TECHNICAL REPORT
on the
1994 DIAMOND DRILLING PROGRAM

Shirriff Option (1503)
Matachewan Area

Powell Twp.
NTS 41P/15

Submitted by:

Reno Pressacco, M.Sc(A), FGAC
Project Geologist
Eastern Canada Exploration
Royal Oak Mines Inc.

Timmins, Ontario
February 1995

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SUMMARY

A total of 9,568.1 feet of NQ core was drilled on the Shirriff Option claim group during the period from November 1, 1994 to January 11, 1995. The objective of this drilling primarily was to attempt to intersect the westward strike extension of the gold-bearing syenite intrusives beneath the Gowganda Formation cover rocks. The syenite intrusive has been one of the traditional host rocks to the gold zones in the Matachewan Camp. The program can be considered as a success, considering the difficulties inherent in conducting exploration for these types of "blind" settings.

Hole SH94-2 intersected only sediments belonging to the Timiskaming Group upon exiting the Gowganda Formation, and serves to provide a constraint on the northern extremity of the mafic-sediment contact. Hole SH94-3 intersected significant thicknesses of syenite and granite intrusives that contained sections of hematite alteration, disseminated pyrite, and quartz veining that were very similar in appearance to descriptions of the syenite-hosted ore zones in both the Young-Davidson and Matachewan Consolidated Mines. Only anomalous-level gold values (0.014 opt Au/68.3' and 0.072 opt Au/4.0') were returned from these altered zones, and comparisons with the Young-Davidson property suggest the possibility of a larger volume of gold-bearing syenite nearby. The presence of these weakly mineralized syenite bodies serve to extend the westward limit of the favourable Mine Series stratigraphy by some 3,000-3,500 feet.

Additional work in the form of continued diamond drilling is clearly warranted to test the new syenite bodies in the area between hole SH94-3 and the Young-Davidson Mine. Additional drilling can be done westwards from hole SH94-3, however this would likely be of a lower priority due to increasing thickness of the Gowganda Formation.

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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 Project 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, Montréal, Québec

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

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

4) 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.

5) That I hold no direct or indirect interests, nor expect to receive any compensation other than salaries in either Royal Oak Mines Inc., Matachewan Consolidated Mines Ltd., or Young-Davidson Mines Ltd.

R. Pressacco

Timmins, Ontario
February, 1995

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

1.0 Introduction

A total of 9,568.1 feet of NQ core was drilled on the Shirriff Option claims during the November 1, 1994 - January 11, 1995 period. The objective of this drilling was primarily to trace out the westward extensions of the favourable Archean-aged stratigraphic package underneath the younger Proterozoic-aged Gowganda Formation cover rocks. These Archean-aged units (mafic and ultramafic volcanics, syenite and clastic sediments) have been the traditional host rocks for all of the gold production from the Camp to date (956,117 oz. Au, 288,000 oz. Ag, Meyer et.al., 1992). Historically, this Mine Series has been traced westward to the contact with the Gowganda Formation, just west of the Young-Davidson Mine, but attempts at penetrating the Gowganda cover rocks were largely unsuccessful prior to the 1990 drilling program by Pamorex Minerals. The main focus of that program was to test targets located on the Young-Davidson property, and in order to accomplish that, the holes had to be drilled through a moderate amount of the Gowganda Formation prior to entering the Mine Series. However, a single hole (SH90-1) was drilled some 2,000 feet to the west during that program in an attempt to intersect the extensions of the Mine Series, and was successful. This latest 1994 program is a continuation of the results from that hole.

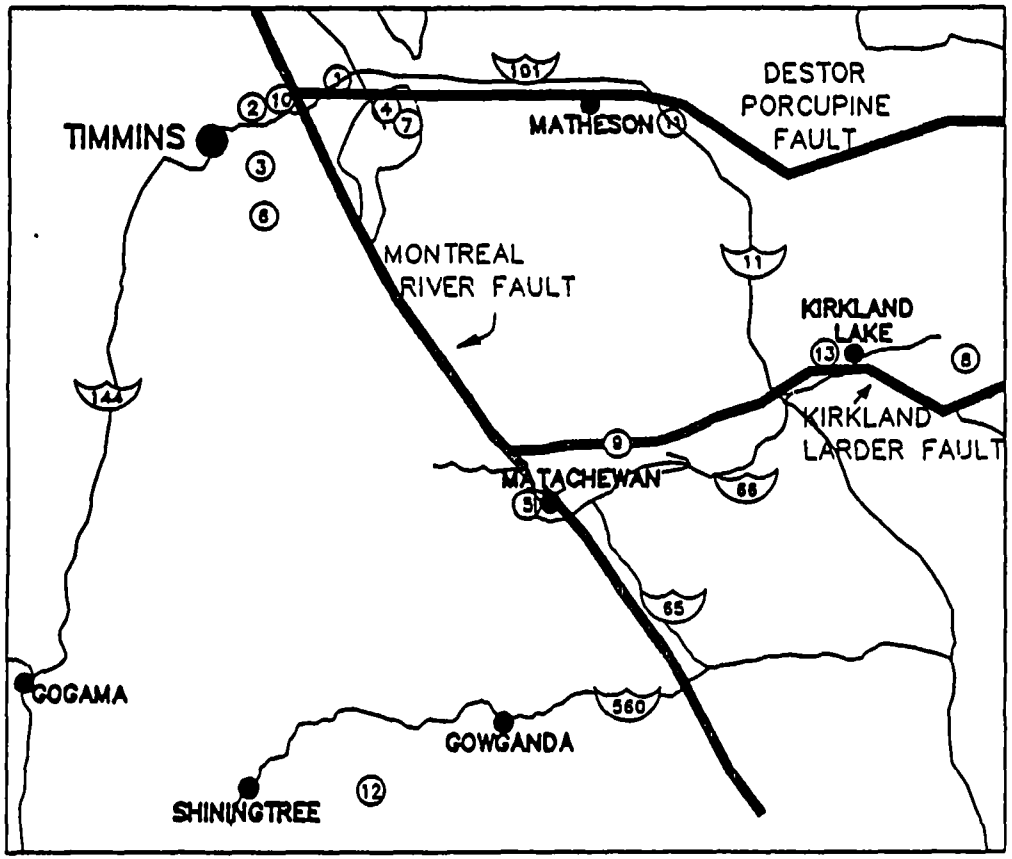
2.0 Location and Access

The Shirriff Option forms a portion of Royal Oak's larger land position, and is located in southern Powell township, west of the village of Matachewan, Ontario (Figures 1 and 2). The village itself can be accessed primarily by Highway 566 or by a series of gravel forestry roads that lead southwards from Timmins. The distance from Timmins to Matachewan via Highway 11 is some 150 km. The eastern property boundary is located some 1-2 km west of the village. Access to most parts of the property can be had by either the Mistinikon Lake Road (seasonal) or the Matarrow Road (year-round gravel). Access to the extreme northwestern portion of the claims is by boat along Mistinikon Lake.

3.0 Claims

The property consists of 33 contiguous leased mining claims and 3 unpatented mining claims (Table 1). All leased claims are in good standing and the unpatented claims are currently subject to a Native Land Caution. However, in recent developments, the Ministry of Northern Development and Mines has announced that this Caution will be lifted on April 4, 1995. At that time, the 3 unpatented claims will require assessment credits to maintain them in good standing.

PAMOUR GROUP
TIMMINS DIVISION



GIANT

1. PAMOUR–HALLNOR–HOYLE–BROULAN
2. HOLLINGER–McINTYRE CONIAURUM
3. AUNOR–DELNITE
4. NIGHTHAWK (HYDRA)

PAMOUR

5. MATACHEWAN
6. MAGNESITE

PAMOREX

7. NIGHTHAWK LAKE
8. BEAVERHOUSE LAKE
9. HOLMES TWP.
10. McINTYRE J.V.
11. CENTRAL HISLOP
12. JUBY
13. WINNIE LAKE

LEGEND

MAJOR FAULTS

HIGHWAY

SCALE IN KMS

0 40

FIGURE 1

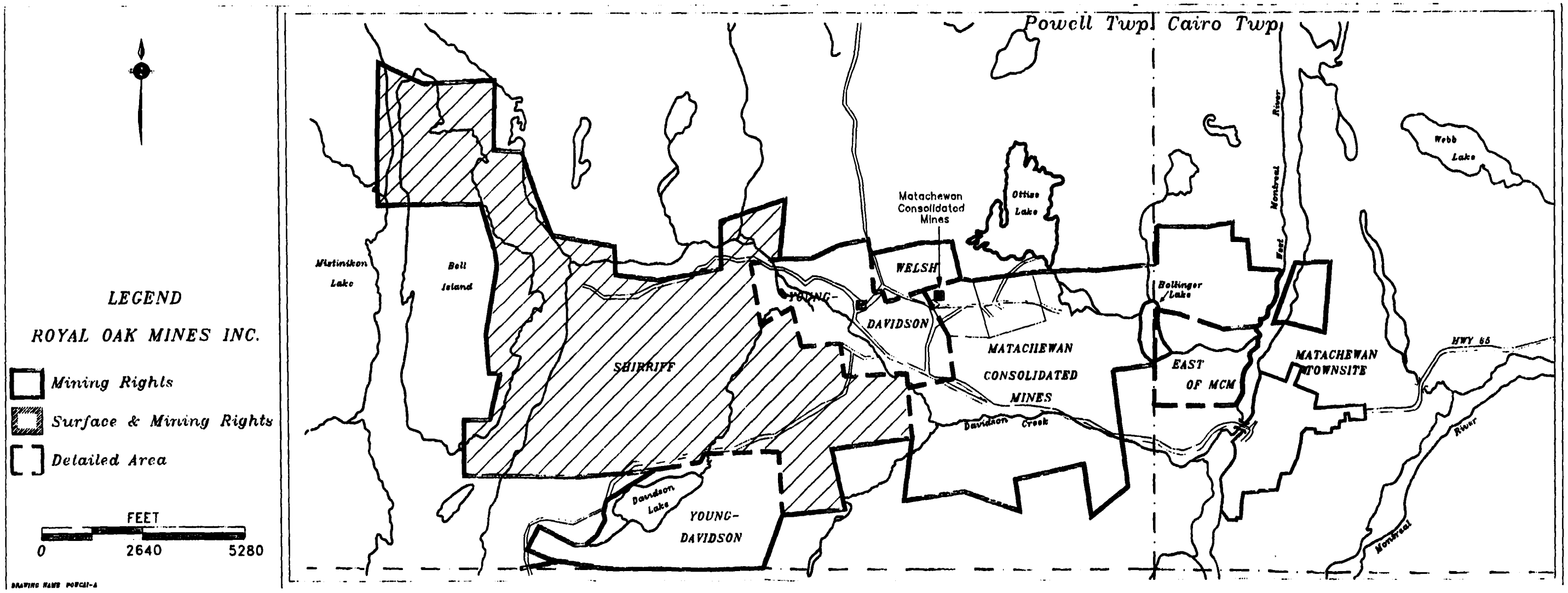

LEGEND
ROYAL OAK MINES INC.
Mining Rights
Surface & Mining Rights
Detailed Area
FEET
0
2640
5280
DRAWING MADE PURSUANT-A
Powell Twp.
Cairo Twp.
Matachewan Consolidated Mines
Ottiwe Lake
Mistinikon Lake
Bell Island
WELSH
YOUNG-DAVIDSON
Bollinger Lake
Montreal River
East
Webb Lake
SHERRIFF
MATACHEWAN CONSOLIDATED MINES
EAST OF MCM
MATACHEWAN TOWNSITE
HWY 65
Davidson Creek
Davidson Lake
YOUNG-DAVIDSON
Montreal River

TABLE I

SHIRRIFF PROPERTY CLAIM STATISTICS

POWELL TOWNSHIP

CLAIM	NUMBER	* TYPE	CLAIM STATUS
MR	5386	SMR	21 Year Lease
MR	5400	SMR	21 Year Lease
MR	5568	SMR	21 Year Lease
MR	5569	SMR	21 Year Lease
MR	5570	SMR	21 Year Lease
MR	5657	SMR	21 Year Lease
MR	5659	SMR	21 Year Lease
MR	5922	SMR	21 Year Lease
MR	6032	SMR	21 Year Lease
MR	9835	SMR	21 Year Lease
MR	33919	SMR	21 Year Lease
MR	33920	SMR	21 Year Lease
MR	33921	SMR	21 Year Lease
MR	33922	SMR	21 Year Lease
MR	33923	SMR	21 Year Lease
MR	33924	SMR	21 Year Lease
MR	34242	MRO	21 Year Lease
MR	34243	MRO	21 Year Lease
MR	34250	SMR	21 Year Lease
MR	34251	SMR	21 Year Lease
MR	34252	SMR	21 Year Lease
MR	34253	SMR	21 Year Lease
MR	35807	SMR	21 Year Lease
MR	35902	MRO	21 Year Lease
MR	38931	SMR	21 Year Lease
MR	39022	MRO	21 Year Lease
MR	39023	SMR	21 Year Lease
MR	40066	MRO	21 Year Lease
MR	40067	MRO	21 Year Lease
MR	40068	SMR	21 Year Lease
MR	40071	SMR	21 Year Lease
MR	50439	MRO	21 Year Lease
MR	50440	MRO	21 Year Lease
L	512587	Staked	Under Caution
L	512589	Staked	Under Caution
L	512589	Staked	Under Caution

* SMR - Surface and Mining Rights
  MRO - Mining Rights Only

Royal Oak, through agreements made by predecessor companies, currently has the right to earn an interest in the property subject to meeting an aggregate exploration expenditure commitment and drilling a minimum of 10,000 feet on the property prior to December 31, 1995.

4.0 Previous Work

Prior to the most recent work carried out by Royal Oak, only intermittent and scattered exploration activity has been carried out on the property over the years, the majority of which was done by Mr. Shirriff for British Matachewan Gold Mines. A brief chronological summary is detailed below:

1936: Matachewan Consolidated: 3 DDH located on Shirriff claims just south of Young-Davidson Mine. One hole successful in penetrating Gowganda Formation. Sketchy details.

1949: British Matachewan Gold Mines Ltd.: Diamond drilling, 1 hole (1,001 ft).

1960-1966: British Matachewan Gold Mines Ltd.: Diamond drilling, 7 holes totalling 3,858 ft.

1971: British Matachewan Gold Mines Ltd.: Magnetic and EM surveys, Mistinikon Lake. Diamond Drilling, 2 holes (71-2: 836 ft).

1973: British Matachewan Gold Mines Ltd.: Induced Polarization survey.

1990: Royal Oak/Pamorex Minerals: Linecutting, magnetic + CSMAT surveys, geological mapping, diamond drilling (4,335 ft in 1 complete hole, 1 partial hole, crossing claim boundary (YD90-21)).

5.0 Regional Geology (after Kilbourne, 1991)

The Matachewan Camp is located in the southwestern Abitibi Greenstone Belt of the Superior Province, northeastern Ontario. Regional metamorphic grade is predominantly greenschist facies.

The volcanic strata of the Matachewan area have been assigned to the Larder Lake and Kinojevis Groups (Figure 3). The Larder Lake Group volcanic rocks in the Matachewan area are mainly pillowed and massive basalt flows with less common komatiitic flows. Serpentinized ultramafic sills are common. The Kinojevis Group volcanic rocks are pillowed and massive basalts, mafic to intermediate tuffs, and cherty tuffaceous units.

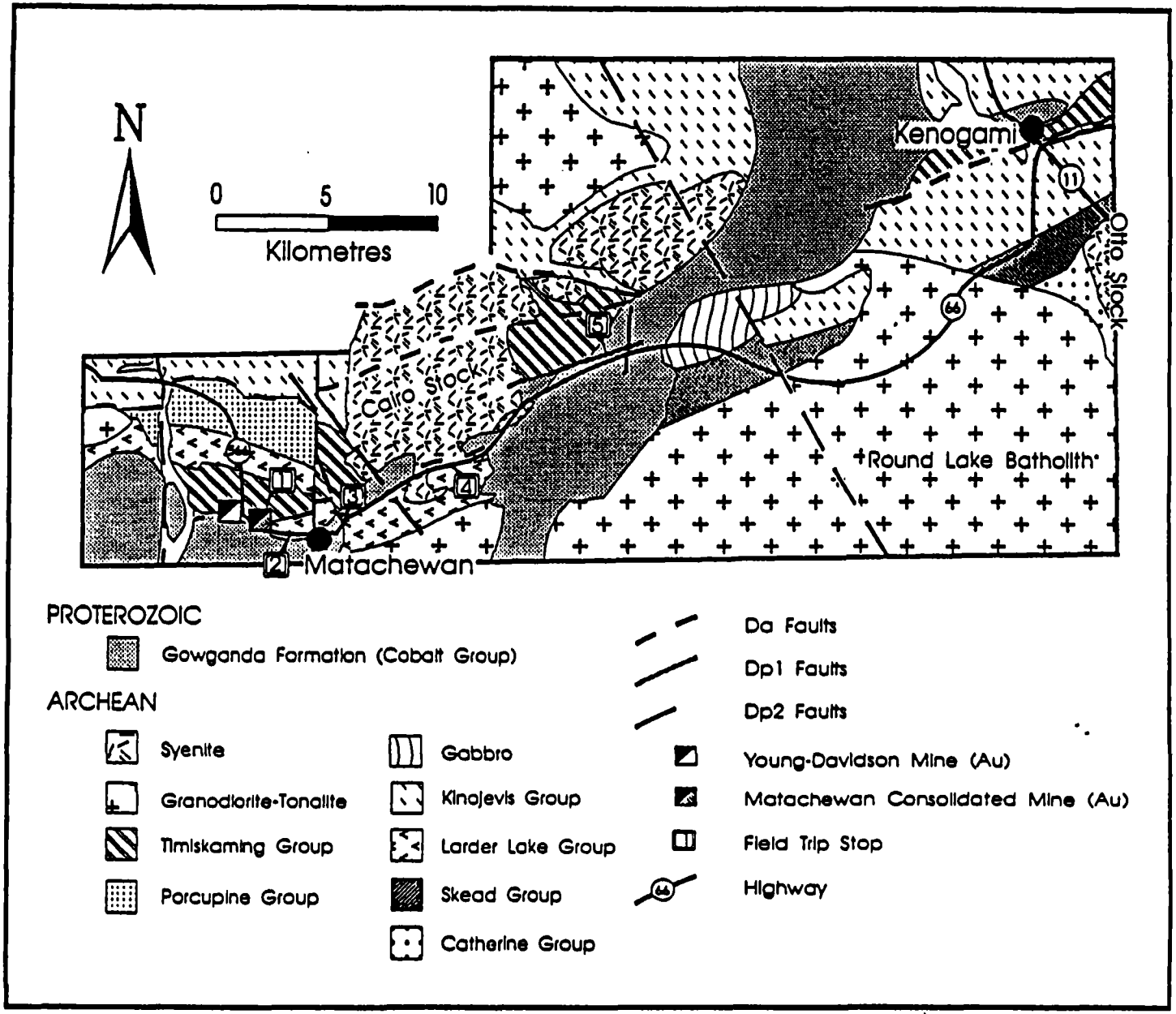


Figure 3 Regional geology of the Kenogami to Matachewan area. (Modified after MERQ-OGS (1983).)

The volcanic rocks are unconformably overlain by a belt of sedimentary and alkalic rocks of the Timiskaming Group. In Cairo and Powell townships, the Timiskaming rocks fine northward, and are comprised of conglomerates, cross-bedded sandstones and interbedded siltstones. The Timiskaming Group is spatially associated with the Larder Lake-Cadillac Break (Figure 3).

The supracrustal rocks of the Matachewan-Kirkland Lake area have been intruded by three major acidic plutons, which profoundly affected the distribution of the volcanic strata to the south of the Larder Lake-Cadillac Break (LLCB).

The Archean rocks and the diabase dikes of the Archean-aged Matachewan swarm are unconformably overlain by Early Proterozoic glaciogenic sedimentary rocks of the Gowganda Formation (Cobalt Group, Huronian Supergroup) (Figure 3). Regionally the Proterozoic sedimentary rocks strike north-northeast and dip gently west, usually less than 20°. The Gowganda Formation has been intruded by diabase dikes of the Nipissing swarm.

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

6.0 Local Geology

The surficial geology of the great majority of the Shirriff property consists of units belonging to the Gowganda Formation, essentially a mixed assemblage of polymictic micro to cobble conglomerate, coarse sandstone, argillites and siltstones. These units form part of the northern edge of the Cobalt Embayment, which is a large accumulation of Proterozoic-aged sedimentary and volcanic rocks that stretch southwards to North Bay. Very little is known about the "subsurface" geology of the Archean rocks on the Shirriff property, as the Gowganda Formation rapidly thickens to the west. The limited information provided by the 1994 drilling program suggests that the Mine Series units do indeed continue beneath the Gowganda cover rocks. Local pockets of Archean-aged sedimentary and ultramafic rocks are exposed in the northwestern portion of the claim group.

7.0 Economic Geology

The property has no history of gold production despite its location to the immediate west of the Young-Davidson Mine (production: 6,213,272 tons @ 0.10 opt Au (585,690 oz. Au, 131, 939 oz. Ag), 1934-1957) (Meyer et. al., 1992). However, several drill holes have intersected a number of gold-bearing intervals (SH90-1: 0.112 opt Au/2.0'; YD90-21:

0.233 opt Au/14.5', and 0.299 opt Au/2.0') in the Kinojevis Group mafic volcanics and narrow syenite dikes beneath the Gowganda cover rocks. Scattered gold values are also reported from altered ultramafic rocks to the northwest, and a grab sample from a quartz vein in the Gowganda Formation is reported to have returned a value of 0.164 opt Au. The reader is referred to Derry et. al. (1948) and North and Allen (1948) for additional details regarding the former mines.

8.0 Summary of the 1994 Drilling Program

The 1994 drilling program consisted of a total of three (3) deep holes totalling 9,568.1 feet being drilled between November 1, 1994 and January 11, 1995. No drilling was done during the two week period between December 21 and January 4. Bradley Bros. of Timmins was contracted to drill these holes, and they supplied a Longyear-44 diamond drill with associated support equipment for the job. All the core was drilled using NQ sized equipment and all core was taken to Royal Oak's Matachewan coreshack for logging and sampling. From there, the core was taken either to the core storage facility (the "Bunker") on the former Matachewan Consolidated Minesite (M.C.M.) or transported to Royal Oak's Hollinger Minesite core storage facility. For the most part, only the more important core (mafic and ultramafic volcanics, syenite and Timiskaming sediments) was transported to Timmins. The M.C.M. core storage site was used to store most of the Gowganda Formation and any large sections of diabase dike (hole SH94-4). No serious difficulties were encountered during the drilling program, aside from a number of zones of blocky core encountered in the Gowganda Formation in hole SH94-2 and the thick intersection of diabase dike in hole SH94-4. Drill holes SH94-2 and 94-3 did not encounter any serious deviations in either their dip or azimuths. Hole SH94-4 did however encounter a substantial deviation in its azimuth, bending some 30° to the right over the length of the hole. This in part is attributable to having to drill with a round core barrel due to the presence of ultramafic volcanics directly beneath the Gowganda Formation, and the presence of at least two diabase dikes within the ultramafic units. The softness of the ultramafic rocks, combined with the hardness and orientation of the diabase dikes, were the main contributors to the lack of success of hole SH94-4 in hitting its target.

During the logging process, any core which seemed to be favourable for hosting gold mineralization was marked off for detailed sampling. Sample lengths ranged from 1 to 4 feet in length, with many of the samples being 3 feet long. All samples were subsequently split on-site by Al Lacroix of Royal Oak. All core was logged by the author. Those sections of core (excepting larger intervals of diabase dike) which did not appear to hold any promise of hosting gold mineralization were sampled by means of composite samples. In this method of sampling, a representative section of whole core, 1 to 4 inches in length, was 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 this manner, a combined total of 521 samples were selected for gold analyses. In addition, 5 samples were selected for whole rock analysis, and 3 samples were selected for mineral identification using an X-Ray diffraction technique. A total of 106 selected sample pulps from the gold samples taken in hole SH94-3 were shipped for analysis using a multi-element geochemical package. All gold analyses were performed by Royal Oak's Schumacher laboratory. The whole rock and multi-element analyses were performed by XRAL Laboratories in Toronto. The X-Ray diffraction analyses were done by Dr. John Huang of Laurentian University.

The results of the gold analyses are given in the detailed diamond drill logs, and a summary of all significant gold values encountered during this drilling program is given in Table 2. Laboratory certificates for these gold analyses, along with the raw data from the whole rock analyses, the results of the multi-element geochemical package, and the results of the X-Ray diffraction analyses are given in Appendix I. Time permitting, a treatment and analysis of the whole rock and multi-element results will be done and reported separately. Summary Drill Hole Logs for the 3 holes are given in Appendix II, the detailed drill hole holes are given in Appendix III, and detailed cross-sections and a compilation plan map showing the 1994 results are given in Appendix III.

During the initial planning stages of the program, all available information suggested that the syenite intrusive, or the mafic-sediment contact in lieu thereof, was oriented roughly in an east-west direction. Hole SH94-2 was drilled to test such a hypothesis, and upon exiting the Gowganda Formation, entered directly into the Timiskaming sedimentary package. This hole was allowed to continue well into the Timiskaming in order to make sure that the original concept was no longer valid. This implied that the mafic-sediment contact had already been intersected in hole SH90-1. Upon reviewing the core from that hole, the location of the contact was confirmed and subsequently the location of hole SH94-3 was chosen so as to enter into the Kinojevis Group mafic units upon traversing the Gowganda Formation. Hole 94-3 traversed some 1,500 feet of the Gowganda units before entering the Kinojevis mafic volcanics and the hole shortly thereafter encountered a substantial thickness (480.5 ft) of syenite followed by a mixture of ultramafic material and syenite/granite dikes before entering into the Timiskaming Sediments. The main syenite body contained a 59-60 foot section of strong hematization, 1-3% tensional quartz-tourmaline veins and 1-3% very fine grained disseminated pyrite. Hole SH94-4 was planned as a further 1,000 foot stepout to the west of hole SH94-3 to test for the continuation of the syenite intrusive intersected in that hole. Unfortunately, the hole encountered a mixture of ultramafic volcanics and diabase dikes upon exiting from the Gowganda Formation, and the hole had to be stopped when the hole deviated sufficiently in azimuth so as to not leave any hope that it might eventually encounter the western contact of the diabase.

Table 2

SHIRRIFF OPTION
TABLE OF SIGNIFICANT RESULTS FROM THE FALL '94 DRILLING PROGRAM

Hole No.	Length (ft)	Target	From-To (ft)	Grade Au/Ft	Lithology	Comments
SH94-2 (Proposed A)	2145.7 (13+80S, 4+50W) (Azimuth 330, Dip -57)	Young-Davidson Mine stratigraphy to north of SH90-1.	1695.0-1711.0	202 ppb/16.0	Sericite-pyrite-silica altered Timiskaming sediments, 3-5% diss pyrite.	Huronian 0-1318 ft. Kinojevis-Timiskaming contact previously intersected by SH90-1.
			1998.0-2057.8	184 ppb/69.8	Silicified Timiskaming greywackes. 1-3% diss pyrite.	
SH94-3 (Proposed B)	3116.8 (24+00S, 10+00W) Dip -70)	1000 ft stepout to west of SH90-1 & SH94-2, stratigraphy.	1622.0-1631.0	125 ppb/9.0	Ser-carb shear zone. 1-3% diss pyrite.	Huronian 0-1493.0 ft.
			1694.7-1763.0	474 ppb/68.3	Hematized syenite, 1-3% diss vfg pyrite, 3-5% qtz-ank veining.	0.014 opt/68.3 ft.
			1778.0-1790.0	274 ppb/12.0	Weakly hematized syenite, 1-3% diss pyrite.	
			1800.7-1815.0	358 ppb/14.3	Porphyritic syenite, trace pyrite.	0.010 opt/14.3 ft.
			1827.0-1830.0	1165 ppb/3.0	Qtz-cc stockwork, trace pyrite in syenite.	0.034 opt/3.0 ft.
			1849.0-1851.0	240 ppb/2.0	Syenite in contact with diabase.	
			1962.0-2012.0	317 ppb/50.0	Hematized syenite.	0.009 opt/50.0 ft.
			2076.0-2108.0	246 ppb/32.0	Chl + hem altered syenite, 1-5% diss. pyrite, to 50% qtz-ank veining	
			2150.0-2168.0	114 ppb/18.0	Hematized Granitic Dike. 1% diss. pyrite	
			2330.0-2351.0	218 ppb/21.0	Granite Dike. Trace pyrite, 1% qtz veining	
SH94-4	4305.6 (36+30S,14+50W) (Azimuth 330, Dip -68)	1100ft stepout to west of SH94-3, Young-Davidson Mine stratigraphy.		NSV		Huronian 0-2138.7ft Hole intersected Kinojevis UM volcanics and diabase dikes.
Total	9,568.1 feet					

Jan. 12, 1994
94result.wk4

The orientation of these holes was deliberately selected during the initial planning stages in order to avoid a situation whereby a hole would enter a north-south oriented diabase dike upon exiting the Gowganda Formation and remaining in the dike thereafter. If the holes were drilled in the traditional manner so as to intersect the target stratigraphy in a more or less perpendicular orientation, then the consequences of encountering one of the numerous diabase dikes in the area would be disastrous, especially in light of the thicknesses of Gowganda Formation to contend with, and the costs involved in drilling these deep holes. The decision to drill these new holes in a northwesterly direction was made so as to provide the best opportunity for the hole to traverse any diabase dikes that it may encounter and still provide information as to the nature of the target rock units in that area, albeit at a less than ideal angle to the strike of the target units.

9.0 Discussion of Results

Considering the difficulties in conducting an exploration program in this type of a "blind" setting, the 1994 program can be considered as a success. The main result of this program was to extend the known limits of the Mine Series stratigraphy some 3,000-3,500 feet westwards, although the correlation is rather tenuous at present due to the lack of sufficient information.

Hole SH94-3 proved to be the most important hole of this program in that it intersected a significant quantity of syenite, some of which contained all the characteristics of the syenite that has traditionally been host for much of the gold production of the Camp. Unfortunately, no ore-grade intersections were returned from this hole (highest value 0.072 opt Au/4.0'), however the hematized-pyritized altered zone contained a weighted grade of 0.014 opt (474 ppb) Au/68.3'. Comparison of this value with that seen in the main syenite body on the Young-Davidson Mine property suggests that this hole may be a "near miss" and have passed within 400-600 feet of an ore-grade gold-bearing zone.

Correlation of these new syenite intersections in hole SH94-3 into the existing framework of knowledge indicates the strong possibility that these new syenites are not the direct westward extension of the main gold-bearing syenite body at Young-Davidson. Rather these new zones seem to represent a different intrusive body that is located slightly within the Kinojevis Group and oriented in an "en-echelon" or stacked/staggered fashion with respect to the main syenite body. The strike of these new intrusives seems to be gradually bending into a southwesterly direction. This is encouraging because any future drilling to the west can now be targeted so as to be oriented in a more perpendicular fashion to the target stratigraphy while still being oriented in such a fashion so as to be able to traverse any diabase dikes that might be encountered.

As mentioned above, the positive results returned from hole SH94-3 has extended the known limits of the favourable productive stratigraphy by a distance of some 3,000-3,500 feet. A word of caution must be mentioned however, for a segment of this new stratigraphy in the vicinity of the Shirriff - Young-Davidson property boundary. Existing surficial geological maps suggest the presence of a number of rather large diabase dikes in this area. While no information as to the size and location of these dikes is available for where their projections intersect with the favourable stratigraphy, a strong possibility exists that a roughly 1,000 foot segment of this favourable stratigraphy may not be present due to the existence of these diabase dikes. Any future exploration done in this area should address such a possibility.

