ARIS SUMMARY SHEET

District Geologist, Kamloops | Off Confidential: 90.06.05

ASSESSMENT REPORT 18822 | MINING DIVISION: Kamloops

PROPERTY: Kamad
LOCATION: LAT 51 08 00 LONG 119 49 00
UTM 11 5668206 302932
NTS 082M04W

CAMP: 039 Adams Plateau - Clearwater Area

CLAIM(S): Kamad 3,Kamad 7
OPERATOR(S): Esso Res. Can.
AUTHOR(S): Marr, J.M.
REPORT YEAR: 1989, 202 Pages
COMMODITIES
SEARCHED FOR: Silver,Gold,Copper,Lead,Zinc
KEYWORDS: Paleozoic,Fennell Formation,Tuffs,Argillites,Massive sulphides
Chalcopyrite,Galena,Sphalerite,Arsenopyrite
WORK
DONE: Drilling,Geological,Geophysical,Geochemical,Physical
DIAD 2094.0 m 17 hole(s);NQ
EMGR 22.1 km;VLF
Map(s) - 1; Scale(s) - 1:2500
GEOL 1000.0 ha
Map(s) - 2; Scale(s) - 1:2500
LINE 29.9 km
SAMP 164 sample(s) ;ME
SOIL 885 sample(s) ;ME
Map(s) - 7; Scale(s) - 1:2500
RELATED
REPORTS: 12540,15154
MINFILE: 082M 025,082M 075

LOG NO: 2609 RD.
ACTION:

FILE NO:

ASSESSMENT REPORT

1988 FIELDWORK

ON THE

KAMAD CLAIMS
(Kamad 1-8, 9 Fr, 10 Fr, KE-1)

Kamloops Mining Division, British Columbia

NTS: 82M/4W
Lat: 51° 08'N   Long: 119° 49'W

Owner:

Kamad Silver Co. Ltd.
2095 West Trans Canada Highway
Kamloops, B.C.
V1S 1A7

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Operator:

Esso Minerals Canada
A Division of ESSO RESOURCES CANADA LIMITED
1600 - 409 Granville Street
Vancouver, British Columbia
V6C 1T2

...AL BRANCH
...SSMENT REPORT
18,822
Part 1 of 2

Report By:

J. M. M[illegible]rr

May 26, 1989

Distribution:
Kamad Silver - 1 copy
EMC Files - 1 copy
Mines Department
- 2 copies

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1.0 INTRODUCTION

1.1 General Statement

This report documents work done on the Kamad Claims near Adams Lake, B.C. in 1988.

This data is tabulated in Section 2.0 (Table 1) which shows the application of assessment to individual claims and the grouping of these claims into two groups.

1.2 Location and Access

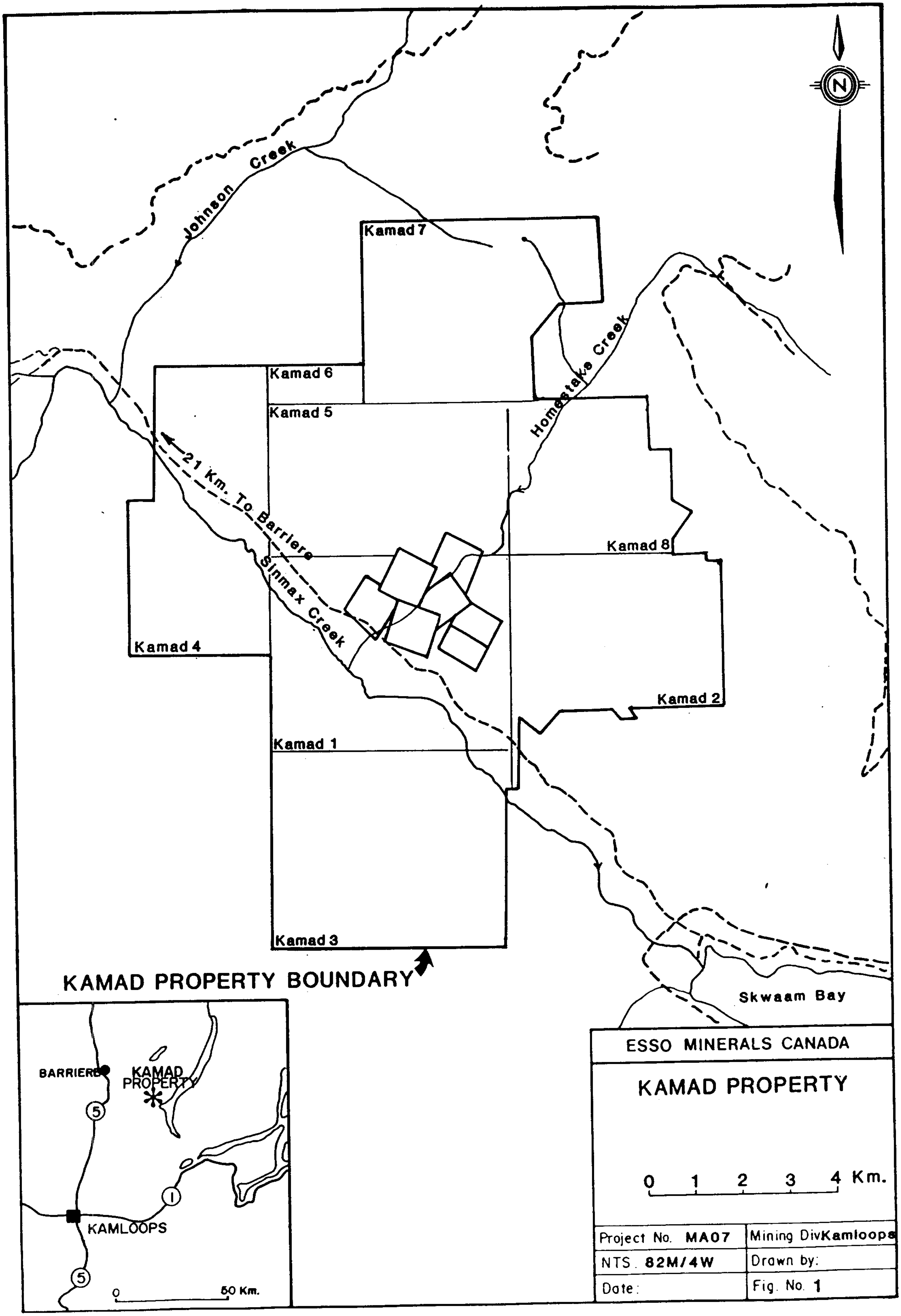
The Kamad Property is located in the Kamloops Mining Division of south-central British Columbia; approximately 60km northeast of Kamloops and 22km east of the town of Barriere (Fig. 1). The claims are centered on the old Homestake Mine that has produced high-grade silver ore intermittently between 1893 and the present day.

