.008	
704.0		m	F	msv	GY	MAG2		TSED					-	1	-	0.1			15	2.6	C	0.003	- MN HEM
709.0		m	F	POR	RB	HEM2		SYP					3	1	-	3			16	5.0	C	0.036	- MN BLOCKY CORE
714.0					RB	HEM2							1	2	-	1			17	5.0	C	0.007	
719.0					RB	HEM1							1	2	-	3			18	5.0	C	0.020	- MAG ALT'N, FG DISSEM, MN SMSV PY PATCHES
722.4					RB	HEM1			V	10			4	1	-	3			19	3.4	C	0.020	- MAG ALT'N
727.0		m	F	msv	GY	CC1		TSED					-	3	-	0.1			20	4.6	C	0.006	- CC/MAG ALT'N
732.0					GG	MAG2							-	2	-	0.1			21	5.0	C	0.020	- CC/MAG/CHL ALT'N
737.0					GY	MAG2							-	-	-	1			22			0.010	- PY STGS
742.0					GY	MAG2							-	1	-	1			23			0.006	
747.0					GY	MAG2							-	0.1	-	1			24			0.006	
752.0					GY	CC2							-	3	-	0.1			25			0.008	- ROUNDED CC BLEBS
789.0		m	F	msv	GG	MAG2		TSED					-	1	-	0.1			26	47.0	G	0.007	- MN CONG, MAG/CC/CHL ALT'N, Tr HEM

PAP 35362

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ☑ opt grams	COMMENTS
794.0		M	F	MSV	GG	MAG2		TSED					–	1	–	0.1			AXZ8127	5.0	C	0.002	
799.0		M	F	MSV	GY	MAG2		TSED					–	1	–	0.5			28	5.0	C	0.019	
804.0		M	F	POR	PL	MAG2		PORPH	V	20			2	2	–	2			29	5.0	C	0.012	– PURPLE PORPH – STR MAG, WK HEM/CC
809.0		M	F	POR	PL	MAG2		PORPH	V	60			3	2	–	2			30	5.0	C	0.003	SIMILAR TO SYP IN PLACES, PY CONC NEAR QZ VLETS
814.0		M	F	MSV	GG	CHL2		TSED					–	2	–	0.1			31	5.0	C	0.004	– MN CC/MAG ALT'N
819.0		M	F	MSV	GG	MA1		TSED					–	3	–	0.1			32	5.0	C	0.008	
847.0		M	F	MSV	GY	MAG2		TSED	V	40			–	2	–	0.1			33	28.0	G	0.001	– CC/MAG ALT'N, TR MAG IN CC VLETS – EOH.

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 12/96 DRILL HOLE NO: YD-96-114

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3085.33	2698.30	7974.91	478.0'	2700E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360°	-45°												
408	359°	-43°												

START DATE: SEPT 11, 1996

FINISH DATE: SEPT 12, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR5372 (35%), MR5376 (65%)

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: test for western extension of open pit mineralization

RESULTS: 0.030 opt / 37.7 ft (

WHY HOLE TERMINATED: normal termination at target depth.

CORE SIZE: BQ

CASING: recovered

HOLE CEMENTED: No

NO. OF ASSAYS: _____

NO. OF ICP: _____

NO. OF WRA: _____

REJECTS/PULPS SAVED: _____

CORE STORED (LOCATION): Bunker, McM minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-114

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU 1 opt grams	COMMENTS
11.0								CAS															- 0 - 11.0 - CASING
13.0		m	F	MSV	RB	HEM 1		TSED					-	-	1	0.1			AX28134	2.0	<	0.003	- 11.0 - 196.0 - TSEDS
18.0					RG	HEM 1							-	-	2	0.1			35	5.0	<	0.003	
23.0					GY	ANK 1							-	-	3	0.1			36			0.002	
28.0					GY	ANK 1							-	-	2	0.1			37			0.003	- MAG ALT'N
33.0					GY	ANK 1							-	-	2	0.1			38			0.002	
38.0					BN	HEM 1							1	-	1	0.1			39			0.008	
43.0					RG	CHL 1							1	-	1	0.1			40			0.005	
48.0					GG	CHL 1							1	-	1	0.1			41			0.004	
53.0					GG	CHL 1							1	-	1	0.5			42			0.007	
58.0					GG	CHL 1			V	45			-	-	2	0.5			43			0.003	-1.5" ANK VEET WITH FG DISSEM PY
63.0					GY	CHL 1							-	-	1	0.1			44			0.003	
68.0					RB	HEM 1							-	-	1	0.5			45			0.003	
73.0					BN	HEM 1							-	-	-	0.1			46			0.003	
78.0					RB	HEM 1							-	-	1	0.5			47			0.004	
83.0					RB	HEM 1							-	-	2	0.1			48			0.003	
88.0					RG	CHL 1							-	-	2	0.1			49			0.004	
93.0					RB	HEM 1							1	-	2	0.1			50			0.002	
98.0					RB	HEM 1			V	25			1	-	2	0.1			51			0.002	- QZ/TOURM VLETS
103.0					RG	HEM 1			V	30			1	-	1	0.1			52			0.006	
108.0					RG	CHL 1							-	-	1	0.1			53			0.004	
113.0					RB	HEM 2							1	-	3	0.1			54			0.014	
118.0					RB	HEM 2							-	-	3	0.1			55			0.010	
123.0					RB	HEM 1							-	-	3	0.1			56			0.004	

DRILL HOLE NO: YD-96-114

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
128.0		m	F	MSV	RB	HEM1		TSED					1	-	2	0.1			AX28157	5.0	<	0.004	
133.0					RB	HEM1							1	-	3	0.1			58			0.008	
138.0					RB	HEM1							1	-	3	0.1			59			0.016	
143.0					BN	HEM1			V	40			1	-	3	0.1			60			0.004	- 0.5" QZ/ANK VLET, MASSEM PY
148.0					BN	HEM1							-	-	4	2			61			0.076	
153.0					RB	HEM1							0.1	-	1	0.1			62			0.008	
158.0					RB	HEM2			V	20			1	-	1	0.5			63			0.022	- 157.0 - 178.0 - POSS SYN
163.0					RB	HEM2		TSED?					0.1	-	2	0.1			64			0.004	
168.0					RB	HEM2		SYP?	V	35			2	-	2	0.1			65			0.004	
173.0					RB	HEM3		SYP?					1	-	1	0.1			66			0.006	
178.0					RB	HEM2		TSED?					0.1	-	3	0.1			67			0.010	
183.0					GG	CHL1		TSED					-	-	3	0.1			68			0.006	
188.0					RB	HEM2			V	60			1	-	3	0.1			69			0.004	
193.0					RB	HEM2							1	-	3	0.1			70			0.008	
196.0					RB	HEM1			V	20			4	-	3	0.1			71	3.0	<	0.006	
201.0		m	F	PAR	PL	MAG2		PORPH	V	65			-	-	3	0.1			72	5.0	<	0.002	- 196.0 - 218.0 - PURPLE PORPH / SYENITE
206.0						MAG2							-	-	2	0.1			73			0.001	- PURPLE WITH WHITE ANK PBLASTS, ANK
211.0						MAG2			V	30			0.1	-	3	0.1			74			0.001	VLETS / STGS, MAG / HEM / CHL ALT'N
216.0						MAG2							-	-	3	0.1			75			0.004	XEN OF MAFIC ? MATERIAL UP TO 4" WIDE
218.0						MAG2							-	-	2	01			76	2.0	<	0.002	
221.0		m	F	MSV	GY	MAG1		TSED					-	-	2	0.1			77	3.0	<	0.001	
225.3		m	F	MSV	GG	CH1		TSED					-	-	3	1			78	4.3	<	0.008	- PY CONC AT CONTACT WITH SYENITE

DRILL HOLE NO: YD-96-115

Average = 0.030 opt Au / 37.7 ft (raw)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
228.0		M.	F.	PORPH	RD	HEM 3		SYP					-	-	2	5			AX281179	2.7	C	0.064	- 228.0 - 250.2 - SYENITE PORPH
233.0					RD	HEM 3			V	55			2	-	6	3			80	5.0	C	0.048	- SMSV PY PATCHES, 0.7' TSEDS, 5"
238.0					RB	HEM 2							1	2	-	0.5			81	5.0	C	0.016	QZ/ANK VEIN
243.0					RB	HEM 2							-	1	-	0.1			82	5.0	C	0.004	- WK MAG ALT'N
248.0					RB	HEM 2							1	2	-	3			83	5.0	C	0.036	
250.2					RB	HEM 2							-	1	2	5			84	2.2	C	0.042	- SMSV PY PATCHES, M-CG SUB PY
253.0		M	F	MSV	RB	HEM 2		TSED	V	30			3	2	-	5			85	2.8	C	0.048	- 250.2 - 450.0 - TSEDS
258.0					RB	HEM 1							-	1	-	0.5			86	5.0	C	0.016	- MN CHL/CC ALT'N
263.0					RB	HEM 1							-	1	-	0.1			87			0.026	
268.0					RB	HEM 1							1	2	-	0.1			88			0.019	- MAG ALT'N
273.0					BN	HEM 1							1	3	-	0.1			89			0.017	- MAG ALT'N
278.0					BN	HEM 1							-	2	-	0.1			90			0.015	- MAG / CC ALT'N
283.0					RB	HEM 1							2	1	-	0.1			91			0.014	- MAG ALT'N
288.0					RB	HEM 1							QZ	1	-	0.1			92			0.009	- MAG ALT'N
293.0					BN	HEM 1							1	1	-	0.1			93			0.003	
298.0					BN	MAG 1							0.1	1	-	0.1			94			0.004	- MAG / HEM ALT'N
303.0					RB	HEM 2			V	40			2	3	-	0.1			95			0.004	
308.0					RB	HEM 1			V	10			4	2	-	0.5			96			0.008	
313.0					RB	HEM 1							-	1	-	0.5			97			0.004	
318.0					RG	HEM 1							-	1	-	1			98			0.017	- HEM/CHL ALT'N
323.0					GY	MAG 1							-	1	-	0.1			99			0.005	- HEM / MAG ALT'N
328					BN	HEM 1							-	2	-	0.1			200			0.012	
333.0					RB	HEM 1							-	2	-				201			0.026	- 328.0 - 348.0 - DK CHL/MAG PATCHES
338.0					BN	HEM 1							-	1	-				202			0.016	- ANK SPECKS

DRILL HOLE NO: YD-96-114

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	ank	METALLIC PY			SAMPLE #	WIDTH	T	AU ☑ opt grams	COMMENTS
343.0		M	F	MSV	RB	HEM2		TSED					-	1	-	0.1			AX28203	5.0	C	0.009	
348.0					RB	HEM1							-	2	-	1			04			0.003	
353.0					RB	HEM1							0.1	0.1	-	1			05			0.002	
358.0					GY	MAG1							0.1	0.1	-	0.1			06			0.001	- MAG/HEM ALT'N
363.0					GY	MAG2							1	1	-	1			07			0.001	
368.0					GY	MAG1							-	0.1	-	1			08			0.001	- MAG/HEM ALT'N
373.0					BN	HEM1							1	2	-	2			09			0.001	- VFG DISSEM PY
378.0					RB	HEM1							1	1	-	0.1			10			0.009	- MAG/CHL BANDS
383.0					BN	HEM1							1	1	-	0.5			11			0.003	
388.0					BN	HEM1							2	1	-	0.1			12			0.008	
393.0					BN	HEM1							-	1	-	1			13			0.004	- HEM/MAG ALT'N, VFG DISSEM PY
398.0					RB	HEM2			V	30	V	SS	35	0.1	5	2			14			0.011	- QZ/MN ANK VEINS UP TO 1.0' WIDE,
403.0					RB	HEM2			V	30			15	-	8	2			15			0.008	TrCPY, 1-2% SPEC HEM IN VEINS, QZ FLOODING
407.0					RB	HEM2							12	-	8	2			16	4.0	C	0.004	- QZ FLOODING, 2-3% SPEC HEM IN VEINING
410.5					GG	CHL1							-	-	2	1			17	3.5	C	0.010	- FOL CHL/MAG ZONE, LAMP?
413.0					GY	MAG1							-	-	1	0.1			18	2.5	C	0.006	
418.0					BN	MAG1							2	-	2	0.5			19	5.0	C	0.001	- MAG/HEM ALT'N
423.0					GY	MAG2							2	-	1	0.1			20			0.001	
428.0					GY	MAG1			V	30			2	-	1	0.1			21			0.001	
433.0					BN	HEM1			V	30			4	-	1	2			22			0.001	- VF-FG DISSEM PY AROUND QZ VLETS
438.0					BN	HEM1							2	-	1	2			23			0.004	
443.0					BN	HEM1							1	-	1	1			24			0.006	
448.0					RB	HEM1							2	-	3	2			25			0.004	
450.0					GY	MAG2							2	-	1	0.1			26	2.0	C	0.023	

DRILL HOLE NO: YD-96-114

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANH	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
453.0		M	F	POR	PL	MAG1		PORPH					2	-	2	2			AX28227	3.0	C	0.042	- PORPH / SYENITE - MAG/HEM/CHL ALT'N
457.4		M	F	POR	PL	M		PORPH					3	-	2	2			28	4.4	C	0.018	
462.4		M	FM	MSV	GG	CHL2		LAMP?					-	-	1	0.1			29	5.0	C	0.003	LAMP DYKE ? MN TSED'S, CHL/MAG ALT'N
465.0		M	F	MSV	GG	MAG2		TSED?					1	3	-	0.1			30	2.6	C	0.006	- MOD MAG/CHL ALT'N, FOL
468.0					G4	MAG2		TSED?					-	2	-	0.1			31	3.0	C	0.004	- CHL/MAG ALT'N
473.0					BN	MAG2		TSED					-	2	-	0.1			32	5.0	C	0.002	- MAG/HEM ALT'N
478.0					BN	MAG1		TSED					1	4	-	0.1			33	5.0	C	0.003	- MAG/HEM/CHL ALT'N EOH.
																							⇒ START OF SHEAR ZONE? AT EOH. POSS.
																							SAME ZONE AS DDH 117

PAP 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACAEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 17/96 DRILL HOLE NO: YD-96-115

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2822.84	2700.70	7952.60	868.0'	2700E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°															
208	355	-43°															
408	355	-42°															
608	357	-41°															
800	357	-39°															

START DATE: SEPT 16, 1996

FINISH DATE: SEPT 18, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR5372 (60%), MR5376 (40%)

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: test for western extension of open pit mineralization.

RESULTS: 0.034 opt / 61.5 ft (11.5 - 73.0 ft), 0.047 opt / 95 ft (393.0 - 488.0 ft)

WHY HOLE TERMINATED: Normal termination at target depth

CORE SIZE: BQ

CASING: CASING LEFT IN HOLE

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION): BUNKER, MCM MINESITE

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-115

Average = 0.034 opt Au / 61.5ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
11.5								CAS															- 0-11.5 - CASING
13.0		M	F	MSV	BN	HEM 2		SYN					0.1	-	1	0.1			MAT 1181	1.5	C	0.020	
18.0					RB	HEM 2							0.1	-	2	1			82	5.0	C	0.018	
23.0					RB	HEM 2							2	-	2	1			83			0.018	
28.0					RB	HEM 2							1	-	1	2			84			0.048	- F-MG DISSEM + SUB PY
33.0					RB	HEM 2							1	-	5	2			85			0.009	- 0.4' ANK VEIN
38.0					RB	HEM 2							1	-	4	0.1			86			0.048	- Tr CPY IN ANK VLET
43.0					RB	HEM 2			V	35			2	-	1	1			87			0.027	- Tr CPY IN QZ / ANK STG
48.0					RB	HEM 2							2	-	1	0.1			88			0.011	- MN LIM STAINING / BLOCKY CORE
53.0					RB	HEM 2							1	-	3	1			89			0.024	- Tr SPEC HEM
58.0					RB	HEM 2							5	-	2	2			90			0.123	- 0.5' BX QZ/ANK VEINING
63.0					RB	HEM 2							1	-	1	1			91			0.030	- Tr MAG IN QZ STGS
68.0					RB	HEM 2			V	75			1	-	5	0.1			92			0.005	- INCREASING ANK ALT'N
73.0					RB	ANK 1							2	-	2	1			93			0.050	
78.0					GBR	ANK 2							0.1	-	2	0.1			94			0.001	
83.0					GBR	ANK 2							0.1	-	2	0.1			95			0.006	
88.0					GBR	ANK 1							0.1	-	1	0.1			96			0.001	
92.0					RB	ANK 2							0.1	-	1	0.1			97	4.0	C	0.001	
94.5					RB	HEM 2							1	-	4	0.1			98	2.5	C	0.001	- Tr SPEC HEM IN QZ STGS
98.0		M	F	MSV	AGR	ANK 1		UMS	V	50			0.1	-	5	1			99	3.5	C	0.002	- V. MAFIC XEN?, SER/ANK ALT'N, Tr FUCH
101.0		M	F	MSV	AGR	ANK 2		UMS	V	75			0.1	-	5	0.1			MAT 1200	3.0	C	0.003	SPECKS, MN RED SYENITE DYKLETS, ANK VLETS WITH PY, SHARP CONTACTS, MSV-WK BX

DRILL HOLE NO: YD-96-115

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	Cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
103.0		m	F	msv	RB	HEM 1		SYN					1	-	2	0.1			MAT1201	2.0	C	0.001	
108.0					RB	HEM 1							1	-	3	1			02	5.0	C	0.002	- TSED XEN, UP TO 1.0' WIDE, 2" Qz/Ank/Py VLET
113.0					RB	HEM 2							0.1	-	1	1			03			0.004	- MN TSED XEN.
118.0					RB	HEM 2			V	50			2	-	4	0.1			04			0.001	
123.0					RB	HEM 2							0.1	-	2	0.1			05			0.001	- 2.0' PURPLE SYN PORP? LYKE CUTTING MSV SYENITE
128.0					RB	HEM 2							3	-	3	1			06			0.009	
133.0					RB	HEM 2			V	35			3	-	2	1			07			0.019	
138.0					RB	HEM 2			V	40			1	-	1	1			08			0.005	- 137.3 - 138.2 - UMS XEN, SER/ANK ALT'N
140.0					RB	ANK 1							0.1	-	2	0.1			09	2.0	C	0.001	- WK HEM ALT'N
144.0		m	F	BX	GG	ANK 2		UMS					0.1	-	5	1			10	4.0	C	0.002	- SER/ANK ALT'N
148.0		m	F	msv	RB	HEM 1		SYN.?					0.1	-	2	0.1			11	4.0	C	0.001	- 144.0 - 158.0 . SYN/TSED ?, ANK ALT'N
153.0					RB	HEM 2			V	35			0.1	-	3	0.1			12	5.0	C	0.001	
158.0					RB	HEM 1							1	-	3	0.1			13	5.0	C	0.001	- GRAD LOWER CONTACT
163.0		m	F	POR	RB	HEM 2		SYP					0.1	-	3	0.1			14	5.0	C	0.001	
168.0					RB	HEM 2							0.1	-	2	2			15			0.022	- F-M G DISSEM + SUB PY
173.0					BN	HEM 1							0.1	-	1	0.1			16			0.001	
178.0					BN	HEM 1							0.1	-	2	0.1			17			0.001	
183.0					RB	HEM 2							1	-	2	0.1			18			0.001	
188.0					RB	HEM 2			V	20			2	-	1	0.1			19			0.001	
193.0					RB	HEM 2							1	-	3	1			20			0.001	- PY CONC IN ANK VLETS
198.0					BN	HEM 1							1	-	2	0.1			21			0.010	- 1-2% CPY IN 0.4' ANK VEIN
203.0					RB	HEM 1							1	-	5	0.1			22			0.001	- Tr CPY IN ANK VLET

DRILL HOLE NO: YD-96-115

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
208.0		m	F	POR	BN	HEM 1		SYP	V	40			0.1	-	2	0.1			MAT 1223	5.0	C	0.002	- GRAD LOWER CONTACT
213.0		m	F	MSV	BN	HEM 1		TSED					0.1	-	2	0.1			24	5.0	C	0.001	
218.0					BN	HEM 1							1	-	2	0.1			25			0.001	
223.0					BN	ANK 1							0.1	-	2	0.1			26			0.001	
228.0					GG	ANK 1							0.1	-	1	0.1			27			0.010	- ANK/SER ALT'N
233.0					GG	ANK 1							1	-	3	0.1			28			0.008	
238.0					GY	ANK 2							0.1	-	1	0.1			29			0.007	
258.0		m	F	MSV	GY	ANK 2		TSED	V	30			0.1	-	2	0.1			30	20.0	G	0.002	
263.0		m	F	MSV	GBR	ANK 1		TSED					0.1	-	6	0.1			31	5.0	C	0.002	- WK HEM ALT'N
268.0		m	F	MSV	GBR	ANK 2			V	30			0.1	-	5	0.1			32	5.0	C	0.002	- T, PY IN ANK VLETS
298.0		m	F	MSV	GY	ANK 2							0.1	-	3	0.1			33	30.0	G	0.006	- MSV - MBX, ANK/HEM/SER ALT'N
303.0		m	F	MSV	GBR	ANK 2		TSED					0.1	-	3	0.1			34	5.0	C	0.005	- ANK STWK
308.0					BN	HEM 1							0.1	-	4	0.1			35			0.002	- ANK ALT'N
313.0					BN	ANK 2							0.1	-	2	0.1			36			0.005	- WK HEM ALT'N
318.0					GBR	ANK 2							0.1	-	3	0.1			37			0.001	- MN BLOCKY CORE
323.0					GBR	ANK 1							0.1	-	1	0.1			38			0.002	
328.0					BN	ANK 1							0.1	-	1	0.1			39			0.003	- WK HEM ALT'N
333.0					GBR	ANK 2							0.1	-	1	0.1			40			0.002	
338.0					RB	HEM 1							0.1	-	2	0.1			41			0.003	- WK ANK ALT'N
343.0					RB	HEM 1							0.1	-	2	0.1			42			0.003	

DRILL HOLE NO: YD-96-115

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
348.0		m	F	msv	RB	Hem 1		TSED					0.1	-	1	0.1			MAT 1243	5.0	c	0.001	
353.0					RB	Hem 1							0.1	-	0.1	0.1			44			0.003	
358.0					RB	Hem 1							0.1	-	1	0.1			45			0.002	
363.0					BN	Ank 2							0.1	-	2	0.1			46			0.003	
368.0					BN	Ank 2							0.1	-	2	0.1			47			0.003	-1.5' BLOCKY CORE
373.0					GY	Ank 2							0.1	-	2	0.1			48			0.006	
378.0		m	F	por	RD	Hem 3		SYP					1	-	2	2			49	5.0	c	0.005	- VF-FG DISSEM PY
382.6		m	F	por	RD	Hem 3		SYP	V	45			1	-	2	2			50	4.6	c	0.011	
388.0		m	F	msv	GY	mag 2		DYKE					-	-	1	0.1			51	5.4	c	0.001	- 382.6 - 393.0 - LAMP/DIABASE? DYKE,
393.0		m	F	msv	GY	mag 2		DYKE					0.1	-	2	0.1			52	5.0	c	0.001	WK-MOD ANK/CHL ALT'N, TSED XEN
																							IN LOWER PART OF DYKE, ANK PALASTS/STG
398.0		m	F	msv	GY	Ank 2		TSED					3	-	2	4			53	5.0	c	0.035	- QZ/PY CONC IN BOTTOM 1.5', DYKE XEN
																							AT TOP OF SECTION
403.0		m	F	msv	RD	Hem 3		TSED	V	20			4	-	1	3			54	5.0	c	0.040	- STR HEM TSEDS
408.0					RD	Hem 3			V	15			2	-	1	3			55			0.013	
413.0					RD	Hem 3							1	-	1	2			56			0.032	
418.0					RB	Hem 2			V	15			1	-	1	1			57			0.015	
423.0					RB	Hem 2			V	30			2	-	1	2			58			0.048	2.0' SYP, F-CG SUB PY
428.0					RB	Hem 2			V	25			2	-	1	3			59			0.088	
433.0					RB	Hem 2			V	25			1	-	2	2			60			0.032	
438.0					RB	Hem 2							6	-	1	3			61			0.017	- F MG DISSEM + SUB PY

DRILL HOLE NO: YD-96-115

Average = 0.047 opt Au/95.0 ft.

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
443.0		m	F	MSV	RB	HEM2		TSED	V	30			3	-	2	3			MAT 1262	5.0	C	0.026	
448.0					RB	HEM2							1	-	1	3			63			0.037	
453.0					RB	HEM2			V	30			2	-	2	4			64			0.180	
458.0					RB	HEM2			V	25			3	-	3	5			65			0.070	- F. CG SUB PY
463.0					RB	HEM2							5	-	2	3			66			0.046	
468.0					RB	HEM2							1	-	2	3			67			0.080	
473.0					RB	HEM2			V	30			2	-	1	1			68			0.022	
478.0					RB	HEM2							3	-	2	2			69			0.054	
483.0					RB	HEM3							1	-	1	1			70			0.003	- 1" MSV MAG BAND 70° TCA
488.0					BN	HEM2							2	-	1	3			71			0.047	
493.0					BN	HEM2							1	-	0.1	0.1			72			0.007	
498.0					BN	HEM2							1	1	0.1	0.1			73			0.011	
503.0					RB	HEM2							1	1	-	0.1			74			0.010	
508.0					RB	HEM2			V	20			1	2	-	2			75			0.080	
513.0					BN	HEM1							0.1	1	-	1			76			0.006	- 508.0 - 558.0 - wk-MOD MAG ALT'N
518.0					BN	HEM1							2	1	-	1			77			0.006	- Tr CPY IN QZ/CC STGS
523.0					BN	HEM1							1	1	-	0.1			78			0.006	
526.4					BN	HEM1							0.1	1	-	0.1			79	3.4	C	0.003	
530.4		m	F	POR	RB	HEM2		SYP					0.1	0.1	2	0.1			80	4.0	C	0.003	- Tr CPY IN QZ/ANK STG
534.8		m	F	MSV	BN	HEM1		TSED					0.1	-	0.1	0.1			81	4.4	C	0.004	
538.0		m	F	POR	RB	HEM2		SYP					0.1	-	1	0.1			82	3.2	C	0.002	- GRAD LOWER CONTACT

DRILL HOLE NO: YD-96-115

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	Cc	Bnk	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
543.0		m	F	MSV	RB	HEM 2		TSED					1	–	1	0.1			MAT 1283	5.0	c	0.007	
548.0					RB	HEM 2							0.1	0.1	1	0.1			84			0.006	
553.0					BN	HEM 1							2	1	0.1	0.1			85			0.001	
558.0					BN	MAG 1							0.1	1	–	0.1			86			0.004	
563.0		m	F	MSV	GY	MAG 2		TSED	V	60			0.1	1	–	0.1			87	5.0	c	0.009	– 558.0 – 588.0 – MAG/CC ALT'N, WK CHL
568.0					GY	MAG 2							0.1	2	–	0.1			88			0.002	
573.0					GY	MAG 2							1	2	–	0.1			89			0.001	
578.0					GY	MAG 3			V	35			2	4	–	0.1			90			0.001	– wk HEM ALT'N
583.0					GY	MAG 2							2	5	–	0.1			91			0.004	
588.0					GY	MAG 2							1	3	–	0.1			92			0.008	– 2.0' DYKE / INTRUSIVE? PASS SHEARED SEGS
593.0		m	F	SHA	GY	MAG 2		DYKE?					1	2	–	0.1			93	5.0	c	0.007	– DYKE / SAR?
598.0		m	F	MSV	GY	MAG 1		TSED					0.1	2	–	0.1			94	5.0	c	0.009	– SHEARED AT TOP OF SECTION
603.0					BN	HEM 1							0.1	1	–	1			95			0.005	
608.0					BN	HEM 1							0.1	0.1	–	1			96			0.015	– 0.5' LOST CORE
613.0					BN	HEM 1							0.1	–	0.1	2			97			0.005	– VF-FG DISSEM PY
618.0					BN	HEM 1							0.1	–	0.1	1			98			0.014	
623.0					BN	HEM 1							0.1	–	0.1	0.1			99			**0.044**	– wk ANK ALT'N, 0.5' SHR
628.0					BN	HEM 1							0.1	–	0.1	0.5			MAT 1300			0.010	– wk ANK ALT'N
633.0					BN	HEM 1							0.1	0.1	–	1			01			0.009	
638.0					BN	HEM 1							0.1	1	–	1			02			0.016	
643.0					GY	MAG 1							0.1	1	–	0.1			03			0.018	– wk CHL ALT'N
645.5					GY	MAG 1							0.1	1	–	0.1			04	2.5	c	0.011	– wk HEM ALT'N

DRILL HOLE NO: YD-96-115

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
650.5		M	F	SHR	GG	CHL2		SHR					0.1	3	-	0.1			MAT 1305	5.0	C	0.009	- WK CC ALT'N, MOD MAG
655.5		M	F	MSV	GG	CHL1		TSED					0.1	3	-	0.1			06	5.0	C	0.004	- WKLY SHEARED IN PLACES
658.0		M	F	MSV	GY	MAG1		TSED					0.1	2	-	0.1			07	2.5	C	0.004	- WKLY SHEARED AT TOP OF SECTION
663.0		M	F	MSV	GY	MAG1		TSED					0.1	2	-	0.1			08	5.0	C	0.005	- 658.0 – 698.0 - SLIGHTLY COARSER
698.0		M	F	MSV	GY	MAG1		TSED					0.1	1	-	0.1			09	35.0	G	0.004	TSED S, WK - MOD MAG ALT'N, WK CC ALT'N, WK HEM ALT'N IN PLACES
703.0		M	F	MSV	GY	HEM1		TSED					0.1	2	-	0.1			10	5.0	C	0.006	
708.0					BN	HEM1							1	2	-	0.1			11			0.002	
713.0					BN	HEM1							0.1	2	-	1			12			0.002	
718.0					BN	CHL1							0.1	3	-	0.5			13			0.006	- 1.0' SHEAR ZONE, WK HEM/MAG/CC ALT'N
723.0					GG	CHL2							0.1	2	-	0.1			14			0.002	
728.0					GG	CHL2							0.1	2	-	0.1			15			0.002	
733.0					GG	CHL1			V	25			1	2	-	0.1			16			0.002	
738.0					BN	HEM1							1	3	-	0.1			17			0.002	- TR CPY IN QZ/CC VLET
743.0					GG	CHL1							0.1	1	-	0.1			18			0.006	
748.0					GG	CHL1							0.1	0.1	-	0.1			19			0.003	
753.0				SHD	GG	CHL2							2	4	-	0.1			20			0.009	- WKLY SHEARED
758.0				MSV	GG	CHL2							0.1	1	-	0.1			21			0.008	- WKLY SHEARED IN PLACES
763.0					GY	MAG2							1	1	-	0.1			22			0.003	- 1.5' CHL DYKE?, WK CHL/HEM ALT'N
768.0					GY	MAG2							0.1	0.1	-	0.1			23			0.006	
773.0					GY	CHL1							0.1	3	-	0.1			24			0.007	- 1.5' CHL/CC SHEAR ZONE / SHEARED DYKE
778.0					BN	HEM1							1	4	-	0.1			25			0.010	- 1.0' CHL/CC SHEARED ? CONTACT WIT 4 DYKE

DRILL HOLE NO: YD-96-115

PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	MNR	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
784.8		m	F	MSV	GR	CHL2		MAFIC DYKE	V	40			-	2	-	0.1			MAT 1326	6.8	C	0.006	- SHEARED UPPER CONTACT, MN TSEDS, CC STGS
788.0		m	F	MSV	GY	MAG1		TSED					0.1	1	-	0.1			27	3.2	C	0.005	- 784.8 - 846.0 - TSEDS, WK HEM/MAG/
793.0					BN	HEM1							0.1	1	-	0.1			28	5.0	C	0.003	CHL ALT'N
798.0					BN	HEM1							0.1	1	-	1			29			0.004	
803.0					BN	HEM1							4	2	-	3			30			0.009	- Tr CPY, 1-2% SPEC HEM IN QZ/CC VEINING
808.0					BN	HEM1							0.1	0.1	-	2			31			0.005	
813.0					BN	HEM1							0.1	1	-	2			32			0.013	
818.0					BN	HEM1							0.1	1	-	3			33			0.012	- VF-FG DISSEM + SUB PY
823.0					BN	HEM1			V	30			0.1	2	-	3			34			0.014	
828.0					BN	HEM2			V	20			2	1	-	2			35			0.015	
833.0					BN	HEM1							0.1	0.1	-	2			36			0.016	
838.0					BN	HEM2			V	30			2	1	-	3			37			0.014	
843.0					BN	HEM1							1	1		3			38			0.018	- 4" MAFIC DYKE XEN
846.0					BG	HEM1							0.1	0.1	-	2			39	3.0	C	0.006	- 1.5' MAFIC DYKE
851.0		m	F	MSV	GR	CHL2		MAFIC DYKE					0.1	2	-	0.1			40	5.0	C	0.003	- 846.0 - 858.2 - MAFIC DYKE GREEN, MSV
856.0		m	F	MSV	GR	CHL2							0.1	1	-	0.1			41	5.0	C	0.001	CC STGS, Tr HEM FRAC, 2" CHL CHILL
858.2		m	F	MSV	GR	CHL2							0.1	0.1	-	0.1			42	2.2	C	0.001	IN BOTTOM OF DYKE
863.0		m	F	MSV	BN	HEM1		TSED					0.1	1	-	3			43	4.8	C	0.004	
868.0		m	F	MSV	BN	HEM1		TSED					0.1	2	-	3			44	5.0	C	0.004	- SMSV PY PATCHES
																							EOH

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 19/96 DRILL HOLE NO: YD-96-116

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2562.84	2688.90	7925.00	858.0'	2700E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°												
208	001	-43°												
408	003	-42°												
800	003	-38°												

START DATE: SEPT 18, 1996

FINISH DATE: SEPT 20, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR 5372

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: test for western extension of open pit mineralization

RESULTS: 0.024 opt / 30.0 ft (283.0 - 313.0 ft)

WHY HOLE TERMINATED: Normal termination at target depth

CORE SIZE: BQ

CASING: CASING LEFT IN HOLE

HOLE CEMENTED: NO

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION): BUNKER, MCM MINESITE

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-116

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
12.0								CAS															- 0 - 12.0 - CASING
14.0		M	F	SHD	BN	HEM 1		SHR	F	70			0.1	2	-	0.1			MAT 1345	2.0	<	0.001	- 12.0 - 38.0 - SHEAR ZONE, CHL/CC
18.0					BN	HEM 1							0.1	3	-	2			46	4.0	<	0.007	ALT'N, WK HEM/MAG ALT'N
23.0					GG	CHL 2							0.1	3	-	3			47	5.0	<	0.010	
28.0					BN	HEM 1							0.1	2	-	2			48			0.028	
33.0					GG	CHL 2							0.1	2	-	2			49			0.004	
38.0					GG	CHL 2							0.1	1	-	2			50			0.006	
43.0		M	F	MSV	GY	CHL 1		TSED					1	3	-	2			51	5.0	<	0.005	- 38.0 - 113.0 - TSEDS, CHL/HEM ALT'N,
48.0					GY	CHL 1							0.1	2	-	2			52			0.004	WK CC/MAG ALT'N, WKLY SHEARED
53.0					GG	CHL 2							0.1	1	-	3			53			0.012	IN PLACES, VF-FG DISSEM + SUB PY
58.0					GBR	CHL 1							0.1	2	-	3			54			0.010	
63.0					BN	HEM 1							0.1	2	-	3			55			0.014	
68.0					GBR	HEM 1							0.1	3	-	3			56			0.008	
73.0					GBR	CHL 1							0.1	1	-	2			57			0.008	
78.0					GG	CHL 1							0.1	0.1	-	2			58			0.008	
83.0					BN	HEM 1							0.1	1	-	1			59			0.008	
88.0					GG	CHL 2							0.1	2	-	1			60			0.012	
93.0					GG	CHL 1							0.1	2	-	2			61			0.012	
98.0					GY	CHL 1							0.1	3	-	1			62			0.006	
103.0					RG	HEM 1							0.1	2	-	1			63			0.010	
108.0					BN	HEM 1							0.1	1	-	1			64			0.008	
113.0					RB	HEM 2			V	70			2	1	-	1			65			0.006	

DRILL HOLE NO: YD-96-116

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ☑ opt grams	COMMENTS
118.0		M	F	SHD	GG	HEM 1		SHR	F	70			0.1	4	–	1			MAT 1366	5.0	C	0.012	– 113.0 – 128.0 – SHEAR ZONE, CHL/CC
123.0					GBR	CHL 1							0.1	3	–	1			67	5.0	C	0.004	ALT'N, wk CC/MAG ALT'N
128.0					GG	CHL 2							0.1	3	–	0.1			68	5.0	C	0.004	
133.0		M	F	MSV	GY	MAG 1		TSCD					0.1	2	–	0.1			69	5.0	C	0.006	
138.0					BN	HEM 1							0.1	2	–	0.1			70			0.004	
143.0					GY	CC 1							0.1	1	–	0.1			71			0.006	
148.0					BN	CC 1							0.1	0.1	–	0.1			72			0.001	
153.0					GY	ANK 1							0.1	–	1	0.1			73			0.001	– MN TOURM? IN SEDS
158.0					GY	ANK 1							0.1	–	0.1	0.1			74			0.001	
163.0					GY	ANK 2							0.1	–	2	0.1			75			0.001	– wk-mod LIM STAINING
168.0					GBR	ANK 2							0.1	–	1	0.1			76			0.001	– wk-mod LIM STAINING
173.0					GY	ANK 1							0.1	–	2	0.1			77			0.001	
178.0					GY	CHL 1							0.1	–	1	0.1			78			0.002	
183.0					GG	CHL 1							0.1	–	3	0.1			79			0.002	
188.0					GG	CHL 1							0.1	–	1	0.1			80			0.001	
193.0					GY	CHL 1							0.1	–	2	0.1			81			0.001	
198.0					GG	CHL 1							0.1	0.1	0.1	0.1			82			0.001	– wk CC ALT'N
202.0					GG	ANK 1							0.1	2	–	0.1			83	4.0	C	0.001	
204.3					GY	ANK 1							0.1	1	–	0.1			84	2.3	C	0.001	
208.0		M	F	MSV	GBR	HEM 1		SYN	V	60			1	1	1	0.1			85	3.7	C	0.003	– Tr CPY IN QZ/CC STG
213.0					GBR	ANK 1							0.1	1	1	0.1			86	5.0	C	0.001	
218.0					BN	HEM 1							0.1	1	–	0.1			87	5.0	C	0.001	
223.0				POR	GY	ANK 1		SYP					0.1	1	–	0.1			88	5.0	C	0.001	

DRILL HOLE NO: YD-96-116

Average = 0.024 oz/ton/30.0ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
228.0		m	F	PGR	RG	SER1		SYP	V	20			1	2	–	0.1			MAT1389	5.0	C	0.001	
233.0				MGV	GY	CC1		SYN					3	2	–	0.1			90			0.018	– TR CPY, MN SER ALT'N
238.0					GY	CC1							1	1	–	0.1			91			0.001	– WK HEM ALT'N
243.0					GBR	HEM1							0.1	3	–	0.1			92			0.008	– MN SER ALT'N
248.0					BN	HEM1							0.1	1	–	0.1			93			0.002	
253.0					BN	HEM1							0.1	–	1	0.1			94			0.001	– SPEC HEM IN ANK VLET
258.0					RD	HEM2			V	30			3	–	1	1			95			0.114	– SPEC HEM IN QZ/ANK VLETS
263.0					GBR	ANK1							2	–	7	0.1			96			0.020	– 1.0' ANK/MN QZ BX VEINING, F-MG SUB PY
268.0					BN	HEM1			V	35			1	–	2	1			97			0.006	– WK ANK ALT'N
273.0					RB	HEM2							2	–	1	2			98			0.018	
278.0					GBR	ANK1							0.1	–	4	0.1			99			0.002	
283.0					RB	HEM2							0.1	–	1	0.1			MAT1400	5.0	C	0.004	– MAG FRAC
288.0					RB	HEM2							1	0.1	1	0.1			01			0.032	
293.0					RB	HEM2							0.1	–	2	0.1			02			0.002	– 2.6' GREY, ANK ALTERED DYKE
298.0					RB	HEM3			V	35			1	–	2	2			03			0.032	
303.0					RB	HEM2							1	–	2	2			04			0.018	
308.0					RB	HEM3							2	–	1	2			05			0.019	– MAG IN QZ/ANK VLET
313.0					RB	HEM2			V	25			2	–	1	2			06			0.048	– 2" MSV PY PATCH
318.0					RB	HEM2							0.1	–	3	0.1			07			0.001	
323.0					RB	HEM2							3	–	1	0.1			08			0.001	
328.0					BN	HEM2							0.1	–	3	0.1			09			0.001	
333.0					BN	HEM1							1	1	0.1				10			0.001	
338.0					BN	HEM1							0.1	0.1	0.1	0.1			11			0.001	
343.0					BN	HEM1							0.1	–	1	0.1			12			0.001	
348.0					GBR	ANK1							1	–	3	0.1			13			0.001	– MAG IN QZ/ANK STGS

DRILL HOLE NO: YD-96-116

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ank	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
353.0		m	F	MSV	BN	ANK 1		SYN					0.1	-	3	0.1			MAT 1414	5.0	C	0.001	- wk HEM ALT'N
358.0					GRN	ANK 1							1	-	5	0.1			15			0.001	- wk SER ALT'N
363.0					RB	HEM 1							1	-	1	0.1			16			0.003	- TSED XEN ?, MAG ALT'N
368.0					RB	HEM 2							2	-	2	0.1			17			0.001	- QZ/ANK VLET WITH CPY/MAG IN TSED XEN? DYKE
373.0					BN	HEM 1							0.1	-	5	0.1			18			0.001	
378.0					GY	ANK 2							0.1	-	5	0.1			19			0.010	
383.0				POR	RB	HEM 2		SYP					0.1	-	2	0.1			20			0.001	
388.0					RB	HEM 2							1	-	2	0.1			21			0.001	
393.0					BN	HEM 2							0.1	-	1	0.1			22			0.002	
398.0					RB	HEM 2							1	-	7	2			23			0.028	- FG DISSEM + SMSV PY, 0.5' QX ANK VEIN - 2% PY, 1% CPY
403.0					RB	HEM 2			V	65			1	-	1	0.1			24			0.001	- Tr CPY IN QZ VLET
408.0					RB	HEM 2			V	60			1	-	8	0.5			25			0.008	- 1% CPY IN 0.5' ANK/QZ VEIN
412.0					RB	HEM 2							1	-	1	1			26	4.0	C	0.302	
415.0				MSV	RD	HEM 3		SYN					2	-	1	0.5			27	3.0	C	0.001	- Tr CPY IN QZ VLET, SHENITE DYKE
418.0				POR	RB	HEM 2		SYP					0.1	-	1	0.1			28	3.0	C	0.001	
423.0					RB	HEM 2							0.1	-	1	0.1			29	5.0	C	0.001	
428.0					RB	HEM 2			V	25			6	-	5	1			30			0.068	0.3' QZ/MN ANK VEIN WITH Tr PY, BX ANK VEINING
433.0					RB	HEM 2			V	25			7	-	2	0.1			31			0.066	- QZ VEN // CA
438.0					RB	HEM 2							0.1	-	2	0.1			32			0.001	
443.0					RB	HEM 2							0.1	-	1	0.1			33			0.001	
448.0					RB	HEM 2							2	-	0.1	0.1			34			0.001	- SPEC HEM IN QZ VLET
453.0					RB	HEM 2							0.1	-	0.1	0.1			35			0.002	
458.0					BN	HEM 1							0.1	-	1	0.1			36			0.002	- wk ANK ALT'N
463.0					RB	HEM 1			V	55			0.1	-	1	0.1			37			0.002	
468.0					BN	HEM 1							0.1	-	1	1			38			0.010	

DRILL HOLE NO: YD-96-116

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ☐ opt ☐ grams	COMMENTS
473.0		M	F	PGR	BN	ANK1		SYP?					0.1	-	8	2			MAT1439	5.0	C	0.007	- TR-1% CPY IN 0.4' ANK VEIN, SMSV PY AGGREGATES
478.0		M	F	MSV	BN	HEM1		TSED					0.1	-	1	0.1			40	5.0	C	0.003	- GRAD CONTACT
483.0					BN	HEM1							0.1	-	1	0.1			41			0.004	- MN SER/FE DYKLETS/XEN?
488.0					GBR	ANK1							0.1	-	2	0.1			42			0.002	- SER/FE DYKLETS
493.0					GBR	ANK1							0.1	-	5	0.1			43			0.003	- MN DYKLETS
498.0					BN	HEM1							0.1	-	2	0.1			44			0.001	
503.0					GBR	ANK2							0.1	-	7	0.1			45			0.008	- TR MAG/PY IN 0.3' ANK VEINING
508.0					BN	HEM1							0.1	-	2	0.1			46			0.001	
513.0					BN	HEM1							0.1	-	3	0.1			47			0.001	
518.0					BN	HEM1							0.1	-	3	0.1			48			0.004	- 515.0-534.0 - BOX DROPPED, CORE NOT
523.0					GBR	ANK1							0.1	-	3	0.1			49			0.006	ENTIRELY ACCURATE
528.0					BN	HEM1							0.1	-	1	0.1			50			0.001	
533.0					BN	HEM1							0.1	-	10	0.1			51			0.004	- POSS SYENITE, 0.7' BX ANK VEIN
538.2		M	F	PGR	RB	HEM2		SYP					0.1	-	0.1	0.1			52	5.2	C	0.001	- SYENITE DYKE, SHARP LOWER CONTACT
543.0		M	F	MSV	GBR	ANK1		TSED					0.1	-	2	4			53	4.8	C	0.013	- F-M G DISSEM & SUB PY, 1.5' SER/ANK DYKE
548.0					GBR	ANK1							0.1	-	2	0.1			54	5.0	C	0.008	
553.0					BN	HEM1							0.1	-	3	0.1			55			0.002	
558.0					BN	HEM1							0.1	-	4	0.1			56			0.002	
563.0					RB	HEM2							1	-	3	0.1			57			0.005	
568.0					RB	HEM2							0.1	-	1	0.1			58			0.003	
573.0					BN	HEM2							0.1	-	2	0.1			59			0.006	
578.0					BN	HEM2							0.1	-	1	0.1			60			0.002	- 1.0' ANK ALTERED DYKE

DRILL HOLE NO: YD-96-116

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
583.0		m	F	MSV	BN	HEM 1		TSED					0.1	-	2	0.1			MAT1461	5.0	C	0.004	
588.0					BN	HEM 1							0.1	-	1	0.1			62			0.004	
593.0					BN	HEM 1							0.1	-	1	0.1			63			0.004	
598.0					BN	HEM 1							0.1	-	1	0.1			64			0.001	
603.0					GY	ANK 1							4	-	1	0.1			65			0.006	- Tr CPY IN 2" QZ VLET
633.0		m	F	MSV	GY	MAG 1		TSED					0.1	-	1	0.1			66	30.0	G	0.001	- SLIGHTLY COARSER GRAINED, NO COASTS,
																							WK ANK ALT'N, ANK STG, WK HEM ALT'N
																							IN PLACES
638.0		m	F	MSV	BN	HEM 1		TSED					0.1	-	2	0.1			67	5.0	C	0.001	- 1.7' MAFIC ? DYKE
643.0		m	F	MSV	GBR	HEM 1							0.1	-	1	0.1			68			0.004	
648.0					GY	ANK 1							0.1	-	1	0.1			69			0.004	- wk HEM ALT'N
653.0					GY	ANK 1			V	25			2	-	1	1			70			0.004	- VFG DISSEM PY, Tr PY IN QZ VLETS
658.0					GBR	HEM 1							0.1	-	1	0.1			71			0.006	
663.0					BN	HEM 1							0.1	-	2	0.5			72			0.003	- wk ANK ALT'N
668.0					BN	HEM 1							1	-	1	1			73			0.014	
673.0					BN	HEM 1							0.1	-	0.1	0.1			74			0.028	
678.0					BN	HEM 1							0.1	-	2	0.1			75			0.001	
683.0					BN	HEM 1			V	20			1	-	1	0.1			76			0.004	
688.0					GBR	ANK 1							0.1	-	2	0.1			77			0.016	
693.0					BN	ANK 1							0.1	-	0.1	0.1			78			0.006	- wk HEM ALT'N
698.0					GBR	ANK 1							0.1	-	1	0.1			79			0.010	- Tr MAG IN ANK STG, 1.7' MAFIC ? DYKE SER/ANK
703.0					BN	HEM 1							1	-	2	0.1			80			0.004	ALT'N ; 1.4' MAFIC ? DYKE
708.0					BN	HEM 1							0.1	-	1	0.1			81			0.001	

DRILL HOLE NO: YD-96-116

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
713.0		M	F	MSV	BN	ANK 1		TSED					0.1	–	1	0.1			MAT1482	5.0	C	0.001	WK HEM ALT'N
718.0					GY	ANK 1							0.1	–	0.1	0.1			83			0.001	
723.0					GBR	ANK 1			V	30			0.1	1	0.1	0.1			84			0.001	– WK HEM ALT'N
728.0					BN	HEM 1							0.1	1	–	0.1			85			0.001	
733.0					GBR	HEM 1							0.1	0.1	–	0.1			86			0.001	
737.4					GY	MAG 1							0.1	0.1	–	0.1			87	4.4	C	0.001	
741.0		M	F	POR	PL	MAG 1		SYP	V	30			0.1	2	–	0.1			88	3.6	C	0.001	– SYENITE DYKE
745.0		M	F	POR	PL	MAG 1		SYP					0.1	2	–	0.1			89	4.0	C		
748.0		M	F	MSV	GBR	HEM 1		TSED	V	40			1	1	–	0.1			90	3.0	C		
753.0		M	F	MSV	GY	CC 1		TSED					0.1	0.1	–	0.1			91	5.0	C		
758.0		M	F	MSV	GY	CC 1		TSED					1	1	–	0.1			92	5.0	C		
783.0		M	F	MSV	GBR	CC 1		TSED					0.1	1	–	0.1			93	25.0	G		– WK HEM ALT'N
808.0		M	F	MSV	GBR	CC 1		TSED					0.1	1	–	0.1			94	25.0	G		– WK HEM/MAG ALT'N
813.0		M	F	MSV	BN	HEM 1		TSED					0.1	1	–	0.5			95	5.0	C		
818.0					BN	HEM 1							0.1	1	–	0.5			96				
823.0					GY	MAG 1							0.1	1	–	0.1			97				– 2.7' PURPLE SYENITE PORPH. DYKE
828.0					GY	MAG 2							0.1	1	–	0.1			98			0.001	
833.0					BN	HEM 1							0.1	1	–	0.1			99			0.004	
837.0					BN	HEM 1							0.1	2	–	0.1			MAT1500	4.0	C	0.004	
839.5					BN	HEM 1			V	30			1	2	–	0.1			01	2.5	C	0.004	– TR CPY IN QZ/CC VLGT

DRILL HOLE NO: YD-96-116

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Ank	METALLIC PY			SAMPLE #	WIDTH	T	AU ☑ opt ☐ grams	COMMENTS
843.0		m	F	POR	RD	HEM3		SYP					1	2	–	0.1			MAT1502	3.5	c	0.004	– SYENITE DYKE
846.0		m	F	POR	RB	HEM2		SYP					0.1	1	–	0.1			03	3.0	c	0.012	
848.0		m	F	MSV	GY	MAG1		TSED					1	3	–	0.1			04	2.0	c	0.006	– wk cc/CHL/HEM ALT'N
853.0					GY	MAG1							0.1	2	–	0.1			05	5.0	c	0.008	– wk cc/CHL ALT'N
858.0					BN	HEM1							0.1	0.1	–	0.1			06	5.0	c	0.020	– wk MAG/cc ALT'N
																							EOH.

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 13/96 DRILL HOLE NO: YD-96-117

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3223.93	2600.62	7962.80	488.0'	2600E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°												
208	004	-43°												
408	003	-42°												

START DATE: SEPT 12, 1996

FINISH DATE: SEPT 13, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR5376

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: test for up-dip projection of Central Zone.

RESULTS: 0.041 opt / 91.0 ft (47.0 - 138.0 ft)

WHY HOLE TERMINATED: Normal termination at target depth

CORE SIZE: BQ

CASING: recovered

HOLE CEMENTED: NO

NO. OF ASSAYS: _____

NO. OF ICP: _____

NO. OF WRA: _____

REJECTS/PULPS SAVED: _____

CORE STORED (LOCATION): _____

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-117

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
12.5								CAS															- 0 - 12.5 - CASING
18.0		B	F	MSV	RB	HEM 2		TSED					0.1	-	1	0.1			MAT 1001	5.5	C	0.026	
23.0		M			RB	Hem 2							3	-	1	1			02	5.0	C	0.017	- STG + DISSEM PY
28.0					RB	HEM 2							0.1	-	2	1			03	"		0.008	
33.0					RB	HEM 2							1	-	1	0.1			04	"		0.014	
38.0					RB	HEM 2			V	35	V	60	3	-	1	0.5			05	"		0.007	
43.0					GY	MAG 1							-	-	3	0.1			06	"		0.003	- MN HEM/ANK ALT'N
47.0					BN	HEM 1							0.1	-	4	0.1			07	4.0	C	0.002	- MAG / ANK ALT'N
49.2					BN	HEM 1							0.1	-	2	2			08	2.2	C	0.048	- FG PY CONC. NEAR CONTACT
53.0		M	F	POR	RB	HEM 2		SYP	V	30			2	-	2	3			09	3.8	C	0.020	- F-MG SUB PY, TR CPY
58.0					RB	HEM 2			V	40			2	-	1	1			10	5.0	C	0.008	
63.0					RB	HEM 2							3	-	1	3			11	"		0.042	- F-MG SUB/DISSEM PY
68.0					RB	HEM 2			V	35			3	-	1	3			12	"		0.078	
73.0					BN	HEM 1							0.1	-	1	1			13	"		0.028	- MAG ALT'N, TR CPY IN ANK STG
78.0					RB	HEM 2							3	-	2	2			14	"		0.024	- GRAD CONTACT WITH TSEDS, PY CONC IN TSEDS
83.0					GY	MAG 2		TSED					1	-	2	2			15	"		0.016	- WK HEM ALT'N
88.0					BN	MAG 1							1	0.1	-	1			16	"		0.014	- WK HEM / CC ALT'N
93.0					BN	HEM 1			V	50			1	1	-	2			17	"		0.032	- CC ALT'N, WK MAG
98.0					BN	HEM 1							1	2	-	1			18	"		0.014	
103.0					BN	HEM 1							1	1	-	1			19	"		0.054	- VF-FG DISSEM PY, TR MAG IN QZ STG
108.0					BN	HEM 1							0.1	1	-	0.1			20	"		0.180	
113.0					BN	MAG 1							0.1	-	1	0.1			21	"		0.010	- WK HEM ALT'N

DRILL HOLE NO: YD-96-117

Average = 0.041 opt Au / 91.0 ft (raw)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	Ank	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
118.0		M	F	MSV	BN	MAG1		TSED					1	-	1	0.1			MAT1022	5.0	C	0.042	- wk HEM/ANK ALT'N
123.0					BN	MAG1							-	-	1	0.1			23			0.020	
128.0					BN	MAG1							-	-	1	0.1			24			0.041	
133.0					BN	HEM1							1	QZ1	1	0.5			25			0.014	- 132.0 - 136.0 - LAMP DYKE
138.0					GY	MAG1		LAMP					-	2	-	0.1			26			0.095	
143.0					BN	HEM1		TSED					0.1	-	1	1			27			0.008	- MAG IN QZ/ANK STGS, FG DISSEM PY
148.0					BN	HEM1							0.1	-	1	0.1			28			0.008	
153.0					BN	HEM1			V	30			1	-	1	1			29			0.006	- VFG DISSEM PY
158.0					BN	HEM1							0.1	0.1	1	1			30			0.002	
163.0					BN	HEM1							1	1	-	0.5			31			0.008	
168.0					BN	MAG2							0.1	2	-	0.1			32			0.004	- wk HEM ALT'N
173.0					BN	MAG2							0.1	1	-	0.1			33			0.007	- 2.0' LAMP DYKE ?, MOD STR MAG
178.0					BN	MAG2							0.1	2	-	0.1			34			0.004	- wk HEM ALT'N, cc ALT'N
183.0					RB	HEM1							0.1	3	-	2			35			0.008	
185.0					GY	MAG1							0.1	2	-	2			36	2.0	C	0.006	- VFG DISSEM PY
189.0		M	FM	MSV	GG	cc1		LAMP					1	3	-	3			37	4.0	C	0.016	- wk MAG/CHL ALT'N
193.0					GG	MAG2		LAMP					-	2	-	0.1			38	4.0	C	0.026	- wk cc/CHL ALT'N
198.0		M	F	MSV	BN	MAG1		TSED					0.1	1	-	2			39	5.0	C	0.014	- wk HEM ALT'N
203.0					BN	HEM1			V	40			1	1	-	2			40			0.008	
208.0					BN	HEM							0.1	1	-	2			41			0.006	- wk MAG ALT'N, CHL FRAC, PY IN FRAC/DISSEM
213.0					BN	HEM1							0.1	2	-	2			42			0.004	
218.0					BN	MAG1							0.1	1	-	2			43			0.008	
223.0					BN	MAG1							1	1	-	2			44			0.006	

DRILL HOLE NO: YD-96-117

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	Ank	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
228.0		M	F	MSV	BN	HEM 1		TSED					1	1	—	3			MAT 1045	5.0	C	0.003	
233.0					BN	HEM 1							1	1	—	1			46			0.005	- WK MAG ALT'N
238.0					BN	MAG 1							0.1	1	-	2			47			0.006	
243.0					BN	HEM 1							0.1	1	—	1			48			0.004	
248.0					BN	HEM 1							1	2	-	1			49			0.004	
253.0					RB	HEM 1							0.1	1	—	1			50			0.004	- MAG/CHL FRAC.
258.0					BN	HEM 1							1	1	—	2			51			0.005	
263.0					GY	MAG 1							2	2	—	0.1			52			0.010	- MN HEM/CC ALT'N, 1.5' LAMP DYKE
268.0					BN	MAG 1		LAMP?					0.1	2	-	0.1			53			0.009	- WK HEM/~~CC~~ ALT'N, SHEAR ZONE?
288.0		M	F	MSV	BN	HEM 1		TSED					0.1	2	—	0.1			54	20.0	G	0.003	- WK MAG ALT'N
293.0		M	F	MSV	GY	MAG 1		TSED					0.1	3	—	1			55	5.0	C	0.001	- VF-FG DISSEM PY
298.0					BN	HEM 1							—	1	—	1			56			0.001	
303.0					BN	MAG 2							2	2	—	0.5			57			0.004	
308.0				SHD	GG	CHL 1			F	50	F	70	6	3	—	0.1			58			0.001	- 2.0 CHL SHEAR ZONE, WK HEM ALT'N
313.0				MSV	BN	HEM 1							5	2	-	0.5			59			0.006	- QZ/CC VLETS UP TO 2" WIDE
318.0					BN	HEM 1							4	2	-	2			60			0.004	
323.0		M	F	SHD	GG	CHL 2		SHR	F	65			2	4	—	0.1			61	5.0	C	0.001	- 318.0 - 351.3 - SHEARED TSEDS, CHL/
328.0					RG	CHL 2							0.1	3	—	1			62			0.006	CC ALT'N, WK HEM/MAG ALT'N, FOL
333.0					GG	CHL 2			F	65			2	3	-	1			63			0.008	50-65° TCA
338.0					GG	CHL 2							0.1	3	—	0.5			64			0.006	
343.0					GG	CHL 3							0.1	3	—	3			65			0.014	- 1.5" CC VLET W/ MS MSV F-MG SUB PY
346.0					GG	CHL 3			F	65			1	5	—	2			66	3.0	C	0.009	

DRILL HOLE NO: YD - 96 - 117

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Ank	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
348.0		m	F	SHD	GG	CHL 3		SHR	F	65			0.1	6	-	0.5		VG	MAT 1067	2.0	C	1.610	- 1 FLAKE, 3 SPECKS VG IN CHL FOL
351.3		m	F	SHD	GG	CHL 3		SHR	F	50			1	4	-	2			68	3.3	C	0.001	
354.0		m	F	MSV	GY	CHL 1		TSED					1	2	-	5			69	2.7	C	0.004	
359.0					GG	CHL 1							1	1	-	5			70	5.0	C	0.004	- F-MG SUB + DISSEM PY, WK MAG/CC ALT'N
364.0					GG	CHL 1							0.1	1	-	5			71	5.0	C	0.012	
368.0		m	F	SHD	RG	CHL 2		SHR	V	35			4	3	-	5			72	4.0	C	0.072	- CHL/HEM, SHD/COT ZONE, TR-MN CPY
373.0		m	F	SHD	RG	CHL 2		SHR					0.1	3	-	3			73	5.0	C	0.004	SMSV F-MG PY
378.0		m	F	MSV	BN	HEM 1		TSED					0.1	1	-	2			74	5.0	C	0.002	- MN CHL/MAG ALT'N
383.0					GG	CHL 2							0.1	1	-	3			75			0.002	
388.0					GG	CHL 2							0.1	2	-	2			76			0.004	- PY CONC IN CLASTS / FRAC.
393.0					GG	CHL 2							0.1	1	-	0.1			77			0.012	- FG CHL SEDS, NO CLASTS, CHL/CC ALT'N
398.0					GG	CHL 2							0.1	3	-	0.1			78			0.001	- AS ABOVE
403.0					GG	CHL 2							0.1	1	-	0.5			79			0.020	- MN RED CLASTS, PY CONC IN CLASTS
408.0					GY	HEM 1			V	10			0.1	3	-	3			80			0.002	- MN CLASTS, PY CONC ALONG FRAC'S
413.0					GG	CHL 1			V	30			1	3	-	3			81			0.001	- 418.0 - 458.0 - FG CHL SEDS WITH
418.0					GG	CHL 2							0.1	1	-	0.1			82			0.001	PREDOM RED, HEM CLASTS, F-MG SUB +
423.0					GG	CHL 2							0.1	0.1	-	1			83			0.001	DISSEM PY CONC MAINLY IN CLASTS,
428.0					GY	CHL 1			V	30			1	1	-	2			84			0.001	MK CC ALT'N
433.0					GG	CHL 2							0.1	0.1	-	1			85			0.002	- MN GROUND CORE
438.0					GG	CHL 2							0.1	1	-	2			86			0.002	
443.0					GY	CHL 1							-	1	-	3			87			0.002	
448.0					GG	CHL 1							0.1	1	-	2			88			0.002	

DRILL HOLE NO: YD-96-117

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	BNK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
453.0		M	F	MSV	GG	CHLZ		TSED					3	6	-	2			MAT1989	5.0	C	0.005	- 0.5' CC/QZ VEIN, HEM STAINED
458.0		M	F	MSV	RG	CHLZ		TSED					1	1	-	0.1			90	5.0	C	0.001	
488.0		M	F	MSV	RG	CHLZ		TSED					1	1	-	0.1			91	30.0	G	0.001	- CHL MATRIX BECOMING MORE HEM
																							AT END OF SECTION, REF. HEM CLASTS
																							EOH.

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 16/96 DRILL HOLE NO: YA-96-118

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3256.86	2495.97	7959.18	438.0'	2500E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°												
208	356°	-41°												
408	357°	-39°												

START DATE: SEPT 13, 1996

FINISH DATE: Sept 14, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR 5376

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: test for updip projection of central Zone.

RESULTS: 0.122 opt Au/ 5.0 ft (118.0 - 123.0 ft)

WHY HOLE TERMINATED: Normal termination at target depth.

CORE SIZE: BQ

CASING: - CASING LEFT IN HOLE

HOLE CEMENTED: NO

NO. OF ASSAYS: _____

NO. OF ICP: _____

NO. OF WRA: _____

REJECTS/PULPS SAVED: _____

CORE STORED (LOCATION): BUNKER, MCM MINESITE

☒ ft
☐ m

Location Sketch

P.A.P. 35361

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 16/96 DRILL HOLE NO: YA-96-118

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3256.86	2495.97	7959.18	438.0'	2500E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°												
208	356°	-41°												
408	357°	-39°												

START DATE: SEPT 13, 1996

FINISH DATE: Sept 14, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR 5376

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: test for updip projection of central Zone.

RESULTS: 0.122 opt Au/ 5.0 ft (118.0 - 123.0 ft)

WHY HOLE TERMINATED: Normal termination at target depth

CORE SIZE: BQ

CASING: - CASING LEFT IN HOLE

HOLE CEMENTED: NO

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION): BUNKER, MCM MINESITE

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-118

Average = 0.071 opt / 10.0ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
113.0		m	F	MSV	BN	HEM 1		TSED					1	0.1	/	0.1			MAT 1113	5.0	C	0.004	- Tr CPY IN QZ/ANK STG
118.0					BN	HEM 1			V	20			2	0.1	1	0.5			14			0.020	
123.0					BN	MAG 1							2	0.1	1	0.1			15			0.122	
128.0					GY	MAG 1							1	1	-	0.5			16			0.004	
133.0					GG	MAG 2							1	2	-	0.5			17			0.004	- WK CHL / HEM ALT'N
138.0					BN	MAG 2							1	2	-	0.5			18			0.008	- WK HEM / CHL ALT'N
143.0					BN	HEM 1							0.1	1	-	1			19			0.006	- VF-FG DISSEM PY
148.0		m	F	SHD	GG	CHL 1		SHR	F	55			0.1	3	-	0.1			20	5.0	C	0.010	- WK-MOD CHL/HEM ALT'N, WK MAG/CC ALT'N
153.0		m	F	SHD	RG	CHL 2		SHR	F	55			1	3	-	0.1			21	5.0	C	0.006	
158.0		m	F	MSV	BN	HEM 1		TSED					0.1	2	-	2			22	5.0	C	0.004	- VF-FG DISSEM PY
163.0					BN	HEM 1							0.1	0.1	-	3			23			0.003	- Tr CPY
168.0					BN	HEM 1							0.1	1	-	3			24			0.002	
173.0					BN	HEM 1							0.1	2	-	2			25			0.004	
178.0					BN	HEM 1							0.1	2	-	1			26			0.005	
183.0					BN	HEM 1							0.1	2	-	4			27			0.008	- SMSV F-MG SUB PY IN BAND 21" WIDE, VF-FG
188.0					BN	HEM 1							0.1	1	-	3			28			0.006	DISSEM PY
193.0					BN	HEM 1							0.1	1	-	3			29			0.012	- WK MAG/CC ALT'N
198.0					BN	MAG 1							0.1	1	-	2			30			0.010	- WK MAG/CC ALT'N
203.0		B			BN	HEM 1							0.1	1	-	1			31			0.010	- BLOCKY / GROUND CORE, ≈ 0.5' LOST CORE
208.0		m		SHD	BN	CHL 1							1	3	-	1			32			0.012	- WKLY SHEARED
213.0				SHD	BN	CHL 1			V	50			2	2	-	2			33			0.006	- CREN FOL WK HEM / CC ALT'N
218.0				SHD	GY	CHL 1			V	35	F	50	5	3	-	1			34			0.004	- SPEC HEM IN QZ/CC VLETS, Tr CPY

DRILL HOLE NO: YD-96-118

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
223.0		M	F	SHD	GG	CHL2		SHR	F	SS			1	4	–	0.1			MAT1135	5.0	C	0.004	– wk HEM/cc ALT'N
228.0		M	F	SHD	GG	CHL2		SHR					2	4	–	0.5			36	5.0	C	0.003	– wkly SHEARED
233.0		M	F	MSV	GG	CHL1		TSED					2	2	–	1			37	5.0	C	0.001	– wkly SHEARED IN TOP HALF OF SECTION
238.0					BN	HEM1							0.1	1	–	3			38			0.010	– VF-FG DISSEM PY
243.0					BN	HEM1							1	2	–	2			39			0.001	
248.0					GG	CHL2							5	2	–	1			40			0.001	– wkly SHEARED
253.0					GG	CHL2							0.1	1	–	2			41			0.002	
258.0					GY	CHL1							1	3	–	2			42			0.006	– wk HEM ALT'N, TR cPY
263.0					BN	HEM1							0.1	2	–	2			43			0.001	– wkly SHEARED IN PLACES
268.0					BN	HEM1							0.1	1	–	2			44			0.008	
273.0					BN	HEM1							0.1	2	–	1			45			0.006	
278.0					GY	CHL1							0.1	2	–	0.1			46			0.004	
283.0				SHD	GY	CHL1							0.1	1	–	1			47			0.006	– wk HEM ALT'N, wkly SHEARED
288.0				MSV	BN	HEM1							1	1	–	2			48			0.012	
293.0		M	F	SHD	GG	CHL2		SHR					6	3	–	0.1			49	5.0	C	0.006	– CONTORTED FOL, BX QZ/cc HEALING
298.0		B	F	SHD	GG	CHL2		SHR					5	3	–	1			50	5.0	C	0.001	– 1.5' BROKEN CORE
303.0		M	F	MSV	GY	CHL1		TSED					0.1	3	–	2			51	5.0	C	0.001	– SHEARED AT TOP OF SECTION
308.0		M	F	MSV	BN	HEM1		TSED					1	3	–	3			52	5.0	C	0.001	
313.0		M	F	MSV	BN	HEM1		TSED					1	2	–	3			53	5.0	C	0.001	
318.0		M	F	SHD	GG	CHL2		TSED	F	60			1	3	–	3			54	5.0	C	0.034	– 313.0 – 403.0 – wk-mod SHEARED TSEDS, MOD
323.0		M	F	SHD	GG	CHL2							0.1	1	–	3			55	5.0	C	0.001	CHL/cc ALT'N, wk MAG ALT'N, CHL

DRILL HOLE NO: YD-96-118

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANH	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
328.0		M	F	SHD	GG	CHL2		TSED					1	2	-	1			MAT11156	5.0	C	0.001	MATRIX WITH HEM STAINED CLASTS, F-MG
332.0		M	F	SHD	GG	CHL2		TSED					1	2	-	1			57	5.0	C	0.006	DISSEM + ANH-SUB PY FOLLOWING FOL
																							PLANES 50°-80° TCA
336.5		M	VF	MSV	GY	MAG3		DIA					1	3	-	0.1			58	4.5	C	0.004	- VF-FG DIABASE DYKE, STR MAG, 1.5'
																							TSEDS IN MIDDLE OF DYKE, SHARP
																							CONTACTS, CHILL MARGINS, CC STGS
																							IN DYKE
341.0		M	F	SHD	GG	CHL2		TSED	F	75			2	2	-	2			59	4.5	C	0.001	
346.0		M	VF	MSV	GY	MAG3		DIA					-	1	-	0.1			60	5.0	C	0.001	- SHARP CONTACTS, 4" TSED XEN AT END OF DYKE
351.0		M	F	SHD	GG	CHL2		TSED					1	2	-	2			61	5.0	C	0.006	
356.0		M	F	MSV	GY	CHL1		TSED					0.1	2	-	1			62	5.0	C	0.004	- WKLY SHEARED
358.6		M	F	MSV	GG	CHL1		TSED					0.1	2	-	0.1			63	2.6	C	0.001	
363.0		M	VF	MSV	GY	MAG3		DIA					-	1	-	0.1			64	4.4	C	0.004	- 1.0' TSED/DIA, DRILLED DOWN CONTACT
367.3		M	F	MSV	GY	MAG2		TSED					0.1	2	-	0.1			65	4.3	C	0.002	- MAG/CC ALT'N, WK CHL, MN DIA BANDS
370.5		M	VF	MSV	GY	MAG3		DIA					-	2	-	0.1			66	3.2	C	0.001	- CC STGS
373.0		M	F	SHD	GY	CHL1		TSED					0.1	4	-	0.1			67	2.5	C	0.001	
378.0		M	F	SHD	GG	CHL2		TSED	F	55			1	4	-	1			68	5.0	C	0.004	

DRILL HOLE NO: MJ16-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	Wk	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
516.7		m	fg	msv	MB	HEM1		Tsed					-	-	3	-			2355	4.9		0.003	
521.7		m	fg	msv	MB	Anlk2		Tsed					-	-	7	-			2356	5.0		0.002	
526.6		m	fg	msv	MB	Anlk2		Tsed					-	-	5	-			2357	4.9		0.004	
531.5		m	fg	msv	MB	Anlk2		Tsed					-	-	10	-			2358	4.9		0.004	
536.9		m	msg	PM	MB	Anlk1		SyP					-	-	1	-			2359	4.9		0.003	
541.3		m	fg	msv	MB	Anlk2		Syn					-	-	5	-			2360	4.9		0.003	
546.7		m	fg	msv	GY	CAL2		Tsed					-	3	1	-			2361	4.9		0.005	
551.2		m	fg	msv	GY	CAL2		Tsed					-	1	-	-			2362	5.0		0.002	
556.1		m	msg	AMR	RB	Anlk1		SyP					1	-	3	-			2363	4.9		0.001	
561.0		m	fg	msv	RGY	CAL2		Tsed					-	3	-	-			2364	4.9		0.001	
565.9		m	fg	msv	RGY	CAL2		Tsed					-	3	-	-			2365	4.9		0.004	
570.9		m	fg	msv	GGY	CAL2		Tsed					-	3	-	-			2366	5.0		0.004	
575.8		m	fg	msv	GY	CAL2		Tsed					-	1	-	-			2367	4.9		0.004	

P.A.P. 35362

DRILL HOLE NO: YD-96-118

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
383.0		M	F	SHD	GG	CHL2		TSED	V	35	F	50	2	3	-	3			MAT1169	5.0	C	0.014	
388.0					GG	CHL3							0.1	4	-	3			70			0.006	
393.0					GG	CHL2			F	70			3	3	-	1			71			0.012	
398.0					GG	CHL2							0.1	3	-	1			72			0.001	
403.0					GG	CHL2							1	3	-	1			73			0.001	
408.0		M	F	MSV	GG	CHL2		TSED					0.1	2	-	1			74	5.0	C	0.002	- 408.0 - 438.0 - CHL TSEDS WITH REA.
413.0					GG	CHL2							0.1	1	-	2			75			0.024	HEM CLASTS, F-CG SUB PY IN
418.0					GG	CHL2							0.1	1	-	2			76			0.002	MATRX + CLASTS.
423.0					GG	CHL2							0.1	0.1	-	2			77			0.001	
428.0					GG	CHL2							0.1	0.1	-	1			78			0.001	
433.0					GG	CHL2							0.1	1	-	1			79			0.001	
438.0					GG	CHL2							3	2	-	1			80			0.001	EOH.