Although hole SH94-4 failed to intersect the westward strike extension of the syenites/granites intersected by hole SH94-3, it still provided valuable information as to their potential location in this area. The ultramafic units intersected in SH94-4 are rather easily correlatable with the "Jake's Cave" ultramafic units on the Young-Davidson and M.C.M. mine properties. Should this correlation hold true, then the main syenite body (or its equivalent) should still be located some distance to the northwest. This entire area westward from hole SH94-3 remains unexplored and is highly prospective.

10.0 Conclusions and Recommendations

On the basis of the information presented above, the following conclusions may be drawn:

1 The goal of the 1994 drilling program was to intersect the westward strike extension of the gold-bearing syenite intrusive beneath the Gowganda Fm cover rocks. This syenite has been one of the traditional host rocks to the gold ore in the Camp. This program can be considered a success, considering the difficulties inherent in conducting exploration for these types of "blind" settings.

2 Hole SH94-2 intersected only Timiskaming Group sediments upon exiting the Gowganda Formation and served to provide a constraint on the northern limit of the mafic-sediment contact.

3 Hole SH94-3 intersected significant thicknesses of syenite and granite intrusives that contained a section of hematite alteration, disseminated pyrite and quartz veining that were very similar in appearance to descriptions of the syenite-hosted ore zones on both the Young-Davidson and M.C.M. mine properties. Gold values were anomalous only within these hematized sections (0.014 opt Au/68.3', 0.072 opt Au/4.0'), and suggest the possibility of a larger volume of gold-bearing syenite nearby.

4 Hole SH94-4 failed to intersect the westward strike extension of the syenite intrusives intersected in hole SH94-3 due to the presence of several largish diabase dikes and severe drill hole deviation. However, the ultramafic units encountered in this hole serve to provide a constraint as to the southern limit of the target syenite bodies.

5 The presence of the syenite/granite bodies in hole SH94-3 serves to extend the westward limit of the favourable Mine Series stratigraphy by some 3,000-3,500 feet. In this area, the strike of the stratigraphy seems to be oriented in a southwesterly or WSW direction. However, initial correlation work suggests that these new bodies are not the direct westward extensions of the main syenite intrusive at Young-Davidson. Rather they appear to be a different body that is situated in an en-echelon fashion to the main syenite intrusive.

6 A good deal of area has been identified as having a good potential for hosting syenite-hosted mineralization as a result of hole SH94-3, and additional work is clearly warranted. Negative factors include the substantial thicknesses of the Gowganda Formation in the area to the west (some 2,000 foot vertical thickness in hole SH94-4) and the possible presence of substantial volumes of diabase in the area of the Shirriff - Young-Davidson property boundary.

7 Additional work in the form of continued diamond drilling is clearly warranted to test the new syenite bodies at least between holes SH94-3 and the eastern property boundary. Additional drilling can also be done in an area to the west and southwest of hole SH94-3, however this would likely be of a lower priority.

11.0 References

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R. Pinsent

March 16/95

APPENDIX I

Laboratory Certificates

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 18/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5701	.001	35					
2	02	.001	35					
3	03	.002	70					
4	04	.001	35					
5	05	<.001	<35					
6	06	.001	35					
7	07	.002	70					
8	08	.001	35					
9	09	.002	70					
10	10	.001	35					
11	11	.001	35					
12	12	.001	35					
13	13	<.001	<35					
14	14	.001	35					
15	DXR 5715	.001	35					
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Lab16 R. Prassad

Chief Chemist:

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 18/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DxR 5716	.002	70					
2	17	.004	135					
3	18	.001	35					
4	19	.005	170					
5	20	.001	35					
6	21	.001	35					
7	22	.001	35					
8	23	.004	135					
9	24	.001	35					
10	25	.001	35					
11	26	.008	275					
12	27	.001	35					
13	DxR 5728	.001	35					
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Lab16 R. Prescott

Chief Chemist: [signature]

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 18/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5729	.001	35					
2	30	.001	35					
3	31	<.001	<35					
4	32	.001	35					
5	33	.001	35					
6	34	.002	70					
7	35	.001	35					
8	36	.002	70					
9	37	.001	35					
10	38	<.001	<35					
11	39	.001	35					
12	40	.006	205					
13	41	.001	35					
14	42	.001	35					
15	DXR 5743	.002	70					
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Lab16 R. Prasnicco

Chief Chemist:

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 22/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5744	.001	35					
2	45	.001	35					
3	46	.001	35					
4	47	<.001	<35					
5	48	.001	35					
6	49	<.001	<35					
7	50	<.001	<35					
8	51	.001	35					
9	52	.001	35					
10	53	.001	35					
11	54	<.001	<35					
12	55	<.001	<35					
13	DXR 5756	<.001	<35					
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Lab16 R. Pressacco

Chief Chemist: [signature]

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

EXPLORATION 5600-0503

SH-942

DATE: Nov 22/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5757	<.001	<35					
2	58	<.001	<35					
3	59	<.001	<35					
4	60	<.001	<35					
5	61	<.001	<35					
6	62	<.001	<35					
7	63	<.001	<35					
8	64	<.001	<35					
9	65	<.001	<35					
10	66	<.001	<35					
11	67	<.001	<35					
12	68	<.001	<35					
13	DXR 5769	<.001	<35					
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Lab16 R. Lamie

Chief Chemist:

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 18/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DxR 5770	.001	35					
2	71	.001	35					
3	72	.002	70					
4	73	.002	70					
5	74	.003	105					
6	75	.001	35					
7	76	.002	70					
8	77	.002	70					
9	78	.006	205					
10	79	.003	105					
11	80	.001	35					
12	81	.002	70					
13	DxR 5782	.003	105					
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Lab16 R. Prescott

Chief Chemist:

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 22/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5783	.002	70					
2	84	.001	35					
3	85	.003	105					
4	86	.003	105					
5	87	.001	35					
6	88	.004	135					
7	89	.001	35					
8	90	.001	35					
9	91	.001	35					
10	92	.003	105					
11	93	.002	70					
12	94	.001	35					
13	95	.001	35					
14	DXR 5796	.001	35					
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Lab16 R. Prassacco

Chief Chemist:

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 22/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5797	.001	35					
2	98	.001	35					
3	99	<.001	<35					
4	5800	<.001	<35					
5	01	.001	35					
6	02	.001	35					
7	03	.001	35					
8	04	<.001	<35					
9	05	<.001	<35					
10	06	<.001	<35					
11	07	<.001	<35					
12	08	<.001	<35					
13	09	.001	35					
14	DXR 5810	.001	35					
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Lab16 R. Prescacco

Chief Chemist: [signature]

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

DATE: Nov 22/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5811	<.001	<35					
2	12	<.001	<35					
3	13	<.001	<35					
4	14	.001	35					
5	15	.001	35					
6	16	.001	35					
7	17	.001	35					
8	18	<.001	<35					
9	19	<.001	<35					
10	20	.001	35					
11	21	.007	240					
12	22	.002	70					
13	23	.005	170					
14	24	.006	205					
15	25	.007	240					
16	26	.008	275					
17	DXR 5827	.002	70					
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Lab16 R. Prassacco

Chief Chemist: [signature]

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 24/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5828	.001	35					
2	29	.001	35					
3	30	.001	35					
4	31	.001	35					
5	32	.009	310					
6	33	.001	35					
7	34	<.001	<35					
8	35	.001	35					
9	36	.001	35					
10	37	.001	35					
11	38	.001	35					
12	39	.001	35					
13	40	.003	105					
14	41	.002	70					
15	42	.002	70					
16	43	.002	70					
17	44	.002	70					
18	45	.002	70					
19	46	.003	105					
20	47	.003	105					
21	48	.002	70					
22	49	.002	70					
3	50	.005	170					
24	DXR 5851	.022	755					

Lab16 R. Prescco

Chief Chemist: [signature]

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-2

DATE: Nov 24/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5852	.002	70					
2	53	.001	35					
3	54	.002	70					
4	55	.002	70					
5	56	.002	70					
6	57	.001	35					
7	58	.001	35					
8	59	.002	70					
9	60	.006	205					
10	61	.005	170					
11	DXR 5862	.002	70					
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Lab16 R. Prescco

Chief Chemist:

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-0503

SH-94-3

DATE: Nov 24/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5863	.001	35					
2	64	.002	70					
3	65	.001	35					
4	66	.001	35					
5	67	.001	35					
6	68	.001	35					
7	69	.001	35					
8	70	.001	35					
9	71	.001	35					
10	72	.001	35					
11	73	<.001	<35					
12	74	.001	35					
13	75	.001	35					
14	76	.001	35					
15	77	.001	35					
16	78	.001	35					
17	79	.001	35					
18	80	.002	70					
19	81	.001	35					
20	DXR 5882	.001	35					
21								
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23								
24								

Lab16 R. Pezzaco

Chief Chemist: [signature]

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

EXPLORATION 5600 - 503

SH-94-3

DATE: Dec 1/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5883	.002	70					
2	84	.001	35					
3	85	.001	35					
4	86	.001	35					
5	87	.001	35					
6	88	.001	35					
7	89	.001	35					
8	90	.001	35					
9	91	.001	35					
10	DXR 8892	.001	35					
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Lab16 R. Pressacco

Chief Chemist: [signature]

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600 - 503

SH-94-3

DATE: Dec 1/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5893	.001	35					
2	94	.001	35					
3	95	.001	35					
4	96	.001	35					
5	97	.001	35					
6	98	<.001	<35					
7	99	<.001	<35					
8	5900	.001	35					
9	01	.001	35					
10	02	.001	35					
11	03	.001	35					
12	04	<.001	<35					
13	DXR 5905	<.001	<35					
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Lab16 R. Prassaco

Chief Chemist: [signature]

ROYAL CAN ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 9000 1503

Date Assayed: 12/08/94

	SAMPLE NUMBER	COMMENT	Au Oz/Ton	Au PPB
1	DXR5907		0.001	35
2	DXR5908		0.001	31
3	DXR5909		0.001	37
4	BLANK	Blank	0.001	31
5	DXR5910		0.001	31
6	DXR5911		0.001	33
7	DXR5912		0.001	33
8	DXR5913		0.002	70
9	DXR5914		0.002	70
10	DXR5915		0.002	70
11	DXR5916		0.002	71
12	CONTROL	Control	0.104	3570
13	DXR5917		0.001	34
14	DXR5918		0.001	35
15	DXR5919		0.001	35
16	DXR5920		0.001	35
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Certified: R. PHILLIPS Chief Chemist:

Exploration Copy

[illegible] GOLD ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600 1503

Hole Number: CH-94-3
Date Assayed: 12/02/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR5921		0.002	70
2	DXR5922		0.002	70
3	DXR5923		0.001	35
4	DXR5924		0.002	70
5	DXR5925		0.001	35
6	DXR5926		0.001	35
7	DXR5927		0.001	35
8	DXR5928		0.001	35
9	BLANK	Blank	0.001	35
10	DXR5929		0.003	105
11	DXR5930		0.001	35
12	DXR5931		0.001	35
13	DXR5932		0.002	70
14	CONTROL	Control	0.099	3399
15	DXR5933		0.003	105
16	DXR5934		0.001	35
17	DXR5935		0.002	70
18				
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21				

Geologist: R. FRESCACCO Chief Chemist:

Exploration Copy

[illegible] ANALYTICAL LABORATORIES

CERTIFICATE OF ANALYSIS

Exploration 5200-1503

Hole Number: [illegible]
Date Assayed: 12/02/94

	SAMPLE NUMBER	COMMENT	Au Oz/Ton	Au PPB
1	DXR5936		0.002	70
2	DXR5937		0.004	135
3	DXR5938		0.003	105
4	DXR5939		0.004	135
5	DXR5940		0.001	35
6	DXR5941		0.002	70
7	DXR5942		0.003	105
8	BLANK	Blank	0.001	35
9	DXR5944		0.002	70
10	DXR5945		0.002	70
11	DXR5946		0.004	135
12	DXR5947		0.002	70
13	CONTROL	Control	0.102	3500
14	DXR5949		0.001	35
15	DXR5950		0.001	35
16	DXR5951		0.001	35
17	DXR5952		0.001	35
18	DXR5953		0.001	35
19	DXR5954		0.001	35

Geologist: R. [illegible] Chief Chemist: [signature]

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600 - 503

SH-94-3

DATE: Dec 1/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5953	.001	35					
2	5955	.002	~~70~~					
3	56	.002	~~70~~					
4	57	.001	35					
5	58	.001	35					
6	59	.001	35					
7	60	.001	35					
8	61	.001	35					
9	62	.001	35					
10	DXR 5963	.001	35					
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Lab16 R. Prassacco

Chief Chemist: [signature]

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

SH-94-3

DATE: Nov 30/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DXR 5964	.004	135					
2	65	.008	275					
3	66	.023	790					
4	67	.009	310					
5	68	.013	445					
6	69	.033	1130					
7	70	.011	375					
8	71	.028	960					
9	72	.015	515					
10	73	.039	1340					
11	74	.008	275					
12	75	.005	170					
13	76	.015	515					
14	77	.014	480					
15	78	.013	445					
16	DXR 5979	.006	205					
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24								

Lab16 R. Pressacco

Chief Chemist: _____

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-3
Date Assayed: 12/06/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR5980		0.003	105
2	DXR5981		0.012	410
3	DXR5982		0.012	410
4	DXR5983		0.009	310
5	DXR5984		0.010	345
6	DXR5985		0.007	240
7	DXR5986		0.011	375
8	CONTROL	Control	0.101	3460
9	DXR5987		0.001	35
10	DXR5988		0.002	70
11	DXR5989		0.001	35
12	DXR5990		0.002	70
13	DXR5991		0.002	70
14	DXR5992		0.008	275
15	DXR5993		0.006	205
16	DXR5994		0.006	205
17	BLANK	Blank	0.001	35
18	DXR5995		0.012	410
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24				

Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-3
Date Assayed: 12/05/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR5996		0.002	70
2	DXR5997		0.001	35
3	CONTROL	Control	0.105	3600
4	DXR5998		0.002	70
5	DXR5999		0.002	70
6	DXR6000		0.039	1340
7	DXR6001		0.007	240
8	DXR6002		0.004	135
9	DXR6003		0.005	170
10	DXR6004		0.004	135
11	DXR6005		0.002	70
12	DXR6006		0.001	35
13	BLANK	Blank	0.001	35
14	DXR6007		0.001	35
15	DXR6008		0.001	35
16	DXR6009		0.034	1170
17	DXR6010		0.001	35
18	DXR6011		0.001	35
19	DXR6012		0.001	35
20				
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23				
24				

Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-3
Date Assayed: 12/05/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6013		0.001	35
2	DXR6014		0.001	35
3	DXR6015		0.001	35
4	DXR6016		0.007	240
5	CONTROL	Control	0.100	3430
6	DXR6017		0.001	35
7	DXR6018		0.001	35
8	DXR6019		0.001	35
9	DXR6020		0.001	35
10	DXR6021		0.001	35
11	DXR6022		0.001	35
12	DXR6023		0.001	35
13	DXR6024		0.001	35
14	DXR6025		0.003	105
15	BLANK	Blank	0.001	35
16	DXR6026		0.001	35
17	DXR6027		0.001	35
18	DXR6028		0.001	35
19				
20				
21				
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23				
24				

Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-150?

Hole Number: CH 94 3
Date Assayed: 12/02/94

	SAMPLE NUMBER	COMMENT	Au Oz/Ton	Au-PPB
1	DXR6029		0.001	35
2	DXR6030		0.001	35
3	DXR6031		0.001	35
4	DXR6032		0.001	35
5	DXR6033		0.001	35
6	DXR6034		0.001	35
7	BLANK	Blank	0.001	35
8	DXR6035		0.001	35
9	CONTROL	Control	0.105	3600
10	DXR6036		0.001	35
11	DXR6037		0.001	35
12	DXR6038		0.001	35
13	DXR6039		0.001	35
14	DXR6040		0.001	35
15	DXR6041		0.001	35
16				
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23				
24				

Geologist: R. PRESCOTT Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5000 1993

Hole Number: SH 94 3
Date Assayed: 12/02/94

	SAMPLE NUMBER	COMMENT	Au Oz/Ton	Au PPB
1	DXR6042		0.001	35
2	DXR6043		0.007	240
3	DXR6044		0.002	70
4	DXR6045		0.004	135
5	DXR6046		0.002	70
6	DXR6047		0.001	35
7	BLANK	Blank	0.001	35
8	DXR6048		0.003	105
9	DXR6049		0.006	205
10	DXR6050		0.005	170
11	CONTROL	Control	0.090	3090
12	DXR6051		0.009	310
13	DXR6052		0.004	135
14	DXR6053		0.002	70
15	DXR6054		0.072	2470
16	DXR6055		0.002	70
17	DXR6056		0.003	105
18				
19				
20				
21				
22				
23				
24				

Geologist: R. PRESCHOOO Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-3
Date Assayed: 12/05/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6057		0.003	105
2	CONTROL	Control	0.099	3390
3	DXR6058		0.002	70
4	DXR6059		0.001	35
5	DXR6060		0.001	35
6	DXR6061		0.001	35
7	DXR6062		0.001	35
8	DXR6063		0.001	35
9	DXR6064		0.002	70
10	DXR6065		0.001	35
11	DXR6066		0.001	35
12	BLANK	Blank	0.001	35
13	DXR6067		0.001	35
14	DXR6068		0.001	35
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Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-3
Date Assayed: 12/06/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6069		0.002	70
2	DXR6070		0.003	105
3	CONTROL	Control	0.103	3530
4	DXR6071		0.001	35
5	DXR6072		0.002	70
6	DXR6073		0.002	70
7	DXR6074		0.008	275
8	BLANK	Blank	0.001	35
9	DXR6075		0.003	105
10	DXR6076		0.002	70
11	DXR6077		0.001	35
12	DXR6078		0.005	170
13	DXR6079		0.001	35
14	DXR6080		0.001	35
15	DXR6081		0.040	1370
16	DXR6082		0.007	240
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Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-3
Date Assayed: 12/05/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	CONTROL	Control	0.095	3260
2	DXR6083		0.007	240
3	DXR6084		0.003	105
4	DXR6085		0.001	35
5	DXR6086		0.001	35
6	DXR6087		0.001	35
7	DXR6088		0.001	35
8	DXR6089		0.001	35
9	DXR6090		0.001	35
10	DXR6091		0.001	35
11	BLANK	Blank	0.001	35
12	DXR6092		0.001	35
13	DXR6093		0.001	35
14	DXR6094		0.001	35
15	DXR6095		0.001	35
16	DXR6096		0.002	70
17	DXR6097		0.002	70
18	DXR6098		0.002	70
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Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-3
Date Assayed: 12/05/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6099		0.003	105
2	DXR6100		0.005	170
3	DXR6101		0.004	135
4	DXR6102		0.001	35
5	BLANK	Blank	0.001	35
6	DXR6103		0.003	105
7	DXR6104		0.004	135
8	DXR6105		0.002	70
9	CONTROL	Control	0.101	3460
10	DXR6106		0.002	70
11	DXR6107		0.001	35
12	DXR6108		0.001	35
13	DXR6109		0.002	70
14	DXR6110		0.002	70
15	DXR6111		0.004	135
16	DXR6112		0.002	70
17	DXR6113		0.001	35
18	DXR6114		0.005	170
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Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

SH-94-3

DATE: Dec 2/94

	SAMPLE NUMBER	Au oz/ton	Au ppb					
1	DxR 6116	.002	70					
2	17	.002	70					
3	18	.001	35					
4	19	.001	35					
5	20	.002	70					
6	21	.002	70					
7	22	.001	35					
8	23	.004	135					
9	24	.001	35					
10	6126	.002	70					
11	27	.001	35					
12	28	.001	35					
13	29	.008	275					
14	30	.006	205					
15	31	.001	35					
16	32	.003	105					
17	6134	.014	480					
18	35	.003	105					
19	36	.001	35					
20	37	.002	70					
21	DxR 6139	.001	35					
22								
23								
24								

Lab16 R. Prassacco

Chief Chemist: _____

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-3
Date Assayed: 12/06/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6141		0.001	35
2	BLANK	Blank	0.001	35
3	DXR6142		0.002	70
4	DXR6143		0.002	70
5	DXR6144		0.001	35
6	DXR6145		0.001	35
7	DXR6146		0.001	35
8	DXR6147		0.001	35
9	CONTROL	Control	0.102	3500
10	DXR6148		0.001	35
11	DXR6149		0.001	35
12	DXR6150		0.001	35
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Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-4
Date Assayed: 12/13/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6151		0.002	70
2	BLANK		0.001	35
3	DXR6152		0.001	35
4	DXR6153		0.004	135
5	DXR6154		0.001	35
6	DXR6155		0.001	35
7	DXR6156		0.001	35
8	DXR6157		0.004	135
9	DXR6158		0.002	70
10	DXR6159		0.001	35
11	DXR6160		0.002	70
12	CONTROL		0.105	3600
13	DXR6161		0.001	35
14	DXR6162		0.001	35
15	DXR6163		0.001	35
16	DXR6164		0.001	35
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SH94-3 ↑ / ↓ SH94-9

Geologist: R.PRESSACCO

Chief Chemist:

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ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-4
Date Assayed: 12/13/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6151		0.002	70
2	BLANK		0.001	35
3	DXR6152		0.001	35
4	DXR6153		0.004	135
5	DXR6154		0.001	35
6	DXR6155		0.001	35
7	DXR6156		0.001	35
8	DXR6157		0.004	135
9	DXR6158		0.002	70
10	DXR6159		0.001	35
11	DXR6160		0.002	70
12	CONTROL		0.105	3600
13	DXR6161		0.001	35
14	DXR6162		0.001	35
15	DXR6163		0.001	35
16	DXR6164		0.001	35
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SH94-3 ↑ / ↓ SH94-4

Geologist: R.PRESSACCO

Chief Chemist:

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ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-4
Date Assayed: 12/13/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	BLANK	Blank	0.001	35
2	DXR6165		0.001	35
3	DXR6166		0.001	35
4	DXR6167		0.001	35
5	DXR6168		0.001	35
6	DXR6169		0.009	310
7	DXR6170		0.003	105
8	DXR6171		0.001	35
9	DXR6172		0.001	35
10	DXR6173		0.003	105
11	DXR6174		0.001	35
12	DXR6175		0.001	35
13	DXR6176		0.002	70
14	DXR6177		0.001	35
15	DXR6178		0.001	35
16	MA-3	Control	0.230	7890
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Geologist: R.PRESSACCO

Chief Chemist:

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ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-4
Date Assayed: 12/15/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	CONTROL	Control	0.102	3500
2	DXR6179		0.001	35
3	DXR6180		0.002	70
4	DXR6181		0.002	70
5	DXR6182		0.001	35
6	DXR6183		0.001	35
7	BLANK	Blank	0.001	35
8	DXR6184		0.001	35
9	DXR6185		0.001	35
10	DXR6186		0.001	35
11	DXR6187		0.001	35
12	DXR6188		0.001	35
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Geologist: R.PRESSACCO

Chief Chemist:

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ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-4
Date Assayed: 12/14/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6189		0.004	135
2	DXR6190		0.001	35
3	DXR6191		0.005	170
4	DXR6192		0.001	35
5	BLANK	Blank	0.001	35
6	DXR6193		0.001	35
7	DXR6194		0.001	35
8	DXR6195		0.001	35
9	CONTROL	Control	0.101	3460
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Geologist: R. PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration SH-94-4

Hole Number: 5600\1503
Date Assayed: 12/20/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	BLANK	Blank	0.001	35
2	DXR6196		0.001	35
3	DXR6197		0.001	35
4	DXR6198		0.001	35
5	DXR6199		0.001	35
6	CONTROL	Control	0.103	3530
7	DXR6200		0.001	35
8	DXR6201		0.001	35
9	DXR6202		0.001	35
10	DXR6203		0.001	35
11	DXR6204		0.001	35
12	DXR6205		0.001	35
13	DXR6206		0.001	35
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Geologist: R. PRESSACCO Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-43
Date Assayed: 12/21/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	CONTROL	Control	0.103	3530
2	DXR6207		0.004	135
3	DXR6208		0.001	35
4	DXR6210		0.001	35
5	DXR6211		0.001	35
6	DXR6213		0.001	35
7	DXR6214		0.004	135
8	DXR6215		0.001	35
9	BLANK	Blank	0.001	35
10	DXR6216		0.001	35
11	DXR6217		0.001	35
12	DXR6218		0.001	35
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Geologist: R.PRESSACCO

Chief Chemist:

Exploration Copy

ROYAL OAK ANALYTICAL LABORATORY

CERTIFICATE OF ANALYSIS

Exploration 5600-1503

Hole Number: SH-94-4
Date Assayed: 12/21/94

	SAMPLE NUMBER	COMMENT	Au-Oz/Ton	Au-PPB
1	DXR6219		0.001	35
2	DXR6220		0.001	35
3	DXR6221		0.001	35
4	DXR6222		0.001	35
5	DXR6223		0.001	35
6	DXR6224		0.001	35
7	DXR6225		0.001	35
8	CONTROL	Control	0.106	3630
9	DXR6226		0.001	35
10	DXR6227		0.001	35
11	DXR6228		0.001	35
12	BLANK	Blank	0.001	35
13	DXR6229		0.006	205
14	DXR6230		0.001	35
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Geologist: R.PRESSACCO

Chief Chemist: M. Pelletier

Exploration Copy

Laurentian University
Ramsey Lake Road, Sudbury, Ontario, Canada P3E 2C6
TEL (705) 675-1151, ext. 2283
FAX (705) 673-6508

Université Laurentienne
Chemin du lac Ramsey, Sudbury (Ontario) Canada P3E 2C6
TEL (705) 675-1151, poste 2283
Télécopieur (705) 673-6508

February 2nd, 1995

Dr. Reno Pressacco
Project Geologist
Eastern Canada Exploration
Royal Oak Mines Inc.
Timmins Division
P.O. Bag 2010
Timmins, Ontario
P4N 7X7

Dear Dr. Pressacco:

After XRD studies,:

(A) the light emerald green coloured mineral in sample DXR-5954 is a mixture of quartz and muscovite;

(B) the brown fibrous mineral in sample DXR-6133 is celestite; SH94-3, 2349 ft

(C) the dark grey to black metalic mineral in sample DXR-13353 is a mixture of hematite and maghemite;

(D) the soft blue-grey material in sample DXR-6125 is vanadian muscovite (JCPDS 19-814). SH94-3, 2318 ft

With my best regards.

Yours truly,

John Huang

XRAL Laboratories
A Division of SGS Canada Inc.

1885 Leslie Street
Don Mills, Ont.
Canada M3B 3J4
Telephone (416) 445-5755
Fax (416) 445-4152

CERTIFICATE OF ANALYSIS

REPORT 31143

TO: ROYAL OAK MINES INC.
ATTN: R. PRESSACCO
P.O. BAG 2010
TIMMINS, ONTARIO
P4N 7X7

CUSTOMER No. 2226

DATE SUBMITTED
19-Jan-95

WORKORDER 2507-T3

TOTAL PAGES 2

5 WHOLE CORES

	METHOD	DETECTION LIMIT	METHOD CODE
WRMAJ %	XRF-F	.01	100-1
WRMIN PPM	XRF-F	10.	100-1

*** UNLESS INSTRUCTED OTHERWISE WE WILL DISCARD PULPS IN 90 DAYS ***
AND REJECTS IN 30 DAYS FROM THE DATE OF THIS REPORT

DATE 07-FEB-95

CERTIFIED BY

Jean H. Opdebeeck, General Manager

XRAL

XRF - WHOLE ROCK ANALYSIS 07-FEB-95 REPORT 31143 WORKORDER 2507

SAMPLE \ %	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	CR2O3	LOI	SUM
DXR 5906	53.9	14.5	5.50	5.08	4.11	.05	10.6	.22	1.04	.10	<.01	5.00	100.2
DXR 6115	40.0	6.37	4.15	24.4	.09	<.01	11.6	.14	.322	.02	.33	12.9	100.4
DXR 6138	40.6	2.09	6.67	27.1	.10	<.01	7.76	.09	.121	<.01	.21	15.7	100.5
DXR 6209	41.4	8.99	8.76	20.1	.60	.09	12.1	.22	.496	.05	.26	6.95	100.2
DXR 6212	42.6	7.79	6.77	23.3	.20	.04	11.6	.24	.411	.03	.28	6.20	99.5
D DXR 5906	53.9	14.4	5.51	5.10	4.14	.04	10.7	.22	1.03	.10	<.01	5.15	100.3

D - QUALITY CONTROL DUPLICATE

*** XRF W.R.A. SUMS INCLUDE ALL ELEMENTS DETERMINED. FOR SUMMATION, ELEMENTS ARE CALCULATED AS OXIDES ***

XRAL XRF - WHOLE ROCK ANALYSIS 07-FEB-95 REPORT 31143 WORKORDER 2507

SAMPLE \ PPM	RB	SR	Y	ZR	NB	BA
DXR 5906	<10	407	21	78	<10	57
DXR 6115	11	213	<10	25	<10	74
DXR 6138	20	224	<10	17	<10	117
DXR 6209	<10	126	<10	37	<10	1360
DXR 6212	<10	47	<10	30	<10	<50
D DXR 5906	<10	399	20	75	<10	<50

D - QUALITY CONTROL DUPLICATE

XRAL Laboratories
A Division of SGS Canada Inc.