Access to the property can be gained from the North Thompson Valley via the Forest Lake road (Agate Bay Road) that leaves Highway 5, 2km south of Barriere. An alternate route is an active logging road that follows the west shore of Adams Lake and joins with the Scotch Creek Road to the south. This road connects with the Trans Canada Highway at Squilax, 4km east of Chase.

1.3 Topography, Vegetation and Climate

This area of the Province forms part of the interior plateau an irregular area of tableland ranging from 1250m to 1800m in elevation. Valleys are typically steeply incised with U-shaped cross sections. Precipitous bluffs are common locally. Tree cover consists of spruce and pine in plateau areas. Here, commercial logging operations have created excellent access by means of an extensive network of logging roads. Valley floors are occupied by small farms that raise beef cattle.

Climate is semi-arid and typical of the South-Central Interior. Summers are hot with average temperatures in the high 20's. Winters are cold with snow-cover in excess of 1m in the Plateau regions.


N
Johnson Creek
Kamad 7
Homestake Creek
Kamad 6
Kamad 5
21 Km. To Barriere
Sinmax Creek
Kamad 8
Kamad 4
Kamad 2
Kamad 1
Kamad 3
Skwaam Bay
KAMAD PROPERTY BOUNDARY
BARRIERE
KAMAD PROPERTY
5
KAMLOOPS
1
5
0
50 Km.
ESSO MINERALS CANADA
KAMAD PROPERTY
0 1 2 3 4 Km.
Project No. MA07
Mining Div Kamloops
NTS. 82M/4W
Drawn by:
Date:
Fig. No. 1

2.0 CLAIM DATA AND ASSESSMENT APPLICATION

TABLE 1 - CLAIM DATA AND ASSESSMENT APPLICATION

GROUP 1

CLAIM	REC. NO.	UNITS	APPLIED ASSESSMENT	NEW EXPIRY DATE
Kamad 2	2686	20	$ 28,000	1999-06-27
Kamad 4	2688	18	25,200	1999-06-27
Kamad 5	2689	15	21,000	1999-06-27
Kamad 6	2690	2	2,800	1999-06-27
Kamad 7	2691	20	28,000	1999-06-27
Kamad 8	2692	12	16,800	1999-06-27
KE-1 Fr.	6521	1	1,800	1999-06-27
		88	$123,600	

Work Applied: Drilling - Kamad 7 (Holes K88031 - K88047)
See Section 3.0

GROUP 2

CLAIM	REC. NO.	UNITS	APPLIED ASSESSMENT	NEW EXPIRY DATE
Kamad 1	2685	20	$28,000	1999-06-27
Kamad 3	2687	20	28,000	1999-06-27
Kamad 9 Fr.	2693	1	1,400	1999-06-27
Kamad 10 Fr.	2694	1	1,400	1999-06-27
		42	$58,800	

Work Applied: Acacia Grid - Geophysics, Geochemistry, Geology
See Section 4.0

3.0 GROUP 1 (KAMAD 7 DRILLING

3.1 Drilling Logistics

The location of the drill holes is shown on Map 2 and all relevant data is set out in Table 2.

All drilling was done by Frontier Drilling Ltd. of Langley, B.C. using a skid-mounted Longyear Super 38 diamond drill and NQ rods. A D6 Cat was used by the drilling company for drill transport, road construction and site preparation.

Collar locations were surveyed by McWilliam, Wayne Coble and Associates of Kamloops, B.C.

The core was logged by R. G. Carmichael and D. R. Heberlein at the Huber farm in Sinmax Valley and is currently stored at this location. Drill logs are provided in Appendix 1. Core samples were sent to Acme Analytical Laboratories in Vancouver for analysis. The data for these samples is provided as Appendix II.

Drilling took place from 4 to 13 July and from 3 to 15 September. Direct drilling costs (ie. invoices paid to the drilling company) totalled $54.09/m. This figure included the cost of mobilization, site preparation, coring, waterline maintenance, drill moves and casing.

All the drilling was done on Kamad 7.

TABLE 2 - DRILL HOLE DATA

HOLE	NORTHING	EASTING	ELEV.(m)	DIP	AZM	LENGTH(m)
PHASE I						
K88031	-1+25	-95+00	1406	-60°	240	78.0
K88032	-0+79	-92+00	1418	-65°	240	66.1
K88033	-0+79	-92+00	1418	-90°	-	90.5
K88034	-0+30	-89+96	1444	-55°	225	151.5
K88035	-0+80	-89+00	1454	-50°	225	169.8
K88036	-0+75	-91+00	1440	-45°	225	93.0
K88037	-2+00	-86+50	1443	-50°	240	160.7
K88038	-2+50	-85+00	1425	-50°	240	142.4
K88039	-2+00	-87+50	1455	-50°	225	121.0
						1073.0m
PHASE II						
K88040	-0+40	-90+50	1438	-50°	225	135.3
K88041	-0+40	-90+50	1438	-90°	-	154.5
K88042	-0+20	-91+50	1425	-45°	225	130.1
K88043	-1+50	-93+00	1409	-50°	225	68.9
K88044	0+20	-92+00	1429	-55°	225	145.4
K88045	-0+20	-91+50	1425	-90°	-	142.3
K88046	0+25	-90+00	1437	-50°	225	181.4
K88047	-0+85	-91+50	1435	-45°	225	63.1
						1021.0m
					TOTAL	**2094.0m**

3.2 Purpose and Results

Phase I of the 1988 drill program was designed to test the Rea zone within and adjacent to an area of high massive sulphide potential. This area was identified on the basis of geophysics, soil geochemistry, surface geology and drill hole data gathered since 1985. Five holes were drilled inside this area (K88032, K88033, K88034, K88035, K88036) and four were drilled outside, targeted on geophysical anomalies. Of the five holes drilled within the high potential area, four encountered massive sulphide mineralization.

A second phase of drilling was undertaken in order to determine the extent of the massive sulphide mineralization encountered in the Phase I holes. The results of the Phase II drilling included three massive sulphide intersections (K88040, K88041, K88047).

All drill holes are described in order, from the top of the hole to the bottom. Units are referred to with regard to their structural position in the holes.

DDH K88031

This hole was drilled to test a weak zinc soil anomaly near the northern boundary of the Kamad 7 claim, approximately 200m along strike from Rea Gold's L97 massive sulphide/barite lens.

The hole was collared in yellow sericitic tuff (6.9m to 12.9m) very similar to that seen within the Rea zone further to the southeast (Section -8900E). The significance of this unit apparently occurring within the footwall mafic volcanics is not known.

Carbonatized mafic volcanics were intersected from 12.9m to 51.4m. Well preserved vesicular lapilli were noted near the top of this interval, however, increased alteration has obliterated original textures towards the bottom.