DRILL HOLE NO: YD96-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
388.8		m	fg	MSV	DGY	MAG3		SYN					-	5	-	-			2329	4.9		0.001	
393.7		m	fg	MSV	DGY	MAG3		SYN					-	3	-	-			2330	4.9		0.001	
398.6		m	fg	LGY	DGY	MAG3		SYN					-	5	-	-			2331	4.9		0.001	
403.5		m	fg	LGY	DGY	MAG3		SYN					-	3	-	-			2332	4.9		0.006	
408.4		m	fg	LGY	DGY	MAG3		SYN					-	3	5	-			2333	4.9		0.001	
413.4		m	fg	MSV	LGY	MAG3		SYN					-	1	7	-			2334	5.0		0.001	5mm stringer/patchy wk @ 409 ft; 6" ank-chl brx vein @ 411 ft.
418.3		m	fg	MSV	LGY	MAG3		SYN					-	1	7	0.1			2335	4.9		0.001	trace py in ank stringers, 1% moly in ank vein 418'
423.2		m	fg	MSV	BK	MAG3		SYN					-	3	3	-			2336	4.9		0.001	
428.1		m	fg	MSV	BK	MAG3		SYN					-	1	10	-			2337	4.9		0.001	
433.1		m	fg	MSV	BK	MAG3		SYN					1	-	15	-			2338	5.0		0.030	
438.0		m	fg	MSV	DGY	MAG3		SYN					-	-	10	-			2339	4.9		0.001	
442.9		m	fg	MSV	LGY	AMP3		SYN					-	-	20	-			2340	4.9		0.001	
447.8		m	fg	MSV	LGY	AMP3		SYN					1	-	5	-			2341	4.9		0.006	

DRILL HOLE NO: PD 96-119

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ox	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
10.								CAS															Casing. All casing left in place
14.8		m	vfg	MSV	BW	ITEM 2		Tsed					1	T	1	1			MT 2069	4.6		0.004	
19.7		m	vfg	MSV	BW	ITEM 2		Tsed					-	-	3	0.1			2065	4.9		0.003	
24.6		m	mg	MSV	BW	ITEM 2		Tsed					-	1	1	-			2066	4.9		0.007	
26.3		m	vfg	MSV	GY	CALC		Tsed	C	40			-	3	-	-			2067	1.7		0.005	
31.7		m	fg	PUR	YBW	ANK 3		DIO					-	-	10	-			2068	5.4		0.007	
37.3		m	fg	PUR	GGY	ANK 3		DIO					-	1	3	0.1			2069	5.6		0.004	Lft syenite inclusion.
39.4		m	vfg	MSV	GY	ANK 1		Tsed					-	5	1	-			2070	2.1		0.001	
44.3		m	vfg	MSV	PB	ITEM 2		Tsed					-	1	7	-			2071	4.9		0.005	
49.2		m	vfg	MSV	PB	ITEM 2		Tsed					-	3	3	1			2072	4.9		0.006	
54.1		m	vfg	MSV	BW	ITEM 2		Tsed					-	-	7	-			2073	4.9		0.002	
59.1		m	vfg	MSV	BW	ITEM 2		Tsed					-	1	7	-			2074	5.0		0.004	rare cpy in cc vein let
64.0		m	vfg	MSV	BW	ITEM 2		Tsed					-	-	10	-			2075	4.9		0.003	

DRILL HOLE NO: YD96-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
260.8		m	fg	msv	GGY	CALC		~~DIKE~~ SYN					-	1	-	-			2303	4.9		0.001	
265.7		m	fg	msv	GGY	CALC		DIKE					-	1	1	-			2304	4.9		0.001	
270.6		m	fg	msv	GGY	CALC		DIKE					-	1	-	-			2305	4.9		0.001	
275.6		m	fg	FOL	RGY	ANK2		SYN					-	1	3	-			2306	5.0		0.001	heavy pervasive chl-ank alt=
280.5		m	fg	FOL	RGY	ANK2		SYN					-	-	3	-			2307	4.9		0.001	occassional porphyritic syn pebbles visible.
285.9		m	fg	msv	RGY	ANK2		SYN					1	-	1	-			2308	4.9		0.001	bare qtz-ank-tour veins to ½"
290.3		m	fg	msv	CR	ANK2		SYN					-	-	7	-			2309	4.9		0.001	qtz-ank-chl veins to 6"
295.3		m	fg	FOL	RGY	ANK2		SYN					-	-	5	-			2310	5.0		0.001	ank-rich veins to 3"
300.0		m	fg	msv	BR	CHL2		SYN					-	-	1	0.1			2311	4.7		0.028	mixed pervasive chl-ank alt=
305.1		m	fg	PGR	RB	ANK1		SYP					1	1	1	-			2312	4.9		0.001	
310.0		m	fg	PGR	RB	ANK1		SYP	QV	40			5	0.1	1	0.1			2313	4.9		0.001	qtz-ank-tour-(py) veins to 1"
315.4		m	fg	PGR	RB	ANK1		SYP					-	1	1	-			2314	5.0		0.001	
319.4		m	fg	PGR	RB	ANK1		SYP	C	45			1	-	3	1			2315	4.9		0.001	2 ank-py veins to 2" w/h class pyrite

P.A.P. 35362

DRILL HOLE NO: YB16-119

PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
132.8		m	vfg	msv	MB	HEM 2		Tsed					1	-	3	1			2098	4.8		0.001	
137.8		mg	vfg	msv	YBm	SER 2		Tsed					-	-	5	-			2099	4.8		0.002	
142.7		m	fg	PPh	MB	HEM 2		SYN					-	-	1	-			2097	4.8		0.001	
147.6		m	fg	PPh	MB	HEM 2		SYN					-	-	3	-			2093	4.8		0.001	
152.5		m	fg	PPh	MB	HEM 2		SYN	QV	30			1	-	5	1			2098	4.8		0.005	
157.5		mg	mg	PPh	MB	HEM 2		SYN					1	-	3	0.1			2094	5.0		0.002	
162.4		m	mg	PPh	MB	BL 2		SYN					1	-	1	3			2096	5.0		0.015	
167.3		m	mg	PPh	MB	BL 2		SYN					1	-	3	3			2091	4.8		0.055	
172.2		m	mg	PPh	MB	BL 1		SYN					1	-	1	0.1			2097	4.8		0.001	trace cpy in white q/g vein qtz
177.2		m	mg	PPh	MB	CHL 1		SYN	QV	80			1	-	3	0.1			2098	5.0		0.002	
182.1		mg	vfg	msv	BW	SER 1		Tsed					1	-	1	-			2099	4.8		0.017	
187.4		mg	vfg	msv	BW	SER 1		Tsed					1	3	-	-			2100	4.8		0.018	
191.9		m	vfg	msv	MB	SER 1		Tsed					1	1	-	1			2101	4.8		0.012	

P.A.P. 35362

DRILL HOLE NO: MD16-172

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
137.8		m	fg	Cht	Rhy	-		MD					1	3	-	3			2277	4.2		0.004	
142.7		m	fg	Cht	Rhy	-		MD					-	1	-	1			2278	4.2		0.006	
147.6		m	mg	Cht	Rhy	-		MD					-	3	-	1			2279	4.2		0.004	
152.5		m	mg	Cht	Rhy			MD					t	1	-	1			2280	4.2		0.004	
157.5		m	mg	Cht	Rhy			MD					-	3	-	3			2281	5.0		0.006	
162.4		m	mg	Cht	Rhy			MD					-	3	-	3			2282	4.2		0.006	
167.3		m	mg	Cht	Rhy			MD					-	1	3	1			2283	4.2		0.006	
172.2		m	mg	Cht	Rhy			MD					-	1	-	1			2284	4.2		0.006	
177.2		m	fg	Fol	Rhy			MD					-	1	-	1			2285	5.0		0.004	
182.1		m	mg	Cht	Rhy			MD					-	-	3	1			2286	4.2		0.008	huge ank-py veins to ½"
187.0		m	mg	Cht	Rhy			MD					-	1	7	-			2287	4.2		0.005	
191.9		m	mg	Cht	Rhy			MD					-	3	3	1			2288	4.2		0.016	syn dike 180 - 185ft
196.9		m	fg	Fol	Rhy			MD					-	3	3	a1			2289	5.0		0.006	

DRILL HOLE NO: YD26-119

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Tr	cc	ox	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
269.2		m	vfg	msv	Bw	SER1		Tsed					1	-	-	3			2115	4.2		0.019	
265.7		m	vfg	msv	Bw	SER1		Tsed					0.1	-	1	-			2116	4.2		0.004	
270.6		m	vfg	msv	Bw	SER1		Tsed	QV	0			1	1	-	0.1			2117	4.2		0.002	fg diss py assoc. with hairline chl stringers
275.6		m	vfg	msv	Bw	SER1		Tsed					1	-	-	0.1			2118	5.0		0.002	diss vfg py assocc with hairline chl stringers
280.5		m	vfg	msv	Bw	SER1		Tsed					-	1	-	0.1			2119	4.2		0.002	
285.9		m	vfg	msv	Bw	SER1		Tsed					1	-	0.1	1			2120	4.2		0.021	diss vfg Apy in wk gy-ck veins.
280.3		m	vfg	msv	Bw	SER1		Tsed					0.1	-	1	-			2121	4.2		0.015	
295.3		m	vfg	msv	Bw	BL1		Tsed					0.1	1	-	1			2122	5.0		0.018	bleach-py alt= along gy-ck veinlets.
300.7		m	vfg	msv	Bw	BL1		Tsed					1	0.1	+	1			2123	4.2		0.025	alt= along fractures + vein walls.
305.1		m	vfg	msv	Bw	SER1		Tsed					-	1	-	0.1			2124	4.2		0.002	fracture controlled alt= decreasing down hole.
310.7		m	vfg	msv	Bw	SER1		Tsed	C	BS			1	-	-	0.1			2125	5.0		0.013	glassy + milky qtz veins
315.0		m	vfg	msv	Gw	-		MD					-	-	-	1			2126	4.8		0.012	mafic dike??
319.9		m	vfg	msv	Gw	-		MD					-	1	-	-			2127	4.2		0.003	

DRILL HOLE NO: YD96-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
10								CAS															BW Casing.
14.8		m	mg	PGR	NB	-		SYN					7	-	-	-			MAT 2752	4.8		0.001	actual measured length: 2.5ft
19.7		m	mg	CLAS	RGN	CAL 2		MD					3	3	-	3			2753	4.9		0.014	fg disc pyrite, Heterolithic Breccia Unit (14.8-65.8ft)
24.6		m	mg	CLAS	RGN	CAL 2		MD					-	3	-	1			2754	4.9		0.014	
29.5		m	mg	CLAS	RGN	CAL 2		MD					-	1	-	1			2755	4.9		0.006	
34.4		m	fg	PGR	NB	CAL 2		SYN					5	1	-	3			2756	4.9		0.008	
39.4		m	mg	CLAS	RGN	CAL 2		MD	F	55			-	1	3	1			2757	5.0		0.006	
44.3		m	mg	CLAS	RGN	CAL 2		MD					-	1	3	1			2758	4.9		0.008	
49.2		m	mg	CLAS	RGN	CAL 2		MD					-	1	3	1			2759	4.9		0.001	
54.1		m	mg	CLAS	RGN	CAL 2		MD					-	3	1	3			2760	4.9		0.012	
59.1		m	mg	CLAS	RGN	CAL 2		MD					-	1	7	1			2761	5.0		0.016	
65.8		m	fg	FOL	RGN	CAL 2		MD					-	5	1	1			2762	6.7		0.009	intrusive lower contact.
68.9		m	fg	PGR	RGN	CAL 2		SYN					-	1	-	-			2763	3.1		0.007	

DRILL HOLE NO: YB16-119

PAGE 2 OF 2

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
383.9		m	vfg	MSV	GY	WCL		Tsed					tr	1	-	-			2141	5.3		0.001	
433.2		m	fg	MSV	GY	WCL		Tsed					qt	1	-	0.1			2142	39.3		0.002	composite sample.
428.1		m	fg	MSV	YGN	SER1		Tsed					1	1	-	0.1			2143	4.9		0.001	3% hairline chloritic stringers
433.1		m	fg	MSV	BGN	SER2		Tsed					1	1	-	0.1			2144	5.0		0.002	3% hairline chloritic stringers
438.0		m	fg	MSV	BGN	SER2		Tsed					1	1	-	-			2145	4.9		0.001	
442.9		m	fg	MSV	MB	SER1		Tsed					qt	1	-	-			2146	4.9		0.001	
482.3		m	fg	MSV	GY	CHL		Tsed					qt	1	-	0.1			2147	39.4		0.003	composite sample.
487.3								EOH															End of Hole.

P.A.P. 35362

DRILL HOLE NO: MD96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
516.7		m	vfg	msv.	bgy	chl2		Tsgl					qtz	cc	ank	py			2750	4.9		0.004	
521.7		m	vfg	msv	bgy	chl1		Tsgl					qtz	cc	-	-			2751	5.0		0.001	
521.7								EOH															End of Hole.

DRILL HOLE NO: YD-96-120

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	ANK	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
24.6								CAS															- 0 - 24.6 - CASING
28.0		m	F	BX	GY	ANK 2		MAFIC DYKE					0.1	-	3	0.1			MAT1582	3.4	<	0.006	- MAFIC DYKE WITH TSEDS
33.0		m	F	BX	GG	ANK 1		MAFIC DYKE					0.1	-	3	0.1			83	5.0	<	0.010	- LIM STAINED
38.0		m	F	MX	BN	HEM 1		SYN					0.1	-	2	0.1			84	5.0	<	0.002	- SYENITE WITH MAFIC DYKE XENS.
43.0					BN	HEM 1		SYN					0.1	-	2	0.1			85	5.0	<	0.002	- 1.0' MAFIC DYKE XENS.
48.0					BN	HEM 1		SYN	V	5	V	70	2	-	1	0.1			86	5.0	<	0.004	- 2.0' MAFIC DYKE XENS
53.0					GG	CC 1		MAFIC DYKE	V	60			1	6	-	0.1			87	4.0	<	0.002	- CHL/CC DYKE WITH SYENITE XENS
54.0					BN	HEM 1		SYN	V	20			3	-	1	0.1			88	2.0	<	0.001	
58.0		m	F	BX	GG	CHL 1		DYKE					0.1	-	2	0.1			89	4.0	<	0.003	-54.0 - 105.0 - MAFIC DYKE (POSS LAMP)
63.0					GG	CHL 1							0.1	-	3	0.1			90	5.0	<	0.003	WITH SYENITE XENS / DYKLETS, CHL/
68.0					GG	CHL 1							0.1	-	1	0.1			91			0.003	MAG ALT'N, INCREASING ANK ALT'N
73.0					GG	CHL 1							0.1	-	3	0.1			92			0.015	DOWN UNIT, HEM ALTERED SYENITE
78.0					GG	CHL 1							0.1	-	1	0.1			93			0.003	
83.0					GY	ANK 1			V	65			1	-	3	0.1			94			0.004	
88.0					GY	ANK 2			V	60			0.1	-	3	0.1			95			0.003	- 83.0 - 105.0 - TSEDS XENS
93.0					GG	ANK 2							0.1	-	4	0.1			96			0.002	
98.0					GBR	ANK 2							0.1	-	1	0.1			97			0.003	
103.0					GG	ANK 2							0.1	-	2	0.1			98			0.003	
105.0					GBR	ANK 2							2	-	3	0.1			99	2.0	<	0.003	
110.0		m	F	POR	BN	HEM 1		SYP					0.1	-	3	0.1			MAT1600	5.0	<	0.001	
115.0		m	F	POR	BN	HEM 2		SYP					0.1	-	0.1	0.1			01	5.0	<	0.001	

DRILL HOLE NO: 11,96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE %	cc	wk	METALLIC %			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
393.7		m	vfg	msv	Bw	BAL1		SVM					-	1	3	-			2275	4.9		0.017	
398.6		m	vfg	msv	Bw	CHL1		SVM					-	5	-	-			2276	4.9		0.002	1" cc-cpy vein @ 397 ft.
403.5		m	vfg	msv	Bw	CAL1		SVM					-	5	-	-			2277	4.9		0.002	
408.4		m	vfg	msv	Bw	ANK1		SVM					-	1	3	-			2278	4.9		0.004	
413.9		m	vfg	msv	Bw	ANK1		SVM					-	1	3	-			2279	5.0		0.005	
418.3		m	vfg	msv	Bw	CHL1		SVM					-	5	1	1			2230	4.9		0.013	diss vfg py with chl-cc alt=
423.2		m	vfg	msv	RB	CHL1		SVM					-	1	-	-			2231	4.9		0.003	
428.1		m	vfg	msv	RB	ANK1		SVM					-	-	5	-			2232	4.9		0.003	
433.1		m	vfg	msv	HBw	CAL1		Tsed					-	1	1	-			2233	5.0		0.009	
438.0		m	vfg	msv	HBw	CAL1		Tsed					-	-	1	-			2234	4.9		0.003	
443.9		m	vfg	msv	HY	CAL1		Tsed					1	1	1	0.1			2235	4.9		0.007	
448.8		m	vfg	msv	RB	CAL1		SVM					-	1	3	-			2236	4.9		0.018	
457.8		m	vfg	msv	GW	CAL3		Tsed					-	3	-	-			2237	5.0		0.006	Strong pervasive chlorite- cc alt=

DRILL HOLE NO: YD-96-120

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
248.0		M	F	BX	GG	CC1		DYKE	V	20			0.1	2	1	0.1			MAT1624	25.0	G	0.005	- MAFIC DYKE (LAMP) WITH TSED XENS.
																							- WK CHL/EC/MAG ALT'N, WK HEM ALT'N IN TSEDS, WK ANK ALT'N AT TOP OF UNIT
253.0		M	F	MSV	BN	HEM1		TSED					0.1	-	1	0.1			25	5.0	C	0.009	- 1.0' DYKE XENS
258.0					BN	HEM1							0.1	-	0.1	0.1			26			0.007	
263.0					BN	HEM1							0.1	-	1	0.1			27			0.015	
268.0					BN	HEM2							0.1	-	1	0.1			28			0.016	- 0.5' MAFIC DYKE XEN.
273.0					BN	HEM1							0.1	-	2	0.1			29			0.001	
278.0		M	F	POR	BN	HEM1		SYP					0.1	-	2	0.1			30	5.0	C	0.005	- WK ANK ALT'N
283.0					BN	ANK1							0.1	-	3	0.1			31	5.0	C	0.010	- 1.5' BX MAFIC DYKE? XENS.
288.0					BN	ANK1							0.1	-	2	0.1			32	5.0	C	0.020	- WK HEM ALT'N
293.0		M	F	BX	GG	ANK1		DYKE					0.1	-	0.1	0.1			33	5.0	C	0.001	- 288.0 - 301.5 - MAFIC DYKE / UMS? ANK/SER ALT'N, BX, LT GREY/YELLOW-GREEN IN COLOUR.
298.0					GG	ANK2							0.1	-	0.1	0.1			34	5.0	C	0.003	
301.5					GG	ANK2							0.1	-	1	0.1			35	3.5	C	0.002	
303.5		M	F	POR	BN	HEM1		SYP					0.1	-	1	0.1			36	2.0	C	0.003	- 301.5 - 313.0 - MV DYKE XENS.
308.0					BN	HEM1							0.1	-	2	0.1			37	4.5	C	0.008	
313.0					BN	HEM1							0.1	-	1	0.1			38	5.0	C	0.003	- ≈ 0.5' CNR.
318.0					BN	HEM1							0.1	-	1	0.1			39			0.001	
323.0					RB	HEM2							0.1	-	1	0.1			40			0.002	
328.0					RB	HEM2							0.1	-	2	0.1			41			0.001	

DRILL HOLE NO: YB96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gz	cc	calc	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
265.7		m	vfg	MSV	LBrn	CHL3		DIKE					-	-	5	-			2199	4.9		0.002	
270.6		m	vfg	MSV	LBrn	CHL3		DIKE					-	-	15	-			2200	4.9		0.004	
275.6		m	mg	PMX	MB	ANK1		SYN					-	-	5	0.1			2201	5.0		0.001	
280.5		m	fg	PMX	MB	ANK1		SYN					-	1	-	-			2202	4.9		0.001	
285.4		m	mg	PMX	MB	CAL2		SYN					-	1	-	-			2203	4.9		0.001	
290.3		m	fg	PMX	MB	CAL2		SYN					-	1	1	-			2204	4.9		0.001	trace gh-tourmaline stringers
295.3		m	fg	MSV	MB	ANK2		SYN					-	1	7	-			2205	5.0		0.002	
300.2		m	fg	CGT	RBrn	ANK3		SYN					-	5	3	0.1			2206	4.9		0.001	
305.1		m	fg	MSV	RBrn	CAL2		SYN					1	5	-	-			2207	4.9		0.003	irregular gh-ank-tour vein to 1" @ 303.5 ft.
310.0		m	fg	CGT	RBrn	ANK2		SYN					1	-	3	0.1			2208	4.9		0.003	trace stringer pyrite
315.0		m	fg	CGT	RBrn	ANK2		SYN					-	1	10	-			2209	5.0		0.003	½ ank-py vein (N 70 E) @ 314 ft
319.9		m	fg	MSV	MB	ANK2		SYN					3	-	5	-			2210	4.9		0.002	irregular gh-ank-tour-py patch @ 318.5 ft.
324.8		m	vfg	MSV	Gy	-		Tuff					-	1	3	-			2211	4.9		0.001	trace diss Cpy

DRILL HOLE NO: YD-96-120

Average = 0.047 opt Au / 15.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
438.0		M	F	BX	GG	CHLZ		DYKE?					0.1	0.1	2	0.1			MAT 1664	5.0	C	0.007	- MAFIC DYKE / CHL TSED? - GRAD CONTACTS
443.0		M	F	MSV	GG	MAG 1		TSED					0.1	-	1	1			65	5.0	C	0.008	
448.0					BN	HEM 1							2	-	1	1			66			0.039	- 1.5' SYENITE PORPH DYKE
453.0					GBR	MAG 2			V	10			2	-	1	0.1			67			0.011	-3% MAG BANDS / STGS
458.0					GBR	MAG 1							1	-	1	0.1			68			0.002	
463.0					BN	MAG 1							0.1	-	2	0.1			69			0.002	
468.0					BN	MAG 1							0.1	-	2	0.1			70			0.001	
473.0					GBR	MAG 1							2	-	1	1			71			0.064	- STG + DISSEM PY
478.0					BN	HEM 1							2	-	1	1			72			0.054	- 475.0 - 479.8 - SYENITE PORPH DYKE, 1% PY
483.0					GY	MAG 1							0.1	-	1	0.1			73			0.022	
488.0					GBR	MAG 1							0.1	-	1	0.1			74			0.001	
508.0		M	F	MSV	GBR	MAG 1		TSED					0.1	-	1	0.1			75	20.0	G	0.001	
513.0		M	F	MSV	GY	MAG 1		TSED					0.1	-	1	0.1			76	5.0	C	0.001	
518.0					GBR	MAG 1			V	20			2	-	1	0.1			77			0.042	
523.0					BN	MAG 1							2	-	1	0.1			78			0.006	
528.0					GBR	MAG 1							0.1	-	2	0.1			79			0.002	
533.0					GBR	HEM 1			V	60			2	-	1	1			80			0.106	
538.0					BN	HEM 1							1	-	1	0.5			81			0.010	
543.0					BN	HEM 1							0.1	-	1	0.1			82			0.004	
548.0					GBR	MAG 1							0.1	-	1	0.1			83			0.003	
553.0					GBR	MAG 1							0.1	-	1	0.5			84			0.007	
558.0					BN	HEM 1							0.1	1	1	1			85			0.008	

DRILL HOLE NO: MD96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
137.0		m	vfg	FOL	BK	CHL		MD	F	60			-	3	1	0.1			21773	4.9		0.005	
142.7		m	vfg	FOL	RBW	CHL		MD					-	1	-	1			21774	4.9		0.004	syenitic xenoliths becoming present again
147.6		m	vfg	FOL	BGY	ANK 1		MD					-	1	1	1			21775	4.9		0.005	diss fg pyrite within 1ft of lower contact
151.2		m	vfg	FOL	BGY	ANK 2		MD					-	1	7	-			21776	3.6		0.004	6 inch ank-chl vein @ 150.5 ft
157.5		m	fg	FOL	RBW	ANK 3		SYN					-	-	3	0.1			21777	6.3		0.004	pervasive ank-chl alt=
162.4		m	fg	FOL	RBW	ANK 3		SYN					-	3	1	-			21778	4.9		0.003	
167.3		m	vfg	FOL	YBW	ANK 3		SYN					1	-	5	-			2179	4.9		0.001	
172.2		m	vfg	FOL	YBW	ANK 3		SYN					-	-	10	0.1			2180	4.9		0.001	ank-py-(qtz) veins to 6" wide common; trace qtz-tour veinlets.
177.2		m	fg	PVR	RB	ANK 3		SYN					-	-	5	0.1			2181	5.0		0.001	a few ank-py-qtz veins to 3"
182.1		m	fg	PVR	RB	ANK 2		SYN	V	65			-	-	3	0.1			2182	4.9		0.001	a few ank-py veins
187.0		m	fg	PVR	RB	ANK 1		SYN					-	-	1	-			2183	4.9		0.001	
191.9		m	fg	PVR	RB	ANK 2		SYN					-	-	1	-			2184	4.9		0.001	a few ankerite veins to 2"
196.9		m	fg	PVR	RB	ANK 2		SYN	QV	15			3	-	1	1			2185	5.0		0.025	last 2' of sample contains 3 qtz veins + 3% PY.

P.A.P. 35362

DRILL HOLE NO: YD-96-120

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Gmk	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
673.0		M	F	MSV	GY	MAG2		TSED					0.1	2	–	0.1			MAT 1705	5.0	C	0.001	– 672.5 – 673.5 – CHL LAMP; STR MAG
678.0					GBR	MAG1			V	40			0.1	1	–	0.1			.06	5.0	C	0.001	ALT'N
683.0					BN	Hem1							0.1	1	–	0.1			.07	5.0	C	0.001	
703.0		M	F	MSV	GY	MAG1		TSED					0.1	1	–	0.1			.08	20.0	G	0.001	– WK HEM/CC ALT'N IN PLACES
728.0		M	F	MSV	GBR	MAG1		TSED					0.1	1	–	0.1			.09	25.0	G	0.001	– WK HEM ALT'N
733.0		M	F	MSV	GBR	Hem1		TSED					0.1	1	–	0.5			10	5.0	C	0.001	
738.0					GBR	MAG1			V	40			1	1	–	0.1			11	"	"	0.005	
743.0					GY	MAG1							0.1	1	–	0.1			12	"	"	0.003	
748.0					GBR	MAG1							0.1	2	–	0.5			13	"	"	0.003	
753.0		M	F	SHD	GG	MAG1		TSED					0.1	3	–	0.1			14	5.0	C	0.004	– WK-MOD SHEARED, WK CHL/CC ALT'N
758.0				SHD	GG	CHL2		SHR					2	3	–	0.1			15	"	"	0.006	– 2.5' CHL SHEAR ZONE, WK CC/MAG ALT'N
763.0				MSV	GG	CHL2		TSED					3	2	–	0.1			16	"	"	0.001	– 758.0 – 808.0 – MOD-WK CHL WK SHEAR
768.0				MSV	GG	CHL2		TSED					0.1	2	–	0.1			17	"	"	0.003	ZONES / MAFIC DYKLETS, GRAD +
788.0		M	F	MSV	GG	CHL2		TSED					0.1	1	–	0.1			18	20.0	G	0.005	SHARP CONTACTS, WK HEM/CC ALT'N IN PLACES, MOD MAG ALT'N
793.0		M	F	MSV	GG	MAG1		TSED					1	2	–	0.1			19	5.0	C	0.001	"
798.0					GG	MAG2			V	30			4	2	–	0.1			20	"	"	0.001	– 2.5' STR MAG DYKE
803.0					GG	CHL2							0.1	3	–	0.1			21	"	"	0.001	
808.0					GG	CHL2							0.1	2	–	0.1			22	"	"	0.003	– EOH.

P.A.P. 35362

DRILL HOLE NO: YDJG-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
14.								CAS															casing, All casing left in place.
14.8		m	vfg	MSV	Pi	—		MD					—	—	—	—			MAT 2148	0.8		0.001	indicated casing depth: 3m (10ft)
19.7		m	vfg	FOL	GRY	CAL 3		MD					—	3	—	1			2149	4.9		0.005	Heterolithic Unit, Breccia / Fragmental textured - pink SYN frags in chloritic matrix
24.6		m	vfg	FOL	Grn	CAL 3		MD					—	1	—	1			2150	4.9		0.006	diss fg-mg sublateral pyrite
29.5		m	vfg	CVN	MB	HEM 1		MD					3	1	3	1			2151	4.9		0.004	weak fem alt= along qtz-ank veins/patches
34.9		m	vfg	STR	Grn	CAL 3		MD					—	3	1	1			2152	4.9		0.006	diss fg pyrite
39.9		m	vfg	FOL	Rsw	CAL 3		MD					—	1	3	3			2153	5.0		0.010	anterite stringers + patches, diss fg pyrite
44.3		m	vfg	FOL	Rsw	CAL 3		MD					—	1	5	3			2154	4.9		0.006	
51.2		m	vfg	FOL	Grn	CAL 3		MD	C	60			—	1	3	3			2155	6.9		0.009	diss vfg pyrite, locally 10% / 6 inches.
54.1		m	fg	PHY	MB	ANK 1		SYN MD					—	—	3	—			2156	2.9		0.001	
59.1		m	fg	PHY	MB	ANK 1		SYN MD					—	—	1	—			2157	5.0		0.001	
64.0		m	fg	PHY	MB	ANK 1		SYN MD					—	—	1	—			2158	4.9		0.001	a few chloritic xenoliths
68.9		m	fg	PHY	MB	ANK 1		SYN MD					—	—	3	—			2159	4.9		0.001	

DRILL HOLE NO: MDG-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
14.								CAS															casing, All casing left in place.
14.8		m	vfg	MSV	Pi	—		MD					—	—	—	—			MAT 2148	0.8		0.001	indicated casing depth: 3m (10ft)
19.7		m	vfg	FOL	GRY	CAL3		MD					—	3	—	1			2149	4.9		0.005	Heterolithic Unit, Breccia / fragmental texture - pink SYN frags in chloritic matrix
24.6		m	vfg	FOL	GRY	CAL3		MD					—	1	—	1			2150	4.9		0.006	diss fg-mg sublateral pyrite
29.5		m	vfg	WFL	MB	HEM1		MD					3	1	3	1			2151	4.9		0.004	weak hem alt= along qtz-ank veins/patches
34.9		m	vfg	STR	GRY	CAL3		MD					—	3	1	1			2152	4.9		0.006	diss fg pyrite
39.9		m	vfg	FOL	RGY	CAL3		MD					—	1	3	3			2153	5.0		0.010	anterite stringers + patches, diss fg pyrite
44.3		m	vfg	FOL	RGY	CAL3		MD					—	1	5	3			2154	4.9		0.006	
51.2		m	vfg	FOL	GRY	CAL3		MD	C	60			—	1	3	3			2155	6.9		0.009	diss vfg pyrite, locally 10% / 6 inches.
54.1		m	fg	PHY	MB	ANK1		SYN MD					—	—	3	—			2156	2.9		0.001	
59.1		m	fg	PHY	MB	ANK1		SYN MD					—	—	1	—			2157	5.0		0.001	
64.0		m	fg	PHY	MB	ANK1		SYN MD					—	—	1	—			2158	4.9		0.001	a few chloritic xenoliths
68.9		m	fg	PHY	MB	ANK1		SYN MD					—	—	3	—			2159	4.9		0.001	

DRILL HOLE NO: YD-96-120

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Ank	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
673.0		m	F	MSV	GY	MAG2		TSED					0.1	2	–	0.1			MAT1705	5.0	C	0.001	– 672.5 - 673.5 – CHL LAMP'; STR MAG
678.0					GBR	MAG1			V	40			a1	1	–	0.1			.06	5.0	C	0.001	ALT'N
683.0					BN	Hem1							0.1	1	–	0.1			.07	5.0	C	0.001	
703.0		m	F	MSV	GY	MAG1		TSED					0.1	1	–	0.1			.08	20.0	G	0.001	– WK HEM/CC ALT'N IN PLACES
728.0		m	F	MSV	GBR	MAG1		TSED					0.1	1	–	0.1			.09	25.0	G	0.001	– WK HEM ALT'N
733.0		m	F	MSV	GBR	Hem1		TSED					0.1	1	–	0.5			.10	5.0	C	0.001	
738.0					GBR	MAG1			V	40			1	1	–	0.1			.11	"		0.005	
743.0					GY	MAG1							0.1	1	–	0.1			.12	"		0.003	
748.0					GBR	MAG1							0.1	2	–	0.5			.13	"		0.003	
753.0		m	F	SHD	GG	MAG1		TSED					0.1	3	–	0.1			.14	5.0	C	0.004	– WK-MOD SHEARED, WK CHL/CC ALT'N
758.0				SHD	GG	CHL2		SHR					2	3	–	0.1			.15	"		0.006	– 2.5' CHL SHEAR ZONE, WK CC/MAG ALT'N
763.0				MSV	GG	CHL2		TSED					3	2	–	0.1			.16	"		0.001	– 758.0 - 808.0 – MOD-WK CHL WK SHEAR
768.0				MSV	GG	CHL2		TSED					0.1	2	–	0.1			.17	"		0.003	ZONES / MAFIC DYKLETS, GRAD + SHARP CONTACTS, WK HEM/CC ALT'N
788.0		m	F	MSV	GG	CHL2		TSED					0.1	1	–	0.1			.18	20.0	G	0.005	IN PLACES, MOD MAG ALT'N
793.0		m	F	MSV	GG	MAG1		TSED					1	2	–	0.1			.19	5.0	C	0.001	"
798.0					GG	MAG2			V	30			4	2	–	0.1			.20	"		0.001	– 2.5' STR MAG DYKE
803.0					GG	CHL2							0.1	3	–	0.1			.21	"		0.001	
808.0					GG	CHL2							0.1	2	–	0.1			.22	"		0.003	– EOH.

DRILL HOLE NO: MD96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
137.0		m	vfg	FOL	BK	CHL		MD	F	60			-	3	1	0.1			21773	4.9		0.005	
142.7		m	vfg	FOL	RBR	CHL		MD					-	1	-	1			21774	4.9		0.004	syenitic xenoliths becoming present again
146.6		m	vfg	FOL	BRN	ANK		MD					-	1	1	1			21775	4.9		0.005	diss fg pyrite within 1ft of lower contact
151.2		m	vfg	FOL	BRN	ANK		MD					-	1	7	-			21776	3.6		0.004	6 inch ank-chl vein @ 150.5 ft
157.5		m	fg	PVR	RBR	ANK		SYN					-	-	3	0.1			21777	6.3		0.004	pervasive ank-chl alt=
162.4		m	fg	FOL	RBR	ANK		SYN					-	3	1	-			21778	4.9		0.003	
167.3		m	vfg	FOL	YBR	ANK		SYN					1	-	5	-			21779	4.9		0.001	
172.2		m	vfg	FOL	YBR	ANK		SYN					-	-	10	0.1			21780	4.9		0.001	ank-py-(qtz) veins to 6" wide common; trace qtz-tour veinlets.
177.2		m	fg	PVR	RB	ANK		SYN					-	-	5	0.1			21781	5.0		0.001	a few ank-py-qtz veins to 3"
182.1		m	fg	PVR	RB	ANK		SYN	V	65			-	-	3	0.1			21782	4.9		0.001	a few ank-py veins
187.0		m	fg	PVR	RB	ANK		SYN					-	-	1	-			21783	4.9		0.001	
191.9		m	fg	PVR	RB	ANK		SYN					-	-	1	-			21784	4.9		0.001	a few ankerite veins to 2"
196.9		m	fg	PVR	RB	ANK		SYN	QV	15			3	-	1	1			21785	5.0		0.025	last 2' of sample contains 3 qtz veins + 3% py.

P.A.P. 35362

DRILL HOLE NO: XD-96-120

Average = 0.047 opt Au / 15.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANH	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
438.0		M	F	BX	GG	CHL2		DYKE?					0.1	0.1	2	0.1			MAT 1664	5.0	C	0.007	- MAFIC DYKE / CHL TSED? - GRAD CONTACTS
443.0		M	F	MSV	GG	MAG1		TSED					0.1	-	1	1			65	5.0	C	0.008	
448.0					BN	HEM1							2	-	1	1			66			0.039	- 1.5' SYENITE PORPH DYKE
453.0					GBR	MAG2			V	10			2	-	1	0.1			67			0.011	-3% MAG BANDS / STGS
458.0					GBR	MAG1							1	-	1	0.1			68			0.002	
463.0					BN	MAG1							0.1	-	2	0.1			69			0.002	
468.0					BN	MAG1							0.1	-	2	0.1			70			0.001	
473.0					GBR	MAG1							2	-	1	1			71			0.064	- STG + DISSEM PY
478.0					BN	HEM1							2	-	1	1			72			0.054	- 475.0 - 479.8 - SYENITE PORPH DYKE
483.0					GY	MAG1							0.1	-	1	0.1			73			0.022	1% PY
488.0					GBR	MAG1							0.1	-	1	0.1			74			0.001	
508.0		M	F	MSV	GBR	MAG1		TSED					0.1	-	1	0.1			75	20.0	G	0.001	
513.0		M	F	MSV	GY	MAG1		TSED					0.1	-	1	0.1			76	5.0	C	0.001	
518.0					GBR	MAG1			V	20			2	-	1	0.1			77			0.042	
523.0					BN	MAG1							2	-	1	0.1			78			0.006	
528.0					GBR	MAG1							0.1	-	2	0.1			79			0.002	
533.0					GBR	HEM1			V	60			2	-	1	1			80			0.106	
538.0					BN	HEM1							1	-	1	0.5			81			0.010	
543.0					BN	HEM1							0.1	-	1	0.1			82			0.004	
548.0					GBR	MAG1							0.1	-	1	0.1			83			0.003	
553.0					GBR	MAG1							0.1	-	1	0.5			84			0.007	
558.0					BN	HEM1							0.1	1	1	1			85			0.008	

DRILL HOLE NO: YD96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
265.7		m	vfg	MSV	LGN	CHL3		DIKE					-	-	5	-			2199	4.9		0.002	
270.6		m	vfg	MSV	LGN	CHL3		DIKE					-	-	15	-			2200	4.9		0.004	
275.6		m	mg	PXN	NB	ANK1		SYN					-	-	5	0.1			2201	5.0		0.001	
280.5		m	fg	PXN	NB	ANK1		SYN					-	1	-	-			2202	4.9		0.001	
285.9		m	mg	PXN	NB	CHL2		SYN					-	1	-	-			2203	4.9		0.001	
290.3		m	fg	PXN	NB	CHL2		SYN					-	1	1	-			2204	4.9		0.001	trace qtz-tourmaline stringers
295.3		m	fg	MSV	NB	ANK2		SYN					-	1	7	-			2205	5.0		0.002	
300.2		m	fg	QFP	RHY	ANK3		SYN					-	5	3	0.1			2206	4.9		0.001	
305.1		m	fg	MSV	RHY	CHL2		SYN					1	5	-	-			2207	4.9		0.003	irregular qtz-ank-tour vein to 1" @ 303.5 ft.
310.0		m	fg	QFP	RHY	ANK2		SYN					1	-	3	0.1			2208	4.9		0.003	tour stringer pyrite
315.0		m	fg	QFP	RHY	ANK2		SYN					-	1	10	-			2209	5.0		0.003	½ ank-qtz vein (30° TCA) @ 314 ft
319.9		m	fg	MSV	NB	ANK2		SYN					3	-	5	-			2210	4.9		0.002	irregular qtz-ank-tour-py patch @ 318.5 ft.
324.8		m	vfg	MSV	GY	-		TUFF					-	1	3	-			2211	4.9		0.001	trace diss cpy

DRILL HOLE NO: YD-96-120

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
248.0		m	F	BX	GG	CC1		DYKE	V	20			0.1	2	1	0.1			MAT1624	25.0	G	0.005	- MAFIC DYKE (LAMP) WITH TSED XENS.
																							- WK CHL/EC/MAG ALT'N, WK HEM ALT'N IN TSEDS, WK ANK ALT'N AT TOP OF UNIT
253.0		m	F	ASV	BN	HEM1		TSED					0.1	-	1	0.1			25	5.0	C	0.009	- 1.0' DYKE XENS
258.0					BN	HEM1							0.1	-	0.1	0.1			26			0.007	
263.0					BN	HEM1							0.1	-	1	0.1			27			0.015	
268.0					BN	HEM2							0.1	-	1	0.1			28			0.016	- 0.5' MAFIC DYKE XEN.
273.0					BN	HEM1							0.1	-	2	0.1			29			0.001	
278.0		m	F	POR	BN	HEM1		SYP					0.1	-	2	0.1			30	5.0	C	0.005	- WK ANK ALT'N
283.0					BN	ANK1							0.1	-	3	0.1			31	5.0	C	0.010	- 1.5' BY MAFIC DYKE? XENS.
288.0					BN	ANK1							0.1	-	2	0.1			32	5.0	C	0.020	- WK HEM ALT'N
293.0		m	F	BX	GG	ANK1		DYKE					0.1	-	0.1	0.1			33	5.0	C	0.001	- 288.0 - 301.5 - MAFIC DYKE /UMS? ANK/SER ALT'N, BX, LT GREY/YELLOW-GREEN IN COLOUR.
298.0					GG	ANK2							0.1	-	0.1	0.1			34	5.0	C	0.003	
301.5					GG	ANK2							0.1	-	1	0.1			35	3.5	C	0.002	
303.5		m	F	POR	BN	HEM1		SYP					0.1	-	1	0.1			36	2.0	C	0.003	- 301.5 - 313.0 - MV DYKE XENS.
308.0					BN	HEM1							0.1	-	2	0.1			37	4.5	C	0.008	
313.0					BN	HEM1							0.1	-	1	0.1			38	5.0	C	0.003	- ≈ 0.5' CNR.
318.0					BN	HEM1							0.1	-	1	0.1			39			0.001	
323.0					RB	HEM2							0.1	-	1	0.1			40			0.002	
328.0					RB	HEM2							0.1	-	2	0.1			41			0.001	

DRILL HOLE NO: 11)96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
393.7		m	vfg	msv	Bw	BAL1		SYN					-	1	3	-			2275	4.9		0.017	
398.6		m	vfg	msv	Bw	CHL1		SYN					-	5	-	-			2276	4.9		0.002	1" cc-cly vein @ 397 ft.
403.5		m	vfg	msv	Bw	CAL1		SYN					-	5	-	-			2277	4.9		0.002	
408.4		m	vfg	msv	Bw	ANK1		SYN					-	1	3	-			2278	4.9		0.004	
413.4		m	vfg	msv	Bw	ANK1		SYN					-	1	3	-			2279	5.0		0.005	
418.3		m	vfg	msv	Bw	CHL1		SYN					-	5	1	1			2280	4.9		0.013	diss vfg Py with chl-cc alt=
423.2		m	vfg	msv	NB	CHL1		SYN					-	1	-	-			2281	4.9		0.003	
428.1		m	vfg	msv	NB	ANK1		SYN					-	-	5	-			2282	4.9		0.003	
433.1		m	vfg	msv	hBw	CAL1		Tsed					-	1	1	-			2283	5.0		0.009	
438.0		m	vfg	msv	hBw	CAL1		Tsed					-	-	1	-			2284	4.9		0.003	
443.9		m	vfg	msv	hW	CAL1		Tsed					1	1	1	0.1			2285	4.9		0.007	
448.8		m	vfg	msv	NB	CAL1		SYN					-	1	3	-			2286	4.9		0.018	
453.8		m	vfg	msv	Bw	CAL3		Tsed					-	3	-	-			2287	5.0		0.006	Strong pervasive chlorite- cc alt=

DRILL HOLE NO: YD-96-120

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	ANK	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
24.6								CAS															- 0 - 24.6 - CASING
28.0		m	F	BX	GY	ANK 2		MAFIC DYKE					0.1	-	3	0.1			MAT1582	3.4	C	0.006	- MAFIC DYKE WITH TSEDS
33.0		m	F	BX	GG	ANK 1		MAFIC DYKE					0.1	-	3	0.1			83	5.0	C	0.010	- LIM STAINED
38.0		m	F	MSV	BN	HEM 1		SYN					0.1	-	2	0.1			84	5.0	C	0.002	- SYENITE WITH MAFIC DYKE XENS.
43.0					BN	HEM 1		SYN					0.1	-	2	0.1			85	5.0	C	0.002	- 1.0' MAFIC DYKE XENS.
48.0					BN	HEM 1		SYN	V	5	V	70	2	-	1	0.1			86	5.0	C	0.004	- 2.0' MAFIC DYKE XENS
52.0					GG	CC 1		MAFIC DYKE	V	60			1	6	-	0.1			87	4.0	C	0.002	- CHL/CC DYKE WITH SYENITE XENS
54.0					BN	HEM 1		SYN	V	20			3	-	1	0.1			88	2.0	C	0.001	
58.0		m	F	BX	GG	CHL 1		DYKE					0.1	-	2	0.1			89	4.0	C	0.003	-54.0 - 105.0 - MAFIC DYKE (POSS LAMP)
63.0					GG	CHL 1							0.1	-	3	0.1			90	5.0	C	0.003	WITH SYENITE XENS / DYKLETS, CHL/
68.0					GG	CHL 1							0.1	-	1	0.1			91			0.003	MAG ALT'N, INCREASING ANK ALT'N
73.0					GG	CHL 1							0.1	-	3	0.1			92			0.015	DOWN UNIT, HEM ALTERED SYENITE
78.0					GG	CHL 1							0.1	-	1	0.1			93			0.003	
83.0					GY	ANK 1			V	65			1	-	3	0.1			94			0.004	
88.0					GY	ANK 2			V	60			0.1	-	3	0.1			95			0.003	-83.0-105.0- TSEDS XENS
93.0					GG	ANK 2							0.1	-	4	0.1			96			0.002	
98.0					GBR	ANK 2							0.1	-	1	0.1			97			0.003	
103.0					GG	ANK 2							0.1	-	2	0.1			98			0.003	
105.0					GBR	ANK 2							2	-	3	0.1			99	2.0	C	0.003	
110.0		m	F	POR	BN	HEM 1		SYP					0.1	-	3	0.1			MAT1600	5.0	C	0.001	
115.0		m	F	POR	BN	HEM 2		SYP					0.1	-	0.1	0.1			01	5.0	C	0.001	

DRILL HOLE NO: 4096-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
516.7		M	VFG	MSV	BRN	CHL2		TSGI					QTZ	CC	CLY	PY			2750	4.9		0.004	
521.7		M	VFG	MSV	BRN	CHL1		TSGI					QTZ	CC	CLY	-			2751	5cm		0.001	
521.7								EOH															End of Hole.

P.A.P. 35362

DRILL HOLE NO: NB16-119

PAGE 8 OF 8

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ☑ opt grams	COMMENTS
383.9		m	vf	MSV	GY	CHL		Tsed					-	1	-	-			2141	5.3		0.001	
433.2		m	fg	MSV	GY	CHL		Tsed					QL	1	-	0.1			2142	39.3		0.002	composite sample.
428.1		m	fg	MSV	YSN	SER		Tsed					1	1	-	0.1			2143	4.9		0.001	3% hairline chloritic stringers
433.1		m	fg	MSV	BrY	SER		Tsed					1	1	-	0.1			2144	5.0		0.002	3% hairline chloritic stringers
438.0		m	fg	MSV	BrY	SER		Tsed					1	1	-	-			2145	4.9		0.001	
442.9		m	fg	MSV	RB	SER		Tsed					QL	1	-	-			2146	4.9		0.001	
482.3		m	fg	MSV	GY	CHL		Tsed					QL	1	-	0.1			2147	39.4		0.003	composite sample.
487.3								EOH															End of Hole.

P.A.P. 35362

DRILL HOLE NO: YD96-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
10								CMB															Bw Casing.
14.8		m	mg	PGR	MB	-		SYN					7	-	-	-			MAT 2752	4.8		0.001	actual measured length: 2.5ft
19.7		m	mg	CLAS	RGN	CALC		MD					3	3	-	3			2753	4.9		0.014	fg diss pyrite, Heterolithic breccia unit (14.8-65.8ft)
24.6		m	mg	CLAS	RGN	CALC		MD					-	3	-	1			2754	4.9		0.014	
28.5		m	mg	CLAS	RGN	CALC		MD					-	1	-	1			2755	4.9		0.006	
34.4		m	fg	PGR	MB	CALC		SYN					3	1	-	3			2756	4.9		0.008	
39.4		m	mg	CLAS	RGN	CALC		MD	F	55			-	1	3	1			2757	5.0		0.006	
44.3		m	mg	CLAS	RGN	CALC		MD					-	1	3	1			2758	4.9		0.008	
49.2		m	mg	CLAS	RGN	CALC		MD					-	1	3	1			2759	4.9		0.001	
53.1		m	mg	CLAS	RGN	CALC		MD					-	3	1	3			2760	4.9		0.012	
59.1		m	mg	CLAS	RGN	CALC		MD					-	1	7	1			2761	5.0		0.016	
65.8		m	fg	FOL	RGN	CALC		MD					-	5	1	1			2762	6.7		0.009	indistinct lava contact.
68.9		m	fg	PGR	RGN	CALC		SYN					-	1	-	-			2763	3.1		0.007	

DRILL HOLE NO: YD16-119

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	ep	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
269.8		m	vfg	MSV	BW	SER1		Tsed					1	-	-	3			2115	4.8		0.019	
265.7		m	vfg	MSV	BW	SER1		Tsed					0.1	-	1	-			2116	4.8		0.004	
270.6		m	vfg	MSV	BW	SER1		Tsed	QV	0			1	1	-	0.1			2117	4.8		0.002	fg diss py assoc with hairline ckl stringers
275.6		m	vfg	MSV	BW	SER1		Tsed					1	-	-	0.1			2118	5.0		0.002	diss vfg py assoc with hairline ckl stringers
280.5		m	vfg	MSV	BW	SER1		Tsed					-	1	-	0.1			2119	4.8		0.002	
285.9		m	vfg	MSV	BW	SER1		Tsed					1	-	0.1	1			2120	4.8		0.021	diss vfg pyrite rel qtz-ank veins.
290.3		m	vfg	MSV	BW	SER1		Tsed					0.1	-	1	-			2121	4.8		0.015	
295.3		m	vfg	MSV	BW	BLI		Tsed					0.1	1	-	1			2122	5.0		0.018	bleach-py alt= along qtz-cc veinlets.
300.2		m	vfg	MSV	BW	BLI		Tsed					1	0.1	+	1			2123	4.8		0.025	alt= along fractures + vein walls.
305.1		m	vfg	MSV	BW	SER1		Tsed					-	1	-	0.1			2124	4.8		0.002	fracture controlled alt= decreasing down hole.
310.2		m	vfg	MSV	BW	SER1		Tsed	C	85			1	-	-	0.1			2125	5.0		0.013	glassy + milky qtz veins
315.0		m	vfg	MSV	GW	-		MD					-	-	-	1			2126	4.8		0.012	mafic dike??
319.9		m	vfg	MSV	GW	-		MD					-	1	-	-			2127	4.8		0.003	

P.A.P. 35362

DRILL HOLE NO: MD16-172

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt/grams	COMMENTS
137.8		m	mg	Cht	Rhy	-		MD					1	3	-	3			2277	4.2		0.004	
142.7		m	fg	Cht	Rhy	-		MD					-	1	-	1			2278	4.2		0.006	
147.6		m	mg	Cht	Rhy	-		MD					-	3	-	1			2279	4.2		0.004	
152.5		m	mg	Cht	Rhy			MD					t	1	-	1			2280	4.2		0.004	
157.5		m	mg	Cht	Rhy			MD					-	3	-	3			2281	5.0		0.006	
162.4		m	mg	Cht	Rhy			MD					-	3	-	3			2282	4.2		0.006	
167.3		m	mg	Cht	Rhy			MD					-	1	3	1			2283	4.2		0.006	
172.2		m	mg	Cht	Rhy			MD					-	1	-	1			2284	4.2		0.006	
177.2		m	fg	Fel	Rhy			MD					-	1	-	1			2285	5.0		0.004	
182.1		m	mg	Cht	Rhy			MD					-	-	3	1			2286	4.2		0.008	fine ank-py veins to ½"
187.0		m	mg	Cht	Rhy			MD					-	1	7	-			2287	4.2		0.005	
191.9		m	mg	Cht	Rhy			MD					-	3	3	1			2288	4.2		0.016	syn Dike 190 - 195ft
196.9		m	fg	Fel	Rhy			MD					-	3	3	py			2289	5.0		0.006	

DRILL HOLE NO: YB26-119

PAGE 4 OF 6

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
137.9		m	vfg	msv	mb	HEM 2		TSch					1	-	3	1			2098	4.9		0.001	
137.8		m	vfg	msv	Bm	SER 2		TSch					-	-	5	-			2099	4.9		0.002	
142.7		m	fg	Pph	mb	HEM 2		SYN					-	-	1	-			2097	4.9		0.001	
147.6		m	fg	Pph	mb	HEM 2		SYN					-	-	3	-			2093	4.9		0.001	
152.5		m	fg	Pph	mb	HEM 2		SYN	QV	30			1	-	5	t			2093	4.9		0.005	
157.5		m	mg	Pph	mb	HEM 2		SYN					1	-	3	0.1			2094	5.0		0.002	
162.4		m	msg	Pph	mb	BLC 2		SYN					1	-	1	3			2096	5.0		0.015	
167.3		m	mg	Pph	mb	BLC 2		SYN					1	-	3	3			2098	4.9		0.055	
172.2		m	mg	Pph	mb	BLC 1		SYN					1	-	1	0.1			2097	4.9		0.001	trace cpy in white qtz vein wk.
177.2		m	mg	Pph	mb	CHL 1		SYN	QV	80			1	-	3	0.1			2098	5.0		0.002	
182.1		m	vfg	msv	Bm	SER 1		TSch					1	-	1	-			2099	4.9		0.017	
187.0		m	vfg	msv	Bm	SER 1		TSch					1	3	-	-			2100	4.9		0.018	
191.9		m	vfg	msv	mb	SER 1		TSch					1	1	-	1			2101	4.9		0.012	

P.A.P. 35362

DRILL HOLE NO: YD16-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
260.8		m	fg	msv	GRY	CAL2		~~DIKE~~ SYN					-	1	-	-			7303	4.9		0.001	
265.7		m	fg	msv	GRY	CAL2		DIKE					-	1	1	-			7304	4.9		0.001	
270.6		m	fg	msv	GRY	CAL2		DIKE					-	1	-	-			2305	4.9		0.001	
275.6		m	fg	FOL	RGN	ANK2		SYN					-	1	3	-			2306	5.0		0.001	heavy penasive chl-ank alt°
280.5		m	fg	FOL	RGN	ANK2		SYN					-	-	3	-			2307	4.9		0.001	occassional porphyritic syn relicts visible.
285.9		m	fg	msv	RGN	ANK2		SYN					1	-	1	-			2308	4.9		0.001	trace qtz-ank-tour veins to ½"
290.3		m	fg	msv	CR	ANK2		SYN					-	-	7	-			2309	4.9		0.001	qtz-ank-chl veins to 6"
295.3		m	fg	FOL	RGN	ANK2		SYN					-	-	5	-			2310	5.0		0.001	ank-rich veins to 3"
300.0		m	fg	msv	GRN	CHL2		SYN					-	-	1	0.1			2311	4.7		0.028	mixed penasive chl-ank alt°
305.1		wk	fg	PGR	RB	ANK1		SYP					1	1	1	-			2312	4.9		0.001	
310.0		m	fg	PGR	RB	ANK1		SYP	QV	40			5	0.1	1	0.1			2313	4.9		0.001	qtz-ank-tour-(py) veins to 1"
315.4		m	fg	PGR	RB	ANK1		SYP					-	1	1	-			2314	5.0		0.001	
319.4		m	fg	PGR	RB	ANK1		SYP	C	45			1	-	3	1			2315	4.9		0.001	2 ank-py veins to 2" with diss pyrite

DRILL HOLE NO: AD 96-118

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓6pt grams	COMMENTS
10.								CMS															Casing. All casing left in place
14.8		m	vfg	MSV	BrV	ITEM 2		Tsed					1	+	1	1			MT 2069	4.8		0.004	
17.7		m	vfg	MSV	BrV	ITEM 2		Tsed					-	-	3	0.1			2065	4.1		0.003	
24.6		m	mg	MSV	BrV	ITEM 2		Tsed					+	1.	1	-			2066	9.1		0.007	
26.3		m	vfg	MSV	GY	CALC		Tsed	C	90			+	3	-	-			2067	1.7		0.005	
31.7		m	fg	PMV	YBV	ANK 3		DIO					+	+	10	-			2068	5.4		0.007	
37.3		m	fg	PMV	GGY	ANK 3		DIO					+	1	3	0.1			2069	5.6		0.004	LFT sym. to inclusion.
39.9		m	vfg	MSV	GY	ANK 1		Tsed					-	5	1	-			2070	2.1		0.001	
44.3		m	vfg	MSV	RB	ITEM 2		Tsed					+	1	7	-			2071	4.9		0.005	
49.2		m	vfg	MSV	RB	ITEM 2		Tsed					+	3	3	1			2072	4.9		0.006	
54.1		m	vfg	MSV	BrV	ITEM 2		Tsed					+	+	7	-			2073	4.1		0.002	
59.1		m	vfg	MSV	BrV	ITEM 2		Tsed					+	1	7	-			2074	5.0		0.004	rare cpy in cc veinlet.
64.0		m	vfg	MSV	BrV	ITEM 2		Tsed					-	-	10	-			2075	4.9		0.003	

DRILL HOLE NO: YD96-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
388.8		m	fg	MSV	DGY	MAG3		SYN					-	5	-	-			2329	4.9		0.001	
393.7		m	fg	MSV	DGY	MAG3		SYN					-	3	-	-			2330	4.9		0.001	
398.6		m	fg	CGT	DGY	MAG3		SYN					-	5	-	-			2331	4.9		0.001	
403.5		m	fg	CGT	DGY	MAG3		SYN					-	3	-	-			2332	4.9		0.006	
408.4		m	fg	CGT	DGY	MAG3		SYN					-	3	5	-			2333	4.9		0.001	
413.4		m	fg	MSV	GRY	MAG3		SYN					-	1	7	-			2334	5.0		0.001	5mm stringer/patchy wt @ 408 ft, 6" ank-chl brx vein @ 411 ft.
418.3		m	fg	MSV	GRY	MAG3		SYN					-	1	7	qtz			2335	4.9		0.001	trace py in ank stringers, 1% only in ank vein @ 418'
423.2		m	fg	MSV	BK	MAG3		SYN					-	3	3	-			2336	4.9		0.001	
428.1		m	fg	MSV	BK	MAG3		SYN					-	1	10	-			2337	4.9		0.001	
433.1		m	fg	MSV	BK	MAG3		SYN					1	-	15	-			2338	5.0		0.030	
438.0		m	fg	MSV	DGY	MAG3		SYN					-	-	10	-			2339	4.9		0.001	
442.9		m	fg	MSV	GRY	AMG3		SYN					-	-	20	-			2340	4.9		0.001	
447.8		m	fg	MSV	GRY	AMG3		SYN					1	-	5	-			2341	4.9		0.006	

DRILL HOLE NO: YD-96-118

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	anx	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
383.0		M	F	SHD	GG	CHL2		TSED	V	35	F	50	2	3	–	3			MAT 116.9	5.0	C	0.014	
388.0					GG	CHL3							0.1	4	–	3			70			0.006	
393.0					GG	CHL2			F	70			3	3	–	1			71			0.012	
398.0					GG	CHL2							0.1	3	–	1			72			0.001	
403.0					GG	CHL2							1	3	–	1			73			0.001	
408.0		M	F	MSV	GG	CHL2		TSED					0.1	2	–	1			74	5.0	C	0.002	- 408.0 - 438.0 - CHL TSEDS WITH RED,
413.0					GG	CHL2							0.1	1	–	2			75			0.024	HEM CLASTS, F-CG SUB PY IN
418.0					GG	CHL2							0.1	1	–	2			76			0.002	MATRX + CLASTS
423.0					GG	CHL2							0.1	0.1	–	2			77			0.001	
428.0					GG	CHL2							0.1	0.1	–	1			78			0.001	
433.0					GG	CHL2							0.1	1	–	1			79			0.001	
438.0					GG	CHL2							3	2	–	1			80			0.001	EOH.