1885 Leslie Street
Don Mills, Ont.
Canada M3B 3J4
Telephone (416) 445-5755
Fax (416) 445-4152

CERTIFICATE OF ANALYSIS
REPORT 31237

TO: ROYAL OAK MINES INC.
ATTN: R. PRESSACCO
P.O. BAG 2010
TIMMINS, ONTARIO
P4N 7X7

CUSTOMER No. 2226

DATE SUBMITTED
23-Jan-95

WORKORDER 2525-FL

TOTAL PAGES 12

107 PULPS

	METHOD	DETECTION LIMIT	METHOD CODE		METHOD	DETECTION LIMIT	METHOD CODE
BE PPM	ICP	.5	80-1	ZN PPM	ICP	.5	80-1
NA %	ICP	.01	80-1	AS PPM	ICP	3.	80-1
MG %	ICP	.01	80-1	SR PPM	ICP	.5	80-1
AL %	ICP	.01	80-1	Y PPM	ICP	.1	80-1
P %	ICP	.01	80-1	ZR PPM	ICP	.5	80-1
K %	ICP	.01	80-1	MO PPM	ICP	1.	80-1
CA %	ICP	.01	80-1	AG PPM	ICP	.1	80-1
SC PPM	ICP	.5	80-1	CD PPM	ICP	1.	80-1
TI %	ICP	.01	80-1	SN PPM	ICP	10.	80-1
V PPM	ICP	2.	80-1	SB PPM	ICP	5.	80-1
CR PPM	ICP	1.	80-1	BA PPM	ICP	1.	80-1
MN PPM	ICP	2.	80-1	LA PPM	ICP	.5	80-1
FE %	ICP	.01	80-1	W PPM	ICP	10.	80-1
CO PPM	ICP	1.	80-1	PB PPM	ICP	2.	80-1
NI PPM	ICP	1.	80-1	BI PPM	ICP	3.	80-1
CU PPM	ICP	.5	80-1				

*** UNLESS INSTRUCTED OTHERWISE WE WILL DISCARD PULPS IN 90 DAYS ***
AND REJECTS IN 30 DAYS FROM THE DATE OF THIS REPORT

DATE 08-FEB-95

CERTIFIED BY

Jean H. Opdebeeck, General Manager

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	BE PPM ICP 80-1	NA % ICP 80-1	MG % ICP 80-1	AL % ICP 80-1	P % ICP 80-1	K % ICP 80-1	CA % ICP 80-1	SC PPM ICP 80-1
DXR 5893	1.0	1.15	2.29	6.36	.03	1.67	2.73	40.7
DXR 5895	1.0	2.29	2.95	5.98	.04	.12	5.90	41.7
DXR 5898	1.9	3.79	1.59	6.66	.20	.17	6.80	10.8
DXR 5901	<.5	2.50	3.21	6.71	.04	.13	5.04	42.9
DXR 5903	<.5	2.23	2.94	6.53	.04	.08	5.36	42.9
DXR 5905	<.5	1.95	3.13	6.57	.04	.08	4.53	44.4
DXR 5908	<.5	1.93	3.20	6.71	.04	.11	4.08	44.2
DXR 5911	<.5	2.45	2.88	6.60	.04	.06	6.25	43.3
DXR 5914	<.5	2.34	3.41	6.77	.04	.07	3.58	45.3
DXR 5917	<.5	2.28	3.38	6.62	.04	.03	5.37	44.8
DXR 5920	.7	3.09	1.33	5.36	.03	.23	10.7	38.7
DXR 5923	.5	.79	2.61	5.37	.03	1.42	6.56	34.7
DXR 5926	.8	1.29	2.19	6.48	.04	1.94	5.18	44.0
DXR 5929	<.5	2.47	2.49	3.95	.02	.10	6.63	32.5
DXR 5931	.7	1.47	1.95	5.38	.03	1.53	5.50	38.8
DXR 5934	1.1	.12	2.12	5.26	.03	2.37	5.79	35.6
DXR 5937	2.5	.16	1.51	7.26	.03	3.19	3.54	45.1
DXR 5938	3.1	.17	1.65	7.97	.14	3.47	4.22	26.4
DXR 5939	2.6	.15	1.97	6.43	.03	2.83	5.12	39.7
DXR 5942	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
DXR 5945	2.8	.15	2.29	6.82	.05	3.10	5.51	36.9
DXR 5948	2.7	.11	2.07	6.51	.06	2.96	4.67	5.6
DXR 5951	2.8	.09	1.57	5.84	.04	2.68	5.45	3.7
DXR 5955	4.9	.10	2.86	6.33	.15	2.98	6.00	15.8
DXR 5958	5.2	.06	2.65	5.51	.11	2.69	5.44	15.1
DXR 5961	4.3	1.28	1.32	7.72	.12	2.99	2.75	11.4
DXR 5964	3.5	3.34	1.85	6.75	.17	1.88	2.85	12.1
DXR 5966	2.7	2.86	1.34	6.37	.12	2.31	2.72	8.5
DXR 5968	2.9	2.39	1.99	6.54	.17	2.73	3.62	11.5
DXR 5969	2.7	2.75	1.77	6.62	.18	2.99	3.02	12.1
DXR 5970	3.0	2.49	1.86	6.96	.14	3.08	3.14	12.5
DXR 5971	2.8	2.47	2.53	6.52	.17	2.68	4.93	12.7
DXR 5972	4.5	2.22	1.89	6.44	.17	2.74	3.78	11.4
DXR 5973	3.2	2.39	1.30	7.06	.12	3.94	2.47	7.2
DXR 5975	4.4	2.64	1.11	7.25	.11	4.24	2.44	6.5
DXR 5977	4.7	1.73	2.70	6.20	.20	3.12	4.47	11.4
DXR 5979	4.9	1.17	1.94	6.10	.19	3.35	4.81	11.6
DXR 5981	2.9	2.42	1.14	6.93	.09	3.49	3.19	6.7
DXR 5983	3.7	2.46	1.57	7.17	.11	3.28	4.82	7.8
DXR 5985	5.2	1.92	2.83	6.84	.21	2.86	4.64	12.2

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	BE PPM ICP 80-1	NA % ICP 80-1	MG % ICP 80-1	AL % ICP 80-1	P % ICP 80-1	K % ICP 80-1	CA % ICP 80-1	SC PPM ICP 80-1
DXR 5987	4.4	2.20	2.69	6.59	.21	2.56	4.22	11.4
DXR 5989	4.7	2.79	1.74	7.19	.14	3.06	2.43	7.0
DXR 5990	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
DXR 5993	3.9	2.96	1.36	7.01	.14	2.75	2.29	6.4
DXR 5995	2.6	2.50	1.33	6.66	.11	3.25	2.81	6.6
DXR 5997	2.4	2.49	1.77	7.16	.11	3.54	2.71	10.5
DXR 5999	1.5	1.42	2.48	4.71	.04	.79	10.0	24.3
DXR 6001	2.8	3.45	1.10	7.26	.11	2.50	2.25	5.5
DXR 6003	2.9	3.19	1.36	6.76	.10	2.81	2.90	5.0
DXR 6005	2.7	4.04	1.21	7.27	.11	1.86	3.14	5.5
DXR 6007	2.8	1.88	3.04	6.36	.19	2.63	4.82	9.1
DXR 6009	3.7	2.21	2.83	6.50	.19	2.62	5.26	9.8
DXR 6012	3.3	1.48	1.84	6.44	.18	4.50	3.66	8.4
DXR 6015	4.1	2.59	2.38	6.59	.19	2.52	4.28	8.5
DXR 6018	2.5	2.89	2.13	6.17	.08	1.68	4.01	6.3
DXR 6021	2.9	2.77	2.04	7.06	.13	2.72	2.62	10.0
DXR 6024	3.5	2.92	2.02	6.82	.20	2.58	3.49	7.7
DXR 6027	3.1	3.28	2.07	6.97	.16	2.48	2.96	7.9
DXR 6030	3.1	2.98	2.06	6.94	.16	2.46	3.78	8.5
DXR 6033	3.0	2.40	2.07	6.76	.15	3.14	3.23	6.2
DXR 6036	2.7	3.05	2.10	6.98	.15	2.56	3.59	8.7
DXR 6039	3.4	2.61	1.97	6.80	.15	2.40	4.26	9.2
DXR 6042	3.1	2.81	1.71	6.79	.13	2.59	3.14	7.6
DXR 6043	3.6	2.81	1.74	7.15	.12	2.64	3.14	8.1
DXR 6044	4.2	2.58	1.67	6.90	.15	2.50	3.62	7.8
DXR 6047	3.9	2.30	1.51	7.30	.20	3.32	3.92	9.0
DXR 6048	5.5	1.85	1.65	6.98	.22	2.84	3.74	8.8
DXR 6049	3.1	2.75	1.69	6.76	.14	2.03	4.42	8.7
DXR 6050	3.9	2.02	1.54	7.40	.14	3.45	4.16	8.6
DXR 6051	3.6	1.94	1.66	7.37	.16	3.87	3.84	9.2
DXR 6052	3.6	1.96	1.59	7.26	.18	3.50	3.70	8.8
DXR 6053	3.6	1.82	1.90	6.26	.19	3.41	3.86	7.8
DXR 6054	3.4	1.90	1.66	6.71	.17	3.79	3.53	8.4
DXR 6057	5.7	2.40	1.95	6.89	.15	2.45	4.34	8.4
DXR 6060	2.8	2.78	1.43	6.66	.13	2.68	2.93	6.8
DXR 6063	4.0	2.76	1.52	6.49	.12	2.53	3.34	7.0
DXR 6066	3.7	1.82	2.45	7.01	.16	2.56	3.71	8.8
DXR 6069	6.9	1.25	1.77	6.80	.14	3.09	3.54	8.4
DXR 6072	5.4	1.71	1.92	7.47	.17	2.95	3.65	9.2
DXR 6074	5.3	.87	1.27	4.77	.11	2.14	7.07	6.5

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	BE PPM ICP 80-1	NA % ICP 80-1	MG % ICP 80-1	AL % ICP 80-1	P % ICP 80-1	K % ICP 80-1	CA % ICP 80-1	SC PPM ICP 80-1
DXR 6077	7.9	1.10	1.52	6.54	.13	2.95	4.22	10.0
DXR 6080	4.6	2.17	1.50	7.26	.13	2.79	2.91	7.7
DXR 6081	4.5	2.31	1.61	7.04	.12	2.59	2.50	8.0
DXR 6082	4.3	2.43	1.88	7.01	.13	2.72	3.32	9.0
DXR 6083	3.1	2.13	2.09	5.78	.14	2.28	4.42	7.9
DXR 6086	6.1	1.23	1.84	6.79	.16	3.25	3.39	8.4
DXR 6089	3.2	2.76	1.56	6.64	.14	2.80	3.45	8.3
DXR 6092	4.4	2.03	1.67	6.51	.18	2.83	3.55	7.9
DXR 6095	4.5	1.96	1.77	6.29	.14	2.60	3.56	8.5
DXR 6098	3.1	2.91	1.63	6.72	.14	2.51	3.55	7.6
DXR 6101	3.0	2.41	1.91	5.72	.13	2.25	4.17	6.0
DXR 6104	3.9	2.86	1.41	7.13	.10	2.84	2.68	7.5
DXR 6106	3.8	2.61	2.05	6.18	.12	2.02	4.32	8.1
DXR 6107	2.5	3.99	1.11	7.20	.07	1.22	1.91	4.4
DXR 6108	3.6	1.28	5.34	4.85	.05	1.28	6.10	17.9
DXR 6110	1.9	4.08	1.15	7.76	.08	1.74	1.26	5.2
DXR 6112	1.9	4.78	1.23	7.53	.08	.50	1.30	4.6
DXR 6114	.8	.10	12.8	3.01	.01	.09	4.02	20.7
DXR 6116	1.0	.06	12.9	3.02	.01	.07	4.22	20.1
DXR 6117	8.4	3.14	3.81	6.19	.17	1.11	3.98	15.9
DXR 6120	5.3	3.51	1.30	6.10	.09	1.08	1.87	4.6
DXR 6123	2.4	2.99	1.06	7.07	.08	1.95	1.73	4.5
DXR 6126	2.3	3.01	1.19	7.43	.09	1.98	1.78	5.6
DXR 6129	2.4	2.99	1.12	7.32	.09	2.10	1.61	5.1
DXR 6131	1.5	4.22	1.14	7.11	.09	.93	1.88	4.9
DXR 6134	1.4	4.20	1.46	6.70	.08	.90	1.76	5.5
DXR 6137	.6	.17	11.8	3.06	.04	.36	4.78	19.9
DXR 6139	<.5	.05	13.7	2.43	.01	.02	4.57	16.7
DXR 5991	5.2	2.34	1.60	6.47	.18	2.18	3.08	6.5
D DXR 5893	1.0	1.13	2.35	6.49	.04	1.67	2.97	41.3
D DXR 5926	.8	1.31	2.33	6.86	.04	2.00	5.77	46.6
D DXR 5958	5.8	.06	2.92	6.07	.12	2.70	6.28	16.7
D DXR 5979	5.4	1.22	2.06	6.46	.21	3.56	5.26	12.2
D DXR 5999	1.6	1.46	2.62	5.14	.05	.83	11.0	26.6
D DXR 6030	3.2	2.96	2.08	7.05	.16	2.51	3.94	9.0
D DXR 6052	3.6	1.95	1.60	7.21	.19	4.00	3.78	9.0
D DXR 6081	4.9	2.45	1.75	7.63	.13	2.43	2.73	8.7
D DXR 6106	3.9	2.85	2.18	6.56	.13	2.20	4.54	8.6
D DXR 6131	1.6	4.41	1.16	6.72	.09	.98	1.88	5.2

D - QUALITY CONTROL DUPLICATE

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	TI % ICP 80-1	V PPM ICP 80-1	CR PPM ICP 80-1	MN PPM ICP 80-1	FE % ICP 80-1	CO PPM ICP 80-1	NI PPM ICP 80-1	CU PPM ICP 80-1
DXR 5893	.53	296	385	903	8.59	54	53	75.1
DXR 5895	.38	287	119	1450	7.63	58	53	163
DXR 5898	.37	141	133	1110	4.80	21	25	44.4
DXR 5901	.62	309	152	1620	7.72	35	53	179
DXR 5903	.60	308	109	1810	7.30	40	51	78.4
DXR 5905	.61	322	132	1760	9.21	74	62	197
DXR 5908	.61	329	222	1810	9.05	50	56	173
DXR 5911	.57	301	64	1740	6.86	48	53	172
DXR 5914	.35	338	293	1890	9.22	53	63	173
DXR 5917	.20	303	128	1950	8.90	45	51	117
DXR 5920	.21	270	115	1630	5.78	36	52	78.7
DXR 5923	.27	266	494	2040	9.07	64	57	39.5
DXR 5926	.35	314	126	1710	6.67	26	53	232
DXR 5929	.17	177	186	2070	10.9	81	60	33.0
DXR 5931	.31	292	282	1630	8.10	56	55	102
DXR 5934	.15	266	504	2010	7.59	48	51	146
DXR 5937	.14	327	420	1100	6.57	66	72	194
DXR 5938	.17	241	262	989	6.36	48	51	56.5
DXR 5939	.15	280	168	1000	5.51	52	51	116
DXR 5942	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
DXR 5945	.18	243	255	1020	7.04	58	103	232
DXR 5948	.08	107	114	587	2.45	8	26	10.9
DXR 5951	.07	90	254	712	2.31	12	30	25.5
DXR 5955	.15	138	396	789	4.12	36	203	56.3
DXR 5958	.14	136	573	895	3.76	38	208	62.0
DXR 5961	.27	139	147	497	4.20	19	27	47.8
DXR 5964	.15	138	224	791	4.45	23	49	27.0
DXR 5966	.10	130	236	733	3.64	25	40	32.2
DXR 5968	.15	129	309	931	4.28	24	49	28.9
DXR 5969	.13	131	308	761	4.51	26	46	36.9
DXR 5970	.14	116	284	848	4.83	25	54	37.2
DXR 5971	.10	112	283	1140	5.21	30	55	29.2
DXR 5972	.15	133	316	918	4.91	25	53	45.8
DXR 5973	.10	95	224	642	3.19	19	31	27.5
DXR 5975	.11	73	182	486	2.49	12	26	11.9
DXR 5977	.16	129	320	1070	4.36	26	75	65.7
DXR 5979	.13	122	457	930	4.24	22	73	64.6
DXR 5981	.09	75	260	670	2.71	13	25	43.0
DXR 5983	.11	98	241	958	2.81	12	25	32.7
DXR 5985	.32	134	400	1040	4.48	26	80	44.6

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	TI % ICP 80-1	V PPM ICP 80-1	CR PPM ICP 80-1	MN PPM ICP 80-1	FE % ICP 80-1	CO PPM ICP 80-1	NI PPM ICP 80-1	CU PPM ICP 80-1
DXR 5987	.32	128	362	1000	4.18	24	71	29.5
DXR 5989	.20	107	345	741	3.07	16	39	48.3
DXR 5990	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
DXR 5993	.16	95	546	640	3.10	22	57	36.5
DXR 5995	.16	84	326	627	2.85	16	40	46.1
DXR 5997	.28	133	365	896	4.23	25	52	53.8
DXR 5999	.48	225	204	2040	6.80	32	43	146
DXR 6001	.19	80	246	625	3.00	13	29	19.4
DXR 6003	.15	82	250	666	2.90	19	48	25.3
DXR 6005	.19	84	336	600	2.98	18	31	21.5
DXR 6007	.26	108	274	927	3.99	26	146	103
DXR 6009	.26	107	281	901	3.73	24	125	31.7
DXR 6012	.22	97	301	816	3.39	20	69	21.9
DXR 6015	.25	113	331	904	3.64	20	55	19.1
DXR 6018	.16	80	247	815	3.22	24	102	57.4
DXR 6021	.26	108	292	814	3.85	18	47	15.2
DXR 6024	.22	100	280	811	3.23	18	52	9.5
DXR 6027	.23	86	292	876	3.26	16	53	4.6
DXR 6030	.23	103	391	902	3.48	19	53	16.0
DXR 6033	.17	87	325	832	2.94	19	46	28.1
DXR 6036	.24	97	315	842	3.60	22	56	38.6
DXR 6039	.22	89	202	805	3.32	17	48	6.2
DXR 6042	.22	91	273	729	3.09	17	55	28.3
DXR 6043	.22	90	235	772	3.20	16	51	28.3
DXR 6044	.17	87	242	809	3.27	18	52	25.4
DXR 6047	.16	124	399	867	3.88	19	40	15.7
DXR 6048	.14	123	337	773	3.33	17	51	24.8
DXR 6049	.11	89	223	869	3.54	22	63	44.7
DXR 6050	.17	121	174	793	3.63	17	37	22.6
DXR 6051	.18	119	232	769	4.02	21	38	40.3
DXR 6052	.16	113	182	771	3.54	15	29	23.9
DXR 6053	.13	104	204	949	3.44	16	32	31.0
DXR 6054	.14	111	234	852	3.50	17	35	28.0
DXR 6057	.11	87	165	943	3.49	19	47	27.5
DXR 6060	.10	75	199	798	2.75	15	36	9.4
DXR 6063	.09	74	141	709	2.78	13	38	9.9
DXR 6066	.13	92	257	724	3.81	21	86	69.8
DXR 6069	.15	105	190	773	3.04	19	50	19.1
DXR 6072	.15	87	264	694	3.49	19	53	27.4
DXR 6074	.10	116	321	1010	2.43	19	49	22.6

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	TI % ICP 80-1	V PPM ICP 80-1	CR PPM ICP 80-1	MN PPM ICP 80-1	FE % ICP 80-1	CO PPM ICP 80-1	NI PPM ICP 80-1	CU PPM ICP 80-1
DXR 6077	.15	207	289	711	4.01	57	72	18.3
DXR 6080	.15	93	191	713	2.81	18	42	24.2
DXR 6081	.15	87	170	770	2.90	17	46	9.3
DXR 6082	.13	103	235	962	3.11	21	52	10.9
DXR 6083	.07	95	382	1580	3.91	24	55	18.8
DXR 6086	.15	97	248	851	2.92	16	53	38.8
DXR 6089	.11	96	309	857	3.10	21	59	16.5
DXR 6092	.10	93	220	845	2.85	19	58	26.2
DXR 6095	.12	94	229	975	3.15	20	65	57.2
DXR 6098	.08	78	216	825	2.78	20	48	56.8
DXR 6101	.07	73	165	862	2.60	22	43	23.2
DXR 6104	.11	98	222	676	2.89	19	45	21.5
DXR 6106	.10	86	316	776	2.82	18	57	36.1
DXR 6107	.11	66	200	456	2.19	12	40	8.1
DXR 6108	.12	137	819	982	4.77	47	511	7.5
DXR 6110	.11	63	264	380	2.32	14	42	36.8
DXR 6112	.12	68	223	306	2.16	14	47	23.6
DXR 6114	.07	143	1080	1160	6.70	84	1130	42.0
DXR 6116	.04	125	1030	1240	6.54	81	1050	44.5
DXR 6117	.32	166	317	925	5.43	40	122	97.8
DXR 6120	.12	75	217	413	2.19	15	42	85.2
DXR 6123	.16	61	149	371	2.06	12	29	12.2
DXR 6126	.15	62	130	361	2.17	13	48	8.6
DXR 6129	.17	62	114	332	2.28	13	31	10.9
DXR 6131	.10	68	209	385	2.26	15	41	26.6
DXR 6134	.11	71	245	389	2.42	16	64	10.4
DXR 6137	.09	122	854	1120	6.40	83	986	37.1
DXR 6139	.04	103	904	806	6.32	84	1390	36.4
DXR 5991	.17	128	335	726	3.66	23	43	37.6
D DXR 5893	.57	315	320	963	9.25	57	58	76.6
D DXR 5926	.28	342	102	1900	7.45	29	58	243
D DXR 5958	.14	151	510	1020	4.33	47	241	61.0
D DXR 5979	.13	130	350	1000	4.61	25	78	66.0
D DXR 5999	.52	244	216	2220	7.38	35	46	154
D DXR 6030	.24	104	349	933	3.58	19	55	15.9
D DXR 6052	.15	115	214	787	3.59	16	33	24.2
D DXR 6081	.15	96	193	866	3.21	20	52	10.7
D DXR 6106	.11	91	245	811	2.96	19	59	37.7
D DXR 6131	.11	68	197	391	2.23	16	40	25.3

D - QUALITY CONTROL DUPLICATE

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	ZN PPM ICP 80-1	AS PPM ICP 80-1	SR PPM ICP 80-1	Y PPM ICP 80-1	ZR PPM ICP 80-1	MO PPM ICP 80-1	AG PPM ICP 80-1	CD PPM ICP 80-1
DXR 5893	79.5	11	117	19.7	51.9	2	1.0	<1
DXR 5895	78.0	19	241	17.5	42.8	<1	.8	<1
DXR 5898	51.7	<3	525	24.6	168	<1	1.0	<1
DXR 5901	75.2	20	232	20.4	52.0	<1	.9	<1
DXR 5903	61.0	6	378	22.1	51.1	<1	1.0	<1
DXR 5905	65.4	16	379	22.0	54.5	<1	1.5	<1
DXR 5908	71.3	12	365	22.5	51.9	1	.6	<1
DXR 5911	56.6	<3	320	19.2	50.3	<1	1.1	<1
DXR 5914	87.9	<3	228	16.2	39.0	1	.6	<1
DXR 5917	96.2	11	270	10.0	43.4	<1	1.1	<1
DXR 5920	41.3	10	328	12.0	35.4	<1	.7	<1
DXR 5923	52.1	53	208	8.7	32.6	4	1.3	<1
DXR 5926	57.8	10	279	7.2	45.3	<1	.7	<1
DXR 5929	50.5	72	286	7.1	27.2	<1	1.2	<1
DXR 5931	38.1	32	307	6.9	36.3	2	.8	<1
DXR 5934	43.7	17	243	5.9	37.9	2	.4	<1
DXR 5937	44.4	14	163	6.2	52.8	2	.9	<1
DXR 5938	47.5	<3	208	18.7	182	2	1.0	<1
DXR 5939	40.0	<3	179	6.7	48.7	<1	.5	<1
DXR 5942	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
DXR 5945	49.4	14	207	9.6	71.3	3	.8	<1
DXR 5948	32.4	<3	198	9.4	105	<1	.6	<1
DXR 5951	36.6	<3	215	9.5	83.7	5	.5	<1
DXR 5955	43.9	<3	564	15.8	98.8	3	.5	<1
DXR 5958	46.2	6	770	15.3	103	3	1.1	<1
DXR 5961	76.1	<3	513	17.4	176	<1	1.2	<1
DXR 5964	66.8	<3	725	20.8	189	2	.9	<1
DXR 5966	40.8	<3	529	13.9	157	3	.6	<1
DXR 5968	81.9	<3	725	19.1	174	1	1.1	<1
DXR 5969	63.9	<3	709	20.8	184	2	.5	<1
DXR 5970	70.9	<3	1090	20.2	181	2	.6	<1
DXR 5971	92.0	<3	1470	20.4	161	<1	.8	<1
DXR 5972	72.6	<3	917	18.8	179	<1	1.1	<1
DXR 5973	51.5	<3	1150	14.5	221	1	1.2	<1
DXR 5975	42.0	<3	585	12.6	190	<1	.8	<1
DXR 5977	110	<3	2460	20.9	195	2	1.2	<1
DXR 5979	93.8	<3	864	21.5	175	<1	1.4	<1
DXR 5981	55.0	<3	886	14.2	223	3	1.0	<1
DXR 5983	88.0	<3	1120	15.2	225	2	1.1	<1
DXR 5985	125	<3	1440	23.6	224	<1	1.2	<1

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	ZN PPM ICP 80-1	AS PPM ICP 80-1	SR PPM ICP 80-1	Y PPM ICP 80-1	ZR PPM ICP 80-1	MO PPM ICP 80-1	AG PPM ICP 80-1	CD PPM ICP 80-1
DXR 5987	109	<3	1040	22.5	208	3	1.0	<1
DXR 5989	92.1	<3	950	14.4	221	2	1.8	<1
DXR 5990	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
DXR 5993	70.7	<3	589	16.8	205	16	.8	<1
DXR 5995	58.3	<3	555	15.5	221	2	1.1	<1
DXR 5997	75.6	7	617	17.5	199	2	.9	<1
DXR 5999	100	<3	999	18.2	69.7	6	.5	<1
DXR 6001	45.2	<3	755	13.7	157	3	.6	<1
DXR 6003	68.3	<3	590	12.7	136	6	.6	<1
DXR 6005	49.5	<3	635	14.2	160	3	.9	<1
DXR 6007	105	<3	600	19.3	211	8	1.6	<1
DXR 6009	82.3	<3	672	19.5	212	<1	1.0	<1
DXR 6012	87.5	<3	579	17.1	197	<1	1.3	<1
DXR 6015	95.6	<3	890	17.0	170	3	.9	<1
DXR 6018	65.3	<3	582	11.8	115	3	.5	<1
DXR 6021	68.3	<3	709	15.9	152	2	.9	<1
DXR 6024	62.2	<3	855	15.6	148	<1	.9	<1
DXR 6027	68.7	<3	1190	14.7	156	2	.3	<1
DXR 6030	70.4	<3	834	15.5	148	3	1.2	<1
DXR 6033	84.9	<3	844	14.4	134	7	1.1	<1
DXR 6036	87.7	<3	646	14.4	146	2	.8	<1
DXR 6039	76.6	<3	1190	15.0	153	2	.8	<1
DXR 6042	75.2	<3	1200	13.7	149	2	.8	<1
DXR 6043	79.5	<3	1210	14.1	147	2	.8	<1
DXR 6044	81.1	8	1400	13.8	143	4	.9	<1
DXR 6047	101	<3	2670	20.6	260	3	.9	<1
DXR 6048	114	<3	1220	17.1	210	<1	.6	<1
DXR 6049	108	22	1520	13.6	140	<1	.8	<1
DXR 6050	102	<3	1330	17.7	239	<1	1.9	<1
DXR 6051	97.1	<3	1860	19.5	273	1	1.0	<1
DXR 6052	91.8	<3	2820	19.3	264	<1	1.3	<1
DXR 6053	79.6	<3	3230	17.6	202	<1	.7	<1
DXR 6054	85.4	<3	1970	18.7	236	4	1.0	<1
DXR 6057	104	<3	2310	13.2	148	1	.7	<1
DXR 6060	52.9	<3	1110	12.3	137	1	1.4	<1
DXR 6063	68.8	<3	1640	11.5	125	2	.9	<1
DXR 6066	123	<3	1660	17.2	157	1	.5	<1
DXR 6069	94.0	<3	1130	13.6	141	<1	.6	<1
DXR 6072	106	<3	987	16.3	161	<1	1.5	<1
DXR 6074	83.3	<3	1080	11.6	94.3	2	1.1	<1

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	ZN PPM ICP 80-1	AS PPM ICP 80-1	SR PPM ICP 80-1	Y PPM ICP 80-1	ZR PPM ICP 80-1	MO PPM ICP 80-1	AG PPM ICP 80-1	CD PPM ICP 80-1
DXR 6077	118	<3	862	12.6	138	2	1.2	<1
DXR 6080	82.9	<3	912	13.4	137	<1	.9	<1
DXR 6081	87.0	<3	1600	13.1	144	<1	.6	<1
DXR 6082	89.8	<3	1150	13.6	151	2	1.2	<1
DXR 6083	95.6	<3	1870	15.2	120	<1	1.3	<1
DXR 6086	95.6	<3	1880	14.6	149	1	1.1	<1
DXR 6089	62.1	<3	1050	13.4	137	3	.7	<1
DXR 6092	79.2	<3	1090	13.7	115	2	.8	<1
DXR 6095	75.1	<3	1220	13.7	136	<1	1.2	<1
DXR 6098	55.4	<3	1520	13.7	141	<1	.9	<1
DXR 6101	60.0	<3	2240	11.8	106	2	1.3	<1
DXR 6104	63.5	<3	1540	13.3	145	3	<.1	<1
DXR 6106	50.2	<3	1100	13.9	121	2	1.0	<1
DXR 6107	32.4	<3	1340	6.3	109	4	.8	<1
DXR 6108	80.9	<3	782	9.1	62.6	<1	.8	<1
DXR 6110	47.7	<3	1610	7.8	128	4	.9	<1
DXR 6112	46.0	<3	1290	6.5	114	4	.7	<1
DXR 6114	54.2	<3	309	2.5	6.9	<1	.4	<1
DXR 6116	68.6	<3	660	2.4	5.8	<1	.4	<1
DXR 6117	80.4	<3	1280	17.2	154	<1	1.3	<1
DXR 6120	27.7	<3	4300	6.9	111	3	.6	<1
DXR 6123	43.4	<3	1910	6.6	114	<1	.8	<1
DXR 6126	47.5	<3	2020	7.4	127	<1	.6	<1
DXR 6129	49.8	<3	1790	7.2	123	<1	.9	<1
DXR 6131	32.8	<3	992	6.4	116	3	.7	<1
DXR 6134	33.8	<3	814	6.9	119	3	.6	<1
DXR 6137	58.9	5	829	4.3	18.1	<1	.5	<1
DXR 6139	39.3	4	182	2.8	5.1	<1	.4	<1
DXR 5991	90.1	<3	815	13.5	151	10	.8	<1
D DXR 5893	75.3	7	125	20.0	51.7	1	.8	<1
D DXR 5926	56.7	18	297	5.8	35.3	<1	.6	<1
D DXR 5958	45.1	3	854	16.7	94.2	2	.9	<1
D DXR 5979	93.5	<3	921	22.7	199	<1	1.2	<1
D DXR 5999	101	<3	1070	19.8	77.0	7	.8	<1
D DXR 6030	71.6	<3	856	16.8	158	3	1.1	<1
D DXR 6052	100	<3	2840	19.5	263	<1	1.1	<1
D DXR 6081	95.2	<3	1730	14.1	159	<1	.8	<1
D DXR 6106	45.1	<3	1160	14.5	145	<1	.8	<1
D DXR 6131	36.0	<3	977	7.2	129	1	1.0	<1

D - QUALITY CONTROL DUPLICATE

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	SN PPM ICP 80-1	SB PPM ICP 80-1	BA PPM ICP 80-1	LA PPM ICP 80-1	W PPM ICP 80-1	PB PPM ICP 80-1	BI PPM ICP 80-1
DXR 5893	<10	<5	608	7.0	<10	2	<3
DXR 5895	<10	<5	923	7.9	<10	8	<3
DXR 5898	<10	<5	305	70.9	<10	<2	<3
DXR 5901	<10	<5	145	5.8	<10	<2	<3
DXR 5903	<10	<5	119	5.9	<10	<2	<3
DXR 5905	<10	<5	136	6.0	<10	<2	<3
DXR 5908	<10	<5	295	5.7	<10	2	<3
DXR 5911	<10	<5	50	5.9	<10	<2	<3
DXR 5914	<10	<5	83	6.3	<10	8	<3
DXR 5917	<10	<5	23	4.7	<10	9	<3
DXR 5920	<10	<5	73	6.6	<10	4	<3
DXR 5923	<10	<5	200	4.8	<10	6	4
DXR 5926	<10	<5	201	4.4	<10	11	<3
DXR 5929	<10	<5	32	4.9	<10	7	<3
DXR 5931	<10	<5	144	4.9	<10	<2	<3
DXR 5934	<10	<5	211	4.4	<10	5	<3
DXR 5937	<10	<5	324	5.0	<10	2	<3
DXR 5938	<10	<5	397	51.8	<10	20	<3
DXR 5939	<10	<5	294	4.5	<10	<2	<3
DXR 5942	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
DXR 5945	<10	<5	779	14.9	13	4	<3
DXR 5948	<10	<5	1220	23.8	<10	<2	<3
DXR 5951	<10	8	2070	22.0	<10	609	<3
DXR 5955	<10	<5	1160	56.2	12	10	<3
DXR 5958	<10	7	1460	39.3	<10	7	<3
DXR 5961	<10	<5	1460	52.1	<10	<2	<3
DXR 5964	<10	<5	1660	75.6	<10	6	<3
DXR 5966	<10	6	3200	51.5	15	39	<3
DXR 5968	<10	<5	3430	71.5	12	9	<3
DXR 5969	<10	<5	3180	81.7	11	7	<3
DXR 5970	<10	<5	3590	74.8	17	5	<3
DXR 5971	<10	6	2760	70.2	20	53	<3
DXR 5972	<10	<5	2520	69.9	<10	24	<3
DXR 5973	<10	<5	3130	55.6	<10	17	<3
DXR 5975	<10	<5	1500	48.0	<10	11	<3
DXR 5977	<10	<5	2590	58.9	<10	37	<3
DXR 5979	<10	<5	1640	61.2	<10	35	<3
DXR 5981	<10	5	1900	50.1	<10	24	<3
DXR 5983	<10	<5	1940	58.6	<10	49	<3
DXR 5985	<10	<5	2630	66.3	22	19	<3