A quartz vein from 51.4m to 52.6m marks the contact between mafic volcanics and graphitic argillite. No Rea zone is seen in this drill hole. The quartz vein possibly represents a fault, suggesting a structural break in the zone.

Interbedded argillite and siltstone occur from 52.6m to the end of the hole at 78.0m. Graded beds in the siltstone and in greywacke beds indicate an overturned sequence.

DDH K88032

K88032 was intended as a re-drill of hole K87020. This earlier hole included a 4m interval of 6% core recovery, most of which was massive sulphide rubble. A grab sample of this material returned:

HOLE	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K87020			0.13	2.63	5.95	32.57	0.93	0.09

K88032 was collared in dolomitized mafic volcanics (4.0m to 25.0m). These rocks become increasingly altered towards the bottom of the interval.

This hole intersected a stratigraphically simple Rea zone including: pyritized intermediate tuff (25.0m to 48.3m); pyritic siltite (48.3m to 53.3m); carbonatized intermediate tuff (53.3m to 55.5m); and graphitic argillite (from 55.5m to the end of the hole at 66.1m). No base metal sulphides were noted.

DDH K88033

K88033 provided the first massive sulphide intersection of the 1988 drill program. This hole was drilled at -90^{o} from the same collar as K88032 in order to test, at depth, the thick pyritized units seen in that hole. The stratigraphy is more complex here than in K88032 and extensive fault gouge development further complicates the picture.

Intensely dolomitized mafic volcanics were intersected from 2.6m to 32.1m and form the stratigraphic footwall to the Rea zone.

Massive, polymetallic sulphides (32.1m to 34.0m) were found in sharp contact with the volcanics. The sulphides are medium grained and crudely banded on a centimeter scale. Bands of massive chalcopyrite and sphalerite/galena were clearly seen on split surfaces, and splashes of galena and chalcopyrite up to 2cm across occur sporadically. The weighted average of four assays from this massive sulphide is:

HOLE	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88033	32.1 - 34.0	(1.82)	1.26	6.51	6.87	53.51	7.54	5.30

The lower contact of the sulphides is faulted, as indicated by a narrow (5cm) gouge zone. This fault may be responsible for some loss of stratigraphy. Finely laminated pyritic tuff (34.0m to 36.1m) and massive, mottled dolomite with abundant silica (36.1m to 37.2m) occur immediately below the fault zone.

A unique lithology composed of interlaminated dolomite and pyritic siltite (37.2m to 38.6m) is in conformable contact with pyritized intermediate tuff (38.6m to 45.5m). The last 3m of this interval is intensely fractured and faulted.

The interval from 45.5m to 48.1m is made up of a graphitic pyritic siltite that includes folded and brecciated tuffaceous laminae. This unit has not been identified in other drill holes on the property.

A pyritized intermediate tuff (48.1m to 58.3m) occurs as fragments within a fault gouge zone. This unit grades into pyritic siltite towards the bottom of the interval.

Pyritic siltite (58.3m and 64.7m) is similar to the overlying pyritized tuff in composition but displays good bedding. Faulting is less significant over this interval, although some gouge zones are noted.

A conformable contact between pyritic siltite and intermediate ash tuff (64.7m to 80.8m) is highlighted by an abrupt drop in pyrite content (from 50% to 5%), and a distinct color change from brown to pale green. This tuffaceous unit contains thin (to 1cm) stylolitic bands of graphitic material which increase in abundance towards the bottom of the interval.

A major fault from 80.8m to 82.4m marks the contact with the graphitic argillite unit of the hanging wall sediments. The hole terminated at 90.5m in interlaminated argillite and wacke.

DDH K88034

K88034 was drilled to test the down-dip extent of two thin massive sulphide layers which were identified during the 1985 drill program. The hole was collared in a medium-grained diorite which was cored to a depth of 8.2m.

Intensely carbonatized mafic pyroclastic rocks (8.2m to 84.2m) are typified by an orange-green color caused by 30% pervasive dolomite and 20% sheeted ankerite.

The Rea zone appears to be in conformable contact with the altered mafic volcanic rocks. Graphitic chert (84.2m to 88.2m) is in sharp contact with a thick section of sericitic chert (88.2m to 122.2m) that contains two sections of fault gouge (100.3m to 101.6m, 103.4m to 103.9m).

From 106.1m to 119.8m, the sericitic chert carries abundant sulphides (10% pyrite, 10% arsenopyrite, <1% each galena, sphalerite and chalcopyrite) and massive and semi-massive sulphide sections up to 70cm wide are noted (107.6m to 107.8m, 108.0m to 108.4m, 109.1m to 109.8m).

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88034	106.1-109.7	(3.60)	0.06	0.43	1.74	4.50	1.70	3.03

Pyritic siltite with intense chlorite-carbonate alteration was intersected from 122.2m to 143.9m. The hole passed into graphitic argillite at 143.9m and continued in this lithology to its total depth of 151.5m.

DDH K88035

Hole K88035 was drilled to test the down-dip extent of the sulphide-rich stratigraphy encountered in holes K85001 and K86019.

The hole was collared in carbonatized mafic volcanics which were cored to a depth of 91.7m. Below these volcanic rocks, graphitic chert (91.7m to 96.7m) containing 10% disseminated pyrite and traces of sphalerite, galena and chalcopyrite was encountered.

Sericitic tuff and chert are the main lithologies from 96.7m to 126.0m. Mineralization is quite well developed over this interval and traces of galena, sphalerite, chalcopyrite and arsenopyrite are present throughout.

The section from 106.0m to 113.1m is occupied by a dark green, mottled rock with 10% granoblastic pyrite, and abundant chlorite (10%), dolomite (10%) and sericite (40%). Trace amounts of galena, sphalerite and chalcopyrite occur throughout this unusual unit.

A thick pyritic siltite section with intense chlorite- carbonate alteration is present from 126.0m to 165.2m. This unit is homogeneous, with the exception of scattered beds (1m) of pyritic, calcite-cemented greywacke. Sulphides occur in trace amounts throughout much of this interval and a 10cm band of massive sulphide was noted at 160.0m. Assay results from this sulphide-rich section include:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88035	158.2 - 160.6	(2.40)	0.15	1.01	0.70	9.02	0.92	-

A fault at 165.0m marks the contact with the hanging wall sediments and the drill hole terminated in greywacke at 169.8m.

DDH K88036

K88036 was drilled into a weak Genie EM conductor with a coincident lead, zinc and silver soil anomaly.

The hole was collared in altered mafic volcanics characterized by 20% sheeted ankerite and 20% pervasive dolomite. Scattered fragments indicate that this is a lapilli tuff. A fault at 38.8m marks the contact with the Rea zone.