DRILL HOLE NO: 16-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
514.7		m	fg	msv	NB	Hem 1		Tsed					-	-	3	-			2365	4.9		0.003	
521.7		m	fg	msv	NB	Anlk 2		Tsed					-	-	7	-			2366	5.0		0.002	
526.6		m	fg	msv	NB	Anlk 2		Tsed					-	-	5	-			2367	4.9		0.004	
531.5		m	fg	msv	NB	Anlk 2		Tsed					-	-	10	-			2358	4.9		0.004	
536.9		m	msv	PW	NB	Anlk 1		Syp					-	-	1	-			2359	4.9		0.003	
541.3		m	fg	msv	NB	Anlk 2		Syn					-	-	5	-			2360	4.9		0.003	
546.7		m	fg	msv	GY	Cal 2		Tsed					-	3	1	-			2361	4.9		0.005	
551.2		m	fg	msv	GY	Cal 2		Tsed					-	1	-	-			2362	5.0		0.002	
556.1		m	msv	ABR	RB	Anlk 1		Syn					1	-	3	-			2363	4.9		0.001	
561.0		m	fg	msv	RGY	Cal 2		Tsed					-	3	-	-			2364	4.9		0.001	
565.9		m	fg	msv	RGY	Cal 2		Tsed					-	3	-	-			2365	4.9		0.004	
570.9		m	fg	msv	GGY	Cal 2		Tsed					-	3	-	-			2366	5.0		0.004	
575.8		m	fg	msv	GY	Cal 2		Tsed					-	1	-	-			2367	4.9		0.004	

DRILL HOLE NO: YD96-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
388.8		m	fg	msv	DGY	MAG3		SYN					-	5	-	-			2329	4.9		0.001	
393.7		m	fg	msv	DGY	MAG3		SYN					-	3	-	-			2330	4.9		0.001	
398.6		m	fg	CGT	DGY	MAG3		SYN					-	5	-	-			2331	4.9		0.001	
403.5		m	fg	CGT	DGY	MAG3		SYN					-	3	-	-			2332	4.9		0.006	
408.4		m	fg	CGT	DGY	MAG3		SYN					-	3	5	-			2333	4.9		0.001	
413.9		m	fg	msv	GGY	MAG3		SYN					-	1	7	-			2334	5.0		0.001	5mm stringer/patchy mtc @ 402 ft; 6" ank-chl brx vein @ 411 ft.
418.3		m	fg	msv	GGY	MAG3		SYN					-	1	7	0.1			2335	4.9		0.001	trace py in ank stringers, 1% only in ank vein @ 418'
423.2		m	fg	msv	BK	MAG3		SYN					-	3	3	-			2336	4.9		0.001	
428.1		m	fg	msv	BK	MAG3		SYN					-	1	10	-			2337	4.9		0.001	
433.1		m	fg	msv	BK	MAG3		SYN					1	-	15	-			2338	5.0		0.030	
438.0		m	fg	msv	DGY	MAG3		SYN					-	-	10	-			2339	4.9		0.001	
442.9		m	fg	msv	GY	ANK3		SYN					-	-	20	-			2340	4.9		0.001	
447.8		m	fg	msv	GY	ANK3		SYN					1	-	5	-			2341	4.9		0.006	

DRILL HOLE NO: YD96-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
260.8		m	fg	msv	GRY	CALC		DIKE					-	1	-	-			2303	4.9		0.001	
265.7		m	fg	msv	GRY	CALC		DIKE					-	1	1	-			2304	4.9		0.001	
270.6		m	fg	msv	GRY	CALC		DIKE					-	1	-	-			2305	4.9		0.001	
275.6		m	fg	FOL	MGN	ANKC2		SYN					-	1	3	-			2306	5.0		0.001	heavy pervasive chl-ank alt=
280.5		m	fg	FOL	MGN	ANKC2		SYN					-	-	3	-			2307	4.9		0.001	occassional porphyritic syn patches visible.
285.9		m	fg	msv	MGN	ANKC2		SYN					1	-	1	-			2308	4.9		0.001	trace qtz-ank-tour veins to ½"
290.3		m	fg	msv	CR	ANKC2		SYN					-	-	7	-			2309	4.9		0.001	qtz-ank-chl veins to 6"
295.3		m	fg	FOL	MGN	ANKC2		SYN					-	-	5	-			2310	5.0		0.001	ank-rich veins to 3"
300.0		m	fg	msv	GRN	CLRC2		SYN					-	-	1	0.1			2311	4.7		0.028	mixed pervasive chl-ank alt=
305.1		m	fg	PGR	MB	ANKC1		SYP					1	1	1	-			2312	4.9		0.001	
310.0		m	fg	PGR	MB	ANKC1		SYP	QV	40			5	0.1	1	0.1			2313	4.9		0.001	qtz-ank-tour-(py) veins to 1"
315.4		m	fg	PGR	MB	ANKC1		SYP					-	1	1	-			2314	5.0		0.001	
319.4		m	fg	PGR	RB	ANKC1		SYP	C	45			1	-	3	1			2315	4.9		0.001	2 ank-py veins to 2" with class pyrite

P.A.P. 35362

DRILL HOLE NO: MD16-172

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
137.8		m	mg	GMS	Rhy	-		MD					1	3	-	3			2277	4.2		0.004	
142.7		m	mg	GMS	Rhy	-		MD					-	1	-	1			2278	4.2		0.006	
147.6		m	mg	GMS	Rhy	-		MD					-	3	-	1			2279	4.2		0.004	
152.5		m	mg	GMS	Rhy			MD					t	1	-	1			2280	4.2		0.004	
157.5		m	mg	GMS	Rhy			MD					t	3	-	3			2281	5.0		0.006	
162.4		m	mg	GMS	Rhy			MD					-	3	-	3			2282	4.2		0.006	
167.3		m	mg	GMS	Rhy			MD					-	1	3	1			2283	4.2		0.006	
172.2		m	mg	GMS	Rhy			MD					-	1	-	1			2284	4.2		0.006	
177.2		m	fg	FOL	Rhy			MD					-	1	-	1			2285	5.0		0.004	
182.1		m	mg	GMS	Rhy			MD					-	-	3	1			2286	4.2		0.008	huge ankerite veins to ½"
187.0		m	mg	GMS	Rhy			MD					-	1	7	-			2287	4.2		0.005	
191.9		m	mg	GMS	Rhy			MD					-	3	3	1			2288	4.2		0.016	5cm Dike 190 - 195ft
196.9		m	fg	FOL	Rhy			MD					-	3	3	a1			2289	5.0		0.006	

DRILL HOLE NO: YD96-122

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
10.								CAS															Bw Casing.
14.8		m.	mg	Por	NB	—		SYN					7	—	—	—			MAT 2752	4.8		0.001	actual measured length: 2.5ft
19.7		m.	mg	CLAS	RGN	CALC		MD					3	3	—	3			2753	4.9		0.014	fg disc pyrite, Heterolithic Breccia Unit
																							(14.8–65.8ft)
24.6		m.	mg	CLAS	RGN	CALC		MD					—	3	—	1			2754	4.9		0.014	
28.5		m.	mg	CLAS	RGN	CALC		MD					—	1	—	1			2755	4.9		0.006	
34.4		m.	fg.	Por	NB	CALC		SYN					5	1	—	3			2756	4.9		0.008	
39.4		m.	mg	CLAS	RGN	CALC		MD	F	55			—	1	3	1			2757	5.0		0.006	
44.3		m.	mg	CLAS	RGN	CALC		MD					—	1	3	1			2758	4.9		0.008	
49.2		m.	mg	CLAS	RGN	CALC		MD					—	1	3	1			2759	4.9		0.001	
54.1		m.	mg	CLAS	RGN	CALC		MD					—	3	1	3			2760	4.9		0.012	
59.1		m.	mg	CLAS	RGN	CALC		MD					—	1	7	1			2761	5.0		0.016	
65.8		m.	fg.	FOL	RGN	CALC		MD					—	5	1	1			2762	6.7		0.009	indistinct lower contact.
68.9		m.	fg.	Por	RGN	CALC		SYN					—	1	—	—			2763	3.1		0.007	

P.A.P. 35362

DRILL HOLE NO: 4096-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
516.7		M	vfg	msv	bm	chl2		Tsgl					-	3	-	-			2750	4.9		0.004	
521.7		M	vfg	msv	bm	chl1		Tsgl					t	3	-	-			2751	5.0		0.001	
526.7								EOH															End of Hole.

P.A.P. 35362

DRILL HOLE NO: 96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
393.7		m	vfg	msv	Bw	BAL		SYN					-	1	3	-			2275	4.9		0.017	
398.6		m	vfg	msv	Bw	CHL		SYN					-	5	-	-			2276	4.9		0.002	1" cc-cpy vein @ 397 ft
403.5		m	vfg	msv	Bw	CAL		SYN					-	5	-	-			2277	4.9		0.002	
408.9		m	vfg	msv	Bw	ANK		SYN					-	1	3	-			2278	4.9		0.004	
413.9		m	vfg	msv	Bw	ANK		SYN					-	1	3	-			2279	5.0		0.005	
418.3		m	vfg	msv	Bw	CHL		SYN					-	5	1	1			2280	4.9		0.013	diss vfg py with chl-cc alt°
423.2		m	vfg	msv	RB	CHL		SYN					-	1	-	-			2281	4.9		0.003	
428.1		m	vfg	msv	RB	ANK		SYN					-	-	5	-			2282	4.9		0.003	
433.1		m	vfg	msv	bRw	CAL		Tsed					-	1	1	-			2283	5.0		0.009	
438.0		m	vfg	msv	bRw	CAL		Tsed					-	-	1	-			2284	4.9		0.003	
443.9		m	vfg	msv	bY	CAL		Tsed					1	1	1	0.1			2285	4.9		0.007	
448.8		m	vfg	msv	RB	CAL		SYN					-	1	3	-			2286	4.9		0.018	
457.8		m	vfg	msv	bw	CAL		Tsed					-	3	-	-			2287	5.0		0.006	Strong pervasive chl-cb- cc alt°

P.A.P. 35362

DRILL HOLE NO: YD96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gh	cc	calc	METALLIC Py			SAMPLE #	WIDTH	T	AU ☑ opt grams	COMMENTS
265.7		m	vfg	MSV	LBM	CHL3		DIKE					-	-	5	-			2199	4.9		0.002	
270.6		m	vfg	MSV	LBM	CHL3		DIKE					-	-	15	-			2200	4.9		0.004	
275.6		m	mg	PGR	MB	ANK1		SYN					-	-	5	0.1			2201	5.0		0.001	
280.5		m	fg	PGR	MB	ANK1		SYN					-	1	-	-			2202	4.9		0.001	
285.4		m	mg	PGR	MB	CALT		SYN					-	1	-	-			2203	4.9		0.001	
290.3		m	fg	PGR	MB	CALT		SYN					-	1	1	-			2204	4.9		0.001	trace gh-tourmaline stringers
295.3		m	fg	MSV	MB	ANK2		SYN					-	1	7	-			2205	5.0		0.002	
300.2		m	fg	COT	RBW	ANK3		SYN					-	5	3	0.1			2206	4.9		0.001	
305.1		m	fg	MSV	RBY	BANK2		SYN					1	5	-	-			2207	4.9		0.003	irregular gh-ank-tour vein to 1" @ 303.5 ft.
310.0		m	fg	COT	RBW	ANK2		SYN					1	-	3	0.1			2208	4.9		0.003	trace stringer pyrite
315.0		m	fg	COT	RBW	ANK2		SYN					-	1	10	-			2209	5.0		0.003	½ ank-py vein (30° TCA) @ 314 ft
319.9		m	fg	MSV	MB	ANK2		SYN					3	-	5	-			2210	4.9		0.002	irregular gh-ank-tour-py patch @ 318.5 ft.
324.8		m	vfg	MSV	BY	-		TRGL					-	1	3	-			2211	4.9		0.001	trace diss CPY

DRILL HOLE NO: YD96-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
137.8		m	vfg	FOL	GR	CHL		MD	F	60			–	3	1	0.1			21733	4.9		0.005	
142.7		m	vfg	FOL	RBR	CHL		MD					–	1	–	1			21734	4.9		0.004	syenitic xenoliths becoming present again
146.6		m	vfg	FOL	BRN	ANK 1		MD					–	1	1	1			21735	4.9		0.005	diss fg pyrite within 1ft of lower contact
151.2		m	vfg	FOL	BRN	ANK 2		MD					–	1	7	–			21736	3.6		0.004	6 inch ank-chl vein @ 150.5 ft
157.5		m	fg	FOL	RBR	ANK 3		SYN					–	–	3	0.1			21737	6.3		0.004	pervasive ank-chl alt=
162.9		m	fg	FOL	RBR	ANK 3		SYN					–	3	1	–			21738	4.9		0.003	
167.3		m	vfg	FOL	YBR	ANK 3		SYN					1	–	5	–			21739	4.9		0.001	
172.2		m	vfg	FOL	YBR	ANK 3		SYN					–	–	10	0.1			21800	4.9		0.001	ank-py-(qtz) veins to 6" wide common, trace qtz-tour veinlets.
177.2		m	fg	FOL	RB	ANK 2		SYN					–	–	5	0.1			21801	5.0		0.001	a few ank-py-qtz veins to 3"
182.1		m	fg	FOL	RB	ANK 2		SYN	V	65			–	–	3	0.1			21802	4.9		0.001	a few ank-py veins
187.0		m	fg	FOL	RB	ANK 1		SYN					–	–	1	–			21803	4.9		0.001	
191.9		m	fg	FOL	RB	ANK 2		SYN					–	–	1	–			21804	4.9		0.001	a few ankerite veins to 2"
196.9		m	fg	FOL	RB	ANK 2		SYN	QV	15			3	–	1	1			21805	5.0		0.025	last 2' of sample contains 3 qtz veins + 3% PY

P.A.P. 35362

DRILL HOLE NO: MDG-121

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
14.								CAS															casing, All casing left in place.
14.8		m	vfg	MSV	Pi	—		MD					—	—	—	—			MAT 2148	0.8		0.001	indicated casing depth: 3m (10ft)
19.7		m	vfg	FOL	GRY	CAL 3		MD					—	3	—	1			2149	4.9		0.005	Heterolithic Unit, Breccia / fragmental textured - pink SYN frags in chloritic matrix
24.6		m	vfg	FOL	brn	CAL 3		MD					—	1	—	1			2150	4.9		0.006	diss fg-mg sublethal pyrite
29.5		m	vfg	QTZ	NB	HEM		MD					3	1	3	1			2151	4.9		0.004	weak hem alt= along qtz-chl veins/patches
34.9		m	vfg	SHR	brn	CAL 3		MD					—	3	1	1			2152	4.9		0.006	diss fg pyrite
39.4		m	vfg	FOL	Rbrn	CAL 3		MD					—	1	3	3			2153	5.0		0.010	anhedrite stringers + patches, diss fg pyrite
44.3		m	vfg	FOL	Rbrn	CAL 3		MD					—	1	5	3			2154	4.9		0.006	
51.2		m	vfg	FOL	brn	CAL 3		MD	C	60			—	1	3	3			2155	6.9		0.009	diss vfg pyrite, locally 10% / 6 inches.
54.1		m	fg	Pbrn	NB	ANK 1		SYN ANS					—	—	3	—			2156	2.9		0.001	
59.1		m	fg	Pbrn	NB	ANK 1		SYN ANS					—	—	1	—			2157	5.0		0.001	
64.0		m	fg	Pbrn	NB	ANK 1		SYN ANS					—	—	1	—			2158	4.9		0.001	a few chloritic xenoliths
68.9		m	fg	Pbrn	NB	ANK 1		SYN ANS					—	—	3	—			2159	4.9		0.001	

DRILL HOLE NO: YD96-122

PAGE 11 OF 11

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
580.7		m	fg	msv	GY	CAL2		Tsed					-	1	-	-			2368	4.9		0.003	
585.6		m	fg	msv	GRN	CAL2		Tsed					-	5	-	-			2369	4.9		0.002	
590.6		m	fg	msv	GRN	CAL2		Tsed					-	3	-	-			2370	5.0		0.006	
595.5		m	fg	msv	BN	CAL2		Tsed					-	1	-	-			2371	4.9		0.017	
600.4		m	fg	msv	RB	HEM2		Tsed					1	1	-	-			2372	4.9		0.005	
605.3		m	fg	msv	RB	HEM2		Tsed					3	1	-	1			2373	4.9		0.011	1" qtz-tour vein @ 603ft, milky QV's, vvfg class Py.
610.2		m	fg	msv	RB	HEM2		Tsed					1	5	-	1			2374	4.9		0.008	vvfg class + stringer Py, 1/4" CAL stringer @ 606'
615.1		m	fg	PPH	BN	CAL1		SHP					-	7	-	-			2375	4.9		0.005	mafic and feldspar phenos.
620.1		m	fg	PPH	BN	CAL1		SHP					-	10	-	-			2376	4.9		0.002	mafic + feldspar phenos.
620.1								EOH															End of Hole.

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 20/96 DRILL HOLE NO: YD-96-123

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3077.87	2305.26	7930.34	305.1'	2300E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°												
206.7	001	-40°												

START DATE: SEPT 20, 1996

FINISH DATE: SEPT 20, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR5372 (23%), MR5376 (77%)

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: Test for Central Zone Mineralization.

RESULTS: 0.048 opt / 78.7 ft (uncut, 132.9 - 211.6ft)

WHY HOLE TERMINATED: Normal termination at target depth.

CORE SIZE: BQ

CASING: Pulled

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION): BUNKER, MCM MINESITE

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-123

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Ank	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
16.3								CAS															- 0 - 16.3 - CASING
19.7		m	F	MSV	GBR	HEM 1		TSED					1	2	-	0.1			MA71531	3.4	C	0.003	
24.6					BN	HEM 1							0.1	2	-	0.1			22	4.9	C	0.004	- LIM STAINED
29.5					GBR	CC 1							0.1	1	-	0.1			23	4.9	C	0.016	
34.5					BN	HEM 1							0.1	1	-	0.1			24	5.0	C	0.004	
39.4					GY	ANK 1							0.1	0.1	2	0.1			25	4.9	C	0.003	
44.3					BN	HEM 1							0.1	0.1	1	0.1			26	4.9	C	0.003	- WK ANK/MAG ALT'N, 10% MAFIC DYKE XENS
49.2					GBR	HEM 1							0.1	0.1	1	0.1			27	4.9	C	0.001	- WK ANK/CHL ALT'N, 5% MAFIC DYKE XENS.
54.2					GG	CHL 1							0.1	-	2	0.1			28	5.0	C	0.003	- 2.7' CHL MAFIC DYKE
59.1					GY	ANK 1							0.1	-	2	0.1			29	4.9	C	0.010	- BX SEDS AT TOP OF SECTION, CHL STWK
64.0					BN	HEM 1							0.1	2	0.1	0.1			30	4.9	C	0.001	- WK ANK ALT'N AT TOP OF SECTION, 1.0' SYENITE DYKE
68.9					BN	HEM 1							0.1	1	-	0.1			31	4.9	C	0.002	
73.8					BN	CC 1							0.1	1	-	0.1			32	4.9	C	0.004	- WK HEM ALT'N
78.7					GBR	CC 1							0.1	1	-	0.1			33	4.9	C	0.001	- WK HEM ALT'N
83.7					BN	CC 1							0.1	1	-	0.1			34	5.0	C	0.001	- WK HEM ALT'N
88.6					BN	HEM 1							0.1	1	-	0.5			35	4.9	C	0.002	- WK CC ALT'N
93.5					GBR	CC 1							0.1	1	-	1			36	4.9	C	0.002	- VFG DISSEM PY, WK HEM ALT'N
98.4		m	F	POR	RB	HEM 2		SYP					1	1	-	0.5			37	4.9	C	0.001	- SYENITE DYKE
101.4		m	F	POR	RB	HEM 2		SYP	V	50	V	35	1	2	-	0.5			38	3.0	C	0.003	
103.4		m	F	MSV	BN	HEM 1		TSED					0.1	1	-	0.5			39	2.0	C	0.001	- WK CC ALT'N
108.3					GBR	CC 1							0.1	2	-	0.1			40	4.9	C	0.004	- WK HEM ALT'N
113.2					BN	HEM 1							0.1	1	-	0.1			41	4.9	C	0.001	- WK CC ALT'N

PAP 35362

DRILL HOLE NO: VD-96-123

Average: 0.048 opt Au / 78.7 ft (raw)
or 0.037 opt / 78.7' (cut to 0.19 opt)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Anh	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
118.1		m	F	MSV	PB	HEM 2		TSED					0.1	1	-	0.1			MAT 1542	4.9	C	0.001	
123.0					BN	HEM 2			V	35			1	2	-	0.1			43	4.9	C	0.001	
128.0					BN	HEM 1							1	2	-	0.5			44	5.0	C	0.008	
132.9		m	F	POR	RB	HEM 2		SYP	V	35			1	2	-	0.1			45	4.9	C	0.001	- 129.5 - 137.0 - SYENITE DYKE
137.8		m	F	POR	RB	HEM 2		SYP					1	1	-	0.1			46	4.9	C	0.032	
142.7		m	F	MSV	BN	HEM 1		TSED					2	1	-	1			47	4.9	C	0.016	- WK CC ALT'N
147.6					GBR	CC 1							1	2	-	0.1			48	4.9	C	0.004	- WK HEM ALT'N
152.6					GBR	HEM 1							1	2	-	0.1			49	5.0	C	0.024	- WK CC ALT'N, 1.0' WK SHEAR ZONE
157.5					BN	HEM 1							0.1	2	-	1			50	4.9	C	0.010	
162.4					BN	HEM 2							0.1	2	-	2			51	4.9	C	0.012	- VF-FG DISSEM PY
167.3					BN	HEM 1							2	2	-	2			52	4.9	C	0.012	
172.3					BN	HEM 1			V	15			5	1	-	2			53	5.0	C	0.044	
177.2					BN	HEM 1							2	1	-	1			54	4.9	C	0.018	
179.2					BN	HEM 1							0.1	1	-	2			55	2.0	C	0.015	- WK CC ALT'N
182.1		m	F	POR	BN	HEM 1		SYP	V	40			1	1	-	1			56	2.9	C	0.033	
187.0					GAR	HEM 1							2	2	-	2			57	4.9	C	0.023	- 2.0' MAFIC DYKE XCNS.
192.0					RB	HEM 2			V	35			4	1	-	3			58	5.0	C	0.367	- TR CPY IN QZ VLET
196.9					RB	HEM 2							6	1	-	2			59	4.9	C	0.053	
201.8					BN	HEM 1			V	25			2	1	-	3			60	4.9	C	0.030	
206.7		m	F	MSV	BN	HEM 1		TSED					2	1	-	2			61	4.9	C	0.062	
211.6		m	F	MSV	RB	HEM 2		TSED	V	30			5	1	-	3			62	4.9	C	0.036	

DRILL HOLE NO: YD-96-123

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
216.5		M	F	MSV	BN	HEM 1		TSED					5	2	–	3			MAT1563	4.9	C	0.018	
221.5					BN	HEM 1			V	30			1	1	–	2			64	5.0	C	0.012	
226.4					BN	HEM 1							0.1	2	–	1			65	4.9	C	0.009	
231.3					BN	HEM 1			V	35			5	2	–	3			66	4.9	C	0.022	
236.2					BN	HEM 1							0.1	1	–	0.1			67	4.9	C	0.010	
241.2					BN	HEM 1							2	1	–	0.1			68	5.0	C	0.015	- 2.0' MAFIC DYKE
246.1					GRR	MAG 1							0.1	1	–	0.1			69	4.9	C	0.010	- WK HEM / CC ALT'N
251.0					BN	HEM 1							1	4	–	0.5			70	4.9	C	0.006	
255.9					RB	HEM 1			V	30			2	1	–	0.1			71	4.9	C	0.004	
260.8					BN	HEM 1							0.1	2	–	0.5			72	4.9	C	0.010	- 1.0' MAFIC DYKE
265.7					BN	HEM 1							0.1	2	–	0.1			73	4.9	C	0.004	
270.7					BN	HEM 1							0.1	1	–	0.1			74	5.0	C	0.003	
275.6					GY	MAG 1							0.1	1	–	0.1			75	4.9	C	0.004	
280.5					GY	MAG 1							1	2	–	0.5			76	4.9	C	0.004	
285.4					BN	HEM 1							0.1	1	–	0.1			77	4.9	C	0.005	- 0.5' CHL SHEAR ZONE
290.4					BN	HEM 1							0.1	1	–	0.1			78	5.0	C	0.003	
295.3					RB	HEM 2							1	3	–	0.1			79	4.9	C	0.027	- 0.5' CHL SHEAR
300.2					BN	HEM 1							0.1	3	–	0.1			80	4.9	C	0.004	
305.1					BN	HEM 1							0.1	1	–	0.1			81	4.9	C	0.004	GOH.

PAP 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 26/96 DRILL HOLE NO: YD-96-124

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2811.16	2299.66	7902.53	598.0'	2300E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°												
208	001	-42°												
408	357	-40°												
558	358	-39°												

START DATE: SEPT 25/1996

FINISH DATE: SEPT 26/1996

TOWNSHIP: POWELL

CLAIM NO.: MR5372 (70%), MR5376 (30%)

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: test for central Zone.

RESULTS: 0.053 opt/17.0ft (11-28.0ft), 0.037 opt/20.4ft (236-256.4ft), 0.047 opt/28.0ft (365-393.0ft), 0.097 opt/10ft (458-468ft)

WHY HOLE TERMINATED: Normal termination at target depth.

CORE SIZE: BQ

CASING: recovered

HOLE CEMENTED: NO

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION): BUNKER, NCM MINESITE

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-124

Average = 0.053 opt Au / 17.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	Ank	METALLIC py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
11.0								CAS															- 0 - 11.0 - CASING
13.0		m	F	PDR	BG	HEM 2		SYP	V	50			1	8	-	1			MAT 1723	2.0	C	0.024	- 1.0' SYENITE IN TSEDS, TOURM? IN FRACS.
18.0		m	F	MSV	GG	cc 2		TSED					1	3	-	2			24	5.0	C	0.066	- 0.5' SYENITE, MN MAFIC DYKES
23.0		m	F	PDR	BN	HEM 1		SYP					0.1	3	-	2			25	5.0	C	0.046	
28.0					RB	HEM 2							0.1	3	-	2			26	5.0	C	0.058	
32.0					BN	HEM 2			V	35			0.1	5	-	1			27	4.0	C	0.012	- cc VLETS UP TO 1" WIDE
34.5					BN	HEM 2							0.1	3	-	0.1			28	2.5	C	0.001	
38.0		m	F	MSV	GG	cc 2		DYKE					0.1	1	-	0.1			29	3.5	C	0.001	- 34.5 - 93.0 - MAFIC DYKE (porphyritic) WITH TSED
43.0					GY	cc 2							0.1	1	-	0.1			30	5.0	C	0.001	XENS/PATCHES, MN SYENITE XENS/DYKLETS
48.0					GG	cc 1			V	40			0.1	4	-	0.1			31			0.008	AT TOP OF UNIT, cc/CHL ALT'N, WK MAG
53.0					GG	cc 1							0.1	1	-	0.1			32			0.004	ALT'N
58.0					GG	cc 1							0.1	1	-	0.1			33			0.002	
63.0					GG	cc 1		TSED					0.1	3	-	0.1			34			0.003	
68.0					GG	cc 1		DYKE					0.1	0.1	-	0.1			35			0.002	- MN LIM STAINING
73.0					GG	cc 1							0.1	1	-	0.1			36			0.001	
78.0					GG	MAG 1							0.1	0.1	-	0.1			37			0.009	- BLACK TOURM? / MAG SPECKS IN FRACS
83.0					GG	cc 1							0.1	1	-	0.1			38			0.004	
88.0					GBR	HEM 1			V	20			0.1	8	-	0.1			39			0.001	
93.0					GY	cc 1			V	40			0.1	3	-	0.1			40			0.004	

P.A.P. 35362

DRILL HOLE NO: YD-96-124

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
98.0		m	F	MSV	GBR	HEM 1		TSED					0.1	1	–	0.1			MAT1741	5.0	C	0.004	– TSEDS WITH MAFIC DYKE XENS.
103.0					BN	HEM 1			V	30			1	8	–	0.1			42	5.0	C	0.003	
108.0					BN	HEM 1							0.1	2	–	0.1			43	5.0	C	0.001	– 1.0' MAFIC DYKE / LITHIC BX?
113.0		m	F	BX	GG	CC 1		LITHIC BX	V	55			1	3	–	0.1			44	5.0	C	0.001	– 109.5 – 119.5 – LITHIC BX, CC/CHL/MAG ALT'N
118.0		m	F	BX	GG	CC 1		LITHIC BX					0.1	2	–	0.1			45	5.0	C	0.001	
123.0		m	F	MSV	BN	CC 1		TSED					0.1	2	–	0.1			46	5.0	C	0.002	– WK HEM/MAG ALT'N
128.0					BN	CC 1			V	50			0.1	2	–	0.1			47			0.001	
133.0					GBR	CC 1							0.1	2	–	0.1			48			0.002	
138.0					BN	HEM 1							0.1	1	–	0.1			49			0.001	– WK CC ALT'N
143.0					BN	HEM 1			V	40			1	2	–	0.1			50			0.010	
148.0					BN	HEM 1							2	1	–	0.1			MAT2501	5.0	C	0.010	
153.0		m	F	MSV	GG	CHL 2		MAFIC DYKE	V	40			2	3	–	0.1			02	5.0	C	0.004	– CHL/CC ALT'N, WK FOL/SHD. 40°-50° TCA
158.0		m	F	BX	GBR	CC 1		TSED	V	55			1	1	–	0.1			03	5.0	C	0.012	– 2.5' BX DYKE/TSEDS
163.0				MSV	BN	HEM 1			V	25			2	2	–	0.1			04			0.001	
168.0					GBR	HEM 1							1	1	–	0.1			05			0.001	– MAFIC DYKE XENS.
173.0					BN	HEM 1							0.1	2	–	0.1			06			0.004	– 171.5 – 179.0 – SYENITE DYKE
178.0				PGR	BN	HEM 2		SYP	V	40			1	2	–	0.1			07			0.001	
183.0		m	F	BX	GG	MAG 1		LITHIC BX					0.1	1	–	0.1			08	5.0	C	0.002	– CC/CHL/MAG ALT'N, MAFIC DYKE?
188.0						CHL 2							1	2	–	0.1			09	5.0	C	0.001	
193.0						CHL 2							1	1	–	0.1			10	5.0	C	0.001	

DRILL HOLE NO: YD-96-124

Average = 0.037 opt Au/20.4 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
198.0		m	F	MSV	BN	HEM1		TSGD					1	2	-	0.1			MAT 2511	5.0	C	0.001	- MN MAFIC XEN. - HEM/CC/MAG ALT'N
203.0					BN	HEM1			V	25			2	1	—	0.1			12			0.001	
208.0					BN	HEM1			V	25			1	1	-	0.1			13			0.001	
213.0					BN	HEM1							1	2	-	1			14			0.001	- MAFIC DYKE XENS.
218.0					BN	HEM1							1	2	-	0.1			15			0.004	
223.0					BN	HEM1		SYN?	V	60			1	3	-	0.1			16			0.001	
228.0					BN	HEM1		SYN?	V	50			1	2	-	0.1			17			0.001	
233.0					BN	HEM1		SYN					0.1	2	-	0.1			18			0.018	- 1.0' LAMP DYKE
236.0					BN	HEM1			V	45	V	60	2	2	-	1			19	3.0	C	0.001	- TR CPY IN QZ/CC VLET
238.0					BN	HEM1			V	25			2	2	-	0.1			20	2.0	C	0.059	- VFG DISSEM PY
240.0					BN	HEM2			V	15			2	2	-	0.1		VG	21	2.0	C	0.026	- 1 SPECK VG IN QZ/CC VLET
242.0					BN	HEM2			V	55			1	1	-	0.5			22	2.0	C	0.001	
247.0					BN	HEM1							0.1	2	-	0.1			23	5.0	C	0.004	- MAFIC DYKE XENS.
252.0					RB	HEM2							0.1	2	-	0.1			24	5.0	C	0.004	- 1.0' CHL LAMP.
256.4					BN	HEM1							1	2	-	0.1			25	4.6	C	0.089	
259.0		m	F	MSV	GG	CHL1		LAMP.					0.1	2	-	0.1			26	2.6	C	0.004	- 256.4 - 268.0 - LAMP DYKE, WK-MOD
263.0		m	F	MSV	GG	CHL1		LAMP.	V	65			0.1	3	-	0.1			27	4.0	C	0.012	CHL/CC ALT'N, WK MAG ALT'N
268.0		m	F	MSV	GG	CHL2		LAMP.					1	2	—	0.5			28	5.0	C	0.012	
273.0		m	F	MSV	RB	HEM2		SYN					1	4	-	0.1			29	5.0	C	0.001	
278.0		m	F	MSV	RB	HEM3		SYN					0.1	3	-	0.1			30	5.0	C	0.001	
281.0		m	F	MSV	RB	HEM2		SYN					1	3	-	0.1			31	3.0	C	0.001	

DRILL HOLE NO: YD-96-124

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Ank	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
283.0		m	F	msv	BN	HEM1		TSEDS?					0.1	2	-	0.1			MAT2532	3.0	<	0.001	- 281.0 - 303.0 - TSEDS / SYN?
288.0					BN	HEM1							0.1	1	-	0.1			33	5.0	<	0.006	
293.0					GBR	CC1							0.1	1	-	1			34			0.007	- WK HEM/CHL ALT'N, VFG DISSEM PY
298.0					GG	CC1							0.1	1	-	0.1			35			0.004	
303.0					GBR	CC1							0.1	3	-	0.1			36			0.001	
308.0		m	F	BX	GG	CHL1		LITHIC BX					1	3	-	0.1			37	5.0	<	0.003	- 303.0 - 324.5 - BX MAFIC DYKE / TSEDS,
313.0				BX	GY	CC1							0.1	2	-	0.1			38			0.048	CHL / CC / MAG ALT'N, SYENITE / MAFIC
318.0				BX	GBR	CC1							1	4	-	0.1			39			0.003	DYKE AT END OF SECTION WITH WHITE CC/DOL?
323.0				BX	GG	MAG1							0.1	3	-	0.1			40			0.006	SPECKS
324.5				BX	GG	MAG1							0.1	1	-	0.1			41	1.5	<	0.001	
327.5		m	F	POR	RB	HEM2		SYP					1	1	-	1			42	3.0	<	0.006	
330.5		m	F	POR	RB	HEM3		SYP					1	1	-	2			43	3.0	<	0.008	
333.0		m	F	BX	GG	MAG2		DYKE					0.1	2	-	0.1			44	2.5	<	0.001	- 330.5 - 347.0 - SYENITE / MAFIC DYKES
338.0		m	F	BX	GG	MAG2		DYKE					0.1	3	-	0.5			45	5.0	<	0.008	XENS., WHITE CC/DOL PBLASTS/STGS,
343.0		m	F	POR	GBR	CC1		SYP					1	3	-	0.1			46	5.0	<	0.001	CC/CHL/MAG ALT'N, WK HEM ALT'N IN
348.0		m	F	BX	GY	MAG2		DYKE					0.1	3	-	0.5			47	5.0	<	0.008	SYENITE
353.0		m	F	POR	RB	HEM2		SYP	V	K			2	1	-	0.1			48	5.0	<	0.001	
358.0		m	F	POR	RB	HEM2		SYP					0.1	1	-	0.1			49	5.0	<	0.001	
360.5		m	F	POR	RB	HEM2		SYP					1	2	-	0.1			50	2.5	<	0.008	

DRILL HOLE NO: YD-96-124

Average = 0.047 opt Au / 28.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	Anhc	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
365.0		m	F	BX	GG	MAG3		DYKE					0.1	2	–	1			MAT2551	4.5	C	0.008	– MAG / CC / CHL ALT'N, WHITE CC
369.5		m	F	BX	GG	MAG3		DYKE					1	3	–	1			52	4.5	C	0.028	SPECKS, POSS LAM AT TOP OF SECTION
																							– PY CONC NEAR CONTACTS WITH SYP
373.0		m	F	POR	RD	HEM2		SYP					1	3	–	4			53	3.5	C	0.032	
378.0		m	F	POR	RB	HEM2		SYP					2	2	–	3			54	5.0	C	0.026	
383.0		m	F	POR	BN	HEM1		SYP	V	15			2	2		1			55	5.0	C	0.014	– MAG ALT'N
388.0		m	F	MGV	GBR	CC1		TSED					1	2	–	1			56	5.0	C	0.030	– WK CC / MAG, HEM ALT'N
393.0					GY	CC1							0.1	1	–	0.1			57			0.148	
398.0					GBR	CC1							0.1	2	–	0.1			58			0.001	
403.0					BN	HEM1							1	1	–	0.1			59			0.001	
408.0					GBR	CC1							0.1	5	–	0.1			60			0.006	
413.0					GBR	CC1							1	1	–	1			61			0.006	
418.0					GBR	CC1							2	1	–	0.5			62			0.024	
423.0					GBR	CC1							0.1	1	1	0.5			63			0.026	– WK HEM ALT'N
428.0					GBR	CC1							4	1	1	0.1			64			0.012	
433.0					BN	MAG1							2	1	1	0.1			65			0.001	
438.0					GY	CC1							0.1	1	0.1	0.1			66			0.001	
443.0					BN	CC1							0.1	0.1	0.1	0.1			67			0.006	
448.0					GBR	CC1							1	1	–	1			68			0.015	
453.0					BN	HEM1							1	0.1	2	0.1			69			0.009	
458.0					BN	HEM1			V	15			2	1	–	0.1			70			0.001	
463.0		m	F	POR	RB	HEM2		SYP					0.1	1	1	2			71	5.0	C	0.153	Average = 0.097 opt Au / 10.0 ft
468.0		m	F	POR	RB	HEM2		SYP					3	1	0.1	2			72	5.0	C	0.040	

DRILL HOLE NO: YD-96-124

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	mafic	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
473.0		m	F	POR	RB	HEM 2		SYP					2	1	3	1			MAT 2573	5.0	C	0.020	
478.0		m	F	MSV	BN	HEM 1		TSED					0.1	1	1	0.1			74	5.0	C	0.010	
483.0					BN	HEM 1							0.1	1	–	0.1			75			0.001	- wk cc /MAG ALT'N
488.0					BN	MAG 1							1	2	–	0.1			76			0.001	
493.0					BN	MAG 1							0.1	2	–	0.1			77			0.001	
498.0					GBR	MAG 2							0.1	3	–	0.1			78			0.001	
518.0		m	F	MSV	BN	CC 1		TSED					0.1	2	–	0.1			79	20.0	G	0.001	- wk HEM /MAG ALT'N
538.0		m	F	MSV	BN	HEM 1		TSED					0.1	2	–	0.1			80	20.0	G	0.008	– wk cc ALT'N
543.0		m	F	MSV	BN	HEM 1		TSED					0.1	1	–	0.1			81	5.0	C	0.006	
548.0		m	F	MSV	BN	HEM 1		TSED					0.1	1	–	0.5			82	5.0	C	0.014	
568.0		m	F	MSV	GY	MAG 1		TSED					0.1	2	–	0.1			83	20.0	G	0.001	
573.0		m	F	MSV	GY	MAG 1		TSED					0.1	1	–	0.5			84	5.0	C	0.004	
578.0					GY	MAG 1							0.1	1	–	1			85			0.004	
583.0					BN	HEM 1			V	60			1	2	–	0.5			86			0.001	
588.0					GBR	MAG 1							0.1	2	–	0.5			87			0.001	
593.0					BN	MAG 1							0.1	2	–	0.1			88			0.005	
598.0					GY	MAG 1							0.1	2	–	0.1			89			0.005	EOH.

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Bressacco DATE LOGGED: Sept 11, 1996 DRILL HOLE NO: YB96-125

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2784.22	4135.62	7952.90	600.4 ft	4150E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-73												
206	004	-69												
413	006	-69												
600	009	-68°												

START DATE: Sept 6, 1996

FINISH DATE: Sept 10, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5375

DRILLING CONTRACTOR: Bernt DD, Val d'Or

PURPOSE: Assay verification + geotechnical sampling - Boundary Pit

RESULTS: 0.079 opt Au / 253.9ft (159.5 - 413.4ft, raw data)
- 0.059 opt / 253.9 ft (cut to 0.19)

WHY HOLE TERMINATED: termination in Hem alt'd Tsed, no qtz or pyrite.

CORE SIZE: BQ

CASING: all casing recovered

HOLE CEMENTED: NO

NO. OF ASSAYS: _____

NO. OF ICP: _____

NO. OF WRA: _____

REJECTS/PULPS SAVED: All rejects stored @ Schumacher minesite.

CORE STORED (LOCATION): Bunker, Mcon Minesite.

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD96-125

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
70.0								CAS															CASING. All casing recovered
74.9		B	vfg	FOL	GN	ANK2		VMV					-	-	3	-			AX36526	4.9		0.001	
78.7		B	vfg	FOL	GN	ANK1		VMV					-	-	3	-			36527	3.8		0.001	
83.6		B	vfg	FOL	GN	ANK2		VMV					-	-	3	01			36528	4.9		0.005	some qtz-ser alt'n
88.6		B	vfg	CO7	GN	ANK3		VMV					-	-	20	-			36529	5.0		0.002	abundant anhedritic patches
93.5		M	vfg	CO7	GN	ANK3		VMV					-	-	30	-			36530	4.9		0.006	patchy anhedrite
98.4		M	vfg	FOL	GN	ANK2		VMV	F	30			-	-	15	-			36531	4.9		0.002	
103.3		M	vfg	FOL	VGN	SER?		VMV					-	-	10	-			36532	4.9		0.006	indistinct gradational contact with sericite
108.3		M	vfg	MSV	MGN	CHL1		SVN					1	-	5	-			36533	5.0		0.001	weak chloritic stringers
113.2		M	vfg	MSV	MGN	CHL1		SVN					-	-	3	-			36534	4.9		0.002	
118.1		M	vfg	MSV	MB	ANK1		SVN	QV	70			1	-	3	-			36535	4.9		0.005	1" qtz vein @ 116ft, weak chl stringers
123.0		M	vfg	MSV	MB	ANK1		SVN					1	3	7	-			36536	4.9		0.001	
128.0		M	vfg	MSV	MB	HEM1		SVN					-	3	5	-			36537	5.0		0.001	

P.A.P. 35362

DRILL HOLE NO: YAM-125

PAGE 3 OF 10

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	mt	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
132.9		m	vfg	MSV	NB	HEM 1		SHW					-	5	1	0.1			36538	4.9		0.003	trace cpy in cc veinlets
137.8		m	vfg	MSV	NB	Ank 1		SHW					-	5	1	-			36539	4.9		0.002	LIMS xenolith 136.5 – 141 ft
147.7		m	vfg	MSV	NB	Ank 1		SHW					1	3	-	1			36540	4.9		0.030	
157.6		m	vfg	MSV	NB	Ank 2		SHW	QV	65			3	1	5	1			36541	4.9		0.014	4" qtz vein @ 144 ft
162.5		m	vfg	MSV	NB	Ank 1		SHW					1	-	3	-			36542	4.9		0.001	intense pervasive chl alt'n, trace cpy in 5mm QV.
172.5		m	vfg	MSV	NB	Ank 2		SHW					-	-	3	0.1			36543	5.0		0.001	well developed ank crackle texture
182.9		m	vfg	MSV	NB	Ank 2		SHW					3	1	7	1			36544	4.9		0.022	vfg diss pyrite
187.3		m	fg	PWR	NB	HEM 3		SHP					5	-	3	3			36545	4.9		0.032	
192.2		m	fg	PWR	NB	HEM 3		SHP					3	-	1	1			36546	4.9		1.350	vfg found by core splitter inside sample trace stringer pyrite, coarse patchy pyrite in QVE 172 ft ½" vein of unknown black mineral @ 168 ft (30° TCA)
197.2		m	mg	PWR	NB	HEM 3		SHP					3	-	1	3			36547	5.4		0.023	
202.1		m	fg	PWR	NB	HEM 3		SHP	QV	65			5	-	3	1			36548	4.9		0.030	qtz veins to 3"
207.0		m	fg	PWR	NB	HEM 3		SHP					5	-	3	5			36549	4.9		0.046	possible diorite dike 184 – 186 ft
212.9		m	fg	PWR	NB	HEM 3		SHP					3	-	1	3			36550	4.9		0.018	minor stringer pyrite.

P.A.P. 35362

DRILL HOLE NO: 15J6-175

Average = 0.079 opt Au/253.9 ft (raw)
or 0.057 opt/253.9 (cut to 0.1)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
196.8		m	fg	PMF	NB	HEM 3		SVP					5	-	1	5			36551	4.9		0.060	
201.7		m	fg	PMF	NB	HEM 3		SVP					7	-	-	3			36552	4.9		0.013	gen! qtz brx, trace stringer pyrite.
206.7		m	fg	PMF	NB	HEM 3		SVP					5	-	-	1			36553	5.0		0.017	tensional qtz veinlets to 1"
211.6		m	mg	PMF	NB	HEM 3		SVP					5	-	-	3			36554	4.9		0.035	1/2" pyrite stringer @ 207 ft both x-cuts and is cross cut by qtz veins.
216.5		m	fg	PMF	NB	HEM 3		SVP					5	1	-	3			36555	4.9		0.029	
221.9		m	mg	PMF	NB	HEM 3		SVP					1	1	1	5			36556	4.9		0.029	
226.9		m	mg	PMF	NB	HEM 3		SVP					1	1	1	0.1			36557	5.0		0.006	
231.3		m	fg	PMF	NB	HEM 2		SVP					1	-	1	1			36558	4.9		0.003	occassional patches of interstitial mt observed.
236.2		m	fg	PMF	NB	HEM 2		SVP					1	1	-	1			36559	4.9		0.015	rare mt stringers, occassional patch of interstitial mt
241.1		m	fg	PMF	NB	HEM 2		SVP					1	-	1	3			36560	4.9		0.032	trace qtz-ank-tour veins to 1/2"
246.1		m	fg	PMF	LBN	BLZ		SVP					5	-	1	3			36561	5.0		0.023	1% qtz-ank-tour veins to 1/4"
251.0		m	mg	PMF	RD	HEM 3		SVP					1	-	-	1			36562	4.9		0.026	
255.9		m	vfg	MSV	NB	HEM 2		SVN	ANK	25			-	1	3	1			36563	4.9		0.040	

DRILL HOLE NO: MD96-175

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Wk	cc	ab	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
260.8		M	fg	MSV	NB	HEM 2		SYN					1	1	-	1			36564	4.9		0.026	
265.7		M	fg	PMB	NB	HEM 2		SYN					1	1	-	0.1			36565	4.9		0.012	
270.6		M	mg	PMB	NB	BL 2		SYP					3	1	-	3			36566	4.9		0.104	Bleach-Py alt= along vein walls upto 6" into country rock.
275.5		M	vfg	MSV	NB	BL 1		SYN					1	5	-	3			36567	4.9		0.044	
280.5		M	fg	PMB	NB	BL 1		SYP					5	5	-	5			36568	5.0		0.034	bxie stringer and coarse patchy Pyrite.
285.4		M	vfg	MSV	DKN	-		QA					-	-	-	-			36569	4.9		0.026	DIABASE DIKE, contacts @ low angle TCA (5°)
290.3		M	mg	MSV	LRB	BL 3		SYP	QV	SO			3	1	-	3			36570	4.9		0.188	bxie qtz-carb veins, bxie qtz-mt veins
295.3		M	mg	PMB	RGN	CHL 2		SYP					1	1	-	1			36571	5.0		0.076	coarse patchy pyrite in upper 4ft of sample, stringer + pervasive chl alt= for the rest (coarse Py patch 295.0)
300.2		M	fg	PMB	RGN	CHL 1		SYP					1	1	3	0.1			36572	4.9		0.042	mixed chl and bleach alt=, bxie coarse patchy pyrite
305.1		M	fg	PMB	RGN	HEM 2		SYP					-	1	5	1			36573	4.9		0.144	Lem alt= overprinting pervasive chl alt=, bxie coarse patchy pyrite.
310.0		M	vfg	CPT	RGN	HEM 1		SYN					-	1	3	-			36574	4.9		0.003	Common mafic xenoliths
315.0		M	fg	PMB	NB	HEM 3		SYP					-	-	1	1			36575	5.0		0.011	
319.9		M	fg	MSV	NB	HEM 3		SYN					1	3	-	3			36576	4.9		0.182	mostly mg euhedral disS Py, bxie stringer Py

DRILL HOLE NO: MM96-175

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
374.8		m	fg	PPR	NB	HEM 3		SVP					1	1	–	3			36577	4.9		0.093	mostly diss vfg-fg anhedral-subhedral Py.
379.7		m	mg	PPR	NB	HEM 3		SVP					1	1	–	3			36578	4.9		0.031	
334.6		m	mg	PPR	NB	HEM 3		SVP					1	–	–	1			36579	4.9		0.059	common fracture-controlled hem alt^n
339.5		m	mg	PPR	RBX	CALC		SVP					1	1	–	3			36580	4.9		0.176	mostly mg-cg euhedral Py + single Py
344.5		m	mg	PPR	NB	HEM 3		SVP					1	1	1	3			36581	5.0		0.020	spec hem veining common
349.4		m	mg	PPR	NB	HEM 2		SVP					1	3	–	3			36582	4.9		0.031	mostly mg subhedral-euhedral diss Py.
354.3		m	fg	PPR	NB	HEM 2		SVP					1	1	3	1			36583	4.9		0.037	ank-Py veinlets + patches observed.
359.2		m	fg	PPR	NB	HEM 2		SVP					–	1	1	1			36584	4.9		0.022	
364.2		mx	vfg	MSV	NB	HEM 2		SVW					1	–	3	5			36585	5.0		0.110	large patch of coarse Py @ 360ft
369.1		m	mg	PPR	NB	HEM 3		SVP					–	–	1	3			36586	4.9		0.178	coarse patchy Py common
374.0		m	fg	PPR	NB	CALC		SVP					–	1	–	5			36587	4.9		0.156	coarse patchy Py common.
379.0		m	fg	PPR	NB	CALC		SVP					–	1	–	5			36588	5.0		0.094	6" chl-cc bx vein @ 378ft (25° TCA), mg euhedral Py and coarse patchy Pyrite common.
383.9		m	fg	MSV	NB	HEM 3		SVW					–	1	–	3			36589	4.9		0.011	spec hem veins to ¼" common (25° TCA)

P.A.P. 35362

DRILL HOLE NO: MD96-175

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
388.8		m	vfg	MSV	NB	HEM3		SIW					-	1	-	3			36590	4.9		0.020	spec hem veins/stringers to 1/4" common
393.7		m	mg	PM	NB	BX1		SIP					-	1	3	3			36591	4.9		0.010	spec hem veinlets/stringers/brx common.
398.6		m	fg	MSV	NB	HEM2		SIW	Ank	45			-	3	3	1			36592	4.9		0.012	ank-PY veins to 1-2"
403.5		m	fg	MSV	NB	HEM2		SIW					-	3	1	3			36593	4.9		0.080	mm euhedral pyrite and patchy pyrite common, trace spec hem veinlets
408.4		m	vfg	PM	NB	HEM2		SIP					-	-	3	1			36594	4.9		0.025	
413.4		m	vfg	MSV	NB	CAL2		SIW					-	1	-	1			36595	5.0		0.181	SMSV spec hem /6 inches @ 412 ft contains trace cpy
418.3		m	mg	PM	NB	CAL2		SIP					-	3	-	qtz			36596	4.9		0.005	
423.2		m	fg	PM	NB	CAL2		SIP					-	1	-	-			36597	4.9		0.005	indistinct gradational lower contact
428.1		m	vfg	MSV	NB	HEM2		Tsed					1	3	3	-			36598	4.9		0.001	
433.1		m	vfg	MSV	BGY	CHL1		Tsed					-	3	3	-			36599	5.0		0.001	trace FLUORITE in 1/2" ank vein @ 427.5 ft (45° TCA)
438.0		m	vfg	MSV	GN	CHL2		Tsed					-	1	25	-			36600	4.9		0.011	
442.9		m	vfg	MSV	MGN	CHL1		Tsed					+	3	1	-			36601	4.9		0.001	
447.8		m	vfg	MSV	MGN	CHL1		Tsed					1	3	3	-			36602	4.9		0.001	

DRILL HOLE NO: YD96-175

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
465.8		m	vfg	msv	RGN	CHL1		Tsed					1	1	3	-			36603	5.0		0.001	
467.7		m	vfg	msv	RGN	CHL1		Tsed					-	-	5	-			36604	4.9		0.001	
467.6		m	vfg	msv	RGY	HEM1		Tsed					1	-	7	-			36605	4.9		0.001	
467.5		m	vfg	msv	RGN	CHL1		Tsed					-	3	10	-			36606	4.9		0.001	2 inch chl-ank band @ 466 ft
472.9		m	vfg	msv	RG	HEM1		Tsed					-	-	3	-			36607	4.9		0.001	hrack chl stringers
477.3		m	vfg	msv	BN	HEM1		Tsed					1	-	5	0.1			36608	4.9		0.002	
482.3		m	vfg	msv	BN	SER1		Tsed					1	-	3	-			36609	5.0		0.003	
487.7		m	vfg	msv	BN	SER1		Tsed					-	1	3	-			36610	4.9		0.003	
492.1		m	vfg	msv	BN	SER1		Tsed					-	1	3	-			36611	4.9		0.001	
497.0		m	vfg	msv	BN	SER1		Tsed					-	1	1	-			36612	4.9		0.002	
502.0		m	vfg	msv	BN	SER1		Tsed					-	-	3	-			36613	5.0		0.001	
506.9		m	vfg	msv	GBN	CHL1		Tsed					-	1	3	-			36614	4.9		0.001	
511.8		m	vfg	msv	GN	CHL2		Tsed					1	1	3	0.1			36615	4.9		0.001	

P.A.P. 35362

DRILL HOLE NO: YB96-175

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
516.7		m	vfg	MSV	GN	CHL 2		Tsed					-	3	3	-			36616	4.9		0.002	
521.7		m	vfg	MSV	RGN	CHL 1		Tsed					1	1	3	-			36617	5.0		0.028	2" qtz-calc-cc vein @ 521.5 ft (60° TCA)
526.6		m	vfg	MSV	RB	HEM 2		Tsed					-	1	10	-			36618	4.9		0.003	strong crackle textural ark, gradational contact
531.5		m	vfg	MSV	RB	HEM 2		SYP					-	-	10	-			36619	4.9		0.001	Footwall "Purple Porphyry"
536.9		m	vfg	MSV	RD	HEM 2		SYP					-	-	5	-			36620	4.9		0.003	
541.3		m	fg	PPR	RD	HEM 2		SYP					1	-	5	-			36621	4.9		0.003	
546.2		m	fg	PPR	RD	HEM 2		SYP					-	-	1	-			36622	4.9		0.005	
551.2		m	fg	PPR	RD	HEM 2		SYP					-	-	1	-			36623	5.0		0.003	
556.1		m	fg	PPR	RD	HEM 2		SYP					-	-	-	-			36624	4.9		0.004	
561.0		m	fg	PPR	RD	HEM 2		SYP					1	-	-	-			36625	4.9		0.006	
565.9		m	fg	PPR	RD	HEM 2		SYP					-	1	-	-			36626	4.9		0.007	
570.9		m	fg	PPR	RD	HEM 2		SYP					1	1	-	-			36627	5.0		0.008	
575.8		m	fg	PPR	RD	HEM 2		SYP					-	1	-	-			36628	4.9		0.004	

DRILL HOLE NO: MD96-125

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ent	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
580.7		M	mg	PGR	RD	HEM2		SHP					—	—	—	—			36629	4.9		0.001	
585.6		M	mg	PGR	RD	HEM2		SHP					—	—	—	Gt			36630	4.9		0.004	Some Trad Kenolith's
592.3		m	mg	PGR	RD	CAL1		SHP	C	30			t	1	—	—			36631	6.7		0.004	2" qtz vein @ 585.8 ft
595.5		m	vfg	MGR	GY	CAL2		Tsd1					1	5	—	—			36632	3.3		0.004	
600.4		m	vfg	MGR	GY	CAL2		Tsd1					1	3	—	—			36633	4.9		0.012	
600.9								EOH															End of Hole.

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Pressacco DATE LOGGED: Sept 10, 1996 DRILL HOLE NO: YD96-126

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2921.01	4049.58	7963.47	502.0 ft	4050E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-46												
196	001	-44												
403	002	-44												

START DATE: Sept 5, 1996

FINISH DATE: Sept 6, 1996

TOWNSHIP: Powell

CLAIM NO.: MR 5375

DRILLING CONTRACTOR: Benoit DD - Val d'Or

PURPOSE: Assay verification and geotechnical sampling

RESULTS: 0.047 opt Au / 203.4 ft (230 - 226.4ft) AND
0.040 opt Au / 68.9 ft (290.3 - 364.2ft)

WHY HOLE TERMINATED: normal termination in barren FW sols

CORE SIZE: BQ

CASING: all casing recovered

HOLE CEMENTED: NO

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All rejects stored @ Schumacher minesite

CORE STORED (LOCATION): Bunker, Mcm minesite.

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD96-126

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
23.0		B	vfg	MSV	OR	HEM 3		CAS															Casing. All casing recovered
29.6		B	vfg	MSV	OR	HEM 3		SYN					10	1	-	3			AX 36451	7.6		0.104	qtz veins / breccias to ½" at all angles TCA
39.5		B	vfg	MSV	OR	HEM 3		SYN					10	3	-	1			36452	4.9		0.202	3% cpy / inch @ 39 ft (on 1" qtz vein)
34.4		B	vfg	MSV	OR	HEM 3		SYN					3	1	-	3			36453	4.9		0.069	
39.4		m	vfg	MSV	RHY	CHL 2		SYN					1	3	5	1			36454	5.0		0.139	Common ank-py veins to 1-2" @ high angles TCA, black-py alt= weak/pinky chl alt=
44.3		m	vfg	MSV	NB	HEM 3		SYN					1	3	5	1			36455	4.9		0.032	minor ank-py and qtz veinlets
49.2		m	vfg	MSV	NB	HEM 3		SYN					5	1	1	3			36456	4.9		0.093	pyrite ranging from vfg diss to mg patchy, clear QV's
54.1		m	vfg	POR	NB	HEM 3		SYN	QV	30			3	1	1	3			36457	4.9		0.057	mostly vfg diss pyrite, 1" ank vein @ 53ft (90° TCA)
59.1		m	fg	POR	NB	HEM 3		SYN					5	-	1	3			36458	5.0		0.024	mostly vfg diss pyrite, 1" ank-py vein (90° TCA) @ 57 ft 50% pervasive grn alt= 57-62 ft (ank?)
64.0		m	vfg	MSV	GY	ANK 3?		SYN					1	3	1	0.1			36459	4.9		0.021	strong bar alt= back in 62-64 ft.
68.9		m	fg	POR	NB	HEM 3		SYN					3	1	-	1			36460	4.9		0.040	
73.8		m	mg	POR	NB	HEM 3		SYP					1	-	3	1			36461	4.9		0.028	1" ank-py vein (90° TCA) @ 70 ft with diss py alt= halo

DRILL HOLE NO: [illegible]6-126

PAGE 3 OF 8

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
78.2		m	fg	PPh	NB	Hem 3		SIP					3	-	3	3			36467	4.9		0.056	3 ank-Py veins bp to 2" (high angle TCA)
83.6		m	fg	PPh	NB	Hem 3		SIP					5	-	3	1			36468	4.9		0.014	a few thin ank-Py veins to ½" (high angle TCA) are cut off by glassy qtz veins
88.6		m	mg	PPh	NB	Hem 3		SIP					3	-	3	1			36469	5.0		0.044	grey alt= (with diss Py) overprints hem alt=
93.5		m	fg	PPh	NB	Hem 2		SIP					3	-	3	1			36470	4.9		0.031	mvo xenoliths to 3 inches
98.4		m	fg	MSV	NB	Hem 3		SIN					1	1	3	3			36471	4.9		0.034	Mvo xenoliths observed. Some Cg suedaal pyrite
103.3		m	fg	MSV	NB	Hem 3		SIN					3	3	-	1			36472	4.9		0.016	
108.3		m	fg	MSV	NB	Hem 3		SIN					5	1	-	0.1			36473	5.0		0.070	
113.2		m	fg	MSV	NB	Hem 3		SIN					10	1	-	1			36474	4.9		0.025	mostly mg diss Pyrite
118.1		m	fg	MSV	NB	Hem 3		SIN					3	1	-	1			36475	4.9		0.023	some coarse patchy pyrite
123.9		m	mg	PPh	NB	Hem 3		SIN					1	3	1	3			36476	4.9		0.020	
128.9		m	fg	MSV	NB	Hem 3		SIN					5	-	3	1			36477	5.0		0.030	2 ank-Py veins (high angle TCA) to 1" wide
133.9		m	fg	PPh	NB	Hem 3		SIN					3	3	-	3			36478	4.9		0.027	mostly mg diss pyrite
137.8		m	mg	PPh	NB	Hem 3		SIP					-	1	-	0.1			36479	4.9		0.007	

P.A.P. 35362

DRILL HOLE NO: MJG-175

Average: 0.047 opt Au/203.4' (raw)
or 0.047 opt / 203.4 (cut to 0.1 opt)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	unk	METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
147.7		m	vfg	MSV	MB	HEM 3		SYN					1	1	-	3			36475	4.9		0.025	
147.6		m	vfg	MSV	MB	HEM 3		SYN					-	1	-	1			36476	4.9		0.010	MVO xhatliths common.
152.5		m	fg	PVR	MB	HEM 3		SYP					5	1	-	1			36477	4.9		0.023	pervasive cc' veins beginning @ 151 ft
157.5		m	fg	MSV	MBW	CHL 2		SYN					1	3	-	0.1			36478	5.0		0.012	pervasive cc' veins
162.4		m	fg	MSV	MB	CHL 2		SYN					1	5	-	1			36479	4.9		0.012	
167.3		m	fg	PVR	RB	HEM 3		SYP					5	1	-	3			36480	4.9		0.052	
172.2		m	fg	PVR	MB	HEM 3		SYP	QV	35			3	1	-	3			36481	4.9		0.039	3 inch qtz vein @ 169 ft, 1" calcite vein 168.5 ft.
177.2		m	fg	PVR	MB	HEM 2		SYP					1	3	-	1			36482	5.0		0.016	
182.1		m	mg	PVR	MB	HEM 2		SYP					1	1	-	1			36483	4.9		0.044	
187.0		m	mg	PVR	MB	HEM 3		SYP					3	3	-	5			36484	4.9		0.001	
192.0		m	mg	PVR	MB	HEM 3		SYP					1	3	-	3			36485	5.0		0.028	
196.9		m	fg	MSV	MB	HEM 3		SYN					3	3	-	1			36486	4.9		0.050	
201.8		m	fg	PVR	MB	HEM 3		SYP					3	3	-	1			36487	4.9	V	0.080	trace cpy in qtz veinlets

DRILL HOLE NO: YDD96-126

PAGE 5 OF 8

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
206.7		m	mg	PXM	MB	ITEM 3		S-IP					5	1	-	3			36488	4.9		0.052	weakly diss w/ fn micro stringer @ 206.0ft
211.6		m	mg	PXM	MB	ITEM 3		S-IP					3	1	-	3			36489	4.9		0.091	mixed diss + semi-m hairline cpy with qtz veinlets
216.5		m	mg	PXM	MB	ITEM 3		S-IP	QV	45			5	1	-	3			36490	4.9		0.186	hairline diss cpy qtz veins to 3"
221.5		m	mg	PXM	MB	ITEM 3		S-IP					3	3	-	3			36491	5.0		0.027	minor stringer pyrite
226.9		m	mg	PXM	MB	ITEM 2		S-IP					1	1	-	3			36492	4.9		0.024	sem. pervasive chl-cc-ep alt= 225.8-226.4 ft
231.3		m	fg	MSV	MB	CALC		S-IW					-	1	-	0.1			36493	4.9		0.014	mixed chl-cc alt in alt= possible ums xenolith @ 229ft (Alt)
236.2		m	fg	MSV	RGW	CALC		S-IW					-	1	-	-			36494	4.9		0.002	mixed chl-cc alt in alt= weakly magnetic
241.1		m	fg	PXM	RGW	MAG 1		S-IW					-	1	-	-			36495	4.9		0.004	
246.1		m	fg	PXM	RB	MAG 1		S-IW					1	1	-	0.1			36496	5.0		0.007	incipient pervasive chl alt=
249.6		m	fg	MSV	MB	CALC		S-IW	C	25			-	1	-	1			36497	3.5		0.001	
288.3		m	vfg	MSV	GY	CALC		DIA					-	3	-	-			—	3.3			
290.3		m	fg	MSV	MB	ITEM 3		S-IW	C	40			-	1	-	-			36498	2.0		0.001	
295.3		w	fg	PXM	MB	ITEM 3		S-IW					-	1	-	0.1			36499	5.0		0.012	

P.A.P. 35362

DRILL HOLE NO: NB26-176

Average = 0.040 opt Au/68.9'

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
300.7		m	mg	PGR	RB	HEM2		SHP					–	3	–	1			36520	4.9		0.044	
305.1		m	fg	PGR	NB	HEM3		SHP	QV	25			1	3	1	1			36521	4.9		0.037	[illegible] trace py stringers w/ biot
309.8		m	mg	PGR	NB	HEM3		SHP					1	1	–	3			36522	4.9		0.027	
315.0		m	mg	PGR	NB	HEM3		SHP					3	1	–	3			36523	5.0		0.022	
319.9		m	mg	PGR	NB	HEM3		SHP					3	1	–	3			36524	4.9		0.026	
373.1		m	mg	PGR	NB	HEM3		SHP					–	1	–	1			36525	3.2		0.035	indistinct lwr contact.
378.7		m	vfg	MSV	BN	CAL3		Tsed					3	1	–	3			36526	6.6		0.026	mostly dissem vfg pyrite, possible vfg syn.
334.6		m	vfg	MSV	BN	CAL3		Tsed					–	5	–	1			36527	4.9		0.048	feldspar phenos common (porphyritized seds?)
339.5		m	vfg	MSV	NBN	HEM2		Tsed					1	3	–	1			36528	4.9		0.036	trace cpy in qtz stringers
344.5		m	vfg	MSV	NBY	CAL2		Tsed					1	3	3	1			36529	5.0		0.024	trace cpy in 1" ank veins (30° TCA)
349.4		m	vfg	MSV	NB	HEM1		Tsed					1	3	1	3			36530	4.9		0.040	diss vfg-fg subidiol-euhedral pyrite
354.3		m	vfg	MSV	BY	CAL1		Tsed					–	3	–	3			36531	4.9		0.081	diss fg-vfg euhedral pyrite
359.2		m	vfg	MSV	BY	CAL1		Tsed					–	3	–	1			36532	4.9	V	0.080	lithic frags visible.

DRILL HOLE NO: YM96-126

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ox	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
364.2		m	mg	FrAft	BrW	CALI		Tsrcl					-	3	-	1			36513	5.0	L	0.032	diss vfg-mg Pyrite; lithic clasts easily visible
369.1		m	mg	FrAft	BrW	CALI		Tsrcl					-	1	-	-			36514	4.9		0.018	lithic clasts easily visible
374.0		m	fg	MSV	BrW	CALI		Tsrcl					-	1	3	1			36515	4.9		0.022	diss vfg Pyrite
378.9		m	fg	MSV	BrW	CALI		Tsrcl					-	3	-	0.1			36516	4.9		0.020	
383.9		m	fg	MSV	BrW	HEM1		Tsrcl					-	1	-	-			36517	5.0		0.006	
388.8		m	fg	MSV	RB	HEM2		Tsrcl					-	0.1	-	0.1			36518	4.9		0.006	
393.7		m	fg	MSV	RB	HEM1		Tsrcl					1	3	-	-			36519	4.9		0.004	
396.6		m	mg	PUR	RP	HEM3		SYP					-	3	-	0.1			36520	4.9		0.004	wisp chl shrinkers, SYP dikes @ 398 ft
403.5		m	fg	MSV	RB	HEM1		Tsrcl					3	1	-	-			36521	4.9		0.002	
408.4		m	fg	MSV	GY	HEM1		Tsrcl					-	3	-	-			36522	4.9		0.002	
413.4		m	fg	MSV	GY	HEM1		Tsrcl					-	3	-	-			36523	5.0		0.004	
462.6		m	fg	MSV	GY	CALI		Tsrcl					-	3	-	0.1			36524	49.2	C	0.004	Composite Sample

DRILL HOLE NO: 4596-126

PAGE 8 OF 8

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
502.0		ms	fg	msv	64	CALC		Tsed					-	3	-	-			36575	3.0	C	0.004	composite sample.
503.0								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Messacco DATE LOGGED: Sept 3, 1996 DRILL HOLE NO: Y96-127

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2841.64	3303.45	7962.04	541.3 ft	3900E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
207	360	-43												
404	356	-42												
541	360	-41												

START DATE: Sept 3, 1996

FINISH DATE: Sept 5, 1996

TOWNSHIP: Powell

CLAIM NO.: ~~MR5374~~ MR5375

DRILLING CONTRACTOR: Benoit DD - Val d'Or

PURPOSE: Assay verification / geotechnical sampling, Boundary Pit

RESULTS: 0.075 opt Au / 172.2 ft (162.4 – 334.6 ft), raw data.
– 0.060 opt / 172.2 ft (cut to 0.19 opt)

WHY HOLE TERMINATED: Normal termination in Fw sedis

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher minesite

CORE STORED (LOCATION): Burker, MCM minesite.

☒ ft
☐ m

Location Sketch

P.A.P. 3536)

DRILL HOLE NO: MD16-127

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	mk	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
16.4								CAS															Casing, all casing recovered.
19.7		m	vfg	msv	BG	Ank 1		SVN					-	-	5	-			AX 36349	3.3		0.001	measured length of only 1.6 ft
24.6		m	vfg	msv	BN	Ank 1		SVN					-	-	5	-			36350	4.9		0.004	well developed crackle fractured ank alt=
29.5		m	vfg	msv	BN	Ank 1		SVN	QV	50			-	-	7	-			36351	4.9		0.004	6 inch qtz-ank vein @ 29.5 ft, patchy ank alt'n
34.4		m	vfg	msv	BN	Ank 1		SVN					T	-	3	-			36352	4.9		0.001	
39.4		m	vfg	msv	BN	Ank 1		SVN											36353	5.0		0.004	common matrix vole xenoliths, mixed xeno 38.5 - 40.2 ft
44.3		m	vfg	607	GBN	Ank 2		SVN					-	-	5	-			36354	4.9		0.010	mixed chl-ank-mt alt'n, smsv mt / 6 mths @ 43 ft
46.9		m	vfg	msv	GN	Chl 3		SVN					-	1	1	3			36355	2.1		0.010	contact alteration to diabase dike?
54.1		m	vfg	msv	GBY	—		DIA	C	5			1	5	-	-			36356	7.7		0.020	upper contact @ dry low angle TCA
59.1		m	vfg	msv	GBY	—		DIA					-	1	-	-			36357	5.0		0.008	
64.0		m	vfg	msv	GBY			DIA					-	3	-	-			36358	4.9		0.009	
68.1		m	vfg	msv	GBY			DIA	C	35			-	5	-	-			36359	4.1		0.001	
73.8		m	vfg	607	BN	Ank 2		SVN					-	1	10	-			36360	4.9		0.004	

DRILL HOLE NO: YDJ6-127

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
78.7		m	ub	CGT	NB	MAG 2		SYN					1	1	3	-			36361	4.9		0.022	3-5% patchy + stringer spec hem and mt, patchy chl alt=
83.6		m	ub	CGT	NB	MAG 1		SYN					1	1	10	-			36362	4.9		0.008	mixed chl-mt-spec hem-ank alt=, trace cpy @ 71 ft
88.6		m	ub	MSV	NB	ANK 1		SYN					-	-	3	-			36363	5.0		0.020	weak chl alt= crackle ank alt=
93.5		m	ub	MSV	NB	ANK 2		SYN					1	-	7	0.1			36364	4.9		0.001	well developed ank stockwork
98.4		m	ub	MSV	DGN	CHL 2		SYN					-	-	5	-			36365	4.9		0.001	mixed chl-ank alt=
102.3		m	ub	FGL	DGN	CHL 2		SHR	F	65			-	-	10	0.1			36366	4.9		0.019	strongly foliated chl-ank bands (shear?) 98.4 - 102.5 ft
108.3		m	ub	MSV	NB	ANK 2		SYN	QAV	65			1	-	10	0.1			36367	5.0		0.003	6" band of ank-chl-(py) @ 105 ft.
113.2		m	ub	MSV	NB	BL 1		SYN					3	1	1	1			36368	4.9		0.010	ub-mg diss ank assoc with 2" qtz vein @ 113 ft, py stringer overprinting mt vein/stringer @ 113.1 ft
118.2		m	ub	MSV	NB	BL 1		SYN					-	1	3	0.1			36369	5.0		0.003	ank-py vein @ 1" @ 117.5 ft.
123.0		m	ub	MSV	NB	BL 1		SYN					1	-	1	1			36370	4.8		0.019	thin qtz-wlkn veins to 1/2"
128.0		m	ub	MSV	LBN	BL 3		SYN	QV	30			5	-	1	3			36371	5.0		0.020	qtz-wlkn-(ank)-(py) veins to 2"
132.9		m	cg	PGM	NB	ITEM 1		SYP					1	-	-	1			36372	4.9		0.010	TWO SYENITES! coarse SYP intrudes ub massive SYN, better diss py mineralization appears related to later SYP intrusions.