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	SN PPM ICP 80-1	SB PPM ICP 80-1	BA PPM ICP 80-1	LA PPM ICP 80-1	W PPM ICP 80-1	PB PPM ICP 80-1	BI PPM ICP 80-1
DXR 5987	<10	<5	2060	62.2	19	32	<3
DXR 5989	<10	<5	2030	53.8	<10	38	<3
DXR 5990	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
DXR 5993	<10	<5	1580	53.8	12	21	<3
DXR 5995	<10	<5	1440	51.5	<10	22	<3
DXR 5997	<10	<5	2110	50.4	12	30	<3
DXR 5999	<10	<5	1220	15.7	<10	14	<3
DXR 6001	<10	<5	1810	46.2	<10	19	<3
DXR 6003	<10	<5	1610	43.1	<10	21	<3
DXR 6005	<10	<5	955	49.8	<10	12	<3
DXR 6007	<10	5	1130	67.8	<10	106	<3
DXR 6009	<10	<5	932	67.4	<10	22	<3
DXR 6012	<10	<5	1390	52.8	14	66	<3
DXR 6015	<10	<5	1450	63.0	18	41	<3
DXR 6018	<10	<5	1120	38.3	<10	7	<3
DXR 6021	<10	<5	2200	45.9	<10	5	<3
DXR 6024	<10	<5	1650	49.4	<10	12	<3
DXR 6027	<10	8	2050	49.9	<10	8	<3
DXR 6030	<10	<5	1680	53.0	<10	17	<3
DXR 6033	<10	8	1950	101	<10	122	<3
DXR 6036	<10	5	1370	48.7	<10	43	<3
DXR 6039	<10	<5	1940	52.6	<10	9	<3
DXR 6042	<10	<5	1930	46.8	<10	22	<3
DXR 6043	<10	<5	1900	47.3	<10	75	<3
DXR 6044	<10	<5	1700	46.2	<10	47	<3
DXR 6047	<10	8	3800	73.5	<10	43	<3
DXR 6048	<10	<5	1870	59.4	14	33	<3
DXR 6049	<10	<5	2060	45.0	<10	21	<3
DXR 6050	<10	<5	2320	70.2	<10	192	3
DXR 6051	<10	6	2700	75.8	<10	28	<3
DXR 6052	<10	<5	3200	73.8	<10	31	<3
DXR 6053	<10	<5	2670	65.4	<10	38	<3
DXR 6054	<10	<5	2390	68.1	<10	50	<3
DXR 6057	<10	<5	3380	48.3	<10	30	<3
DXR 6060	<10	<5	2360	42.0	<10	11	<3
DXR 6063	<10	<5	2920	40.7	<10	16	<3
DXR 6066	<10	<5	4040	50.5	<10	50	<3
DXR 6069	<10	<5	2460	46.3	12	43	<3
DXR 6072	<10	<5	2020	53.2	10	36	<3
DXR 6074	<10	<5	2700	35.0	11	46	<3

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

XRAL

08-FEB-95 REPORT 31237 WORKORDER 2525-FL

SAMPLE	SN PPM ICP 80-1	SB PPM ICP 80-1	BA PPM ICP 80-1	LA PPM ICP 80-1	W PPM ICP 80-1	PB PPM ICP 80-1	BI PPM ICP 80-1
DXR 6077	<10	<5	1220	45.2	18	47	<3
DXR 6080	<10	<5	1550	47.1	<10	100	<3
DXR 6081	<10	7	2890	47.7	<10	13	<3
DXR 6082	<10	<5	2050	47.9	<10	17	<3
DXR 6083	<10	<5	3040	42.1	<10	42	<3
DXR 6086	<10	<5	2920	46.2	<10	81	<3
DXR 6089	<10	<5	2520	45.1	<10	43	21
DXR 6092	<10	<5	2190	45.1	<10	48	<3
DXR 6095	<10	<5	2710	43.8	<10	131	<3
DXR 6098	<10	<5	2510	43.8	<10	21	<3
DXR 6101	<10	<5	3540	36.8	<10	49	<3
DXR 6104	<10	<5	3010	47.9	11	36	<3
DXR 6106	<10	<5	2330	42.7	<10	18	<3
DXR 6107	<10	<5	2490	34.5	11	5	<3
DXR 6108	<10	5	803	16.1	<10	8	<3
DXR 6110	<10	<5	2620	42.4	<10	3	<3
DXR 6112	<10	<5	2370	36.8	<10	11	<3
DXR 6114	<10	5	270	1.3	<10	31	<3
DXR 6116	<10	<5	1020	1.0	<10	16	<3
DXR 6117	<10	<5	1530	42.9	<10	12	<3
DXR 6120	<10	<5	5340	38.0	<10	<2	<3
DXR 6123	<10	6	2460	39.8	<10	<2	<3
DXR 6126	<10	<5	2130	44.2	<10	<2	<3
DXR 6129	<10	<5	2160	44.9	<10	<2	<3
DXR 6131	<10	<5	1750	40.4	<10	<2	<3
DXR 6134	<10	<5	1540	42.7	<10	<2	<3
DXR 6137	<10	<5	1200	8.3	<10	4	<3
DXR 6139	<10	<5	21	.7	<10	8	<3
DXR 5991	<10	<5	1690	43.4	19	58	<3
D DXR 5893	<10	<5	624	6.2	<10	4	<3
D DXR 5926	<10	<5	216	4.3	<10	5	<3
D DXR 5958	<10	<5	1600	44.9	<10	3	<3
D DXR 5979	<10	<5	1750	65.0	<10	42	<3
D DXR 5999	<10	<5	1300	17.4	<10	19	<3
D DXR 6030	<10	<5	1720	54.6	<10	15	<3
D DXR 6052	<10	<5	3230	74.8	<10	35	<3
D DXR 6081	<10	<5	3130	52.1	<10	14	<3
D DXR 6106	<10	6	2480	44.9	<10	17	<3
D DXR 6131	<10	<5	1750	41.5	<10	3	<3

D - QUALITY CONTROL DUPLICATE

APPENDIX II

Summary Drill Hole Logs

SHIRRIFF OPTION
SUMMARY DRILL LOG

Hole Number:	SH94-2
Dates Drilled:	November 1-10, 1994
Drilling Contractor:	Bradley Bros., Timmins
Township:	Powell
Claim Number:	MR5922 (14.0%), MR34250 (84%)
Collar Co-ordinates:	13+80S, 4+50W, El. "8065" (surface grid)
Length:	2,145.7 feet
Casing:	All casing left in place, hole capped and marked with an aluminum tag.
Purpose of Hole:	To test for the mafic-sediment contact north of hole SH90-1.
Logged by:	R. Pressacco
Core Size:	NQ
Core Storage:	Bunker, M.C.M. minesite (Gowganda), Matachewan coreshack (Timiskaming).

RESULTS

Geology

The hole encountered units of the Gowganda Formation along a core length of some 1,320 feet before entering into the Timiskaming sediments. The Gowganda Formation contained a mixed assemblage of variably sized polymictic conglomerates, coarse sandstone, argillites and siltstones. For the most part, the core angles were at quite a high angle to the core axis. Cross bedding, graded bedding and load cast textures all suggested that stratigraphic tops were towards the top of the hole. The Timiskaming sediments were seen to consist primarily of greywacke that contained local conglomeratic sections.

Two narrow stringers of honey-coloured sphalerite were noted at 1434.0 and 1434.9 feet, hosted by the Timiskaming sediments. No significant gold values were returned from these sphalerite stringers. An interval of sericite-pyrite-silica(?) alteration in the greywackes was observed at 1686.4-1712.8 feet. A shorter interval within that alteration returned a weighted average grade of 202 ppb (0.006 opt) Au/16.0' at 1695.0-1711.0 feet. An interval of weakly increased amounts of quartz-calcite stockwork and weak pervasive silicification at 1988.0-2057.8 feet returned a weighted average grade of 184 ppb (0.005 opt) Au/69.8'.

Sampling

All detailed samples from this hole were split and assayed for gold using a Fire Assay-Atomic Absorption finish on a 1AT sub-sample by Royal Oak Mines Inc.'s Schumacher laboratory. A total of 162 samples were taken for gold analysis.

Core/Rejects

All the core from this hole was saved. The Gowganda Formation is stored in the bunker at the M.C.M. minesite and the Timiskaming sediments are stored inside the coreshack located in the village of Matachewan. All pulps from the samples have been saved, but all rejects have been discarded.

FEET From - To	DESCRIPTION
0.0- 12.6	NW casing. All casing left in hole. Hole capped, tagged and flagged.
12.6-1318.0	Mixed Argillite-Sandstone-Conglomerate (Gowganda Formation)
1318.0-1686.4	Greywacke (Local Conglomeratic Sections). Timiskaming Group.
1686.4-1712.8	Sericite-Pyrite-Silica(?) Altered Zone. 3-5% disseminated pyrite.
1712.8-2145.7	Greywacke.
2145.7	End of Hole

SHIRRIFF OPTION
SUMMARY DRILL LOG

Hole Number:	SH94-3
Dates Drilled:	November 11-29, 1994
Drilling Contractor:	Bradley Bros., Timmins
Township:	Powell
Claim Number:	MR5922 (19.3%), MR33921 (80.7%)
Collar Co-ordinates:	24+00S, 10+00W, El. "8010" (surface grid)
Length:	3,116.8 feet
Casing:	All casing left in place, hole capped and marked with an aluminum tag.
Purpose of Hole:	1000 ft stepout to west of SH94-2, SH90-1, to test for mafic-sediment contact.
Logged by:	R. Pressacco
Core Size:	NQ
Core Storage:	Gowganda Formation stored in the bunker on the M.C.M. minesite, remainder of core transported to Timmins and is stored at the Hollinger minesite core storage facility.

RESULTS

Geology

This hole intersected units of the Gowganda Formation along a core length of some 1,500 feet before entering units belonging to the Kinojevis Volcanics. These mafic volcanics were found to be strongly foliated for the most part and became gradually more altered towards the lower contact. These mafic units graded into a strongly altered section of sericite-carbonate alteration at 1605.5-1681.5 feet that was strongly foliated and displayed textures suggestive of a shear zone. Following a narrow interval of a "hybrid zone", the hole proceeded into a thick section of syenite followed by intercalated ultramafic units and syenite/granite dikes and finally into units of the Timiskaming sediments. The main syenite body was intersected along a core length of some 480 feet (1694.7-2175.2 ft) and contained a segment of strong hematite alteration, 1-3% disseminated pyrite and common quartz-tourmaline veins at 1694.7-1754.1 feet.

Gold values were low in general, with only anomalous, ppb-level gold values being returned as follows: 125 ppb Au/9.0' (1622.0-1631.0 ft), 474 ppb (0.014 opt) Au/68.3' (1694.7-1763.0 ft), 274 ppb Au/12.0' (1778.0-1790.0 ft), 358 ppb Au/14.3' (1800.7-1815.0 ft), 1165 ppb (0.034 opt) Au/3.0' (1827.0-1830.0 ft), 240 ppb Au/2.0' (1849.0-1851.0 ft), 317 ppb Au/50.0' (1962.0-2012.0 ft), 246 ppb Au/32.0' (2076.0-2108.0 ft), 114 ppb Au/18.0' (2150.0-2168.0 ft), and 218 ppb Au/21.0' (2330.0-2351.0 ft).

Sampling

All detailed samples from this hole were split and assayed for gold using a Fire Assay-Atomic Absorption finish on a 1AT sub-sample by Royal Oak Mines Inc.'s Schumacher laboratory. A total of 288 samples were taken for gold analysis, 3 samples were taken for whole rock analysis and 2 samples taken for mineral identification by X-Ray diffraction.

Core/Rejects

All the core from this hole was saved. The Gowganda Formation is stored in the bunker at the M.C.M. minesite and the remainder was transported to Timmins for storage at the Hollinger minesite. All pulps, along with selected rejects, have been saved.

FEET From - To	DESCRIPTION
0.0- 15.1	NW casing. All casing left in hole, hole capped, tagged and flagged.
15.1-1493.0	Mixed Argillite-Conglomerate-Mudstone-Sandstone (Gowganda Formation).
1493.0-1605.5	Mafic Volcanics (Kinojevis Group). 3% disseminated and patchy pyrite throughout. 10% quartz-calcite stockworking. Strongly foliated with sericite-(carbonate) alteration 1573.0-1605.5'. Strongly silicified 1574.4-1578.8', and 1599.5-1604.0'
1605.5-1681.5	Sericite-Carbonate Shear(?) Zone. 1-3% disseminated and patchy pyrite, locally semi-massive. Rare chalcopyrite.
1681.5-1694.7	"Hybrid Zone". Unknown rock type.
1694.7-2175.2	Syenite. Common quartz-tourmaline(?)-(pyrite) veins. Strong to moderate pervasive hematite alteration, 1-3% disseminated very fine grained pyrite (1694.7-1754.1').
2175.2-2220.0	Mixed Polymictic Conglomerate and Ultramafic material.
2220.0-2242.4	Syenite Dike. Weak hematite alteration, minor quartz veining, trace-1% very fine grained pyrite.
2242.4-2294.1	Ultramafic Flow.
2294.1-2352.6	Granite Dike. Common quartz-molybdenite-chalcopyrite-(pyrite) veins.
2352.6-2459.3	Ultramafic Flow. Rare pillowed sections.
2459.3-2613.9	Diabase Dike.
2613.9-2686.5	Plagioclase-bearing, coarse quartzitic sediments (Timiskaming Group).
2686.5-2711.0	Deformed Interbedded Argillite-Siltstone-Greywacke-Magnetite.
2711.0-2767.8	Sheared, Fine Grained Sediments.
2767.8-3116.8	Fine Grained Quartzitic Sediments.
3116.8	End of Hole

SHIRRIFF OPTION
SUMMARY DRILL LOG

Hole Number:	SH94-4
Dates Drilled:	December 1, 1994 - January 11, 1995
Drilling Contractor:	Bradley Bros., Timmins
Township:	Powell
Claim Number:	MR33922 (85.9%), MR33921 (14.1%)
Collar Co-ordinates:	36+30S, 14+50W, El. "8065" (surface grid)
Length:	4,305.6 feet
Casing:	All casing left in place, hole capped and marked with an aluminum tag.
Purpose of Hole:	Attempt to intersect Mine Series stratigraphy, 1,000 ft west along strike from SH94-3.
Logged by:	R. Pressacco
Core Size:	NQ
Core Storage:	Gowganda Formation and diabase dike stored in the bunker on the M.C.M. minesite, Kinojevis ultramafics transported to Timmins and is stored at the Hollinger minesite core storage facility.

RESULTS

Geology

This hole intersected some 2,140 feet of Gowganda Formation sediments before entering into ultramafic volcanic units belonging to the Archean-aged Kinojevis Group. Two diabase dikes of the Matachewan swarm were intersected, but due to drill hole deviation the hole had to be stopped in the second diabase dike at a depth of 4,305.6 feet. The hole was tracking roughly parallel to the dikes' western contact by this point, and there was very little chance that it would intersect that contact.

Sampling

All detailed samples from this hole were split and assayed for gold using a Fire Assay-Atomic Absorption finish on a 1AT sub-sample by Royal Oak Mines Inc.'s Schumacher laboratory. A total of 71 samples were taken for gold analysis, and 2 samples were selected for whole rock analysis by XRAL Laboratories of Toronto.

Core/Rejects

All the core from this hole was saved and is stored at both the bunker, M.C.M. minesite (Gowganda Formation and Matachewan Diabase) and at the Hollinger minesite (Kinojevis ultramafic volcanics). All pulps from the sampling have been saved, and all rejects have been discarded.

FEET From - To	DESCRIPTION
0.0- 13.1	NW casing. All casing left in hole, hole capped, tagged and flagged.
13.1-2138.7	Mixed Polymictic Conglomerate, Sandstone, Mudstone and Argillite (Gowganda Formation).
2138.7-2203.0	Ultramafic Volcanics (Kinojevis Group). Patchy talc-serpentine.
2203.0-2597.1	Diabase Dike. Quite blocky throughout.
2597.1-2854.5	Ultramafic Volcanic.
2854.5-2868.7	Syenite Dike. Minor pervasive and stringer epidote alteration, trace disseminated pyrite.
2868.7-2905.1	Ultramafic Volcanic.
2905.1-4305.6	Diabase Dike.
4305.6	End of Hole

APPENDIX III

Field Drill Hole Logs

ROYAL OAK MINES INC.

PROJECT: SITARRIFF (Initial) Core size: NQ — Logged By: R. Bressacco — Start: Nov 1, 1994 End: Nov 10, 1994 — PAGE 1 — CAT — Date: --/--/19-- Page 1 of 15

DRILL HOLE	NORTHING	EASTING	ELEVATION	LENGTH	OBI	OBE	INC	LEASE
SH-94-2	13+80S Surface (2279N Lynx)	4+50W	Surface ("8065")	2145.7				MRS922, 34250

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	330°	-57°	597	336	-55.5	1378	337	-54.5	2145.7	341°	-48°			
34	335	-58	734	335	-56.0	1575	339	-52°						
203	338	-58	991	337	-56.0	1772	332	-50°						
400	334	-57°	1181	339	-56°	1975.0	—	—						

Core Storage: MCM Minesite (Thunder) + Matachewan (Coneybeck (Timiskaming).

DIST	Id	ROCK DESCRIPTION: Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S	A1	J/F	A2	MINERALS: GANGUE Qtz	A%		B%		C%	METALLIC: D%		E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
12							CAS																			Casing to 12.6ft. Drill set up on bedrock but casing reamed to 12ft to ensure on.	
																										firable in the bit.	
																										POLYMICTIC CONGLOMERATE (12.-1318.0ft).	
																										(Gowganda Formation)	
																										Colour variable from dark grey to reddish	
																										pink depending on fragment size and abundance	
																										amongst other silicate sphericities. Matrix is	
																										well developed, fragments	
																										clasts of different sizes	
																										all sitting in very fine	
							1																			grained matrix. Fragment	
																										sizes range up to 1.2ft	
																										and can be subangular	
																										to rounded in shape.	
																										Mafic porphyritic felsic intrusive (rhyolite?)	
																										is the dominant clast	
																										composition, with other	
																										characteristic textural	
																										types present. Fragment	
																										compositions include	
																										intermediate intrusive,	
																										alternate volcanic,	
																										plagioclase grain, and	
																										felsic volcanic.	
																										Clasts are matrix-supported in most cases.	
																										Mil sulphides. Rare thin quartz veinlets	
																										can be present in fragments and are usually	
																										oriented at low angles to CA. 15-30° for most	
																										part.	
29.0		m	mg	FMPH	HV	—	10C	V	90				0.1								0.01		ORS701	42.0			
29.0							1X	V	30				0.1								0.01		3723	40.0			

ROYAL OAK MINES INC.

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DRILL HOLE [illegible]

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DIST	Id	ROCK DESCRIPTION Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S B	Al	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
330.0		M	mg	FMth	bN	—	10C	B	30			0.1						5720	52.0		Composite sample. Tuff interbedded argillite/lithic siltstone.	
4300							10C	B	10			0.1						5721	40.0		interbedded lithic/clast bearing mudstone.	
461.0							10C	B	20			1						5722	51.0		interbedded argillite & red-brown mudstone becoming up to 50% chert clasts.	
465.0							10C					10			—			5723	4.0		gh-(ccc) stockworking to 1-2cm.	
518.0							10C	B	75			1						5724	53.0		several large beds (to 10ft thick) of red mudstone. Gradual bedding contact upwards towards top of bed. Broken & blocky 484-500 ft. Thin bedded pebble conglomerate 492 ft. Contact towards footwall.	
567.0		M					10C	B	60			—						5725	42.0		528-539 ft. Interbedded green-grey argillites and red-brown mudstones. Subsequent amount of both components. Broken & blocky core 538-568 ft. Highly variable fragment sizes 558-568 ft.	
626.0		B					10C					—			—			5726	59.0		567-578 ft. Interbedded green-grey argillites, red-brown mudstone and minor conglomerate. Very blocky core.	
658.0		M					10C					—			—			5727	32.0		Composite sample.	
667.0		M					10W					3						5728	4.0		weak gh-(ccc) stockworking to 3-5mm	
1666.0		M					10W					3						5729	3.0		weak gh-(ccc) stockworking to 1-3mm	
669.0							10C					3						5730	3.0		mild gh brx (stockworking)	
673.0							10C					0.1						5731	4.0		occasional interbedded mudstone.	
676.0							10C					7						5732	3.0		gh brx zones to 6-8 mcks.	

ROYAL OAK MINES INC.

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DRILL HOLE SH 84-2

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DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
671.0		M	Mg	FnG	Gy	—	10C												5733	3.0		interbedded argillite - mudstone	
683.8							10C					3			0.1				5734	4.0		rare dissem py in qtz vn	minor stockworking
715.0							10C	B	3										5735	32.0		composite sample. Rare interbedded mudstone.	
738.0							10C					—			—		0.002		5736	23.0		composite sample, argillite-rich containing interbedded red brown mudstone	
742.0							10C					1					0.01		5737	4.0		trace qtz stockworking	
745.0							10C												5738	3.0		qtz vn/stockworking to 5cm	
749.0							10C												5739	2.0		minor qtz stockworking	
753.0							10C					0.1					0.006		5740	4.0		rare qtz stockworking	
757.0							10C					5					0.01		5741	4.0		qtz veins/stockworking to 1cm	
803.5							10C					0			—		0.001		5742	46.5		composite sample argillite-rich containing sil. carbon interbedded red-brown sandstone-mudstone	
850							10C												5743			composite sample containing interbedded red-brown sandstone-mudstone, minor qtz veining, trace py, sandstone	
																						to 1cm. Block cave 805 - 820 ft	
892.0																			5744	39.0		composite sample minor interbedded sandstone red-brown mudstone, very broken. Core 778 - 881 ft. (RQD. 0%)	
896.0							10C												5745			trace qtz veinlets to 1-3cm	
899.7		M				Sil	10C												5746	3.7		minor qtz veins/brx.	weak silicification

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DRILL HOLE 5124-2

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DIST	Id	ROCK DESCRIPTION						STRUCT. B/S	STRUCT. J/F			MINERALS GANGUE			MINERALS METALLIC					Spl #	Width	T	COMMENTS 1	COMMENTS 2
		Com	Grs	Text	Co	Alt	Nam	B	Ai	J	A2	C%	B%	C%	D%	E%	Au	F%						
901.0		R	M	FRAK	Gl	Sil	10C					—								5797	1.3		blocky, strong silicification	
909.0		M				Sil	10C					1/2								5798	3.0		blocky, strong silicification	
908.5		M				Sil	10C					3			—					5799	4.5		moderate qtz stockworking, strong silicification	
912.0						Sil	10C					7					0.001			5750	3.5		strong qtz stockworking, strong silicification	
916.0						Sil	10C					7					0.001			5751	4.0		strong qtz stockworking, strong silicification	
920.0						Sil	10C					75					0.001			5752	4.0		strong silicification, strong qtz veining, brecciation	
924.0						Sil	10C					—					0.001			5753	4.0		moderate-blocky interval (924.0-928.0 ft), 920.5-921.5 ft	
961.0						—	10A	B	60			1					0.001			5754	37.0		minor qtz veining, minor interbedded reddish sandstone	
1000.7							100A					—					0.01			5755	39.7		argillite-rich containing minor interbedded sandstone beds to 5mm	
1040.1							100A	B	75			—			—		0.01			5756	39.4		mixed argillite-conglomerate with interbedded siltstone. Conglomeratic interval 1040.4-1075 ft, shows pebble density decreasing up-hole (stratigraphic tops) 5 cm bed of sandstone at 1035 ft shows cross-bedding indicating as well that stratigraphic tops are towards the top of hole	
1083.0							100A	B	70			—			—		0.01			5757	42.8		argillite-rich containing minor interbedded reddish sandstone beds	
1128.7							10C					—			—		0.01			5758	45.7		strongly conglomeratic, abundant pebble/cobbles all grain-supported many different types of fragments observed (including diabase) minor interbedded argillite, siltstone, sandstone	

ROYAL OAK MINES INC.

DRILL HOLE [illegible]

DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE c%	B%	c%	METALLIC D%	E%	/m	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
1187.7		M	Cg	FM6	DN	—	10C					0.1					0.01		5759	50.0		Composite sample. Strongly conglomeratic texture, moderately magnetic, coherently heterogeneous. Clast composition, grain supported, tightly packed, cobbles. Rare pebble size pockets. Minor blocky fractures 1172 - 1177 ft.	
1236.9							10C					—			—		0.01		5760	42.2		Strongly conglomeratic, moderately magnetic, tightly packed grain-supported texture.	
1286.2							10C					—			—		0.01		5761	42.3		Composite sample. Strongly conglomeratic texture, fragment sizes become gradually smaller, magnetism drops to weak possibly due to reduction in amount of magnetite fragments.	
1318.0							10C					0.1					0.01		5762	31.8		well developed conglomeratic texture, clasts supported, mostly to locally magnetic, tightly packed. Minor interbedded argillite. Rare pebble pockets.	
																						UNCONFORMITY AT 1318.0 ft	
																						GREYWACKE (LOCAL CONGLOMERATIC SECTIONS) (1318.0 - 1686.4 ft). Color medium grey to grey green, non-magnetic, mostly weakly to moderately calcitic, locally well developed foliation. Texture ranges from [illegible] to well developed dark layers, thin seams of yellow-green sericitic material, or alignment of conglomeratic clasts where present. Much of the unit consists of a fine grained, granular textured greywacke containing scattered pebble size clasts. Rare cobble sized variable composition. These fragments are typically finite small, rarely exceeding 1-2cm in size. Quartz-calcite veinlets to 1-2mm in width are present throughout the interval and are typically oriented at all angles to [illegible]

ROYAL OAK MINES INC.

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DRILL HOLE SH 29-2

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DIST	Id	ROCK DESCRIPTION						STRUCT. B/S	STRUCT. B/S	STRUCT. J/F	STRUCT. J/F	MINERALS GANGUE						MINERALS METALLIC						Spl #	Width	T	COMMENTS 1	COMMENTS 2
		Com	Gra	Text	Co	Alt	Nam	B	Az	J	Az		C%			B%	C%		D%		E%	Au	F%					
																											Pyrite is common throughout observed as disseminated	
																											very fine grained to	
																											coarse crystalline euhedral	
																											grains and clots. Pyrite	
																											parallel bands and stringers	
																											observed on occasion.	
																											1322.2 - 1340.8 ft. weakly Sheared Interval.	
																											Very weakly developed pervasive sericite alteration	
																											is developed, over 4-8 inches locally colour is	
																											a darker green with blebs, wisps, clots of	
																											sericite, pervasive throughout. Chlorite	
																											veins, veinlets, stringers, blebs, clots and	
																											patches are also common throughout. Pyrite	
																											is disseminated, occurs as clots, patches	
1322.2		M	Fg	FOL	GY	CAL	Sg						1						0.1			0.01		5763	4.2		vfg diss pyrite, trace sericite	
1325.5		B				CAL	Sg						0.1						-			0.01		5764	3.3		blocky core.	
1329.5		M				CAL	Sg						3						1			0.01		5765	9.0		vfg diss pyrite, weakly conformable, minor sericite	
1333.0		M		SHR		CHL	Sg	F	50				5						1			0.01		5766	2.5		vfg-diss pyrite, chl-qtz-cc stringers	
1335.9				SHR		CHL	Sg						1						0.1			0.01		5767	2.9		chl-sh-cc stringers; minor chl-talc stringers	
1338.9				FOL		CAL	Sg						1						1			0.01		5768	3.0		diss fg pyrite, weak-mod sericite overprint	
1340.8				SHR		CAL	Sg						1						0.1			0.01		5769	2.1		black, fragmental pebbles	
1344.0				FOL		CAL	Sg						3						0.1			0.01		5770	3.2		sh-cc pervasive stringers, vfg-fg pyrite, local	
																											carbonate veinlets	
1347.0				FOL		CAL	Sg						3						0.1			0.01		5771	3.0		sh-cc stringers	

DIST	Id	ROCK DESCRIPTION: Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S: B	A1	J/F: J	A2	MINERALS GANGUE: C%		B%		C%	METALLIC: D%		E%		F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1351.0												3					1					5772	2.10		qtz-cc stockworks, diss & patchy fg pyrite	
1355.1												3					-					5773	4.1		black qtz-cc vein & patches, minor yellow-green sericite	
1359.0												3					01					5774	3.90		qtz-cc breccia & minor stockwork, base of zone	
1363.0							5q					1					3					5775	4.0		diss & bands of fg py, irregular qtz-cc veinlets	
1367.0							5q					1					1					5776	4.0		diss vfg pyrite	
1371.0												01					3					5777	4.0		Strongest diss py. Possible stronger SPHALERITE	
1375.0												01					2-1					5778	4.10		Conglomeratic section	
1379.0							5q	F	30			1					1					5779	4.10		diss vfg pyrite, minor qtz veinlets & vein	
1425.0							5q	S	55			1					01					5780	46.0		composite sample (really conglomeratic texture with shear texture 1415.3 - 1917.7 ft)	
1430.0												1					01								conglomeratic rubbed, diss py, some black shear zones	
1434.0												1					01								minor qtz-cc veinlets & fracture fillings	
1436.0							5q					1					3					5783	3.0		SPHALERITE-pyrite-qtz veins/bands parallel foliation, core to 20° to width. Two occurrences of sphalerite, 1439.0 to 1434.9 ft, lower is the larger. Sphalerite is light brown to buff-yellowish colour, not abundant, pyrite as diss & blebs, fine grains, some cubes, pyrite grains, minor qtz-cc veins	
1440.0								F	50			1					0					5784	4.0		Weakly conglomeratic, minor yellow-green sericite, vfg diss pyrite	

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DRILL HOLE [illegible]92

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DIST	Id	ROCK DESCRIPTION Com	Gra	Text	Co	Alt	Nom	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%		B%		C%	METALLIC D%		E%	/m	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1494.0		M	vfg	FOL	Bt	CAL	Sy					1					1			0.03		5785	4.0		vfg diss Py, minor [illegible]	ghosted veinlets
1498.0							Sy					3					0.1			0.03		5786	30.0		massive ghosted veinlets with [illegible] and diss pyrite. Composite	[illegible]
1528.0							Sy					3					0.1			0.01		5787	4.0		minor qtz stockworking in [illegible] and shears (?) [illegible]	
1532.0							Sy					1					1			0.04		5788	4.0		vfg diss euhedral Py in [illegible] & beds to 3mm [illegible] 60°	
1536.0							Sy					1					3			0.01		5789	4.0		mixed bedding Py (to 5mm) and vfg diss euhedral Py	
1540.0							Sy					1					1			0.01		5790	4.0		vfg diss euhedral pyrite	[illegible]
1544.0							Sy					0.1					2			0.01		5791	4.0		fine vfg [illegible] pyrite	[illegible]
1548.0							Sy	F	Sp			0.1					1			0.03		5792	4.0		fg-vfg patchy t diss euhedral pyrite, at bnds with qtz-Ca veins	
1552.0							Sy					0.1					1			0.02		5793	4.0		patchy t diss fg-vfg euhedral pyrite	
1556.0							Sy					0.1					3			0.01		5794	4.0		mixed diss t bands of pyrite (5mm) that follow foliation	
1560.0							Sy					3					1			0.01		5795	4.0		diss t stringer pyrite usually associated with glassy veins	
1564.6							Sy	S	Sp			5					0.1			0.01		5796	4.6		patchy t diss of qtz-Ca veining, rock btw 1560.0 - 1564.6	
1592.0							Sy					1					0.1			0.01		5797	27.4		composite sample, trace stringer t diss [illegible]	
1595.0							Sy					10					1			0.01		5798	3.0		2 inch qtz vein at 20° TIA x-cutting [illegible] contains diss fg pyrite along vein walls	
1597.7							Sy					3					0.1			0.01		5799	2.7		bridge sample, through stringers	

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DRILL HOLE [illegible]

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DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1530												50	7		0.1		0.001		5800	2.3		6-8 inch qtz-cc vein, minor bleach chl'te
1533.0												3	7		1		0.001		5801	3.0		patchy trans altn-cc, wk-mod diss pyrite assoc. [illegible] qtz patches
[illegible]												[illegible]	[illegible]		[illegible]		[illegible]						
1536.0												1			0.1		0.001		5802	3.0		trace qtz-cc veinlets
1539.0												1			0.1		0.001		5803	3.0		trace qtz-cc veinlets
1542.0												0.1			1		0.001		5804	3.0		diss fg-mg euhedral pyrite
[illegible]												[illegible]	[illegible]		[illegible]		[illegible]						
[illegible]												25	[illegible]		[illegible]		[illegible]		5805	3.0		[illegible] vein 3-4 inch fg diss py
[illegible]												9	[illegible]		0.1		0.001		5806	2.5		trace stringer pyrite
[illegible]												0.1			0.1		0.001		5807	2.5		trace stringer pyrite
1551.0												—			0.1		0.001		5808	3.0		bridge sample
1554.0								F	45			1			0.1		0.001		5809	3.0		wk diss euhedral pyrite
[illegible]												50	[illegible]		3		0.001		5810	3.0		patchy chl-ser-cbl altn fg euhedral-subhedral diss pyrite
[illegible]												[illegible]	[illegible]		[illegible]		[illegible]						
[illegible]												[illegible]	[illegible]		[illegible]		[illegible]		5811	3.0		[illegible] wk euhedral pyrite
1620.0												0.1			0.1		0.001		5812	38.8		composite sample fine diss py
1650.0												0.1			0.1		0.001		5813	22.2		composite sample
1653.0								F	45			0.1			0.1		0.001		5814	3.0		basket sample
1656.0												0.1			5		0.001		5815	3.0		[illegible] number of pyrite beds & lens containing fg-wk euhedral pyrite. Possibly bedded.