Semi-massive sulphide (38.8m to 45.0m) and massive sulphide (45.0m to 49.7m) form the stratigraphic base of the Rea zone at this location. The thickness of the massive sulphide is uncertain due to poor recovery (43%). Only 1.0m of core was recovered from the interval between 47.4m and 49.7m, most of which was high grade massive sulphide. Assays from this intersection are:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88036	39.9 - 47.4	(7.05)	0.16	2.48	3.90	22.19	2.05	0.96
includes:								
	4.4 - 47.4	(2.82)	0.26	4.63	5.75	39.20	3.77	1.85
	* 47.4 - 49.7	(2.16)	0.38	8.86	9.01	79.89	30.17	7.61

* 43% core recovery over this interval.

Grey, sericitic tuff (49.7m to 58.2m) and pyritic siltite (58.2m to 73.2m) occur below the massive sulphide.

A fault contact with graphitic argillite marks the bottom of the Rea zone and the hole terminated within a medium-grained, quartz-rich wacke at a depth of 93.0m.

DDH K88037

K88037 was drilled to test a weak Genie EM conductor with a coincident soil Pb-Zn-Ag-As geochemical anomaly.

The hole was collared in a fine grained, calcite-altered diorite sill which was cored to a depth of 25.6m. Carbonatized mafic volcanics typical of the Rea zone stratigraphic footwall were intersected from 25.6m to 100.2m and well mineralized Rea zone was intersected from 100.2m to 155.4m.

Graphitic chert (100.2m to 108.0m; 20% graphite) is in conformable contact with the mafic volcanics and is the source of the geophysical anomaly.

A thick section of sericitic chert was intersected from 108.0m to 147.8m. This unit contains sections of chloritecarbonate alteration characterized by abundant (20%) blueblack chlorite and 20% white dolomite knots (110.1m to 113.8m and 128.0m to 129.6m). Semi-massive (40%) pyrite was seen from 132.3m to 133.2m, immediately above a section of pyritic (10%) chert (133.2m to 138.1m).

A semi-massive (40%) sulphide section (pyrite 10%, arsenopyrite 20%, sphalerite 1%, galena 1%, chalcopyrite 1%) was intersected from 146.9m to 147.4m.

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88037	147.0 - 147.5	(0.50)	0.19	2.53	4.70	38.50	0.84	-

The pyritic siltite unit, which defines the stratigraphic top of the Rea zone, was intersected from 147.8m to 155.4m. The hole terminated at 160.7m in chert pebble conglomerate which is in fault contact with the pyritic siltite.

DDH K88038

Hole K88038 was collared to test a Genie EM conductor with a coincident lead-zinc-silver soil anomaly. The lithologies intersected in this hole are very similar to those seen in K88037.

Carbonatized mafic volcanics were cored to a depth of 62.0m. Although original textures have been largely obscured by the intense alteration, lapilli tuffs were identified in the less altered sections.

The Rea zone was intersected from 62.0m to 126.7m. In this hole it consisted of black, graphitic chert (62.0m to 70.0m and 92.4m to 95.5m), sericitic chert (70.0m to 87.4m), pyritic chert (87.4m to 92.4m), sericitic tuff (95.5m to 112.0m) and pyritic siltite (112.0m to 126.7m). The hole passed through a large fault (131.0m to 133.8m) and terminated at 142.4m within a chert pebble conglomerate typical of the hanging wall sediments.

The graphitic chert appears to be the source of the geophysical conductor.

DDH K88039

This hole was drilled to test a geophysical conductor between K87013 and K88037. The Rea zone appears to be structurally thinned at this location, as indicated by abundant fault gouge and an estimated true thickness of only 15m, compared with 70m in K87013 and 55.2m in K88037.

K88039 was collared in weakly ankeritized mafic lapilli tuff. This unit was present to a depth of 33.5m and contained a section of fine-grained diorite (15.0m to 26.7m). The interval from 33.5m to 88.8m consisted of a carbonatized mafic flow containing a 3.9m thick mottled dolomite vein (83.8m to 87.7m). In general, alteration of the footwall mafic volcanic rocks in this drill hole is weak.

A thin Rea zone was cored from 88.8m to 105.1m. The conductor is explained by graphitic chert with abundant fault gouge (88.8m to 90.7m). Sericitic chert with intense fault gouge development was seen from 90.7m to 99.7m. Pyritic siltite, identical to that seen in K88038, occurs between 99.7m and 105.1m.

Interbedded graphitic argillite and greywacke were intersected from 105.1m to 120.8m, and the hole terminated at 121.0m within chert pebble conglomerate.

DDH K88040

This hole was drilled to test for an easterly plunge to the massive sulphide seen in K88036.

Footwall mafic volcanics (4.4m to 96.7m) are strongly carbonatized and typically contain 10 - 30%

pervasive dolomite and 10 - 20% sheeted ankerite. Adjacent to the Rea zone, these rocks contain abundant (10 - 20%) chlorite and traces of disseminated base metal sulphides (92.4m to 96.7m). The altered mafic volcanics are underlain by graphitic chert (96.7m to 101.0m) and sericitic chert (101.0m to 108.8).

Semi-massive (30 - 60%) sulphide is present from 108.8m to 110.6m and banded, medium grained, polymetallic massive sulphide (80 - 90%) is seen from 110.6m to 120.0m. Assays from this section returned:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88040	108.9-120.5	(11.60)	0.56	6.85	8.40	77.78	3.56	2.65

Lithologies occurring immediately below the massive sulphide are: dolomitic chert (120.5m to 122.1m), pyritic siltite (122.1m to 125.1m) and chlorite-carbonate alteration (125.1m to 128.7m).

K88040 passed through a faulted contact at 128.7m into graphitic argillite and ended in this unit at 135.3m.

DDH K88041

K88041 was drilled vertically from the collar of K88040 to explore the down-dip extent of the massive sulphide.

The hole was collared in carbonatized mafic volcanics identical to those seen in K88040 (3.0m to

134.5m). The graphitic and sericitic cherts are absent in this hole and it passed directly into massive sulphide (134.5m to 141.3m). Assay results for this interval are:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88041	134.5-141.3	(6.11)	0.41	3.20	4.23	40.44	1.99	2.10

Lithologies encountered below the massive sulphide were very similar to those in hole K88040 and include: dolomitic chert (141.3m to 143.7m), pyritic siltite (143.7m to 150.4m, 151.5m to 153.0m) and chlorite-carbonate alteration (150.4m to 151.5m).

Intermediate tuff occurs from 153.0m to the end of the hole at 154.5m.

DDH K88042

Hole K88042 was drilled to test the strength of the massive sulphide mineralization between K88033 and K88036.