DRILL HOLE NO: 5[illegible]

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gn	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
137.8		m	vfg	MSV	MB	ANK1		SYN					1	-	-	3			36373	4.9		0.006	SYP dike to 134ft, inner contact diffuse, diss vfg pyrite decreasing downhole away from SYP dike.
143.7		m	vfg	MSV	BN	ANK1		SYN					oil	-	1	-			36374	4.9		0.004	3% ank-mt-(py) veining 137.8-138.5ft, 1" band of steel grey mineral @ 139ft (90° TCA)
147.6		m	vfg	MSV	LBN	BLZ		SYN					1	-	5	3			36375	4.9		0.056	vfg bleaching clearly related to 1" ank-mtho-chl (py) vein @ 144.5ft, also along fractures.
152.5		m	vfg	MSV	BN	ANK1		SYN					-	-	3	-			36376	4.9		0.005	well developed crackle arkite, 3" patch of steel grey material @ 151ft.
157.5		m	vfg	MSV	BN	ANK1		SYN					-	-	3	oil			36377	5.0		0.006	2" ank-mtho-mt vein (90° TCA) @ 151.5ft
162.4		m	fgn	MSV	BN	BLZ		SYN					-	-	3	1			36378	4.9		0.016	very reddish SYP dike 160.8-164.5ft
167.3		m	vfg	MSV	BN	BL1		SYN					-	-	3	-			36379	4.9		0.047	
172.2		m	vfg	MSV	BN	ANK1		SYN					-	-	1	-			36380	4.9		0.003	
177.2		m	vfg	MSV	BN	ANK1		SYN					-	-	1	-			36381	5.0		0.003	
182.1		m	mg	PVA	PK	ANK2		SYP					1	-	3	1			36382	4.9		0.026	SYP dike begins @ 180.0ft, well developed ank-chl-mt-(py) alt= 178-180ft
187.0		m	mg	PVA	PK	HEM1		SYP	QV	15			3	-	-	3			36383	4.9		0.018	

P.A.P. 35362

DRILL HOLE NO: VD96-127

Average = 0.075 opt Au/172.2 ft (raw)
or 0.060 opt/172.2 (cut to 0.19)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
192.0		m	vfg	MSV	bty	BLZ		SVN					1	1	3	1			36394	5.0		0.021	pervasive bleaching, ni-lateal to qtz-ank-py vein @ 189.5 ft
196.9		m	vfg	MSV	LBN	BLZ		SVN					1	1	1	1			36395	4.9		0.021	bleach- py alt= along qtz veinlets and fractures
201.8		m	vfg	MSV	LBN	BLZ		SVN					3	1	1	1			36396	4.9		0.019	
206.7		m	vfg	MSV	LBN	BLZ		SVN					3	-	1	1			36397	4.9		0.020	
211.6		m	mg	PVR	RB	HEM1		SVP	QV	4D			5	-	-	3			36398	4.9		0.106	milky-translucent qtz veins to 1" thick
216.5		m	mg	PVR	RB	HEM1		SVP					1	-	-	3			36399	4.9		0.040	trace chlorite stringers
221.4		m	mg	PVR	RB	HEM1		SVP					5	-	1	5			36399	4.9		0.038	rare to mod. euhedral in size
226.4		m	mg	PVR	RB	HEM1		SVP					3	-	3	3			36391	5.0		0.058	trace mt-ank-(py) vein to 1" @ 222ft (30-70A), trace relict interstitial mt alt=, ank-py vein @ 2°@ 2260'
231.3		m	mg	PVR	DBN	MAG1		SVP					1	-	1	1			36392	4.9		0.026	75% bleach- py alt= overprints interstitial mt alt=, trace cpy
236.2		m	mg	PVR	MBN	MAG1		SVP					1	-	1	1			36393	4.9		0.130	10% bleach- py alt= overprints interstitial mt alt= in last foot of sample.
241.1		m	mg	PVR	RB	BL3		SVP	QV	2.0			3	-	1	3			36394	4.9		0.242	5% course cpy / 2" @ 236.3ft
246.1		m	vfg	MSV	RB	HEM1		SVN					1	-	1	1			36395	5.0		0.022	occassional MVO xenoliths to 1-2"
251.0		m	fg	PVR	RB	BL3		SVP					1	-	3	1			36396	4.9		0.034	mt-ank veinlets and bands to 1/2"

DRILL HOLE NO: YD16-127

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
255.9		m	mg	PMR	MB	BL2		SVP					1	-	3	1			36397	4.9		0.016	incipient pervasive bleach-Py alt° along gtz veins. common MVU xenoliths
260.8		m	mg	PMR	MB	AL2		SVP					1	1	3	1			36398	4.9		0.060	bleach-Py alt° related to gtz veins/fractures
265.7		m	mg	PMR	MB	BL3		SVP					1	-	3	1			36399	4.9		0.120	several bands/veins of ank-mt-Py
270.6		m	fg	PMR	MB	HEM2		SVP					1	-	1	1			36400	4.9		0.042	
275.6		m	mg	PMR	MB	HEM2		SVP					0.1	-	-	3			36401	5.0		0.512	mostly coarse patchy + stringer pyrite
280.5		m	fg	PMR	MB	HEM2		SVP					1	1	-	3			36402	4.9		0.291	vfg-cg disS anhedral-subhedral pyrite, barren Py
285.4		m	mg	PMR	MB	HEM2		SVP					-	-	1	1			36403	4.9		0.050	
290.3		m	fg	MSV	MB	HEM1		SVW					1	-	1	0.1			36404	4.9		0.008	intricate intrusive relationships
295.3		m	fg	MSV	MB	HEM1		SVW					-	1	1	1			36405	5.0		0.010	mixed SVW + SVP phases.
300.2		m	vfg	FMS	MB	HEM1		SVW					-	1	1	-			36406	4.9		0.016	Common MVU xenoliths.
305.1		m	mg	PMR	MB	HEM2		SVP					0.1	-	1	1			36407	4.9		0.138	
310.0		m	fg	PMR	MB	HEM2		SVP					-	-	0.1	1			36408	4.9		0.149	
315.0		m	vfg	MSV	MB	HEM3		SVP					5	1	-	3			36409	5.0		0.258	3 large qv's to 2". mg-cg diss pyrite

DRILL HOLE NO: YD96-127

PAGE 6 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE vfg	cc	clt	METALLIC py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
312.9		m	vfg	msv	BN	[illegible]		SYN					1	3	–	1			36410	4.9		0.040	diss vfg-fg pyrite
324.8		m	fg	DM	DBY	MAG2		SYN					–	10	–	1			36411	4.9		0.006	mg patchy pyrite mostly assoc. with 2-3" cc bands @ 322 ft
327.7		m	vfg	msv	DBY	MAG1		SYN					–	5	–	–			36412	4.9		0.004	a few mt-cc bands/veins, rare fe'dispm fractures.
334.6		m	fg	DM	BN	MAG1		SYN					1	–	–	1			36413	4.9		0.046	½" qtz-py vein (15°TCA) @ 334 ft.
339.5		m	fg	DM	BN	[illegible]		SYN					1	1	–	0.1			36414	4.9		0.016	trace qtz-mt veins @ low angle TCA
344.5		m	vfg	msv	BN	CAL1		SYN					–	1	–	0.1			36415	5.0		0.006	3" mt vein (90° TCA) @ 342 ft
349.4		m	vfg	msv	BN	CAL2		SYN					1	1	–	0.1			36416	4.9		0.008	
354.3		m	vfg	msv	DBY	CAL3		SYN					–	3	–	1			36417	4.9		0.012	black-py alt= in last 2 ft of section w/ pyrrhotite well developed mt-cc alt=
359.3		m	mg	DM	DBY	MT+2		SYP					–	1	–	1			36418	4.9		0.008	moderate black-py alt= in first 2 ft of section
364.2		m	fg	DM	DBY	[illegible]AG2		SYP					–	1	–	–			36419	5.0		0.006	well developed interstitial mt alt=
369.1		m	mg	DM	DBY	MAG2		SYP					1	3	–	0.1			36420	4.9		0.004	diss fg pyrite typically assoc with grey cc veins, trace qtz-mt veins ½" inch
374.0		m	fg	DM	DBY	MAG2		SYP					–	3	–	0.1			36421	4.9		0.026	3 inch chl-cc-py vein/band @ 370 ft
378.9		m	vfg	msv	DBY	MAG2		SYN					–	1	–	0.1			36422	4.9		0.006	

P.A.P. 35362

DRILL HOLE NO: 11,96-127

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE vfg	cc	mlt	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
385.0		m	msg	PWR	Bw	CHL1		S-P	C	60			-	1	-	-			36423	6.1		0.004	
389.8		m	vfg	MSV	BK	MAG2		Tsed					1	1	-	a1			36424	3.8		0.002	hairline qtz-mt veins
393.7		m	vfg	MSV	DGY	MAG2		Tsed					-	1	-	-			36425	4.9		0.004	
398.6		m	vfg	MSV	GY	HEM1		Tsed					-	1	-	1			36426	4.9		0.096	weak patchy hem alt°, vfg diss Py.
403.5		m	vfg	MSV	PGY	HEM1		Tsed					1	1	-	1			36427	4.9		0.006	incipient pervasive hem alt°
408.4		m	vfg	MSV	BK	MAG2		Tsed					-	1	-	a1			36428	4.9		0.004	
413.4		m	vfg	MSV	MB	HEM2		Tsed					3	1	-	1			36429	5.0		0.004	2 qtz-chl-ank-mt veins (45° TCA) to 1" with bi-lateral hem-py alt°
418.3		m	vfg	MSV	DGY	HEM1		Tsed					-	1	-	1			36430	4.9		0.002	vfg-mg diss euhedral pyrite
423.3		m	vfg	MSV	BK	MAG1		Tsed					-	1	-	1			36431	4.9		0.001	vfg diss Py, 2" mt band (10° TCA) @ 421 ft
428.1		m	vfg	MSV	DGY	-		Tsed					-	1	-	1			36432	4.8		0.001	Py as disseminations and with cc-chl-mt bands to 2"
433.1		m	vfg	MSV	BK	MAG1		Tsed					-	1	-	1			36433	5.0		0.001	vfg diss pyrite
438.0		m	vfg	MSV	GY	CAL1		Tsed	B	65			-	1	-	1			36434	4.9		0.012	vfg diss Py, mt bed 433 - 434 ft
442.9		m	vfg	MSV	BK	MAG1		Tsed					-	1	-	1			36435	4.9		0.003	vfg diss Py.

DRILL HOLE NO: YD 26-127

PAGE 8 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	calc	METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
447.8		m	vfg	MSV	BIC	MAG2		Tsed					-	0.1	-	-			36436	4.9		0.001	
457.8		m	vfg	MSV	BK	MAG2		Tsed					-	0.1	-	-			36437	5.0		0.002	
457.7		m	vfg	MSV	DGY	MAG1		Tsed					-	0.1	-	-			36438	4.9		0.001	
463.6		m	vfg	MSV	DGY	HEM1		Tsed					1	1	-	-			36439	4.9		0.004	patchy, low alt=
466.5		m	vfg	MSV	MB	HEM2		Tsed					-	-	-	-			36440	4.9		0.012	patchy/banded, low alt=
472.4		m	cg	FMB	DGY	MAG1		Tsed					-	-	-	-			36441	4.9		0.002	
477.3		m	mg	FMB	MB	HEM1		Tsed					-	-	-	-			36442	4.9		0.032	pervasive oxd (patchy), low alt=
482.3		m	fg	FMB	RGY	HEM1		Tsed					-	1	-	-			36443	5.0		0.004	
487.3		m	fg	MSV	GY	MAG1		Tsed					-	1	-	-			36444	4.9		0.004	
492.1		m	vfg	MSV	DGY	MAG1		Tsed					-	-	-	1			36445	4.9		0.006	vfg diss py
497.0		m	vfg	MSV	MB	HEM2		Tsed					-	3	-	-			36446	4.9		0.012	pervasive, low alt=, trace chl veins
502.0		m	vfg	MSV	DGY	MAG1		Tsed					-	1	-	T			36447	5.0		0.001	vfg diss py
506.9		m	vfg	MSV	DGY	MAG1		Tsed					-	1	-	1			36448	4.9		0.001	vfg diss py

DRILL HOLE NO: YCB26-172

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
541.9		B	vfg	msv	NB	MAG		Tsed					2	1	-	1			36449	5.0		0.001	
546.6		B	vfg	msv	NB	MAG		Tsed					-	1	-	0.1			36450	5.7		0.001	Contact obscured by broken core
541.3		B	fg	msv	bx	-		DA											-				
541.3								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MACHEWAN LOGGED BY: R. Pressacco DATE LOGGED: Sept 6, 1996 DRILL HOLE NO: YD96-128

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2868.46	3449.92	8011.26	491.1 ft	3450E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
230	003	-44												
407	002	-44												

START DATE: Sept 2, 1996

FINISH DATE: Sept 3, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5375 (65%), L316523 (35%)

DRILLING CONTRACTOR: Ranger ND - Val d'Or

PURPOSE: Assay verification + geotechnical information, welsh Pit

RESULTS: 0.037 opt Au / 357.1 ft (12.0 - 369.1 ft), raw data.
- 0.036 opt / 357.1 cut to 0.10 opt.

WHY HOLE TERMINATED: normal termination in Fw seds

CORE SIZE: BQ

CASING: left in place

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher minesite

CORE STORED (LOCATION): Bunker, MCM Minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: 96-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
12.								CAS															CASING, left in place
14.7		m	mg	PMR	MB	HEM 1		SYP					1	-	-	1			AX 36251	2.7		0.052	
18.7		m	mg	PMR	MB	HEM 1		SYP					1	1	-	3			36252	5.0		0.056	trace mt stringers to 1-2 mm.
24.6		m	mg	PMR	MB	BL 1		SYP	QV	2P			3	1	0.1	5			36253	4.9		0.041	vfg-fg anhedral-subhedral pyrite (aurichus yellow stain)
29.5		m	fg	PMR	MB	BL 1		SYP					0.1	1	0.1	3			36254	4.9		0.202	mostly vfg diss pyrite, minor coarse patchy py with dk chloritic (?) hairline stringers
34.5		m	mg	PMR	MB	HEM 1		SYP					-	1	1	3			36255	5.0		0.030	mostly vfg diss anhedral-subhedral pyrite
39.4		m	mg	PMR	MB	BL 1		SYP					1	5	-	3			36256	4.9		0.022	1% mt patches-stringers-diss, strong pervasive cc alt= 38.4-39.4 ft
44.3		m	mg	PMR	MB	BL 2		SYP					1	3	1	1			36257	4.9		0.031	strong pervasive + vein cc alt= 39.4 - 40.4 ft.
49.2		m	mg	PMR	MB	HEM 1		SYP					0.1	7	5	0.1			36258	4.9		0.010	well developed cc-ank stockwork, pyrite mostly associated with stockwork, 1% mt stringers
54.2		m	mg	PMR	MB	HEM 2		SYP					-	3	1	0.1			36259	5.0		0.016	1ft grey cc vein @ 53.0ft, 1% mt stringers
59.1		m	mg	PMR	MB	BL 2		SYP					-	3	3	1			36260	5.0		0.019	well developed crackle carb alt=
64.0		m	mg	PMR	MB	HEM 1		SYP					-	3	3	1			36261	4.9		0.013	
68.9		m	vfg	FOL	LBN	CAL 3		SYN?	F	20			1	1	1	0.1			36262	4.9		0.004	strongly foliated, strong pervasive cc alt=

P.A.P. 35362

DRILL HOLE NO: 7(1)96-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
73.8		m	mg	PGR	RGY	CAL1		SYP					-	3	-	0.1			36263	4.9		0.023	
78.7		m	mg	RB	LBN	CAL3		SYP					1	5	3	5			36264	4.9		0.126	mostly course anhedral-subhedral patchy pyrite
83.7		m	mg	PGR	LBN	CAL3		SYP					-	1	1	1			36265	5.0		0.012	inclusion of digested UM seds (fuchsitic) 81.5-81.5ft
88.6		m	vfg	FQL	AHR	CAL3		FUC					1	1	-	-			36266	4.9		0.002	mixed fuchsitic seds + syenite dikes (50%-52%)
93.5		m	fg	PGR	RB	CAL2		SYP					-	3	-	0.1			36267	4.9		0.008	fuchsitic seds end @ 89.5ft
98.4		m	vfg	MSV	RB	BL 2		SYN					5	3	1	5			36268	4.9		0.064	qtz-mt veinlets common, often showing pyrite replacement of mt, strongly magnetic MVU/LMV fractures common
103.9		m	mg	PGR	RB	BL 2		SYP	QV	25			3	1	-	3			36269	5.0		0.041	well developed bleaching-pyrite alt° along qtz veins + fractures. Trace-1% cpy often observed in qtz veinlets
108.3		m	vfg	MSV	RB	BL 3		SYN					5	1	-	5			36270	4.9		0.034	mixed pervasive + fracture controlled bleach-py alt°
113.2		m	mg	PGR	RB	BL 3		SYP					5	1	-	5			36271	4.9		0.160	many low angle qtz veins, mostly vfg-fg diss py, some course patchy pyrite
118.1		m	mg	PGR	RB	BL 2		SYP	CC	40			1	3	-	1			36272	4.9		0.044	well developed overprint of bleach-py alt° over mt-matrix SYN/SYP, 1" cc vein @ 115ft contains 25% diss py and well developed bleach-py wallrock alt°
123.1		m	mg	PGR	RB	BL 2		SYP					3	3	-	3			36273	5.0		0.065	well developed mt stringers (5° TCA) 118.1-119.5ft (2-3mm) some (1%) course stringer pyrite overprinting magnetite @ 120.0ft, common pervasive + vein grey cc

DRILL HOLE NO: YM96-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
128.0		M	CG	PVR	RB	BL2		SYP					1	1	-	3			36274	4.9		0.037	bleach-py alt= cloudy overprinting coarse syp.
132.9		M	vfg	MSV	LBV	BL3		SYN					1	5	-	3			36275	4.9		0.048	pervasive BL alt= mineral vfg-mg pyrite, common late-stage cc veinlets
137.8		M	vfg	MSV	LBV	BL3		SYN					1	3	-	3			36276	4.9		0.064	mixed vfg-mg granular-euhedral pyrite.
142.7		M	vfg	MSV	RB	CAL3		SYN					5	1	-	1			36277	4.9		0.054	pervasive cc alt= mostly vfg pyrite
147.6		M	vfg	MSV	RB	CAL3		SYN					3	1	-	1			36278	4.9		0.023	pervasive cc alt=
152.6		M	vfg	MSV	RGN	CHL2		SYN					1	3	-	1			36279	5.0		0.020	minor bleach-py alt=, moderate chl-mt veinlets overprinted by hem-bleach alt=, 1% cpy in 2" cc vein @ 149 ft
157.5		M	mg	PVR	RGN	CHL2		SYP					1	1	-	1			36280	4.9		0.019	chl switching to bleach alt= below 155.5 ft.
162.4		M	mg	PVR	RB	BL3		SYP					1	1	-	1			36281	4.9		0.016	
167.3		M	vfg	COT	RGN	CHL2		SYN					1	1	1	0.1			36282	4.9		0.024	possible included rhyolitic fragments resemble chl alt=
172.3		M	vfg	MSV	DGY	CAL3		SYN					3	-	-	1			36283	5.0		0.045	well developed sericite-pyrite alt= along qtz veinlet walls.
177.2		M	vfg	MSV	DGY	MAG2		SYN					1	-	-	1			36284	4.9		0.049	minor fracture-controlled bleach-py alt=
182.2		M	vfg	MSV	DKY	CAL3		SYN					1	3	-	0.1			36285	~~4.9~~ 5.0		0.036	

P.A.P. 35362

DRILL HOLE NO: YD96-128

PAGE 5 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
187.1		M	vfg	MSV	DAV	CAL3		S-IW					1	3	-	0.1			36286	4.9		0.018	
192.0		M	vfg	MSV	RAV	BL2		S-IW					3	3	1	1			36287	4.9		0.014	mineral chl alt= + fracture controlled bleaching
196.9		M	mg	PVA	NB	HEM2		S-P					3	1	-	1			36288	4.9		0.015	mostly diss vfg pyrite
201.8		M	mg	PVA	NB	BL2		S-IP					1	1	-	3			36289	4.9		0.023	
206.7		M	mg	PVA	NB	BL2		S-IP					1	1	-	1			36290	4.9		0.014	bleach-ply alt= clearly overprinting penasive mt alt= of feldspar matrix.
211.6		M	fg	PVA	NB	BL3		S-IW					5	1	-	3			36291	4.9		0.006	qtz-mt-(cpy) vemlets common.
216.5		M	fg	MSV	NB	BL1		S-IW					1	3	-	5			36292	4.9		0.034	
221.5		M	vfg	MSV	NB	HEM2		S-IW	AM	90			1	3	10	0.1			36293	5.0		0.010	abundant ank-cc veins/vemlets to 6 inches wide
226.4		M	mg	PVA	NB	HEM2		S-IP					3	3	3	0.1			36294	4.9		0.005	coarse cpy patches/2in @ 222Ft in qtz-cc vein, qtz-mt vemlets common.
231.3		M	mg	PVA	NB	HEM2		S-IP					3	1	3	1			36295	4.9		0.023	qtz-mt vemlets common.
236.2		M	mg	PVA	NB	HEM2		S-IP					1	-	1	3			36296	4.9		0.010	qtz-mt vemlets/fractures common.
241.2		M	mg	PVA	NB	HEM2		S-IP					1	1	-	1			36297	5.0		0.028	coarse cpy splash in qtz vein @ 241Ft.
246.1		M	mg	PVA	NB	HEM2		S-IP					1	1	1	3			36298	4.9		0.036	minor mt stringers

P.A.P. 35362

DRILL HOLE NO: 4196-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gb	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
254.0		m	fg	PGR	RB	HEM 2		SYP					1	-	1	0.1			30299	4.9		0.004	
255.9		m	mg	PGR	RB	HEM 2		SYP					1	1	3	0.1			30300	4.9		0.018	
260.8		m	fg	PGR	RB	HEM 2		SYP					1	1	3	1			30301	4.9		0.048	Coarse gb-cc vein @ 260 ft
265.7		m	fg	PGR	RB	HEM 2		SYP					-	1	3	0.1			30302	4.9		0.078	py stringer @ 264.5 ft replaces ank vein bit
270.7		m	vfg	MSV	RGY	MAG 2		SYN					1	1	-	0.1			30303	5.0		0.008	pervasive ank-cc alt⁼ imparts dk green colour to syenite.
275.6		m	mg	PGR	LRB	CAL 3		SYP					3	1	-	1			30304	4.9		0.020	
280.5		m	fg	PGR	RB	HEM 2		SYP					3	-	-	1			30305	4.9		0.049	fracture controlled ser alt⁼, common gb-ank veinlets
285.4		m	vfg	PGR	GRY	CAL 3		MD	C	45			1	1	-	0.1			30306	4.9		0.064	Mafic Dike 283 - 289 ft
290.4		m	vfg	PGR	GRY	CAL 3		MD					3	1	-	0.1			30307	5.0		0.035	trace gb-cc veining (with py) near lower contact
295.3		m	vfg	MSV	GRY	CAL 3		SYN					1	3	1	0.1			30308	4.9		0.004	alt⁼ chl-cc seds?
300.2		m	vfg	MSV	GRN	CAL 3		MD					1	-	5	-			30309	4.9		0.001	mixed syenite + mafic dikes to 1-2 ft.
305.1		m	fg	PGR	RB	BLZ		SYP					3	1	1	3			30310	4.9		0.009	bleach-py alt⁼ overprints dark ank-chl(cc) alt⁼
310.0		m	vfg	MSV	RB	BLZ		SYP					5	1	3	3			30311	4.9		0.020	mixed bleach-py and chl-cc alt⁼

P.A.P. 35362

DRILL HOLE NO: YD96-128

PAGE 7 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	wk	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
315.0		m	vfg	MSV	GN	CCL3		SVN					-	3	3	0:1			30312	5.0		0.010	pervasive chl-cc alt=
319.9		m	vfg	MSV	GGY	CAL3		MD					-	1	-	-			30313	4.9		0.006	mafic dike 314.8 - 320.5 ft
324.9		m	mg	PMF	NB	HEM3		SVP					-	1	-	3			30314	4.9		0.026	pervasive hem alt=
329.7		m	mg	PMF	NB	HEM3		SVP					-	1	-	1			30315	4.9		0.040	
334.6		m	mg	PMF	NB	HEM1		SVP					1	1	-	1			30316	4.9		0.062	
339.5		m	mg	PMF	NB	HEM1		SVP					1	1	-	1			30317	4.9		0.058	
344.5		m	mg	PMF	NB	HEM1		SVP					-	0:1	-	3			30318	5.0		0.240	
349.4		m	mg	PMF	NB	HEM1		SVP					-	1	-	0:1			30319	4.9		0.012	
354.3		m	mg	PMF	NB	HEM3		SVP					-	1	-	3			30320	4.9		0.038	
359.3		m	mg	PMF	NB	HEM3		SVP					1	1	-	1			30321	5.0		0.037	
364.2		m	mg	PMF	NB	HEM3		SVP					-	1	-	1			30322	4.9		0.046	
369.1		m	mg	PMF	NB	HEM3		SVP					-	-	-	0:1			30323	4.9		0.038	
374.0		m	mg	PMF	NB	HEM3		SVP					1	3	-	1			30324	4.9		0.016	

P.A.P. 35362

DRILL HOLE NO: YD96-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
378.9		m	mg	PM	NB	HEM 2		SVP					-	L	-	0.1			3B3325	4.9		0.010	
383.9		m	vfg	MSV	NGN	CHL1		SVN					-	L	-	-			3B3326	5.0		0.001	transition into TSEDS?
388.8		m	vfg	MSV	GN	CHL1		Tsed					L	-	L	-			3B3327	4.9		0.004	trace qtz-mt veinlets
393.7		m	vfg	MSV	NGN	SER1		Tsed					L	-	-	-			3B3328	4.9		0.001	qtz-mt veinlets & low angle TCA, minor porphyritic sections
398.6		m	vfg	MSV	NB	HEM1		Tsed					-	3	-	-			3B3329	4.9		0.001	
403.5		m	vfg	MSV	NB	HEM1		Tsed					-	L	L	-			3B3330	4.9		0.001	
408.4		m	vfg	MSV	GN	CHL1		Tsed					-	3	3	-			3B3331	4.9		0.001	some included syenitic sections
413.4		m	vfg	MSV	NGN	HEM1		Tsed					L	L	-	-			3B3332	5.0		0.001	low angle qtz-mt veins are thinning hem-sericite into wall rocks, some coarser cal fragments visible
418.3		m	vfg	MSV	GN	CAL3		Tsed					L	L	-	-			3B3333	4.9		0.004	trace mt patches / beds
423.2		m	vfg	MSV	RGN	SER1		Tsed					L	L	3	-			3B3334	4.9		0.001	mixed ser-hem-chl alt?
428.1		m	mg	PMP	PNR	CAL1		SVP					-	3	-	-			3B3335	4.9		0.001	
433.1		m	vfg	MSV	NB	ANK 2		Tsed					3	L	7	-			3B3336	5.0		0.001	ank-qtz stockworking common.
438.1		m	vfg	MSV	GN	CAL3		Tsed					L	-	L	-			3B3337	5.0		0.004	

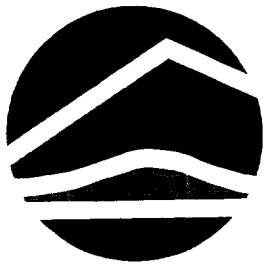
DRILL HOLE NO: YB96-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
446.9		m	vfg	MSV	GN	CALC		Tsed					1	3	5	-			30338	4.9		0.004	2 ft included syn dike
447.8		m	vfg	MSV	RGN	SER		Tsed					1	-	3	-			30339	4.9		0.001	
452.8		m	vfg	MSV	RGN	SER		Tsed					1	-	3	-			30340	5.0		0.003	
457.7		m	vfg	MSV	RGN	SER		Tsed					1	-	5	-			30341	4.9		0.001	
462.6		m	vfg	MSV	RGN	SER		Tsed					1	-	3	-			30342	4.9		0.002	a few chl-mt stringers
467.5		m	vfg	MSV	RGN	SER		Tsed					1	1	3	0.1			30343	4.9		0.006	1" mt bed @ 466 ft contains trace-1% vfg py.
472.4		m	vfg	MSV	GN	CALC		Tsed					1	3	1	-			30349	4.9		0.001	
477.3		m	vfg	MSV	RGN	CALC		Tsed					-	3	3	-			30345	4.9		0.001	2 ft syn dike
482.3		m	vfg	MSV	RB	HEM		Tsed					1	3	3	-			30346	5.0		0.004	1" mt bed @ 480.5 ft
487.2		m	vfg	MSV	RB	HEM		Tsed					1	3	-	-			30347	4.9		0.002	mt bed (1") @ 485 ft
491.1		m	vfg	MSV	RB	HEM		Tsed					1	3	3	-			30348	3.9		0.002	1 ft alt? mafic dike?
491.1								EOH															END OF HOLE

P.A.P. 35362

APPENDIX III

Maps and Sections



ROYAL OAK MINES INC

MATACHEWAN PROJECT

GEOLOGICAL LEGEND

1997

Rock Descriptions

COM (Competency)

M	Massive, will not break without considerable effort
B	Broken and blocky
F	Fractured
G	Gouge, Faults
S	Breaks roughly on shear / foliation planes
SS	Breaks easily with a hammer
SSS	Can be broken with bare hands

GRS (Grain Size)

VVFG	Very, very fine grained
VFG	Very fine grained
FG	Fine grained
FMG	Fine - medium grained
MG	Medium grained (> 3mm)
MCG	Medium - coarse grained
CG	Coarse grained (> 5mm)
VCG	Very coarse grained (> 1cm)

TEXT (Texture)

ALIG	Aligator
AMY	Amygdaloidal
BED	Bedded
BLO	Blotchy
BND	Banded
BX	Brecciated
CLAS	Clastic
COT	Contorted
CRA	Crackled
FLD	Folded
FOL	Foliated
FRAG	Fragmental
GLOM	Glomeroporphyritic
GRAN	Granular
HOM	Homogenous
IRR	Irregular
LAM	Laminated
MSV	Massive
SMSV	Semi-Massive
DISS	Disseminated

MBX	Mildly Brecciated
MOT	Mottled
NED	Neddled
NOD	Nodular
POR	Porphyritic
SHR	Sheared
SPH	Spherulitic
SPT	Spotted
SPX	Spinifex
STK	Stockwork
STR	Stringer
SUG	Sugary
VAR	Variolitic
VBX	Vein Breccia
VUG	Vuggy

CO (Colour)

AQ	Aqua
AGR	Apple Green
BK	Black
BL	Blue
CR	Cream
GBR	Grey-Brown
GGY	Green-Grey
GR	Green
GTN	Grey-Tan
GY	Grey
LM	Lime Green
OR	Orange
PL	Purple
RB	Red-Brown
RD	Red
RD	Red-Green
TN	Tan
VI	Violet
WH	White
YL	Yellow
YBR	Yellow-Brown

ALT (ALTERATION)

AB	Albitic
ANK	Ankeritic
BAF	Buff Alteration Flecks
BLD	Bleached
CB	Carbonaceous Alteration (Graphitic)
CAR	Carbonate Alteration (Undifferentiated)
CCL	Calcite-Chlorite
CHL	Chloritic
CAL	Calcitic
DOL	Dolomitic
EPI	Epidote Alteration
FUC	Fuchsitic
HEM	Hematitic

MAG	Magnetite Alteration
OXD	Oxidized
PY	Pyritic
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicic
SRP	Serpentinization
SUL	Sulphidic (Undifferentiated)
TCL	Talc-Chlorite

ALT (Alteration Strength)

1 = Weak (Presence of alteration visible, but original lithologic features easily visible)

2 = Moderate (Alteration stronger, and lithologic features often obliterated)

3 = Strong (Alteration is predominant, original lithologic features not apparent)

ALT (Mode of Occurrence)

D	Disseminated
F	Foliation Parallel
M	Massive
P	Pervasive
S	Stringer, Fracture, Veinlets

NAME2 (Rock Name, **Bold** = most commonly used)

LC	Lost Core
MC	Missing Core
FZ	Fault Zone (Fault)
CAS	Casing

MI	Massive Indefinite
VOL	Volcanic (Undifferentiated)
IGN	Ignimbrite / Ash Flow
BRX	Flow Breccia
MF	Massive Flow
VPF	Variolitic Pillowed Flow
TUF	Tuff
AGL	Agglomerate
PBX	Pillow Breccia
PF	Pillowed Flow

FVO Felsic Volcanic
MVO Mafic Volcanic
UMV Ultramafic Volcanic
UMS Ultramafic Sediments
DAC Dacite
RDC Rhyodacite
FTF Felsic Tuff
MTF Mafic Tuff
RHY Rhyolite
AND Andesite
BAS Basalt
ATF Andesite Tuff
IVO Intermediate Volcanic
FAG Felsic Agglomerate
ASH MCM's Ash unit (used for historical holes only)

GAB Gabbro
DIO Diorite
SYN Syenite (Massive, fine grained)
SYP Syenite Porphyry
AMP Amphibolite
PDT Peridotite
SRP Serpentinite
FPP Feldspar Porphyry
QFP Quartz-Feldspar Porphyry
QZP Quartz Porphyry
FEL Felsic Intrusive / Felsite (Undifferentiated)
DIA Diabase

SES Sericite Schist
SCS Sericite-Chlorite Schist
CSS Chlorite-Sericite Schist
TCS Talc-Chlorite Schist
CRB Carbonate
CLS Chlorite Schist

QCV Quartz-Carbonate Vein
CV Carbonate Vein
QV Quartz Vein
QAV Quartz-Ankerite Vein
BAV Barite Veining

SED Sediments (Undifferentiated)
TSED Timiskaming Sediments (Footwall Units)
PSED Proterozoic Sediments (Undifferentiated)

SST	Sandstone
SL	Slate
GSL	Graphitic Slate
GPH	Graphite
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
CHT	Chert
PHY	Phyllite
QZT	Quartzite

STRUCTURE

S	Schistosity	C	Contact
F	Foliation	V	Vein
B	Bedding	J	Joint
FF	Fault	SS	Stringers

MINERALS

ASP	Arsenopyrite	PO	Pyrrhotite
CPY	Chalcopyrite	PY	Pyrite
GAL	Galena	SID	Siderite
HEM	Hematite	SPH	Sphalerite
MAG	Magnetite	VG	Visible Gold
MO	Molybdentite	BA	Barite
FLU	Fluorite	TOU	Tourmaline
DOL	Dolomite	ANK	Ankerite
BIO	Biotite	CC	Calcite
EPI	Epidote	FUC	Fuchsite

ROYAL OAK MINES INC.

TECHNICAL REPORT

on the

FALL, 1996 DIAMOND DRILLING PROGRAM

Matachewan Consolidated Option

Matachewan Area

Powell Twp.

2.17158

NTS 41P/15

Work # 2.13599

R. Pressacco

Timmins, Ontario
March, 1997

Reno Pressacco, M.Sc(A), FGAC
Senior Geologist

TABLE OF CONTENTS

SUMMARY

An aggregate total of 2,717 feet of BQ core in 6 holes was drilled on the Matachewan Consolidated (MCM) Option during the August 27 to September 26, 1996 period.

The objective of these drill holes was to attempt to provide a greater density of diamond drill hole information in the vicinity of the encouraging gold values intersected by the 1995 drilling. This drill hole information would serve to provide additional confidence in the Open Pit mine desgin in this area.

Most of these six holes were targeted to follow-up on very encouraging initial results from the 1995 drilling (eg hole MCM95-3: 0.104opt / 51.1ft on Section 5000E, MCM95-27: 0.488opt / 51ft (raw assay, 0.017 opt / 51ft cut) on Section 5100E). Five of the six holes drilled failed to intersect the projected mineralization, and only hole MCM96-33 returned any significant results (0.123opt / 36.2ft (raw assay, 0.102opt / 36.2ft cut to 0.19)).

Despite the negative results of this most recent drilling program, the potential for finding additional mineralization in this area remains good. At present, the near-surface open-pit type targets have been tested from the western property boundary eastwards to Section 5300E, but no drilling has been done further eastwards of here. The presence of a number of old stopes has been both a help and a hinderance in that according to Hopper (1942) the old stope walls were assay defined, and good potential remains for locating lower grade mineralization both along the walls of the old stopes, and along their strike extensions. At the same time, the presence of these stopes poses something of a challenge in conducting effective diamond drilling programs and latter mining activities. Additional exploration activity is clearly warrented in the area of the old near-surface stopes and old pits from Section 5300E eastwards to at least Section 7500E.

LIST OF TABLES

LIST OF FIGURES

CERTIFICATION

I, Reno Pressacco, residing at 181 Christine Street, Timmins, Ontario, do hereby certify the following:

1) That I am employed by Royal Oak Mines Inc. as a Senior Geologist

2) That I hold the following degrees:

1982: Diploma in Geological Engineering Technology, Cambrian College, Sudbury, Ontario
1984: Bachelor of Science in Geology, Lake Superior State College, Sault Ste Marie, Michigan
1986: Master of Science (Applied), McGill University, Montreal, Quebec

3) That I have been practising my profession continuously since 1986.

4) That I am a member in good standing of the following organizations:

Fellow, Geological Association of Canada
Member, Prospectors and Developers Association

5) That the information presented in this document is true and accurate to the best of my knowledge. This information was gathered from such various sources as assessment files, newspaper articles, various publications, and by Royal Oak Mines Inc.

6) That I hold no direct or indirect interests in Matachewan Consolidated Mines Ltd., or Young-Davidson Mines Ltd.

R. Pressacco

Timmins, Ontario
March, 1997

R. Pressacco, M.Sc(A), FGAC
Senior Geologist

1.0 Introduction

An aggregate total of 2,717 feet of BQ core in 6 holes was drilled on the Matachewan Consolidated (MCM) Option during the August 27 to September 26, 1996 period.

The objective of these drill holes was to attempt to provide a greater density of diamond drill hole information in the vicinity of the encouraging gold values intersected by the 1995 drilling. This drill hole information would serve to provide additional confidence in the Open Pit mine desgin in this area.

2.0 Location and Access

The Matachewan Project is located in Powell, Cairo and Yarrow townships of northeastern Ontario, some 30 miles southwest of Kirkland Lake, Ontario (Figure 1). The village of Matachewan, Ontario lies on the eastern boundary of the Project area, and a paved highway, No. 566, leading westwards from Matachewan provides excellent access to most portions of the property. The driving distance from Timmins to Matachewan, via Hwy 11, is some 150 km.

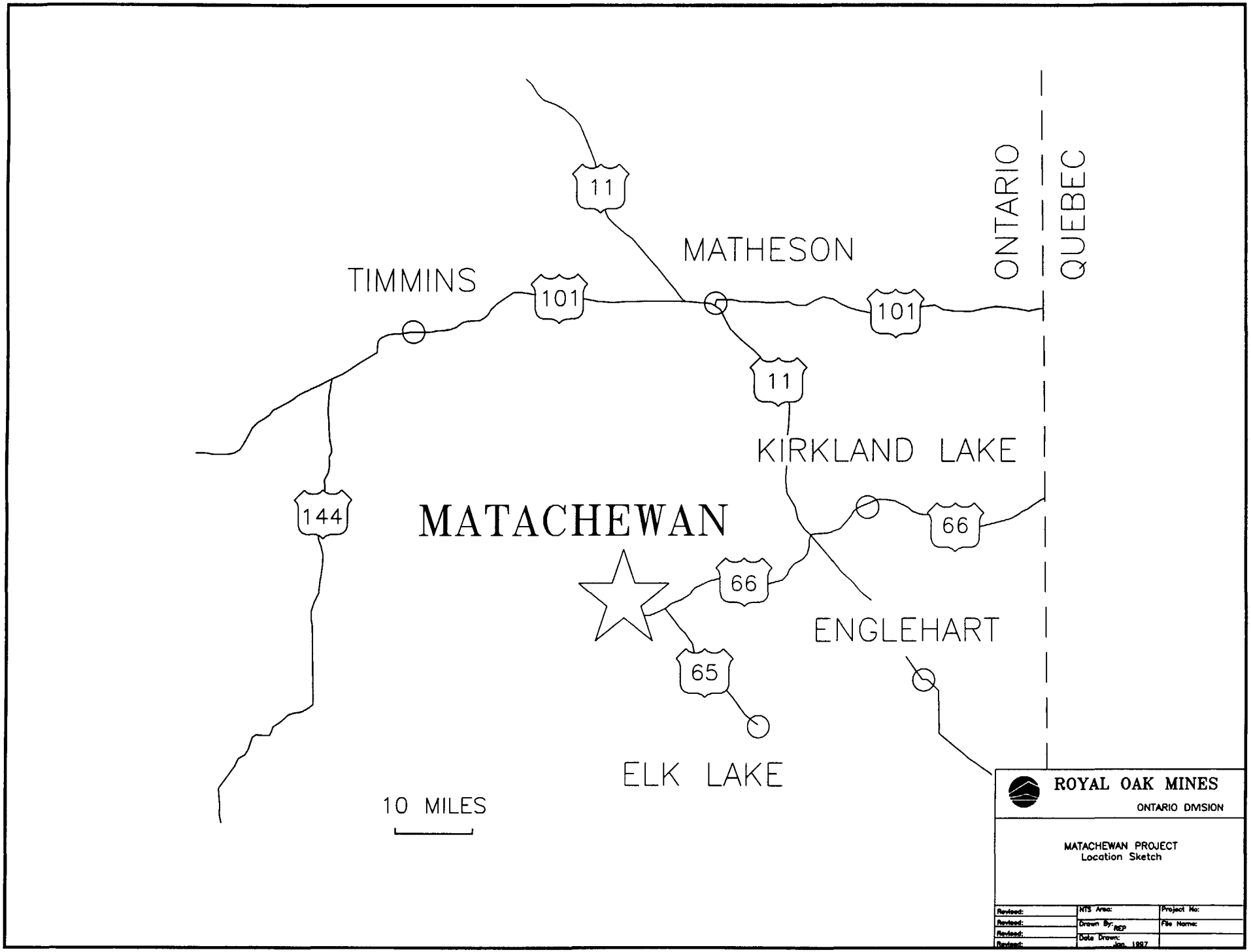
3.0 Claims

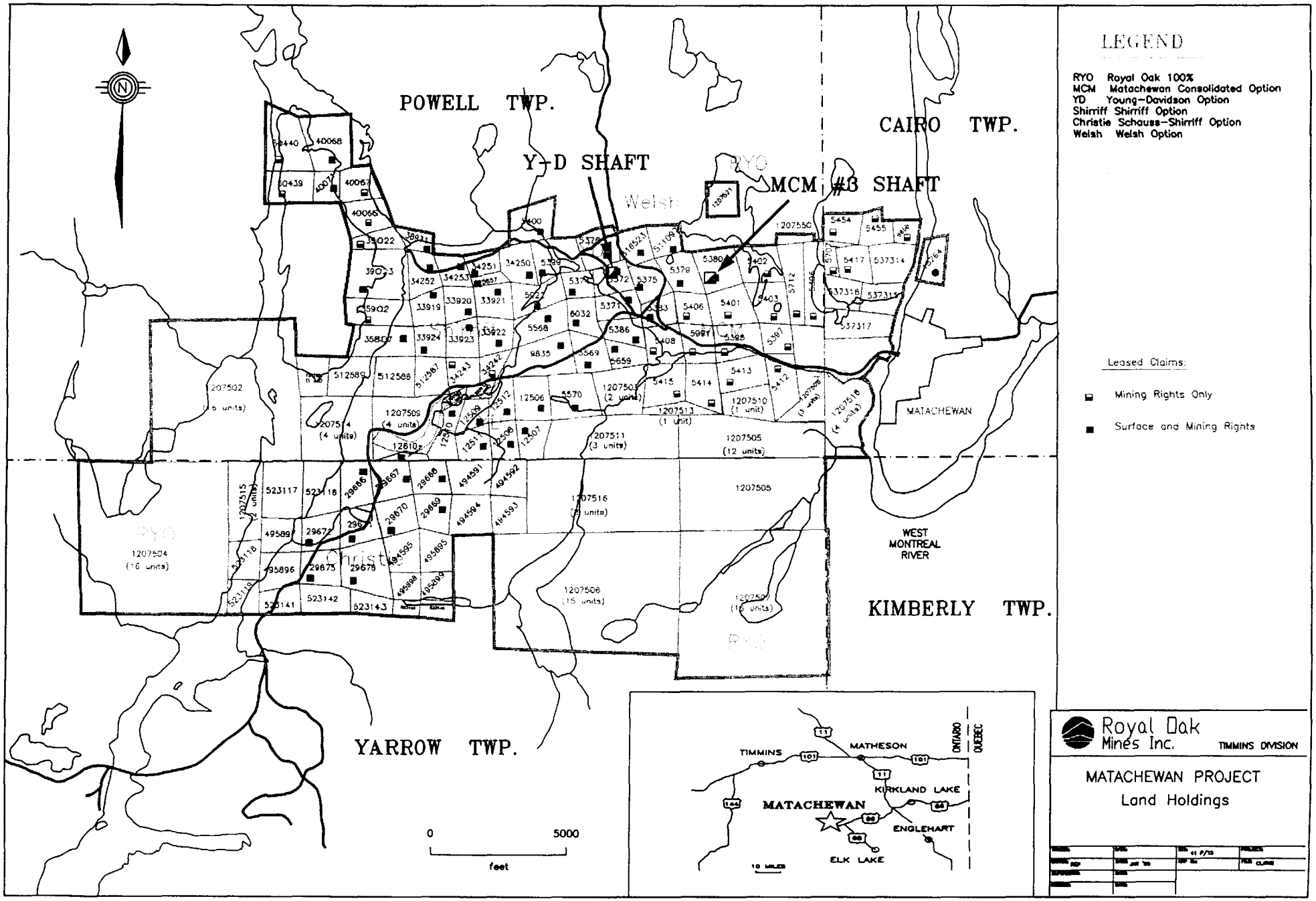
The entire Project comprises a number of different staked claims and Option Agreements, which in all currently totals some 3,475 hectares in size (Figure 2). The MCM Option itself consists of 24 claims (total 370.21 ha), of which 21 are 21-year mining leases, 1 is a patented claim, 1 is an unpatented mining claim, and 1 is a Licence of Occupation (Table 1). Royal Oak, through agreements made by predecessor companies, is currently vested in this Option, subject to a royalty payment.

4.0 Previous Work

A great deal of work has been done on the Matachewan property over the years, beginning with the initial gold discovery on the Davidson Claims (Young-Davidson Mines) in 1916. Since then, much exploration and development has been done on the property, including 3 shafts and 11 production levels. Production of gold from this property took place mainly from 1934 to 1954. A brief chronological summary is detailed below:

1916:	Discovery of gold on adjoining claims.
1916-1933:	Ventures Limited: surface prospecting, hand trenching and stripping. Pre-production activities.
1934-1954:	Ventures Limited: production period.


11
MATHESON
ONTARIO
QUEBEC
TIMMINS
101
101
11
KIRKLAND LAKE
144
MATACHEWAN
66
66
ENGLEHART
65
ELK LAKE
10 MILES
ROYAL OAK MINES
ONTARIO DIVISION
MATACHEWAN PROJECT
Location Sketch
Revised:
Revised:
Revised:
Revised:
NTS Area:
Drawn By: REP
Date Drawn: Jan. 1987
Project No:
File Name:



LEGEND

RYO Royal Oak 100%
MCM Matachewan Consolidated Option
YD Young–Davidson Option
Shirriff Shirriff Option
Christie Schauss–Shirriff Option
Welsh Welsh Option

Leased Claims:

- Mining Rights Only
- Surface and Mining Rights

Royal Oak Mines Inc. TIMMINS DIVISION

MATACHEWAN PROJECT
Land Holdings

Table 1

LIST OF CLAIMS, M.C.M. OPTION

Twp./Area	NTS Co-ord	Claim No.	Parcel No.	Agreement Name	Status	Units	Acres Surface Rights	Acres Mining Rights
Powell	41P/15	MR5379	3193LT	Matachewan Consolidated	10 yr lease	1	39.80	39.80
Powell	41P/15	MR5380	3194LT	Matachewan Consolidated	10 yr lease	1	49.30	49.30
Powell	41P/15	MR5396	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	40.00
Powell	41P/15	MR5397	5126LT	Matachewan Consolidated	21 yr lease	1	0.00	32.20
Powell	41P/15	MR5398	5126LT	Matachewan Consolidated	21 yr lease	1	0.00	56.00
Powell	41P/15	MR5401	5126LT	Matachewan Consolidated	21 yr lease	1	0.00	49.60
Powell	41P/15	MR5402	4901LT	Matachewan Consolidated	21 yr lease	1	0.00	47.30
Powell	41P/15	MR5403	5126LT	Matachewan Consolidated	21 yr lease	1	0.00	38.20
Powell	41P/15	MR5406	5126LT	Matachewan Consolidated	21 yr lease	1	0.00	32.10
Powell	41P/15	MR5408	5126LT	Matachewan Consolidated	21 yr lease	1	0.00	40.60
Powell	41P/15	MR5412	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	52.00
Powell	41P/15	MR5413	5127LT	Matachewan Consolidated	21 yr lease	1	0.00	47.30
Powell	41P/15	MR5414	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	46.70
Powell	41P/15	MR5415	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	51.30
Cairo	41P/15	MR5417	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	36.62
Cairo	41P/15	MR5454	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	31.45
Cairo	41P/15	MR5455	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	28.11
Cairo	41P/15	MR5707	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	17.09
Powell	41P/15	MR5712	5125LT	Matachewan Consolidated	21 yr lease	1	0.00	41.00
Powell	41P/15	MR5991	5287LT	Matachewan Consolidated	21 yr lease	1	0.00	38.86
Cairo	41P/15	L537314	0	Matachewan Consolidated	staked	1	0.00	40.00
Cairo	41P/15	T18264	1172SST	Matachewan Consolidated	patented	1	35.60	35.60
Cairo	41P/15	LO1007	1007LO	Matachewan Consolidated	lic. occup.	1	0.00	7.40
Cairo	41P/15	MR9655	5128LT	Matachewan Consolidated	21 yr lease	1	0.00	27.00
Total						24		925.53

1980: Pamorex Minerals: concluded Option Agreement.

1981-1982: Pamorex Minerals: gold production from small open pits, whole ore trucked back to Pamour mill for processing. Diamond drilling testing for east extension of Boundary Pit.

1995: Royal Oak Mines Inc.: Diamond drilling, 34 holes totalling 22,984ft testing for the eastern extensions of the Open Pit mineralization.

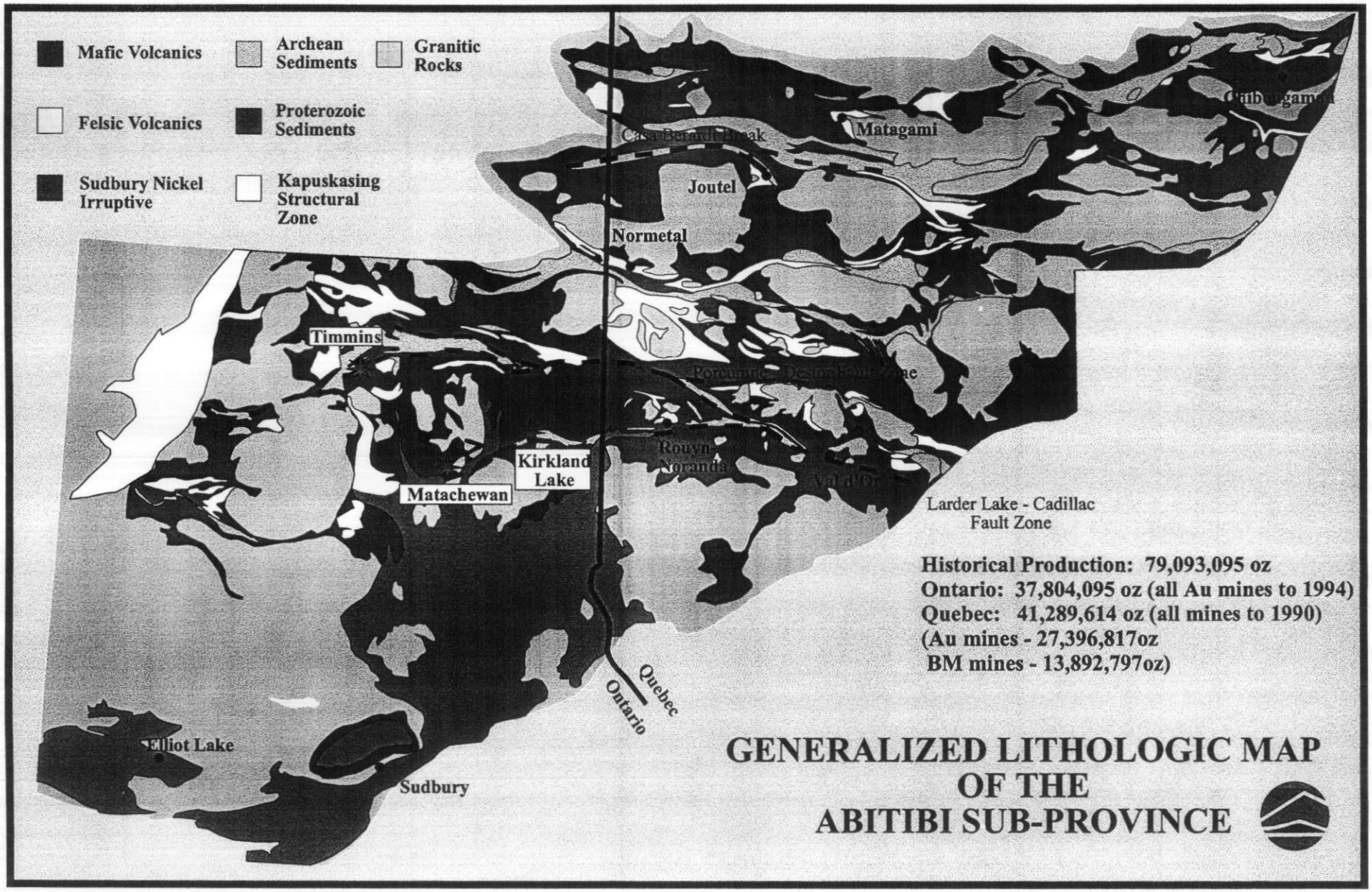
5.0 Regional Geology

The Matachewan Camp is located in the southwestern portion of the Abitibi Greenstone Belt (Figure 3). The regional metamorphic grade is largely greenschist facies, however local areas of amphibolite grade metamorphism can be found along the peripheries of the numerous large granitoid intrusions in the area.

The lithologies in the Powell-Cairo township area are extremely diverse, consisting of a folded sequence of Archean-aged mafic-ultramafic volcanic flows and sills and an assemblage of mixed clastic sediments, largely greywackes. These units have been intruded by younger granitoids, the largest of which (Cairo stock) occupies the northern half of Cairo Twp. and the southern half of Alma Twp. These granitoids themselves have been intruded by a northerly-trending swarm of diabase dikes belonging to the Matachewan swarm. All units in southwestern Powell Twp. and parts of Cairo Twp. have been covered by younger, Proterozoic-aged sediments of the Gowganda Formation.

Structurally, the Archean-aged units strike in a general east-west direction in Powell Twp., gradually taking on a northeasterly strike in Cairo Twp. The volcanic and sedimentary units have all been tightly folded into easterly-trending structures in Powell Twp., such that dips are variable; both north and south dips can be found in these units. A number of late (Paleozoic?) faults are present in the area and can have apparent offsets of up to 0.5-0.75 miles. Indeed, the largest of these cross-faults, the Montreal River fault, extends from the Kidd Creek Mine area all the way to Ottawa, and forms part of the Ottawa Graben system. This system remains active, as sporadic small earthquakes occur roughly every 15-25 years.

The reader is referred to Lovell (1967), Powell et. al. (1991) and Sinclair (1980) for additional details as to the regional geology of this area.


Mafic Volcanics
Archean Sediments
Granitic Rocks
Felsic Volcanics
Proterozoic Sediments
Sudbury Nickel Irruptive
Kapuskasing Structural Zone
Matagami
Joutel
Normetal
Timmins
Kirkland Lake
Matachewan
Rouyn-Noranda
Larder Lake - Cadillac Fault Zone
Quebec
Ontario
Elliot Lake
Sudbury
Historical Production: 79,093,095 oz
Ontario: 37,804,095 oz (all Au mines to 1994)
Quebec: 41,289,614 oz (all mines to 1990)
(Au mines - 27,396,817oz
BM mines - 13,892,797oz)
GENERALIZED LITHOLOGIC MAP
OF THE
ABITIBI SUB-PROVINCE

6.0 Local Geology

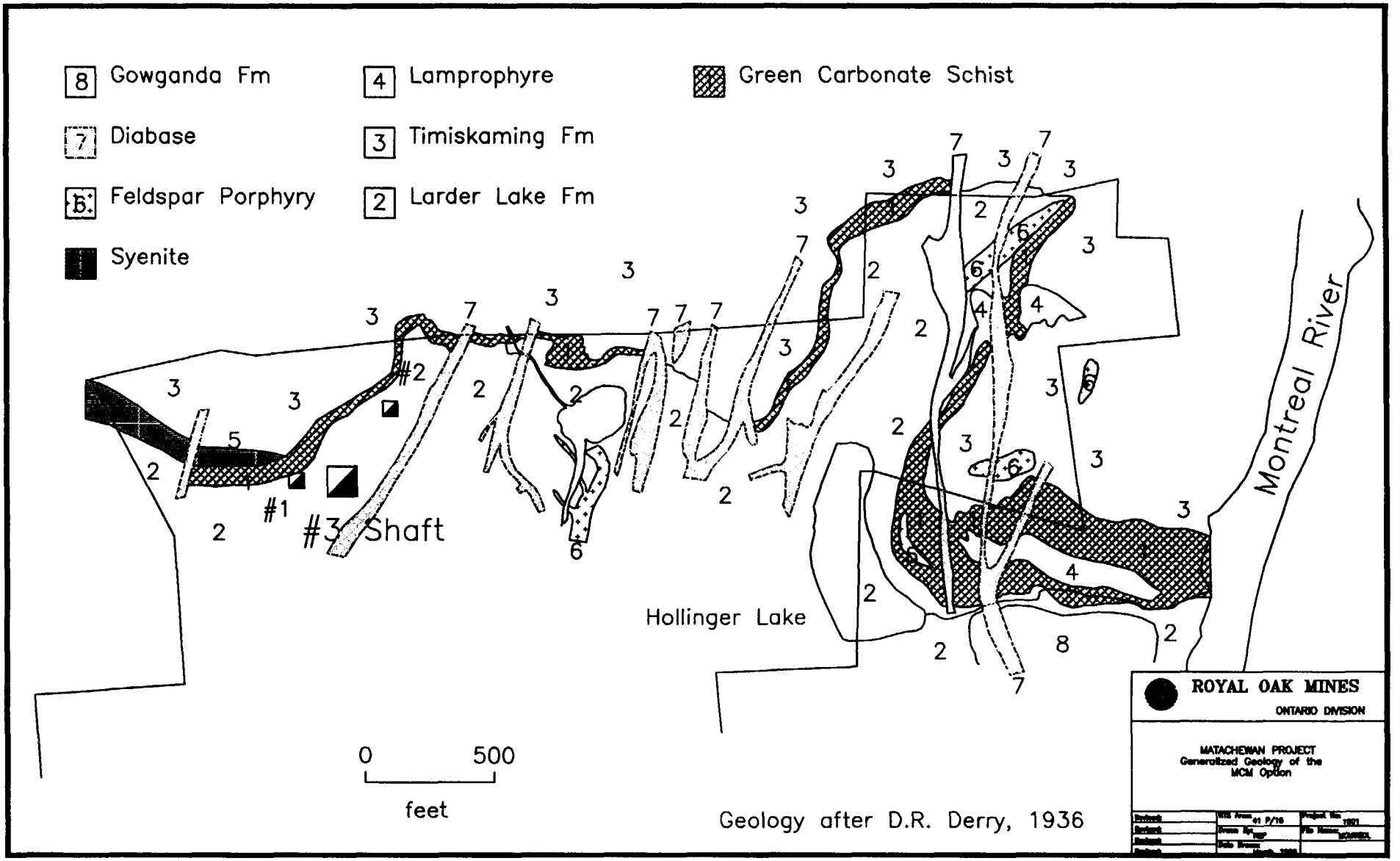
The claim group itself sits astride the contact between the Larder Lake volcanics to the south and the Timiskaming sediments to the north (Figure 4). At the western property boundary, syenite dikes and masses are located at or very near this contact and in general thicken westwards from the boundary to the Young-Davidson Mine. Eastwards of the property boundary, the syenite gradually becomes thinner, eventually pinching out.

The lithologies comprising the Larder Lake Group, the hangingwall, consist of an intricately mixed assemblage of mafic to ultramafic volcanic flows and derived sediments. These are in unconformable contact with the Timiskaming Group sediments, the footwall, along much of the length of the property. The Timiskaming sediments are composed predominantly of greywackes to a fine pebble conglomerate with local sections of coarser conglomeratic material being included on occasion. The syenite occurs in 3 different styles - coarsely feldspar porphyritic, very fine grained massive and hybridized - either as large masses on the order of 10's of feet in thickness or as a myriad of small dikes on the order of 1-10 feet in thickness, all of which are concentrated near the mafic-sediment contact. The syenites seem to preferentially intrude the Timiskaming sediments and the abundance of syenite dikes seems to gradually decrease northwards, so that very few dikes are present some 500-600 feet north of the contact. The mafic-sediment contact itself is quite convoluted in shape along the length of the property, strongly suggesting deformation by folding. All units dip steeply south (70-75°). A strong structural lineation is observed to plunge some 70° SW both in outcrop and in the orientation of the mafic-hosted ore zones. Younger diabase dikes of the Matachewan swarm cross-cut all units. The reader is referred to Derry et. al. (1948), Hopper (1942), and Cook (1919) for additional details.

7.0 Economic Geology

Past gold production from the property has come from two principle styles of gold mineralization, syenite-hosted and mafic-volcanic-hosted. Much of this production came from the 1934-1954 period when a combined total of 3,575,200 tons averaging 0.110 opt Au (378,100 oz Au, 132,200 oz Ag) were produced by Ventures Ltd. (Meyer et. al., 1992). A minor amount of gold was subsequently produced in the 1980-1982 period when Pamour Mines produced 106,708 tons of material grading some 0.069 opt Au (7,402 oz) from small open pits.

As mentioned above, gold mineralization has been traditionally recognized to be associated with two principal host rock types in the Camp, syenite and mafic volcanics. However, during the course of the 1995 exploration season, a number of additional types of mineralization have been discovered, such that now there are at least five different styles of gold mineralization. These are discussed below.


8 Gowganda Fm
7 Diabase
6 Feldspar Porphyry
Syenite
4 Lamprophyre
3 Timiskaming Fm
2 Larder Lake Fm
Green Carbonate Schist
#1
#2
#3 Shaft
Hollinger Lake
Montreal River
0
500
feet
Geology after D.R. Derry, 1936
ROYAL OAK MINES
ONTARIO DIVISION
MATACHEWAN PROJECT
Generalized Geology of the
MCM Option

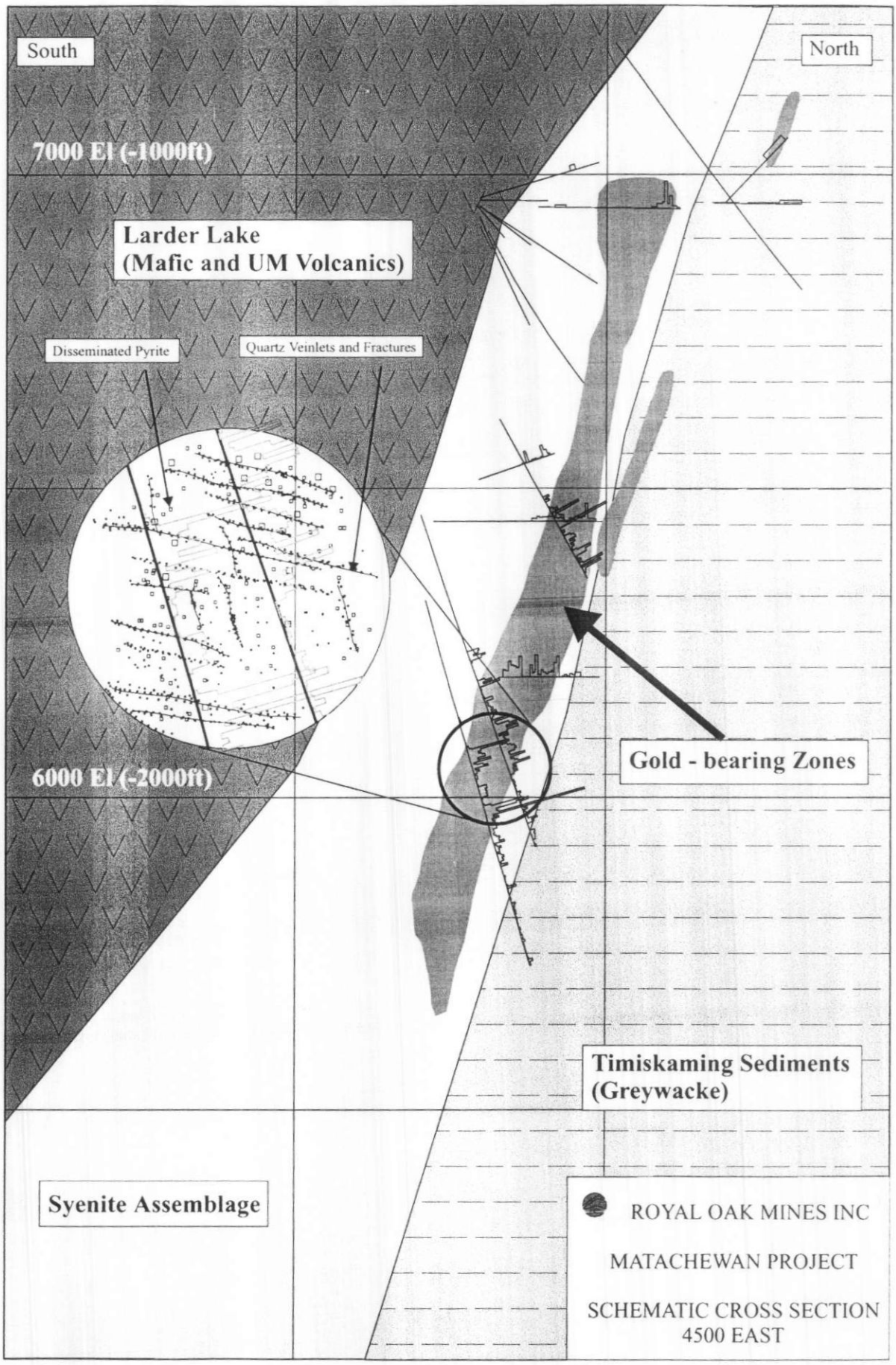
Syenite-Hosted Gold

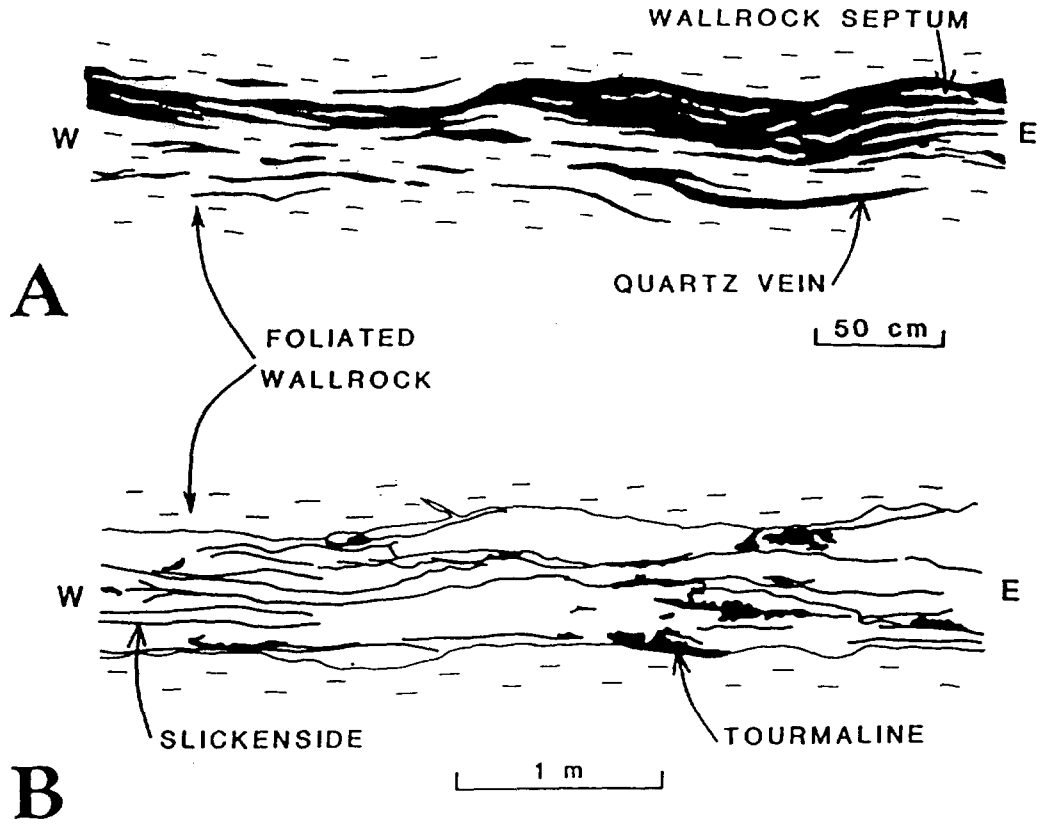
This style of mineralization has accounted for all of the historical production of the Young-Davidson Mine, and some 80% of the production from the Matachewan Consolidated Mine. This style of mineralization consists of a stockworking or networking of narrow quartz veins to a maximum of 3-4 inches that are enveloped by a halo of sericitic-silicic alteration and disseminated, patchy and (rare) stringer pyrite (Figure 5). Pyrite can occur in the veins themselves, but for the most part the pyrite is restricted to halos around the quartz veins and along tight fractures. When the pyrite does occur as medium to coarse grained patches of anhedral to subhedral crystal aggregates, the gold grades are commonly greater than 0.500 opt. Visible gold is common in the quartz veins, particularly in the narrower, glassy-textured quartz veinlets that are typically less than 1 inch in width. An alteration selvage is also commonly observed to affect the wall rocks of the veins and the wall rocks to some of the tight, chlorite-lined fractures. On an individual basis, this alteration selvage rarely penetrates more than 4-6 inches into the wall rock, but where there is a sufficient density of quartz veins or fractures, the entire rock mass takes on a characteristic light brown-yellow-orange colouration, colloquially known as "bleaching". It is in these situations that the wide widths of mineralization are encountered.