ROYAL OAK MINES INC.

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DRILL HOLE 5119-2

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DIST	Id	ROCK DESCRIPTION Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%		B%		C%	METALLIC D%		E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1659.0																									Bracket sample	
1686.9																									Granite sample	
																									SERICITE - PYRITE - (SILICA?) ALTERED ZONE (1686.4 - 1717.6 ft)	
																									Colour gradually becomes greenish yellow. Grain size is fine. This sericite alteration is a pervasive alteration (overprint of the matrix, obscuring the original fragmental and/or porphyritic fragments are still quite easily visible in the sericite matrix. Bleaching and/or silicification seems to have affected the section where lenticular and patchy to glassy silica material are 5-7% in overall abundance. These siliceous occurrences may be a recrystallized chert, as the 1720.5-1722.4 ft section is obviously siliceous (chert) and contains 3-5% pyrite. This pyrite occurs in two modes, as patchy and thin beads of anhedral pyrite and the other as ultra-fine disseminated subhedral-euhedral grains. The presence of the pyrite and bedding parallel suggests that some chert may be present. The disseminated pyrite is also present throughout the matrix making up 3% overall abundance. Rare carbonate cleavage.	
1682.0						ser	sg					3					0.1			0.01		5912	2.6		well mineralized zone as above	
1697.0						ser	sg					1					0.1			0.01		5913	3.0			
1695.0						ser	sg					1					0.1			0.01		5920	3.0		weak pervasive ser as above	

ROYAL OAK MINES INC.

DRILL HOLE 514-24-c

DIST	Id	ROCK DESCRIPTION Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1698.0						SER	Sy					7			5		0.007		SB21	3.0		Ext. pervasive ser alt = , mixed fine grained to diss	
																						Pervasive ser alt = 5 % = 15°	
1700.3						SER	Sy					5			5		0.009		SB22	2.8		Fine grained diss pyrite in mod - strong ser alt = stem sil.	
1703.0						SIL	Sy					80			7		0.005		SB23	2.7		Cherty interbeds? mixed fine grained to diss py	
1706.0						SER	Sy	F	60			5			3		0.006		SB24	3.0		mod ser alt = , stem sil, diss pyrite	
1709.0						SER	Sy					10			7		0.007		SB25	3.0		diss py, stem patchy sil	
1711.0						SER	Sy					5			5		0.008		SB26	2.0		stem sil, diss pyrite	
1712.5						SIL	Sy					5			5		0.009		SB27	1.5		cherty interbeds? stem ser alt =	
1715.0						—	Sy					—			—		0.001		SB28	2.2		Bracket sample	
1719.0						-	Sy					-			-		0.001		SB29	3.0		Bracket sample	
1768.5						-	Sy	F	60			1			0.1		0.001		SB30	2.5		Tight stem veinlets to 5cm, Boudins with	
1810.5							Sy												SB31	2.5		Stem veinlets (ither, base of vein with	
1815.5						SIL?	Sy															Silicified to?	
1818.5						SIL?	Sc					5			—		0.001		SB33	4.0		rock sil? rock yellow on seams, stem	
1823.2						SIL?	Sc					3			0.1		0.001		SB34	4.7		base diss to pyrite, pale to dk brown	
1828.0						SIL?	Sc					1			—		0.001		SB35	1.8		base stem veinlets /	
1832.0						SIL?	Sc					1			1		0.001		SB36	4.0		diss to 5% patchy M, rock stem bound?	
1876.2							Sy	F	60			3			5		0.001		SB37	49.7		Fixed SB35, stem stockworking, diss to 5%	
																						quartz grains	

ROYAL OAK MINES INC.

DRILL HOLE

DIST	Id	ROCK DESCRIPTION						STRUCT.				MINERALS														COMMENTS 1	COMMENTS 2
												GANGUE						METALLIC						Spl #	Width	T	
		Com	Gra	Text	Co	Alt	Nom	B	Az	J	Ag		C%		B%		C%		D%		E%	Au	F%				
1975.2		M	F	Foc	Sy	Chl	Sg																			Composite sample, intrusive pebble conglomerate's sections is displayed in polymictic fragments of Ub-Sy Rhyolite, Silicic stockworks	
1965.2						Sil?	Sg	F	45				3									Au?		5839	3.3		Composite sample, thin Ub-Sy stockworks & Sil
																										The core has chemical secondary alteration complex (Quartz, Mag, Sericite and lack the distinct feldspar observed above. No well developed Hydrothermal quartz gangue, but were very common above are now, replaced by Silica. The core still has a granular texture to a degree but it is very weak and very massive. Occasional small pebbles can still be found now and again upon close examination. The core appears to have been slowly silicified as the natural and overall appearance of the core is quite similar to the appearance of a felsic flow in some sections. Quartz-silicic stockworking is distinctly increased in abundance, occurring up to 5-7% as thin (1-3mm) stockworks at all angles. Veins have proved to be a mix of pyrite & quartz crystals, with minor amounts of Sphalerite and galena. Angles at FAULT fracture is observed at 120 to the core axis. The core is also blocky overall but RQD's are still (est. 80% 1975 - Overall)	
																						Au?		5840			
1972.6						Sil	Sg						3						1			Au?		5841	4.9		4 inches fault gouge, highly silicified

ROYAL OAK MINES INC.

DRILL HOLE [illegible]

DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1976.6						SIL	SG					3			1		0.002		SB42	4.0		Strg silicification, comm fine stockworking	
1980.6						SIL	SG					1			1		0.002		SB43	4.0		Weak diss & patchy py	Strg sil & alt=
1984.0						SIL	SG					3			1		0.002		SB44	3.4		Strg sil, fine sh-cc stockwork	Strg diss marked at stone pit
1988.0						SIL	SG					5			0.1		0.002		SB45	4.0		[illegible]	
1992.0						SIL	SG					5			0.1		0.003		SB46	4.0		Strg sil, good [illegible]	
1996.0						SIL	SG								0.1		0.003		SB47	4.0		Strg sil, fine sh-cc stockworking	
2000.0						SIL	SG								0.1		0.002		SB48	4.0		Strg sil, weak sh-cc stockworking	
2004.0						SIL	SG										0.002		SB49	4.0		Strg sil, weak sh-cc stockworking	
2053.0						SIL	SG					3			0.1		0.005		SB50	4.0		[illegible]	
2057.0						SIL	SG					1			0.1		0.022		SB51	4.0		[illegible]	
2061.0						SIL	SG												SB52	3.3		Patchy py to 5-7% [illegible]	
2065.0						SIL	SG												SB53	4.0		diss fg-mg py, weak ser alt= strg sil alt=	
2069.0						SIL	SG												SB54	4.0		diss & stringer pyrite, weak ser alt= strg sil alt=	
2073.0						SIL	SG					1			5		0.002		SB55	4.0		patchy & diss fg py, [illegible]	
2077.0						SIL	SG					1			3		0.002		SB56	4.0		stringer pyrite assoc & fine sh-cc stockwork in fine sericite	
2081.0						SIL	SG												SB57	4.0		diss & patchy pyrite	
2085.0								FAS											SB58	4.0		diss & patchy pyrite	

ROYAL OAK MINES INC.

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DRILL HOLE [illegible]

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DIST	Id	ROCK DESCRIPTION: Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S: B	A1	J/F: J	A2	MINERALS — GANGUE: C%	B%	C%	METALLIC: D%	E%	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
2082.0						SIC	[illegible]					1			1			5859	4.0		strongly chloritic assoc. with [illegible] shearing	
2093.0						SIC	[illegible]					7			3			5860	4.0		mixed sil-ser-alt'n, [illegible]	
															tr						stockwork, disseminated [illegible]	
2097.0						SIC	SIC					1			0.1		0.005	5861	4.0		weak sericitic alt'n, disseminated pyrite	
2145.7							SIC	F	60			3			1		0.02	5862	48.7		Concordant sericitic alt'n, common [illegible]	
																					stockwork, minor disseminated [illegible]	
																					silica alteration, locally [illegible]	
																					granular Habor rebound [illegible]	
2145.7							Qzlt														END OF HOLE	

ROYAL OAK MINES INC.

PROJECT: SILBRIEF OPTION (entered) Core size: NQ Logged By: R. Brassaccio

PAGE 1 Start: NW 11, 1994 End: NW 29, 1994 CAT Date: --/--/19-- Page 1 of 32

DRILL HOLE	NORTHING	EASTING	ELEVATION	LENGTH	OBI	OBE	INC	LEASE
SIL[illegible]-3	24[illegible] Surface 1259N Lynx	10 Raw	8040'	3116.8 ft				MR 5922, 33, 921

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	338	-72°	862.9	339°	-69°	1647.0	340°	-68°	2434.4	344	-66°			
105	339	-70°	1059.7	338°	-69°	1843.8	343	-67°	2634.5	339	-66°			
498.7	335	-69°	1253.3	338	-68°	2040.7	343	-66°	2831.9	343	-64°			
662.7	339°	-69°	1459.1	340°	-68°	2290.8	348(!)	-66°	3029.9	345	-64°			

Core storage: MCM miresite (Thunder) + Timmins (Thicken).

DIST	Id	ROCK DESCRIPTION: Com	Gra	Text	Co	Alt	Nom	STRUCT. B/S: B	A1	J/F: J	A2	MINERALS — GANGUE: QTZ	A%		B%		C%	METALLIC: PY	D%		E%		F%	Spl #	Width	T
151																										

COMMENTS 1

Nw Casing [illegible] left in hole
upon termination
MIXED: [illegible] CONGLOMERATE AND
MUDSTONE - [illegible] (151.1 - 1493.0 ft)
Colour variable from dark grey-green to
reddish brown, depending on abundance of py.
Particular beds are magnetic, overall but
containing [illegible] sections variable
hardness [illegible] Overall, this
interval [illegible] a series of
interbedded [illegible] ranging from predominantly
argillite [illegible] with common beds
of siltstone and sandstone. Bedding
present on occasion. For the most part the
mudstone beds are quite thin (rarely exceeding
2-3 metres in thickness) and the sandstones
are quite variable in [illegible] thickness
from [illegible] to 10-20 ft. The conglomerates
are quite common throughout, occurring both
[illegible] spectrum from a fairly well
packed, grain supported, pebble to cobble
conglomerate to a matrix supported
pebble conglomerate. These pebble conglomerates
typically consist of [illegible] to
clast of [illegible] variable [illegible]
[illegible] occurrence [illegible]
[illegible] of the [illegible]

COMMENTS 2

[illegible]

ROYAL OAK MINES INC.

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DRILL HOLE [illegible]
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DIST	Id	Com	Grs	Text	Co	Alt	Nom	B	Ai	J	A2		c%		B%		C%		D%		E%	Au	F%	Spl #	Wdth	T	COMMENTS 1 / COMMENTS 2
557.2		M	vfg	MW	61	–	[illegible]												–					5873	49.2		composite sample, argillite-rich containing common interbedded mudstones & occasional conglomerate
616.8							[illegible]	B	80										–					5874	58.0		composite sample. Interbedded argillite-mudstone in roughly subequal amounts. Common cross-bedding in mudstones. Graded bedding at 576 and 583 ft. becomes finer towards the top of the hole.
[illegible]							106	B	80				–						–			0.001		5875	49.2		composite sample. Core changes to an argillite matrix supported polymictic conglomerate below roughly 620 ft. Common interbedded mudstone & sandstones
715.2							106																	5876	49.2		composite sample. [illegible] argillite matrix-supported polymictic pebble-cobble conglomerate. Some argillite-rich sections & interbedded mudstone lamellae.
764.5							106															0.001		5877	49.3		composite sample, mixed polymictic pebble conglomerate, argillite, mudstone, and sandstones. Sandstone beds [illegible] thick, to [illegible] and typically show a graded bedding. Lacking (fining up to top of hole).
813.7							106						–						–					5878	49.2		composite sample; argillite matrix supported polymictic pebble-cobble conglomerate.
862.9							105															0.001		5879	49.2		Composite sample, mostly [illegible] sandstone beds to a maximum of [illegible] ft in thickness. These beds are often graded beginning with a fine gravel base and gradually fining to a mudstone-siltstone at their tops. Graded beds become finer towards the top of the hole.
912.1							105	B	70													0.002		5880	49.2		Composite sample. Entire sample consists of graded sandstone beds as described above.

ROYAL OAK MINES INC.

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DRILL HOLE SDH 3

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DIST	Id	ROCK DESCRIPTION: Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S: B	A1	J/F: J	A2	MINERALS — GANGUE: C%	B%	C%	METALLIC: D%	E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
961.3							105										0.01		SDB1	42.2		Composite sample. Mostly sandstone - clemonated intermediate and core returns to a polymictic conglomerate	graded sandstone beds, with beds at mostly 25° to
1019.5							104									20	0.01		SDB2	42.2		composite sample. Mixed sandstone and polymictic boulder - cobble conglomerate	
1059.7							104										0.002		SDB3	42.2		composite sample. Polymictic pebble - cobble conglomerate grading into boulder sandstone beds	
1108.1							104	R											SDB4	48.5		[illegible] - graded beds ranging from pebble [illegible] at their base grading into fine [illegible] at their tops.	grading towards top of [illegible]
1158.2							104										0.01		SDB5	50.1		Composite sample. Interbedded polymictic boulder conglomerate, green-grey argillite and coarse sandstone 1108.1 - 1118.8 ft. Banding / [illegible] in polymictic argillite matrix boulder conglomerate below 1118.8 ft.	
1207.9							102												SDB6	42.2		[illegible] sample. Mostly polymictic conglomerate.	polymictic argillite matrix
1256.0							104												SDB7	24.2		[illegible] composite. Polymictic pebble - cubble conglomerate	fine argillite matrix
1315.6							104										0.01		SDB8	53.0		composite sample. Argillite matrix supported polymictic pebble conglomerate	
1369.9							104												SDB9	42.2		[illegible] Sample. Mostly coarse grain-supported polymictic boulder conglomerate. Contains [illegible] sandstone, and is mostly massive. Overall, appears content of boulder conglomerate at 1378 ft.	a coarse grain-supported

ROYAL OAK MINES INC.

DRILL HOLE DM-3

DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	fm	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1419.1							TDC															Conv'd to sample. Mixed	boulder conglomerate,
																						siltstone and micaceous	conglomerate beds.
1468.3							TDC	B	75													Conv'd to sample. Mostly	pulverized boulder to
																						cobble conglomerate with	minor interbedded siltstone
																						and argillite matrix supported	conglomerate.
1493.0							TDC										0.001		5992	2.2		Sample. Pulverized boulder conglom. to	
																						weakly magnetic.	
																						UNCONFORMITY AT 1493.0 FT.	
																						TERTIARY VOLCANICS (?	1493.0 - 1605.5 ft)
																						(PALEOJEVIS "ROUP?)	
																						Greenish medium grained,	very weakly magnetic,
																						moderately calcitic, moderately	soft, massive to weakly
																						foliated very fine grained	granular texture. The
																						1493 - 1509.0 ft interval	granite strongly foliated
																						at 40° TCA and is granite	blocky (RQD est 50%). This
																						interval is granite fine grained	and siliceous-looking.
																						Rock overall is as soft as	the matrix volcanics
																						below. The strong foliation	is caused by small
																						threads of a serpentine alt?	which also contains
																						oriented grains and small	pockets of fg-vfg
																						subhedral pyrite. Overall	pyrite abundance is
																						estimated at 2%. Overall	Rock colour contrast is
																						rock alteration/development	strong. Chalcopyrite is rarely
																						is high abundance. The light	coloured dykes are also
																						seen in mouth	
																						1524.4 - 1516.8 ft: Fine grained	Syenite Dikes.
																						Colour: red-brown, moderately	calcitic, weakly magnetic,
																						very hard. Massive to weakly	foliated with textural
																						contacts at 1.32 ctg dips	pyrite. Chalcopyrite stockworks
																						at 17° to 37° to	overall abundance weakly

ROYAL OAK MINES INC.

DRILL HOLE [illegible]

DIST	Id	ROCK DESCRIPTION						STRUCT.				MINERALS																COMMENTS 1	COMMENTS 2
								B/S		J/F		GANGUE						METALLIC											
		Com	Gra	Text	Co	Alt	Nam	B	Ai	J	Az	Qtz	C%		B%		C%	Py	D%		E%	/m	F%	Spl #	Width	T		
																												Follow the foliation. Upper contact is sharp, lower contact gradational over	1-2 ft.
1497.0		B				HFm	2	F	90										3			0.001		5093	4.0		Silty fol'n mod to	ser alt'n diss pyrite,
																												Sl silty fol'n	
1521.0		P		Fol		—	2						5						1			0.01		5099	4.0		Qtz-ser stockwork to 1"	Pyrite
1529.0		M		Fol			2						7						3			0.01		5095	3.0		Patchy fine to coarse pyrite, silica	pyrite, silica
																												stockworking to 3cm	
1508.0		M				HFm	BS	C	30															5096	4.0		Texturally ghosted	more or less parallel fol'n
																												diss to patchy pyrite	
1513.0																												Diss to patchy pyrite	contacts at 45 to CA
1519.2						HFm	BS						3						1			0.01		5098	2.2		trace 1% diss to patchy	ghosted
1516.6						HFm	BS						3						3			0.01		5099	2.6		diss to patchy, ghosted	stockwork to 1"
1500.0		M					2												1			0.01		5100	4.0		Trace veins + patches of	pyrite @ low angle to CA. Diss
																												patchy pyrite in both	veins and matrix walls.
																												Weakly anomalous	values probably hosted by patchy
																												diss to stockwork	pyrite in matrix
1529.0							2						1						1			0.01		5102	4.0		patchy to banded pyrite to	1-2cm veins of qtz-ser
																												stockwork to 3cm	with pyrite
																												The rocks between	the 1516.6 - 1529.0
																												section are relatively	fresh looking, weakly foliated
																												to massive, grey fine grained matrix flows, occassional	
																												chloritic bands to 2-3mm wide are recommended	
																												follow selvages, but no	distinct pillowed textures
																												are observed.	

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DRILL HOLE [illegible]

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DIST	Id	ROCK DESCRIPTION						STRUCT. B/S		STRUCT. J/F		MINERALS GANGUE						MINERALS METALLIC						Spl #	Width	T	COMMENTS 1	COMMENTS 2
		Com	Gra	Text	Co	Alt	Nom	B	A1	J	A2	C%		B%		C%		D%		E%	ppm	F%						
																											Below 1530 ft, these [illegible]	calcite veins
																											[illegible]	[illegible] by a network
																											[illegible]	[illegible] The alteration
																											[illegible]	[illegible] selectively more
																											[illegible]	[illegible] by bands of
																											dusky green coloured	mineral that are [illegible]
																											calcite bands or	relatively fresh volcanic [illegible]
																											cutting across them	but the alteration
																											as patchy felsitic	pseudomorphs of bands and
																											fractures, but also as	accessory [illegible]
																											[illegible]	[illegible] abundance 1-3
																											[illegible] 1537.7 Clear	[illegible] Pyrite 1-3
																											[illegible]	[illegible] as disseminated
																											[illegible]	[illegible] pockets of
																											[illegible] aggregates, [illegible]	[illegible] fractures, oriented
																											along foliation.	
																											The 1579.4 - 1578.8 ft	section is strongly
																											silicified such that the	core is massive fine-grained
																											rock has a green-reddish	that is at times
																											interval has a few	of silica-[illegible] stockwork
																											[illegible] each 5cm	[illegible] segregation shall
																											[illegible] pockets and	short sections, and appears
																											[illegible] silicified	[illegible] pyrite abundance
																											[illegible] 1538 ft wall,	occurs [illegible] as 1-3% ultra-
																											[illegible] fg, disseminations.	
1532.2		M	vfg	MSV	GG	-	2	F	A5				1						0.1			0.001		5903	3.2		[illegible]	[illegible]
[illegible]							2						1						0			0.001		5904	2.0		[illegible]	[illegible]
1537.2							2						1						3			0.001		5905	3.2		possible pillow selvage	pebbly fg pyritic [illegible]
																											mineral	
1538.0							2						-						-			—		5906	0.8		whole rock sample	

ROYAL OAK MINES INC.

DRILL HOLE

DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	Ai	J/F J	A2	MINERALS GANGUE C%		B%		C%	METALLIC D%		E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1591.0		M	Vfg	MSV	Vfg	—	2					1					1			0.001		5907	3.0		possible pillow selvedge stockwork	patchy pyrite, few stringers
1594.0							2										1			0.001		5908	3.0		minor Vfg-Cg xenoliths to 5mm	
1597.0							2					1					1			0.001		5909	3.0		possible pillow breccia, patchy diss Fg arsenical py	
1600.0							2					1					3			0.001		5910	3.0		rock bed of silicified xenoliths, accessory hb, garnet	
1603.0							2					1					0.1			0.001		5911	3.0		minor qtz-cb stockworking	
1606.0							2										½			0.001		5912	3.0		10% bed of fg-cg xenoliths, patchy fine diss pyrite	
1609.0							2										1			0.001		5913	3.0		fine diss arsenical pyrite	
1612.0							2					1					1			0.002		5914	3.0		diss arsenical Fg pyrite	
1615.0							2					3					3			0.002		5915	3.0		many qtz-cb xenoliths/pebbles with minor pebble-wise Fg arsenical pyrite	
1618.0																	3			0.002		5916	3.0		patchy fine-Fg pyrite	
1621.0																	1			0.001		5917	3.0		patchy Vfg-Fg pyrite	
1623.0																	1			0.001		5918	2.0		fine Vfg pyrite	
1625.0				FOL	Vfg	SCR	2					1					1			0.001		5919	2.0		strong scr alt°, patchy diss Fg arsenical py	
1628.0					Vfg	SCR	2					1					3			0.001		5920	3.0		strong scr alt°, diss Vfg pyrite, strong scr	
1631.0						SCR	2										0.1			0.002		5921	2.2		strong scr alt°, 1-3% diss Fg magnetite xtls, base	
1634.0						SCR	2										3			0.002		5922	3.0		weak scr alt°, patchy pyrite aggregates	

COMMENTS 1	COMMENTS 2
possible pillow selvedge stockworking	patchy pyrite, few stringers
minor qtz-cb xenoliths to 5mm	
possible pillow breccia, patchy diss Fg arsenical py	
rock bed of silicified xenoliths, accessory hb, garnet	
minor qtz-cb stockworking	
10% bed of fg-cg xenoliths, patchy fine diss pyrite	
fine diss arsenical Fg pyrite	
many qtz-cb xenoliths/pebbles with minor pebble-wise Fg arsenical pyrite	
patchy fine-Fg pyrite	
patchy Vfg-Fg pyrite	
fine Vfg pyrite	
strong scr alt°, patchy diss Fg arsenical py	
strong scr alt°, diss Vfg pyrite, strong scr	
strong scr alt°, 1-3% diss Fg magnetite xtls, base	
weak scr alt°, patchy pyrite aggregates	

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DRILL HOLE 5004-3

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DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1587.0		M	vfg	FOL	Vb	SER	2					1			1		0.001	5923	3.0		mod ser alt^n with patchy py aggregates	
1590.0						SER	2											5924				
1594.0						SER	2	F	40			3			3		0.001	5925	4.0		mod ser alt^n, ghosts fol^n parallel quartz veins, diss + patchy fg pyrite	
1597.0						SER	2					3			1		0.001	5926	3.0		mod alt^n, ghosts destroyed in sericitic wall rocks, patchy pyrite aggregates	
1599.5						SER	2					3			1		0.001	5927	2.5		mod ser alt^n, ghosts	stockworking, diss pyrite
1602.0						SIL	2					1			3		0.001	5928	2.5		strong silic^n, patchy	pyrite halos
1604.0						SIL	2					1			3		0.003	5929	2.0		strong silic^n with	qtz stockworking
1605.5						SER	2					1			1		0.001	5930	1.5		mod ser alt^n, ghosts	stockworking, diss pyrite
																					diss + patchy pyrite.	

COMMENTS 1

COMMENTS 2

1587.0 - 1604.0 ft: Silicified section mostly fractured and veined by qtz-py stockwork. Silicification and veining are at 45-70° TCA. Pale, patchy, brownish-colored pyrite

Lower contact of the main volcanics is selected at 1605 ft. This is roughly the last appearance of any remnant of relict volcanic and roughly the start of the strong sericite-silica alteration described below.

ROYAL OAK MINES INC.

DRILL HOLE [illegible]

DIST	Id	ROCK DESCRIPTION: Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S: B	Ai	J/F: J	A2	MINERALS GANGUE: C%	B%	C%	METALLIC: D%	E%	F%	Spl #	Wdth	T

COMMENTS 1 / COMMENTS 2

SERICITE-CARBONATE SHEAR(?) ZONE
(1605.5 - 1681.5 ft).
Colour generally a light yellow-grey, hard, non-magnetic, non-calcitic. well developed foliated texture is defined chiefly by the alignment of sericite-carbonate bands. Locally developed sheared texture consisting of [illegible] formed [illegible] shapes, weak wavy foliation and [illegible] texture suggests this to be a shear zone. [illegible] the mineralogy of this unit is made up of an assemblage of sericite-carbonate with occasional patches of silica (siliceous material being observed. For the most part, thin veins [illegible] and large bands and patches of an [illegible] massive textured light yellow-grey [illegible]).
Quartz-ankerite veining is commonly observed but does not exceed [illegible]% in overall abundance. These veins occur mostly in a foliation-parallel orientation and do not exceed 1 inches in thickness.
Pyrite is quite commonly developed being a [illegible] 1-3% [illegible] abundance, but locally can be [illegible] 2-3 [illegible] (e 1612 ft). For the most part the pyrite occurs as small patches of [illegible] disseminated [illegible] all [illegible] foliation [illegible] is mostly as [illegible] crystals.
Rare CHALCOPYRITE observed at 1639.[illegible]
1640.2 - 1650.4 ft: This interval contains roughly 3% of an [illegible] green mineral that occurs as [illegible] patches and beds [illegible] thick (Mariposite?)
Below 1650.4 ft. the core loses its foliation and pyrite and becomes a massive textured light yellow coloured material. [illegible] sericite beds/veins impart a weak foliation

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DIST	Id	Com	Grs	Text	Co	Alt	Nam	B	A1	J	A2		C%		B%		C%		D%		E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
																											and occasional sections	of [illegible] and
																											carbonate material [illegible]	a [illegible] brecciated
																											[illegible] the [illegible]. For the	most part, the core is
																											just a very [illegible] yellow-	coloured massive material
																											down to roughly 1679 ft.	
1607.0		M	Vtz	FOL	Y/G	SER	ALT						1						5			0.001		5231	3.5		strg sec alt=, patchy d	iss py along fol.
1610.9						SER	ALT						1						5			0.002		5232	1.9		Strg sec alt=, banded + p	atchy + diss py along fol =
1612.8						SER	ALT						3						7			0.003		5233	1.8		strg sec alt=, [illegible] py/	[illegible], [illegible] veins
																											along fol= [illegible]	
1616.0						SER	ALT						1											5234	3.2		mixed sec-carb alt=, patc	hy pyrite, well developed
																											[illegible]	
1619.0						SER	ALT						1						3			0.002		5235	3.0		Strg sec alt=, patchy py	rite, [illegible]
1622.0						CARB	ALT						3						3			0.002		5236	3.0		strg [illegible] alt=, 2-3%	[illegible]
																											[illegible], patchy, [illegible]	
																				0.004	9.0 (125 ppb)							
1625.0						CARB	ALT						1						3			0.004		5237	3.0		mixed carb-sec alt=, diss	fg pyrite, [illegible]
																											veins	
1628.0						SER	ALT						3									0.003		5238	3.0		mixed sec alt=, patchy	[illegible], diss py
1631.0						SER	ALT						3						3			0.004		5239	3.0		mixed sec-carb alt=,	fragmental texture, diss py
1634.0						SER	ALT						1						1			0.001		5240	3.0		mixed sec-carb alt= di	ss pyrite, [illegible]
1637.0						SER	ALT						1						1			0.002		5241	3.0		mixed sec carb alt= dis	s pyrite, [illegible]
1640.0						SER	ALT						0.1						3			0.003		5242	3.0		mod sec alt=, diss py.	Rare CHALCOPYRITE [illegible]
																											[illegible]	
1643.0						SER	ALT						–						5			0.002		5243	3.0		msv strg sec alt=, patc	hy + [illegible] pyrite, 3%
																											[illegible]	

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DRILL HOLE [illegible]

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DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%		B%		C%	METALLIC D%		E%	Gn	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1696.0						SER	ALT	F	35			—					5			0.002		4949	3.0		slong. ser alt= ; patchy t. stage pyrite, 1-3%	
																									golden mineral.	
																					5959	—		XRD Sample of green mineral.	
1699.0				FOL		SER	ALT					—					5			0.002		5945	3.0		msv slong ser alt= patchy pyrite 3% g.m. mineral	
1697.4				FOL		SER	ALT					-					5			0.002		5946	1.4		msv slong ser alt= patchy pyrite	
1653.0				MSV		SER	ALT					—					—			0.01		5947	2.6		msv ser-sil? alt=	
1656.0				MSV		SER	ALT					—					—			0.01		5948	3.0		ser-sil? alt=	
1651.0				MSV		SER	ALT					—					—			0.01		5949	3.0		ser alt=	
1662.0				MSV		SER	ALT					3								0.01		5950	3.0		mixed ser-carb alt=	
1665.0				MSV		SER	ALT					1					-			0.01		5951	3.0		mixed ser-carb alt=	
1668.0				MSV		SER	ALT					-					W			0.01		5952	3.0		mixed ser-carb alt= , minor diss pyrite	
1671.0				MSV		SER	ALT					—					01					5953	3.0		mixed ser-carb-bio alt= , minor diss pyrite	
1674.0				MSV		SER	ALT					—					01					5955	3.0		ser-carb-bio alt= minor diss pyrite	
1677.4				FOL		SER	ALT					—					1			0.002		5956	3.0		slong foli= mixed deep yellow ser/carb patches	
1679.3				MSV		SER	ALT					—					01			0.01		5957	2.3		msv, mixed ser-sil-carb alt=	
1681.5				FOL		SER	ALT	F	40			—					1			0.01		5958	2.2		mixed deep yellow ser/carb patches, slong foli=	
																									diss pyrite, tr. stringers of green mineral	
																									HYBRID ZONE (1681.5 - 1699.7ft).	
																									Brecciated variable from dark grey-brown to	
																									black, very hard and locally magnetic rock	