This hole was collared in a variably altered sequence of mafic volcanics (7.5m to 75.8m). Alteration is typified by 10 - 20% sheeted orange ankerite and 10 - 20% pervasive and spotty dolomite. Sericite is present in amounts up to 30% and chlorite (10 - 20%) becomes common towards the bottom of the interval.

Pyritized intermediate tuff was intersected from 75.8m to 96.8m. No anomalous base or precious metal assays were obtained from this unit. The interval from

90.6m to 96.8m shows an increase in sedimentary input as sections of pyritic (40% - 60%) depositional chert breccia become common.

A conformable contact between pyrite-rich (40%) heterolithic depositional breccia and carbonatized intermediate tuff occurs at 96.8m. The intermediate tuff is distinguished by its pale green color, abundant (10 to 20%) pervasive calcite, and the complete absence of pyrite. This unit contains 10% styolitic graphitic laminae which are a very distinctive feature.

A major fault from 109.1m to 116.7m marks the contact with the graphitic argillite and quartz wacke of the hanging wall sediments. This hole terminated within greywacke at 130.1m.

DDH K88043

This short hole was was drilled to determine the position and orientation of a fault which possibly causes the noted offset of the Rea Zone on line -9200E.

K88043 was collared in carbonatized mafic volcanics and penetrated this lithology to a depth of 12.5m. The fault was intersected from 12.5m to 25.0m. The fault is defined by a thick zone of gouge containing breccia fragments up to 10cm across. Four lithologies (altered mafic volcanics, sericitic chert, pyritic siltite, and graphitic argillite) are represented by these fragments. Each rock type occurs in a discreet section of the fault.

The section from 12.5m to 22.5m is made up of carbonatized mafic volcanic fragments. This represents the faulted equivalent of the footwall rocks.

Yellow sericite is the most distinguishing feature of the section from 22.5m to 23.6m. The absence of fragments makes identification of the lithology difficult, although the presence of abundant sericite indicates either sericitic tuff or sericitic chert. An assay from this interval is anomalous in gold (0.21 g/t) and silver (1.5 g/t).

Fragments of pyritic siltite are evident from 23.6m to 24.6m. Precious metal values are anomalous over this interval (0.24 g/t Au, 4.0 g/t Ag).

Graphitic fault gouge from 24.6m to 25.0m marks the end of the Rea zone and the beginning of the hanging wall sediments. Sediments were drilled from 25.0m to the end of the hole at 68.9m. Lithologies are interlaminated argillite and wacke (25.0m to 36.6m) and medium to coarse grained, quartz rich greywacke (36.6m to 68.9m). Rip-up clasts of massive pyrite occur at intervals within the sediments.

DDH K88044

K88044 was drilled to test the down-dip extent of the massive sulphide intersected in K88033 and, together with K88043, to provide information about the orientation and sense of movement of the fault.

A wide zone of fault gouge was cored from 68.6m to 77.5m. In this hole, the fault is entirely within the footwall mafic volcanics.

The contact between the footwall mafic volcanics and Rea zone lithologies is marked by a 20cm gouge zone.

Pyritized intermediate tuff extends from 102.0m to 125.1m. Intense chlorite-carbonate alteration of this unit (102.0m to 108.4m) occurs at the same stratigraphic level as the massive sulphide in K88033.

Within this pyritized tuff is a thin massive sulphide section (122.8m to 123.1m) with conformable contacts on both sides. An assay of this massive sulphide returned:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88044	122.7-123.2	(0.50)	0.12	0.99	1.56	92.00	5.01	1.59

A second massive sulphide was found immediately below the pyritized tuff (125.1m to 126.1m). This section is composed primarily of pyrite (50%) and arsenopyrite. Assay results are:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88044	125.1-125.6	(0.50)	0.28	0.74	1.46	22.50	3.16	2.22
	125.6-126.1	(0.50)	0.08	0.40	0.63	9.00	1.30	2.09

A coarse-grained pyritic wacke (126.1m to 127.7m) was seen below the massive sulphide. Fragments are poorly sorted and range in size from 1mm to 3cm. Fragment lithologies include argillite, chert and sericitic chert in a matrix of very fine-grained pyrite.

Intermediate ash tuff makes up most of the remainder of this drill hole (127.7m to the end of the hole at 145.4m).

Graphitic argillite content increases to 70% at the bottom of the hole.

DDH K88045

K88045 was drilled to test for an easterly plunge to the massive sulphide seen in K88033. The hole was collared in altered mafic volcanics (6.7m to 107.9m) characterized by intense carbonate (20% ankerite, 20 - 30% dolomite) alteration.

Sericitic chert, from 107.9m to 109.1m, has conformable contacts with the overlying mafic volcanics and with the underlying pyritic siltite (109.1m to 114.5m). Pyritized intermediate tuff is present from 114.5m to 131.9m.

Pyritic (40%) chert pebble conglomerate was intersected from 131.9m to 134.9m. This unit shows well-developed graded bedding indicating an inverted section.

Carbonatized intermediate tuff was seen from 134.9m to the end of the hole at 142.3m. The contact of this unit with the chert pebble conglomerate (134.9m) is sharp and conformable.

DDH K88046

K88046 was drilled to test for an easterly plunge to the massive sulphide intersected in holes K88040 and K88041.

Intense chlorite-carbonate alteration was seen within the mafic volcanics immediately above the zone

(124.4m to 130.4m). Sulphide stringers are abundant (5 - 10%) throughout this section and metal values are anomalous (0.02% Cu, 0.30% Pb, 0.40% Zn, 2.4 g/t Ag, 0.18 g/t Au).

An unusual fine grained chert pebble conglomerate was seen in place of the graphitic chert in this hole (129.9m to 130.2m). The significance of this unit is not known.

Sericitic chert was present from 130.4m to 153.9m. The interval from 145.8m to 153.9m is particularly sulphide-rich and contains sections of massive sulphide up to 60cm wide. These sections are most likely to be veins. Evidence for this includes the coarse, granoblastic nature of the sulphide minerals, the white quartz gangue material (10%), and the very irregularly shaped contacts. Best assays from this sulphide-rich section are:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88046	145.8-146.7	(0.90)	0.12	0.92	2.12	12.00	2.13	7.22
	148.4-149.5	(1.10)	0.32	1.70	2.57	13.27	1.39	4.45
	151.1-152.1	(1.00)	0.40	1.64	4.68	27.00	0.72	0.39

Pyritic siltite (153.9m to 170.3m) is characterized by intense chlorite-carbonate alteration which becomes less pronounced towards the bottom of the interval. The presence of distinct wacke and fine-grained chert pebble conglomerate sections within this unit indicates a significant clastic input.

A section of fault gouge from 169.8m to 170.3m marks the contact with the hanging wall sediments. This hole terminated at 181.4m in graphitic argillite containing 10% dolomite stringers, a feature which has not been noted in any other holes.