As mentioned above, gold mineralization in the syenite is closely associated with quartz veins and the attendant disseminated pyrite alteration halo. While the specific orientations of these quartz vein stockworks has not been worked out in detail, sufficient observations have been made over the past 12 months to construct a working hypothesis. Currently, these veins and (fracture) sets are seen to be dominated by tensional quartz veining that seems to be preferentially oriented in a flat (+/- 20°) northerly direction with a minor set dipping steeply to the north. These "flats" can be best considered as ladder-type veins, similar to some of the stopes in the Pascalis Nord Deposit, Val d'Or (Figure 6, D) or to some of the vein sets of the San Antonio Deposit, Rice Lake (Figure 7, D). Where a sufficient density of these flat veins occurs, the gold grade of the overall host rock is sufficient to be considered economical to mine. In detail, each individual vein is viewed to dip shallowly to the north, but as a whole, the entire set of the quartz stockworking has an overall attitude that sub-parallels the general orientation of the enclosing wall rocks (i.e. strike approximately east-west and dip steeply to the south).

Mafic Volcanic-Hosted Gold (Matachewan Consolidated)

There seem to be two sub-types of this particular type of mineralization. The first is the traditional or known style of mafic volcanic-hosted conjugate quartz veins, as illustrated in Figure 8. Here a set of "shear-hosted" quartz veins follows the general stratigraphic orientation - dipping steeply to the south - and forms the conjugate set to the flat (+/- 20°) north dipping tensional quartz vein set. Gold grades in this particular style of mineralization are again associated with quartz-pyrite veins and vein breccias, but calcite


South
North
7000 El (-1000ft)
Larder Lake
(Mafic and UM Volcanics)
Disseminated Pyrite
Quartz Veinlets and Fractures
6000 El (-2000ft)
Gold - bearing Zones
Timiskaming Sediments
(Greywacke)
Syenite Assemblage
ROYAL OAK MINES INC
MATACHEWAN PROJECT
SCHEMATIC CROSS SECTION
4500 EAST



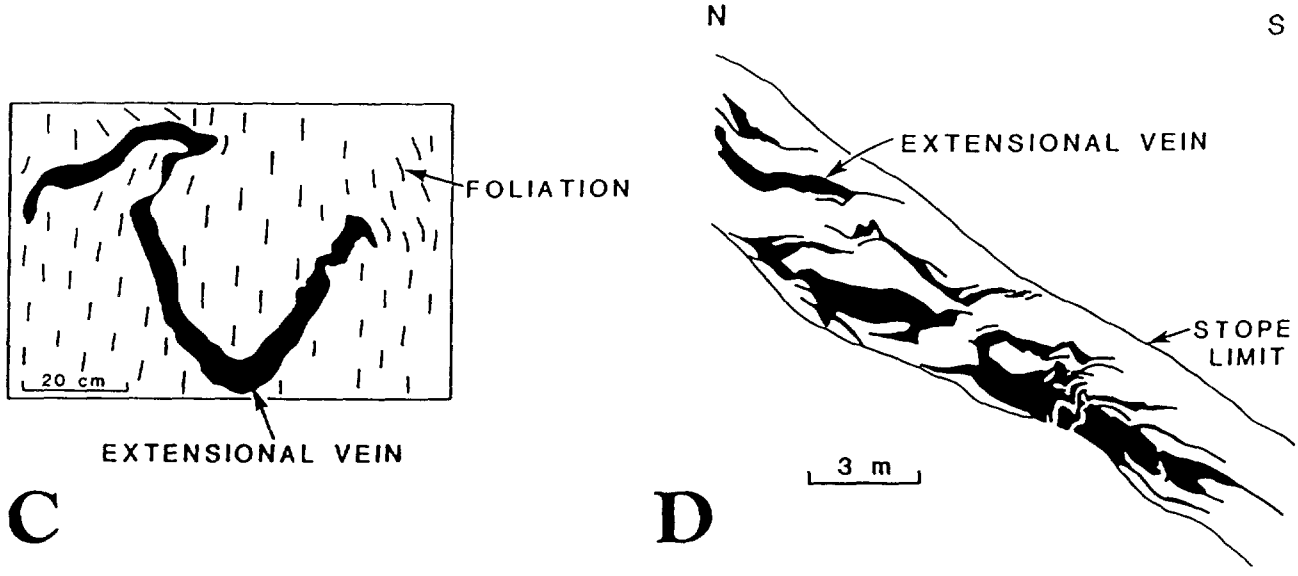


Figure 8.8: Natural examples of veins in shear zones. (A) Plan view of a ribboned shear vein containing abundant septa of altered and foliated wallrock. Note also the small isolated quartz veinlets adjacent to the main shear vein; Sigma deposit, Val d'Or. (B) Plan view of a typical laminated shear vein containing tourmaline aggregates, as well as tourmaline-coated slip surfaces; Sigma deposit, Val d'Or. (C) Plan view of a buckled extensional vein within a shear zone, at high angle to the foliation; Cameron Lake deposit, Ontario. (D) Cross section of an array of sigmoidal extensional veins in a brittle-ductile, reverse shear zone; Pascalis Nord deposit, Val d'Or.

in Mineralization and Shear Zones, J. T. Burnsall ed.

Figure 6

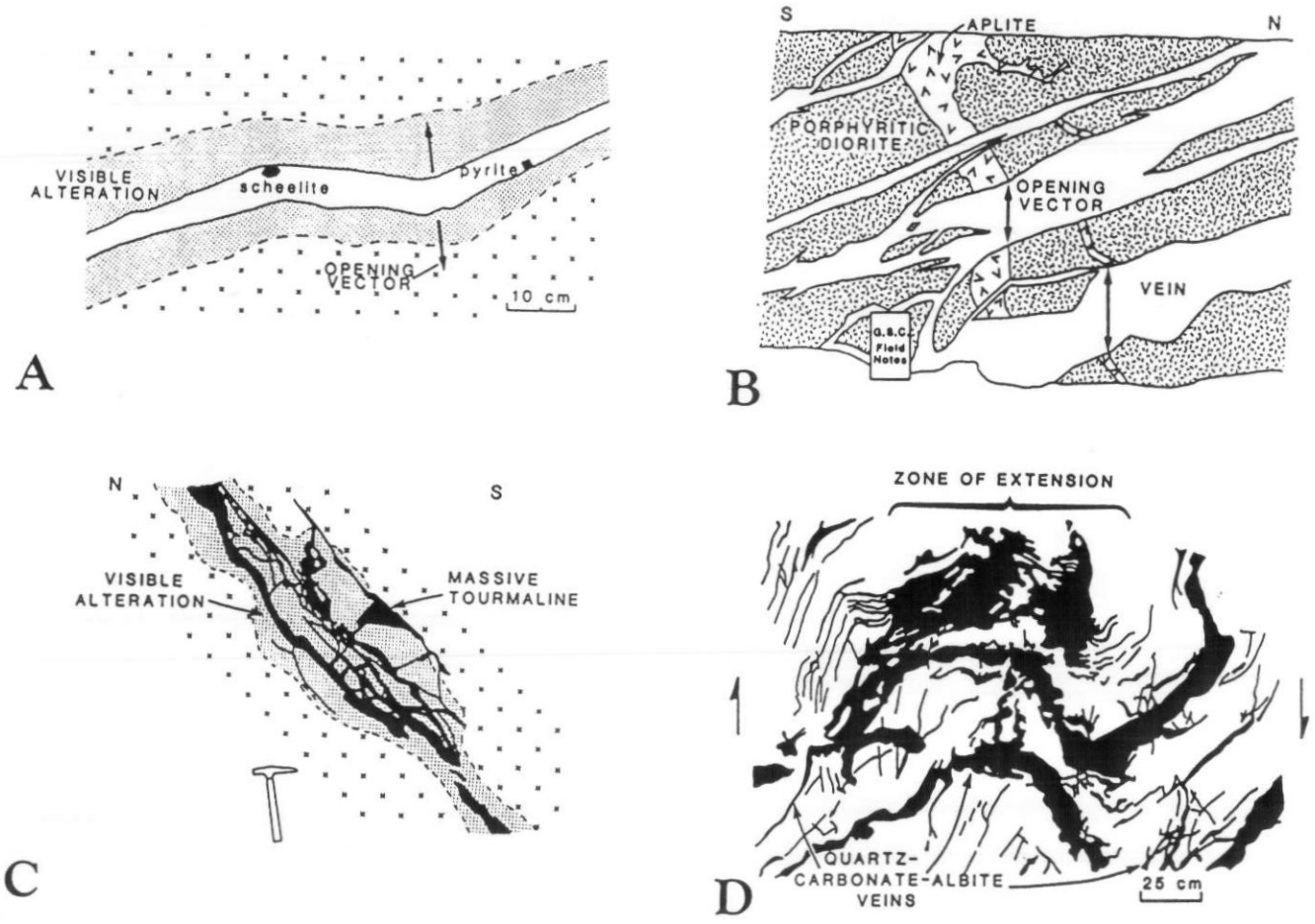
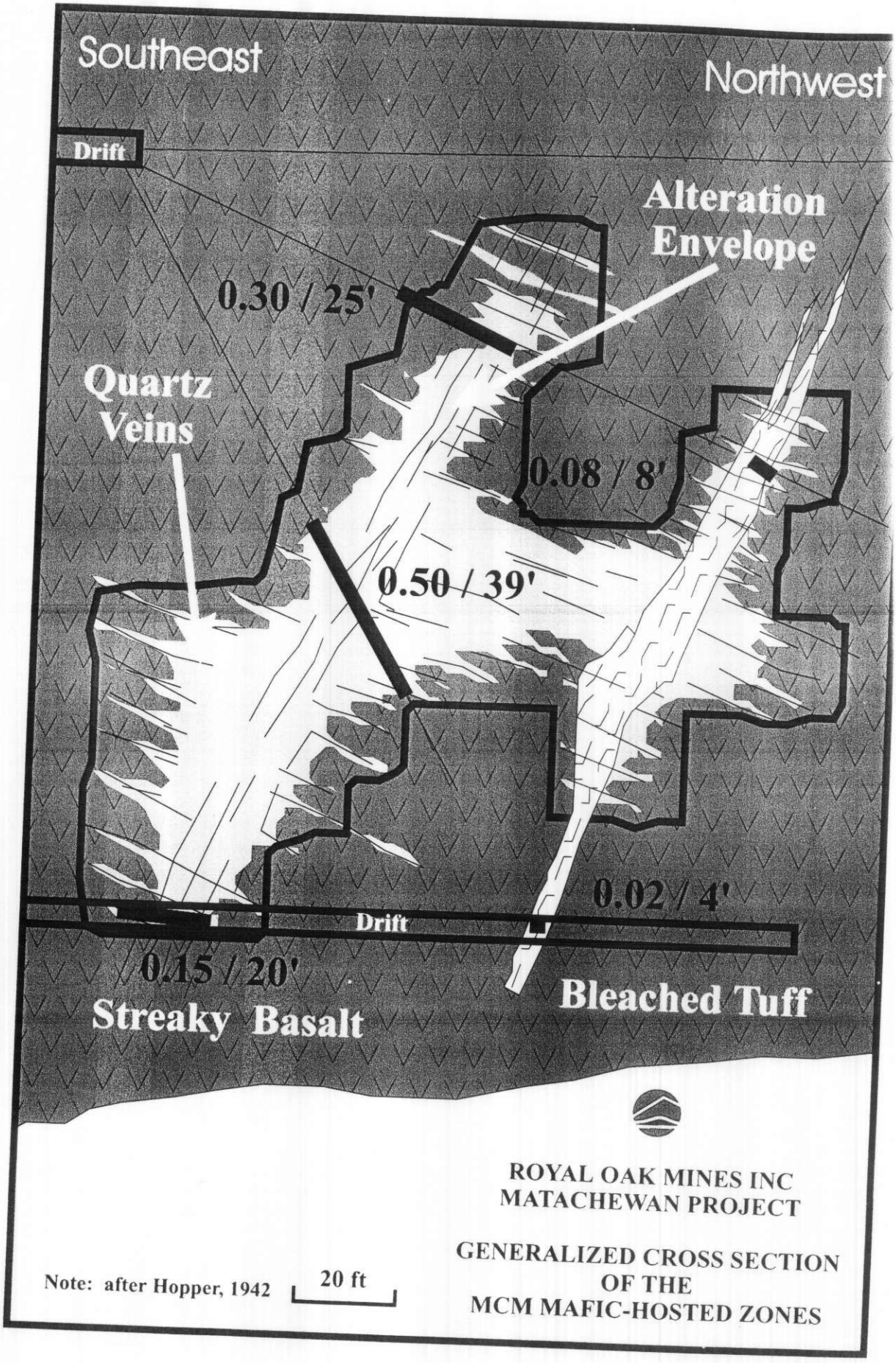


Figure 8.9: Natural examples of extensional and breccia veins (A) Cross section of a subhorizontal extensional quartz vein; note the subvertical opening vector given by the match of irregularities along the vein walls. The large scheelite and pyrite crystals in the veins indicate open space filling; Sigma deposit, Val d'Or.(B) Cross section of oblique-extension veins in a felsic sill with aplite dykes; note the subvertical opening vector of the shallow south-dipping veins; Siscoe Extension deposit, Val d'Or. (C) Cross section of a breccia vein consisting of angular wallrock fragments in a massive tourmaline matrix; Sigma deposit, Val d'Or. (D) Cross section of an array of sigmoidal extensional veins (ladder veins) with a central breccia with angular wallrock fragments. Note the subvertical movement indicated by the ladder veins; San Antonio deposit, Rice Lake.

in Mineralization and Shear Zones, J. T. Burgmall ed.

Figure 7



ROYAL OAK MINES INC
MATACHEWAN PROJECT

GENERALIZED CROSS SECTION
OF THE
MCM MAFIC-HOSTED ZONES

Note: after Hopper, 1942

20 ft

also forms an important component. The second sub-type of mineralization is typified by the newly discovered "Joe Zone" mineralization. Here, strongly calcitic-pyritic altered mafic volcanics seem to form sheaths or envelopes surrounding intrusive bodies of dark grey coloured (quartz)-feldspar porphyries. The ultimate economic potential of this style of mineralization is unknown, but the several intersections that have been returned to date have returned values up to a maximum of 0.104 opt Au/51.1 ft (MCM95-3). At present, all of the drilling which has intersected this mineralization has been at shallow depths (to -200 ft), some of whose intersections have been included in the optimized pit outline. The limited drilling to date is suggesting a somewhat erratic distribution for this style of mineralization.

Timiskaming Sediment-Hosted Gold

The recent drilling has discovered what appear to be small, somewhat isolated pods of gold-bearing mineralization in the Timiskaming Sediments, or footwall units to the syenite, known as the "Kai Zone". This style of mineralization is similar to the syenite-hosted mineralized zones in that quartz flooding, veins and vein breccias containing 1-10% disseminated pyrite in the altered wall rock halos. This style of mineralization seems to be related to syenite dikes/dike swarms in the footwall, and a mild to moderate hematite alteration is also noted here. As with the grey porphyry-related mineralization discussed above, the ultimate economic potential of this style of mineralization is unknown, however values of up to 0.150 opt Au/48.0 ft (YD95-98) have been returned. These vein/vein breccias have not been observed to exhibit any type of preferred orientations in the drill core observed to date.

Ultramafic-Hosted Gold Mineralization

This style of mineralization is typically hosted by fuchsitic-altered ultramafic volcanics and sediments in the hangingwall to the syenite. Known as the "Jake's Cave" zone after one of the founders of the Young-Davidson Mine, Jake Davidson, this style of mineralization consists of strong quartz-ankerite veining with sericite alteration and variable amounts of disseminated pyrite. Gold grades seem to correlate with the pyrite and the observations to date suggest that this type of mineralization is erratic in distribution, although development of steep westerly plunging shoots is suspected. The shallow nature and high grades of this type of mineralization makes these attractive open pit targets, provided an economic outine can be established.

Hangingwall Contact Gold Mineralization

This type of mineralization consists of sericite-(hematite)-altered mafic-ultramafic sediments and flows at or very near to the hangingwall contact of the syenite. Only two drill holes have intersected this mineralization to date (YD95-40 and YD96-16A), and assay results have been up to 0.025 opt Au/265.2 ft (YD95-40, incl. 0.135 opt Au/11.0 ft).

Assay results for YD96-16A are pending at the time of writing. The overall dimensions, orientations, or economic potential of these intersections cannot be estimated at this time.

8.0 Summary of the 1996 Drilling Program

An aggregate total of 2,717 feet of BQ core in 6 holes was drilled on the Matachewan Consolidated (MCM) Option during the August 27 to September 26, 1996 period by Benoit Diamond Drilling of Val d'Or, Quebec, using 1 Acker long-stroke drill rig. All of the holes were drilled in BQ size, with all of the core being transported from the drill site to Royal Oak's Matachewan coreshacks for logging and sampling. All remaining core is stored on the MCM minesite. A list of personnel involved in these programs is given in Appendix I.

During the logging process, all core was measured for its RQD by the technicians. The geologists subsequently logged the geological and structural characteristics of the core, and any core which seemed favourable of containing gold was marked off for detailed sampling. Samples lengths for this detailed sampling typically ranged from 1 to 5 feet in length, with many samples being 5 feet long. That core which did not seem to hold any promise for containing gold values (except the diabase dikes) were sampled by the composite method. In this method, a representative section of whole core, 1 to 4 inches in length, is selected at a nominal 5 foot spacing along an interval of up to roughly 50 feet in length. These "buttons" of core were then placed in sample bags, tagged and sent to the laboratory for analysis. In all, two laboratories were used - Royal Oak's Schumacher laboratory, and Spectrolab of Rouyn-Noranda. All gold analyses were done by Fire Assay-Atomic Absorption finish on 1AT sub-samples. Those intervals containing visible gold were analyzed by the Pulp + Metallic Method.

The results of the gold analyses are given in the detailed diamond drill logs, and a summary of all significant gold values encountered during these drilling programs is given in Table 2. Detailed drill logs being given in Appendix II. Detailed cross-sections and a plan map showing drill holes locations are given in Appendix III.

In brief, this recent drilling program returned results that were somewhat less than anticipated. Most of these six holes were targeted to follow-up on very encouraging initial results from the 1995 drilling (eg hole MCM95-3: 0.104opt / 51.1ft on Section 5000E, MCM95-27: 0.488opt / 51ft (raw assay, 0.017 opt / 51ft cut) on Section 5100E). Five of the six holes drilled failed to intersect the projected mineralization, and only hole MCM96-33 returned any significant results (0.123opt / 36.2ft (raw assay, 0.102opt / 36.2ft cut to 0.19)). Indeed, this intersection in hole MCM96-33 does not correlate well with the previous intersections. This, coupled with the disappointing results from the other five holes points out quite clearly the discontinuous nature of the mafic-hosted mineralization in this area. While correlation of these drill hole intersections appears quite difficult to perform on cross-sections, historical experience with this mineralization

ROYAL OAK MINES INC

MATACHEWAN PROJECT

SUMMARY OF SIGNIFICANT ASSAY RESULTS
from the
FALL, 1996 DIAMOND DRILLING PROGRAM
MCM Option

Hole No.	Co-ordinates	From	To	Length (Ft)	Au (raw)	Au (cut 0.19)	Lithology	Comments
MCM96-32	5300E 2500N -45 @ 360	123.0	142.0	19.0	**0.034**	- -	QFP Dike (SYN?)	
MCM96-33	5200E 2540N -45 @ 360	63.7	99.9	36.2	**0.123**	**0.102**	HW alt'n zone	
		280.5	295.3	14.8	**0.040**		Syenite (Main)	
MCM96-34	5100E 2680N -45 @ 360	157.5	162.4	4.9	**0.052**	- -	Timiskaming Seds	
		172.2	177.2	5.0	**0.094**	- -	Timiskaming Seds	
		191.9	206.7	14.8	**0.023**	- -	Timiskaming Seds	
MCM96-35	5100E 2370N -45 @360	190.6	193.1	2.5	**0.250**	- -	HW Mafic volc's	cc - py alt'n zone
		300.2	329.7	29.5	**0.030**	- -	HW Ultramafic Seds	Q - A veins in fuchsitic alt'n
		413.4	418.3	4.9	**0.125**	- -	Syenite (Main)	Qtz-ank-chl-py patches
MCM96-36	5000E 2650N -45 @ 360	123.0	128.0	5.0	**0.134**	- -	HW Ultramafic Seds	
MCM96-37	5000E 2390N -45 @ 360	191.9	201.8	9.9	**0.055**	- -	HW Mafic Volc's	

suggests the possiblity of correlating these intersections by means of westerly plunging shoots, very similar to the stopes previously mined to the east.

9.0 Conclusions and Recommendations

Despite the negative results of this most recent drilling program, the potential for finding additional mineralization in this area remains good. At present, the near-surface open-pit type targets have been tested from the western property boundary eastwards to Section 5300E, but no drilling has been done further eastwards of here. The presence of a number of old stopes has been both a help and a hinderance in that according to Hopper (1942) the old stope walls were assay defined, and good potential remains for locating lower grade mineralization both along the walls of the old stopes, and along their strike extensions. At the same time, the presence of these stopes poses something of a challenge in conducting effective diamond drilling programs and latter mining activities. Additional exploration activity is clearly warrented in the area of the old near-surface stopes and old pits from Section 5300E eastwards to at least Section 7500E.

10.0 References

------, 1984, Lithostratigraphic Map of the Abitibi Subprovince: OGS - MERQ Joint Publication, Map 2484

Burrows, A.G., 1918, The Matachewan Gold Area: Ont. Bur. Mines Vol. 27 (1918) and Vol. 29 Part 3 (1970)

Cooke, H.C., 1919, Geology of the Matachewan District: GSC Memoir 115

Derry, D.R., Hopper, C.H., and McGowan, H.S., 1948, Matachewan Consolidated Mine in Structural Geology of Canadian Ore Deposits: CIMM Jubilee Volume I, p 638-643

Dyer, W.S., 1935, Geology and Ore Deposits of the Matachewan-Kenogami Area: ODM Ann. Rpt., Vol. 33, Part 2, pp 31-36

Hopper, C.H., 1942, Geology of the Matachewan Consolidated Mine, Northern Ontario: in CIMM Transactions Volume 45, pp 387-400

Hopper, C.H., 1943, The Engineer and the Diamond Drill in Northern Ontario: in CIMM Transactions Volume 46, pp 480-505

Lovell, H.L., 1967, Geology of the Matachewan Area: ODM Geological Report 51, 55 p, 2 maps

Meyer, G., Guindon, D., Boucher, F.M., Madon, Z., and Gaudreau, M., 1992, Kirkland Lake Resident Geologist's District in Report of Activities 1992 Resident Geologists: OGS Misc. Paper 161, Fenwick, K.G., Newson, J.W., and Pitts, A.E., eds. p 276-277

North, H.H., and Allen, C.C., 1948, Young-Davidson Mine in Structural Geology of Canadian Ore Deposits: CIMM Jubilee Volume I, p 633-637

Powell, W.G., Kilbourne, M.W., and Hodgson, C.J., 1991, Gold-Related Geology of the Matachewan Camp in Archean Gold Deposits of the Matachewan-Kirkland Lake-Larder Lake Area: Soc. Econ. Geol. Guidebook series, Volume 2, Lovell, H.L., Robinson, D.R., and Guindon, D.L., eds., p 72-88

Sinclair, W.D., 1980, Gold Deposits of the Matachewan Area, Ontario in Geology of Canadian Gold Deposits: CIMM Spec. Volume 24, Hodder, R.W., and Petruk, W., eds., p 83-93

Sloan, D.A., 1942, Low-Cost Mining at Young-Davidson in CIMM Volume

Southern, N.J., 1940, Lower Grade Ore at Young-Davidson Mine in CIMM Volume

R. Pierce

Feb 22 (97

APPENDIX I

List of Personnel, 1996 Drilling

Matachewan Project

List of Personnel, 1996 Diamond Drilling

Name	Position
Reno Pressacco	Senior Geologist
Stephen Harding	Geologist
Ray Letellier	Technician
Marc Richard	Technician

APPENDIX II

Field Drill Logs

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Bessacco DATE LOGGED: Sept 19, 1996 DRILL HOLE NO: Mem 96-32

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2480.08	5307.98	7968.29	383.9	5300E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
206.7	358	-42												
383.7	358	-41												

START DATE: Sept 17, 1996

FINISH DATE: Sept 18, 1996

TOWNSHIP: Powell

CLAIM NO.: MR 5379

DRILLING CONTRACTOR: Benoit DD - Val d'Or.

PURPOSE: In-fill drilling, East End.

RESULTS:

WHY HOLE TERMINATED: Normal termination in Fw sals

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Mine site

CORE STORED (LOCATION): Bunker, Mem Mine site.

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: MCM96-32

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
60.								CAS															Casing. All casing recovered. Actual casing depth 12.3 ft
14.8		m	vfg	MSV	DGN	CALC		MVO					-	1	-	-			MAT 1995	4.8		0.010	strongly magnetic.
19.7		m	fg	MSV	DGN	CALC		MVO					1	5	-	-			1996	4.9		0.001	strongly magnetic.
24.6		m	vfg	MSV	DGN	CALC		MVO					1	5	-	1			1997	4.9		0.001	vfg disc pyrite assoc. with calcite bands.
29.5		m	vfg	MSV	DGN	CALC		MVO					-	1	-	-			1998	4.9		0.001	strongly magnetic
34.9		m	vfg	MSV	DGN	CALC		MVO					-	3	-	-			1999	4.9		0.001	strongly magnetic.
39.9		m	vfg	MSV	GN	CALC		MVO					-	1	3	0.1			2000	5.0		0.001	disc + patchy pyrite
44.3		m	vfg	MSV	GN	CALC		MVO					1	10	1	1			2001	4.9		0.001	
49.2		m	vfg	MSV	GN	CALC		MVO					-	3	-	1			2002	4.9		0.001	patchy euhedral pyrite
54.1		m	vfg	MSV	GN	CALC		MVO					-	5	-	1			2003	4.9		0.001	
59.1		m	vfg	MSV	GN	CALC		MVO					-	15	3	-			2004	5.0		0.003	
64.0		m	vfg	FOL	GN	ANCH		MVO	F	70			-	3	5	-			2005	4.9		0.009	

P.A.P. 35362

DRILL HOLE NO: MW16-32

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
68.9		m	vfg	FOL	GN	MOD2		MVO					-	1	2%	1			2006	4.9		0.003	vvfg diss pyrite assoc. with leaviest carbonatic bands.
73.8		m	vfg	FOL	GN	MOD2		MVO					-	-	3%	1			2007	4.9		0.001	
77.8		m	vfg	FOL	YGN	MOD3		MVO	C	70			-	-	5%	t			2008	4.0		0.001	weak fuchsitic colour.
83.6		m	fg	PGN	MD	CAL2		QFP					-	0.1	-	0.1			2009	5.8		0.001	
88.6		m	fg	PGN	MD	CAL2		QFP					-	1	-	0.1			2010	5.0		0.001	occassional carbonatic chloritic bands.
93.5		m	fg	PGN	MD	CAL2		QFP					-	0.1	-	1			2011	4.9		0.001	
98.4		m	fg	PGN	MD	CAL2		QFP					0.1	1	-	0.1			2012	4.9		0.001	
103.3		m	fg	PGN	MD	CAL2		QFP					1	1	-	0.1			2013	4.9		0.001	glassy quartz stringers to ¼"
108.3		m	fg	PGN	MD	CAL2		QFP					0.1	-	-	1			2014	5.0		0.001	
113.2		m	fg	PGN	MD	CAL2		QFP					-	0.1	-	-			2015	4.9		0.001	a few chloritic bands.
118.1		m	fg	PGN	MD	CAL2		QFP					1	0.1	-	0.1			2016	4.9		0.001	
123.9		m	fg	PGN	LGN	MOD1		QFP					-	-	-	0.1			2017	4.9		0.001	
138.0		m	mg	PGN	LGN	MOD1		QFP					-	-	-	1			2018	5.0		0.023	

DRILL HOLE NO: MM96-32

Average = 0.034 opt Au / 13.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
137.9		m	mg	PMB	LMW	SILZ		QFP					1	-	-	1			2018	4.9		0.065	vuggy class Pyrite
137.8		m	mg	PMB	LMW	SILZ		QFP					1	-	-	1			2019	4.1		0.015	class + vuggy dacitoid shape Pyrite
142.0		m	fg	PMB	LMW	SILZ		QFP	C	55			1	-	-	1			2021	3.2		0.032	
147.6		m	cg	FOL	AMR	FUCZ		YMS					-	-	-	W			2022	5.6		0.004	syngenetic Pyrite
152.1		m	fg	FOL	AMR	SERI		YMS	C	60			-	3	-	3			2023	4.5		0.001	recrystallized syngenetic Pyrite
157.5		m	mg	PMB	RB	ANCI		SYN					1	-	-	-			2024	5.4		0.001	
162.9		m	mg	PM	RB	ANCI		SYN					1	-	-	-			2025	4.9		0.001	
167.3		m	mg	PMB	RB	ANCI		SYN					1	-	-	-			2026	4.9		0.001	
172.2		m	fg	PMB	RB	ANCI		SYN					3	-	-	0.1			2027	4.2		0.001	
177.0		m	fg	PMB	RB	ANCI		SYN	C	55			0.1	-	-	-			2028	4.8		0.001	
182.1		m	mg	FOL	AMR	FUCI		YMS					-	-	5	5			2029	5.1		0.001	syngenetic Pyrite
187.0		m	cg	LMB	GW	—		YMS					1	-	-	1			2030	4.9		0.001	coarse euhedral class Pyrite
191.9		m	cg	LMB	GW	—		YMS					-	-	-	1			2031	4.9		0.001	

DRILL HOLE NO: MM16-32

PAGE 5 OF 6

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
196.9		m	Cg	CLMS	Gn	—		UMS					—	—	—	1			2037	5.0		0.001	syngenetic pyrite pebbles
201.8		m	Cg	CLMS	Gn	—		UMS					—	—	—	1			2033	4.1		0.001	syngenetic pyrite pebbles
206.7		m	Cg	CLMS	Gn	—		UMS					—	—	—	1			2034	4.9		0.001	syngenetic pyrite pebbles
211.6		m	Cg	CLMS	Gn	—		UMS					—	—	—	1			2035	4.9		0.001	syngenetic pyrite
216.5		m	Cg	CLMS	Gn	—		UMS					—	—	—	10			2036	4.9		0.001	large pebbles of syngenetic pyrite
221.4		m	Cg	CLMS	Gn	—		UMS	F	60			—	—	—	10			2037	4.9		0.002	syngenetic pyrite
226.4		m	Cg	CLMS	Gn	—		UMS					—	—	—	3			2038	5.0		0.010	
230.7		m	Fg	CLMS	Gn	FUC1		UMS					—	—	—	1			2039	4.3		0.002	
236.2		m	Fg	FOL	AMP	FUC2		UMS					1	—	1	0.1			2040	5.5		0.047	qtz-calc veins to 1"
241.0		m	Fg	FOL	AMP	FUC2		UMS	C	40			3	—	1	0.1			2041	4.9		0.030	
246.1		m	Fg	PEG	PEG	—		SYN					1	—	—	—			2042	5.4		0.001	½" qtz-calc vein @ 245.5 ft
251.0		m	Fg	MSV	PEG	—		SYN					—	—	1	—			2043	4.9		0.004	
255.9		m	Fg	MSV	PEG	—		SYN					1	—	1	—			2044	4.9		0.002	

DRILL HOLE NO: MCM 16-32

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
260.8		m	vfg	MSV	NB	—		SYN					—	—	—	—			2045	4.9		0.001	
265.7		m	vfg	MSV	NB	—		SYN					1	—	3	—			2046	4.9		0.001	
270.6		m	vfg	MSV	NB	—		SYN					—	—	5	—			2047	4.9		0.001	
274.5		m	vfg	MSV	NB	—		SYN	C	55			—	—	3	—			2048	3.9		0.001	
280.5		m	vfg	MSV	NB	HFM		TSCI					—	—	—	—			2049	6.0		0.001	
285.4		m	fg	MSV	NB	HFM		TSCI					—	—	—	—			2050	4.9		0.001	
290.3		m	fg	MSV	NB	SCH		TSCI					—	—	—	—			2051	4.9		0.001	a few chloritic black veins.
295.3		m	fg	MSV	NB	CHL		TSCI					—	—	1	—			2052	5.0		0.001	a few chloritic stringers.
300.8		m	fg	MSV	BLY	CHL		TSCI					—	—	—	—			2053	5.5		0.001	10% foliation-chloritic veining.
305.1		m	vfg	MSV	NB	—		SYN					—	—	—	—			2054	4.3		0.001	
310.0		m	mg	PGR	NB	—		SYP					—	—	—	—			2055	4.9		0.001	10% chloritic veining.
315.0		m	vfg	MSV	NB	—		SYN					—	—	—	—			2056	5.0		0.001	10% chloritic stringers
319.9		m	vfg	MSV	NB	—		SYN					—	—	—	—			2057	4.9		0.001	

P.A.P. 35362

DRILL HOLE NO: MM16-32

PAGE 6 OF 6

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
324.8		m	fg	msv	BN	SER		TSed					1	-	-	qt			7058	4.9		0.005	
329.7		m	fg	msv	BN	SER		TSed					-	1	-	-			7059	4.9		0.001	
334.6		m	fg	msv	BN	SER		TSed					-	1	-	-			7060	4.9		0.001	
339.5		m	fg	msv	BN	SER		TSed					-	1	-	-			7061	4.9		0.001	
344.5		m	fg	msv	GY	-		TSed					-	-	-	-			7062	5.0		0.001	
393.9		m	fg	msv	YGY	-		TSed					-	1	-	-			7063	39.9		0.001	composite sample.
393.9								GUH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Nessacco DATE LOGGED: Sept 19, 1996 DRILL HOLE NO: MCM96-38

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2543.42	5201.90	7965.68	452.8ft	5200E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45															
206	001	-42															
403	360	-40															

START DATE: Sept 17, 1996

FINISH DATE: Sept 17, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5379

DRILLING CONTRACTOR: Benoit DD- Val d'Or

PURPOSE: In-fill drilling - East End

RESULTS: 0.123 opt Au / 36.2 ft (637 - 99.9 ft, raw), 0.102 opt / 36.2 (cut to 0.19)
0.040 opt Au / 14.8 ft (280.5 - 295.3 ft)

WHY HOLE TERMINATED: Normal termination in FW sed's

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Minesite

CORE STORED (LOCATION): Bunker, Mcm Minesite

☑ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: MCM 96-33

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
13								CAS															CASING: All casing recovered
19.7		m	vfg	MSV	DGN	CALP		MUD					-	5	-	-			MAT 1912	6.7		0.001	
24.6		m	vfg	MSV	DGN	CAL1		MUD					1	5	tr	-			1913	4.9		0.001	
29.5		m	vfg	MSV	DGN	CAL1		MUD					-	5	-	-			1914	4.9		0.001	
34.9		m	vfg	FOL	GN	SER1		MUD					1	3	-	-			1915	4.9		0.001	a few sericitic bands to 6"
39.9		m	vfg	MSV	GN	CAL1		MUD					-	1	-	-			1916	5.0		0.001	
44.3		m	vfg	FOL	GN	CAL1		MUD					-	1	-	-			1917	4.9		0.001	
49.2		m	vfg	FOL	GN	CAL2		MUD					-	3	-	-			1918	4.9		0.001	
																						0	
54.1		m	vfg	FOL	GN	CAL1		MUD	F	55			-	3	-	-			1919	4.9		0.001	
59.1		m	vfg	MSV	GN	CAL1		MUD	V	75			1	1	0.1	-			1920	5.0		0.001	1" qtz-ank vein @ 56ft.
63.7		m	vfg	MSV	GN	ANK1		MUD					1	-	10	-			1921	4.6		0.001	
68.9		m	vfg	FOL	GRY	SIL3		ALT	F	45			1	1	3	10			1922	5.3		0.262	Pervasive intense grey alteration, qtz-ank veins to 1"
70.7		m	vfg	BRX	BRN	SIL3		ALT	C	75			5	-	5	7			1923	1.6		0.222	qtz-ank brx overprinting ser-sil alt'n

DRILL HOLE NO: NW16-33

Average = 0.123 opt Au / 36.2 ft (raw)
or = 0.102 opt / 36.2 (cut to 0.1 opt)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE py	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
75.9		m	cg	FVBX	AGR	FUC 2		UMS					3	1	5	3			1924	5.2		0.220	sub-ang veining and pantry fuc-ser alt^n, diss fg pyrite.
78.7		m	fg	PORP	BN	SER 2		QP					1	-	3	1			1925	2.8		0.028	Quartz-porphyry dike, irregular upper contact
93.6		m	fg	PORP	BN	SER 2		QP					1	-	3	1			1926	4.9		0.054	diss + weak stringer pyrite
98.6		m	fg	PORP	BN	SER 2		QP					1	-	1	0.1			1927	5.0		0.041	
93.5		m	fg	PORP	BN	SER 2		QP					1	-	1	5			1928	4.9		0.068	mg-cg patchy pyrite, 1 ft inclusion of UMS @ 92 ft.
98.4		m	fg	PORP	BN	SER 2		QP					3	-	5	3			1929	4.9		0.040	6" inclusion of UMS @ 98 ft, fg diss pyrite
99.9		m	fg	PORP	BN	SER 2		QP	C	35			5	-	3	1			1930	1.5		0.324	6" inclusion of UMS @ 98.4 ft
104.8		m	cg	CLAS	AGR	FUC 2		UMS					-	-	-	3			1931	4.9		0.008	re-crystallized syngenetic pyrite
109.6		m	cg	CLAS	AGR	FUC 2		UMS					-	-	-	3			1932	4.8		0.010	syngenetic pyrite clasts easily visible.
114.5		m	cg	CLAS	AGR	FUC 2		UMS					-	-	-	5			1933	4.9		0.006	syngenetic pyrite clasts.
119.9		m	cg	CLAS	AGR	FUC 2		UMS					-	-	-	10			1934	5.4		0.006	syngenetic pyrite clasts to ½"
124.8		m	fg	PORP	BN	SER 3		QP	C	60			-	-	-	0.1			1935	4.9		0.001	Quartz Porphyry dike.
129.5		m	fg	PORP	BN	ITER 1		QP					1	-	3	0.1			1936	4.7		0.006	

DRILL HOLE NO: MCW 16-33

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE q/b	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
133.8		m	mg	PMS	MB	HEM 2		QP	C	60			1	-	1	0.1			1937	4.3		0.001	
137.8		m	cg	KMS	GN	FUC 2		UMS					1	-	1	1			1938	4.0		0.001	
142.7		m	cg	CMS	GN	-		UMS					1	t	-	1			1939	4.9		0.001	chloritic matrix
147.6		m	cg	CMS	GN	-		UMS					-	-	0.1	1			1940	4.9		0.001	re-crystallised syngenetic pyrite
152.5		m	cg	CMS	GN	-		UMS					-	-	-	3			1941	4.9		0.001	
157.5		m	cg	CMS	GN	-		UMS					-	-	-	5			1942	5.0		0.009	SMSV syngenetic bedded pyrite to 3 inches
162.9		m	fg	CMS	GN	-		UMS	F	70			-	-	-	5			1943	4.9		0.006	
164.7		m	cg	UMS	GN	-		UMS					0.1	-	0.1	1			1944	2.3		0.001	
167.3		m	fg	FOL	AGR	FUC 2		UMS					1	-	3	-			1945	2.6		0.008	
172.2		m	fg	FOL	AGR	FUC 2		UMS					1	-	-	-			1946	4.9		0.002	
177.2		m	fg	FOL	AGR	FUC 2		UMS	BX	30			3	-	1	0.1			1947	5.0		0.042	qtz-ank veins to 2" contain trace ASM-PY-CPY
182.1		m	fg	FOL	AGR	FUC 2		UMS					1	-	-	-			1948	4.9		0.016	
187.0		m	fg	FOL	AGR	FUC 2		UMS					1	1	-	0.1			1949	4.9		0.001	

DRILL HOLE NO: Mcm 96-33

PAGE 5 OF 8

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
191.7		m	fg	FOL	MGR	FUC1		qms					1	1	-	1			1950	4.9		0.014	
196.9		m	fg	FOL	GN	-		qms					3	-	1	1			1951	5.0		0.086	
201.2		m	fg	CGT	MGR	FUC3		qms					1	1	-	1			1952	4.3		0.018	
206.7		m	vfg	MSV	BN	-		SYN					-	-	-	-			1953	5.5		0.006	
211.6		m	vfg	MSV	RB	-		SYN					-	1	-	-			1954	4.9		0.001	
216.5		m	vfg	MSV	LBN	-		SYN					-	-	-	-			1955	4.9		0.006	a few chloritic stringers
221.4		m	vfg	MSV	LBN	-		SYN					-	-	3	-			1956	4.0		0.001	fuc-ank-chl "dike" 220 - 222ft
226.4		m	vfg	MSV	RB	ANK1		SYN					1	-	5	-			1957	5.0		0.010	a few chl-ank bands to 2"
231.3		m	vfg	MSV	RB	ITEM1		SYN					3	-	1	-			1958	4.9		0.001	qtz-tourmaline veins to 3" contain trace apy
236.2		m	vfg	MSV	RB	-		SYN					-	-	3	0.1			1959	4.9		0.001	a few chl-ank sections
241.1		m	vfg	MSV	RB	-		SYN					-	-	1	-			1960	4.9		0.001	
246.1		m	vfg	MSV	LBN	-		SYN					-	1	-	0.1			1961	5.0		0.001	
251.0		m	vfg	MSV	RB	-		SYN					-	1	-	-			1962	4.9		0.010	a few chloritic stringers

P.A.P. 35362

DRILL HOLE NO: MCM 96-33

Average: 0.040 opt Au / 14.8 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
255.9		m	vfg	FGL	AGR	ANK3		DIO					-	-	25	-			1963	4.9		0.001	heavy ank-chl-fuc alt= in 1-2ft dikes.
260.8		m	vfg	FGL	AGR	ANK3		DIO					-	-	15	+			1964	4.9		0.001	50% alt'd dikes
265.7		m	vfg	FGL	AGR	ANK3		DIO					-	-	15	-			1965	4.9		0.014	50% alt'd dikes
270.6		m	vfg	FGL	AGR	ANK3		DIO					-	-	15	-			1966	4.9		0.001	50% alt'd dikes
275.6		m	vfg	FGL	AGR	ANK3		DIO					-	-	15	-			1967	5.0		0.002	50% alt'd dikes
280.5		m	vfg	FGL	AGR	ANK3		DIO					-	-	7	-			1968	4.9		0.002	micro syenite xenoliths, 15% mafic/felsitic phases easily visible.
285.4		m	vfg	FGL	AGR	ANK2		DIO	V	60			+	-	7	1			1969	4.9		0.059	no syenite xenoliths
290.3		m	vfg	FGL	NB	CALI		SYN					-	1	-	0.1			1970	4.9		0.021	trace cpy in cc veinlets to 1/4"
295.3		m	fg	MSV	NB	CALI		SYN					1	3	-	3			1971	5.0		0.039	class mig. euhedral Pyrite.
302.0		m	vfg	MSV	REW	CHLI		SYN					-	1	-	-			1972	6.7		0.003	
305.1		m	fg	MSV	BW	SERI		TSED					-	1	-	-			1973	3.1		0.001	
310.0		m	fg	MSV	BW	SERI		TSED					-	3	-	-			1974	4.9		0.001	a few chloritic stringers
315.0		m	fg	MSV	BW	SERI		TSED					-	1	-	0.1			1975	5.0		0.004	a few hairline chloritic stringers.

P.A.P. 35362

DRILL HOLE NO: MCM96-33

PAGE 7 OF 8

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	mk	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
319.9		m	fg	MSV	BrV	SCRI		Tsed					-	1	-	-			1976	4.9		0.006	
324.8		m	fg	MSV	BrV	SCRI		Tscl					-	-	-	-			1977	4.9		0.001	
329.7		m	fg	MSV	BrV	SCRI		Tscl					1	-	3	-			1978	4.9		0.008	
334.6		m	fg	MSV	RB	ITRM		Tsed					1	1	-	0.1			1979	4.9		0.001	
339.5		m	fg	MSV	GRY	SCRI		Tscl					-	1	-	-			1980	4.9		0.008	
344.5		m	fg	MSV	GRY	-		Tsed					-	-	-	-			1981	5.0		0.001	
349.4		m	fg	MSV	GRY	-		Tscl					-	-	-	-			1982	4.9		0.004	
354.3		m	fg	MSV	GRY	-		Tscl					1	-	-	-			1983	4.9		0.017	
403.5		m	fg	MSV	GRY	-		Tsed					1	1	3	0.1			1984	49.2		0.008	composite sample.
408.4		m	fg	MSV	BrV	CALI		Tsed					-	1	-	-			1985	4.9		0.001	
415.7		m	fg	MSV	BrV	CALI		Tscl	C	90			-	1	-	0.1			1986	7.3		0.019	
418.3		m	fg	PRP	RB	-		SYP					-	1	-	1			1987	2.6		0.001	fg discs subbedral pyrite
423.2		m	fg	PRP	RB	-		SYP					-	1	-	1			1988	4.9		0.001	

DRILL HOLE NO: vlm 16-33

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ 0pt grams	COMMENTS
428.1		m	fg	PGR	RB	–		SVP					7	1	–	1			1989	4.9		0.004	1 ft qtz-arth vein @ 424 ft contains trace cpy.
433.1		m	mg	PGR	RB	–		SVP					3	1	1	0.1			1990	5.0		0.006	a few qtz-ank veins/patches to 1-2"
437.6		m	mg	PGR	RB	–		SVP					5	1	–	0.1			1991	4.5		0.006	irregular lower contact
447.9		m	fg	MSV	RGY	CALC		Tsed					–	1	3	0.1			1992	5.3		0.009	
447.8		m	fg	MSV	RGY	CALC		Tsed					–	1	–	–			1993	4.9		0.018	
452.8		m	fg	MSV	RGY	CALC		Tsed					–	1	–	–			1994	5.0		0.010	
452.8						(		EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Pressacco DATE LOGGED: Sept 13, 1996 DRILL HOLE NO: MCM 96-34

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2678.86	5102.29	794.23	383.9	5100E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45															
206	001	-40															
383	001	-38															

START DATE: Sept 11, 1996

FINISH DATE: Sept 12, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5379

DRILLING CONTRACTOR: Benoit Dd, Val d'Or

PURPOSE: In-fill drilling, east end of open Pit.

RESULTS: 0.052 opt Au/4.9ft (157.5 - 162.4ft), 0.094 opt Au/5.0ft (172.2-177.2ft)
0.023 opt Au/14.8ft (191.9 - 206.7ft)

WHY HOLE TERMINATED: Normal termination in FW seds

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Minesite

CORE STORED (LOCATION): Bunker, MCM Minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: MCM16-34

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gk	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
23								CAS															CASING. All casing recovered.
29.5		M	vfg	FOL	AGR	FUC 3		ALT	F	SD			B	1	—	0.1			AX 36693	5.5		0.012	mixed bands of fuchsite and calcite. 2.7ft of missing core
37.1		M	vfg	FOL	AGR	FUC 3		ALT					1	3	—	0.1			36694	4.9		0.024	
43.5		M	vfg	FOL	AGR	FUC 3		ALT					1	1	—	—			36695	5.9		0.004	
49.2		M	vfg	FOL	YBN	ANK 3		Tsed					—	—	30	0.1			36696	6.7		0.004	2 ank-talc veins to 6" 47-48.5ft (55° TCA)
54.1		M	vfg	MSV	NB	ANK 2		Tsed					—	1	10	0.1			36697	4.9		0.001	
60.9		M	vfg	MSV	NB	ANK 2		Tsed					—	1	5	—			36698	5.9		0.001	
64.9		M	fg	MSV	NB	ANK 2		SYN	QV	0			1	—	5	—			36699	4.0		0.001	Thin, ¼" glassy QV @ low angle TCA contains hairline cpy
68.9		M	fg	MSV	NB	ANK 2		SYN					—	—	5	—			36700	4.9		0.001	
73.8		M	fg	MSV	NB	HEM 1		SYN					—	—	5	—			36701	4.9		0.001	incipient bleach-fly alt, 2" gk-chl vein @ 73 ft
78.7		M	fg	MSV	NB	HEM 1		SYN					1	—	5	1			36702	4.9		0.006	2" glassy QV traverses lower sample limit
83.6		M	fg	MSV	NB	HEM 1		SYN					1	—	5	11			36703	4.9		0.072	2 ft ank-talc-pyrite alt @ 79 ft.
88.6		M	fg	MSV	NB	ANK 1		SYN					1	1	3	—			36704	5.0		0.001	

DRILL HOLE NO: MCM96-34

PAGE 3 OF

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
93.5		m	vfg	MSV	RB	HEM 2		SYN					1	1	t	qtz			36705	4.9		0.001	
98.4		m	fg	PGR	RB	ANK 1		SYN					1	1	1	qtz			36706	4.9		0.001	
100.6		m	mg	PGR	RB	CHL 1		SYN					–	3	–	–			36707	2.2		0.004	hole ends in late stage cc veinlet, gradational lower contact
103.3		m	vfg	MSV	RB	HEM 2		Tsed					1	3	–	–			36708	2.7		0.006	
108.3		m	vfg	MSV	GN	CAL 1		Tsed					–	1	–	–			36709	5.0		0.028	
113		m	vfg	MSV	GN	CAL 1		Tsed					–	3	–	–			36710	4.9		0.001	
118.1		m	vfg	MSV	GN	CAL 1		Tsed					–	3	–	–			36711	4.9		0.001	
123.0		m	vfg	MSV	GN	CAL 1		Tsed					–	1	–	–			36712	4.9		0.004	
128.0		m	vfg	MSV	GN	CAL 1		Tsed					t	1	–	–			36713	5.0		0.006	
132.9		m	vfg	MSV	GN	CHL 1		Tsed					–	1	–	–			36714	4.9		0.002	
137.8		m	vfg	MSV	GN	ANK 1		Tsed					–	1	–	–			36715	4.9		0.019	mod-strong calcitic alt = 136 – 139 ft
142.7		m	vfg	MSV	GN	CAL 1		Tsed					–	1	–	–			36716	4.9		0.001	2" mt patch @ 142 ft
147.6		m	vfg	MSV	YBN	SER 1		Tsed					–	–	–	–			36717	4.2		0.001	

P.A.P. 35362

DRILL HOLE NO: MW 96-34

Average = 0.023 opt Au / 14.8 ft (raw)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
152.5		m	vfg	msv	YBN	SER1		Tsed					–	–	10	–			36718	4.9		0.001	1 ft pervasive ank alt = @ 149 ft
157.5		m	vfg	msv	YBN	SER1		Tsed					5	–	1	0.1			36719	5.0		0.001	qtz-ank veins + patches to 2"
162.4		m	vfg	msv	YBN	SER1		Tsed					5	–	0.1	–			36720	4.9		0.052	qtz-ank veins to 1"
167.3		m	vfg	msv	YBN	SER1		Tsed					–	–	3	–			36721	4.9		0.001	
172.2		m	vfg	msv	YBN	SER1		Tsed					1	–	1	0.1			36722	4.9		0.001	
177.2		m	vfg	msv	YBN	SER1		Tsed					1	–	1	1			36723	5.0		0.094	vvfg diss pyrite
182.1		m	vfg	msv	YBN	SER1		Tsed					–	1	–	–			36724	4.9		0.001	ser alt = overprinting pervasive chl alt = @ 180 ft
187.0		m	vfg	msv	GN	CHL1		Tsed					1	–	1	0.1			36725	4.9		0.001	
191.9		m	vfg	msv	YBN	SER1		Tsed					–	–	7	0.1			36726	4.9		0.001	
196.9		m	vfg	msv	YBN	SIL1		Tsed					–	–	7	0.1			36727	5.0		0.025	grey "silicic" alt = lines ank vein/patch walls.
201.8		m	vfg	msv	YBN	CHL1		Tsed					1	3	–	0.1			36728	4.9		0.014	
206.7		m	vfg	msv	YBN	SER1		Tsed					–	1	–	1			36729	4.9		0.031	¼" pyrite stringer @ 204.5 ft (5° TCA)
211.6		m	vfg	msv	YBN	CHL1		Tsed					–	3	–	–			36730	4.9		0.002	

P.A.P. 35362

DRILL HOLE NO: MCM96-34

PAGE 5 OF

DIST	ID	Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt / grams	COMMENTS
216.5		m	fn	MSU	YBN	SER 1		7sed					-	3	-	0.1			36731	4.9		0.001	
221.4		m	fn	MSU	YBN	SER 1		7sed					-	1	3	1			36732	4.9		0.001	4" ank-py veining/brx @ 220.5 ft
226.4		m	fn	MSU	YBN	SER 1		7sed					-	1	7	1			36733	5.0		0.016	ank stringers/patches common.
231.3		m	fn	MSU	YBN	SER 1		7sed					-	3	3	1			36734	4.9		0.001	pervasive ser alt?
236.2		m	fn	MSU	YBN	SER 1		7sed					1	-	3	1			36735	4.9		0.001	mixed diss + stringer pyrite
241.1		m	fn	MSU	YBN	SER 2		8sed					1	-	3	3			36736	4.9		0.106	qtz-ank veins to 3" @ high angle TCA.
246.1		m	fn	MSU	YBN	SER 1		7sed					-	1	1	1			36737	5.0		0.001	
251.0		m	fn	MSU	YGY	SER 1		7sed					1	3	1	0.1			36738	5.0		0.001	
255.9		m	fn	MSU	YBN	SER 1		7sed					-	1	-	1			36739	4.9		0.004	
260.8		m	fn	MSU	YBN	SER 1		7sed					-	-	1	1			36740	4.9		0.001	
265.7		m	fn	MSU	YBN	SER 1		7sed					-	1	-	0.1			36741	4.9		0.001	
324.8		m	fn	MSU	GY	—		7sed					-	3	-	1			36742	59.1		0.001	composite sample.

DRILL HOLE NO: MCM 96-34

PAGE 6 OF

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
383.9		m	fg	MV	GV	—		Sal					½	cc	ank	py			36713	5.1		0.008	composite sample.
383.9								EOH															End OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Pressacco DATE LOGGED: Sept 16, 1996 DRILL HOLE NO: MCM 96-35

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2373.87	5097.83	7953.76	541.3 ft	5100E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-46												
206.7	358	-44°												
403.5	360	-42												

START DATE: Sept 13, 1996

FINISH DATE: Sept 16, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5379

DRILLING CONTRACTOR: Benoit DD - Val d'Or

PURPOSE: In-fill drilling, East End.

RESULTS: Best Results: 0.250 opt / 2.5 ft (190.6 - 193.1 ft) and 0.030 opt / 29.5 ft (300.2 - 329.7 ft)

WHY HOLE TERMINATED: Normal termination in FW seds

CORE SIZE: BQ

CASING: Casing left in place

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Minesite

CORE STORED (LOCATION): Bunker, Mcm Minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: MCM 96-35

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
76.2								CAS															Casing.
78.7		m	vfg	msv	GN	CAL1		MVO					-	5	-	0.1			MAT 1839	52.5		0.001	strongly magnetic, occassional short sections of diss-patchy pyrite with cc veinlets.
128.9		m	vfg	msv	GN	CAL1		MVO					-	3	-	-			1840	49.3		0.001	1% randomly veinlets + stringers, strongly magnetic
167.3		m	vfg	msv	GN	CAL1		MVO					-	3	-	-			1841	39.3		0.001	strongly magnetic.
173.2		m	vfg	msv	GN	CAL1		MVO					-	3	-	-			1842	4.9		0.001	strongly magnetic
177.7		m	vfg	msv	GN	CAL1		MVO					-	3	-	-			1843	5.0		0.001	
182.1		m	vfg	msv	GN	CAL1		MVO					-	3	-	-			1844	4.9		0.001	strongly magnetic
187.0		m	vfg	msv	GN	SER1		MVO	F	60			0.1	5	-	1			1845	4.9		0.001	diss Fg pyrite assoc. with cc-ser bands/veins
190.6		m	vfg	msv	GN	CAL1		MVO					-	1	-	0.1			1846	3.6		0.001	
193.1		m	vfg	msv	GY	CAL3		MVO	V	45			3	35	-	7			1847	2.5		0.250	Fg-Cg anhedral pyrite assoc. with ghs-cc veining/alt=
196.9		m	vfg	msv	GN	CAL2		MVO					+	10	-	-			1848	3.8		0.001	wispy + patchy + veinlet cc alt=
201.8		m	vfg	msv	GN	CAL2		MVO					-	5	-	0.1			1849	4.9		0.001	
206.7		m	vfg	msv	GN	CAL2		MVO					1	3	-	-			1850	4.9		0.001	
211.6		m	vfg	FOL	MGN	ANK2		MVO					1	5	5	1			1851	4.9		0.001	

DRILL HOLE NO: MCM 16-35

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
216.5		m	vfg	FOL	YGN	ANK2		MUD					1	5	5	-			185R	4.9		0.001	
221.4		m	vfg	FOL	YGN	ANK2		MUD					1	1	10	-			185B	4.9		0.001	
226.4		m	vfg	FOL	YGN	ANK2		MUD					3	1	20	-			185H	5.0		0.001	
231.3		m	vfg	FOL	YGN	ANK2		MUD	F	45			1	1	20	0.1			185S	4.9		0.001	
233.8		m	vfg	FOL	YGN	ANK2		MUD					1	1	10	0.1			185V	2.5		0.001	
236.2		m	vfg	MOT	GGY	ANK3		MUD					-	-	30	-			185Y	2.4		0.001	mottled texture.
241.1		m	vfg	MOT	GGY	ANK3		MUD					-	-	30	-			185B	4.9		0.001	
246.1		m	vfg	MOT	GGY	ANK3		MUD					-	-	30	-			185D	5.0		0.001	
251.0		m	vfg	FOL	GGY	ANK3		MUD					-	-	50	-			186A	4.9		0.001	
253.5		m	vfg	FOL	GGY	ANK3		MUD					-	-	50	-			186C	2.5		0.001	wavy, irregular lower contact.
258.5		m	cg	FOL	AGR	FUC3		UMS					1	1	3	1			186F	5.0		0.001	patchy syngenetic (??) pyrite
263.8		m	cg	FOL	AGR	FUC3		UMS	C	35			1	1	3	3			186J	5.3		0.001	
268.9		m	fg	FOL	RB	ANK1		SIM					1	-	-	1			186M	5.1		0.012	

DRILL HOLE NO: MCM 96-35

Average = 0.030 opt Au/29.5 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	carb	METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
274.5		m	fg	FMA	LGR	SIL 3		SVN					1	-	1	5			18655	5.6		0.018	diss vfg - mg anhedral - subhedral pyrite
278.6		m	fg	FMA	LGR	SIL 2		SVN	C	45			1	-	-	3			18656	4.1		0.021	
280.6		m	cg	FMA	AGR	FEL 3		VMS					-	-	-	-			18657	2.0		0.017	
285.6		m	cg	FMA	AGR	FEL 3		VMS					0.1	-	1	3			18658	5.0		0.004	
290.5		m	cg	FMA	AGR	FEL 3		VMS					1	1	-	5			18659	4.9		0.001	
295.3		m	mg	FOL	AGR	FEL 3		VMS	F	65			-	25	-	0.1			18660	4.8		0.001	
300.2		m	mg	FOL	AGR	FEL 3		VMS					5	10	1	1			18661	4.9		0.006	qtz-carb veins to 2"
305.1		m	mg	FOL	AGR	FEL 3		VMS					5	1	1	1			18662	4.9		0.049	trace vufg ASPY in qtz-carb veins
310.0		m	fg	FOL	AGR	FEL 3		VMS					5	1	1	0.1			18663	4.9		0.038	
315.0		m	fg	FOL	AGR	FEL 3		VMS					5	1	5	1			18664	5.0		0.028	trace vufg ASPY in qtz-carb veins
319.9		m	fg	FOL	AGR	FEL 3		VMS					3	3	1	1			18665	4.9		0.007	
324.8		m	fg	FOL	AGR	FEL 3		VMS					3	1	1	0.1			18666	4.9		0.021	
329.7		m	fg	FOL	AGR	FEL 3		VMS					5	3	1	-			18667	4.9		0.040	

DRILL HOLE NO: MCM 16-35

PAGE 5 OF 8

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Gt	cc	ank	METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
334.6		m	fg	FOL	AGR	FUC 3		YMS					1	1	5	1			1878	4.9		0.018	
339.5		m	fg	MSV	AGR	FUC 3		YMS	C	50			3	-	1	41			1879	4.9		0.013	
344.5		m	vfg	MSV	RB	ANK 1		SYN					-	-	1	-			1880	5.0		0.001	
349.4		m	vfg	MSV	RB	CAL 3		SYN	V	50			1	-	-	-			1881	4.9		0.002	½" gb-ank vein @ 350 ft
354.3		m	vfg	MSV	RB	CAL 3		SYN					-	1	-	-			1882	4.9		0.002	
359.2		m	vfg	MSV	RB	CAL 3		SYN					1	1	1	0.1			1883	4.9		0.001	
364.3		m	vfg	MSV	RBW	CHL 1		SYN					1	-	1	1			1884	5.0		0.001	
369.1		m	vfg	MSV	RBW	CHL 2		SYN					-	3	-	1			1885	4.9		0.001	2 ft of shony pervasive ank alt @ 366.5 ft
374.0		m	vfg	MSV	RB	ANK 2		SYN					-	1	7	0.1			1886	4.9		0.001	
378.9		m	vfg	FOL shony	RBW	ANK 3		SYN	F	55			-	-	25	-			1887	4.9		0.001	3 ft of heavy ank-chl alt
385.1		m	vfg	MSV	RB	ANK 1		SYN					-	-	10	-			1888	6.2		0.001	
388.8		m	vfg	FOL	GN	ANK 3		DIO					-	-	15	-			1889	3.7		0.001	heavy ank-chl alt dioritic dike?
393.7		m	vfg	FOL	GN	ANK 3		DIO					-	-	15	-			1890	4.9		0.001	a few syenite xenoliths to 6"

DRILL HOLE NO: MCM96-35

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
398.6		m	vfg	FOL	GN	ANK 2		DIO					-	-	10	-			1891	4.9		0.001	
400.9		m	vfg	FOL	HBY	ANK 2		DIO	C	45									1892	2.3		0.001	
403.5		m	fg	MSV	RB	ANK 1		SYN					3	-	1	-			1893	2.6		0.001	trace cpy in ¼" qtz veinlets.
408.4		m	fg	MSV	RB	ANK 1		SYN					1	1	3	-			1894	4.9		0.001	2 syenites, younger reddish SYN includes older tan SYN
413.4		m	fg	MSV	RB	ANK 2		SYN					1	-	5	-			1895	5.0		0.001	
418.3		m	fg	MSV	RB	ANK 2		SYN					3	-	7	1			1896	4.9		0.125	py assoc. with irregular qtz-ank-chl veinlets/patches.
423.2		m	fg	MSV	RB	ANK 2		SYN					1	-	7	-			1897	4.9		0.001	
428.1		m	fg	MSV	RB	ITEM 2		SYN					1	3	1	1			1898	4.9		0.012	
433.1		m	fg	MSV	RB	ITEM 3		SYN					5	3	-	3			1899	5.0		0.038	qtz-ank-chl veinlet patches to ½"
438.0		m	fg	MSV	RGY	CHL		TSAL					-	1	-	-			1900	4.9		0.016	
442.9		m	vfg	MSV	YBN	CHL		TSAL	V	30			1	1	-	QV			1901	4.9		0.001	diss fg pyrite in ½" laminated QVC 442.7ft
447.8		m	vfg	MSV	YBN	CHL		TSAL					-	1	-	-			1902	4.9		0.001	
452.8		m	vfg	MSV	YBN	CHL		TSAL					-	1	-	-			1903	5.0		0.001	

P.A.P. 35362

DRILL HOLE NO: MW16-35

PAGE 7 OF 8

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	mx	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
457.7		m	fg	MSV	YBr	SER1		Tsal					-	1	1	-			1204	4.2		0.001	
467.6		m	fg	MSV	YBr	SER2		Tsal					-	1	3	-			1205	4.2		0.001	
467.5		m	fg	MSV	YBr	SER1		Tsal					-	1	-	0.1			1206	4.2		0.008	
472.4		m	fg	MSV	YBr	SER2		Tsal					1	1	-	-			1207	4.2		0.006	
477.3		m	fg	MSV	YBr	SER1		Tsal	V	SD			1	-	-	-			1208	4.2		0.001	2" qtz-calc-chl vein @ 476 ft
482.3		m	fg	MSV	YBr	SER1		Tsal					-	1	-	-			1209	5.0		0.001	
487.2		m	fg	MSV	YBr	SER1		Tsal					-	1	-	-			1210	4.2		0.001	
492.1		m	fg	MSV	YBr	SER1		Tsal					-	1	-	-			1211	4.2		0.001	
497.10		m	fg	MSV	YBr	SER2		Tsal					7	-	1	0.1							low angle qtz-calc veins to 2"
502.10		m	fg	MSV	YBr	SER2		Tsal					1	-	-	-							
506.9		m	fg	MSV	YBr	SER2		Tsal					-	-	1	-							6" chl band/vein @ 503 ft
511.8		m	fg	MSV	YBr	SER2		Tsal					1	-	1	-							
516.7		m	fg	MSV	YBr	SER1		Tsal					1	-	3	-							

P.A.P. 35362

DRILL HOLE NO: MCW 96-35

PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
5,21.7		m	fg	msv	YBr	SER		Tsed					4	4	-	Py							
5,26.6		m	fg	msv	YBr	CHL		Tsed					-	3	4	0.1							
5,31.5		m	fg	msv	YBr	SER		Tsed					-	4	3	1							
5,36.4		m	fg	msv	YBr	SER		Tsed					4	-	5	1							
5,41.3		m	fg	msv	YBr	SER		Tsed					-	-	3	1							
5,41.3								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Bressacco DATE LOGGED: Sept 12, 1996 DRILL HOLE NO: MCM 96-36

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2648.62	4998.42	7963.00	394 ft	5000 E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
206	002	-40												
394	357	-39°												

START DATE: Sept 10, 1996

FINISH DATE: Sept 11, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5379

DRILLING CONTRACTOR: Benoit DD, Val d'Or

PURPOSE: In-fill drilling, east end of Open Pit.

RESULTS: Best result: 0.134 opt Au / 5.0 ft (123.0-128.0 ft)

WHY HOLE TERMINATED: Normal termination in FW sods

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS: _____

NO. OF ICP: _____

NO. OF WRA: _____

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Minesite.

CORE STORED (LOCATION): Bunker, MCM Minesite.