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DRILL HOLE SW 84-3

DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nom	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	/m	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
																						calcitic, weakly foliated texture. The section	
																						reworked altered [illegible] but distinctive	
																						[illegible] the [illegible] can be seen	
																						[illegible] a 4 inch thick bed of magnetite at	
																						1689.7 ft. The remainder of the interval is	
																						composed of an aphanitic dark grey-black	
																						colored very hard rock. [illegible] contains [illegible]	
																						to [illegible] in veins. Strong	
																						Core Angle: 35° TCA at 1689.9 ft. Bedding.	
1684.0		M	vfg	FOL	GY	HEM	BS												5958	2.5		[illegible] plag-[illegible]	syenite
																						[illegible]	
1687.0						HEM	BS												5960	3.0		altered plag-porphyritic	syenite
1690.0						HEM	?					0.1			1			0.001	5961	3.0		Hybrid zone, class vfg euhedral pyrite 9 mm bed.	
1693.0						HEM	?					3			1			0.001	5962	3.0		Hybrid zone class vfg euhedral pyrite	
1694.7						SER	?					—			—			0.001	5963	1.7		mixed banded: section [illegible]	material.
																						SYENITE (1694.7 -	2175.2 ft):
																						Colour generally a deep red-brown, very	
																						hard, weakly magnetic	to non-magnetic,
																						variably calcitic. Generally a massive, [illegible]	
																						overall, with a variably [illegible]	well developed
																						planar [illegible] texture. [illegible]	[illegible]
																						planar [illegible] are absent [illegible]	[illegible]
																						evident in [illegible] plagioclase [illegible]	[illegible]
																						up to a good centimeter in size. The plagioclase	
																						phenocrysts are commonly [illegible]	good [illegible]
																						and very [illegible] abundant.	from trace to 2%
																						Quartz-tourmaline (?) [illegible]	(pyrite) related to
																						1-2 cm in thickness are	commonly [illegible] and

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DRILL HOLE [illegible]

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DIST	Id	Com	Grs	Text	Co	Alt	Nam	B	Ai	J	A2	C%		B%		C%		D%		E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
																										are [illegible] at all an	gles to CA. These
																										veinlets are rather evenly	distributed throughout
																										and are roughly 1-3%	in overall abundance.
																										Many of the veins appear	to be of a tensional
																										[illegible] pull-apart	veins, as matching
																										opposing wall rock prof	iles are commonly
																										observed. These veins	are [illegible]
																										most parts but [illegible]	[illegible]
																										subhedral pyrite, [illegible]	[illegible]
																										and rare occurrences of	a [illegible]
																										amorphous mineral (tour	maline?). The distinctive
																										[illegible] this unit is it	's striking red-brown
																										[illegible] by a strong	pervasive hematite
																										[illegible] alteration	clearly overprints the
																										[illegible] but	has not affected the
																										quartz veinlets. Pyrite	is present throughout the
																										unit, occurring as [illegible]	[illegible]
																										euhedral-subhedral diss	eminations while [illegible]
																										in all phases of the [illegible]	[illegible]
																										be a slightly greater	abundance of [illegible]
																										[illegible] that are	fine grained [illegible]
																										[illegible]	[illegible] Upper contact
																										[illegible]	le TCA.
																										[illegible]	
[illegible]		Ms	vh	[illegible]								1												[illegible]		[illegible]	[illegible] diss pyrite.
1701.0			vh	Pon	RB	Hem	QS					3						0.1			0.008		5965	3.0		[illegible] qtz-py vein at [illegible] TCA	[illegible]
1704.0			vh	MSV	RB	Hem	QS					2						3			0.023		5966	3.0		vh, diss [illegible]	[illegible]
[illegible]			vh	COT	RB	[illegible]						0.1												3.0		[illegible] diss [illegible] pyrite.	chl stringers 1%
																										[illegible]	
[illegible]			vh	MGV	RB	[illegible]						3												3.0		[illegible] diss [illegible]	[illegible] qtz-chl veinlets
																										[illegible]	
[illegible]			vh	Pon	[illegible]							1												3.0		[illegible]	qtz veinlets

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DIST	Id	Com	Grs	Text	Co	Alt	Nom	B	Al	J	Ag	Gangue C%	Gangue B%	Gangue C%	Metallic D%	Metallic E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
1716.0		M	vfg	MSV	RB	[illegible]	[illegible]					[illegible]			[illegible]		[illegible]		[illegible]	3.0		vfg diss. py, qtz-cc box	hematite-magnetite veins.
1719.[illegible]	[illegible]		vfg	MSV	RB	[illegible]	BS					[illegible]			[illegible]		.0020		[illegible]	3.0		vfg diss. py, well developed	qtz-cc [illegible]
1722.6			vfg	MSV	RB	HEM	BS					[illegible]			.5		.0015		5272	3.6		mixed vfg + fg diss py, c[illegible]	shards/pockets, sharp contact with porphyritic section below.
1726.0			mg	POR	RB	HEM	BS					1			0.1		.0039		5273	3.4		3-4 stringer veinlets in m-cg	plagioclase phenocrysts.
1729.0			cg	POR	RB	HEM	BS					1			0.1		.0008		5274	3.0		1-2 qtz-py veinlets and diss	pyrite, cg plag phenos.
1731.0			cg	POR	RB	HEM	BS					[illegible]			[illegible]		.0015		[illegible]	2.0		tightly packed cg plag	ioclase phenocrysts.
1734.0			mg	POR	RB	HEM	BS					[illegible]			[illegible]		.0015		[illegible]	3.0		mixed fg-cg plagioclase	phenocrysts.
1739.0			mg	POR	RB	HEM	BS					-			0.1		.0014		5277	4.0		trace diss vfg pyrite in	cg plag phenocrysts.
1741.0			mg	POR	RB	HEM	BS					1			1		.0013		5278	3.0		trace diss + stringer py in	cg plag phenocrysts.
1743.4			vfg	MSV	RB	HEM	BS					1			0.1		.0006		5279	2.4		3 qtz veinlets in trace diss	py, minor plag phenos.

474 ppb / 69.3 ft
(0.014 opt)

The strong pervasive hematite alteration persists down to roughly 1759.1 ft, where it gradually decreases in intensity. Below 1759.1 ft the strength of the alteration is weak overall, with local sections of moderate alteration over 1 ft. Pyrite is still present but it too is noticeably less in abundance and has changed in its mode of occurrence. Below 1759.1 ft the pyrite occurs mostly as fine grained euhedral disseminations up to 2mm in size. Some vfg pyrite is still present but only minor in abundance. Overall pyrite abundance does not exceed 1%. Quartz veining is also less in abundance and occurs only as

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DRILL HOLE [illegible]

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DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
																					Hw odd. veinlet up to 1-2cm. in width at all angles TCA. Very fine grained, weakly magnetic diabase dikes are present at 1723.6ft (3inch, 30° TCA) and 1729.8 - 1800.7ft (15° and 5° TCA, respectively).	
1746.0		cm	mg	por	AB	HEM	BS	V	60			5			1		aa03	5980	2.6			
1749.0			cg	por	AB	HEM	BS					0.1			1		aa12	5981	3.0			
1752.0			cg	por	AB	HEM	BS	V	70								aa10	5982	3.0			
1759.1			cg	por	AB	HEM	BS					0.1			0.1		aa09	5983	2.1			
1757.0			mg	por	AB	HEM	BS					1			1		aa10	5984	2.9			
1760.0			cg	por	AB	HEM	BS											5985	3.0			
1763.0			cg	por	AB	HEM	BS											5986	3.0			
1766.0			mg	por	AB	HEM	BS					3			0.1		aa01	5987	3.0			
1769.0			mg	por	AB	HEM	BS											5988	3.0			
1772.0			cg	por	AB	HEM	BS											5989	3.0			
1775.0			cg	por	AB	HEM	BS					0.1					aa02	5990	3.0			

COMMENTS 1	COMMENTS 2
Hw odd. veinlet up to 1-2cm. in width at all angles TCA. Very fine grained, weakly magnetic diabase dikes are present at 1723.6ft (3inch, 30° TCA) and 1729.8 - 1800.7ft (15° and 5° TCA, respectively).	
disturb by subhedral-euhedral pyrite 2-3% 2 inches contains trace pyrite, minor chl fracs	
trace diss ultra euhedral pyrite, minor chl fracs 3-9mm	
2 inch-chl-qz-(py) vein, Hw 1-2 inches, ultra diss euhedral pyrite	
coarse porphyritic base, cg's and base, chl fractures	
weak hem alt=, minor qtz veins at high TCA, very strong hem alt= walls, ultra euhedral pyrite	
Broad fg chl stockwork, trace diss. ultra, very weak hematite alt=	
Hw trace qtz-chl stockwork, trace 1-2% fg diss euhedral pyrite	
weak hem alt=, trace diss ultra euhedral pyrite	
weak hem alt=, base of vein veinlets	
moderate hem alt=, trace ultra diss pyrite	
very weak hem alt=, diss ultra pyrite	

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DRILL HOLE SH 24-3

DIST	Id	ROCK DESCRIPTION Com	Gra	Text	Co	Alt	Nom	STRUCT. B/S B	A1	J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1778.0																						
1781.0																						
1784.0																						
1787.0																						
1790.0																						
1793.0																						
1796.6																						
1797.9																						
1800.7																						
1803.0																						
1806.0																						
1809.0																						
1812.0																						
1815.0																						
1818.0																						
1821.0																						

ROYAL OAK MINES INC.

DRILL HOLE

DIST	Id	ROCK DESCRIPTION						STRUCT.				MINERALS														COMMENTS 1	COMMENTS 2
								B/S		J/F		GANGUE						METALLIC									
		Com	Gra	Text	Co	Alt	Nam	B	Ai	J	A2		C%		B%		C%		D%		E%		F%	Spl #	Width	T	
1829.0			mg	PXN	GY	–	BS																				
1827.0			mg	PXN	GY	–	BS																				
1830.0			mg	PXN	GY	–	BS																				
1833.0			mg	PXN	GY	–	BS																				
1836.0			mg	PXN	GY	–	BS																				
1839.0			mg	PXN	GY	–	BS																				
1842.1			PG	PXN	GY	–	BS																				
1846.4			vfg	FOL	BK	–	2	C	25																		
1849.0			vfg	MSV	GY	–	BS																				
1851.0			fg	PXN	RB	–	BS																				
1877.5			vfg	MSV	BK	–	2																				
1875.0			fg	PXN	RB	–	BS																				
1878.0			fg	PXN	RB	–	BS																				
1881.0			fg	PXN	RB	–	BS																				
1884.0			fg	PXN	RB	–	BS																				
1887.0			fg	PXN	RB	–	BS																				

COMMENTS 1	COMMENTS 2
mg pyrite bolu	
trace diss pyrite	
ons qtz-ce vein w	5mm
thin qtz-ce veinlets (sheared, diss vfg	
2-3 inch diabase dike @ 45° TCA	
3 inch diabase dike @ 20° TCA	
thin qtz-ce veinlets w	1-2cm
thin qtz-ce veinlets	
xenolith of meta volcanics containing diss fg sulphide pyrite	
vfg syenite, trace vfg diss pyrite	
diabase contact @ sub-parallel TCA	
Contact to Sample, DIABASE DIKE	
Syenite, trace qtz veins, vfg diss	
1-2 cm wavy diabase dike	
vfg diss pyrite, 1 inch diabase dike	
trace diss vfg pyrite	1cm diabase dike
thin qtz veins veinlets	1-3mm, diss vfg pyrite

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DRILL HOLE SM20-?

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DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	Al	J/F J	Ag	MINERALS GANGUE C%		B%		C%	METALLIC D%		E%	/m	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1830.0			fg	por	RB	-	BS																			
1832.0			fg	por	RB	-	BS																			
1836.0			fg	por	RB	-	BS					0.1					0.1			0.001					vfg diss pyrite	
1839.0			fg	por	RB	-	BS					3					-			0.001		6026	3.0		minor vfg-cg veinlets	
1842.0			fg	por	RB	-	BS					0.1					-			0.001		6027	3.0		minor vfg-cg veinlets	
1845.0			fg	por	RB	-	BS																		minor vfg-cg veinlets	
1848.0			fg	por	RB	-	BS																		trace vfg diss pyrite	
1851.0			fg	por	RB	-	BS																		trace vfg diss pyrite	
																									Pervasive hematite alteration patchy throughout below contact 1873.3 ft	
1914.4			fg	por	RB	-	BS					0.1					0.1			0.001		6031	3.4		trace vfg diss pyrite	
1917.5		B	vfg	msv	BR	-	9	C	Q																dk base clast, very blotchy	composite sample
1920.0		M	fg	por	RB	-	BS										0.1			0.001		6033	3.5		trace vfg diss pyrite	
1923.0			fg	por	RB	-	BS					1					0.1			0.001		6034	4.0		minor fine grained veinlets	
1926.0			fg	por	RB	-	BS					1					0.1			0.001		6035	4.0		minor fine grained veinlets	
1929.0			fg	por	RB	-	BS					1					0.1			0.001		6036	4.0		minor fine grained veinlets	
1932.0			fg	por	RB	-	BS					1					0.1			0.001		6037	4.0		minor fine carbonate grained veinlets	
1935.0			fg	por	RB	-	BS	V	45			3					0.1			0.001		6038	4.0		Brick reddened chloritized [illegible]	

ROYAL OAK MINES INC.

DRILL HOLE SW 24-3

DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
1950.0		M	Fg	PGR	NB	—	BS					1			—			6039	4.0		minor qtz-cc stockworking	
1954.0			Fg	PGR	NB	—	BS					3			0.1			6040	4.0		minor qtz-cc patches/ veinlets	
1958.0			Fg	PGR	NB		BS					3			—			6041	4.0		qtz-cc veinlets to 1.2cm	
1962.0			Fg	PGR	NB	—	BS	V	45			1			—			6042	4.0		qtz-cc veinlet to 1cm	
1966.0			Fg	PGR	NB	—	BS					1			—			6043	4.0		Y-shaped qtz-cc vein to 2-3cm	
[illegible]			Fg	PGR	[illegible]		[illegible]					1			—			6044	4.0		trace fine qtz-cc veinlets	
[illegible]			Fg	PGR	[illegible]		[illegible]					5			0.1			6045	3.3		qtz-(cx) breccia to 6 inches	
[illegible]			mg	PGR	NB	[illegible]	BS					0.1			—			6046	2.7		weak pervasive [illegible] alt, vfg diss py	
1978.0			Cg	PGR	NB	[illegible]	BS					0.1			0.1			6047	3.0		[illegible] pervasive [illegible] alteration	
1982.0			Fg	PGR	NB	[illegible]	BS					3			0.1			6048	7.0		2 fine grained qtz-(fsp) veins to 2 inches	
[illegible]			Fg	PGR	[illegible]		[illegible]					0.1			—			6049	3.0		trace qtz veinlets with [illegible] alt selvages T/A	
[illegible]			Cg	PGR	[illegible]		[illegible]					1			—			6050	3.0		1 wavy-edged qtz-fsp vein a fine-grained T/A	
[illegible]																					wisps of fine-grained pyrite	
1990.0			Cg	PGR	NB	[illegible]	BS					1			0.1			6051	3.0		sharp [illegible] alt, trace vfg fine-grained pyrite	
1993.0			Cg	PGR	NB	[illegible]	BS					0.1			—			6052	3.0		minor localized qtz fsp veinlets, trace disseminated pyrite	
1996.0			Cg	PGR	NB	—	BS					0.1			—			6053	3.0			
[illegible]			Cg	PGR	[illegible]		[illegible]					1			—			6054	4.0		qtz-mt breccia to 3 inches	
[illegible]			Cg	PGR	[illegible]		[illegible]					1			—			6055	4.0		minor qtz veinlets (chalcedonic)	

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DRILL HOLE S1129-3

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DIST	Id	ROCK DESCRIPTION						STRUCT. B/S	STRUCT. B/S	STRUCT. J/F	STRUCT. J/F	MINERALS GANGUE						MINERALS METALLIC						Spl #	Width	T	COMMENTS 1	COMMENTS 2
		Com	Gra	Text	Co	Alt	Nam	B	Al	J	Az	C%		B%		C%		D%		E%		F%						
2008.0			Gy	PVR	MB	HEM	BS		10			1												6056	4.0		1 inch ghost-cut(s)	10° TCA, second
																											2 inch ghost-cut(s)	10° TCA
2017.0			Gy	PVR	MB	HEM	BS		65			1												6057	4.0		minor disseminated	AVOID, 1 inch ghost
																											vein calcite rock CHALCOPYRITE	
2016.0			Gy	PVR	MB	HEM	BS					0.1						-				QUA2		6058	4.0		minor bladed qtz	
2020.0			Gy	PVR	MB	HEM	BS					3						0.1				QUA1		6059	4.0		ghosted dk sucrosic	bifurcates, contains minor
																											py = CPY, large pebble	recrystallized gray calcareous
																											wall rock alt=	
2029.0			Gy	PVR	MB	HEM	BS					1												6060	4.0		weak ghosted pebble	60% stain, trace
																											along vein salbs	
2028.0		^	Gy	PVR	MB	HEM	BS					1						-				QUA1		6061	9.0		minor thin irregular	ghosted pebbles
2032.0		^	Gy	PVR	MB	HEM	BS					1						-				QUA1		6062	4.0		minor thin ghosted	pebbles
2036.0		B	Gy	PVR	MB	HEM	BS					1						-				QUA1		6063	4.0		1 fracture ghosted vein	4° weak minor bladed qtz
2040.0		M	Gy	PVR	MB	HEM	BS					0.1						-				QUA2		6064	9.0		minor thin ghosted	pebbles
2044.0		M	Gy	PVR	MB	HEM	BS					1						-				QUA1		6065	9.0		1-5 shaped ghosted vein	to 1 inch
2048.0			Gy	PVR	MB	HEM	BS					5						-				QUA1		6066	4.0		ghosted qtz vein	
2052.0			dGy	FOL	BI	?	BS	V	35			1						-				QUA1		6067	4.0		dk foliated section	
2056.0			dGy	FOL	BI	HEM	BS					1						-				QUA1		6068	4.0		dk foliated section, remnant	ghosted pebbles
2060.0			Gy	FOL	BI	CHL?	BS	V	70			3						-				QUA2		6069	4.0		ribbon ghosted vein @ 20° TCA	1 inch milky ghosted vein
																											at 30° TCA	
2064.0			Gy	MSV	MB	HEM	BS					1						-				QUA3		6070	4.0		common chloritic	pebbles

DIST	Id	ROCK DESCRIPTION Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE c%			c%	METALLIC D%		E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
2068.0			fg	PGR	MS	Hm	BS					5				a-1			aa1		6071	4.0		qtz-cc-chl-(ab) vnlets + bxx.	
2077.0			fg	PGR	MS	?	BS					a-1				1			aa2		6072	4.0		fg-mg diss pyrite	
2076.0			fg	PGR	MS	?	BS					3				3			aa2		6073	4.0		mixed mg diss euhedral pyrite and vfg diss py 3-4 vnlets + bxx veins to 4 cm	
																								2073.51 - 2082.26 Zone of variable, generally coloured Alteration. Here, the remnants of the host syenite can still be seen as the occassional bleached feldspar phenocryst set in an aphanitic matrix of green-grey material. This alteration imparts a distinctly different texture and colour to the core. Gradational upper and lower contacts. The alteration is suspected to be part of the chlorite-family alteration, based on core alone. Rock varies distinctly in abundance (overlap zone), ranging from veins, stringers and vein breccias to 6 vnlets/ft (brx). Many of the veins are 1-2-3 inches in width and appear to be terminal in nature. Veins occur as mostly straight-edged and "V" or "X" shaped. These often carry a dark-coloured material that is sometimes in alignment. The veins also carry a pyrite-(qtz)-(py) (locally) assemblage. Pyrite is also quite abundant in the intervening wall rocks, occurring as disseminations, veinlets and clots. Pyrite abundance is estimated at 1-3%.
2080.0			vfg	FGL	MS	CHL?	BS	U	qv			10				3			aa3		6074	9.0		vvfg diss pyrite, shown veins to 4 vnlets	
2083.0			vfg	MGL	MS	CHL?	BS					7				1			aa3		6075	3.0		shown two pyrite veinlets, abundant pyrite	

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DRILL HOLE __ 93 __

DIST	Id	Com	Grs	Text	Co	Alt	Nam	B	Ai	J	Ag	C%		B%		C%		D%		E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
																										material, diss. ?-fg euhedral	pyrite.
2085.6			vfg	BRK	GY	CHL?	BS											5			.002		6076	2.0		Hem breccia containing coarse	euhedral pyrite, abundant
																										vfg diss. pyrite in wall	rocks.
2088.0			vfg	FOL	GY	CHL?	BS	U	35			10						3			.001		6077	3.0		chl stringers sub-parallel CA,	4-5 qtz veins in 2-3mm
																										vfg diss. pyrite	
2089.9			vfg	FOL	GY	CHL?	BS					15						1			.005		6078	1.9		qtz-cc (pink mineral) vein	brecciated/veined to ...
																										fg diss. euhedral pyrite	chl stringers @ 20 TCA.
2093.0			vfg	MSV	RB	HEM	BS	V	80			[illegible]						3			.001		6079	3.0		Brecciated qtz veinlets diss. vfg-	fg anhedral-euhedral pyrite
2096.0			vfg	MSV	RB	HEM	BS					15						1			.001		6080	3.0		trace qtz-cc veinlets to 1-2mm	diss. vfg-fg euhedral py.
2099.0			vfg	MSV	RB	HEM	BS					1						0.1			.001		6081	3.0		trace qtz-cc veinlets, good chl	+ blue-grey stringers
2102.0			vfg	FOL	RB	HEM	BS					1						0.1			.007		6082	3.0		trace qtz-cc veinlets, minor	chl + blue-grey stringers
2105.0			vfg	MSV	RB	HEM	BS	U	15			1						1			.007		6083	3.0		vvfg diss. pyrite, chl	patchy stringers
2108.0			fg	POR	RB	HEM	BS					1						0.1			.003		6084	3.0		trace qtz-cc stringers, minor	chl patchy stringers
2111.0			vfg	DOT	RB	HEM	BS					3						0.1			.001		6085	3.0		chl-silica veins @ 10-15°	TCA
2114.0			vfg	FOL	RB	HEM	BS	F	30			5						0.1			.001		6086	3.0		qtz-carb veins + patches to	1-2 cm, blue-grey cult
																										(chlorite?) patches	
2117.0			fg	POR	RB	HEM	BS					1									.001		6087	3.0		minor localized qtz-ankerite	veinlets/stringers
2120.0			vfg	MSV	RB	HEM	BS					7						–			.001		6088	3.0		good qtz-carb stockwork	x-cut by chl stringers.
2123.0			fg	MSV	RB	HEM	BS					1						–			.001		6089	3.0		trace qtz-carb veinlets.	
2126			fg	POR	RB	HEM	BS					0.1						–			.001		6090	3.0		abundant rounded fg	qtz grains (bleached)

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DRILL HOLE [illegible] 3

DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
2170.0			fg	msv	RB	Hem	BS					3						6091	3.0		[illegible]	
2137.0			fg	msv	RB	Hem	BS	U	15			[illegible]			[illegible]			6092	3.0		[illegible]	
2135.0			fg	msv	RB	Hem	BS	U	35			[illegible]			[illegible]			6093	3.0		[illegible]	
2138.0			fg	FOL	RB	Hem	BS	U	15			5			0.1			6094	3.0		[illegible]	
2141.0			fg	PGR	RB	Hem	BS	U	85			5			0.1			6095	3.0		[illegible]	
2[illegible]			vfg	FOL	RB	Hem	BS					[illegible]			[illegible]			[illegible]			[illegible]	
2[illegible]			fg	PGR	RB	Hem	BS					[illegible]			[illegible]			[illegible]			[illegible]	
2150.0			fg	PGR	RB	Hem	BS					1			0.1			6098	3.0		[illegible]	
2153.0			fg	PGR	RB	Hem	BS					3			1			6099	3.0		[illegible]	
2156.0			fg	PGR	RB	Hem	BS					3			1			6100	3.0		[illegible]	
2[illegible]			fg	PGR	RB	Hem	BS					[illegible]			[illegible]			[illegible]			[illegible]	
2162.0			fg	PGR	RB	Hem	BS					3			0.1			6102	3.0		[illegible]	
2165.0			fg	PGR	RB	Hem	BS	U	45			1			0.1			6103	3.0		[illegible]	
2168.0			vfg	msv	RB	Hem	BS					1			1			6104	3.0		[illegible]	
2[illegible]			vfg	msv	RB	Hem	BS	U	30			[illegible]			[illegible]			[illegible]			[illegible]	
2[illegible]			vfg	msv	RB	Hem	BS	C	35			[illegible]			[illegible]			[illegible]			[illegible]	

COMMENTS 1	COMMENTS 2
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
[illegible]	

ROYAL OAK MINES INC.

DIST	Id	Com	Grs	Text	Co	Alt	Nem	Spl #	Wdth	COMMENTS 1	COMMENTS 2
										[illegible]	[illegible] AND
										[illegible]	[illegible] (2220.0 ft)
										[illegible]	[illegible] moderately
										[illegible]	[illegible] ically a
										[illegible]	[illegible] throughout, especially
										within the conglomeratic	intervals. The ultramafic
										material (2185.8 – 221	7.1 ft) also has a
										fragmental texture, but here it is made up of	
										"zebra-striped" fragments	at random orientations
										to one another. The conglomerate section is	
										[illegible]	[illegible] the
										[illegible]	[illegible] type
										[illegible]	[illegible] the
										[illegible]	[illegible] possible
										contact [illegible]	[illegible] Trace
										qtz-rich veinlets throughout.	
										Core Angle: 35° TCA at	2185.8 ft. Contact
										Core Angle: 15° TCA at 2	217.1 ft. Contact
										Core Angle: 40° TCA at 2	220.0 ft. Contact
2220.0		^	Cg	FRAG	GN	—	SC	[illegible]	44.8	composite sample	
										SYENITE DYKE (2220.0 – 2242.4 ft)	
										Colour: variable from red-brown to grey, very hard,	
										non-magnetic, non-calcitic, well developed	
										massive porphyritic textures with both	
										plagioclase and quartz phenocrysts being on the	
										order of 1-2 mm in size. Minor qtz veining. Very	
										weak hematization, usually along fractures that	
										may contain qtz vein material. Trace - 1% vfg	
										diss pyrite.	
										Core Angle: 60° TCA at	2242.4 ft. Contact.

DIST	Id	Com	Grs	Text	Co	Alt	Nom	B	A1	J	A2	Gangue C%	Gangue B%	Gangue C%	Metallic D%	Metallic E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
[illegible]	[illegible]	[illegible]	fg	DM	RB	Hem	85					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6108	4.0	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]											[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]
2228.0	[illegible]		fg	DM	RB	Hem	85					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6109	4.0		[illegible] small [illegible]	[illegible]
[illegible]	[illegible]											[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]
2232.0	[illegible]		fg	DM	RB	Hem	85					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6110	4.0		[illegible] diss. pyrite	[illegible]
2236.0			fg	DM	RB	Hem	85					1			1		[illegible]		6111	4.0		vfg diss pyrite	
2240.0			fg	DM	RB	Hem	85					1			1		.002		6112	4.0		minor qtz stringers, vfg	diss pyrite
[illegible]	[illegible]	[illegible]	[illegible]	DM	[illegible]	[illegible]	[illegible]	B	10			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible] diss. [illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		ULTRAMAFIC (2252	2.1-2279.1 ft)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible] chlorite [illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible], non-calcareous	[illegible]
																						knotty texture with abundant	knots of qtz and
																						talc all strung out along	foliation. Some blocky
																						sections (RQD 75%) really	exceed 3-4 ft in
																						length. Nil - trace sulphides,	nil qtz veins.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible] sample	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible] Rock Sample	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible] sample	[illegible]
																						GRANITE DIKE (22	79.1-2352.6 ft)
																						Colour light pink, hard,	non-magnetic, non-
																						calcitic. Massive granular	texture containing
																						abundant fine grained	rounded qtz grains set
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible] 1-2 inches [illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		2300-2305 ft section.	This section is about
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible] 1-3% diss.	pyrite that is closely
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		associated with the qtz	veins. Many veins are

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DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nom	STRUCT. B/S B	Ai	J/F J	Az	MINERALS GANGUE	C%		B%		C%	METALLIC	D%		E%	/~	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
[redacted]																												
																											qtz vein at 2341.2 ft	contains abundant amber
																											reddish-white fibrous	mineral (WULFRAMITE?)
																											Core Angle: 50° to c/a at	2352.6 ft contact
[redacted]																												
2306.0							8g						10						0.1			0.002		6120	2.0		conjugate stockwork-ish	veins @ 30° TCA
2307.5							8g						0.1						0.1			0.002		6121	1.5		relatively barren section	
[redacted]																												
																						—		6125	*		XRD sample of blue-grey material	
2322.0							8g						–						–			0.002		6126	4.0		check sample	
2326.0							8g						1						0.1			[illegible]		6127	4.0		1 qtz-cpy vein to 1/2	3 inches
2330.0							8g						–						–			0.001		6128	4.0		check sample	
2334.0							8g						–						–			0.008		6129	4.0		check sample	

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DRILL HOLE [illegible]

DIST	Id	Com	Grs	Text	Co	Alt	Nam	B	Ai	J	Az	c%	b%	c%	D%	E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
[redacted]																							
																	—		6133	*		XRD sample of unknown fibrous material.	
2348.0							Bg					–			1		0.019		6134	4.0		weak diss pyrite throughout	
[redacted]																							
																	local talc.					Colour dark green to black, soft, non-magnetic to weakly magnetic, non-calcitic; well developed foliated and knotty texture as described above. Trace qtz veinlets. Weakly sheared foliation is locally developed.	
[redacted]																							
2406.9		M.	vfg	PIL	bk	—	lm	10			1		0.002		6137	54.3		composite sample.	
2408.2							lm										—		6138	1.3		whole dark sample.	
2459.8							lm					10			1		0.001		6139	51.1		composite sample.	
[redacted]																							

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DIST	Id	Com	Grs	Text	Co	Alt	Nam	Spl #	Wdth
2613.9		M	A	MR 3N		—	9	[illegible]	15.6
2664.2		M	[illegible]	[illegible]		GAL	5	[illegible]	[illegible]
2680.5		M	G	[illegible]		[illegible]	5pw	[illegible]2	2.33

COMMENTS 1 / COMMENTS 2

[illegible] (2... - 2...9 ft.) [illegible] well developed foliated texture at 35° TCA is present within 15-20 ft of upper contact, but gradually becomes massive porphyritic texture below roughly 2677 ft. Trace-1% pyrite is disseminated throughout the foliated section.

[illegible] 2613.9 - 2664.2 ft [illegible] COARSE [illegible] 2680.5 ft [illegible] calcite, non-magnetic. Massive to locally foliated, porphyritic and granular texture. The distinguishing feature of this interval is the abundance (5-7%) of white to pinkish-coloured plagioclase grains (phenocrysts/porphyroblasts) set in a granular [illegible] [illegible] mineral, although [illegible] [illegible] plagioclase [illegible] (white) and are rather evenly distributed throughout the interval. The matrix can be seen to be composed of mostly tightly packed quartzite grains. This is especially evident in the 2683-2685 ft section. Very fine grained disseminated pyrite is only visible upon close examination of the core under a hand lens. Quartz-calcite stockwork (1-2 cm) is roughly 1-3% in abundance and is at all angles TCA.