DDH K88047

This hole was drilled to explore the continuity of the massive sulphide lens between K88033 and K88036. K88047 was collared in mafic volcanics (12.5m to 20.8m) which are intensely altered and carry abundant (30 - 40%) sulphide stringers as well as one 30cm wide massive sulphide vein (20.5m to 20.8m).

Sulphide-rich sericitic chert (20.8m to 24.5m) occurs below the volcanics. The weighted average of three assays across this chert returned:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88047	20.8-24.5	(3.60)	0.11	0.52	1.07	9.78	1.41	2.09

A thin pyritic siltite with 40% fault gouge was encountered from 24.5m to 25.4m.

Polymetallic massive sulphide was seen from 25.4m to 27.7m. Sulphides are coarse grained and show crude to well- developed banding. Sulphide content decreases down this interval from 90% to 60% and patchy chlorite-carbonate alteration is apparent over the lower 60cm. The weighted average of five assays across this massive sulphide is:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88047	25.4-27.7	(2.27)	0.53	2.41	3.58	68.41	9.92	1.31

Pyritic siltite, with sections of pyritic depositional chert breccia and patchy chlorite-carbonate alteration, occurred between 27.7m and 32.1m. Some fault gouge was noted within this interval.

Sericitic tuff, seen from 32.1m to 35.6m, carries no base or precious metals and has a faulted structural lower contact.

Pyritized intermediate tuff was present from 36.5m to 41.2m. This unit contains 10 to 60% very fine-grained pyrite which occurs both pervasively and as stringers. A 50cm massive sulphide section was noted at the top of this interval. This massive sulphide assayed:

Hole	Interval (m)	T. Width (m)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	As (%)
K88047	36.5-37.0	(0.50)	0.44	2.68	3.59	91.50	4.92	3.23

Intense chlorite-carbonate alteration, occurring as pervasive replacement of the original rock and irregular veinlets characterized by 40% blue-black chlorite and 40% patchy and knotty white dolomite, obscures the original lithology from 41.2m to 53.0m.

A wide fault zone from 52.1m to 55.3m marks the contact with the hanging wall sediments, represented here by a finely interlaminated sequence of graphitic argillite and fine-grained wacke. This hole terminated at 63.1m within these sediments.

3.3 Cost Statement

Group 1

Direct Drilling Costs	$113,271.74
As invoices.	
Labour	
R. Carmichael - Geologist 38 days @ $165/day (July 1 - 18, Sept. 1-18)	6,270.00
D. Heberlein - Sup. Geologist 10 days @ $253/day	2,530.00
A. Lowe - Splitter/Assistant 38 days @ $110/day (July 1-18, Sept. 1-18)	4,180.00
Assaying	
164 samples @ $22 (Cu, Zn, Pb, Ag, Au)	3,608.00
Vehicles/Accommodation	9,853.15
	$139,712.89

4.0 GROUP 2

Geology, Geophysics, Geochemistry - Acacia Zone (Kamad 3 Claim)

4.1 General Statement

In 1987 some old workings on what used to be known as the Acacia occurrence, were rediscovered as a result of a prospecting program on the south side of Sinmax Valley. The occurrence appeared to contain both zinc rich massive sulphide and galena- sphalerite-calcite veins located at a contact between altered mafic volcanics and argillites.

The 1988 exploration set out to evaluate the nature and extent of the mineralization and to explore the surrounding area for additional mineral occurrences. A 29 line km blaze and flag grid was established over the southern part of the Kamad 3 claim (The Acacia area). The grid was geologically mapped and soil sampled at a 1:2,500 scale. A VLF survey was also undertaken. Results of this work are presented below.

4.2 Geology

During the month of June 1988 the Acacia area was mapped at a 1:2,500 scale on a 100 by 25m grid (Fig. 3). The objectives of the mapping were:

(1) to assess the economic potential of mineralization exposed in the old workings;

(2) to determine the structure and stratigraphy of the area;

(3) explain the significance of geophysical (VLF) and soil geochemical anomalies on the grid;

(4) to prospect the area for additional mineralized zones; and

(5) to fit the local geology into an overall regional picture.

Stratigraphy

The Acacia grid occupies a portion of the southern slope of Sinmax Valley, immediately opposite the Homestake Mine.

The grid is underlain by a rocks of the Homestake (Units 1 to 3, Fig. 3) and Acacia Assemblages (Units 4 and 5 - Fig. 3) that form part of the Devono-Mississippian Eagle Bay Assemblage.

Younging directions are ambiguous; however, structural (SS/S_0 intersections from calcareous argillites) and stratigraphic indicators (graded bedding) suggest that the sequence may be at least partially overturned to the southwest.

The geology of the grid area is shown in Figure 3 and descriptions of the map units are given below:

Unit 1 - Felsic Volcanic Rocks:

A felsic volcanic sequence estimated to be approximately 150m in thickness, underlies much of the hillside between Acacia and Delores creeks.

Best exposures occur in cliff outcrops at the bottom of the Delores Creek valley and on line 28E just north of the 10N baseline. The felsic unit is truncated to the east by a fault that follows the Delores Creek valley and juxtaposes a monzonitic intrusion. Westerly, the felsic rocks lie in conformable contact with a relatively thin mafic volcanic unit (Unit 2 - Fig. 3).

Where exposed, the rocks consist of light brown to grey, quartz-eye bearing, quartz-sericite schists or phyllites that contain variable amounts of ankerite, chlorite and disseminated pyrite. These rocks are interpreted to be altered felsic tuffs (based on preserved fragmental textures) and are interpreted to be part of the Homestake Schist.

Unit 2 - Mafic Fragmentals:

Unit 2 conformably underlies the felsic sequence and is exposed in a series of cliffs that parallel Acacia Creek on its east side. The sequence consists predominantly of calcareous mafic fragmentals (lapilli and crystal tuffs) and their altered equivalents (chlorite schist and ankerite-chlorite schist). Schistose rocks (altered) are present throughout the section. They are typically medium to dark green in colour and display a moderate to strong foliation. In hand specimen they consist of chlorite, epidote, calcite, biotite, sericite and carbonate (calcite and ankerite). Calcite-vein stockworks occur in many exposures, while ankerite is locally present as a pervasive or spotty alteration. Sericite occurs at several exposures, particularly near the lower (structural) contact with a calcareous argillite unit (Unit 3, Fig. 3).

Unit 3 - Calcareous Argillite:

Calcareous argillites are exposed as a narrow north trending strip low on the slope to the east of Acacia Creek (Fig. 3). This unit is conformable with the structurally overlying mafic volcanics of Unit 2. The contact between these units is gradational, suggesting that the stratigraphy may be inverted. True thickness of this unit is unknown as the base of the argillite has not been observed on the grid area. To the south of the grid, similar rocks are exposed over a 150 to 200m stratigraphic interval, implying that the a considerable thickness of the unit is unexposed.