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE %	cc	wk	METALLIC %			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
12.7		m						CAS															Casing. All casing recovered.
29.6		m	vfg	msv	trGN	ANK 3		SHN					-	-	7	-			1x 36634	3.9		0.004	
32.5		m	vfg	msv	BUS	ANK 3		SHN					-	-	10	-			36635	4.2		0.006	
34.9		m	vfg	msv	GN	ANK 2		MVO					-	-	5	-			36636	4.2		0.006	
37.5		m	vfg	msv	GN	ANK 2		MVO	C	60			-	-	10	-			36637	3.1		0.004	
43.5		m	vfg	msv	BN	ANK 1		SHN					1	1	3	-			36638	6.0		0.004	trace vg-vnt veinlets 45° to CA
49.2		m	vfg	msv	BN	ANK 1		SHN					-	1	1	-			36639	5.7		0.006	
54.1		m	vfg	msv	GN	ANK 1		UMS					-	1	5	-			36640	4.2		0.002	
59.1		m	vfg	msv	GN	CAL 1		UMS					-	B	1	QI			36647	5.0		0.007	
64.0		m	vfg	msv	GN	CAL 1		UMS					-	3	-	-			36642	4.2		0.005	
68.2		m	vfg	msv	GN	CAL 3		UMS					-	3	-	-			36643	4.2		0.004	trace cc bnx veinlets
73.8		m	vfg	msv	GN	CAL 2		UMS					-	1	-	-			36644	4.2		0.004	
77.9		m	vfg	msv	tGN	CAL 2		UMS					-	1	-	-			36645	4.1		0.001	diffuse contact with syenite

P.A.P. 35362

DRILL HOLE NO: MCM96-36

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gb	cc	anh	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
83.7		m	vfg	MSV	NB	CALZ		SYM					1	3	-	-			36678	5.8		0.001	trace gtz-cc veinlets to ½"
88.6		m	vfg	MSV	NB	CALZ		SYM					1	1	-	-			36679	4.2		0.019	trace gtz-cc veinlets to ¼"
94.8		m	vfg	MSV	GW	CALZ		UMS					-	3	-	-			36680	6.2		0.008	
99.9		m	fg	MSV	NB	ANKL		SYM					-	1	5	-			36681	5.1		0.006	
105.2		m	fg	MSV	NB	CALC		SYM					1	1	3	-			36650	5.3		0.004	trace gtz-cc veinlets
108.3		m	mg	SPH	GW	CALZ		UMS					-	5	-	-			36651	3.1		0.001	heterolithic fragments easily visible.
113.2		m	MSV	SPH	GW	CALZ		UMS					-	7	-	-			36652	4.2		0.001	
118.1		m	fg	MSV	GRY	CALZ		UMS					-	5	-	-			36653	4.2		0.001	
123.2		m	fg	MSV	GRY	CALZ		UMS					-	3	-	-			36654	4.2		0.001	
128.9		m	fg	MSV	GW	CALZ		UMS					-	5	-	-			36655	5.0		0.134	a few included SYM dikes
133.9		m	vfg	MSV	DGW	CALZ		UMV					-	1	-	-			36656	4.2		0.001	
137.8		m	vfg	MSV	GRY	CALZ		UMV					-	3	-	-			36657	4.2		0.004	
142.7		m	vfg	MSV	DGW	CALZ		UMV					-	3	-	-			36658	4.2		0.018	

DRILL HOLE NO: MCM 96-36

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	crb	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
147.6		m	vfg	MSV	GGY	CALC		SYN					-	3	-	-			36659	4.9		0.004	½" CC-BARITE-FLUORITE vein @ 147.6ft (60° TCA)
152.1		m	vfg	MSV	GGY	CALC		SYN					-	4	-	-			36660	4.5		0.006	gradational contact with syenite.
157.5		m	vfg	MSV	BGY	MAG1		SYN					-	7	-	-			36661	5.4		0.021	cc veinlets and vein breccias common.
162.9		m	vfg	MSV	RBK	MAG3		SYN					1	3	-	0.1			36662	4.9		0.004	well developed pervasive mt alt°, trace-1% vfg diss cpy common throughout.
167.3		m	vfg	MSV	BK	MAG3		SYN					1	1	-	0.1			36663	4.9		0.004	strong mt alt°, vvfg diss py, vfg diss cpy common.
172.2		m	vfg	MSV	NB	HEM2		SYN					1	1	-	0.1			36664	4.9		0.002	incipient black-py alt°, trace vfg diss cpy, trace qtz-mt veinlets to ¼"
177.3		m	vfg	MSV	RBK	MAG2		SYN					0.1	3	-	0.1			36665	5.0		0.001	mixed pervasive + veinlet mt-cbl alt°, vvfg diss py, trace cpy.
182.1		m	vfg	MSV	NB	HEM2		SYN	QV	40			3	1	-	0.1			36666	4.9		0.002	incipient black-py alt°, mixed grey and white qtz veins to 1", trace diss vfg cpy.
187.0		m	vfg	MSV	NB	HEM2		SYN					1	3	-	0.1			36667	4.9		0.002	qtz-mt-cc veins to 2", minor relict mt alt°
191.9		m	vfg	MSV	NB	HEM2		SYN					1	1	-	0.1			36668	4.9		0.013	vvfg diss py, trace cpy.
196.9		m	vfg	MSV	DGY	MAG2		SYN					-	1	-	-			36669	5.0		0.001	possible altered mafic dike.
201.8		m	vfg	MSV	DGY	MAG1		SYN					-	1	-	0.1			36670	4.9		0.002	
207.2		m	vfg	DMS	RGY	CALC		SYN					-	1	-	1			36671	5.4		0.006	vvfg diss pyrite

DRILL HOLE NO: MCM96-36

PAGE 5 OF 6

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
211.6		m	fg	MSV	GY	HEM		Tsed					1	1	-	1			36677	4.4		0.020	vfg diss py, incipient pervasive bleaching, irregular qtz-carbo-chl-py vein @ 211.0ft (7")
216.5		m	fg	MSV	by	HEM		Tsed					3	1	-	1			36678	4.9		0.016	vfg diss py, 3" qtz-carbo-py vein @ 212 ft
221.9		m	fg	MSV	GY	-		Tsed					1	3	-	0.1			36679	4.9		0.001	trace-1% epidote veinlets @ 218-219 ft
226.9		m	fg	MSV	GY	-		Tsed					1	3	-	0.1			36675	5.0		0.001	
231.3		m	fg	MSV	GY	-		Tsed					-	3	-	1			36676	4.9		0.001	vfg diss pyrite.
236.7		m	fg	MSV	RBY	HEM		Tsed					-	5	-	1			36677	4.9		0.001	
241.1		m	fg	MSV	RB	HEM		Tsed					1	3	-	1			36678	4.9		0.001	trace cpy in QV's
246.1		m	fg	MSV	GY	HEM		Tsed					-	1	-	1			36679	5.0		0.001	
251.0		m	vfg	MSV	GY	-		Tsed					-	1	-	0.1			36680	4.9		0.001	
255.9		m	vfg	MSV	GY	HEM		Tsed					-	1	-	-			36681	4.9		0.006	minor cc-epidote veinlets, includes incipient low alt'n
260.8		m	vfg	MSV	GY	HEM		Tsed					-	1	-	0.1			36682	4.9		0.004	incipient low alt'n
265.7		m	vfg	MSV	GY	-		Tsed					-	3	-	1			36683	4.9		0.004	mostly diss vfg py, rare stringer py.
270.6		m	vfg	MSV	GY	CHL		Tsed					-	3	-	1			36684	4.9		0.004	patchy + stringer chl-cc alt'n

P.A.P. 35362

DRILL HOLE NO: MW16-36

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ☑ opt grams	COMMENTS
275.6		m	vfg	msv	Rbx	Hem1		Tsed					-	01	-	-			36695	5.0		0.001	
279.2		m	vfg	msv	Rb	Hem2		Tsed	C	20			-	5	-	-			36696	3.2		0.001	
300.6		B	vfg	msv	Gy	—		DIA					-	-	-	-			—	3.3			quite blocky, contacts @ very low angle TCA
305.1		m	vfg	msv	Rb	Hem2		Tsed					-	3	-	3			36697	4.5		0.001	vfg diss Py, dia contacts essentially 0° TCA (just skimming along contact)
326.9		m	vfg	msv	Dby	—		DIA					-	-	-	-			—	21.8			
329.7		m	vfg	msv	GyB	—		Tsed					-	1	-	1			36698	2.8		0.001	
334.6		m	vfg	msv	Gy	—		Tsed					-	1	-	1			36699	4.9		0.001	
339.5		m	vfg	msv	Gy	—		Tsed					-	3	-	1			36700	4.9		0.001	smsv-msv mt patch / 3"@ 336ft
349.5		m	vfg	msv	Gy	—		Tsed					-	1	-	0.1			36701	5.0		0.001	
376.4		m	vfg	msv	Gy	Chl		Tsed					-	5	-	0.1			36702	31.9		0.001	composite sample
393.9		m	vfg	msv	Gy	—		GAB					-	-	-	-			—				matic intrusive dike.
393.9								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Pressacco DATE LOGGED: Sept 16, 1996 DRILL HOLE NO: MM96-37

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2393.42	5002.20	7950.09	570.9 ft	5000E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45															
206	005	-42															
403	006	-42															
570.9	002	-42															

START DATE: Sept 12, 1996

FINISH DATE: Sept 13, 1996

TOWNSHIP: Powell

CLAIM NO.: MR 5379

DRILLING CONTRACTOR: Barrit DD - Val d'Or

PURPOSE: In-fill drilling, East End.

RESULTS: 0.055 opt / 9.9 ft (191.9 - 201.8 ft)

WHY HOLE TERMINATED: Normal termination in diabase dike

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS: _____

NO. OF ICP: _____

NO. OF WRA: _____

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher minesite

CORE STORED (LOCATION): Bunker, Mcm Minesite.

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: MCM 96-37

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gb	cc	mk	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
47.7								CAS															Casing. 4" casing recovered.
49.3		m	mg	MSV	Dkm	—		MVO					—	—	0.1	—			MAT.1751	1.6		0.001	very strong gabbroic texture
91.2		m	mg	MSV	Dkm	—		MVO					1	3	—	—			1752	4.9		0.001	4" gb-cc-ank vein/brx @ 91ft
53.1		m	mg	MSV	Dkm	—		MVO					—	1	—	—			1753	4.9		0.001	
59.1		m	mg	MSV	Dkm	—		MVO					—	3	—	—			1754	5.0		0.001	
64.0		m	mg	MSV	Dkm	—		MVO					—	1	—	—			1755	4.9		0.001	
68.9		m	mg	MSV	Dkm	—		MVO					—	1	—	—			1756	4.9		0.001	
73.8		m	mg	MSV	Dkm	—		MVO					—	1	—	—			1757	4.9		0.001	
78.7		m	mg	MSV	Dkm	—		MVO					—	3	—	0.1			1758	4.9		0.001	
83.6		m	mg	MSV	Dkm	—		MVO					—	3	—	1			1759	4.9		0.001	1% diss anhedral-subhedral pyrite.
88.6		m	mg	MSV	Dkm	—		MVO					—	1	—	0.1			1760	5.0		0.001	
93.5		m	mg	MSV	Dkm	—		MVO					—	5	—	0.1			1761	4.9		0.001	
98.4		m	mg	MSV	Dkm	—		MVO					—	3	—	0.1			1762	4.9		0.001	

DRILL HOLE NO: MCM 96-37

DIST	ID	ROCK DESCRIPTION: Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE: B/S B	B/S A1	J/F J	J/F A2	GANGUE: gb	cc	ank	METALLIC: Py			SAMPLE #	WIDTH	T	AU 1 opt grams	COMMENTS
102.3		M	MD	MSV	DAV	—		MUD	V	35			—	5	—	01			1763	4.9		0.001	4" cc-chl-tour vein @ 101 ft
108.3		M	MD	MSV	DAV	—		MUD					—	1	—	01			1764	5.0		0.001	
113.2		M	MD	MSV	DAV	—		MUD					—	1	—	—			1765	4.9		0.001	
118.1		M	MD	MSV	DAV	—		MUD					1	1	—	—			1766	4.9		0.001	
123.0		M	MD	FOL	DAV	ANK 1		MUD	F	45			—	1	—	—			1767	4.9		0.001	folded ank veinlets / patches
128.0		M	MD	FOL	DAV	ANK 1		MUD					1	1	1	—			1768	5.0		0.001	folded gb-cc-ank veinlets + patches
133.9		M	MD	FOL	DAV	ANK 1		MUD					1	3	1	—			1769	4.9		0.001	
138.8		M	MD	FOL	MAV	ANK 2		MUD					3	—	10	—			1770	4.9		0.001	mixed patchy bands of ser ank ± gb ± cc from @ 134 ft,
																							have gb-cc-tour veining ± ank-ser alt ± rusty oxides @ 135 ft
143.7		M	MD	SER	ANK	ANK 3		MUD					1	—	20	01			1771	4.9		0.001	Heavy ank-ser alt ±
148.3		M	MD	SER	CR	ANK 3		MUD					—	—	30	—			1772	1.6		0.003	Heavy ank alt ±
153.3		M	MD	MSV	MAV	ANK 3		ALT					—	—	75	10			1773	2.0		0.190	wispy discs euhedral pyrite
158.9		M	MD	FOL	CR	ANK 3		ALT	F	65			—	—	50	—			1774	2.6		0.001	
163.5		M	MD	FOL	MAV	ANK 2		MUD					—	—	20				1775	3.6		0.001	ank-ser alt ± as spots, streaks and patches.

DRILL HOLE NO: MW 16-37

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
157.5		m	vfg	FOL	YGN	ANK 2		MVO					-	-	15	-			1776	5.0		0.001	ank-ser alt= as spots, streaks and patches
162.9		m	vfg	FOL	CR	ANK 3		ALT	F	SD			1	-	50	0.1			1777	4.9		0.013	1" qtz-ank-py vein @ 162.0ft
167.3		m	vfg	FOL	CR	ANK 3		ALT					-	-	75	0.1			1778	4.9		0.048	ank-ser alt= zone.
173.2		m	vfg	FOL	YGN	ANK 2		MVO					-	-	14	-			1779	4.9		0.002	alteration weakens.
177.2		m	vfg	FOL	YGN	ANK 2		MVO					1	-	7	-			1780	5.0		0.002	
182.1		m	vfg	FOL	GN	ANK 1		MVO					-	-	4	-			1781	4.9		0.004	
187.0		m	vfg	FOL	GN	ANK 1		MVO					1	-	15	0.1			1782	4.9		0.005	
191.9		m	vfg	FOL	GN	ANK 1		MVO					1	1	7	-			1783	4.9		0.001	
196.9		m	vfg	FOL	GN	ANK 1		MVO					1	-	1	0.1			1784	5.0		0.044	Average = 0.055 opt Au / 9.9ft
201.8		m	vfg	FOL	GN	ANK 1		MVO					-	-	5	-			1785	4.9		0.066	
206.7		m	vfg	FOL	GN	ANK 1		MVO					-	-	3	-			1786	4.9		0.003	
211.5		m	vfg	FOL	GN	ANK 1		MVO					1	1	1	-			1787	4.8		0.001	
216.5		m	vfg	QZT	GNY	ANK 3		ALT					-	1	35	0.1			1788	5.0		0.031	patchy - spotty pervasive ank alt=

DRILL HOLE NO: [illegible]

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
[illegible]		m	vfg	FGL	AGR	FUC 3		ALT	F	30			1	25	5	1			1798	4.2		0.005	heavy fuc-cc-ank alt=, diss vfg Py.
229.4		m	vfg	MSV	AGR	FUC 3		ALT					0.1	1	1	0.1			1799	5.0		0.002	black spots/patches common (relict protolith?)
231.3		m	vfg	MSV	AGR	FUC 3		ALT					0.1	3	1	0.1			1711	4.2		0.001	
236.2		m	vfg	MSV	AGR	FUC 3		ALT					3	-	3	-			1712	4.2		0.001	base AGR in qtz-ank patch @ 236.0 ft
241.1		m	vfg	MSV	AGR	FUC 3		ALT					10	1	5	0.1			1713	4.2		0.001	qtz-ank veins to 2 cms, base AGR noted @ 239 ft.
246.1		m	vfg	MSV	AGR	FUC 3		ALT	F	55			5	-	3	1			1714	5.0		0.001	1" sulfide py bleb @ 241.5 ft, minor increase Py in qtz-ank vein (1") @ 245 ft.
251.0		m	vfg	MSV	AGR	FUC 3		ALT					20	1	10	0.1			1715	4.2		0.003	base AGR noted in qtz-ank vein @ 250 ft.
255.9		m	vfg	MSV	AGR	FUC 3		ALT					1	-	5	-			1716	4.2		0.001	possible alt= clasts clike 253 - 257 ft.
260.8		m	vfg	MSV	AGR	FUC 3		ALT					3	-	3	-			1717	4.2		0.001	
265.7		m	vfg	FGL	AGR	FUC 2		ALT	F	0			3	-	1	-			1718	4.2		0.001	incipient spotty + ribbonal fuchsitic alt=
270.6		m	vfg	MSV	HBX	AVK 2		ALT					1	-	5	-			1719	AV.		0.001	
275.6		m	vfg	MSV	HBX	FUC 1		ALT					1	-	3	-			1800	5.0		0.007	[illegible] - spotty fuchsitic alt=
280.5		m	vfg	FGL	AGR	FUC 3		ALT	F	40			5	-	1	-			1801	4.2		0.007	alt= clasts v fine, qtz-ank vein @ 0° TCA

DRILL HOLE NO: MCM 16-37

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
288.7		m	vfg	FOL	AGR	FUC3		ALT					3	1	3	-			1802	5.8		0.001	lower contact obscured by broken core
290.5		m	vfg	FOL	NB	ANK2		SYN					-	-	3	-			1803	3.8		0.001	
295.3		m	vfg	FOL	GRN	ANK2		SYN					-	-	5	-			1804	4.8		0.003	
304.2		m	vfg	MSV	CR	ANK3		SYN					-	-	20	-			1805	4.2		0.002	
305.1		m	vfg	MSV	NB	ANK2		SYN					-	1	10	-			1806	4.2		0.001	
310.0		m	vfg	MSV	DGY	ANK2		SYN					-	-	10	-			1807	4.2		0.001	
315.0		m	vfg	MSV	GY	ANK1		SYN					-	3	-	-			1808	5.0		0.003	
319.9		m	vfg	MSV	DGN	CLK2		TSED					-	3	-	-			1809	4.2		0.001	
324.8		m	vfg	MSV	YBN	SER2		TSED					-	-	-	1			1810	4.2		0.002	
329.7		m	vfg	MSV	YGY	SER1		TSED					-	1	-	1			1811	4.2		0.004	
334.6		m	vfg	MSV	GGY	SER1		TSED					-	1	-	-			1812	4.2		0.002	
339.5		m	vfg	MSV	GGY	SER1		TSED					-	1	-	-			1813	4.2		0.006	
344.5		m	vfg	MSV	NB	HEM3		SYN					5	-	-	1			1814	5.0		0.006	disst stringer ny assoc. with qtz-tourmaline veins.

DRILL HOLE NO: MCM 96-37

PAGE 7 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
349.4		m	vfg	msv	GRN	MAG2		Tsed					-	1	-	-			1815	4.9		0.001	
357.3		m	vfg	msv	GRN	MAG3		Tsed					-	1	-	-			1816	4.9		0.001	mixed pervasive + stringer mt calc
359.2		m	vfg	msv	BK	MAG3		Tsed					1	1	-	1			1817	4.9		0.003	
364.2		m	vfg	msv	BK	MAG3		Tsed					-	3	-	-			1818	5.0		0.002	
369.1		m	vfg	msv	NB	HEM2		Tsed					1	5	-	1			1819	4.9		0.003	patchy gb-mt-py veins
374.0		m	vfg	msv	NB	HEM2		Tsed					1	1	-	0.1			1820	4.9		0.009	minor porphyritization
377.1		m	vfg	msv	BK	MAG3		Tsed					-	3	-	-			1821	3.1		0.006	
378.9		m	vfg	msv	NB	HEM2		SYN					-	1	-	0.1			1822	1.8		0.001	
383.9		m	vfg	msv	NB	HEM2		SYN					+	5	-	1			1823	5.0		0.002	3" cc-gy vein @ 383.9 x-cuts gb-tourmaline veinlet/patch.
386.6		m	vfg	msv	NB	HEM2		SYN	C	65			1	1	-	0.1			1824	7.7		0.001	
388.8		m	vfg	msv	DGY	MAG1		Tsed					-	1	-	-			1825	7.2		0.002	
393.7		m	vfg	msv	BK	MAG1		Tsed					-	3	-	-			1826	4.9		0.001	
398.6		m	vfg	msv	DGY	MAG1		Tsed	V	80			3	3	-	-			1827	4.9		0.002	2" gb vein @ 398 ft

P.A.P. 35362

DRILL HOLE NO: MW16-37

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	chl	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
4835		m	vfg	MSV	GRY	—		Tsed					—	3	—	—			1828	4.9		0.001	
4984		m	vfg	MSV	GRY	SER1		Tsed					1	3	—	0.1			1829	4.9		0.001	
5025		m	vfg	MSV	GY	SER1		Tsed	C	20			—	1	—	0.1			1830	4.1		0.001	
5130		B	vfg	MSV	DGY	—		DA	C	5			—	3	—	—			—			~~0.001~~	
5167		m	vfg	MSV	GY	—		Tsed					—	1	—	0.1			1831	3.7		0.001	
5217		m	vfg	MSV	GY	—		Tsed					—	1	—	—			1832	5.0		0.001	a few epidote veinlets to 5mm
5266		m	vfg	MSV	GY	—		Tsed					—	1	—	—			1833	4.9		0.001	a few epidote veinlets
5315		m	vfg	MSV	GY	—		Tsed					—	1	—	0.1			1834	4.9		0.001	
5369		m	vfg	MSV	GY	—		Tsed					—	1	—	—			1835	4.9		0.001	
5413		m	vfg	MSV	GY	—		Tsed					—	1	—	—			1836	4.9		0.001	
5467		m	vfg	MSV	GY	—		Tsed					—	1	—	—			1837	4.9		0.001	
5480		m	vfg	MSV	RGY	—		Tsed					—	3	—	—			1838	1.8		0.001	

DRILL HOLE NO: mcm 96-37

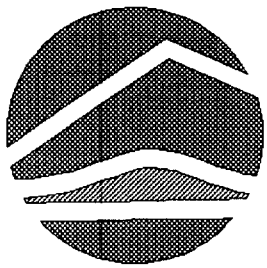
PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ☐ opt grams	COMMENTS
560.2		m	vfg	msv	DG-V	—		DAT											—				gradational upper & lower contacts.
570.2		m	vfg	msv	GY	—		TSed											—				
570.2								EOH															End of Hole.

P.A.P. 35362

APPENDIX III

Maps and Sections



ROYAL OAK MINES INC

MATACHEWAN PROJECT

GEOLOGICAL LEGEND

1997

Rock Descriptions

COM (Competency)

M	Massive, will not break without considerable effort
B	Broken and blocky
F	Fractured
G	Gouge, Faults
S	Breaks roughly on shear / foliation planes
SS	Breaks easily with a hammer
SSS	Can be broken with bare hands

GRS (Grain Size)

VVFG	Very, very fine grained
VFG	Very fine grained
FG	Fine grained
FMG	Fine - medium grained
MG	Medium grained (> 3mm)
MCG	Medium - coarse grained
CG	Coarse grained (> 5mm)
VCG	Very coarse grained (> 1cm)

TEXT (Texture)

ALIG	Aligator
AMY	Amygdaloidal
BED	Bedded
BLO	Blotchy
BND	Banded
BX	Brecciated
CLAS	Clastic
COT	Contorted
CRA	Crackled
FLD	Folded
FOL	Foliated
FRAG	Fragmental
GLOM	Glomeroporphyritic
GRAN	Granular
HOM	Homogenous
IRR	Irregular
LAM	Laminated
MSV	Massive
SMSV	Semi-Massive
DISS	Disseminated

MBX	Mildly Brecciated
MOT	Mottled
NED	Neddled
NOD	Nodular
POR	Porphyritic
SHR	Sheared
SPH	Spherulitic
SPT	Spotted
SPX	Spinifex
STK	Stockwork
STR	Stringer
SUG	Sugary
VAR	Variolitic
VBX	Vein Breccia
VUG	Vuggy

CO (Colour)

AQ	Aqua
AGR	Apple Green
BK	Black
BL	Blue
CR	Cream
GBR	Grey-Brown
GGY	Green-Grey
GR	Green
GTN	Grey-Tan
GY	Grey
LM	Lime Green
OR	Orange
PL	Purple
RB	Red-Brown
RD	Red
RD	Red-Green
TN	Tan
VI	Violet
WH	White
YL	Yellow
YBR	Yellow-Brown

ALT (ALTERATION)

AB	Albitic
ANK	Ankeritic
BAF	Buff Alteration Flecks
BLD	Bleached
CB	Carbonaceous Alteration (Graphitic)
CAR	Carbonate Alteration (Undifferentiated)
CCL	Calcite-Chlorite
CHL	Chloritic
CAL	Calcitic
DOL	Dolomitic
EPI	Epidote Alteration
FUC	Fuchsitic
HEM	Hematitic

MAG	Magnetite Alteration
OXD	Oxidized
PY	Pyritic
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicic
SRP	Serpentinization
SUL	Sulphidic (Undifferentiated)
TCL	Talc-Chlorite

ALT (Alteration Strength)

1 = Weak (Presence of alteration visible, but original lithologic features easily visible)

2 = Moderate (Alteration stronger, and lithologic features often obliterated)

3 = Strong (Alteration is predominant, original lithologic features not apparent)

ALT (Mode of Occurrence)

D	Disseminated
F	Foliation Parallel
M	Massive
P	Pervasive
S	Stringer, Fracture, Veinlets

NAME2 (Rock Name, **Bold** = most commonly used)

LC	Lost Core
MC	Missing Core
FZ	Fault Zone (Fault)
CAS	Casing
MI	Massive Indefinite
VOL	Volcanic (Undifferentiated)
IGN	Ignimbrite / Ash Flow
BRX	Flow Breccia
MF	Massive Flow
VPF	Variolitic Pillowed Flow
TUF	Tuff
AGL	Agglomerate
PBX	Pillow Breccia
PF	Pillowed Flow

FVO Felsic Volcanic
MVO Mafic Volcanic
UMV Ultramafic Volcanic
UMS Ultramafic Sediments
DAC Dacite
RDC Rhyodacite
FTF Felsic Tuff
MTF Mafic Tuff
RHY Rhyolite
AND Andesite
BAS Basalt
ATF Andesite Tuff
IVO Intermediate Volcanic
FAG Felsic Agglomerate
ASH MCM's Ash unit (used for historical holes only)

GAB Gabbro
DIO Diorite
SYN Syenite (Massive, fine grained)
SYP Syenite Porphyry
AMP Amphibolite
PDT Peridotite
SRP Serpentinite
FPP Feldspar Porphyry
QFP Quartz-Feldspar Porphyry
QZP Quartz Porphyry
FEL Felsic Intrusive / Felsite (Undifferentiated)
DIA Diabase

SES Sericite Schist
SCS Sericite-Chlorite Schist
CSS Chlorite-Sericite Schist
TCS Talc-Chlorite Schist
CRB Carbonate
CLS Chlorite Schist

QCV Quartz-Carbonate Vein
CV Carbonate Vein
QV Quartz Vein
QAV Quartz-Ankerite Vein
BAV Barite Veining

SED Sediments (Undifferentiated)
TSED Timiskaming Sediments (Footwall Units)
PSED Proterozoic Sediments (Undifferentiated)

SST	Sandstone
SL	Slate
GSL	Graphitic Slate
GPH	Graphite
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
CHT	Chert
PHY	Phyllite
QZT	Quartzite

STRUCTURE

S	Schistosity	C	Contact
F	Foliation	V	Vein
B	Bedding	J	Joint
FF	Fault	SS	Stringers

MINERALS

ASP	Arsenopyrite	PO	Pyrrhotite
CPY	Chalcopyrite	PY	Pyrite
GAL	Galena	SID	Siderite
HEM	Hematite	SPH	Sphalerite
MAG	Magnetite	VG	Visible Gold
MO	Molybdentite	BA	Barite
FLU	Fluorite	TOU	Tourmaline
DOL	Dolomite	ANK	Ankerite
BIO	Biotite	CC	Calcite
EPI	Epidote	FUC	Fuchsite

TECHNICAL REPORT

on the

1996 DIAMOND DRILLING PROGRAM

Welsh Option

Matachewan Area

Powell Twp.

NTS 41P/15

Prepared for:

ROYAL OAK MINES INC.

Project Development Group
Matachewan Project

Timmins, Ontario
March, 1997

Reno Pressacco, M.Sc(A), FGAC
Senior Geologist

TABLE OF CONTENTS

SUMMARY

An aggregate total of 1,375 feet of BQ core was drilled in the Fall of 1996 on the Welsh Option. This program took place between August 23 and September 23, 1996 and comprised some 7 drill holes (complete and partial holes). Only that portion of any given drill hole that falls within the Welsh claims is counted in this aggregate total. These holes were drilled for the purpose of providing a greater density of drill hole information in areas of favourable results from the 1995 drilling campaign.

In brief, the program failed to intersect any significant amounts of gold-bearing material on the Welsh Option. Indeed many of the holes drilled during the course of this program were directed towards targets located on the adjoining Young-Davidson claims, and only traversed onto the Welsh Option after the target had been attained. The best result was intersected by drill hole YD96-106 which intersected a narrow bed of massive magnetite that contained 0.208opt Au / 4.9ft.

LIST OF TABLES

LIST OF FIGURES

CERTIFICATION

I, Reno Pressacco, residing at 181 Christine Street, Timmins, Ontario, do hereby certify the following:

1) That I am employed by Royal Oak Mines Inc. as a Senior Geologist

2) That I hold the following degrees:

1982: Diploma in Geological Engineering Technology, Cambrian College, Sudbury, Ontario
1984: Bachelor of Science in Geology, Lake Superior State College, Sault Ste Marie, Michigan
1986: Master of Science (Applied), McGill University, Montreal, Quebec

3) That I have been practising my profession continuously since 1986.

4) That I am a member in good standing of the following organizations:

Fellow, Geological Association of Canada
Member, Prospectors and Developers Association

5) That the information presented in this document is true and accurate to the best of my knowledge. This information was gathered from such various sources as assessment files, newspaper articles, various publications, and by Royal Oak Mines Inc.

6) That I hold no direct or indirect interests in Matachewan Consolidated Mines Ltd., or Young-Davidson Mines Ltd.

R. Pressacco

Timmins, Ontario
March, 1997

R. Pressacco, M.Sc(A), FGAC
Senior Geologist

1.0 Introduction

An aggregate total of 1,375 feet of BQ core was drilled in the Fall of 1996 on the Welsh Option. This program took place between August 23 and September 23, 1996 and comprised some 7 drill holes (complete and partial holes). Only that portion of any given drill hole that falls within the Welsh claims is counted in this aggregate total. These holes were drilled for the purpose of providing a greater density of drill hole information in areas of favourable results from the 1995 drilling campaign.

2.0 Location and Access

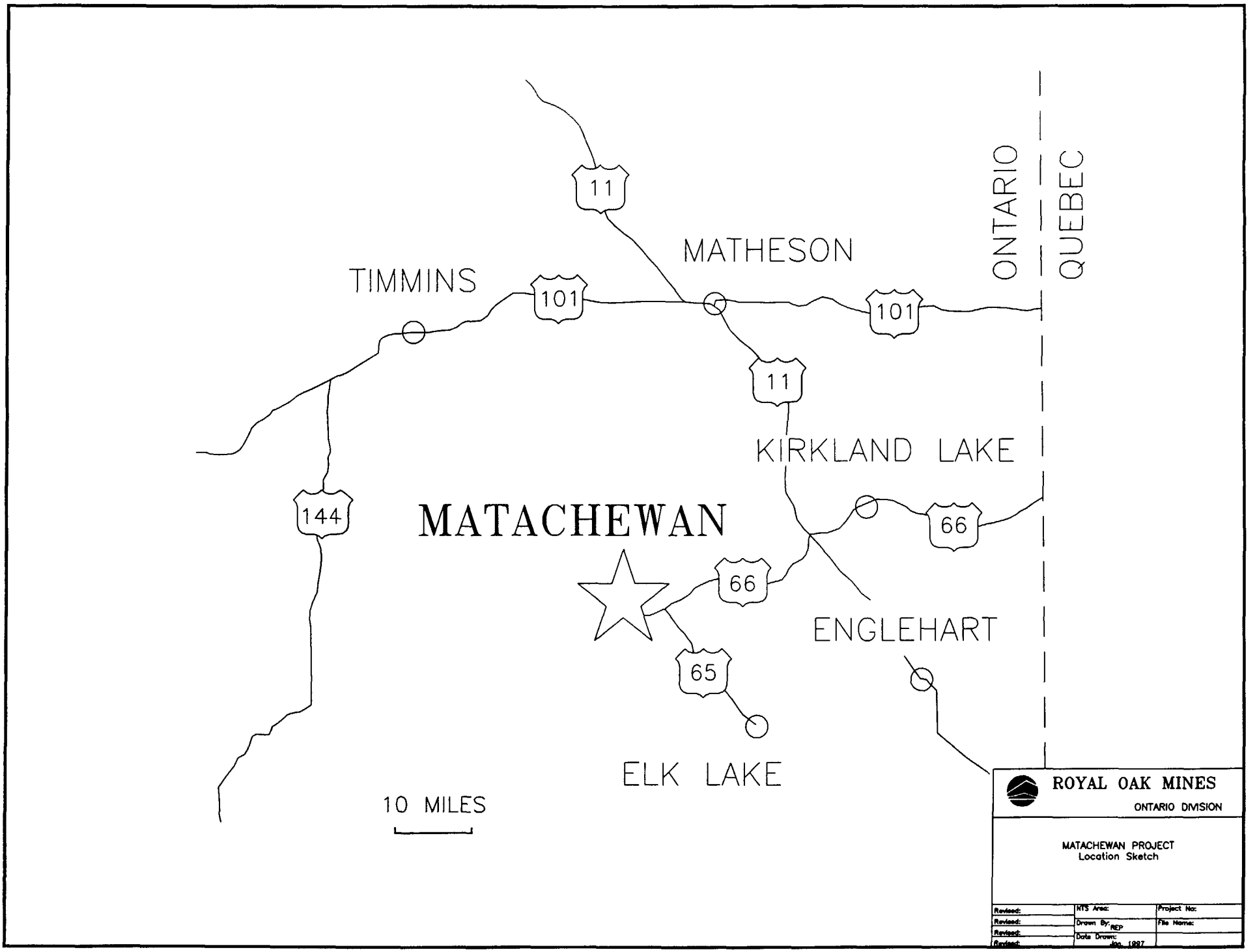
The Matachewan Project is located in Powell, Cairo and Yarrow townships of northeastern Ontario, some 30 miles southwest of Kirkland Lake, Ontario (Figure 1). The village of Matachewan, Ontario lies on the eastern boundary of the Project area, and paved highway No. 566, leading westwards from Matachewan, provides excellent access to most portions of the property. The driving distance from Timmins to Matachewan, via Hwy 11, is some 150 km.

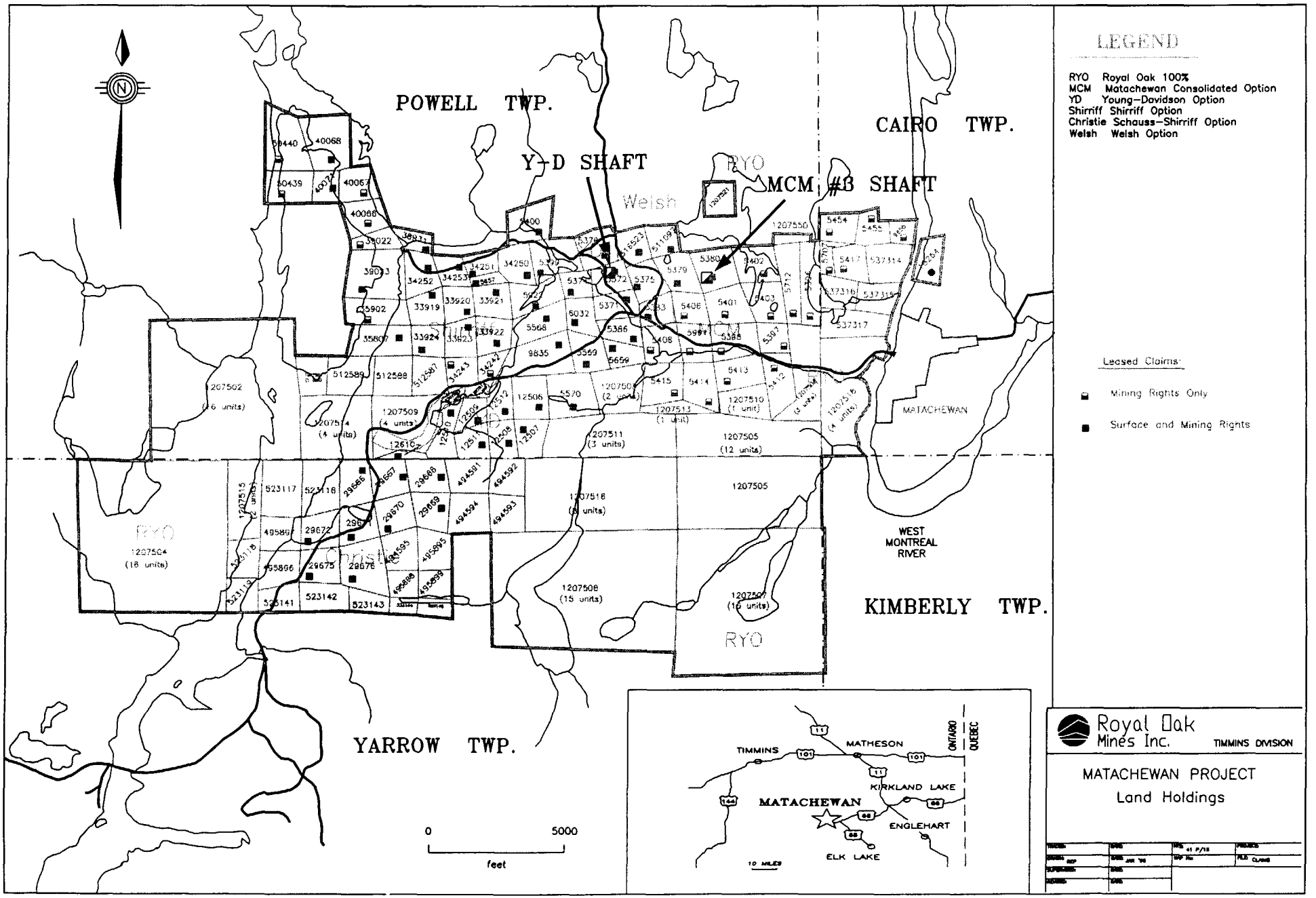
3.0 Claims

The entire Project comprises a number of different staked claims and Option Agreements, which in all currently totals some 3,475 hectares in size (Figure 2). The Welsh Option itself consists of 2 leased claims (total 24.26 ha) (Table 1). Royal Oak, through agreements made by predecessor companies, is currently vested in this Option, subject to a royalty payment.

Table 1

Township	Claim No.	Parcel No.	Agreement Name	Status	Units	Acres Surface Rights	Acres Mining Rights
Powell	L316523	5397LT	Welsh	21 yr lease	1	21.49	35.89
Powell	L511097	5454LT	Welsh	21 yr lease	1	18.37	24.75


11
MATHESON
ONTARIO
QUEBEC
TIMMINS
101
101
11
KIRKLAND LAKE
144
MATACHEWAN
66
66
ENGLEHART
65
ELK LAKE
10 MILES
ROYAL OAK MINES
ONTARIO DIVISION
MATACHEWAN PROJECT
Location Sketch
Revised:
Revised:
Revised:
Revised:
NTS Area:
Drawn By: REP
Date Drawn: Aug. 1997
Project No:
File Name:


POWELL TWP.
CAIRO TWP.
Y-D SHAFT
MCM #3 SHAFT
Welsh
RYO
MCM
MATACHEWAN
WEST MONTREAL RIVER
KIMBERLY TWP.
YARROW TWP.
1207502 (16 units)
1207504 (18 units)
1207509 (4 units)
1207514 (4 units)
1207511 (3 units)
1207505 (12 units)
1207516 (5 units)
1207508 (15 units)
1207513 (1 unit)
1207510 (1 unit)
1207515 (2 units)
0
5000
feet
LEGEND
RYO Royal Oak 100%
MCM Matachewan Consolidated Option
YD Young-Davidson Option
Shirriff Shirriff Option
Christie Schauss-Shirriff Option
Welsh Welsh Option
Leased Claims:
Mining Rights Only
Surface and Mining Rights
TIMMINS
MATHESON
KIRKLAND LAKE
MATACHEWAN
ENGLEHART
ELK LAKE
ONTARIO
QUEBEC
10 MILES
Royal Oak Mines Inc.
TIMMINS DIVISION
MATACHEWAN PROJECT
Land Holdings

4.0 Previous Work

A great deal of work has been done in the Matachewan area over the years, beginning with the initial gold discovery on the Davidson Claims (Young-Davidson Mines) in 1916. Since then, much exploration and development has been done on the adjoining MCM property (3 shafts and 11 production levels) and the Young-Davidson property (2 shafts, 6 production levels). Despite the mining activities during the 1935-1957 period, very little development work took place on the Welsh property proper. A brief chronological summary is detailed below:

1916: Discovery of gold on adjoining claims.

1979: Pamorex Minerals: concluded Option Agreement.

1986: Pamour Mine: diamond drilling to test for west extension of Boundary Pit.

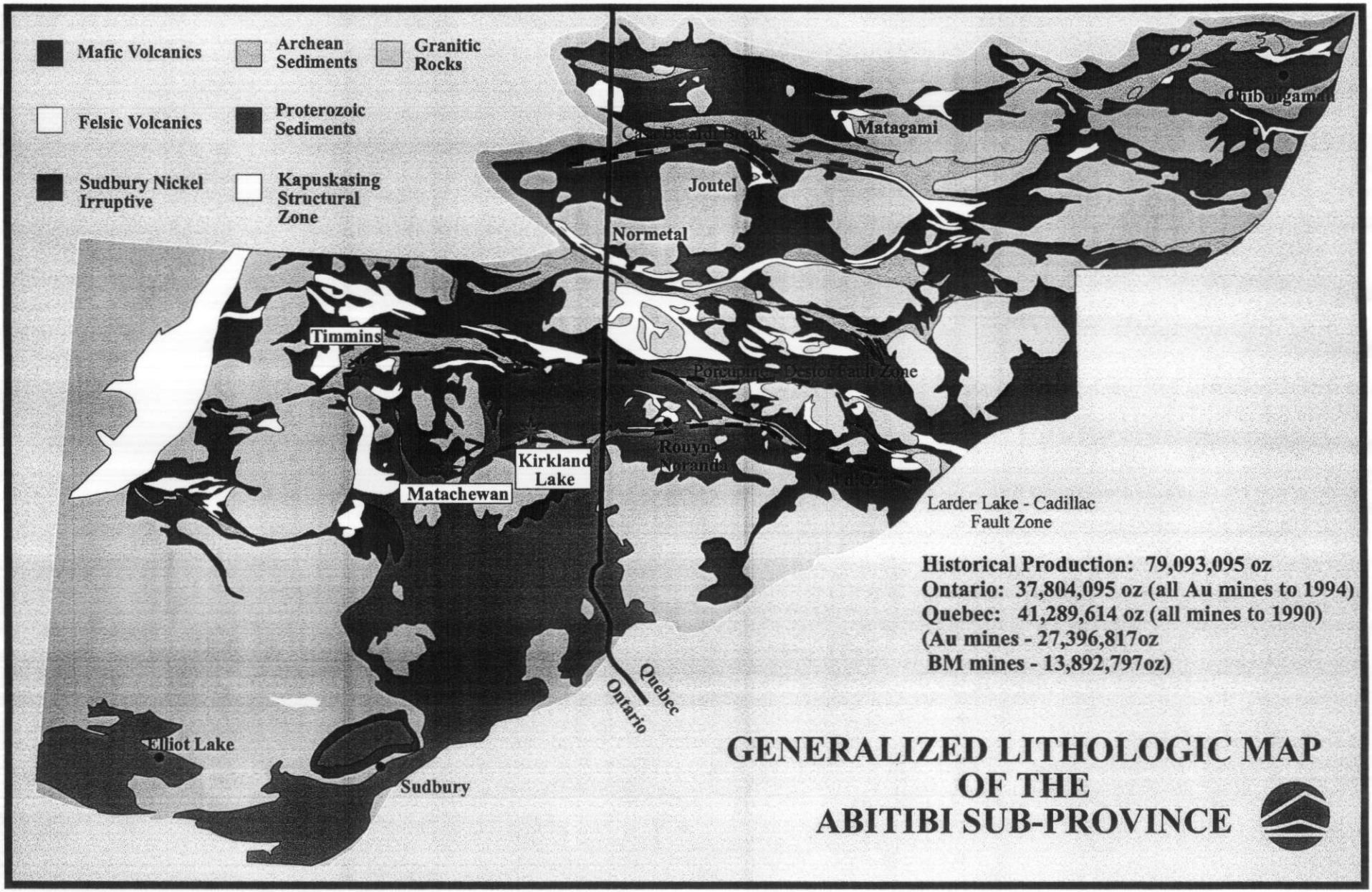
1995: Royal Oak Mines: diamond drilling, total 4,982 ft in 18 holes.

5.0 Regional Geology

The Matachewan Camp is located in the southwestern portion of the Abitibi Greenstone Belt (Figure 3). The regional metamorphic grade is largely greenschist facies, however local areas of amphibolite grade metamorphism can be found along the peripheries of the numerous large granitoid intrusions in the area.

The lithologies in the Powell-Cairo township area are extremely diverse, consisting of a folded sequence of Archean-aged mafic-ultramafic volcanic flows and sills and an assemblage of mixed clastic sediments, largely greywackes. These units have been intruded by younger granitoids, the largest of which (Cairo stock) occupies the northern half of Cairo Twp. and the southern half of Alma Twp. These granitoids themselves have been intruded by a northerly-trending swarm of diabase dikes belonging to the Matachewan swarm. All units in southwestern Powell Twp. and parts of Cairo Twp. have been covered by younger, Proterozoic-aged sediments of the Gowganda Formation.

Structurally, the Archean-aged units strike in a general east-west direction in Powell Twp., gradually taking on a northeasterly strike in Cairo Twp. The volcanic and sedimentary units have all been tightly folded into easterly-trending structures in Powell Twp., such that dips are variable; both north and south dips can be found in these units. A number of late (Paleozoic?) faults are present in the area and can have apparent offsets of up to 0.5-0.75 miles. Indeed, the largest of these cross-faults, the Montreal River fault, extends from the Kidd Creek Mine area all the way to Ottawa, and forms part of the


Mafic Volcanics
Archean Sediments
Granitic Rocks
Felsic Volcanics
Proterozoic Sediments
Sudbury Nickel Irruptive
Kapuskasing Structural Zone
Matagami
Joutel
Normetal
Timmins
Kirkland Lake
Matachewan
Larder Lake - Cadillac Fault Zone
Historical Production: 79,093,095 oz
Ontario: 37,804,095 oz (all Au mines to 1994)
Quebec: 41,289,614 oz (all mines to 1990)
(Au mines - 27,396,817oz
BM mines - 13,892,797oz)
Quebec
Ontario
Elliot Lake
Sudbury
GENERALIZED LITHOLOGIC MAP
OF THE
ABITIBI SUB-PROVINCE

Ottawa Graben system. This system remains active, as sporadic small earthquakes occur roughly every 15-25 years.

The reader is referred to Lovell (1967), Powell et. al. (1991) and Sinclair (1980) for additional details as to the regional geology of this area.

6.0 Local Geology

The property overlies a portion of the footwall contact of the syenite intrusive that forms the host rock for much of the gold that has been produced from the Camp in the past. Only the southwestern corner of the claims overlies the syenite body, the remainder overlie sediments of the Timiskaming formation. The Timiskaming sediments are composed predominantly of greywackes to a fine pebble conglomerate with local sections of coarser conglomeratic material being included on occasion. The syenite occurs in 3 different styles - coarsely feldspar porphyritic, very fine grained massive and hybridized - either as large masses on the order of 10's of feet in thickness or as a myriad of small dikes on the order of 1-10 feet in thickness, all of which are concentrated near the mafic-sediment contact. The syenites seem to preferentially intrude the Timiskaming sediments and the abundance of syenite dikes seems to gradually decrease northwards, so that very few dikes are present some 500-600 feet north of the contact All units dip steeply south (70-75°). A strong structural lineation is observed to plunge some 70° SW both in outcrop and in the orientation of the mafic-hosted ore zones. Younger diabase dikes of the Matachewan swarm cross-cut all units. The reader is referred to Derry et. al. (1948), Hopper (1942), and Cook (1919) for additional details.

7.0 Economic Geology

No gold production has come from these two claims. However, some 3,525,200 tons grading 0.110 opt Au have been produced from the Matachewan Consolidated property to the immediate southeast of the claims, and some 6,213, 272 tons grading 0.100 opt Au have been produced from the Young-Davidson property to the southwest.

8.0 Summary of the 1996 Drilling Program

A total of 1,375 feet of BQ drilling was done in 7 holes (completely and partially on the property) during the August 26 to September 23, 1996 period. All drilling was done by Benoit Diamond Drilling of Val d'Or, Québec, using two Acker long-stroke drilling rigs. The holes were drilled to provide additional information as to the gold content of the syenite and immediate footwall units (Timiskaming Sediments) that may be amenable to extraction by open pit mining methods. All of the core generated by these diamond drills

was transported back to Royal Oak's Matachewan coreshacks for logging and sampling. All remaining core is stored on the MCM minesite, and a list of the personnel involved with this program is given in Appendix I.

During the logging process, all core was measured for its RQD by the technicians. The geologists subsequently logged the geological and structural characteristics of the core, and any core which seemed favourable of containing gold was marked off for detailed sampling. Samples lengths for this detailed sampling typically ranged from 1 to 5 feet in length, with many samples being 5 feet long. The core was sampled by three methods - split core, whole core, and composite samples. Any detailed samples were split using both a hydraulic and manual core splitter. That core which did not seem to hold any promise for containing gold values (except the diabase dikes) were sampled by the composite method. In this method, a representative section of whole core, 1 to 4 inches in length, is selected at a nominal 5 foot spacing along an interval of up to roughly 50 feet in length. These "buttons" of core were then placed in sample bags, tagged and sent to the laboratory for analysis. In all, two laboratories were used - Royal Oak's Schumacher laboratory, and Spectrolab of Rouyn-Noranda. All gold analyses were done by Fire Assay-Atomic Absorption finish on 1AT sub-samples. Those intervals containing visible gold were analyzed by the Pulp + Metallic Method.

The results of the gold analyses are given in the detailed diamond drill logs, and a summary of all significant gold values encountered during these drilling programs is given in Table 2. Detailed drill logs being given in Appendix II. Detailed cross-sections and a plan map showing drill holes locations are given in Appendix III.

In brief, the program failed to intersect any significant amounts of gold-bearing material on the Welsh Option. Indeed many of the holes drilled during the course of this program were directed towards targets located on the adjoining Young-Davidson claims, and only traversed onto the Welsh Option after the target had been attained. The best result was intersected by drill hole YD96-106 which intersected a narrow bed of massive magnetite that contained 0.208opt Au / 4.9ft.

9.0 Conclusions and Recommendations

The results of this recent drilling program have shown that no significant quantities of gold-bearing material ammenable to open pit mining methods are located on the southwest portions of claim L316523. However potential for additional shallow gold mineralization exists on the remainder of this claim, and most of claim L511097. As well, potential remains for locating gold mineralization below the -1000ft elevation.

MATACHEWAN PROJECT

SUMMARY OF SIGNIFICANT ASSAY RESULTS
from the
FALL, 1996 DIAMOND DRILLING PROGRAM

Welsh Option

Table 2.

Hole No	Co-ordinates	From	To	Length (Ft)	Au (raw)	Au (cut 0.19)	Lithology	Comments
YD96-106	3100E 3059N -45 @ 360	288.9	318.0	29.1	**0.050**	**0.047**	Timiskaming Seds	incl. 0.208 opt / 4.9ft in IFo
YD96-108	3100E 2780N -45 @ 360	373.0	413.0	40.0	**0.035**	- -	Syenite (Main)	
YD96-109	3100E 2780N -63 @ 360	393.0	433.0	40.0	**0.034**	- -	Syenite (Main)	
YD96-110	3100E 2560N -60 @ 360	448.0	513.0	65.0	**0.036**	- -	Timiskaming Seds	
YD96-111	3000E 2980N -45 @ 360	88.0	228.0	140.0	**0.070**	**0.055**	Syenite (Main)	
YD96-112	2900E 3035N -45 @ 360	18.0	158.0	140.0	**0.044**	- -	Syenite (Main)	
YD96-113	2900E 2730N -45 @ 360	88.0	103.0	15.0	**0.035**	- -	Syenite (Main)	
		443.0	463.0	20.0	**0.043**	- -	Syenite (Main)	
		612.0	615.0	3.0	**0.255**	- -	FW Syp dike	
YD96-128	3450E 2880N -45 @ 360	12.0	369.1	357.1	**0.037**	**0.036**	Syenite (Main)	Assay verification hole

R. Newman
Feb 26/97

10.0 References

------, 1984, Lithostratigraphic Map of the Abitibi Subprovince: OGS - MERQ Joint Publication, Map 2484

Burrows, A.G., 1918, The Matachewan Gold Area: Ont. Bur. Mines Vol. 27 (1918) and Vol. 29 Part 3 (1970)

Cooke, H.C., 1919, Geology of the Matachewan District: GSC Memoir 115

Derry, D.R., Hopper, C.H., and McGowan, H.S., 1948, Matachewan Consolidated Mine in Structural Geology of Canadian Ore Deposits: CIMM Jubilee Volume I, p 638-643

Dyer, W.S., 1935, Geology and Ore Deposits of the Matachewan-Kenogami Area: ODM Ann. Rpt., Vol. 33, Part 2, pp 31-36

Hopper, C.H., 1942, Geology of the Matachewan Consolidated Mine, Northern Ontario: in CIMM Transactions Volume 45, pp 387-400

Hopper, C.H., 1943, The Engineer and the Diamond Drill in Northern Ontario: in CIMM Transactions Volume 46, pp 480-505

Lovell, H.L., 1967, Geology of the Matachewan Area: ODM Geological Report 51, 55 p, 2 maps

Meyer, G., Guindon, D., Boucher, F.M., Madon, Z., and Gaudreau, M., 1992, Kirkland Lake Resident Geologist's District in Report of Activities 1992 Resident Geologists: OGS Misc. Paper 161, Fenwick, K.G., Newson, J.W., and Pitts, A.E., eds. p 276-277

North, H.H., and Allen, C.C., 1948, Young-Davidson Mine in Structural Geology of Canadian Ore Deposits: CIMM Jubilee Volume I, p 633-637

Powell, W.G., Kilbourne, M.W., and Hodgson, C.J., 1991, Gold-Related Geology of the Matachewan Camp in Archean Gold Deposits of the Matachewan-Kirkland Lake-Larder Lake Area: Soc. Econ. Geol. Guidebook series, Volume 2, Lovell, H.L., Robinson, D.R., and Guindon, D.L., eds., p 72-88

Sinclair, W.D., 1980, Gold Deposits of the Matachewan Area, Ontario in Geology of Canadian Gold Deposits: CIMM Spec. Volume 24, Hodder, R.W., and Petruk, W., eds., p 83-93

Sloan, D.A., 1942, Low-Cost Mining at Young-Davidson in CIMM Volume

Southern, N.J., 1940, Lower Grade Ore at Young-Davidson Mine in CIMM Volume

APPENDIX I

List of Personnel, 1996 Drilling

Matachewan Project

List of Personnel, 1996 Diamond Drilling

Name	Position
Reno Pressacco	Senior Geologist
Steven Harding	Geologist
Ray Letellier	Technician
Marc Richard	Technician

APPENDIX II

Field Drill Logs

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R Bressacio DATE LOGGED: Aug 29/96 DRILL HOLE NO: YD.96-106

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3044.22	3103.84	8010.49	398.0 ft	3100 E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
200	~~360~~ 004	-42												
#398	~~356~~ 004°	-41												

START DATE: August 27/96

FINISH DATE: August 28/96

TOWNSHIP: Powell

CLAIM NO.: L316523 (95%), MR5372 (5%)

DRILLING CONTRACTOR: Benoit DD - Val d'or

PURPOSE: in-fill drilling, west Enel pit

RESULTS: 0.050 opt Au / 29.1 m (333.2 - 313.0 ft), raw assays
- 0.047 opt Au / 29.1 m (raw data pulps)

WHY HOLE TERMINATED: normal termination in footwall units

CORE SIZE: BQ

CASING: All casing recovered

HOLE CEMENTED: NO

NO. OF ASSAYS: 36 Au assays

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps - rejects stored @ Schumacher Mine site

CORE STORED (LOCATION): Bunker, Mcm minesite

☑ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: [illegible]

Average = 0.050 opt Au / 29.1 ft (raw)
or 0.047 opt / 29.1 (cut to 0.13)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
253.0		vf	vfg	MSV	RBY	HEM 1		Tsed					-	3	-	-			31934	5.0		0.006	calcite patches + stringers throughout = associated with cc veinlets
258.0		vf	vfg	MSV	GY	HEM 1		Tsed					-	3	-	-			31835	5.0		0.001	weak patchy hem alt'n
263.0		vf	vfg	MSV	GY	CAL 1		Tsed					-	1	-	-			31836	5.0		0.001	
268.0		vf	vfg	MSV	GY	CAL 1		Tsed					-	1	-	-			31837	5.0		0.006	
273.0		vf	vfg	MSV	GY	CAL 1		Tsed					-	3	-	-			31838	5.0		0.001	
278.0		vf	vfg	MSV	GY	CAL 1		Tsed	V	Sp			1	1	-	r			31839	5.0		0.004	½" [illegible] vein at 278.9ft.
283.0		vf	vfg	MSV	GY	CAL 1		Tsed					-	1	-	0.1			31840	5.0		0.001	
288.9		vf	vfg	MSV	GY	CAL 1		Tsed					-	1	-	-			31841	5.9		0.001	
293.9		vf	vfg	BED	GY	ANK 1		IFo	F	Sp			-	1	3	r			31842	4.9		0.208	mixed patchy + veinlet replacement beds max ½-1" thick
297.5		vf	vfg	BED	GY	ANK 2		IFo					-	3	5	-			31843	3.6		0.012	mostly disrupted w/ beds/patches, common irregular ank veining.
303.0		vf	vfg	MSV	GY	CAL 1		Tsed					-	1	-	-			31844	5.6		0.012	weak patchy hem alt'n in last 1 ft of section.
308.9		vf	vfg	MSV	RB	HEM 1		Tsed					-	1	-	0.1			31845	5.0		0.014	weak patchy + pervasive hem alt'n, vfg diss py.
313.0		vf	vfg	MSV	GY	CAL 1		Tsed					-	1	-	1			31846	5.0		0.030	diss + (stringer) pyrite, 1-3% chl veinlets

DRILL HOLE NO: YDD-06

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
318.0		m	vfg	MSV	GY	CAL1		Tsed					-	1	-	0.1			31847	5.0		0.020	vfg disc pyrite
323.0		m	vfg	FOL	GY	CAL1		Tsed					-	1	-	-			31848	5.0		0.008	occassional rot pebbled fragments
328.0		m	vfg	MSV	RB	HEM1		Tsed					-	1	-	-			31849	5.0		0.010	pervasive hem alt
333.0		m	vfg	MSV	RB	HEM1		Tsed					-	1	-	-			31850	5.0		0.008	alt decreasing down hole.
338.0		m	vfg	MSV	GY	CAL1		Tsed					-		-	-			31851	5.0		0.004	
343.0		m	vfg	MSV	GY	CAL1		Tsed					-	0.1	-	-			31852	5.0		0.004	
348.0		B	vfg	MSV	RB	HEM2		Tsed					-	0.1	-	-			31853	6.0		0.010	1 ft ground lost core @ 348.0 ft
353.0		m	mg	SYP	RB	CAL1		SYP					-	1	-	0.1			31854	4.0		0.001	mg porphyritic syenite dike ("Purple Porphyry")
358.0		m	mg	PDR	RB	CAL1		SYP					1	3	-	0.1			31855	5.0		0.002	Common cc veinlets at all angles TCA
360.9		m	mg	PDR	RB	CAL1		SYP					1	3	-	-			31856	2.9		0.001	occassional chloritic stringers within 1ft of lwr contact
363.2		m	vfg	MSV	GY	CAL1		Tsed					-	1	-	-			31857	2.3		0.004	
368.0		m	vfg	MSV	GY	CAL1		Tsed					-	1	-	0.1			31858	4.8		0.004	

P.A.P. 35362

DRILL HOLE NO: YD96-106

PAGE 5 OF 5

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
328.0		m	vfg	MSV	GY	ANKI		TRAN					T	2	5	1			31859	30.0		0.006	wavy irregular ankerite veining to 1" common.
328.0								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Pressacco DATE LOGGED: August 31/96 DRILL HOLE NO: YD96-108

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2780.26	3106.43	794.69	658.0 ft	3100E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
700	~~359~~ 001	-43												
400	003	-42°												
608	004	-41°												

START DATE: August 28/96

FINISH DATE: August 29/96

TOWNSHIP: Powell

CLAIM NO.: MR 5372 (60%), L 316 523 (40%)

DRILLING CONTRACTOR: Benoit DD - Val d'Or

PURPOSE: In-fill drilling, west End of Pit

RESULTS: 2.035 g/t Au / 40.0 ft (373.0 - 413.0 ft)

WHY HOLE TERMINATED: normal termination past target.

CORE SIZE: BQ

CASING: Left in place

HOLE CEMENTED: No

NO. OF ASSAYS: 59 Au assays

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher mine site.

CORE STORED (LOCATION): Bunker, Main mine site.

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: 96-09

Average = 0.035 opt Au / 40.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
19								CAS															CASING.
369.7		m	mg	MSV	DBX	CAL 1		DIA															DIABASE Occassional cc and epidote veinlets, some blocky sections. 5 ft chill margin on lower contact.
373.0		m	mg	PVR	RB	HEM 1		SYP	C	30			-	1	-	1			AX 31866	4.3		0.008	occassional mt-cc-ccl veining containing core stringer/ class pyrite.
373.0		m	mg	PVR	RB	HEM 1		SYP	V	30			-	3	-	0.1			31861	5.0		0.022	common thin cc veinlets with trace pyrite
373.0		m	mg	PVR	RB	HEM 1		SYP					-	1	-	1			31862	5.0		0.056	mixed pervasive + stringer hem alt^{n}, occassional mt patches.
373.0		m	mg	PVR	RB	HEM 1		SYP					-	1	-	0.1			31863	5.0		0.089	common mt-ch-cc veining @ 60° TCA
378.9		m	mg	PVR	RB	HEM 2		SYP					-	1	-	1			31864	3.9		0.040	mixed vfg dust patchy pyrite.
383.0		m	vfg	MSV	DBX	MAG 2		TSed					-	1	-	-			31865	6.1		0.006	pervasive + patchy magnetite alt^{n} with cc-ccl
403.0		m	vfg	MSV	DBX	MAG 3		TSed					-	1	-	-			31866	5.0		0.014	pervasive magnetite-calcite alt^{n} imparts grey colour to core.
408.0		m	vfg	MSV	DBX	MAG 2		TSed					-	1	-	-			31867	5.0		0.004	magnetite alteration weaker.
413.0		m	vfg	MSV	RB	MAG 2		SYN					-	1	-	0.1			31868	5.0		0.058	minor coarse pyrite in cc-mt veinlets/stringers, several 6-12 in sections of pervasive mt alt^{n}

DRILL HOLE NO: YD96-168

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Sx	cc	Brx	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
416.9		M	vfg	msv	sil	CAL1		SYN					-	0.1	-	-			31869	3.9		0.004	
421.0		M	vfg	msv	BX	CAL1		MDike	C	70			-	0.1	-	-			31870	4.1		0.004	3 in chl mineral in brec contact
423.0		M	vfg	msv	NB	CAL1		SYN					0	1	-	-			31871	2.0		0.011	
428.0		M	mg	DVN	NB	CAL2		SYP					-	0.1	-	0.1			31872	5.0		0.006	3% mt stringers patchy + diss. Rare cpy stringer
433.0		M	mg	DVN	NB	CAL2		SYP					-	1	-	0.1			31873	5.0		0.042	Coarse banded py (basically py) 1" cc veinlet, trace mt stringers
438.0		M	mg	DVN	NB	CAL2		SYP					-	1	-	3			31874	5.0		0.016	mostly vfg diss anhedral-subhedral pyrite.
443.0		M	mg	DVN	NB	CAL2		SYP					-	1	-	1			31875	5.0		0.008	mostly anhedral-subhedral py, fg to mg, 1% mt stringers
448.0		M	mg	DVN	NB	CAL2		SYP					0	1	0	0.1			31876	5.0		0.006	weak fracture controlled iron alt=
453.0		M	fg	DVN	NB	HEM1		SYP					-	1	-	-			31877	5.0		0.008	3% mt stringers crosscut pervasive iron alt=
458.0		M	fg	DVN	NB	HEM1		SYP					-	0.1	-	-			31878	5.0		0.002	3% mt stringers [illegible]
463.0		M	mg	DVN	NB	HEM1		SYP	V	65			-	1	-	3			31879	5.0		0.014	fg-mg anhedral-subhedral diss pyrite
468.0		M	fg	DVN	BX	CAL2?		SYN	V	55			-	1	-	0.1			31880	5.0		0.001	3 in cc veinlet @ 463.5 ft
473.0		M	mg	DVN	NB	HEM2		SYP					-	1	-	-			31881	5.0		0.001	1 in qtz-pyrite vein @ 470', 3 in cc-hem vein @

DRILL HOLE NO: CD96-103

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
																							473 ft intrusive inclusions of mafic-porphyritic (65° TCA)
478.0		M	MG	DPR	RB	HEM 2		SVP					-		-	0.1			31892	5.0		0.009	
483.0		M	MG	DPR	RB	HEM 1		SVP					-		-	-			31893	5.0		0.001	
488.0		M	MG	DPR	RB	CAL 1		SVP					-	1	-	0.1			31894	5.0		0.001	
493.0		M	MG	DPR	RB	CAL 1		SVP					-	1	-	-			31895	5.0		0.016	
498.0		M	MG	DPR	RB	CAL 1		SVP					-	1	-	-			31896	5.0		0.001	
503.0		M	MG	DPR	RB	HEM 3		SVP					1	3	-	1			31897	5.0		0.080	pervasive fine alt
508.0		M	MG	DPR	RB	CAL 1		SVP					-	1	-	0.1			31898	5.0		0.010	
513.0		M	MG	DPR	RB	CAL 1		SVP					-	1	-	-			31899	4.0		0.003	late calcite is discrete/gradational, difficult to pinpoint
518.0		M	VFG	MSV	RGY	CAL 2		Tsed					1	3	-	-			31900	6.0		0.008	feldspar phenos are commonly observed
523.0		M	VFG	DPR	RB	CAL 2		Tsed					-	3	1	0.1			31901	5.0		0.006	feldspar phenos common.
528.0		M	VFG	MSV	RB	CAL 3		Tsed					-	3	3	-			31902	5.0		0.003	cc veins to 1", calc-chl veins to 2"
533.0		M	VFG	MSV	GY	CAL 2		Tsed					1	3	-	-			31903	5.0		0.003	10% pyrite cpy / 2 inches @ 533 ft.

DRILL HOLE NO: [illegible]96-108

PAGE 5 OF 6

DIST	ID	Com	Grs	Text	Co	Alt	Name 1	Name 2	B	A1	J	A2	qtz	cc	ak	Py			SAMPLE #	WIDTH	T	AU opt	COMMENTS
538.0		m	vfg	MSV	GY	CALZ		Tgd					–	3	–	–			31894	5.0		0.003	
543.0		m	vfg	MSV	GY	CALZ		Tgd					–	5	–	–			31895	5.0		0.002	
548.0		m	vfg	MSV	GY	CALZ		Tgd					–	1	–	–			31896	5.0		0.003	
553.0		m	vfg	MSV	GY	CALZ		Tgd					1	1	–	–			31897	5.0		0.006	qtz-cnt vein @ 551 ft (55° TCA)
558.0		m	vfg	MSV	GY	CALZ		Tgd					–	1	–	–			31898	5.0		0.002	possible mafic (chloritic) dike 555-55[illegible]
563.0		m	vfg	MSV	[illegible]	CALZ		Tgd					–	1	3	–			31899	5.0		0.004	
568.0		m	vfg	MSV	GN	CALZ		Tgd					–	1	–	–			31900	5.0		0.002	
573.0		m	vfg	FOL	GN	CALZ		Tgd	F	55			–	1	–	–			31901	5.0		0.003	
578.0		m	vfg	FOL	GN	CALZ		Tgd					–	1	–	–			31902	5.0		0.002	
583.0		m	mg	POR	NB	CALZ		SVP					–	1	–	–			31903	5.0		0.002	
588.0		m	mg	POR	NB	CALZ		SVP					–	1	–	–			31904	5.0		0.010	
593.0		m	vfg	MSV	GN	CALZ		Tgd					–	0.1	–	–			31905	5.0		0.003	
598		m	vfg	MSV	GN	CALZ		Tgd					1	1	1	1			31906	5.0		0.009	trace cpy in 5mm qtz veinlet (80° TCA)

P.A.P. 35362

DRILL HOLE NO: [illegible]-03

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QTZ	CC	mafic	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
603.0		M	MG	PGM	MB	CA1 2		SYP					-	1	-	-			31807	5.0		0.002	
608.0		M	UG	MSV	GN	CA1 3		Tsed					1	1	-	-			31808	5.0		0.004	
613.0		M	UG	MSV	GN	CA1 3		Tsed					-	1	-	-			31809	5.0		0.009	
618.0		M	UG	MSV	GN	CA1 3		Tsed					-	1	-	-			31810	5.0		0.008	
623.0		M	UG	CGT	MB	HEM1		Tsed					-	1	1	-			31811	5.0		0.004	
628.0		M	MG	PGM	MB	HEM2		SYP					-	1	1	-			31812	5.0		0.006	
633.0		M	UG	CGT	YBN	SER 1		Tsed					1	1	3	-			31813	5.0		0.003	
638.0		M	UG	CGT	YBN	SER 1		Tsed					1	1	1	3			31814	5.0		0.006	
643.0		M	FG	GRN	MSV	SER 2		Tsed					3	1	1	3			31815	5.0		0.178	conglomeratic
648.0		M	FG	GRN	MSV	SER 1		Tsed					1	1	-	3			31816	5.0		0.006	polymictic conglomeratic (pebble-size)
653.0		M	MG	GRN	MSV	SER 1		Tsed					-	1	-	1			31817	5.0		0.008	conglomeratic, decreasing down-hole.
658.0		M	MG	GRN	MSV	CAL 1		Tsed					-	3	-	-			31818	5.0		0.004	
659.0		M						EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Rassacco DATE LOGGED: Sept 3/96 DRILL HOLE NO: YM96-109

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2779.34	3106.12	7993.38	958.0 ft	3100 E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-63												
208	003	-61												
408	002	-60												
608	008	-58												
858	006	-56												

START DATE: August 29/96

FINISH DATE: Sept 3/96

TOWNSHIP: Powell

CLAIM NO.: MR 5372 (70%), L 316523 (30%)

DRILLING CONTRACTOR: Benoit #5 - Val d'Or

PURPOSE: Test for northern target (central zone), west end drilling.