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DRILL HOLE [illegible]
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DIST	Id	Com	Grs	Text	Co	Alt	Nam	B	Ai	J	A2		C%		B%		C%		D%		E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
2710.0	[illegible]	[illegible]	[illegible]	GT	[illegible]	TAL	5	B	40					[illegible]					01			[illegible]		6143	[illegible]		DEFORMED, INTERBEDDED ARGILLITE, SILTSTONE	
																											GREYWACKE and MAGNETITE BEDS	
																											[illegible] - 2711.0 ft)	
																											[illegible]	[illegible] to black,
																											[illegible]	[illegible] moderately to
																											strongly calcitic. Strongly	banded texture with
																											the interval composed of	variable amounts of
																											interbedded argillite - siltstone	- greywacke - magnetite.
																											The greywacke occurs	mostly as one thicker bed
																											located at 2702.5 - 2707	ft. The greywacke consists
																											[illegible]	[illegible] deformed [illegible]
																											[illegible]	The deformation occurs
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											cleavage that is oriented	more or less at 5-10°
																											TCA. Trace white veinlets	veins to 1 cm are present
																											throughout and are usually	at high angles TCA.
																											Rare patchy and disseminated	euhedral coarse
																											grained pyrite observed at	2711.0 ft. Some
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											(2711.0 - 2767.8 ft)	
																											Colour variable from medium	grey to black, non-
																											magnetic, moderately hard,	moderately calcitic.
																											A strongly developed sheared	texture is easily
																											observable throughout the	interval, where sections
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											[illegible]	[illegible]
																											[illegible] at 20-30° TCA	[illegible] elements

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DRILL HOLE SH94-3
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DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nom	STRUCT. B/S	Ai	J/F	Ag	MINERALS GANGUE C%	B%	C%	METALLIC D%	E% /m	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
																					m size. The light coloured m. More elsewhere is typically calcite. The sense of displacement along the C-elements is sinistral. 1-3% qtz-ch veinlets/stockworks throughout. Trace-1% disst bedded fine grained pyrite is present throughout.	
																					down-hole such that by 2767.8ft it is only weak to strong and intermittent in occurrence.	
2811.7		m.		FOL		CAL	5g	F	30			1			3		0.001	6145	93.9		FINE GRAINED QUARTZITIC SEGMENTS (2767.8 - 3116.8 ft)	
2860.9						CAL	15g	F	45													
2910.1								F	25													
2959								F	30													
3008.6							CAL	F	40			1			1		0.001	6149	92.3		Most selvages are composed of a vuggy fine grained quartzite, but local sections can contain light grey aphanitic clasts, fragments, or small beds of coarser grained quartzite material. Pyrite is rather unevenly developed throughout with the "usual" abundance being ~1-3% or so, but local 3-4ft sections can contain upto 5% pyrite. For the most part, the pyrite is weakly disseminated. 1-3% qtz-ch veinlets at random orientations. Trace-3% disst to weak qtz-ch	
3057.8						HEM	5g	S	ALT			1			1		0.001	6150	92.2			
3097.1						CAL	5g					1			0.1		0.002	6151	39.3			
																	0.1					

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DIST	Id	ROCK DESCRIPTION: Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S: B	Ai	J/F: J	Az	MINERALS – GANGUE: C%	B%	C%	METALLIC: D%	E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
[illegible]																						[illegible]	[illegible]
3101.0		m	fg	GRAN	GY	—	Sg					1			1		.001		6152	3.9		trace vfg diss py, weak	conglomeratic texture.
3104.0							Sg	B	65			0.1			0.1		.004		6153	3.0		trace vfg diss py, minor	conglomeratic textures
3107.0							Sg					50			1		.001		6154	3.0		qtz-cc veins + patches to 1-2	inches in with variable
[illegible]																						[illegible]	[illegible]
3113.0							Sg					35			0.1		.001		6156	3.0		qtz-cc veins to 2-3 inches,	trace vfg diss py.
3116.8							Sg					10			3		0.009		6157	3.8		qtz-cc patches to 1-2 inches.	Contains trace CHALCOPYRITE.
																						Banded, cm embedded py	from 3115.5-3116.8 ft.
[illegible]																						[illegible]	[illegible]

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PROJECT : SHRRIEF OPTION Logged By : R. Pessacco PAGE 1 CAT Date : --/--/19-- Page 1 of 9

[illegible] ----------

DRILL HOLE	NORTHING		EASTING	ELEVATION	LENGTH	OBI	OBE	INC	LEASE
SH94-4	36+30S 029N	Surface Lynx	14+50W	8065"	4305.6	[illegible]	[illegible]	[illegible]	MR 33922 MR 33921

DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP	DIST	AZIM	DIP
0	330	-68	695.5	331°	-68°	1482.9	332	-67°	2631.25	345	[illegible]	3323.5	349°	-64°
105.0	333	-69°	892.4	331°	-68°	1679.8	335	-67°	2423.8	339	-66°	3618.8	343	-63°
301.8	330	-69°	1089.2	332	-68°	1876.6	334	-68°	2828.1	348	[illegible]	3815.6 ft	350°	-64°
498.7	333	-69	1286.1	332	-68°	2073.5	343	-66	3024.9	NFG	[illegible]	4268.4	351	-64°

DIST	Id	ROCK DESCRIPTION: Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S: B	A1	J/F: J	A2	MINERALS GANGUE: QTZ	A%		B%		C%	METALLIC: PY	D%		E%	Au	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
13.1							CAS				[illegible]	[illegible]	[illegible]		[illegible]								[illegible]	[illegible]			NW [illegible]	[illegible]
																											[illegible]	[illegible]
[illegible]																											MIXED [illegible]	[illegible] STONE
																											MUDSTONE [illegible]	[illegible]
Start date:		Dec 1, 1994																									(Cowichan [illegible]	[illegible]
end date:		Jan 11, 1995																									Colour variable from dark grey to red-brown	
Core size		NQ																									depending on the dominance of any particular	
Core storage:		McN[illegible]																									sedimentary component, moderately soft to	
		Hollinger core shack - Timmins																									moderately hard, non-magnetic in general with	
																											locally magnetic sections (usually grain-supported	
																											coarse [illegible]	[illegible]
																											bre[illegible]	[illegible]
																											Much [illegible]	[illegible]
																											[illegible]	[illegible]
																											but [illegible] bedded	argillite - [illegible]
																											sandstone and boulder / cobble	conglomerates are
																											present as detailed below:	
65.6		[illegible]	[illegible]	[illegible]	[illegible]	–	10cm	B	80				–						–			0.002		6158	52.5		Interbedded argillite - mudstone, minor blocky core.	
114.9							10cm	B	80													0.001		6159	49.3		Composite sample, interbedded	argillite - mudstone.
164.1							10cm															0.002		6160	49.2		Composite Sample massive	argillite
213.3							10cm															0.001		6161	49.2		composite, some interbedded	sandstone. Graded bedding,
																											fines towards top of hole.	
262.6							10cm															0.001		6162	31.3		composite sample, argillite	[illegible]
																											interbedded [illegible]	[illegible]
																											[illegible] 250 ft	

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DRILL HOLE SH 94-4

DIST	Id	Com	Grs	Text	Co	Alt	Nom	STRUCT. B/S: B	Ai	J/F: J	Ag	GANGUE C%	B%	C%	METALLIC D%	E%	/~	F%	Spl #	Wdth	T	COMMENTS 1 / COMMENTS 2
774.3		m	vfg	BGD	gy	–	10c										[illegible]		[illegible]	[illegible]		[illegible] polymictic argillite matrix-supported pebble conglomerate and argillite-rich beds; composite [illegible]
823.5							10c												[illegible]	[illegible]		Composite sample [illegible] interbedded argillite-matrix supported pebble conglomerate containing minor inter-bedded sandstone-siltstone.
872.7							10c	B	80								0.001		6178	49.2		Composite sample mixed polymictic pebble conglomerate, sandstone, siltstone and argillite.
921.9							10cg	B	70								[illegible]		[illegible]	[illegible]		[illegible] sample interbedded argillite-siltstone-[illegible]
961.3							10cg										[illegible]		[illegible]	[illegible]		Composite sample [illegible] interbedded argillite-siltstone-sandstone.
1010.5							10ss					1					0.002		6181	49.2		composite sample, mixed coarse sandstone/fine conglomerate, trace qtz veins
1059.7							10ss										[illegible]		[illegible]	[illegible]		Composite sample, mixed coarse sandstone/fine conglomerate, addition of boulder-cobble conglomerate [illegible]–1059 ft [illegible]
1108.9							10c					0.1					[illegible]		[illegible]	[illegible]		Composite sample, mixed polymictic grain supported cobble conglomerate and sandstone. Trace qtz veins [illegible]
1158.2							10c					0.1					0.001		6184	49.3		Composite sample mixed coarse conglomerate, argillite and sandstone. Common graded bedding, fining towards top of hole. Trace qtz veins [illegible]
1207.4							10c	B	85								0.001		6185	49.2		Composite sample. Common graded beds with polymictic matrix conglomerate at base, fining to a sandstone at their tops. Beds on the order of 3-9 ft in thickness. Occasional cobble-sized clast.

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DRILL HOLE SH 94-4

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DIST	Nom	B/S B	B/S Ai	Metallic Au	Spl #	Wdth	COMMENTS 1 / COMMENTS 2
1256.6	10cg			.001	6186	41.2	composite sample, bedded graded micro-conglomerate, argillite-mudstone and grain-supported cobble conglomerate.
1305.8	10c			.001	6187	41.2	composite sample mostly a polymictic argillite-matrix supported pebble conglomerate.
1355.0	10c			.001	6188	41.3	composite sample, massive polymictic argillite-matrix supported pebble conglomerate.
[illegible]	10c			[illegible]	6189	41.2	composite sample massive polymictic argillite-matrix supported pebble conglomerate.
[illegible]	10c			[illegible]	6190	[illegible]	composite sample massive polymictic argillite-matrix supported pebble conglomerate, [illegible]
1502.6	10c			170ppb (.005)	6191	41.2	composite sample massive polymictic argillite matrix supported pebble conglomerate.
1551.8	10c			.001	6192	41.2	composite sample massive polymictic argillite matrix supported pebble conglomerate.
[illegible]	10c			[illegible]	[illegible]	41.2	composite sample massive polymictic argillite matrix supported pebble conglomerate [illegible]
1650.3	10c			.001	6194	41.3	composite sample, mixed polymictic grain-supported boulder conglomerate, argillite, mudstone, and sandstone. Becoming weakly to very weakly magnetic throughout. magnetite fragments/clasts are noted in coarse-grained sections (pebble-boulder).
[illegible]	10cs	B	70	[illegible]	6195	41.2	composite sample, mixed [illegible] green argillite, polymictic grain supported cobble conglomerate. Very weakly to weakly magnetic [illegible]

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DRILL HOLE S1194-4

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DIST	Id	ROCK DESCRIPTION: Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S: B	Al	J/F: J	Aq	MINERALS: GANGUE C%	B%	C%	METALLIC D%	E%	fm	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
1748.7							10C													41.2		composite sample, matrix supported polymictic cobble conglomerate, abundant argillite.	fine to coarse cobble conglomerate
1797.9							Bmg															composite sample, matrix supported polymictic pebbles	fine to coarse pebble conglomerate
1847.1							10C										0.001		6198	41.2		composite sample, mostly cobble, boulder conglomerate, minor interbedded massive argillite	grain-supported polymictic
1896.3							10C													41.2		composite sample, matrix supported polymictic cobble conglomerate, abundant argillite	
1945.5							10C													41.2		composite sample, mostly matrix supported polymictic cobble conglomerate, minor bedded grain supported polymictic cobble conglomerate.	
1994.6							10C										0.001		6201	41.1		composite sample, mostly argillite matrix supported polymictic pebble conglomerate.	
2044.0							10C										0.001		6202	49.9		composite sample, mixed matrix & clast supported pebble conglomerate, minor bedded grain-supported conglomerate.	
2093.2							10C										0.001		6203	49.2		composite sample, mostly matrix supported polymictic cobble conglomerate, have bedded, fine sandstone	
2138.7							10C										0.001		6204	45.5		Composite Sample, grain supported polymictic pebble conglomerate, 1-3% bedded fine sandstone beds to 3cm.	
																						UNCONFORMITY AT	2138.7 ft

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DRILL HOLE SU 29-41

DIST	Id	ROCK DESCRIPTION Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	/m	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
2158.0		B	vfg	FOL	BK	TCS	lm	BK											6205	18.3		ULTRAMAFIC VOLCANIC (CICINDJGUS GROUP): Colour black, strongly magnetic, non-calcitic, quartz soft. Massive to weakly foliated to contorted, irregular to	2138.7 - 2203.0ft
2170.0		M	vfg	MGV	GY	—	g												—	2.0		fine grained dark brown dike, weakly to moderately magnetic, upper contact	
2197.1		M	vfg	GT	BK	TCS	lm												6206	37.9			
2200.4		M	vfg	MGV	GY	—	g	C	35										—	3.3		fine grained Diabase Dike	
2203.0		M	vfg	FOL	BK	TCS	lm	C	25										—	2.6		strongly magnetic	
2597.1																			—				
2668.0		M	vfg	MGV	BK	—	lm										0.001		6207	66.9			

COMMENTS 1	COMMENTS 2
ULTRAMAFIC VOLCANIC (CICINDJGUS GROUP): Colour black, strongly magnetic, non-calcitic, quartz soft. Massive to weakly foliated to contorted, irregular to	2138.7 - 2203.0ft
fine grained dark brown dike, weakly to moderately magnetic, upper contact	
fine grained Diabase Dike	
strongly magnetic	
[illegible] DIKE ([illegible]) (2203.0 - [illegible]) dark grey, non-calcitic, weakly to [illegible] hard, massive [illegible]	
better than 1cm to 2cm in [illegible] below roughly 2233ft splotch/porphyroblast of	body, non-porphyritic occassional coarse grained yellow plagioclase grains.
Possible ultramafic xenoliths present at 2370.9 - 2375.0ft and 2382.9 - 2384.1ft.	
ULTRAMAFIC (2597.1 - 2668.0ft)	
Colour black, soft, moderately [illegible] massive, very fine to fine grained texture. No	

ROYAL OAK MINES INC.

DRILL HOLE SH 24-4

Page 2 of 2

DIST	Id	Com	Grs	Text	Co	Alt	Nam	B/S B	B/S Ai	J/F J	J/F Az	Gangue	C%		B%		C%	Metallic	D%		E%	/ton	F%	Spl #	Wdth	T	COMMENTS 1	COMMENTS 2
2713.8		m	vfg	foT	Bk	[redacted]	lm						1					[redacted]						[redacted]			[redacted]	
2714.1							lm																					
2762.5							lm						0.1															
																											sized black fragments and	supporting a green-black
2810.9							lm															0.001		6211	48.4		matrix. A more contorted and	foliated texture slowly
																											gradually develops down	hole with randomly
2811.7							lm	F	55										WHOLE ROCK					6212	0.8		sized and shaped fragments	/patches/lenticles defining
																											the contorted texture. Some	sections of 3-4 ft in
																		[redacted]						[redacted]			[redacted]	
2841.2							lm						5															
2845.0						Talc	lm						1						—			0.004		6214	3.8		Spotty textured.	
2849.0						Talc	lm						0.1						—			0.001		6215	4.0		weakly foliated.	
2852.3						Talc	lm						3					[redacted]						[redacted]			[redacted]	
2854.5						Talc	lm	F	55				1															
																											SYENITE DIKE (2853.5 - 2868.7 ft)	
																											Colour generally reddish-grey, very hard, non-magnetic,	
																											non-calcitic. Massive aphanitic texture, but	
																											containing occasional patches, splotches or short	
																											stringers of a dark waxy green material. At times,	
																											especially near lower contact, this waxy green	
																											material occurs as subhedral crystals. Fine	
																											disseminated very fine grained pyrite, minor	
																											pervasive and stringer epidote throughout. At	
																											roughly 2863 ft, a 1 ft section of strong pervasive	
																											epidote seems to be associated with a [illegible]	

ROYAL OAK MINES INC.

PAGE 2

DRILL HOLE 514-91-9

Page 2 of 2

DIST	Id	ROCK DESCRIPTION Com	Gra	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE C%	B%	C%	METALLIC D%	E%	Au	F%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
2857.0		M	vfg	MSV	RB	—	BS					0.1			1		0.001		6218.	2.5'		Hairlet. broadcast upper rel. Undercontacts.	
2860.0						EPI	BS					0.1			0.1		0.001		6219	3.0		patchy to sharper epidote.	
2863.0						EPI	BS					0.1			0.1		0.001		6220.	3.0		weak sharper epidote.	
2866.4						EPI	BS					1			-		0.001		6221	3.4		Sharp pervasive epidote alt?	
2868.7						—	BS					1			-		0.001		6222	2.7		trace qtz veinlets to 5mm.	
2872.0		M	vfg	MSV	RK	FG	lm					3			-		0.001		6223	3.3		ULTRAMAFIC VOLCANIC (2868.7-2805.1 ft). Colour black, subtly mottled, massive to foliated to locally schistose. Moderately magnetic. Contacts broadly parallel to core axis. Upper contact sharp, lower contact gradational over 10cm. Trace qtz veinlets to 5mm. Rare fine grained pyrite blebs.	
2876.0							lm					0.1			-		0.001		6224	4.0			
2880.0							lm					0.1					0.001		6225	4.0			
2883.0							lm					0.1					0.001		6226	3.0			
2886.3							lm					0.1			1		0.001		6227	3.3			
2886.7							D										0		—	10.4		2886.3-2886.7 ft. Diabase Dike.	
2890.0							lm					0.1			-		0.001		6228.	3.3		Core Angle: 30° TCA at 2895.1 ft. Extensive Contact.	
2893.0							lm					0.1			-		0.006		6229	3.0			
2895.1							lm					—			-		0.001		6230	2.1			
4305.6																						DIABASE DIKE (2895.1 - 4305.6 ft). Colour black grey mottled, fine to coarse grained, non-calcitic, moderately hard, massive, extensive carbonate veins containing 7-10% disseminated pyrite, pleocrysts to 1-2mm in size. Quartz blebby 2 ft of fault gouge at contact 2893 ft.	

ROYAL OAK MINES INC.

PAGE 2

DRILL HOLE SH 29-9

Page 2 of 2

DIST	Id	ROCK DESCRIPTION Com	Grs	Text	Co	Alt	Nam	STRUCT. B/S B	A1	J/F J	A2	MINERALS GANGUE c%		b%		c%	METALLIC d%		e%		f%	Spl #	Width	T	COMMENTS 1	COMMENTS 2
4305.6							BH																		End of hole. Hole stopped after drilling through a dirt diabase dike. Dike was very soft. Hole [illegible] cut the dike and penetrated little [illegible] the western contact. Hole drilled until it was presumed to have passed the north contact of the inferred extension of the syenite intersected by hole SH 29-3. Casing left in place, hole capped, flagged and identified by metal tag.	

APPENDIX IV

Maps and Sections

ALPHA-NUMERIC GEOLOGY LEGEND

FOR

LYNX COMPUTER SYSTEM

EXPLORATION PROPERTIES

TIMMINS - KIRKLAND LAKE

AND

PAMOUR NO. 1/HOYLE PROPERTY LEGEND

Revised April 1994

lgd0494

GENERAL PROCEDURES

Orient core and list footage intervals for each box. This list should be given to Al Lacroix for tagging purposes.

MAJOR CATEGORIES ON LYNX COMPUTER LOG

DIST (Distance at bottom of interval)

Sample intervals should not exceed 5 feet (1.5m). Other intervals may be longer. When resampling is required, add the sample distance, description, etc., to the bottom of the log. New sample intervals can be inserted in the appropriate spot on the log in the computer.

ID (Identification)

These two spaces can be used to put numbers/codes corresponding to rock name/possible faults/structure, etc., which can be referred to at a glance.

RQ-RQD

RQD is an estimated percentage of pieces of core in a sample length which are as long or longer than:

AQ 3"/7.5 cm **BQ** 4"/10 cm **NQ** 5"/12.5 cm

This should represent only natural breaks.

ROCK DESCRIPTION

COM (Competency)

M	Massive, will not break without considerable effort
S	Breaks roughly on shear planes
SS	Breaks easily
SSS	Breaks in hands without effort
B	Broken/blocky
F	Fractured
G	Gouge/fault

GRS (Grain Size)

VFG	Very fine grained	
FG	Fine grained	aphanitic
FMG	Fine medium grained	aphanitic
MG	Medium grained	aphanitic
MCG	Medium coarse grained	aphanitic
CG	Coarse grained	phaneritic
VCG	Very coarse grained	phaneritic

TEXT (Texture)

VAR	Variolitic - globular structures of devitrified glass (basic)
SPH	Spherulitic - globular structures of devitrified glass (acid)
POIK	Poikilitic - small grains floating in one large grain
OPH	Ophitic - euhedral/subhedral feldspar embedded in pyroxene xtal
DIA	Diabasic/doleritic - lath-like feldspar with pyroxene between
POR	Porphyritic - large phenocrysts in fine-grained matrix
GLOM	Glomeroporphyritic - phenocrysts occur in clusters
SERI	Seriate - complete grain range from matrix to phenocryst
AMYG	Amygdaloidal - vesicle filled with minerals

ALIG	Alligator	**MOTL**	Mottled
BLOT	Blotchy	**NED**	Needled
BND	Banded	**SHD**	Sheared
BRX	Brecciated	**SPT**	Spotted
CLAS	Clastic	**SPX**	Spinifex
COT	Contorted	**SUG**	Sugary
CRA	Crackled	**VUG**	Vuggy
CHLZ	Chill zone	**MUD**	Muddy
FRAG	Fragmental	**QFP**	Quartz feldspar phyric
GRAN	Granitic	**BED**	Bedded
GRT	Gritty	**fp**	feldspar phyric
RUB	Rubbly	**qp**	quartz phyric
HOM	Homogeneous	**pf**	primary fragments
LAM	Laminated	**tf**	tectonic fragments
MBX	Mild brecciated		

Lynx Legend

CO (Colour)

AQ	Aqua	**LM**	Lime
BK	Black	**OR**	Orange
BL	Blue	**PL**	Purple
BR	Brown	**RB**	Red brown
CR	Cream	**RD**	Red
GBR	Grey brown	**RG**	Red green
GG	Green grey	**TN**	Tan
GR	Green	**VI**	Violet
GTN	Grey tan	**WH**	White
GY	Grey	**YL**	Yellow

ALT (Alteration)

ALB	Albitized	**OXD**	Oxidized
BAF	Buff Altn Flecks	**QCB**	Quartz-Carbonate
BLD	Bleached	**QCV**	Quartz-Carbonate Veining
CAR	Carbonaceous	**SCL**	Sericitic-Chloritic
CRB	Carbonatization	**SER**	Sericitic
CCL	Calcite-Chlorite	**SIL**	Silicification
CHL	Chloritic	**SNF**	Snowflake
CC	Calcitic	**SRP**	Serpentinization
EPD	Epidotization	**SUL**	Sulphidization
FEL	Felsic	**TAN**	Tan Alteration
HEM	Hematized (red altn)	**TCL**	Talc Chlorite
HMS	Hematitic Spotted	**LEU**	Leucoxene
LCH	Leached		

NAM/NAME/NAME1 (Rock Name)

OVB	Overburden	**CAS**	Casing
L/C or LC	Lost Core	**MC**	Missing Core

1 KOMATIITIC VOLCANICS

1	Unsubdivided
1s	Serpentinized, massive, polysutured, peridotitic komatiite
1ox	Olivine-spinifex textured peridotitic komatiitic flows
1px	Pyroxene-spinifex textured basaltic komatiitic flows
1mb	Massive basaltic komatiite
1m	Massive
1p	Pillowed
1cb	Carbonatized peridotitic komatiite or carbonate rock
1t	Talcose
1b	Basaltic komatiite
1bcb	Carbonatized basaltic komatiite
1tcb	Talc carbonated komatiite
1fu	Fuchsitic carbonate rock

2 THOLEIITIC VOLCANICS

2	Unsubdivided
2m	Massive
2p	Pillowed
2a	Amygdaloidal
2apl	Amygdaloidal pillow lava
2v	Variolitic
2t	Tuff, lapilli-tuff
2b	Breccia
2cb	Carbonatized
2pb	Pillow Breccia
2h	Hyaloclastite
2ag	Agglomerate
2am	Amphibolitized
2scf	Spherulitic, chicken-feed
2sch	Schistose
2sh	Shear
2F	Dominantly Fe-tholeiite, leucoxene, massive, 2m = 2F
2M	Dominantly Mg-tholeiite, pillowed, 2M = 2p
2AL	Dominantly AL-tholeiite
2I	Dominantly Icelandite

3 CALC-ALKALIC MAFIC VOLCANICS (MAFIC-INTERMEDIATE VOLCANICS)

3	Unsubdivided
3a	Andesite
3m	Massive
3p	Pillowed
3t, 3lt	Tuff, lapilli-tuff
3b	Breccia
3cb	Carbonatized
3am	Amphibolitized
3pb	Pillow brx
3sh	Shear

4 INTERMEDIATE-FELSIC VOLCANICS

4d	Dacite
4rd	Rhyodacite flows
4dt	Dacite tuffs
4dp	Dacite pyroclastics
4da	Agglomerate-breccia, conglomerate
4dlt	Dacite lapilli-tuff
4dm	Dacite massive flow
4p	Intermediate-felsic pyroclastics
4r	Rhyolite-undifferentiated
4sch	Intermediate-felsic schist
4sh	Shear
4rm	Massive rhyolite
4rt	Rhyolite tuff
4rlt	Rhyolite lapilli-tuff
4ra	Rhyolite agglomerate
qp	(quartz-eye porphyritic)
pp	(plagioclase-porphyritic)
4phyl	Phyllite

P	denotes Primitive
E	denotes Evolved

Lynx Legend

5 SEDIMENTS

5	Unsubdivided
5a	Argillite
5c	Conglomerate
5g	Greywacke
5sl	Slate
5p	Porphyritic, qp (quartz-eye porphyritic), pp (plagioclase-porphyritic)
5d	Debris flow
5q	Quartzite
5qw	Quartz wacke
5gr	Graphite
5ch	Chert
5ag	Agglomerate
5t	Tuffaceous-sediment
5s	Siltstone
5ss	Sandstone
5sch	Schist
5sh	Shear
5ex	Exhalite
5tqp	Quartz porphyritic tuff
5phyl	Phyllite
GFZ	Graphitic Fault Zone

K	denotes Keewatin
T	denotes Timiskaming

6 ULTRAMAFIC INTRUSIVE ROCKS

6	Unsubdivided
6s	Serpentinized diorite-peridotite
6ph	Pyroxene-hornblende
6c	Carbonatized
6tm	Talc-magnesite

7 MAFIC INTRUSIVE ROCKS

7	Unsubdivided
7a	Anorthosite
7d	Diorite
7g	Gabbro
7qg	Quartz gabbro
7pg	Pegmatoidal gabbro
7l	Lamprophyre
7ib	Intrusive breccia
7n	Nipissing Diabase-type sills

8 FELSIC INTRUSIVE ROCKS

8	Unsubdivided
8qp	Quartz porphyry
8fp	Feldspar porphyry
8qfp	Quartz feldspar porphyry
8f	Felsite, p (porphyritic), qp (quartz-eye porphyritic), pp (plagioclase-porphyritic)
8hbt	Hornblende-biotite trondhjemite
8pm	Porphyritic monzonite
8gd	Granodiorite
8pg	Porphyritic granodiorite
8lg	Leucocratic granodiorite
8hd	Hornblende diorite
8qd	Quartz diorite
8p	Porphyry
8a	Aplite
8s	Syenite
8g	Granite or quartz-rich syenite
8t	Trachyte

9 MATACHEWAN DIABASE

10 HURONIAN SEDIMENTS

10a	Arkose	**10arg**	Argillite
10w	Wacke	**10c**	Conglomerate

11 QUARTZ DIABASE

12 OLIVINE DIABASE

13 IRON FORMATION

IFo	Oxide	**BIF**	Banded Iron Formation
IFs	Sulphide (py-po)	**IFchl**	Chlorite-rich
IFc	Carbonate	**IFgr**	Graphitic
IFj	Jasper		

These abbreviations are used after a lithology name, if desired ("Nam/Name/Name1" column must be limited to 5 characters). Allows alteration to be shown with name when drill hole is plotted.

3m,s	Would denote a massive calc-alkalic mafic volcanic which is sericitized	**mt**	Magnetite
		sh	Sheared
chl	Chloritic	**tcb**	Talc carbonate schist
chty	Cherty	**tcs**	Talc chlorite schist
s or ser*	Sericitic	**gr**	Graphitic
sil	Silicified	**arg**	Argillaceous
ank	Ankerite	**sch**	Schist
cc	Calcite	**gt**	Garnet
c	Carbon	**oxd**	Oxidized
cb	Carbonate	**bl**	Bleached
h	Hematite	**epd**	Epidote
alb	Albitized	**serp**	Serpentinized
fu	Fuchsitic		

* where computer space permits, use ser

Note: In addition to the percentage of quartz veins being indicated, one should indicate in the Comments column whether the veining is tensional (i.e. cutting foliation) or of the strike variety (i.e. parallel to foliation) or both. For example, "10% qtz (t)" or "15% qtz (t + s)".

SULPHIDES

DS	Disseminated sulphides
SS	Stringer sulphides
MS	Massive sulphides
SMS	Semi-massive sulphides

OXIDES

Mt	Magnetite (80-100%)
QAV	Quartz ankerite veining

NAM2/NAME2

This column has been added to accommodate future changes in geology names.

FORM

A formation column has been added to accommodate extensive geological naming practices. FORM will be used to plot geology, and must be limited to a maximum of 8 names or numbers (for the 8 plotter pens).

STRUCTURE

B/S	**S**	Schistosity	**C**	Contact
	F	Foliation	**V**	Vein (primary if more than 1 occurs)
	B	Bedding		

J/F	**J**	Joint Plane
	V	Vein (secondary if more than 1 occurs)
	F	Fault Plane/Fracture

A1/A2

Measurement of above with respect to core axis (C.A.)

Lynx Legend

MINERALS

GANGUE

ACT	Actinolite	**GAR**	Garnet
ANH	Anhydrite	**HBL**	Hornblende
ANK	Ankerite	**LEU**	Leucoxene
BIO	Biotite	**MUS**	Muscovite
CC	Calcite	**PYR**	Pyroxene
CAR	Carbonate	**QC**	Qtz Carbonate
CHL	Chlorite	**QTZ**	Quartz
DOL	Dolomite	**SER**	Sericite
EPD	Epidote	**SPR**	Serpentine
FSP	Feldspar	**TOU**	Tourmaline
FUC	Fuchsite		

METALLIC

ASP	Arsenopyrite	**PO**	Pyrrhotite
CPY	Chalcopyrite	**PY**	Pyrite
GN/GA	Galena	**SID**	Siderite
GRA	Graphite	**SPH**	Sphalerite
HEM	Hematite	**STB**	Stibnite
		VG	Visible Gold

MINERAL %

0.01	Trace
0.05	Minor Occurrence
2.0	2%

SPL # (Sample number)

WDTH/WIDTH (Width)

T (Sample Type)

C	Core	**L**	Channel
G	Grab	**S**	Sludge
H	Chip		

COMMENTS

Standard abbreviations should be used where possible so that anyone can refer to this "dictionary" and clearly read the logs. If abbreviations are being used that are not included on this list, please add them.