In outcrop, the argillite has a distinctive zebra- striped appearance, that is caused by alternating layers of black graphitic argillite and white calcite stringers, lenses and 'beds' (up to 40%). Locally, chlorite is a major constituent, suggesting that the rock is at least partly of volcanic provenance. Lenses (boudins ? - to 30cm)) of massive, grey, sugary textured quartz with accessory sericite and pyrite are widespread in Unit 3. These may represent deformed quartz veins or quartzitic beds. Similar pods of massive ankerite are also common. Best examples outcrop in cliff exposures on the east side of Acacia Creek at the north end of the grid. These rocks strongly resemble the calcareous argillites of the Sicamous Formation exposed on the Adams Plateau to the east of Adams Lake.

Unit 4 - Chlorite Schists:

Unit 4 is exposed on the west side of Acacia Creek (Fig. 3) where it occurs as interlayers in a thick quartzite and quartz-wackes sequence (Unit 5). In comparison to Unit 2, Unit 4 is typically thinner and significantly more ankerite-rich. The ankerite occurs as distinct porphyroblasts that give the mafic rocks a spotted texture (Table 3). As it is poorly exposed the true extent of the Unit 4 is not known; however, it appears to occur as narrow intervals in the sedimentary sequence. Individual mafic 'beds' may represent tuffaceous deposits into a sedimentary basinal environment. There is no evidence to suggest that Units 2 and 4 are related. Fragmental textures have not been observed in these rocks.

Unit 5 - Quartz-wacke with Minor Argillite:

Unit 5 consists of an interbedded succession of massive quartz-wacke, quartzite, sericite-quartz phyllite and graphitic (chloritic) argillite. These rocks underlie grid area to the west of Acacia Creek and are best exposed at the southwest part of the map area (Fig. 3). The quartzites and wackes can be distinguished on the basis of quartz content. These rocks make up 80% of Unit 5. They are typically brown to grey, granular rocks consisting primarily of 50 to 90% subangular to rounded, sand-sized quartz grains in a fine-grained quartz, plagioclase and sericite matrix.

Sericite-ankerite-quartz phyllites (altered sandstone) comprise 15% of the section and are best exposed in cliffs along the west side of Acacia Creek south of the baseline. Here the phyllite contains massive, conformable quartz ankerite lenticles that are interpreted to be boundinaged veins, similar to those seen in the calcareous argillites.

Graphite-chlorite schist (mafic argillite) make up less than 5% of Unit 5. Where present, they are thinly interlayered with the phyllites. Unlike the argillites of Unit 3, these rocks do not contain any appreciable amounts of calcite.

Unit 6 - Monzonite:

Unit 6 consists of a monzonite stock that is exposed at the eastern map area (Fig. 3). At exposures along Delores Creek, the faulted contact between the monzonite and adjacent volcanic rocks is exposed.

The monzonite is typically massive, equigranular, and consists of alkali feldspar and chlorite with accessory quartz. The relative proportion of alkali feldspar to plagioclase has not been determined. In places, disseminated pyrite and magnetite are present in the monzonite.

Structural Geology

Structurally, the Acacia grid area is a moderately dipping homoclinal sequence. Rock units strike at approximately 120^{o} and dip at moderate angles (25 to 40^{o}) to the northeast. Foliation (Fig. 4) parallels bedding contacts and have an