RESULTS: 0.034 opt Au / 40.0 ft (393.0 - 433.0 ft)

WHY HOLE TERMINATED: normal termination in clean FW rocks

CORE SIZE: BQ

CASING: all casing recovered

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Minesite

CORE STORED (LOCATION): Bunker, Mcm minesite

☑ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YB96-102

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
10.								CAS															CASING
343.3		M	fg	MSV	DGY	CAL1		DIA	G	5													
343.0		M	mg	PVR	RGY	CAL1		SYP					—	1	—	1			4X 31919	1.3		0.002	1-3% chl-(mt) stringers
348.0		M	mg	PR	RGY	CAL1		SYP						1	—	3			31920	5.0		0.003	3" chl-cc-py vein @ 348.5 ft (60° TCA). Late cc-anhedral (?) veinlets overprint chl alt° stringers.
353.0		M	mg	PVR	GY	CAL1		SYP					—	1	—	1			31921	5.0		0.006	trace-1% mt patches & 1 inch.
358.0		M	mg	PVR	RB	HEM2		SYP					—	1	—	3			31922	5.0		0.009	patchy + fracture controlled hem alt°, trace-1% patchy + stringer mt.
363.0		M	mg	PVR	RB	HEM1		SYP					1	0.1	—	0.1			31923	6.0		0.006	1% mt stringers cutting coarse euhedral pyrite overprints
368.3		M	fg	MSV	DGY	CAL2		SYN					—	3	—	1			31924	5.2		0.003	pervasive mt-cc alt°
373.2		M	fg	MSV	DGY	CAL2		SYN					—	1	—	0.1			31925	5.0		0.009	3" patchy/diss py near lower contact
378.0		M	mg	PVR	RB	HEM1		SYP					—	1	—	1			31926	3.8		0.014	
383.0		M	mg	PVR	RB	HEM1		SYP					—	1	—	1			31927	5.0		0.015	mixed pervasive + fracture hematite alt°
388.0		M	mg	PVR	RB	HEM1		SYP					—	1	—	3			31928	5.0		0.003	weak pervasive hem alt°, diss anhedral-subhedral py
393.0		M	mg	PVR	RB	HEM1		SYP	V	40			—	1	—	3			31929	5.0		0.005	1" cc-py stringer/vein @ 392.5 ft.

P.A.P. 35362

DRILL HOLE NO: YD96-109

Avg: 0.034 opt Au / 140.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE q/s	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
398.0		m	mg	PGR	NB	HEM 1		SYP					-	3	-	1			31230	5.0		0.058	
403.0		m	MG	MSV	NB	HEM 3		SYN					-	1	1	0.1			31231	5.0		0.001	6" mt(?) vein, strong pervasive hem alt° obliterates feldspars
408.0		m	mg	PGR	NB	BL 2		SYP					-	1	-	3			31232	5.0		0.024	mixed stringer + diss arsenical-cubical pyrite.
413.0		m	mg	PGR	NB	BL 2		SYP					-	1	-	5			31233	5.0		0.060	mixed cubical-euhedral pyrite, vfg-mg.
418.0		m	mg	PGR	NB	HEM 2		SYP					-	1	-	1			31234	5.0		0.036	trace 1% pyrite + diss pyrite
423.0		m	mg	PGR	NB	HEM 3		SYP					1	3	-	1			31235	5.0		0.022	
428.0		m	mg	PGR	NB	HEM 2		SYP	V	45			3	1	1	0.1			31236	5.0		0.009	trace mt stringers to 1mm.
433.0		m	mg	PGR	NB	BL 2		SYP					3	1	1	3			31237	5.0		0.069	weakly deformed - flow banded feldspar xtals
438.0		m	mg	PGR	NB	HEM 1		SYP					1	1	1	1			31238	5.0		0.018	pervasive mt alt° dominant in last 1' of section, 2" mvo fragment @ 437.5 ft contains 1mm specular violet.
443.0		m	mg	PGR	NB	MAG 1		SYP					1	-	1	-			31239	5.0		0.004	pervasive mt alt° common, trace fragments of country rock.
448.0		m	mg	PGR	NB	HEM 2		SYP					1	-	1	0.1			31240	5.0		0.008	mt alt° clearly overprints bx vein alt°.
454.6		m	fg	PGR	NB	HEM 1		SYN					-	1	1	0.1			31241	4.6		0.010	fragmental texture, common silver-grey carbonate

DIST	ID	Com	Grs	Text	Co	Alt	Name 1	Name 2	B	A1	J	A2				Py			SAMPLE #	WIDTH	T	AU opt	COMMENTS
									STRUCTURE B/S		STRUCTURE J/F		GANGUE			METALLIC							
459.4		m	fg	FOL	GY	CAL1		DIO	C	75									31942	4.8		0.002	dioritic dike, upper contact @ 75° TCA
463.0		m	fg	MSV	RB	HEM3		SYN					–	1	1	–			31943	3.6		0.002	strong pervasive & fracture controlled hem alt[illegible]
468.0		m	fg	POR	RB	HEM1		SYP					1	–	1	1			31944	5.0		0.010	qtz-ank-mt veinlets are common.
473.0		m	fg	POR	RB	HEM1		SYP					1	–	3	1			31945	5.0		0.008	mt-qtz-ank stringers to 1mm common.
478.0		m	fg	POR	RB	HEM1		SYP					1	–	3	0.1			31946	5.0		0.007	
483.0		m	vfg	MSV	RB	ANK1		Tsed					1	–	3	–			31947	5.0		0.021	mixed syn [illegible] (479ft) and fragmental textured Tseds.
488.0		m	mg	POR	RB	BL2		SYP					1	–	5	1			31948	5.0		0.029	qtz-mt veinlets common.
493.0		m	cg	FRA	DGY	MAG1		Tsed					–	–	1	–			31949	5.0		0.005	well developed dark coloured fragments in reddish matrix.
498.0		m	vfg	FOL	DGY	ANK1		Tsed					–	1	1	1			31950	5.0		0.008	mixed porphyritic syenite (50%) and porphyritized seds.
503.0		m	fg	COT	GGY	ANK1		Tsed?					–	–	3	1			31951	5.0		0.002	qtz-ank-py vein to 3' @ 498.5ft, trace cpy @ 499 ft possible altered, coated seds
508.0		m	vfg	MSV	RGY	ANK1		Tsed					–	1	1	–			31952	5.0		0.001	mixed seds + thin syenite dikes
513.0		m	fg	POR	RGY	ANK1		SYN					1	–	5	–			31953	5.0		0.001	porphyritized seds?
518.0		m	mg	POR	RB	ANK1		SYP					1	–	3	–			31954	5.0		0.001	strongly porphyritic syenite.

DRILL HOLE NO: 1096-109

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
523.0		m	mg	PGR	MB	ANCL		SVP					1	-	5	a1			31955	5.0		0.002	
528.0		m	mg	PGR	MB	HEM1		SVP					1	-	3	1			31956	5.0		0.012	
533.0		m	mg	PGR	MB	HEM2		SVP					1	1	3	1			31957	5.0		0.010	
539.0		m	mg	PGR	MB	HEM1		SVP	V	60			1	-	3	1			31958	5.0		0.046	2 inch gtz-chl vein @ 534 ft, trace patchy mt partially replaced by pyrite.
543.0		m	mg	PGR	MB	HEM1		SVP					-	-	1	1			31959	5.0		0.004	1% mt patches + stringers partially replaced by pyrite
548.0		m	mg	PGR	MB	HEM1		SVP					-	-	1	1			31960	5.0		0.016	3% mt-specular-gtz stringers + patches
553.0		m	mg	PGR	MB	HEM1		SVP					1	-	3	1			31961	5.0		0.012	1% mt-gtz-ank patches / veinlets.
558.0		m	mg	PGR	MB	CAL1		SVP					-	-	1	-			31962	5.0		0.004	carbonate becoming predominantly calcite below 558 ft.
563.0		m	mg	PGR	MB	CAL1		SVP					-	-	1	0.1			31963	5.0		0.006	trace mt stringers to 1-3mm.
568.0		m	mg	PGR	MB	CAL1		SVP					1	1	-	-			31964	5.0		0.001	
573.0		m	mg	PGR	GGY	CAL1		SVP					1	-	1	0.1			31965	5.0		0.002	greenish chloritic alt= affects matrix.
578.0		m	mg	PGR	GGY	CAL1		SVP					1	-	3	-			31966	5.0		0.009	pervasive matrix silicification decreasing.
583.0		m	mg	PGR	MB	HEM1		SVP					1	-	1	3			31967	5.0		0.021	mostly disseminated pyrite, some mg pyrite with

DRILL HOLE NO: 86-109

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gk	cc	ank	METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
																							Thin gz veinlets + patches.
588.0		m	mg	PDR	MB	HEM1		SVP					1	-	3	1			31968	5.0		0.022	trace-1% met-cc patches
593.0		m	mg	PDR	MB	HEM1		SVP	V	55			-	5	-	-			31969	5.0		0.004	3" cc vein @ 593 ft, trace diss met throughout.
599.0		m	mg	PDR	MB	HEM1		SVP					1	1	1	3			31970	5.0		0.012	ufg diss pyrite is interstitial to feldspar phenos. 1% patchy met-gk-cc.
603.0		m	mg	PDR	MB	HEM1		SVP					-	1	1	0.1			31971	5.0		0.004	trace diss met.
608.0		m	mg	PDR	MB	HEM1		SVP					-	1	1	0.1			31972	5.0		0.002	1-3% thin met stringers + veinlets.
610.2		m	mg	PDR	MB	HEM2		SVP	C	55			-	1	1	0.1			31973	2.2		0.002	3% met patchy stringers
613.0		m	ufg	MSV	RGN	HEM1		TSed					1	1	-	-			31974	2.8		0.004	5% chl veins to 1-2 inches
618.0		m	ufg	MSV	RGN	CHL1		TSed					1	-	3	1			31975	5.0		0.002	ufg diss pyrite throughout
623.0		m	ufg	MSV	GY	CAL2		TSed					1	3	1	-			31976	5.0		0.001	weak pervasive hematite alt², conglomerate pebbles easily visible
628.0		m	ufg	MSV	RGN	CAL2		TSed					1	3	1	-			31977	5.0		0.015	
633.0		m	ufg	MSV	GY	CHL1		TSed					1	3	3	0.1			31978	5.0		0.002	1% diss ufg py in last 6" of interval
638.0		m	ufg	MSV	GY	ANK1		TSed					1	1	3	-			31979			0.002	well developed ank stockworking.

DRILL HOLE NO: YD16-109

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU 6pt grams	COMMENTS
643.0		m	ufg	msv	YGN	fmK 2		Tsed					-	1	3	-			31990	5.0		0.003	
648.0		m	ufg	msv	GN	chl 2		Tsed					-	1	3	-			31991	5.0		0.003	mixed chl-ank alt=
653.0		m	ufg	msv	YGN	fmK 2		Tsed	V	30			3	1	3	1			31992	5.0		0.009	2" qv @ 648.5 ft contains 5% diss ufg py in wall's, 6" qtz-ank vein @ 651 ft
658.0		m	ufg	msv	YGN	SER 1		Tsed					1	1	-	1			31993	5.0		0.012	trace qtz-arfvedsn-ank veins/patches, ufg diss py
663.0		m	g/f	fol	RGN	SER 1		Tsed					1	1	1	1			31994	5.0		0.001	mixed hem-chl-ser alt=, ufg diss py
668.0		m	ufg	msv	YGN	fmK 1		Tsed					-	1	1	0.5			31995	5.0		0.004	mixed hem-chl-ser-ank alt=
673.0		m	ufg	msv	YGN	fmK 1		Tsed					-	1	3	-			31996	5.0		0.018	chl veinlband to 6" overprint incipient hem-ser alt=
678.0		m	ufg	msv	YGN	fmK 1		Tsed					-	1	5	-			31997	5.0		0.003	quite well developed ank crackle veinlets
683.0		m	ufg	msv	YGN	fmK 1		Tsed					-	1	5	-			31998	5.0		0.013	crackle-textured ank alt=
688.0		m	ufg	msv	RGN	fmK 2		Tsed					-	1	5	-			31999	5.0		0.001	mixed incipient hem alt= and crackle ank alt= trace qtz-tour-ank veining @ 688 ft.
693.0		m	ufg	msv	RGN	CAL 1		Tsed					-	3	3	-			31990	5.0		0.007	mixed pervasive hem and chl alt=
698.0		m	ufg	msv	ORG	fHem 1		Tsed					-	1	1	-			31991	5.0		0.009	alteration decreasing to nil below 698 ft.
703.0		m	ufg	msv	GY	CAL 1		Tsed					1	1	-	-			31992	5.0		0.006	

DRILL HOLE NO: [illegible]

SAMPLE SERIES CHANGE

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
708.0		m	vfg	MSV	GY	CALI		Tsed					1	1	-	-			31293	5.0		0.002	
713.0		m	vfg	MSV	GY	CALI		Tsed					1	1	-	-			31294	5.0		0.006	
718.0		m	vfg	MSV	GY	CALI		Tsed					-	3	-	-			31295	5.0		0.001	
723.4		m	vfg	MSV	GY	CALI		Tsed	V	35			1	3	-	-			31296	5.10		0.006	2" qtz-cc-tour-sph vein @ 719.5'
728.0		m	vfg	MSV	RGY	CALI		Tsed					1	5	-	-			31297	5.0		0.001	
733.0		m	vfg	MSV	GN	CHL2		Tsed					1	3	-	1			31298	5.0		0.004	possibly altered mafic dike
738.0		m	vfg	MSV	RGY	CALI		Tsed	V	30			1	3	-	-			31299	5.0		0.003	1/2" cc-barite (red-brn) -qtz vein @ 735.5'
743.0		m	vfg	MSV	GY	CALI		Tsed					1	3	-	-			AX32000	5.0		0.032	
748.4		m	vfg	MSV	GY	CHL2		Tsed					-	1	-				AX27251	4.4		0.002	well defined chlorite veins
753.0		m	mg	PGR	RB	CALI		SYP					-	1	-	0.1			27252	5.6		0.001	large "purple" feldspar phenos, incipient mafic chlorite
758.0		m	mg	PGR	RB	CALI		SYP					-	1	-	-			27253	5.0		0.001	
763.0		m	mg	PGR	RB	CALI		SYP					-	1	-	-			27254	5.0		0.002	
766.4		m	mg	PGR	RB	CALI		SYP											27255	3.4		0.014	

DRILL HOLE NO: YA86-109

PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
													qtz	cc	ank	py							
773.0		B	vfg	msv	GY	CALI		Tsed					-	1	-	-			27756	6.6		0.022	broken, blocky core.
778.0		B	vfg	msv	GY	CALI		Tsed					-	1	-	-			27757	5.0		0.006	blocky core
783.0		B	vfg	msv	GY	CALI		Tsed					-	0.1	-	-			27758	5.0		0.004	
788.0		M	vfg	msv	GY	CALI		Tsed					-	1	-	-			27759	5.0		0.009	
828.0		M	vfg	msv	GY	CALI		Tsed					-	3	-	-			27760	40.0	C	0.008	composite sample.
858.0		M	vfg	msv	GY	CALI		Tsed					-	3	-	-			27761	30.0	C	0.006	hematitic S/P dike 837.5 - 843 ft, chl-cc altered zone 850.5 - 851.5 ft.
858.0								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MARCHMAN LOGGED BY: R. Bressacco DATE LOGGED: Sept 5, 1996 DRILL HOLE NO: YDB-110

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2563.44	3096.14	7978.76	605.0 ft	3100E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-60												
208	004	-57°												
408	001	-56												
598	005	-56°												

START DATE: Sept 3, 1996

FINISH DATE: Sept 4, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5372

DRILLING CONTRACTOR: Benoit DD - Val d'Or

PURPOSE: test southern min. zone on section 3100E

RESULTS: 0.036 opt Au / 65.0ft (448.0 - 513.0ft)

WHY HOLE TERMINATED: normal termination, target zone was not present

CORE SIZE: BQ

CASING: Left in place

HOLE CEMENTED: No

NO. OF ASSAYS: _____

NO. OF ICP: _____

NO. OF WRA: _____

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Minesite.

CORE STORED (LOCATION): Bunker, Main Minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: NB-110

PAGE 2 OF 5

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
10								CAS															CASING
375.6		M	fg	MSV	GY	CAL1		DIA					-	1	-	-							occassional epidote ss veinlets, gradational lower contact
418.3		B	ug	MSV	BK	MAG1		SYN						3	-	0.1			AX27262	22.7	C	0.006	variably magnetic syenite, occassional mt stringers
																							weak-mod pervasive alt'n 402 - 419ft
429.0		B	fg	MSV	GY	CAL1		DIA					1	3	-	-							gradational upper + lower contacts
433.0		M	MSG	PORF	GY	CAL1		SYP					1	1	-	0.1			27263	4.0		0.004	narrow syp dike
438.0		M	fg	PORF	GY	CAL1		SYP					1	1	-	0.1			27264	5.0		0.006	mixed chloritic Tsed + syp dike
443.0		M	fg	MSV	GY	-		Tsed					1	1	-	0.1			27265	5.0		0.004	weakly porphyritic sections, heterolithic pebbles common
448.0		M	fg	MSV	GY	-		Tsed					-	1	-	0.1			27266	5.0		0.001	
453.0		M	fg	MSV	GY	-		Tsed					-	1	-	0.1			27267	5.0		0.094	
458.0		M	fg	MSV	GRY	CHL1		Tsed	V	30			1	-	-	0.1			27268	5.0		0.030	1" qtz-chl-(cx) vein @ 457.5 ft
463.0		M	ufg	MSV	GRY	CHL1		Tsed	-				-	0.1	-	0.1			27269	5.0		0.007	
468.0		M	ufg	MSV	GY	CHL2		Tsed					0.1	0.1	-	0.1			27270	5.0		0.003	

P.A.P. 35362

DRILL HOLE NO: YAD6-110

PAGE 3 OF 5

Average = 0.036 opt Au / 65.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Gb	Cc	Ank	METALLIC M			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
473.0		m	mg	FINE	YBW	SER1		Tsed					a1	3	-	a1			77271	5.0		0.004	
478.0		m	mg	FINE	YBW	MAG1		Tsed					0.1	1	-	-			77272	6.0		0.008	
483.0		m	mg	PUR	NB	HEM1		SYP					-	0.1	-	-			77273	4.0		0.004	incipient pervasive hematite alt=
488.0		m	mg	PUR	NB	HEM1		SYP					-	0.1	-	-			77274	5.0		0.024	
493.0		m	vfg	MSV	NB	HEM1		SYP					1	3	3	0.1			77275	5.0		0.034	1ft wallrock inclusion @ 488.5 ft, minor bleaching along some qtz veins.
498.6		m	mg	PUR	NB	HEM1		SYP	V	SS			3	1	-	0.1			77276	5.6		0.160	1 inch qtz-tour vein @ 497.5 ft, minor chloritic bands along lower contact
503.0		m	vfg	MSV	GY	MAG2		Tsed					1	1	-	0.1			77277	4.4		0.032	mt patches to 5mm commonly observed.
508.0		m	vfg	MSV	YGY	MAG1		Tsed					0.1	-	-	0.1			77278	5.0		0.020	mt stringers+ patches widening downhole.
513.0		m	vfg	MSV	YGY	SER1		Tsed					1	1	-	0.1			77279	5.0		0.022	
518.0		m	mg	FINE	PK	HEM1		Tsed	B	SS			-	0.1	-	-			77280	5.0		0.006	3 inch mt bed @ 516.5 ft
521.0		m	vfg	MSV	YGY	SER1		Tsed					1	-	-	-			77281	3.0		0.007	trace thin qtz-mt veinlets to 5mm.
527.9		m	fg	PUR	NB	-		SYP					1	-	5	-			77282	6.9		0.017	trace qtz-mt veins to 1cm.
533.0		m	vfg	MSV	YGY	HEM1		Tsed					1	-	1	-			77283	5.1		0.004	trace mt patches-stringers, trace qtz-mt patches

DRILL HOLE NO: YDD16-110

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
538.0		m	vfg	MSV	YBW	SER1		Tsed					1	1	-	-			27294	5.0		0.004	trace mt patches
543.0		m	vfg	MSV	YBW	SER1		Tsed					-	1	3	0.1			27295	5.0		0.021	common crackle-textured ank veinlets 2 ft syp dike.
548.0		m	cg	FMB	YBW	ANK1		Tsed					-	1	1	1			27296	5.0		0.012	vfg diss pyrite, large ir-enriched patches to 3"
553.0		m	cg	FMB	YBW	ANK1		Tsed					-	1	1	0.1			27297	5.0		0.010	several discrete qtz-ank veinlets to 1" max.
558.0		m	fg	MSV	RB	ANK1		Tsed					-	1	1	-			27298	5.0		0.014	
563.0		m	fg	FMB	RB	HEM1		Tsed					1	1	1	0.1			27299	5.0		0.006	incipient pervasive hem alt=
568.0		m	fg	MSV	RB	HEM3		Tsed					1	1	1	-			27290	5.0		0.004	hem alt= obliterates sedimentary textures
588.0		m	mg	PPR	RB	ANK2		SYP					-	-	5	-			27291	3.0		0.001	
573.0		m	mg	PPR	RB	ANK2		SYP					-	-	5	-			27292	5.0		0.074	minor ankeritic sections/bands
578.0		m	fg	PPR	RB	ANK3		SYP					-	-	10	-			27293	5.0		0.018	well developed crackle-textured ank vein ankerite
583.0		m	fg	MSV	RB	ANK1		SYP					-	-	1	-			27294	5.0		0.001	
588.0		m	fg	MSV	RB	HEM1		SYW					-	-	3	1			27295	5.0		0.004	vfg diss pyrite, minor mt stringers
593.0		m	fg	MSV	RB	ANK2		SYW					-	-	5	-			27296	5.0		0.004	minor mt stringers

DRILL HOLE NO: YAB6-110

PAGE 5 OF 5

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	cht	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
590.0		M	fg	POR	NB	HEM 2		SHR					1	-	3	-			27797	5.0		0.004	minor mt veinlets.
600.5		M	mg	POR	NB	ANK 1		SHR					1	1	1	-			27798	2.5		0.004	minor qtz-mt veinlets
605.0		M	vf	SHR	GN	CHL 2		SHR	F	35			-	3	5	-			27799	4.5		0.013	chloritic-carbonate sheared zone?
605.0								EOH															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Bressacco DATE LOGGED: Sept 6, 1996 DRILL HOLE NO: YD96-111

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2980.80	3000.14	7984.91	458.0 ft	3000E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-54°												
200	360	-52°												
408	001	-50												

START DATE: Sept 4, 1996

FINISH DATE: Sept 5, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5372 (95%), L316523 (5%)

DRILLING CONTRACTOR: Benoit ND, Val d'Or

PURPOSE: Test for west extension of Welsh Pit mineralization.

RESULTS: 0.070 opt Au / 140.0 ft (38.0 - 228.0 ft) raw assays

– 0.055 opt Au / 140.0 ft (cut to 0.19 opt)

WHY HOLE TERMINATED: normal termination in barren FW sads

CORE SIZE: BQ

CASING: Pulled

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps + rejects stored @ Schumacher Minesite.

CORE STORED (LOCATION): Bunker, Mcm minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YDR-111

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
16.								CAS															Casing
18.0		M	mg	PGR	LRB	BLZ		SVP					-	-	-	3			AX 27300	2.0		0.036	
23.0		M	mg	PGR	LRB	BLZ		SVP					1	3	-	0.1			27301	5.0		0.004	heavy rusty weathering along fractures
28.0		M	Cg	FMAB	MB	ANK1		SVN					-	1	-	-			27302	5.0		0.018	abundant inclusions of wall rocks, heavy rusty weathering along fractures
33.0		M	mg	PGR	RB	ANK1		SVP					1	1	-	0.1			27303	5.0		0.010	abundant inclusions of wall rocks
38.0		M	Fg	PGR	LBW	ANK1		SVP					-	3	-	-			27304	5.0		0.004	a few included wall rock fragments
43.0		M	Fg	PGR	RQB	CALZ		SVP	V	45			1	5	5	1			27305	5.0		0.051	common ank-cc veins to 1-2", some containing 10% coarse patchy pyrite.
48.0		M	mg	PGR	LRB	CALZ		SVP					-	1	1	-			27306	5.0		0.003	
53.0		M	mg	PGR	LRB	CALZ		SVP					-	3	1	-			27307	5.0		0.002	5-7% chloritic-cc patches
58.0		M	mg	PGR	MB	CAL1		SVP					-	5	1	0.1			27308	5.0		0.001	
63.0		M	Fg	PGR	MB	BLZ		SVN	CC	55			3	10	-	0.1			27309	5.0		0.002	common 1" cc veins contain 3-5% coarse cpy, incipient bleaching colouration, lacks pyrite
68.0		M	mg	PGR	MB	HEM1		SVP					3	3	-	0.1			27310	5.0		0.002	multiple qtz vein generations, common qtz-mt-chl veinlets
70.6		M	vfg	PSV	MB	CALZ		SVN	C	50			3	5	20	1			27311	2.6		0.007	mixed qtz, ank and cc-rich veins to 8", ank vein

DRILL HOLE NO: 1086-111

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE gls	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
																							@ 61.5 ft contains 3% diss pyrite
73.0		m	fg	PGR	BW	—		DIO?					—	10	—	—			77312	2.4		0.028	Intermediate (?) feldspar porphyritic intrusive?
78.0		m	fg	PGR	BW	—		DIO					—	3	—	—			77313	5.0		0.001	
84.2		m	fg	PGR	BW	—		DIO											77314	6.2		0.002	lower contact obscured by broken core.
88.0		m	mg	PGR	RB	ALT		SIP					1	1	1	0.1			77315	3.8		0.002	
93.0		m	mg	PGR	RB	HEM		SIP					3	1	—	1			77316	5.0		0.029	mostly m.g. diss euhedral pyrite. 3% mt-cc-ank-cpy vein @ 92 ft contains 5% coarse cpy and is oriented @ low angle TCA (0-5°). Some coarse patchy pyrite along vein walls.
98.0		m	mg	PGR	RB	HEM		SIP					3	1	—	0.1			77317	5.0		0.007	trace cpy in some qtz-cc veinlets, chl-cc patches common.
103.0		m	fg	PGR	RB	BLT		SIP					3	3	—	3			77318	5.0		0.056	chl-cc patches common.
108.0		m	fg	PGR	RB	BLT		SIP					5	3	—	5			77319	5.0		0.066	1/2-1 cm euhedral-subhedral pyrite in some qtz-tour veinlets.
113.0		m	fg	PGR	RB	BLT		SIP					1	1	—	1			77320	5.0		0.046	1/2" cc-py vein @ 108 ft. Hrmus diss py up to 2 ft into wall rocks.

P.A.P. 35362

DRILL HOLE NO: 4D16-111

Average = 0.070 opt Au / 140.0 ft (raw)
or 0.055 opt / 140.0 ft (cut to 0.19)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ch	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
118.0		m	fg	PGR	MB	BLZ		S1P					1	3	-	1			27321	5.0		0.038	mostly diss fg Py, minor stringer pyrite
123.0		m	fg	PGR	MB	BLZ		S1P					1	3	-	1			27322	5.0		0.050	
128.0		m	mg	PGR	MB	HEM 1		S1P					3	1	-	1			27323	5.0		0.017	Common ghost-cc veinlets to ½"
133.0		m	mg	PGR	MB	CAL 1		S1P	CC	60			1	5	-	0.1			27324	5.0		0.024	both milky white and lt grey cc veins observed
138.0		m	mg	PGR	MB	CAL 1		S1P					0.1	3	-	-			27325	5.0		0.027	cc veins to 2" thick.
143.0		m	fg	PGR	MB	BLI		S1P					1	1	10	1			27326	5.0		0.120	mixed cc-ank veins to 6" contain cpy & spec. hematite, 10% Py in 2" cc vein @ 141 ft.
148.0		m	fg	PGR	MB	BLZ		S1P					1	1	1	0.1			27327	5.0		0.038	trace ghost-ank veinlets
153.0		m	mg	PGR	MB	BLI		S1P					1	1	5	0.1			27328	5.0		0.048	pyrite is mostly in 3" ghost-ank vein @ 151 ft
158.0		m	mg	PGR	MB	HEM 2		S1P	QV	30			3	3	-	1			27329	5.0		0.142	coarse patchy pyrite in ghost-ank vein @ 156.5 ft trace cpy in cc vein (5mm)
163.0		m	mg	PGR	MB	HEM 1		S1P					1	5	1	0.1			27330	5.0		0.008	trace cpy in cc vein, 1" ghost-ank vein @ 162 ft contains 5% pyrite
168.0		m	mg	PGR	RGN	ANK 1		S1P					1	3	5	1			27331	5.0		0.006	vfg diss dark pyrite mostly hosted by ghost-ank veins and chl-(talc?) stringers + patches
173.0		m	mg	PGR	RGN	HEM 1		S1P					1	1	3	0.1			27332	5.0		0.020	chl alt° decreasing.

DRILL HOLE NO: YB96-111

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
178.0		m	mg	PXR	NB	BLZ		SYP					1	7	1	0.1			27333	5.0		0.106	fg stringers mostly assoc. with grey ank veinlets
183.0		m	mg	PXR	NB	BLZ		SYP					5	1	-	1			27334	5.0		0.090	well developed qtz stockwork 181-183 ft contains 5% course pyrite.
188.0		m	mg	PXR	NB	BL3		SYP					10	3	3	5			27335	5.0		0.298	course patchy pyrite hosted in qtz stockwork.
193.0		m	mg	PXR	NB	ITM2		SYP					1	1	-	0.1			27336	5.0		0.010	pervasive ser alt=
198.0		m	mg	PXR	NB	ITM3		SYP					-	1	3	1			27337	5.0		0.010	mostly course patchy pyrite
203.0		m	mg	PXR	NB	ITM3		SYP					-	1	1	0.1			27338	5.0		0.019	
208.0		m	mg	PXR	NB	ITM3		SYP	-				-	1	3	1			27339	5.0		0.052	diss + stringer pyrite mostly assoc. with ank veins + stringers
213.0		m	mg	PXR	NB	ITM2		SYP					-	1	3	1			27340	5.0		0.025	chl-cc alt= flanks ½" ank vein @ 209 ft
218.0		m	mg	PXR	NB	ITM3		SYP					-	1	1	1			27341	5.0		0.056	mixed stringer + diss pyrite
223.0		m	mg	PXR	NB	ITM3		SYP					3	1	-	1			27342	5.0		0.501	mostly course patchy pyrite in qtz veins + patches, 1" fine-ank vein @ 222 ft.
228.0		m	mg	PXR	NB	ITM3		SYP					3	3	1	0.1			27343	5.0		0.039	
233.0		m	mg	PXR	NB	ITM2		SYP					1	-	-	0.1			27344	5.0		0.010	

DRILL HOLE NO: YD96-111

DIST	ID	Com	Grs	Text	Co	Alt	Name 1	Name 2	B/S B	B/S A1	J/F J	J/F A2	Gangue qz	Gangue cc	Gangue ak	Metallic Py			SAMPLE #	WIDTH	T	AU opt/grams	COMMENTS
238.0		m	fg	POR	RB	HEM 2		SYP					1	-	-	-			27345	5.0		0.004	
243.0		m	vfg	MSV	RB	ANK 1		SYN					1	-	3	-			27346	5.0		0.001	
248.0		m	vfg	FRAG	RB	ANK 2		SYN					1	-	5	-			27347	5.0		0.011	common wallrock fragments observed
253.0		m	fg	FRAG	RB	ANK 1		SYN					1	1	1	-			27348	5.0		0.008	5% cpy/linch observed in ank-chl vein @ 248.5 ft.
258.0		m	mg	POR	RB	ANK 1		SYN					1	-	3	-			27349	5.0		0.002	mixed lithic frags and feldspar phenos - porphyritized
																							Tseds? 1" chl-ank-carb vein @ 254.5 ft
263.0		m	fg	POR	RB	ANK 2		SYN	F	55			1	-	5	-			27350	5.0		0.001	1 ft ank-chl vein @ 262-263 ft
268.0		m	fg	POR	RB	HEM 2		SYN					-	-	3	0.1			27351	5.0		0.008	hem alt^n weakening down-hole.
273.0		m	fg	MSV	RB	ANK 1		SYN					-	-	3	0.1			27352	5.0		0.001	vfg diss py mostly hosted by ank veins and bands
																							to 1-2"
278.0		m	fg	MSV	RB	HEM 2		SYN					-	-	3	-			27353	5.0		0.001	
283.0		m	fg	POR	RB	HEM 3		SYP	U	55			1	-	5	1			27354	5.0		0.008	diss patchy py mostly hosted by ank veins to
																							1"
288.0		m	fg	POR	RB	HEM 2		SYP					1	-	3	-			27355	5.0		0.012	
293.0		m	fg	POR	RB	HEM 2		SYP					1	-	1	-			27356	5.0		0.001	
298.0		m	fg	POR	RB	HEM 3		SYN					1	-	3	1			27357	5.0		0.008	mostly vfg diss py. minor coarse euhedral py

P.A.P. 35362

DRILL HOLE NO: YD96-111

PAGE 7 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
303.0		m	fg	PM	NB	HEM 3		SYN					1	-	3	0.1			27358	5.0		0.001	
308.7		m	fg	PM	NB	HEM 3		SYN	C	40			1	-	3	0.1			27359	5.7		0.004	sharp lower contact
313.0		m	vfg	MSV	GY	HEM 1		Tsed					1	-	5	-			27360	4.3		0.004	
318.0		m	cg	FPR	GY	HEM 1		Tsed	V	60			1	3	-	-			27361	5.0		0.003	coarse fragments common, 3" cc vein @ 315 ft
323.0		m	vfg	MSV	PR	ANK 1		SYN					1	1	1	-			27362	5.0		0.002	
328.0		MB	vfg	MSV	NB	ANK 1		SYN					1	-	1	-			27363	5.0		0.001	
333.0		m	vfg	FPR	GN	CHL 3		Tsed					-	-	1	-			27364	5.0		0.002	strong chl-ser alt=
338.0		m	fg	MSV	GN	CHL 2		Tsed					1	-	1	-			27365	5.0		0.003	
343.0		m	fg	PM	NB	ANK 1		SYN					1	1	1				27366	5.0		0.001	
348.0		m	fg	PM	NB	ANK 1		SYN					1	-	5	-			27367	5.0		0.001	
353.0		m	fg	MSV	YGN	ANK 1		Tsed					1	-	3	-			27368	5.0		0.002	
358.0		m	vfg	MSV	YGN	ANK 1		Tsed					1	-	1	-			27369	5.0		0.003	
363.0		m	vfg	MSV	NB	ANK 1		Tsed					1	-	3	-			27370	5.0		0.012	2 ft mafic porphyritic dike 359-361 ft

DRILL HOLE NO: YD96-111

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ 6pt grams	COMMENTS
368.0		m	ufg	MSV	LGN	SER 1		Tsed					-	-	5	1			77371	5.0		0.008	ufg dkgs pyrite
373.0		m	ufg	MSV	MG	SER 2		Tsed					-	-	3	-			77372	5.0		0.008	
378.0		m	ufg	MSV	GRY	ANK 1		Tsed					1	-	5	0.1			77373	5.0		0.006	
383.0		m	ufg	MSV	GRY	ANK 1		Tsed					1	-	3	-			77374	5.0		0.004	
388.0		m	ufg	MSV	GRY	ANK 1		Tsed					1	-	3	-			77375	5.0		0.002	
393.0		m	ufg	MSV	GRY	SER 1		Tsed					1	-	3	-			77376	5.0		0.003	
398.0		m	ufg	MSV	GRY	SER 1		Tsed					1	-	5	-			77377	5.0		0.003	
403.0		m	ufg	MSV	RUB	HEM 1		Tsed					1	-	5	-			77378	5.0		0.002	
408.0		m	ufg	MSV	RUB	HEM 1		Tsed					1	-	5	-			77379	5.0		0.002	
413.0		m	fg	DIK	GRY	-		MD					1	-	5				77380	5.0		0.001	mafic porphyritic dike 409-412.5 ft.
418.0		m	ufg	MSV	RUB	-		Tsed (50%)					1	-	3				77381	5.0		0.004	mixed mafic dikes + Tseds (50-50%)
423.0		m	ufg	MSV	RUB	HEM 1		Tsed					3	-	5				77382	5.0		0.058	pervasive hem alt°, mafic por. dike 416-419 ft.
428.0		m	ufg	MSV	RUB	HEM 1		Tsed					1	-	7				77383	5.0		0.006	mafic dike 423-424 ft

P.A.P. 35362

DRILL HOLE NO: YD96-111

PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
433.0		m	vfg	MSV	RB	HEM I		Tsed					-	-	1	-			77384	5.0		0.002	
438.0		m	vfg	MSV	RB	SER I		Tsed					-	-	1	-			77385	5.0		0.002	minor chlorite veins to 1-2"
443.0		m	vfg	MSV	GY	ANK I		Tsed					1	-	7	-			77386	5.0		0.004	
448.0		m	vfg	FOL	RGY	HEM I		Tsed					-	-	1	-			77387	5.0		0.003	
453.0		m	vfg	MSV	RB	HEM I		Tsed					-	-	1	-			77388	5.0		0.006	pervasive hem alt°, minor chloritic stringers
458.0		m	vfg	MSV	GY	ANK I		TSED					1	-	5	-			77389	5.0		0.018	
458.0								Gult															END OF HOLE

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 8/96 DRILL HOLE NO: Y96-112

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	3025.96	2903.08	7980.91	438.0	2900E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
200	358	-43												
438	347	-42												

START DATE: Sept 5, 1996

FINISH DATE: Sept 6, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5372 (66%), L316523 (34%)

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: Test west extension of Welsh Pit mineralization.

RESULTS: 0.044 opt Au / 140.0 ft (18.0 - 158.0 ft)

WHY HOLE TERMINATED: Normal termination in FW sediments

CORE SIZE: BQ

CASING: All Casing recovered

HOLE CEMENTED: NO

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher Minesite

CORE STORED (LOCATION): Bunker, Main minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YA-96-112

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	SNK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
11.6								CAS															- 0 - 11.6 - CASING, ALL CASING RECOVERED
13.0		M	FM	POR	RD	HEM 2		SYP					0.1	-	1	0.1			AX 27390	1.4	C	0.004	- 11.6 - 197.0 - SYENITE
18.0													1	-	2	1			91	5.0	C	0.016	
23.0													1	-	2	4			92			0.076	- MAG/QZ STG
28.0													1	-	2	5			93			0.092	
33.0													1	-	2	3			94			0.062	
38.0													1	-	3	5			95			0.052	- CG PY PATCHES
43.0													0.1	-	2	1			96			0.028	
48.0													1	-	2	6			97			0.078	- CG PY PATCHES
53.0									V	35			2	-	3	3			98			0.046	
58.0													1	-	1	2			99			0.024	
63.0													1	-	2	1			400			0.010	
68.0													0.1	-	1	2			01			0.020	- TR LIM STAINING
73.0													0.1	-	1	4			02			0.112	
78.0									V	35			1	-	0.1	6			03			0.024	
83.0													1	-	2	7			04			0.070	
88.0					RB	MAG 2		SYN	V	65			2	2	3	8			05			0.048	- SYN - SYP
93.0					RB	MAG 2		SYN	V	70			1	2	-	0.1			06			0.004	
98.0					RD	MAG 2		SYN					0.1	2	0.1	0.1			07			0.026	
103.0					RD	HEM 2		SYP					0.1	2	2	1			08			0.001	
108.0													0.1	2	0.1	0.1			09			0.001	
113.0													1	2	2	5			10			0.026	VF MG DISSEM / SUB PY
118.0													0.1	0.1	0.1	6			11			0.118	
123.0													0.1	1	0.1	3			12		V	0.094	- MN MAG/CC PATCHES

DRILL HOLE NO: YD-96-112

Average: 0.044 opt Au / 140.0 ft (raw)
(no cut grade)

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
128.0		m	FM	BR	PD	HEM 2		SYP	V	25			1	-	1	0.1			AX27413	5.0	C	0.006	- MN MAG PATCHES / QZ / MAG STGS
133.0													1	-	2	1			14			0.050	- Tr CPY IN QZ STG
138.0									V	25			2	-	2	2			15			0.046	
143.0													1	-	1	0.1			16			0.008	- Tr CPY IN 3 QZ STGS
148.0													3	1	-	3			17			0.032	- Tr - 1% CG CPY IN QZ STGS
153.0									V	65			3	2	-	3			18			0.036	- 1% SmSV CPY IN QZ/cc VLETS
158.0													1	1	-	3			19			0.050	- 2% SmSV PY/CPY, Tr - 1% SPEC HEM
163.0									V	60			2	1	5	4			20			0.020	- 5" QZ/ank/cc VEIN
168.0				MSV		MAG 1		SYN					0.1	0.1	0.1	0.1			21			0.002	
173.0					RB								1	1	3	3			22			0.004	- Tr CPY, SmSV PY IN QZ/ANK VEINING
178.0													1	-	3	1			23			0.001	- Tr CPY, MAG/cc ALT'N, ORTHOCLASE STG
183.0													1	-	2	0.1			24			0.003	
188.0													1	-	0.1	0.1			25			0.001	
193.0					PK	ANK 1							1	-	3	0.1			26			0.002	
197.0					PK	ANK 1							1	-	3	0.1			27	4.0	C	0.003	- GRAD CONTACT WITH T SEDS
200.0		m	FM	CLAS	RB	MAG 1		TSED					1	-	3	0.1			28	3.0	C	0.008	- 197.0 - 340.0 - T SEDS
203.0					RB	MAG 1			V	50			1	-	1	0.1			29	3.0	C	0.014	
208.0					GG	CC 2							1	1	3	0.1			30	5.0	C	0.005	- PERVASIVE CC ALT'N / MN MAG / SER
213.0					RG	HEM 1							1	-	2	0.1			31			0.006	- MN ANK CRAC BRX
218.0					GG	ANK 1							1	-	1	0.1			32			0.005	
223.0					GG	SER 2							1	-	2	0.1			33			0.003	
228.0					BN	HEM 1							0.1	-	2	0.1			34			0.005	
233.0					GG	CC 1							2	2	1	0.1			35			0.009	
238.0					GY	ANK 1							0.1	0.1	2	0.1			36			0.002	

DRILL HOLE NO: YD-96-112

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qz	cc	Ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt/grams	COMMENTS
243.0		m	FM	QAS	GY	ANK2		TSED					0.1	-	2	0.1			AX27437	5.0	C	0.004	
248.0					RG	ANK1							0.1	-	2	0.1			38			0.003	
253.0					RB	HEM1							0.1	-	1	1			39			0.010	HEM/ANAG ALT'N, VEG DISSEM PY
258.0					GG	CHL1							0.1	-	1	1			40			0.003	
263.0					RG	HEM1							0.1	-	2	0.1			41			0.001	260.0 - 280.0 - RED HEM STAINED, ANK
268.0					RB	HEM2							0.1	-	3	0.1			42			0.001	CRAC BRX, WK MAG
273.0					RB	HEM2							2	-	3	0.1			43			0.004	
278.0					RB	HEM2							1	-	2	0.1			44			0.006	
283.0					BN	HEM1							0.1	-	3	0.1			45			0.007	
288.0					GY	ANK1							1	-	3	0.1			46			0.008	
293.0					GY	ANK1							1	-	2	0.1			47			0.004	
298.0					RB	HEM1							0.1	-	2	0.1			48			0.006	
303.0					RG	ANK1							1	-	3	0.1			49			0.006	MN SER/CHL ALT'N
308.0					RG	ANK1							0.1	-	3	0.1			50			0.003	
313.0					RB	HEM2							0.1	-	2	0.1			51			0.004	
318.0					BN	MAG1							1	-	3	0.1			52			0.004	
323.0					GY	MAG1							1	-	2	0.1			53			0.004	
328.0					BN	MAG2							0.1	-	3	0.1			54			0.008	
333.0					GG	ANK1							1	-	3	0.1			55			0.005	
338.0					BN	HEM1							0.1	-	4	0.1			56			0.002	
340.0					BN	HEM1							1	-	3	0.1			57	2.0	C	0.005	
343.0		m	FM	POR	RB	HEM2		SYP	V	30			3	2	-	0.1			58	3.0	C	0.013	340.0 - 358.0 - SYENITE POR. DYKE, GRAD
348.0									V	15			3	2	-	0.1			59	5.0	C	0.154	LOWER CONTACT
353.0													1	2	-	0.1			60	5.0	C	0.005	

P.A.P. 35362

DRILL HOLE NO: YD-96-112

PAGE 5 OF 5

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANH	METALLIC PY			SAMPLE #	WIDTH	T	AU ppb / opt grams	COMMENTS
358.0		M	FM	POR	RD	HEM2		SVP					2	3	—	0.1			AX27461	5.0	<	0.004	
363.0		M	FM	GLAS	RG	ANK1		TSED					0.1	—	1	2			62	5.0	<	0.006	-358.0 - 438.0 - TSEDS, PREDOM CONGL
368.0					RB	ANK1							0.1	—	1	1			63			0.018	WITH MINOR GLNK, VARYING HEM, MAG,
373.0						HEM1							0.1	—	1	1			64			0.004	CC, CHL ALT'N, VEG DISSEM PY
378.0						HEM1							1	—	1	3			65			0.004	
383.0						MAG1							1	1	1	2			66			0.001	
385.0						MAG1								—	1	3			67			0.008	
393.0						MAG1							0.1	—	0.1	2			68			0.006	
398.0						MAG2							0.1	2	—	1			69			0.004	- MOD-STR MAG/CC ALT'N
403.0						MAG2							0.1	2	—	2			70			0.008	
408.0						HEM1							0.1	1	—	1			71			0.006	-408.0- 438.0 - MOD-STR MAG/CC
413.0						MAG2							0.1	1	—	0.1			72			0.006	ALT'N, WK-MOD HEM
418.0													0.1	0.1	—	1			73			0.004	
423.0													0.1	0.1	—	0.1			74			0.004	
428.0													0.1	0.1	—	1			75			0.008	
433.0													0.1	0.1	—	1			76			0.006	
438.0													0.1	0.1	—	0.1			77			0.006	EOH.

P.A.P. 35362

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: S. HARDING DATE LOGGED: SEPT 10/96 DRILL HOLE NO: YA-96-113

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2736.27	2893.78	7965.76	847 ft	2900 E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45°												
208	001	-43°												
408	001	-42°												
608	360	-40°												
808	360	-39°												

START DATE: SEPT 6, 1996

FINISH DATE: SEPT 11, 1996

TOWNSHIP: POWELL

CLAIM NO.: MR 5372 (436), L 316523 (576)

DRILLING CONTRACTOR: BENOIT DD, VAL D'OR

PURPOSE: Test for depth extension of open pit mineralization on Section 2900 East.

RESULTS: 0.035 opt / 15.0 ft (88.0 - 113.0 ft), 0.043 opt / 20.0 ft (443.0-463.0 ft), 0.255 opt / 3.0 ft (612.0-615.0 ft)

WHY HOLE TERMINATED: Normal termination in FW seds.

CORE SIZE: BQ

CASING: Casing removed

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION):

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: YD-96-113

APPT? 0.035 opt Au/15.0ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
10.0								CAS															0 - 10.0 - CASING
13.0		M	F	MSV	GY	CHL2		SYN					1	-	2	0.5			AX 27478	3.0	C	0.002	- 10.0 - 123.0 - SYENITE, LIM STAINED
18.0					GY	CHL2							1	-	1	0.1			79	5.0	C	0.004	AT TOP OF HOLE
23.0					RB	HEM1							15	-	1	0.1			80			0.001	- 1.5' QZ/TOURM VEINING
28.0					RB	ANK1							1	-	3	0.1			81			0.004	
33.0					RG	CHL1							6	-	1	0.1			82			0.002	- 3" QZ/TOURM VEINING
38.0						CHL1							1	-	2	0.1			83			0.001	- TR SPEC HEM/MAG
43.0						CHL1							1	-	2	0.1			84			0.001	- TR SPEC HEM/MAG
48.0						CHL2							1	-	2	0.1			85			0.001	
53.0						ANK1			V	45			2	-	20	2			86			0.010	- 0.8 ANK/QZ VEIN, 2% PY, MN LIM STAINING
58.0						CHL1							1	-	5	0.1			87			0.005	- TR CPY, 1% MAG/QZ STGS
63.0						CHL2							1	-	4	0.1			88			0.003	- TR CPY, MN MAG
68.0						CHL2							1	-	1	0.1			89			0.001	- MN MAG
73.0						CHL2							2	-	5	0.1			90			0.004	- TR MO IN 0.5" QZ/ANK/ORTHOCLASE? VLET
78.0				POR	RB	ANK2		SYP					1	-	1	1			91			0.001	
83.0						HEM2							2	-	2	1			92			0.001	
88.0									V	45			2	-	1	2			93			0.004	
93.0									V	25			3	-	1	2			94			0.028	- TR CPY IN QZ STG
98.0									V	30			3	-	1	4			95			0.056	
103.0													4	-	1	2			96			0.022	- TR TOURM
108.0									V	20			3	-	1	0.1			97			0.001	- 0.5" QZ/TOURM VLET
113.0													1	-	1	0.1			98			0.001	
118.0													1	-	0.1	0.1			99			0.001	
123.0						CHL1							1	-	2	0.1			500			0.001	

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	cc	Ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
128.0		m	Fm	MSV	GY	CHL1		DIO					1	-	2	0.1			AX28001	5.0	<	0.001	- DIORITE DYKE, MN LIM STAINING
133.0		m	F	BRX	GY	CHL2		SYN					1	-	5	1			02	5.0	<	0.001	- 128.0 - 505.5 - SYENITE
138.0				MSV	RG	ANK2		SYN					1	-	3	0.5			03			0.001	
143.0				MSV	RG	CHL1		SYN	V	45			3	-	3	1			04			0.001	- Tr CPY IN TWO QZ/ANK VLETS
148.0				MSV	RB	ANK1		SYN	V	20			3	-	2	0.1			05			0.001	- 1.5" QZ/TOURM VLET, Tr CPY IN VLET/STGS
153.0				POR	RB	ANK1		SYP					0.1	-	1	0.1			06			0.001	
158.0					RB	ANK1			V	20			4	-	2	0.1			07			0.001	- Tr TOURM IN 1.5" QZ/ANK VLET
163.0					RB	HEM1							0.1	-	1	0.1			08			0.001	
168.0					RB	HEM1							1	-	2	0.1			09			0.001	
173.0					RB	HEM2							2	-	1	0.1			10			0.001	
178.0					RB	HEM2							1	-	1	0.1			11			0.001	
183.0					RB	HEM2							-	-	1	0.1			12			0.001	- MAG STG
188.0					RB	HEM1							1	-	2	0.1			13			0.001	
193.0					GG	CHL2							1	-	3	0.1			14			0.004	
198.0					RG	CHL1							-	-	1	0.1			15			0.001	
203.0					RB	HEM1							-	-	2	0.1			16			0.004	- RARE CPY
208.0					RB	HEM1							2	-	3	0.5			17			0.001	
213.0					GG	CHL1							1	-	1	0.1			18			0.002	
218.0					GG	CHL2							-	-	1	0.1			19			0.004	
223.0					GG	CHL2							1	-	1	0.1			20			0.002	
228.0					GG	CHL2							-	-	1	0.1			21			0.001	
233.0					GG	CHL1							1	-	2	0.1			22			0.002	
238.0					RB	HEM1			V	30			1	-	1	0.1			23			0.004	
243.0					RB	HEM1							1	-	1	0.1			24			0.010	

DRILL HOLE NO: YD-96-173

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
248.0		M	F	PGR	RB	HEM2		SYP	V	30			1	-	3	0.5			AX28025	5.0	C	0.008	- QZ/MAG VLET/STGS
253.0					RB	HEM2			V	30			2	-	-	0.1			26			0.002	- QZ/TOURM VLET
258.0					RG	CHL1							-	-	1	0.1			27			0.001	- QZ/MAG STGS
263.0					GG	CHL2			V	50			2	-	10	1			28			0.001	- QZ/ANK (DOL?) VEINS WITH 2% MO, TR CPY/PY
268.0					RG	CHL1							1	-	3	0.5			29			0.009	
273.0					RG	CHL1							-	-	2	0.1			30			0.005	
278.0					RB	HEM2							2	-	2	0.1			31			0.002	- QZ/TOURM VLETS, TR CPY
283.0					RB	HEM2							-	-	1	0.1			32			0.001	
288.0					RG	CHL1							-	-	3	0.1			33			0.001	- TR CPY IN ANK VLET
293.0					GG	CHL1							-	-	3	0.1			34			0.001	
298.0					RB	HEM1							1	-	2	0.1			35			0.001	
303.0					RB	HEM2							1	-	5	0.5			36			0.001	
308.0					RB	HEM1							1	-	3	0.1			37			0.001	- ANK VLET WITH VFG DISSEM PY
313.0					RB	HEM2							-	-	1	0.1			38			0.001	
318.0					RB	HEM1							-	-	2	0.1			39			0.001	
323.0					RB	HEM1							-	-	2	0.1			40			0.008	
328.0					RB	HEM1			V	50			3	-	4	0.5			41			0.001	- TR MAG/CPY IN QZ/ANK VLET
333.0					RB	HEM2							1	-	1	0.1			42			0.001	
338.0					RB	HEM2							1	-	3	0.1			43			0.001	- TR CPY IN ANK STG
343.0					RB	HEM2							-	-	2	0.1			44			0.001	
348.0					RB	HEM1			V	15			2	-	4	1			45			0.001	- MAG STGS
353.0					GG	CHL1							1	-	3	0.5			46			0.001	- MN HEM
358.0					GG	ANK1							1	-	5	2			47			0.001	- CHL/ANK ALT'N
363.0					RB	HEM1							-	-	2	0.1			48			0.001	
368.0					RB	HEM1							-	-	2	0.1			49			0.001	

DRILL HOLE NO: YD-96-113

Average = 0.043 opt Au/20.0 ft

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
373.0		M	F.	PGR	RB	HEM 1		SYP					-	-	1	0.1			AX 780.50	5.0	C	0.002	- MAG/ANK STG
378.0					BN	CC 1							-	1	1	0.1			51			0.002	- CC/HEM ALT'N
383.0				MSV	RB	HEM 1		SYN					1	0.1	1	0.5			52			0.001	- PY SEAM CUTTING QZ/ANK VLET, TR CPY/MAG
388.0					RD	HEM 2							1	-	3	0.5			53			0.004	- MAG STGS
393.0					RD	HEM 2							2	1	-	0.1			54			0.004	
398.0					RB	HEM 2							2	1	-	0.1			55			0.034	- TR CPY IN QZ/CC STG
403.0					RB	HEM 2			V	30			2	2	-	0.1			56			0.001	- TR CPY
408.0					BN	HEM 1							1	2	-	0.1			57			0.005	- TR CPY
413.0					RB	HEM 2			V	60			1	1	-	1			58			0.020	- TR CPY
418.0													-	1	-	2			59			0.027	- TR CPY, SMSV PY PATCHES
423.0													1	1	2	2			60			0.013	- QZ/MAG STGS
428.0									V	30			3	1	-	0.1			61			0.014	- QZ/MAG VLETS/STGS
433.0													1	1	-	0.1			62			0.001	- MN CHL/MAG ALT'N
438.0													-	1	-	0.1			63			0.001	- TR CPY/MAG IN CC STG
443.0									V	60			2	12	-	0.1			64			0.001	- CC/QZ VEINS UP TO 5" WIDE
448.0					RD	HEM 3			V	35			1	3	-	1			65			0.040	- SMSV PY PATCHES/IN VLETS
453.0					RD	HEM 3			V	65			1	4	-	1			66			0.054	
458.0					RD	HEM 3			V	70			1	3	-	0.1			67			0.010	- MN MAG STGS
463.0					RD	HEM 3							-	1	-	0.5			68			0.066	- MN MAG
468.0					RD	HEM 3			V	45			1	3	-	0.1			69			0.016	- 1.5" CC/QZ VLET
473.0					RD	HEM 3			V	25			1	2	-	0.1			70			0.014	- TR CPY IN CC STGS
478.0					RB	HEM 2							1	0.1	3	0.5			71			0.002	- MN PY/CPY IN 4" QZ/ANK VLET
483.0					RB	HEM 2			V	55			1	-	5	0.5			72			0.008	- 3% CPY/PY IN 0.8' ANK VEIN, TR MAG
488.0					RG	CHL 1							-	-	5	1			73			0.050	- TR CPY IN ANK VLETS
493.0					RB	HEM 1							0.1	-	0.1	0.1			74			0.001	- MN MAG

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION							STRUCTURE				GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
		Com	Grs	Text	Co	Alt	Name 1	Name 2	B/S B	B/S A1	J/F J	J/F A2	QZ	CC	ANK	PY							
498.0		m	F	MSV	RB	HEM 2		SYN					0.1	-	2	2			AX7807.5	5.0	C	0.012	VF-FG DISSEM PY
503.0					RB	HEM 2							-	-	1	0.1			76	5.0	C	0.001	
505.5					RB	HEM 1							-	-	1	0.1			77	2.5	C	0.001	
508.0		m	F	MSV	GG	CHL 2		TSED					1	-	1	0.5			78	2.5	C	0.001	- 505.5 - 609.5 - TSEDS
513.0					GG	CHL 2							-	-	1	0.1			79	5.0	C	0.001	- VFG DISSEM PY
518.0					RB	HEM 1							-	-	1	0.1			80			0.001	- MAG STGS
523.0					GY	CHL 1			V	60			1	-	1	2			81			0.005	- VFG DISSEM PY
528.0					GY	CHL 1							-	-	1	4			82			**0.040**	
533.0					RG	CHL 1							-	-	1	1			83			0.014	
538.0					GG	CHL 2							-	1	1	0.1			84			0.001	
543.0					GG	CHL 1							-	-	0.1	0.1			85			0.002	
548.0					GG	CHL 1							-	-	1	0.1			86			0.004	
553.0					GG	CHL 2							-	2	-	0.1			87			0.004	
593.0		m	F	MSV	GG	CHL 2		TSED					0.1	-	2	0.1			88	40.0	G	0.003	- MN HEM ALT'N
598.0		m	F	MSV	GG	CHL 1		TSED					-	-	2	0.1			89	5.0	C	0.005	
603.0					GY	ANK 1							-	-	2	0.1			90	5.0	C	0.006	
608.0					GY	ANK 1							-	-	1	0.1			91	5.0	C	0.004	
609.5					RB	HEM 1							-	-	3	0.5			92	1.5	C	0.002	
612.0		m	F	POR	RB	HEM 2		SYP	V	20			2	-	2	2			93	2.5	C	0.007	
615.0		m	F	POR	RB	HEM 2		SYP					5	3	3	3			94	3.0	C	**0.255**	

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
620.9		m	F	msv	GY	MAG 1		TSED					-	-	1	0.1			AX28095	5.0	C	0.004	
625.9					RB	HEM 1			V	10			1	-	-	1			96	5.0	C	0.036	- MAG/CC ALT'N, TR CPY IN QZ STG
630.0					GY	MAG 1			V	20			1	1	-	1			97	5.0	C	0.008	- CC/MN HEM ALT'N, MAG STGS
634.5					GY	MAG 1							-	1	-	1			98	4.5	C	0.004	- TR CPY IN QZ/CC STG
639.7		m	F	msv	GG	CC 1		LAMP?					-	4	-	0.1			99	5.2	C	0.008	- MAFIC DYKE/LAMP? - DK GREY/GREEN - BLACK, CC/CHL ALT'N, CC STGS/VLETS, MOD-STR MAGNETIC
645.2		m	F	msv	GY	MAG 1		TSED					-	2	-	1			AX28100	5.5	C	0.004	- MAG/CC ALT'N, VFG DISSEM PY
650.2		m	F	msv	GY	MAG 1		TSED					-	1	-	1			01	5.0	C	0.014	
654.2		m	Fm	msv	GY	CHL 2		LAMP					-	2	-	0.1			02	4.0	C	0.004	- CHL/CC ALT'N, MN HEM TSEDS
656.9		m	F	msv	RB	HEM 1		TSED?					-	3	-	0.1			03	2.0	C	0.004	- SHARP UPPER CONTACT, GRAD LOWR CONTACT - MOD CC ALT'N, TR CPY
659.9		m	Fm	msv	GG	CHL 2		LAMP					-	4	-	0.1			04	3.0	C	0.001	- CHL/CC LAMP DYKE
662.9		m	Fm	msv	GG	CHL 2		LAMP					-	2	-	0.1			05	3.0	C	0.001	
664.9		m	F	msv	GY	MAG 2		TSED					-	2	-	0.1			06	2.0	C	0.003	- MAG/CC ALT'N
668.0		m	Fm	msv	GG	CHL 2		LAMP					-	2	-	0.1			07	4.0	C	0.002	

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANH	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
673.0		M	F	MSV	GY	MAG1		TSED					-	1	-	0.1			AX 28108	5.9	C	0.004	- Tr CPY, 1.6' LAMP DYKE
678.0					GY	MAG1							-	2	-	0.1			09	5.0	C	0.012	
683.0					GY	MAG1							-	1	-	0.1			10	5.0	C	0.004	- Tr CPY
687.0					GY	MAG1							1	1	-	0.1			11	4.0	C	0.014	
692.0		M	FM	MSV	GG	MAG2		LAMP					-	2	-	0.1			12	5.0	C	0.004	- LAMP DYKE, MAG/CHL/CC ALT'N,
697.0					GG	MAG2							-	4	-	0.1			13	5.0	C	0.004	MN HEM
701.4					GG	MAG2													14	4.4	C	0.008	
704.0		M	F	MSV	GY	MAG2		TSED					-	1	-	0.1			15	2.6	C	0.003	- MN HEM
709.0		M	F	PGR	RB	HEM2		SYP					3	1	-	3			16	5.0	C	0.036	- MN BLOCKY CORE
714.0					RB	HEM2							1	2	-	1			17	5.0	C	0.007	
719.0					RB	HEM1							1	2	-	3			18	5.0	C	0.020	- MAG ALT'N, FG DISSEM, MN SMSV PY PATCHES
722.4					RB	HEM1			V	10			4	1	-	3			19	3.4	C	0.020	- MAG ALT'N
727.0		M	F	MSV	GY	CC1		TSED					-	3	-	0.1			20	4.6	C	0.006	- CC/MAG ALT'N
732.0					GG	MAG2							-	2	-	0.1			21	5.0	C	0.020	- CC/MAG/CHL ALT'N
737.0					GY	MAG2							-	-	-	1			22			0.010	- PY STGS
742.0					GY	MAG2							-	1	-	1			23			0.006	
747.0					GY	MAG2							-	0.1	-	1			24			0.006	
752.0					GY	CC2							-	3	-	0.1			25			0.008	- ROUNDED CC BLEBS
789.0		M	F	MSV	GG	MAG2		TSED					-	1	-	0.1			26	47.0	G	0.002	- MN CONG, MAG/CC/CHL ALT'N, Tr HEM

DRILL HOLE NO: YD-96-113

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE QZ	CC	ANK	METALLIC PY			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
794.0		M	F	MSV	GG	MAG2		TSED					-	1	-	0.1			AX38127	5.0	C	0.002	
799.0		M	F	MSV	GY	MAG2		TSED					-	1	-	0.5			28	5.0	C	0.019	
804.0		M	F	POR	PL	MAG2		PORPH	V	20			2	2	-	2			29	5.0	C	0.012	- PURPLE PORPH - STR MAG, WK HEM/CC
809.0		M	F	POR	PL	MAG2		PORPH	V	60			3	2	-	2			30	5.0	C	0.003	SIMILAR TO SYP IN PLACES, PY CONC NEAR QZ VLETS
814.0		M	F	MSV	GG	CHL2		TSED					-	2	-	0.1			31	5.0	C	0.004	- MN CC/MAG ALT'N
819.0		M	F	MSV	GG	MA1		TSED					-	3	-	0.1			32	5.0	C	0.008	
847.0		M	F	MSV	GY	MAG2		TSED	V	40			-	2	-	0.1			33	28.0	G	0.001	- CC/MAG ALT'N, TR MAG IN CC VLETS - EOH.

ROYAL OAK MINES INC.