ANH	Anhedral	**NOD**	Nodules
BLB	Blebs	**OCC**	Occasional
BL-QTZ	Blue quartz	**OC**	Out Contact
CA	Core Axis	**OVC**	Out Vein Contact
CV	Carbonate vein	**PLL**	Parallel
DEFMD	Deformed	**QCV**	Qtz-Carb Vein
DIS	Disseminated	**QV**	Quartz Vein
EUH	Euhedral	**RXN**	Reaction
EXT	Extensive	**STR**	Strong
FOL	Foliation	**STK**	Stockwork
FUCH	Fuchsite	**SUB**	Subhedral
GRND	Ground (core)	**TR**	Trace
>	Greater Than	**TW**	True Width
IC	In Contact	**VNS/VN/V**	Veins
IVC	In Vein Contact	**VLETS**	Veinlets
IRR	Irregular	**W**	With
<	Less Than	**WO**	Without
MAG	Magnetic	**WK(LY)**	Weak(ly)
MNR	Minor		
MOD	Moderate(ly)		

ASSAY

Suggested usage for assay columns:

AU1	PPB
AU2	Fire Assay (use FA1 column if available)
ASSAY3, etc.	To be used if there is a need to show a relationship with gold, otherwise geochemical analysis is available on other systems

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number: DOCUMENT No. W 9580 • 00427

Personal information collected on this form is obtained under the authority of this collection should be directed to the Provincial Manager, Mining Lands Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

[redacted]
41P15NE0006 W9580.00427 POWELL

900

Instructions:
- Please type or print and submit in duplicate
- Refer to the Mining Act and Regulations for Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s) Minex Inc. / John Shircliff [redacted] Royal Oak See attached sheet for names and addresses	Client No. 136226 / 193972 [redacted]
Address	Telephone No.
Mining Division: Kirkland Lake	Township/Area: Powell Twp
	M or G Plan No.: G-3218
Dates Work Performed From: Nov 1, 1994	To: Jan 15, 1995

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	
X	Physical Work, Including Drilling	Diamond Drilling
	Rehabilitation	
	Other Authorized Work	
X	Assays	Au + 32 element geochemistry
	Assignment from Reserve	

Total Assessment Work Claimed on the Attached Statement of Costs $ $194,901

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
Bradley Bros.	P.O. Box 485, Timmins, Ont P4N 7E7
Reno Pressacco	181 Christine St, Timmins, Ont P4R 1H9

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

	Date	Recorded Holder or Agent (Signature)
I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	April 21/95	R. Pressacco

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying: Reno Pressacco % PO Box 2010, Timmins Ontario P4N 7X7

Telepone No.	Date	Certified By (Signature)
(705) 360-1141	April 21 /95	R. Pressacco

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
Applied ~~48000~~ 39360 Reserve 155,541 ~~146901~~	May 15/95	ACTING Ray J. Stid	RECEIVED LARDER LAKE MINING DIVISION MAY 15 1995
	Deemed Approved Date: Aug 13.95	Date Approved: June 25/95	
	Date Notice for Amendments Sent		

0241 (03/91)

J. Shiratt, A. Schauss, M Clark recorded holders.

* [illegible] * at maximum assignment Pg 1 of 2

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim		Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
Apr. 1 Anniv.* [redacted] 19.2 ha	Leases: MR 5922	acres 1 (47.51)	$ 19,295	0		~~$ 12,000~~ 12578	~~$ 7,295~~ 6717
Nov. 1 Anniv.* 15.7 ha. $11790 4yr	MR 33921	1 (38.83)	63,538		*	~~12,000~~ 11790	~~51,538~~ 51748
Nov. 1 Anniv.* 15.9 ha. $11939 4yr	MR 33922	1 (39.32)	75,427		*	~~12,000~~ 11939	~~63,427~~ 63488
Nov. 1 Anniv.* 15.6 ha. $11693 4yr	MR 34,250	1 (38.51)	36,641			~~12,000~~ 11693	~~24,641~~ 33588
	494591	1		~~$ 2000~~ 920	*		
	494592			~~2000~~ 920	*		
	494593			920	*		
	494594			920	*		
	494595			920	*		
	495895	1		~~$ 2000~~ 920	*		
	495896			1600			
	495897			16.00			
	495898			~~2000~~ 920	*		
	495899			~~2000~~ 920	*		
	(14)		(194,901)	~~$ 10560~~ (19,200)		~~$ 24368~~ (40,000)	(155541)
	Total Number of Claims		Total Value Work Done	Total Value Work Applied		Total Assigned From	Total Reserve

* continued on pg 2.

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

1. ☒ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature: R. Intrieri

Date: April 21/95

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	512587			$2000		
	512588					
	512589					
	523116			$1600		
	523117					
	523118					
	523119					
	523141			$1600		
	523142					
	523143					
	523144					
	523145			$2000		
	537314			$2000		
	537315			2000		
	(14)			(24.800)		
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☒ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature R. Munroe

Date April 21 1995

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	537316			2000		
	537317			2000		
	(2)			(4,000)		
	Total Number of Claims: 30		Total Value Work Done: $194,901	Total Value Work Applied: ~~$40,000~~ 39360	Total Assigned From: ~~40,000~~ 41520	Total Reserve: ~~140,~~ 155541

Pg 3 of 3

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☒ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature: R. [signature]	Date: Apr 12/95

.velopment
.s

.astère du
Développement du Nord
et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction
DOCUMENT No.
W 9580.0012

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule so recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un regist des concessions minières. Adresser toute quesiton sur la collece de c renseignements au chef provincial des terrains miniers, ministère c Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbu (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	4,268	
	Field Supervision Supervision sur le terrain	14,574	[redacted]
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type Diamond Drilling	163,699	
	Assays	6414	
			[redacted]
Supplies Used Fournitures utilisées	Type Core Boxes	2420	
	Office Supplies	1529	
	Spray Supplies	382	
			[redacted]
Equipment Rental Location de matériel	Type		
			[redacted]
	Total Direct Costs Total des coûts directs		[redacted]

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type Vehicle + Fuel	1620	
			1620
Food and Lodging Nourriture et hébergement			[redacted]
Mobilization and Demobilization Mobilisation et démobilisation			[redacted]
	Sub Total of Indirect Costs Total partiel des coûts indirects		[redacted]
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		[redacted]
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) **Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)**		[redacted]

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Project Geologist (Recorded Holder, Agent, Position in Company) I am authorized

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ (titulaire enregistré, représentant, poste occupé dans la compagnie) je suis autorisé

à faire cette attestation.

Signature	Date
R. [redacted]	01.11.[redacted]

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

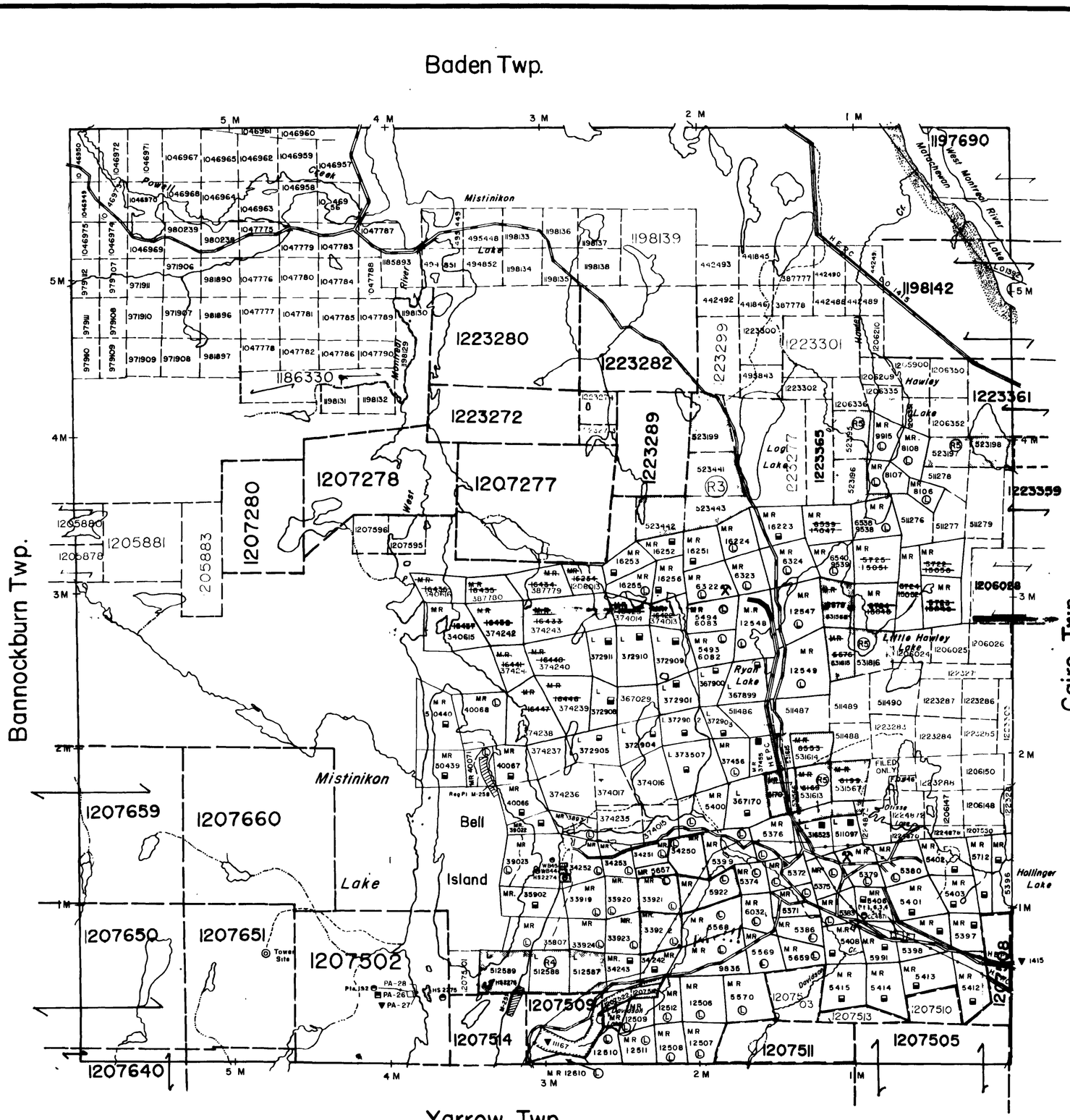
M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No	Date	Disposition	File
R3	W-L-18/95	MAR.30/95	S&M	
R4	W-L-19/95	MAR.30/95	S&M	
R5	W-L-20/95	MAR.30/95	S&M	

NOTES

1 0 7601 COVERS FLOODING RIGHTS IN THIS TOWNSHIP TO CONTOUR 870 TO ONTARIO HYDRO FILE: 12290 VOL. 2.

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON



ARCHIVED ON JUNE 01/95

LEGEND

- HIGHWAY AND ROAD
- OTHER ROADS
- TRAIL
- SURVEYED LINES
  - TOWNSHIP, BASE LINES ETC.
  - LOTS, MINING CLAIMS, PARCELS ETC.
- UNSURVEYED LINES
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON PERENNIAL STREAM
- FLOODING OR DYKING RIGHTS
- SUBDIVISION OF TOWNSHIPS
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	L or
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER IN COUNCIL	OC
RESERVATION	R
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1980, CHAP. 380, SEC. 61, SUBSECT.

SCALE: 1 INCH = 40 CHAINS

METRIC

TOWNSHIP

POWELL

M.N.R. ADMINISTRATIVE DISTRICT

KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

TIMISKAMING

Ontario Ministry of Natural Resources — Land Management Branch

Date: FEBRUARY, 1985

CIRCULATED MAY 4, 1995 CM

Number: G-3218

AFK!

TRIM LINE

SOUTH (AZ 180)

Claim MR 5922

SH90-1

SH94-2

Claim MR 34250

NORTH (AZ 360)

L. 6000

Gowganda Formation

1100ft vertical thickness

1300ft vertical thickness

Kinojevis Volcanics

Timiskaming Sediments

Diabase Dikes

SH94-2

SH90-1

0 500

feet

1 KOMATIITIC VOLCANICS

1	Undubdivided
1s	Serpentinized, massive, polystructural, peridotitic komatiite
1sz	Olivine-spinifex textured peridotitic komatiite flows
1pz	Pyroxene-spinifex textured basaltic komatiite flows
1mb	Massive basaltic komatiite
1m	Massive
1p	Pillowed
1c	Carbonatized peridotitic komatiite
1t	Talcose
1b	Basaltic komatiite
1cb	Carbonatized basaltic komatiite

2 THOLEIITIC VOLCANICS

2	Undubdivided
2m	Massive
2p	Pillowed
2a	Amygdaloidal
2ap	Amygdaloidal pillow lava
2v	Variolitic
2t	Tuff, lapilli-tuff
2b	Breccia
2c	Carbonatized
2pb	Pillow breccia
2h	Hyaloclastite
2ag	Agglomerate
2as	Amphibolitized
2scf	Sphaerulite, chicken-feed
2seb	Schistose
2sh	Shear
2F	Dominantly Fe-tholeiite
2M	Dominantly Mg-tholeiite
2AL	Dominantly Al-tholeiite
2I	Dominantly Ironstone

4 INTERMEDIATE-FELSIC VOLCANICS

4d	Dacite
4rd	Rhyodacite flows
4dt	Dacite tuffs
4dp	Dacite pyroclastics
4da	Agglomerate-breccia, conglomerate
4dlt	Dacite lapilli tuff
4dm	Dacite massive flow
4p	Intermediate-felsic pyroclastics
4r	Rhyolite-undifferentiated
4mb	Intermediate-felsic subsut
4sh	Shear
4rm	Massive rhyolite
4rt	Rhyolite tuff
4rlt	Rhyolite lapilli tuff
4rs	Rhyolite agglomerate (quartz-eye porphyries)
4p	(plagioclase-porphyritic)
4plqyl	Phyllite

5 SEDIMENTS

5	Undubdivided
5a	Argillite
5c	Conglomerate
5w	Greywacke
5sl	Slate
5p	Porphyrites, qp (quartz-eye porphyrite), pp (plagioclase-porphyrite)
5d	Debris flow
5q	Quartzite
5qw	Quartz wacke
5gr	Graphite
5ch	Chert
5ag	Agglomerate
5s	Tuffaceous-sediment
5ss	Siltstone
5sa	Sandstone
5seb	Schist
5sh	Shear
5ex	Exhalite
5tqp	Quartz porphyritic tuff
5plqyl	Phyllite
GFZ	Graphitic Fault Zone

K denotes Keewatin
T denotes Timiskaming

6 ULTRAMAFIC INTRUSIVE ROCKS

6	Undubdivided
6s	Serpentinized diorite-peridotite
6ph	Pyroxene-hornblende
6c	Carbonatized
6tm	Talc-magnesite

7 MAFIC INTRUSIVE ROCKS

7	Undubdivided
7n	Anorthosite
7d	Diorite
7g	Gabbro
7gq	Quartz gabbro
7pg	Pegmatoidal gabbro
7l	Lamprophyre
7b	Intrusive breccia
7n	Nipissing Diabase-type sills

8 FELSIC INTRUSIVE ROCKS

8	Unsubdivided
8qp	Quartz porphyry
8fp	Feldspar porphyry
8qfp	Quartz feldspar porphyry
8z	Felsite, p (porphyritic), qp (quartz-eye porphyritic), pp (plagioclase-porphyritic)
8hbt	Hornblende-biotite trondhjemite
8pm	Porphyritic monzonite
8gd	Granodiorite
8pg	Porphyritic granodiorite
8lg	Leucocratic granodiorite
8hd	Hornblende diorite
8qd	Quartz diorite
8p	Porphyry
8a	Aplite
8s	Syenite
8q	Granite or quartz-rich syenite
8t	Trachyte

9 MATACHEWAN DIABASE

10 HURONIAN SEDIMENTS

10a	Arkose
10w	Wacke
10arg	Argillite
10c	Conglomerate

IRON FORMATION

IFo	Oxide
IFs	Sulphide (py-po)
IFc	Carbonate
IFj	Jasper
IFb	Banded iron formation
IFchd	Chert-oxide
IFcp	Chert-po

Section 6+00W

MATACHEWAN PROJECT

SHIRRIFF

DDH SH90-1 & SH94-2

LOOKING WEST

SCALE 1" = 200 ft

22 FEB 95 | 1" = 200' | MATACH157

ROYAL OAK MINES INC.

N. 1000 N. 2000 N. 3000 N. 4000 N. 5000

SOUTH (az 160)

Claim MR 5922

Davidson Creek

SH 94-3

Claim MR 33921

NORTH (az 340)

L. 8000

7000

6000

5000

Gowganda Formation

(1450ft vertical thickness)

474 ppb Au (0.014opt)/68.3ft

358 ppb Au (0.010opt)/14.3ft

317 ppb Au (0.009opt)/50.0ft

incl. 0.072 opt Au/4.0ft (QV)

Timiskaming Sediments

Diabase Dike

Kinojevis Volcanics

Syenite

Ultramafics

Syenite

Ultramafics

SH94-3

1 KOMATIITIC VOLCANICS

1	Undubdivided		
1s	Serpentinized, massive, polysutured, peridotitic komatiite		
1ss	Olivine-spinifex textured peridotitic komatiite flows		
1ps	Pyroxene-spinifex textured basaltic komatiitic flows		
1mb	Massive basaltic komatiite		
1m	Massive		
1p	Pillowed		
1c	Carbonatized peridotitic komatiite		
1t	Talcose		
1b	Basaltic komatiite		
1cb	Carbonatized basaltic komatiite		

2 THOLEIITIC VOLCANICS

2	Undubdivided		
2m	Massive		
2p	Pillowed		
2a	Amygdaloidal		
2ap	Amygdaloidal pillow lava		
2v	Variolitic		
2t	Tuff, lapilli-tuff		
2b	Breccia		
2c	Carbonatized		
2pb	Pillow Breccia		
2h	Hyaloclastite		
2ag	Agglomerate		
2am	Amphibolitized		
2sd	Sphenetite, ekhinos-fized		
2sh	Schistose		
2ch	Chert		
2f	Dominantly Fe-dolomite		
2M	Dominantly Mg-dolomite		
2AL	Dominantly AL-dolomite		
2l	Dominantly limestone		

4 INTERMEDIATE-FELSIC VOLCANICS

4d	Dacite		
4rd	Rhyodacite flows		
4dt	Dacite tuffs		
4dp	Dacite pyroclastics		
4da	Agglomerate-breccia, conglomerate		
4dl	Dacite lapilli tuff		
4dm	Dacite massive flow		
4f	Intermediate-felsic pyroclastics		
4fs	Rhyolite-undifferentiated		
4sh	Intermediate-felsic schist		
4ch	Chert		
4rm	Massive rhyolite		
4rt	Rhyolite tuff		
4rl	Rhyolite lapilli tuff		
4rs	Rhyolite agglomerate (quartz-eye porphyrite)		
4p	(plagioclase-porphyritic)	P	denotes Pennitore
4phyl	Phyllite	E	denotes Evelyn

5 SEDIMENTS

s	Undubdivided		
sa	Argillite		
sc	Conglomerate		
sw	Greywacke		
sl	Slate		
sp	Porphyritic, qp (quartz-eye porphyritic), pp (plagioclase-porphyritic)		
sd	Debris flow		
sq	Quartzite		
sqw	Quartz wacke		
sg	Graphite		
sch	Chert		
sag	Agglomerate		
st	Tuffaceous-sediment		
si	Siltstone		
ss	Sandstone		
sch	Schist		
sf	Flint		
sc	Exhalite		
sqp	Quartz porphyritic tuff		
sphyl	Phyllite	K	denotes Keewatin
GFZ	Gimlarto Fault Zone	T	denotes Timiskaming

6 ULTRAMAFIC INTRUSIVE ROCKS

6	Undubdivided		
6s	Serpentinized dunite-peridotite		
6px	Pyroxene-hornblende		
6c	Carbonatized		
6ta	Talc-magnesite		

7 MAFIC INTRUSIVE ROCKS

7	Undubdivided
7a	Anorthosite
7d	Diorite
7g	Gabbro
7qg	Quartz gabbro
7pg	Pegmatoidal gabbro
7l	Lamprophyre
7b	Intrusive breccia
7n	Nipissing Diabase-type sills

8 FELSIC INTRUSIVE ROCKS

8	Undubdivided
8qp	Quartz porphyry
8fp	Feldspar porphyry
8qfp	Quartz feldspar porphyry
8f	Felsite, p (porphyritic), qp (quartz-eye porphyritic), pp (plagioclase-porphyritic)
8hbt	Hornblende-biotite trondhjemite
8pm	Porphyritic monzonite
8gd	Granodiorite
8pg	Porphyritic granodiorite
8lg	Leucocratic granodiorite
8hd	Hornblende diorite
8qd	Quartz diorite
8p	Porphyry
8a	Aplite
8s	Syenite
8qs	Granite or quartz-rich syenite
8t	Trondhjemite

10 HURONIAN SEDIMENTS

10a	Arkose
10w	Wacke
10arg	Argillite
10c	Conglomerate

IRON FORMATION

IFo	Oxide
IFs	Sulphide (py-po)
IFc	Carbonate
IFj	Jaspar
IFif	Banded iron formation
IFchl	Chlorite-rich
IFgr	Graphite

0 500

feet

MATACHEWAN PROJECT

SHIRRIFF

DDH SH94-3

AZ 340

SCALE 1" = 200 0 FT

22 FEB 95 | 1" = 200' | MATACH15S

ROYAL OAK MINES INC.

SOUTH (AZ 150)

NORTH (AZ 330)

Claim MR 33922

Claim MR 33921

SH94-4

L 8000

L 7000

L 6000

L 5000

L 4000

Gowganda Formation

2000ft vertical thickness

Diabase Dike

Kinojevis Volcanics

(Ultramafic)

Diabase Dike

SH94-4

0 500

feet

1 KOMATIITIC VOLCANICS

1	Undefolated
1p	Pegmatoidal, massive, polycrystal, peridotitic komatiite
1m	Olivine-spinifex textured peridotitic komatiitic flows
1px	Pyroxene-spinifex textured komatiitic komatiitic flows
1mb	Massive basaltic komatiite
1m	Mottled
1p	Pillowed
1c	Carbonatized peridotitic komatiite
1t	Talcose
1b	Basaltic komatiite
1cb	Carbonatized basaltic komatiite

2 THOLEIITIC VOLCANICS

2	Undefolated
2m	Massive
2p	Pillowed
2a	Amygdaloidal
2apl	Amygdaloidal pillow lava
2v	Variolitic
2t	Tuff, lapilli tuff
2b	Basalt
2c	Carbonatized
2h	Hyaloclastite
2gb	Hyaloclastite
2hx	Aphanitoid
2a	Amygdaloidal
2af	Spherulitic, chalcedony-filled
2ash	Siliceous
2ch	Flows
2F	Dominantly Fe-dolomite
2M	Dominantly Mg-dolomite
2AL	Dominantly AL-dolomite
2I	Dominantly Ankerite

4 INTERMEDIATE-FELSIC VOLCANICS

4d	Dacite
4rd	Rhyodacite flows
4dt	Dacite tuffs
4dp	Dacite pyroclastics
4da	Agglomerate-breccias, conglomerate
4dtf	Dacite lapilli tuff
4dm	Dacite massive flow
4y	Intermediate-felsic pyroclastics
4r	Rhyolite-metaflamestained
4ash	Intermediate-felsic schist
4ch	Shear
4rm	Massive rhyolite
4rt	Rhyolite tuff
4rtf	Rhyolite lapilli tuff
4rc	Rhyolite agglomerate
4F	(quartz-eye porphyritic)
PF	(plagioclase-porphyritic) P denotes Paleokivo
4pbpf	Phyllite E denotes Evelland

5 SEDIMENTS

S	Undefolated
Sa	Argillite
Sc	Conglomerate
Sg	Greywacke
Sd	Slate
Sp	Porphyritic, qp (quartz-eye porphyritic), py (plagioclase-porphyritic)
Sd	Debris flow
Sq	Quartzite
Sgw	Quartz wacke
Sgr	Graphite
Sch	Chert
Sag	Agglomerate
S	Tuffaceous sediment
Ss	Siltstone
Sw	Sandstone
Sash	Schist
Sch	Shear
Sm	Foliation
Stuf	Quartz porphyrotic tuff
Sphpf	Phyllite K denotes Kenvatan
GPZ	Graphitic Fault Zone T denotes Thunderstorm

6 ULTRAMAFIC INTRUSIVE ROCKS

u	Undefolated
4u	Serpentinized dunite-peridotite
4puh	Pyroxene-hornblende
4z	Carbonatized
4ms	Talc-magnesite

7 MAFIC INTRUSIVE ROCKS

7	Undefolated
7a	Amphibolite
7d	Diorite
7g	Gabbro
7qg	Quartz gabbro
7pg	Pegmatoidal gabbro
7l	Lamprophyre
7bx	Intrusive breccia
7w	Sagwaug Diabase-type sills

8 FELSIC INTRUSIVE ROCKS

8	Undefolated
8qp	Quartz porphyry
8fp	Feldspar porphyry
8qfp	Quartz feldspar porphyry
8F	Felsic, p (porphyritic), qp (quartz-eye porphyritic), or fp (plagioclase porphyritic)
8hbl	Hornblende-biotite tonalite/granite
8pm	Porphyritic monzonite
8gd	Granodiorite
8pg	Porphyritic granodiorite
8lg	Leucocratic granodiorite
8hd	Hornblende diorite
8qd	Quartz diorite
8p	Porphyry
8a	Aplite
8s	Syenite
8q	Granite or quartz-rich syenite
8t	Trondhjemite

9 MATACHEWAN DIABASE

10 HURONIAN SEDIMENTS

10a	Arkose
10w	Wacke
10arg	Argillite
10c	Conglomerate

IRON FORMATION

IFo	Oxide
IFs	Sulphide (py-po)
IFc	Carbonate
IFj	Jasper
IFF	Banded iron formation
IFchl	Chlorite-rich
IFgr	Graphite

MATACHEWAN PROJECT
SHIRRIFF OPTION
DDH SH94-4
LOOKING WEST

SCALE 1" = 200.0' 0 200' 400' FT

MAR 13/95 | 1"=200' | MATACH1

ROYAL OAK MINES INC

SHIRRIFF OPTION COMPILATION MAP

Scale 1"=200'

L 374236
L 374235
L 374105
L 367170
MR 39022
MR 38931
MR 5400
MR 39023
MR 34252
MR 34253
MR 34251
MR 34250
MR 5657
MR 5399
MR 5922
MR 5374
MR 6032
MR 33921
MR 33920
MR 33919
MR 35902
MR 33923
MR 33924
MR 35807
MR 33922

Baseline 0 (Sherriff Grid)
4500 W
4000 W
3500 W
3000 W
2500 W
2000 W
1500 W
1000 W
500 W
000 E
500 E
1000 E
15N
10N
5N
10S
15S
20S
14E
18E
22E

Mistinikon Lake

SHIRRIFF

YOUNG-DAVIDSON

DDH 64-2 (pos approx.)
(-90)
EOH 1147ft in Cobalt sediments

Sq. Sq. Sc
Timiskaming Sediments

Huronian Sediments
1100ft Vertical

Cobalt 1100ft

37202 83ppb Au
37203 622ppb Au
37204 61ppb Au

Surface drill BL0
3059N 4+75E

Young - Davidson
Open Pit

Creek
Pit

0.422/14.5 CL

0.320/8.5 CL

8s + GTZ

Huronian sediments,
2500ft vertical thickness

YD30-14

0.233/14.5
(0.134/14.5 cut)
0.299/2.0

DDH (1936?)

DDH (1936?)
EOH 502ft (?)
in 2m + 9

SH94-2

0.046/3 in PP

0.029/5

Huronian sediments,
1225ft vertical thickness

SH90-1

CB9212
17Cppb Au/grab
(pi Cobalt cong.)

CB9211
10' wide Qv with 0.5% cpy
(1200ppb Au/grab)
Sherriff 1984 grab=0.164opt Au

CB9213
8150ppb Au/grab
(pi Cobalt cong.)

CB9210
6' wide Qv,
240ppb Au/grab

Sq. Sq. Sc
(Timiskaming Sediments)

1m/ 8s, g/ Sc

8s

ALT
2

Huronian Sediments
1400ft Vertical

DDH 64-1 (-90)
EOH 1086ft
Huronian 1081ft thick (?)

SH94-3

1m, (8s)

1m

Huronian Sediments
2000 ft vertical thickness

SH94-4

DDH 36-3
Huronian 413 ft thick
EOH +/- 1500ft
in 2m + 8fp

DDH 1936-1
Diabase at 394ft

Huronian sediments,
500ft vertical thickness

YD90-21

1 KOMATIIC VOLCANICS

Undifferentiated
Serpentinized, massive, polysomatal, porphyritic komatiite
Olivine-spinifex textured porphyritic komatiite flows
Pyroxene-spinifex textured porphyritic komatiite flows
Massive basaltic komatiite
Massive komatiite
Pillowed
Carbonatized porphyritic komatiite
Talcose
Basaltic komatiite
Carbonatized basaltic komatiite

2 THOLEIITIC VOLCANICS

Undifferentiated
Massive
Pillowed
Amygdaloidal
Amygdaloidal pillow lava
Pillow breccia
Tuff, lapilli tuff
Breccia
Carbonatized
Pillow Breccia
Hyaloclastite
Agglomerate
Carbonatized
Agglomerate, clastics-fixed
Siltstone
Shale
Dominantly Fe-basalts
Dominantly Mg-basalts
Dominantly AL-basalts
Dominantly komatiites

4 INTERMEDIATE-FELSIC VOLCANICS

Dacite
Rhyodacite flows
Dacite tuffs
Dacite pyroclastics
Agglomerate, conglomerate
Dacite lapilli tuff
Dacite tuffaceous flows
Intermediate clastic pyroclastics
Rhyolite-undifferentiated
Intermediate clastic tuffs
Flows
Massive rhyolite
Rhyolite tuff
Rhyolite lapilli tuff
Rhyolite agglomerate
Porphyritic-spherulitic
(plagioclase-porphyritic)
Porphyritic
(plagioclase-porphyritic)
Phyllite
P. Ameritex Polymer
E. Ameritex Dividend

3 SEDIMENTS

Undifferentiated
Argillite
Conglomerate
Greywacke
Slate
Porphyritic, qp (quartz-eye porphyritic), pp (plagioclase-porphyritic)
Calcitic flow
Quartzite
Quartz wacke
Graphite
Chert
Agglomerate
Tuffaceous-sediment
Siltstone
Sandstone
Schist
Shale
Quartzite
Quartz porphyritic tuff
Phyllite
Graphitic Peak Zone
K. Ameritex Kenwaite
T. Ameritex Timebiscoog

6 ULTRAMAFIC INTRUSIVE ROCKS

Undifferentiated
Serpentinized diorite-peridotite
Pyroxenite-hornblendite

Carbonatized
Talc-carbonate

7 MAFIC INTRUSIVE ROCKS

Undifferentiated
Amphibolite
Diorite
Gabbro
Quartz gabbro
Hornblendite gabbro
Lamprophyre
Intrusive breccia
Nipissing Diabase-type sills

8 FELSIC INTRUSIVE ROCKS

Undifferentiated
Quartz porphyry
Feldspar porphyry
Quartz feldspar porphyry
Felsite, p (porphyritic), qp (quartz-eye porphyritic), pp (plagioclase-porphyritic)
Hornblende-biotite trondhjemite
Hornblende tonalite
Trondhjemite
Porphyritic granodiorite
Leucocratic granodiorite
Hornblende diorite
Quartz diorite
Porphyry
Aplite
Granite
Granodiorite or quartz-rich syenite
Trachyte

9 MATACHEWAN DIABASE

10 HURONIAN SEDIMENTS

Arkose
Wacke
Argillite
Conglomerate

IRON FORMATION

Oxide
Sulphide (py-po)
Carbonate
Impure
Banded iron formation
Chloride-rich
Graphite

0 500 1000 feet