DIVISION: _____ PROJECT: MATACHEWAN LOGGED BY: R. Pressacco DATE LOGGED: Sept 6, 1996 DRILL HOLE NO: YD96-128

	NORTHING	EASTING	ELEVATION	LENGTH	SECTION	LEVEL
Surface Grid:	2868.46	3449.92	8011.26	491.1 ft	3450E	
Engineering Grid:						

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	360	-45												
230	003	-44												
407	002	-44												

START DATE: Sept 2, 1996

FINISH DATE: Sept 3, 1996

TOWNSHIP: Powell

CLAIM NO.: MR5375 (65%), L316523 (35%)

DRILLING CONTRACTOR: Benoit ND - Val d'Or

PURPOSE: Assay verification + geotechnical information, weekly Pit

RESULTS: 0.037 opt Au / 357.1 ft (12.0 - 369.1 ft), raw data.
- 0.036 opt / 357.1 cut to 0.19 opt

WHY HOLE TERMINATED: Normal termination in Fw sedis

CORE SIZE: BQ

CASING: Left in place

HOLE CEMENTED: No

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WRA:

REJECTS/PULPS SAVED: All pulps & rejects stored @ Schumacher minesite

CORE STORED (LOCATION): Bunker, Nlm Minesite

☒ ft
☐ m

Location Sketch

P.A.P. 35361

DRILL HOLE NO: 96-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE qtz	cc	ank	METALLIC py			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
12.								CAS															CASING, left in place
14.7		m	mg	PMR	MB	HEM 1		SYP					1	-	-	1			AX 36251	2.7		0.052	
18.7		m	mg	PMR	MB	HEM 1		SYP					1	1	-	3			36252	5.0		0.056	trace mt stringers to 1.2 mm
24.6		m	mg	PMR	MB	BX 1		SYP	QV	ZP			3	1	0.1	5			36253	4.9		0.041	vfg-fg anhedral-subhedral pyrite (aurichus yellow stain)
28.5		m	fg	PMR	MB	BX 1		SYP					0.1	1	0.1	3			36254	4.9		0.202	mostly vfg diss pyrite, minor coarse pyrite py with dk chloritic (?) hairline stringers
34.5		m	mg	PMR	MB	HEM 1		SYP					-	1	1	3			36255	5.0		0.030	mostly vfg diss anhedral-subhedral pyrite
39.4		m	mg	PMR	MB	BX 1		SYP					1	5	-	3			36256	4.9		0.022	1% mt pellets-stringers-diss, strong pervasive cc alt= 38.4-39.4 ft.
44.3		m	mg	PMR	MB	BX 2		SYP					1	3	1	1			36257	4.9		0.031	strong pervasive + vein cc alt= 39.4 - 40.2 ft
49.2		m	mg	PMR	MB	HEM 1		SYP					0.1	7	5	0.1			36258	4.9		0.010	well developed cc-ank stockwork, pyrite mostly associated with stockwork, 1% mt stringers
54.2		m	mg	PMR	MB	HEM 2		SYP					-	3	1	0.1			36259	5.0		0.016	1ft grey cc vein @ 53.0 ft, 1% mt stringers
59.1		m	mg	PMR	MB	BX 2		SYP					-	3	3	1			36260	5.0		0.019	well developed crackle carb alt=
64.9		m	mg	PMR	MB	HEM 1		SYP					-	3	3	1			36261	4.9		0.013	
68.9		m	vfg	FOL	LBN	ALT 3		SYN?	F	ZO			1	1	1	0.1			36262	4.9		0.004	strongly foliated, strong pervasive cc alt=

P.A.P. 35362

DRILL HOLE NO: [illegible]

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
73.8		m	mg	PGR	RBY	CAL1		SVP					-	3	-	0.1			36763	4.9		0.023	
78.7		m	mg	RG	LBN	CAL3		SVP					1	5	3	5			36764	4.9		0.126	massive coarse anhedral-subhedral patchy pyrite
83.2		m	mg	PGR	LBN	CAL3		SVP					-	1	1	1			36765	5.0		0.012	inclusion of digested UM seds (fuchsitic) 81.5-81.5
88.6		m	ufg	FOL	AHR	CAL3		FLC							-	-			36766	4.9		0.002	mineral fuchsitic seds + syenite dikes (50° TCA)
93.5		m	fg	PGR	RB	CAL2		SVP					-	3	-	0.1			36767	4.9		0.008	fuchsitic seds end @ 89.5ft
23.4		m	ufg	MSV	RB	BL2		SVN					5	3	1	5			36768	4.9		0.064	qtz-mt veins common, often showing pyrite replacement of mt, strongly magnetic MVG/UMG fragments common
28.4		m	mg	PGR	RB	BL2		SVP	0/1	75			3	1	-	3			36769	5.0		0.041	v.f. disseminated pyrite aff° along qtz veins & fractures. Trace -1% cpy often observed in qtz veinlets
33.3		m	ufg	MSV	RB	BL3		SVN					5	1	-	5			36770	4.9		0.034	minor pervasive + fracture controlled bleach-py aff°
113.2		m	mg	PGR	RB	BL3		SVP					5	1	-	5			36771	4.9		0.160	many 1mm-2mm qtz veins, mostly ufg-fg diss py + some coarse patchy pyrite
118.1		m	mg	PGR	RB	BL2		SVP	CC	40			1	3	-	1			36772	4.9		0.044	well developed aureole of bleach-py aff° over mt-matrix SVN/SVP 1" cc vein @ 115ft contains 25% diss py and well developed bleach-py wall rock aff°
123.1		m	mg	PGR	RB	BL2		SVP					3	3	-	3			36773	5.0		0.065	well developed mt stringers (5° TCA) 118.1 - 119.5 ft (2-3mm) some (1%) coarse stringer pyrite overprinting magnetite @ 120.0 ft, common pervasive + vein grey cc

DRILL HOLE NO: MV86-133

PAGE 4 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
128.0		m	cg	P:M	RB	BL3		SYP					1	1	-	3			36279	4.9		0.037	bleach-py alt° clearly overprints coarse SYP.
132.9		m	vfg	MSV	LBN	BL3		SYN					1	5	-	3			36280	4.9		0.048	pervasive BL alt°, mixed vfg-mg pyrite, common late-stage cc veinlets.
137.8		m	vfg	MSV	LBN	BL3		SYN					1	3	-	3			36276	~4.9		0.064	mixed vfg-mg anhedral-euhedral pyrite.
142.7		m	vfg	MSV	RB	CAL3		SYN					5	1	-	1			36277	4.9		0.054	pervasive cc alt° mostly vfg pyrite
147.6		m	vfg	MSV	RB	CAL3		SYN					3	1	-	1			36278	4.9		0.023	pervasive cc alt°
152.6		m	vfg	MSV	RBN	CHL2		SYN					1	3	-	1			36279	5.0		0.020	minor bleach-py alt°, moderate chl-cc veinlets overprinted by he-bleach alt°, 1" cc vein @ 149 FT
157.5		m	mg	SPR	RBN	CHL2		SYP					1	1	-	1			36280	4.9		0.019	chl switching to bleach alt° below 155.5 FT
162.4		m	mg	SPR	RB	BL3		SYP					1	1	-	1			36281	4.9		0.016	
167.3		m	vfg	COT	RBN	CHL2		SYN					1	1	1	0:1			36282	4.9		0.024	possible included MVO/SMV fragments resemble chl alt°
172.3		m	vfg	MSV	BBN	CAL3		SYN					3	-	-	1			36283	5.0		0.045	well developed sericite-py alt° along qtz veinlet walls.
177.2		m	vfg	MSV	DBN	MAG2		SYN					1	-	-	1			36284	4.9		0.049	minor fracture-controlled bleach-py alt°
182.2		m	vfg	MSV	DBN	CAL3		SYN					1	3	-	0:1			36285	5.0 4.9		0.036	

P.A.P. 35362

DRILL HOLE NO: YD96-128

PAGE 5 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓ opt grams	COMMENTS
197.1		M	vfg	MSV	DGN	CAL3		S-W					1	3	-	0.1			36286	4.9		0.018	
197.0		M	vfg	MSV	RGN	BL2		S-W					3	3	1	1			362987	4.9		0.014	mixed calc alt° & fracture controlled silicific
196.9		M	mg	PVA	NB	HEM2		S-P					3	1	-	1			362988	4.9		0.015	mostly class vfg pyrite
201.8		M	mg	PVA	NB	BL2		S-P					1	1	-	3			362989	4.9		0.023	
206.7		M	mg	PVA	NB	BL2		S-P					1	1	-	1			362990	4.9		0.014	bleached & v/f clayey overprinting, pervasive wt alt° of feldspar matrix.
211.6		M	fg	PVA	NB	BL3		S-W					5	1	-	3			362991	4.9		0.006	qtz-wt-(cpy) veinlets common.
216.5		M	fg	MSV	NB	BL1		S-W					1	3	-	5			362992	4.9		0.034	
221.5		M	vfg	MSV	NB	HEM2		S-W	Anh	40			1	3	10	0.1			362993	5.0		0.010	abundant anhydrite veins/veinlets to 6 inches wide
226.4		M	mg	PVA	NB	HEM2		S-P					3	3	3	0.1			362994	4.9		0.005	coarse cpy patches/veins @ 227ft — qtz-cc vein, qtz-wt veinlets common.
231.3		M	mg	PVA	NB	HEM2		S-P					3	1	3	1			362995	4.9		0.023	qtz-wt veinlets common.
236.2		M	mg	PVA	NB	HEM2		S-P					1	-	1	3			362996	4.9		0.010	qtz-wt veinlets/fractures common.
241.2		M	mg	PVA	NB	HEM2		S-P					1	1	-	1			362997	5.0		0.028	coarse cpy splash in qtz vein @ 241ft.
246.1		M	mg	PVA	NB	HEM2		S-W					1	1	1	3			362998	4.9		0.036	minor wt stringers

DRILL HOLE NO: MM6-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE			METALLIC			SAMPLE #	WIDTH	T	AU ✓opt grams	COMMENTS
251.0		m	fg	PGR	RB	HEM 2		SYP					1	-	1	0.1			30299	4.9		0.004	
253.9		m	mg	PGR	RB	HEM 2		SYP					1	1	3	0.1			30300	4.9		0.018	
260.8		m	fg	PGR	RB	HEM 2		SYP					1	1	3	1			30301	4.9		0.048	Course sp'sh of cpy in chl-cc vein @ 260 ft
265.7		m	fg	PGR	RB	HEM 2		SYP					-	1	3	0.1			30302	4.9		0.078	py stringer @ 264.5 ft mineralized vein let
270.7		m	vfg	PGR	PGR	MAG +		SYN					1	1	-	0.1			30303	5.0		0.008	pervasive mt-cc alt= imparts dk green colour to syenite.
275.6		m	mg	PGR	LRB	CAL 3		SYP					3	1	-	1			30304	4.9		0.020	
280.5		m	fg	PGR	RB	HEM 2		SYP					3	-	-	1			30305	4.9		0.049	fracture controlled hem alt=, common gtz-mt veinlets
285.4		m	vfg	PGR	GRY	CAL 3		MD	C	45			1	1	-	0.1			30306	4.9		0.064	Mafic Dike 283 - 289 ft
290.4		m	vfg	PGR	GRY	CAL 3		MD					3	1	-	0.1			30307	5.0		0.035	trace gtz-cc veining (with py) near lower contact
295.3		m	vfg	MSV	GRY	CAL 3		SYN					1	3	1	0.1			30308	4.9		0.004	alt= chl-cc seds?
300.3		m	vfg	MSV	GRY	CAL 3		MD					1	-	5	-			30309	4.9		0.001	mixed syenite + mafic dikes to 1-2 ft.
305.1		m	fg	PGR	RB	BLZ		SYP					3	1	1	3			30310	4.9		0.009	bleach-py alt= overprint dark mt-chl(-cc) alt=
310.0		m	vfg	MSV	RB	BLZ		SYP					5	1	3	3			30311	4.9		0.020	mixed bleach-py and chl-cc alt=

P.A.P. 35362

DRILL HOLE NO: 4016-128

PAGE 7 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B	B/S A1	J/F J	J/F A2	GANGUE qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
315.0		m	vfg	MSV	GN	CLY3		SVN					-	3	3	0.1			36312	5.0		0.010	pervasive chl-cc alt=
319.9		mg	fg	MSV	GSV	CLY3		MD					-	1	-	-			36313	4.9		0.006	mafic dike 314.8 - 320.5 ft
324.8		m	mg	PM	NB	HEM3		SVP					-	1	-	3			36314	4.9		0.026	pervasive Hem alt=
329.7		m	mg	PM	NB	HEM3		SVP					-	1	-	1			36315	4.9		0.040	
334.6		m	mg	PM	NB	HEM1		SVP					1	1	-	1			36316	4.9		0.062	
339.5		m	mg	PM	NB	HEM1		SVP					1	1	-	1			36317	4.9		0.058	
344.5		m	mg	PM	NB	HEM1		SVP					-	0.1	-	3			36318	5.0		0.240	
349.4		m	mg	PM	NB	HEM1		SVP					-	1	-	0.1			36319	4.9		0.012	
354.3		m	mg	PM	NB	HEM3		SVP					-	1	-	3			36320	4.9		0.038	
359.3		m	mg	PM	NB	HEM3		SVP					1	1	-	1			36321	5.0		0.037	
364.2		m	mg	PM	NB	HEM3		SVP					-	1	-	1			36322	4.9		0.046	
369.1		m	mg	PM	NB	HEM3		SVP					-	-	-	0.1			36323	4.9		0.038	
374.0		m	mg	PM	NB	HEM3		SVP					1	3	-	1			36324	4.9		0.016	

DRILL HOLE NO: YD96-128

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE Qtz	cc	ank	METALLIC Py			SAMPLE #	WIDTH	T	AU ☑ opt grams	COMMENTS
378.9		m	mg	PM	NB	HEM 2		SYP					-	1	-	0.1			3B3325	4.9		0.010	
383.9		m	vfg	MSV	NGW	CHL1		SYN					-	1	-	-			3B3326	5.0		0.001	transition into TSEDS?
388.8		vfM	vfg	MSV	GW	CHL1		Tsed					1	-	1	-			3B3327	4.9		0.004	irr qtz-mt veinlets
393.7		m	vfg	MSV	NGW	SER1		Tsed					1	-	-	-			3B3328	4.9		0.001	qtz-mt veinlets & low angle TCA, minor porphyritic sections
398.6		m	vfg	MSV	NB	HEM1		Tsed					-	3	-	-			3B3329	4.9		0.001	
403.5		m	vfg	MSV	NB	HEM1		Tsed					-	1	1	-			3B3330	4.9		0.001	
408.4		m	vfg	MSV	GW	CHL1		Tsed					-	3	3	-			3B3331	4.9		0.001	some included syenitic sections
413.9		m	vfg	MSV	NGW	HEM1		Tsed					1	1	-	-			3B3332	5.0		0.001	low angle qtz-mt veins are throwing Low-sec alt° into wall rocks, some coarser cgl fragments visible
418.3		m	vfg	MSV	GW	CAL3		Tsed					1	1	-	-			3B3333	4.9		0.004	trace mt pebbles / beds
423.2		m	vfg	MSV	NGW	SER1		Tsed					1	1	3	-			3B3334	4.9		0.001	mixed ser-Low-chl alt°
428.1		m	mg	PM	PGR	CAL1		SYP					-	3	-	-			3B3335	4.9		0.001	
433.1		m	vfg	MSV	NB	ANK 2		Tsed					3	1	7	-			3B3336	5.0		0.001	ank-qtz stockworking common.
438.1		m	vfg	MSV	GW	CAL3		Tsed					1	-	1	-			3B3337	5.0		0.004	

P.A.P. 35362

DRILL HOLE NO: YB96-128

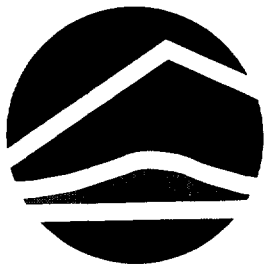
PAGE 9 OF 9

DIST	ID	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Name 1	Name 2	STRUCTURE B/S B	A1	J/F J	A2	GANGUE ank	cc	mk	METALLIC			SAMPLE #	WIDTH	T	AU opt grams	COMMENTS
442.9		m	vfg	MSV	GW	CALC		Tsed					1	3	5	-			30338	4.9		0.004	2 ft included syn dike
447.8		m	vfg	MSV	RGW	SER		Tsed					6	-	3	-			30339	4.9		0.001	
452.8		m	vfg	MSV	RGW	SER		Tsed					1	-	3	-			30340	5.0		0.003	
457.7		m	vfg	MSV	RGW	SER		Tsed					1	-	5	-			30341	4.9		0.001	
462.6		m	vfg	MSV	RGW	SER		Tsed					1	-	3	-			30342	4.9		0.002	a few chl-mt stringers
467.5		m	vfg	MSV	RGW	SER		Tsed					1	1	3	0.1			30343	4.9		0.006	1" mt bed @ 466 ft contains trace-1% ub py.
472.4		m	vfg	MSV	GW	CALC		Tsed					1	3	1	-			30344	4.9		0.001	
477.3		m	vfg	MSV	RGW	CALC		Tsed					-	3	3	-			30345	4.9		0.001	2 ft syn dike
482.3		m	vfg	MSV	RB	ITEM 2		Tsed					1	3	3	-			30346	5.0		0.009	1" mt bed @ 480.5 ft
487.2		m	vfg	MSV	RB	ITEM 2		Tsed					1	3	-	-			30347	4.9		0.002	mt bed (1") @ 485 ft
491.1		m	vfg	MSV	RB	ITEM 2		Tsed					1	3	3	-			30348	3.9		0.002	1 ft alt# matrix dike?
491.1								EOH															END OF HOLE

P.A.P. 35362

APPENDIX III

Maps and Sections



ROYAL OAK MINES INC

MATACHEWAN PROJECT

GEOLOGICAL LEGEND

1997

Rock Descriptions

COM (Competency)

M	Massive, will not break without considerable effort
B	Broken and blocky
F	Fractured
G	Gouge, Faults
S	Breaks roughly on shear / foliation planes
SS	Breaks easily with a hammer
SSS	Can be broken with bare hands

GRS (Grain Size)

VVFG	Very, very fine grained
VFG	Very fine grained
FG	Fine grained
FMG	Fine - medium grained
MG	Medium grained (> 3mm)
MCG	Medium - coarse grained
CG	Coarse grained (> 5mm)
VCG	Very coarse grained (> 1cm)

TEXT (Texture)

ALIG	Aligator
AMY	Amygdaloidal
BED	Bedded
BLO	Blotchy
BND	Banded
BX	Brecciated
CLAS	Clastic
COT	Contorted
CRA	Crackled
FLD	Folded
FOL	Foliated
FRAG	Fragmental
GLOM	Glomeroporphyritic
GRAN	Granular
HOM	Homogenous
IRR	Irregular
LAM	Laminated
MSV	Massive
SMSV	Semi-Massive
DISS	Disseminated

MBX	Mildly Brecciated
MOT	Mottled
NED	Neddled
NOD	Nodular
POR	Porphyritic
SHR	Sheared
SPH	Spherulitic
SPT	Spotted
SPX	Spinifex
STK	Stockwork
STR	Stringer
SUG	Sugary
VAR	Variolitic
VBX	Vein Breccia
VUG	Vuggy

CO (Colour)

AQ	Aqua
AGR	Apple Green
BK	Black
BL	Blue
CR	Cream
GBR	Grey-Brown
GGY	Green-Grey
GR	Green
GTN	Grey-Tan
GY	Grey
LM	Lime Green
OR	Orange
PL	Purple
RB	Red-Brown
RD	Red
RD	Red-Green
TN	Tan
VI	Violet
WH	White
YL	Yellow
YBR	Yellow-Brown

ALT (ALTERATION)

AB	Albitic
ANK	Ankeritic
BAF	Buff Alteration Flecks
BLD	Bleached
CB	Carbonaceous Alteration (Graphitic)
CAR	Carbonate Alteration (Undifferentiated)
CCL	Calcite-Chlorite
CHL	Chloritic
CAL	Calcitic
DOL	Dolomitic
EPI	Epidote Alteration
FUC	Fuchsitic
HEM	Hematitic

MAG	Magnetite Alteration
OXD	Oxidized
PY	Pyritic
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicic
SRP	Serpentinization
SUL	Sulphidic (Undifferentiated)
TCL	Talc-Chlorite

ALT (Alteration Strength)

1 = Weak (Presence of alteration visible, but original lithologic features easily visible)

2 = Moderate (Alteration stronger, and lithologic features often obliterated)

3 = Strong (Alteration is predominant, original lithologic features not apparent)

ALT (Mode of Occurrence)

D	Disseminated
F	Foliation Parallel
M	Massive
P	Pervasive
S	Stringer, Fracture, Veinlets

NAME2 (Rock Name, **Bold** = most commonly used)

LC	Lost Core
MC	Missing Core
FZ	Fault Zone (Fault)
CAS	Casing
MI	Massive Indefinite
VOL	Volcanic (Undifferentiated)
IGN	Ignimbrite / Ash Flow
BRX	Flow Breccia
MF	Massive Flow
VPF	Variolitic Pillowed Flow
TUF	Tuff
AGL	Agglomerate
PBX	Pillow Breccia
PF	Pillowed Flow

FVO Felsic Volcanic
MVO Mafic Volcanic
UMV Ultramafic Volcanic
UMS Ultramafic Sediments
DAC Dacite
RDC Rhyodacite
FTF Felsic Tuff
MTF Mafic Tuff
RHY Rhyolite
AND Andesite
BAS Basalt
ATF Andesite Tuff
IVO Intermediate Volcanic
FAG Felsic Agglomerate
ASH MCM's Ash unit (used for historical holes only)

GAB Gabbro
DIO Diorite
SYN Syenite (Massive, fine grained)
SYP Syenite Porphyry
AMP Amphibolite
PDT Peridotite
SRP Serpentinite
FPP Feldspar Porphyry
QFP Quartz-Feldspar Porphyry
QZP Quartz Porphyry
FEL Felsic Intrusive / Felsite (Undifferentiated)
DIA Diabase

SES Sericite Schist
SCS Sericite-Chlorite Schist
CSS Chlorite-Sericite Schist
TCS Talc-Chlorite Schist
CRB Carbonate
CLS Chlorite Schist

QCV Quartz-Carbonate Vein
CV Carbonate Vein
QV Quartz Vein
QAV Quartz-Ankerite Vein
BAV Barite Veining

SED Sediments (Undifferentiated)
TSED Timiskaming Sediments (Footwall Units)
PSED Proterozoic Sediments (Undifferentiated)

SST	Sandstone
SL	Slate
GSL	Graphitic Slate
GPH	Graphite
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
CHT	Chert
PHY	Phyllite
QZT	Quartzite

STRUCTURE

S	Schistosity	C	Contact
F	Foliation	V	Vein
B	Bedding	J	Joint
FF	Fault	SS	Stringers

MINERALS

ASP	Arsenopyrite	PO	Pyrrhotite
CPY	Chalcopyrite	PY	Pyrite
GAL	Galena	SID	Siderite
HEM	Hematite	SPH	Sphalerite
MAG	Magnetite	VG	Visible Gold
MO	Molybdentite	BA	Barite
FLU	Fluorite	TOU	Tourmaline
DOL	Dolomite	ANK	Ankerite
BIO	Biotite	CC	Calcite
EPI	Epidote	FUC	Fuchsite

Ontario | Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)
W9780.00146
Assessment Files Research Imaging

GAO

Personal information ... d 66(3) of the Mining Act. Under section 8 of the Mining Act, the inform... work and correspond with the mining land holder. Questions about thi... Northern Development and Mines, 6th Floor, 933 Ramsey Lake R...

41P15NE0018 2.17158 POWELL

900

2.17158

Instructions: - ... n, use form 0240.
- Please type or print in ink.

1. Recorded holder(s) (Attach a list if necessary)

Name: Royal Oak Mines, Project Development Group	Client Number: 136226
Address: c/o P.O. Bag 2010	Telephone Number: (705) 268-3388
Timmins, Ont P4N 7X7	Fax Number: (705) 268-3815
Name: (Matachewan Consolidated option)	Client Number
Address	Telephone Number
	Fax Number

RECEIVED
MA. 6 1997
MINING LANDS BRANCH

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

- [ ] Geotechnical: prospecting, surveys, assays and work under section 18 (regs)
- [x] Physical: drilling, stripping, trenching and associated assays
- [ ] Rehabilitation

		Office Use	
Work Type: Diamond Drilling, Assaying		Commodity	
		Total $ Value of Work Claimed	
Dates Work Performed From: 26 / 08 / 96 (Day / Month / Year) To: 23 / 09 / 96 (Day / Month / Year)		NTS Reference	35,460
Global Positioning System Data (if available)	Township/Area: Powell	Mining Division	Larder Lake
	M or G-Plan Number: G-3218	Resident Geologist District	Kirkland Lake

Please remember to:
- obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name: Reno Pressacco	Telephone Number: 268-3388
Address: c/o P.O. Bag 2010 Timmins, Ont P4N 7X7	Fax Number: 268-3815
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

MAR 4 1997
10:30 a.

4. Certification by Recorded Holder or Agent

I, Reno Pressacco (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent: R. Pressacco		Date: March 3 /97
Agent's Address: c/o P.O. Bag 2010 Timmins	Telephone Number: 268-3388	Fax Number: 268-3815

Deemed — June 02 /97

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form. W9780.00146

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	2.171	$ 892
1	MR5379(18417)	15.92ha	$35,460	0	0	$35,460
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
		Column Totals	$35,460	0	0	$35,460

RECEIVED
APR 6 1997
MINING LANDS BRANCH

I, Reno Pressacco (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing	Date
R. Pressacco	March 3 97

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☐ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☒ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
RECEIVED LARDER LAKE MINING DIVISION MAR 4 1997 10:30	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (02/96)

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use): W9780.00146

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Diamond Drilling	2,717 ft	$11.97/ft	$32,510
Assaying	255 samples	$10 ea	2,550
Surveying		lump sum	400
			2.17158
Associated Costs (e.g. supplies, mobilization and demobilization).			
Transportation Costs			
Food and Lodging Costs			
		Total Value of Assessment Work	$35,460

RECEIVED
APR 6 1997
MINING LANDS BRANCH

MAR 4 1997
10:30

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. *If this situation applies to your claims, use the calculation below:*

TOTAL VALUE OF ASSESSMENT WORK × 0.50 = Total $ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, Reno Pressacco (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Senior Geologist (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature	Date
R. Pressacco	March 3/97

0212 (02/96)

Ontario Ministry of Northern Development and Mines

GAO

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use): W9780.00147
Assessment Files Research Imaging

Personal information collected on this form is obtained under the authority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240.
- Please type or print in ink.

2.17158

1. Recorded holder(s) (Attach a list if necessary)

Name: Royal Oak Mines, Project Development Group	Client Number: 136226
Address: c/o P.O. Bag 2010 Timmins, ont P4N 7X7	Telephone Number: (705) 268-3388
	Fax Number: 268-3815
Name: (Welsh option)	Client Number:
Address:	Telephone Number:
	Fax Number:

RECEIVED MAR 26 1997 MINING LANDS BRANCH

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

☐ Geotechnical: prospecting, surveys, assays and work under section 18 (regs)
☒ Physical: drilling, stripping, trenching and associated assays
☐ Rehabilitation

Work Type: Diamond Drilling, Assaying	Office Use
	Commodity
	Total $ Value of Work Claimed: 24,449
Dates Work Performed: From 26 (Day) 08 (Month) 96 (Year) To 23 (Day) 09 (Month) 96 (Year)	NTS Reference
Global Positioning System Data (if available) — Township/Area: Powell	Mining Division: Larder Lake
M or G-Plan Number: G-3218	Resident Geologist District: Kirkland Lake

Please remember to:
- obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

RECEIVED APR 6 1997 MINING LANDS BRANCH

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name: Rene Pressacco	Telephone Number: 268-3388
Address: c/o P.O. Bag 2010 Timmins P4N 7X7	Fax Number: 268-3815
Name:	Telephone Number:
Address:	Fax Number:
Name:	Telephone Number:
Address:	Fax Number:

10.30 K,

4. Certification by Recorded Holder or Agent

I, Rene Pressacco (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent: R. Pressacco		Date: March 3 197
Agent's Address: c/o P.O. Bag 2010, Timmins	Telephone Number: 268-3388	Fax Number: 268-3815

Diamond Rene 03 197

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form. W9780.00147

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
					2.17158	
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
G3331	L 316523	14.36ha	$24,449	0	0	$24,449
2	(Lease # 103497)					
3					2.17158	
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
		Column Totals	$24,449	0	0	$24,449

I, Reno Ressacco (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing	Date
R. Ressacco	March 31/97

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☐ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☒ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

RECEIVED
APR 6 1997
MINING LANDS BRANCH

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
	June 2/97	
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (02/96)

APR 1997
10:30

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use): W9780.00147

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Diamond Drilling	1,724 ft	$ 12.20/ft	$ 21,036
Assaying	165 samples	10 ea	1,650
		2.17158	
Associated Costs (e.g. supplies, mobilization and demobilization).			
Supplies			$ 324
Transportation Costs			$ 1439
Food and Lodging Costs			
		Total Value of Assessment Work	$ 24,449

APR 3 1997
10:30

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK × 0.50 = Total $ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

RECEIVED
APR 6 1997
MINING LANDS BRANCH

Certification verifying costs:

I, Rero Pressacco (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Senior Geologist (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature	Date
R. Pressacco	March 3 97

0212 (02/96)

Ontario Ministry of Northern Development and Mines

GAC

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)
W9780.00148.
Assessment Files Research Imaging

Personal information collected on this form is obtained under the authority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Instructions: - For work performed on Crown Lands before **recording** a claim, use form 0240.
- Please type or print in ink.

2.17158

1. Recorded holder(s) (Attach a list if necessary)

Name: Royal Oak Mines, Project Development Group	Client Number: 136226
Address: c/o P.O. Bag 2010	Telephone Number: (705) 268-3388
Timmins, Ont P4N 7K7	Fax Number: 268-3815
Name: (Young-Davidson option)	Client Number:
Address:	Telephone Number:
	Fax Number:

RECEIVED
MAR 06 1997
MINING LANDS BRANCH

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

☐ Geotechnical: prospecting, surveys, assays and work under section 18 (regs)
☒ Physical: drilling, stripping, trenching and associated assays
☐ Rehabilitation

Work Type: Diamond Drilling, Assaying	Office Use
	Commodity
	Total $ Value of Work Claimed: 152,152
Dates Work Performed From: 26 (Day) 08 (Month) 96 (Year) To: 23 (Day) 09 (Month) 96 (Year)	NTS Reference
Global Positioning System Data (if available)	Township/Area: Powell
	M or G-Plan Number: G-3218
	Mining Division: Larder Lake
	Resident Geologist District: Kirkland Lake

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name: Reno Pressacco	Telephone Number: 268-3388
Address: c/o P.O. Bag 2010 Timmins P4N 7K7	Fax Number: 268-3815
Name: RECEIVED LARDER LAKE MINING DIVISION	Telephone Number:
Address:	Fax Number:
Name: MAR 1 1997	Telephone Number:
Address: 10:30	Fax Number:

RECEIVED
APR 6 1997
MINING LANDS BRANCH

4. Certification by Recorded Holder or Agent

I, Reno Pressacco (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent: R. Pressacco		Date: March 31 97
Agent's Address: c/o P.O. Bag 2010 Timmins P4N 7K7	Telephone Number: 268-3388	Fax Number: 268-3815

Diamond - Assay 02 197

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form. W9780.00148

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
G 27 1	MR5372 (18298)	13.32 ha	$89,770	0	6	$89,770
G 327 2	MR5375 (18300)	15.04 ha	30,430	0	0	30,430
G 29 3	MR5376 (18167)	17.56 ha	31,952	0	0	31,952
4						
5					2.17158	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
		Column Totals	$152,152	0	0	$152,152

I, Reno Pressacco (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing	Date
R. Pressacco	March 3/97

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☐ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☒ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

RECEIVED
APR 6 1997
MINING LANDS BRANCH

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
MAR 4 1997 10:30	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (02/96)

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use): W9790.00148

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Diamond Drilling	$11,515 ft	$13.2 t /ft	137,690
Assaying	108 samples	$10 ea	10,800
			2.17158
Associated Costs (e.g. supplies, mobilization and demobilization).			
Supplies			$1279
Transportation Costs			
Food and Lodging Costs			2383
		Total Value of Assessment Work	$152,152

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK × 0.50 = Total $ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, Reno Pressacco (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Senior Geologist (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

RECEIVED
APR 6 1997
MINING LANDS BRANCH

Signature	Date
R. Pressacco	March 3/97

0212 (02/96)

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

June 9, 1997

Roy Spooner
Mining Recorder
4 Government Road East
Kirkland Lake, ON
P2N 1A2

Dear Sir or Madam:

Submission Number: 2.17158

Subject: Transaction Number(s):		Status
	W9780.00146	Approval
	W9780.00147	Approval
	W9780.00148	Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

NOTE: This correspondence may affect the status of your mining lands. Please contact the Mining Recorder to determine the available options and the status of your claims.

If you have any questions regarding this correspondence, please contact Lucille Jerome by e-mail at jerome_l@torv05.ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

ORIGINAL SIGNED BY
Ron C. Gashinski
Senior Manager, Mining Lands Section
Mines and Minerals Division

Correspondence ID: 10902
Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.17158

Date Correspondence Sent: June 09, 1997 **Assessor:** Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9780.00146	5379	POWELL	Approval	June 03, 1997

Section:

10 Physical PDRILL

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9780.00147	26523	POWELL	Approval	June 02, 1997

Section:

10 Physical PDRILL

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9780.00148	5372	POWELL	Approval	June 02, 1997

Section:

10 Physical PDRILL

Correspondence ID: 10902

Work Report Assessment Results

Submission Number: 2.17158

Correspondence to:

Mining Recorder
Kirkland Lake, ON

Resident Geologist
Kirkland Lake, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):

Reno Pressaco
ROYAL OAK MINES INC.
Timmins, Ontario

ROYAL OAK MINES INC.
Timmins, Ontario

ROYAL OAK MINES INC.
Timmins, Ontario

Correspondence ID: 10902

2.17158

G-3218

Ministry of Natural Resources
Ontario

Ministry of Northern Development and Mines

INDEX TO LAND DISPOSITION

PLAN

G-3218

TOWNSHIP

POWELL

M.N.R. ADMINISTRATIVE DISTRICT

KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

TIMISKAMING

Scale 1:20 000

1000 Metres 0 1000 2000 Metres

1000 Feet 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 Feet

Contour Interval 10 Metres

200

SYMBOLS

Boundary
- Township, Meridian, Baseline
- Road allowance; surveyed / shoreline
- Lot/Concession; surveyed / unsurveyed
- Parcel; surveyed / unsurveyed
- Right-of-way; road / railway / utility
- Reservation
- Cliff, Pit, Pile
- Contour / Interpolated / Approximate / Depression
- Control point (horizontal)
- Flooded land
- Mine head frame
- Pipeline (above ground)
- Railway; single track / double track / abandoned
- Road; highway, county, township / access / trail, bush
- Shoreline (original)
- Transmission line
- Wooded area

AREAS WITHDRAWN FROM DISPOSITION

MRO - Mining Rights Only
SRO - Surface Rights Only
M + S - Mining and Surface Rights

Description	Order No.	Date	Disposition	File
(1)	W-L-18/95	MAR. 30/95	M+S	
(2)	W-L-19/95	MAR. 30/95	M+S	
(3)	W-L-20/95	MAR. 30/95	M+S	

DISPOSITION OF CROWN LANDS

Patent
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

Lease
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only
- Licence of Occupation
- Order-in-Council (OC)
- Cancelled
- Reservation
- Sand & Gravel

NOTES

L.O. 7601 COVERS FLOODING RIGHTS IN THIS TOWNSHIP TO CONTOUR 870 TO ONTARIO HYDRO. FILE 12290 VOL. 2.

2.17158 PDRILL

CIRCULATED DEC 14, 1995 KP

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources.

The disposition of land, location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only.

SMD 3218

95 06

G-3218 POWELL TWP G-3218

Otisse Lake

Claim MR5376

Diabase

Claim L316523

Claim MR5379

Boundary Pit

MCM No. 3 Shaft

Young-Davidson Pit

Young-Davidson Shaft

Claim MR5372

Diabase

Syenite

Claim MR5375

Diabase

Hwy 566

TN

M.N

10°

N 4000

N 3000

N 2000

E 2000

E 3000

E 4000

E 5000

E 6000

2.17158

MATACHEWAN PROJECT

PLAN MAP SHOWING
THE FALL '96 DRILLING

SCALE 1" = 200.0 FT

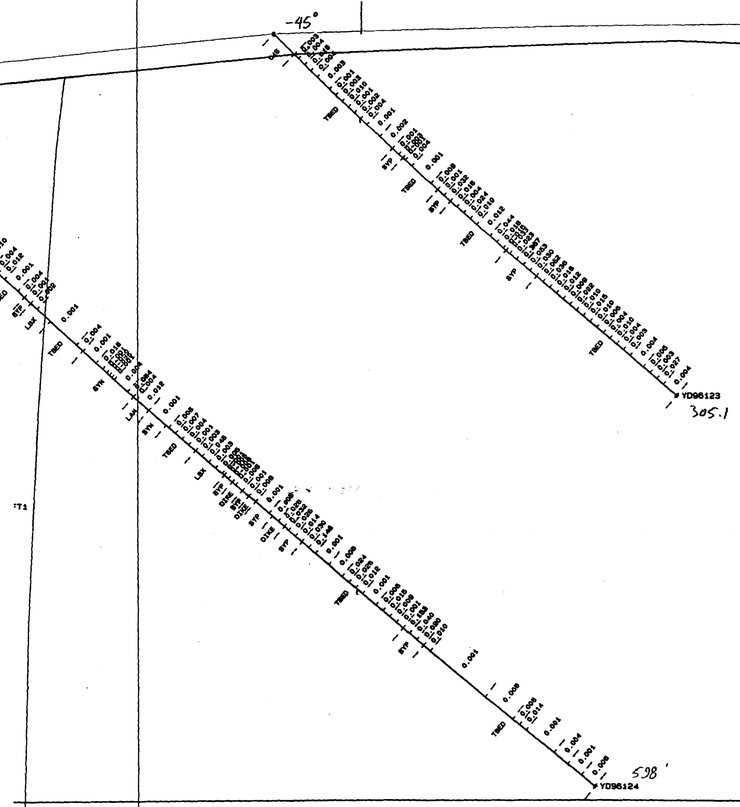
Royal Oak Mines Inc.

South (A_3 180°)

North (A_3 360°)

Claim MR5372

Claim MR5376



ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

220

41P15NE0018 2.17158 POWELL

MATACHEWAN PROJECT

SECTION 2300E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

Red >0.07ppt | 0.035<Green<0.070 | Black <0.035ppt

Royal Oak Mines Inc.

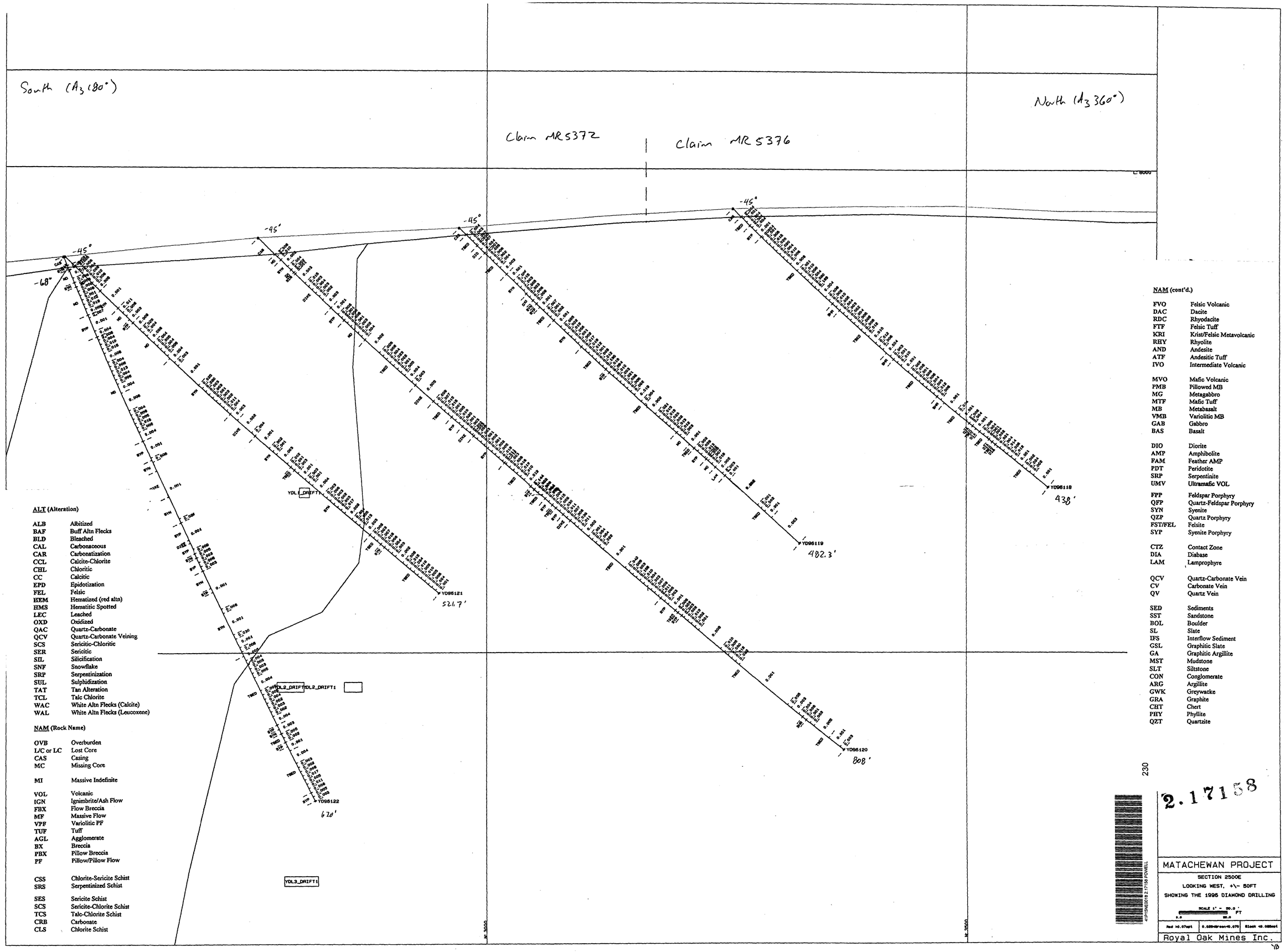
YD

South (A_3 180°)

Claim MR5372

Claim MR5376

North (A_3 360°)



ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

230

2.17158

MATACHEWAN PROJECT

SECTION 2500E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 FT

0.0 50.0

Red >0.07opt | 0.025<Brown<0.070 | Black <0.025opt

Royal Oak Mines Inc.

41P15NE0018 2.17158 POWELL

YD

South (A3 180°)

Claim MR5372

Claim MR5376

North (A3 360°)

L: 8000

L: 7500

N: 3000

N: 3500

-45°

YD96117

488.0'

240

ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

41P15NE0018 2.17158 POWELL

MATACHEWAN PROJECT

SECTION 2600E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 80.0 ' FT

0.0 80.0

Red >0.07opt	0.035<Green<0.070	Black <0.035opt

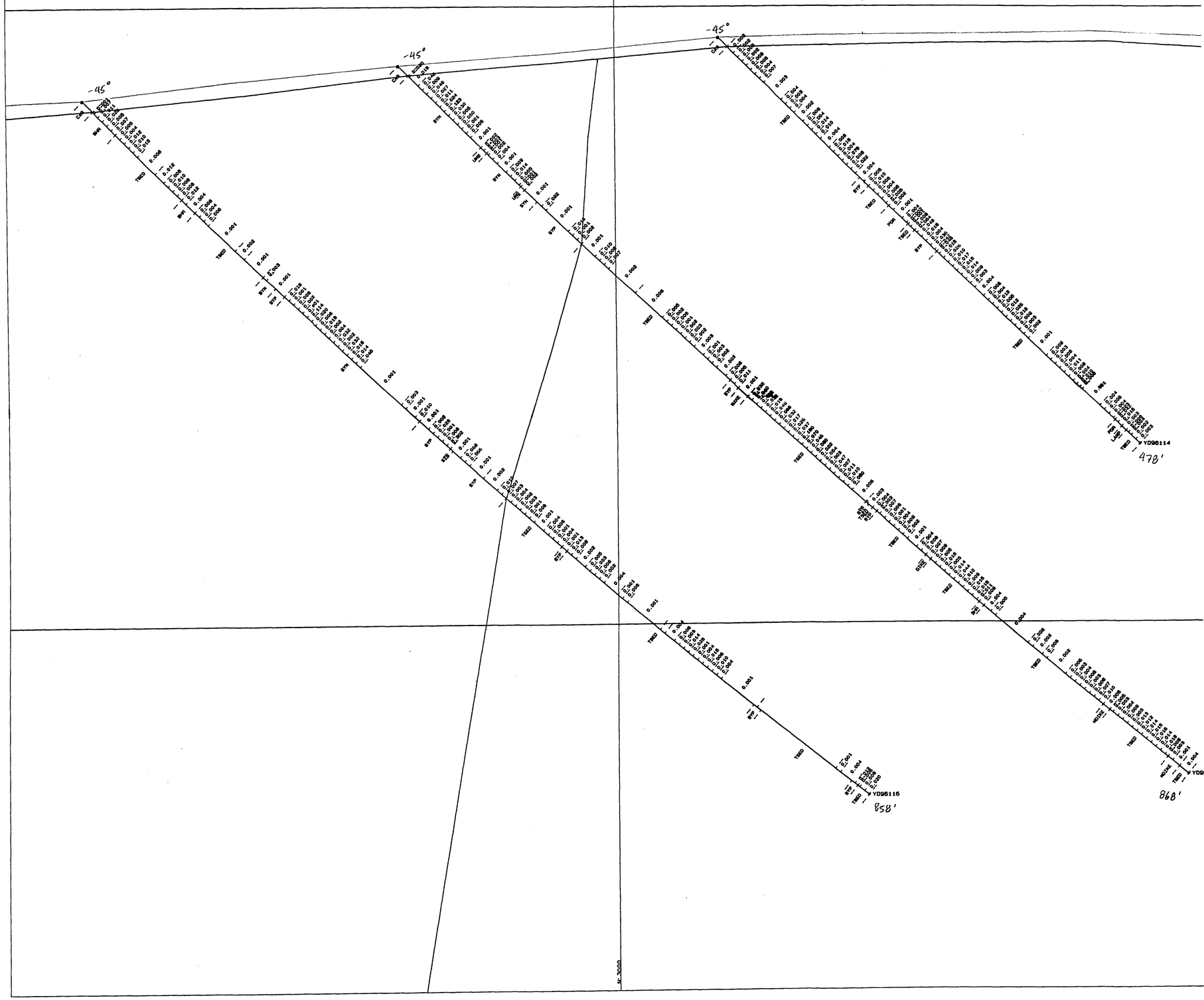
Royal Oak Mines Inc

South (A3 180°)

Claim MR5372

Claim MR5376

North (A3 360°)



ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

250

41P15NE0018 2.17158 POWELL

2.17158

MATACHEWAN PROJECT

SECTION 2700E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 FT

0.0 50.0

Red >0.07opt | 0.035<Green<0.070 | Black <0.035opt

Royal Oak Mines Inc.

YD

South (113 180°)

Claim MR5372
(Yaney - Davidson option)

North (113 360°)

Claim L316523
(Welsh option)

ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

260

MATACHEWAN PROJECT

SECTION 2900E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

Red >0.07opt	0.035<Green<0.070	Black <0.035opt

Royal Oak Mines Inc.

YD

South (d_3 180°)

Claim MR5372

Claim L316523

North (d_3 360°)

ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FSI/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CY	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

MATACHEWAN PROJECT

SECTION 3000E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

Red >0.07opt | 0.035<Green<0.070 | Black <0.035opt

Royal Oak Mines Inc.

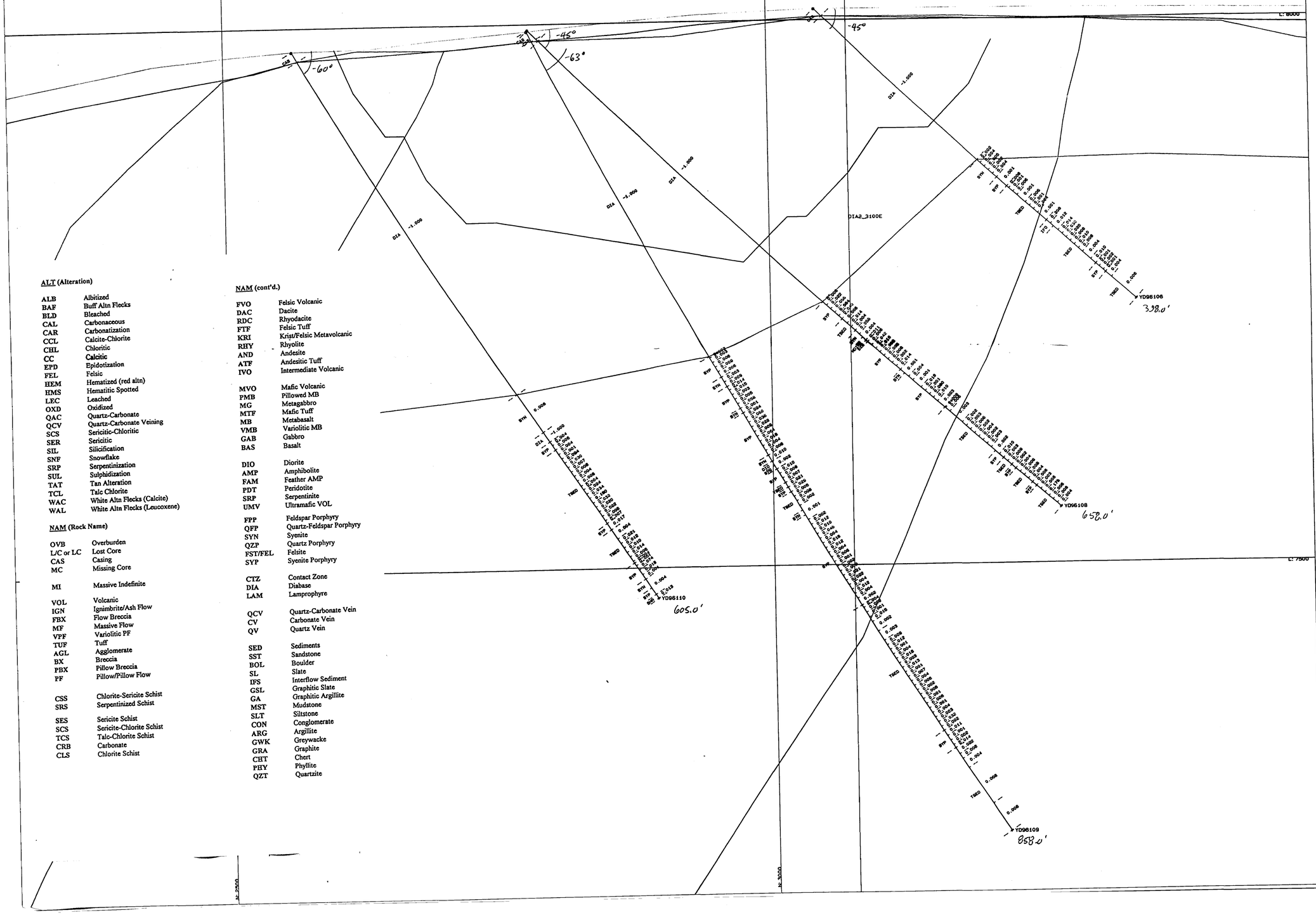
270

South (d_3 180°)

Claim MR5372 (Young-Davidson)

Claim MR 316523 (west option)

North (d_3 360°)



ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

MATACHEWAN PROJECT

SECTION 3100E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

Red >0.07opt | 0.025<Green<0.070 | Black <0.025opt

Royal Oak Mines Inc.

280

41P15NE0018 2.17158 POWELL

South (A_3 180°)

Claim MR5372

Claim MR5375

Claim L 316523

North (A_3 360°)

ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

290

2.17158

MATACHEWAN PROJECT

SECTION 3200E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

Red >0.07opt	0.025<Green<0.075	Black <0.025opt

Royal Oak Mines Inc.

South (A_3 180°)

Claim MR5375
(Young - Davidson)

Claim L 316523
(Welsh option)

North (A_3 360°)

ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

41P15NE0018 2.17158 POWELL

MATACHEWAN PROJECT

SECTION 3400E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 FT

0.0 50.0

Red >0.07opt | 0.025<Green<0.070 | Black <0.025opt

Royal Oak Mines Inc.

W

South (Az 180°)

Claim
MR 5375

North (Az 360°)

Claim
L316523

-45°

L: 8000

L: 7500

N: 2500

N: 3000

RD98127

541.3'

ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	**Hematized (red altn)**
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

310

41FSE00217158 POWELL

MATACHEWAN PROJECT

SECTION 3900E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

Red >0.07opt | 0.02Green<0.07 | Black <0.02opt

Royal Oak Mines Inc.

YD

South (d3 180°)

North (d3 360°)

Claim MR5375

Claim L316523

L 8000

L 7500

N 2500

N 3000

-46°

YD96126

502'

320

2.17158

ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

MATACHEWAN PROJECT

SECTION 4050E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

RED > 0.070 opt | 0.020<Blank<=0.070opt | Blank <=0.020opt

Royal Oak Mines Inc.

41P15NE0018.2.17158 POWELL

South (A3 180°)

Claim MR 5375

Claim MR5379

North (A3 360°)

-73°

#6_P1?

L: 8000

L: 7500

L: 3000

L: 2500

600.4'

7095125

2.17158

330

ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

MATACHEWAN PROJECT

SECTION 4150E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

Red >0.07opt | 0.025<Brown<0.070 | Black <0.025opt

Royal Oak Mines Inc.

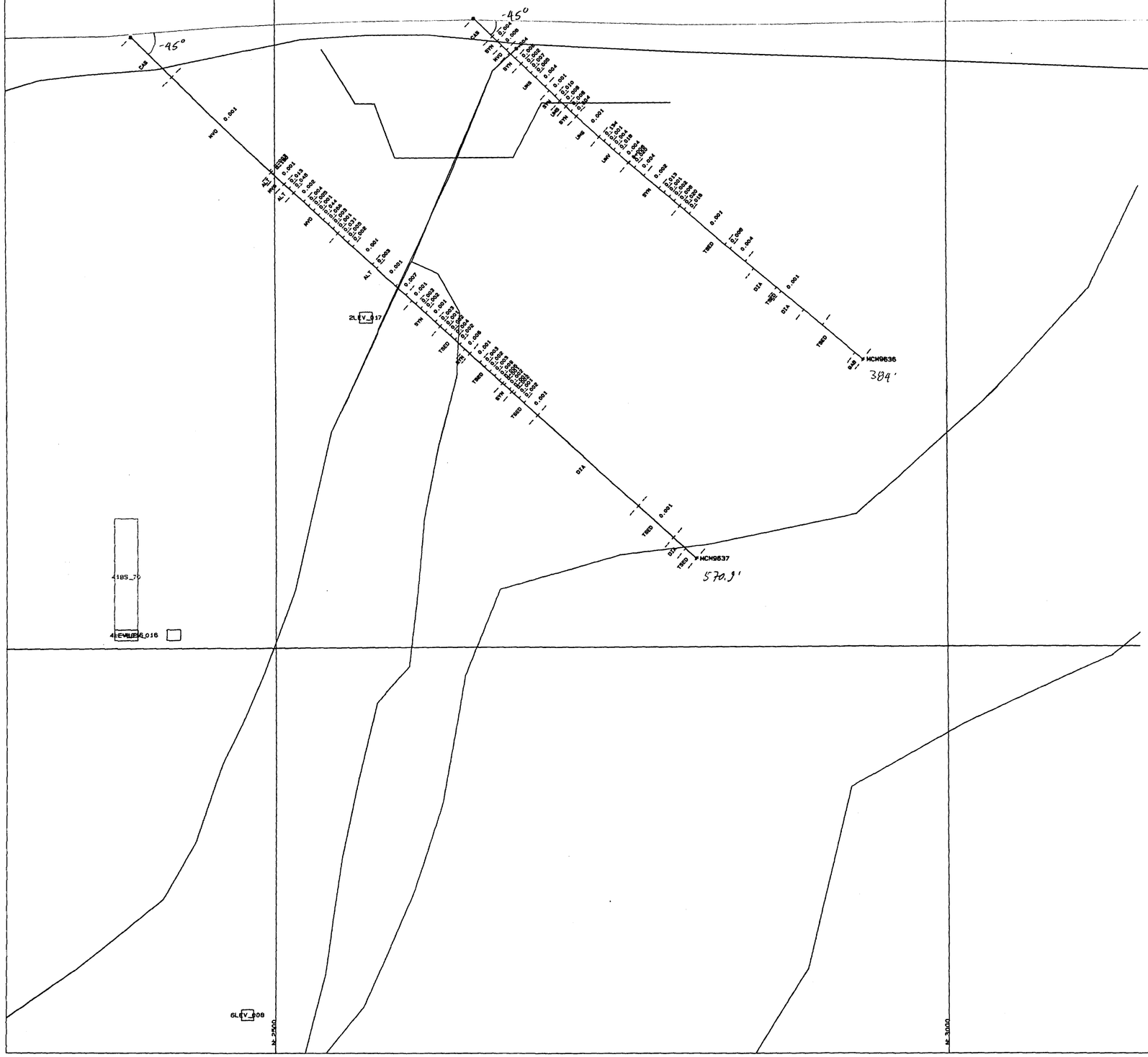
41P15NE0012 2.17158 POWELL

South (A_3 180°)

Claim MR5379

North (A_3 360°)

L: 8000



ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcit.)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

340

41P15NE0018 2.17158 POWELL

MATACHEWAN PROJECT

SECTION 5000E

LOOKING WEST, +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 FT

0.0 50.0

Red >0.07opt	0.02$<$Green$<$0.07	Black <0.02opt

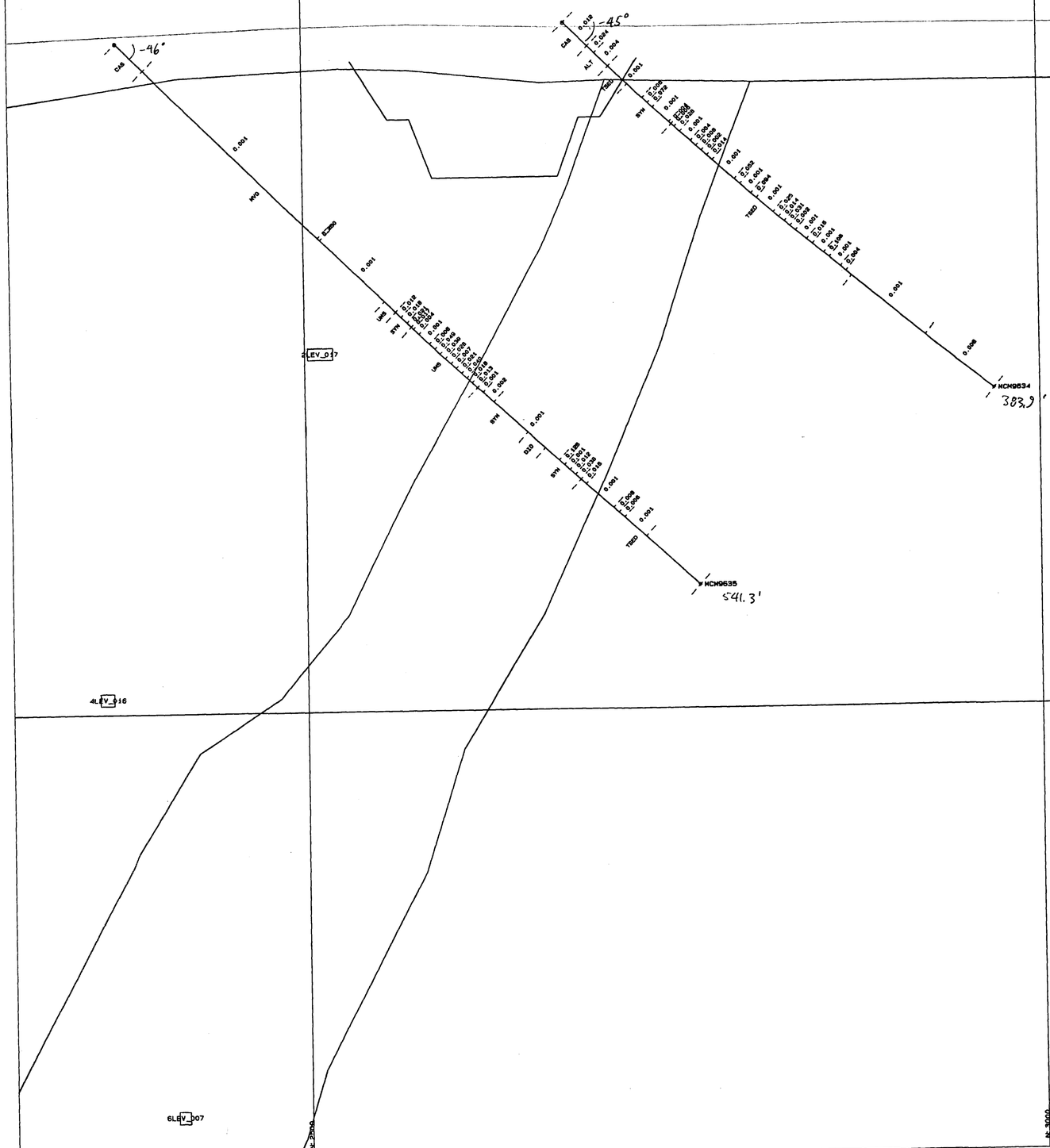
Royal Oak Mines Inc.

South (A_3 180°)

Claim MR5379

North (A_3 360°)

L: 8000



ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

350

41P13NE0018 2.17158 POWELL

MATACHEWAN PROJECT

SECTION 5100E

LOOKING WEST, +\- 50FT

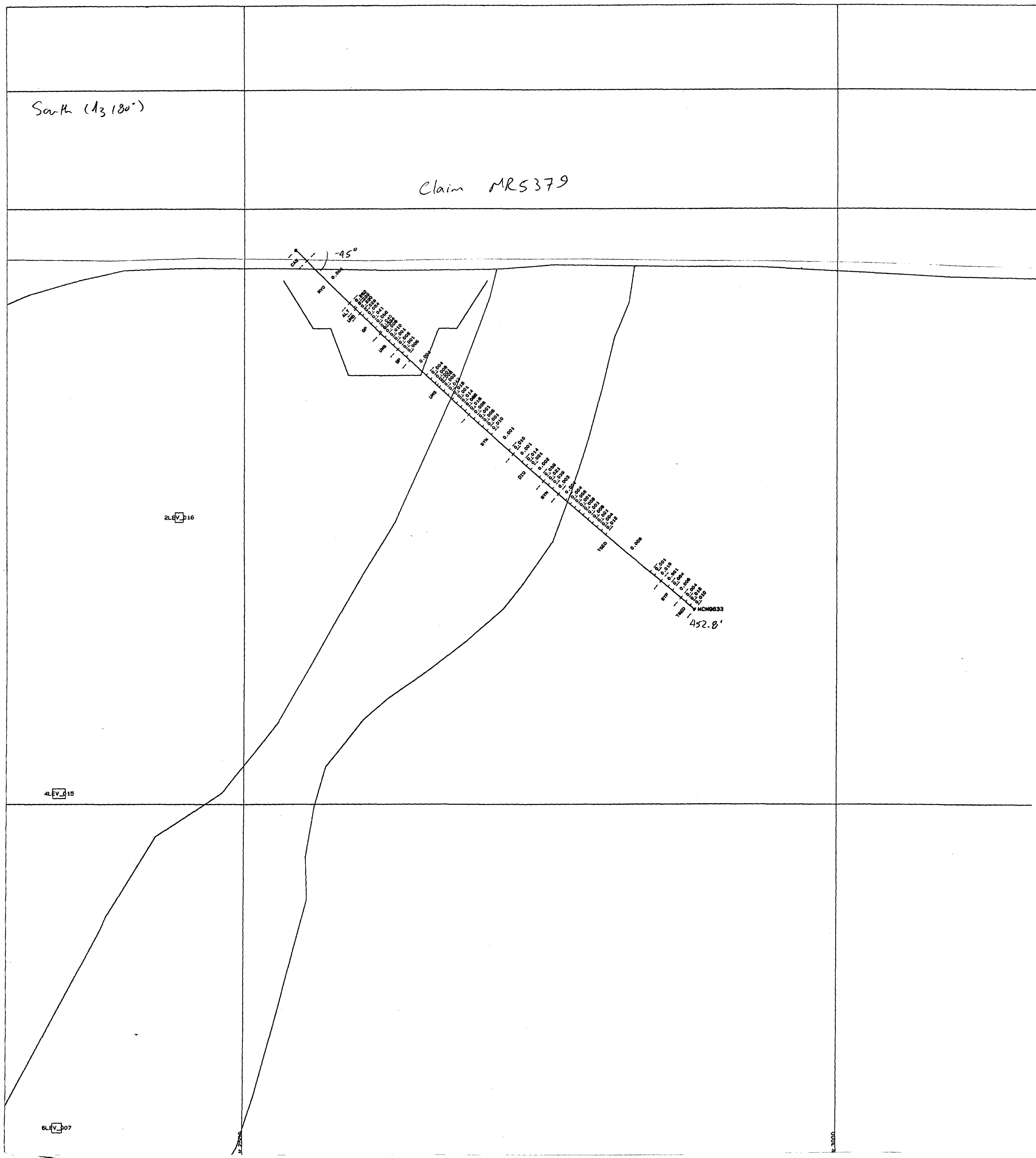
SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 ' FT

0.0 50.0

Red >0.07opt	0.025<Green<0.070	Black <0.025opt

Royal Oak Mines Inc.



ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FFP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

360

41P15NE0018 2.17158 POWELL

MATACHEWAN PROJECT

SECTION 5200E

LOOKING WEST. +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 '

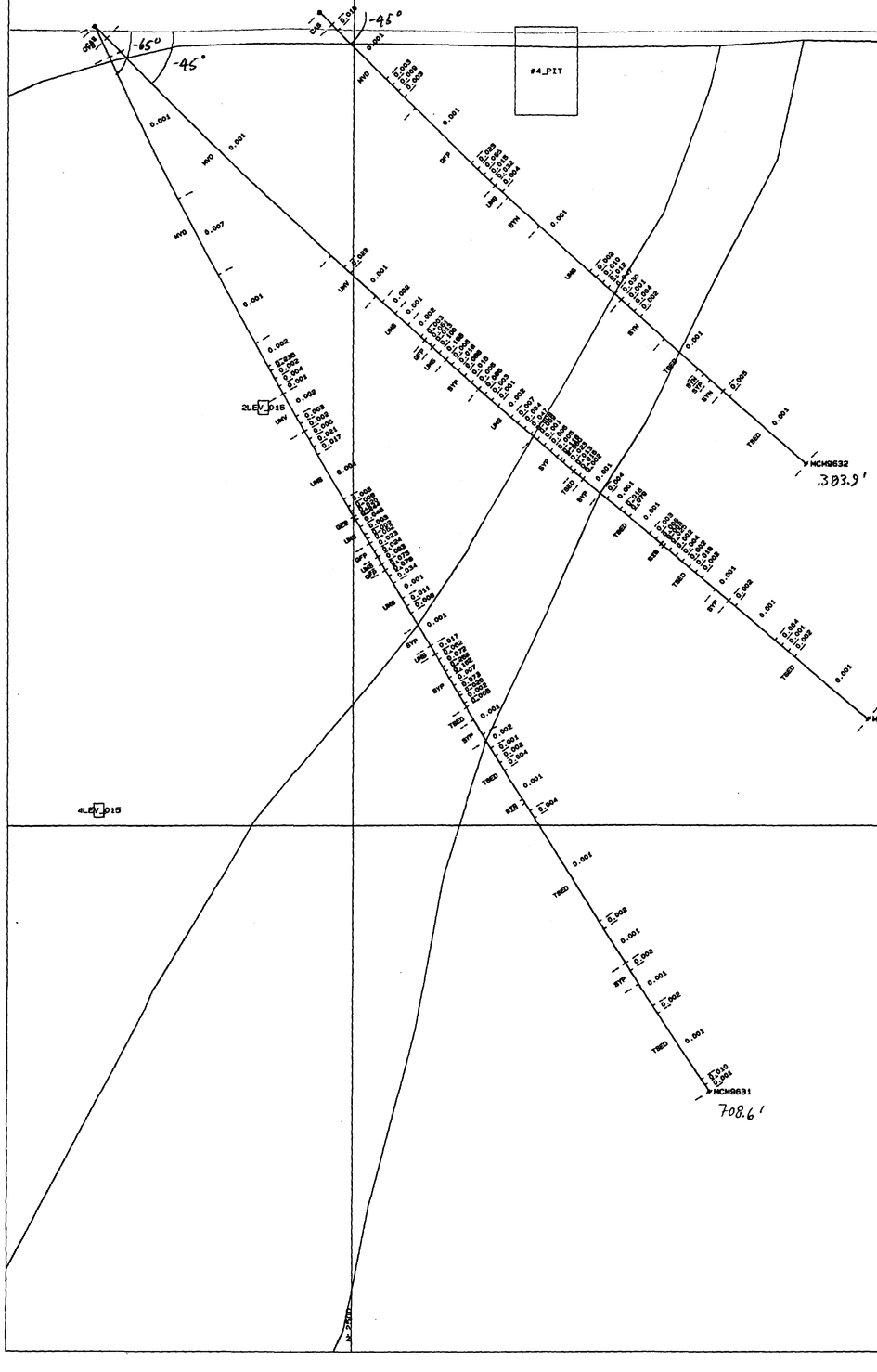
0.0 — 50.0 FT

Red >0.07opt	0.028<Green<0.070	Black <0.028opt

South (A3 180°)

Claim MR5379

North (A3 360°)



ALT (Alteration)

ALB	Albitized
BAF	Buff Altn Flecks
BLD	Bleached
CAL	Carbonaceous
CAR	Carbonatization
CCL	Calcite-Chlorite
CHL	Chloritic
CC	Calcitic
EPD	Epidotization
FEL	Felsic
HEM	Hematized (red altn)
HMS	Hematitic Spotted
LEC	Leached
OXD	Oxidized
QAC	Quartz-Carbonate
QCV	Quartz-Carbonate Veining
SCS	Sericitic-Chloritic
SER	Sericitic
SIL	Silicification
SNF	Snowflake
SRP	Serpentinization
SUL	Sulphidization
TAT	Tan Alteration
TCL	Talc Chlorite
WAC	White Altn Flecks (Calcite)
WAL	White Altn Flecks (Leucoxene)

NAM (Rock Name)

OVB	Overburden
L/C or LC	Lost Core
CAS	Casing
MC	Missing Core
MI	Massive Indefinite
VOL	Volcanic
IGN	Ignimbrite/Ash Flow
FBX	Flow Breccia
MF	Massive Flow
VPF	Variolitic PF
TUF	Tuff
AGL	Agglomerate
BX	Breccia
PBX	Pillow Breccia
PF	Pillow/Pillow Flow
CSS	Chlorite-Sericite Schist
SRS	Serpentinized Schist
SES	Sericite Schist
SCS	Sericite-Chlorite Schist
TCS	Talc-Chlorite Schist
CRB	Carbonate
CLS	Chlorite Schist

NAM (cont'd.)

FVO	Felsic Volcanic
DAC	Dacite
RDC	Rhyodacite
FTF	Felsic Tuff
KRI	Krist/Felsic Metavolcanic
RHY	Rhyolite
AND	Andesite
ATF	Andesitic Tuff
IVO	Intermediate Volcanic
MVO	Mafic Volcanic
PMB	Pillowed MB
MG	Metagabbro
MTF	Mafic Tuff
MB	Metabasalt
VMB	Variolitic MB
GAB	Gabbro
BAS	Basalt
DIO	Diorite
AMP	Amphibolite
FAM	Feather AMP
PDT	Peridotite
SRP	Serpentinite
UMV	Ultramafic VOL
FPP	Feldspar Porphyry
QFP	Quartz-Feldspar Porphyry
SYN	Syenite
QZP	Quartz Porphyry
FST/FEL	Felsite
SYP	Syenite Porphyry
CTZ	Contact Zone
DIA	Diabase
LAM	Lamprophyre
QCV	Quartz-Carbonate Vein
CV	Carbonate Vein
QV	Quartz Vein
SED	Sediments
SST	Sandstone
BOL	Boulder
SL	Slate
IFS	Interflow Sediment
GSL	Graphitic Slate
GA	Graphitic Argillite
MST	Mudstone
SLT	Siltstone
CON	Conglomerate
ARG	Argillite
GWK	Greywacke
GRA	Graphite
CHT	Chert
PHY	Phyllite
QZT	Quartzite

2.17158

370

41P10NE0018 2.17158 POWELL

MATACHEWAN PROJECT

SECTION 5300E

LOOKING WEST. +\- 50FT

SHOWING THE 1996 DIAMOND DRILLING

SCALE 1" = 50.0 FT

0.0 50.0

Red >0.07ppt	0.02<Brown<0.07	Black <0.02ppt

Royal Oak Mines Inc.