ACACIA GRID
FOLIATION ORIENTATIONS

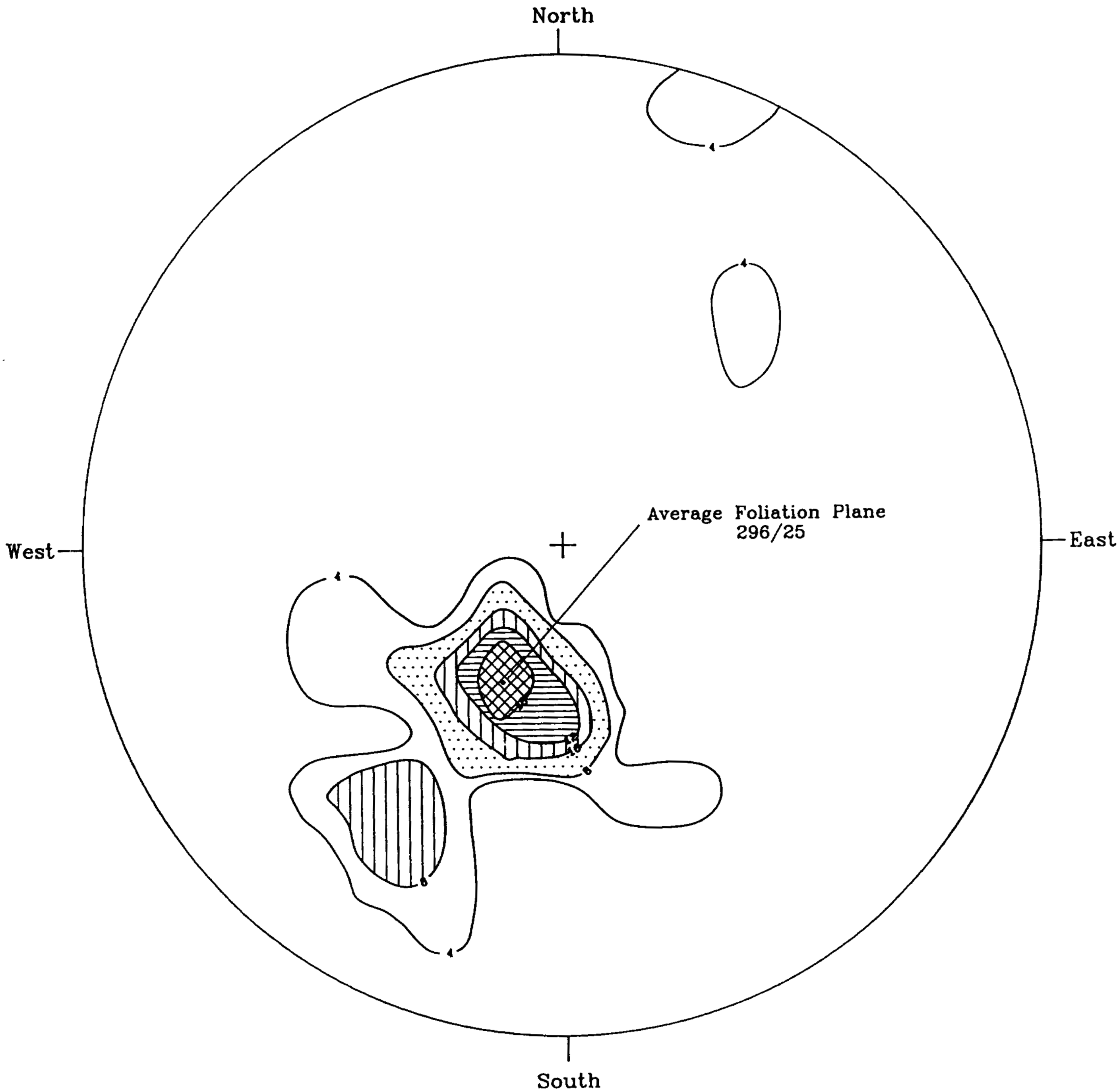


Figure 4

average strike of 116^{o} and dip of 40^{o}NE. Although this parallel relationship of bedding to foliation implies isoclinal folding, no macroscopic folds have been observed. Minor folds with wavelengths in the tens of centimetres to metre scale have been mapped at several localities (Fig. 3). All minor folds axes have consistent plunges of 30 to 40^{o} to the east-northeast.

A west-dipping normal fault is interpreted to cross the grid in a northerly direction. The trace of the fault follows the east fork of Acacia Creek and the main creek valley to the north. Although the fault is not exposed, its position has been constrained with a high degree of confidence using the outcrop distribution of the units. At the north end of the grid, different rock units are exposed on either side of the creek. Considering the regional strike of the units, this observation can only be explained by a fault offset. At the south end of the grid the interpreted fault separates Acacia Assemblage rocks (Units 4 and 5) from Homestake Assemblage rocks (Units 1 to 3). Normally, Homestake Assemblage rocks structurally overlie the Acacia Assemblage (as seen on the Homestake Bluffs - Section 6) but here they occur at the same structural level implying a down-throw to the west.

To the north of the Acacia grid, the same fault is exposed on the Homestake Bluffs where it visibly offsets the Homestake Schist unit with the same sense of movement. The down-throw is estimated to be in the order of 150m.

Another fault is exposed in Delores Creek at the east end of the grid. This steep (70 to 80^{o}) west-dipping structure juxtaposes the monzonite (Unit 6) and altered felsic volcanic rocks of Unit 1. The displacement on this fault is interpreted to be east-side-down based on an observed offset of the Homestake Schist to the north.

Mineralization

Eight mineral occurrences are present on the Acacia grid (A1 to A8 - Fig. 3). Most of these zones are exposed in the Acacia Creek valley or adits cut into the adjacent southeast hillsides. The best mineralization occurs in the calcareous mafic volcanics (Unit 2) as stratiform massive sulphides or remobilized sulphides in epigenetic veins. Epigenetic vein mineralization is also present in felsic rocks of Unit 1 and in the quartz-wackes of Unit 5. Characteristics of the mineral occurrences are given in Table 3.

Vein and Replacement Type Mineralization (Locality A1):

At locality A1 (Fig. 3) sulphides are hosted by quartz-ankerite veins and an ankerite-sericite-chlorite schist. Quartz-ankerite veins occur as 10 - 30cm wide boudins in quartz-sericite schist (felsic tuff). The veins contain disseminated galena, sphalerite, chalcopyrite and pyrite. ICP analysis of a single vein yielded low Cu-Pb-Zn-Ag values (Table 3). Anomalous Bi in the vein could have been introduced from the adjacent monzonite intrusion.

Sulphide mineralization is also hosted by an ankerite- sericite-chlorite schist (mafic tuff?) underlying the quartz-sericite schist. The mafic schist has a minimum exposed thickness of 2m and contains centimetre-scale, semi-massive pyrite-chalcopyrite stringers. The stringers are weakly anomalous for copper, bismuth and arsenic.

Stratiform Sulphides at Felsic-Mafic Volcanic Contact (Localities A2 and A3):

Stratiform sulphides spatially related to a felsic (Unit 1) - mafic (Unit 2) volcanic contact are present in cliff exposures along the east side of the Acacia Creek valley (A2, A3; Fig. 3).

At locality A2, 0.5 to 1cm thick, conformable semi- massive layers, composed of pyrite and chalcopyrite occur in calcareous mafic volcanics (Unit 2) near the contact with felsic volcanics (Unit 1). At locality A3, a 2m thick conformable massive pyrite and chalcopyrite layer occurs directly at the felsic-mafic volcanic contact. In the extreme southern map area, massive pyrite boulders occur 275m downhill from the inferred felsic-mafic contact (Fig. 3). Everywhere the sulphide was sampled, it was found to be weakly anomalous in Cu. The felsic-mafic volcanic contact is most likely the source of anomalous copper values in soils at the northeast part of the grid.

Stratiform Sulphides and Sulphidic Veins at Mafic Volcanic - Argillite Contact (Localities A4, A5, A6):

Stratiform sulphides and associated mineralized veins near a mafic volcanic (Unit 2)/argillite (Unit 3) contact were examined in adits and outcrop exposures (A4, A5, A6; Fig. 3).

Semi-massive pyrite-sphalerite lenses hosted by calcareous mafic volcanics are exposed in the north adit (A4 - Fig. 3). The sulphides occur within 1m of a lithological contact between the calcareous mafics and calcareous argillites. Close to this contact the mafic volcanic is highly altered to a calcite-sericite schist. Locally, pyritic chert lenticles (fragments?) were observed in sericite schist. Grab samples of the sulphides from the dump outside the adit returned high Zn values (Table 3). The banded nature of sulphides in some samples signifies a stratiform, syngenetic origin.

Calcite veins up to 1m in width are exposed in the altered mafic volcanic rocks above the portal and in the adit walls. Vein samples from the dump contain coarse grained sphalerite and galena with lesser pyrite and chalcopyrite. They returned highly anomalous Pb-Zn-Ag-Sb values (Table 3).

The south adit (A5 - Fig. 3) penetrates 10m into the hillside and intercepts the same mafic volcanic-argillite contact. Here, pods of semi-massive pyrite occur in the mafic volcanic at the same level as the sulphide pods in the north adit. No sphalerite was seen in the sulphide pods. A 5m deep trench directly uphill (southeast) from the adit exposed a mineralized quartz-calcite vein in a graphite schist. The thin (cm's) vein fills a vertical fault in the schist and contains galena, sphalerite, chalcopyrite and pyrite. Highly anomalous Zn values were obtained from the vein. Pb and Ag values were weak (Table 3).

A significant pyrite occurrence in calcareous mafic volcanics was observed to the south of the adit showings (A6, Fig. 3). At this locality, pyrite occurs as disseminated or semi-massive stringers. These were found to contain only background metal values (Table 3).

Sulphide Bearing Quartz-veins in Quartz-wackes Localities A7 and A8):

Mineralized quartz-veins in massive quartz-wacke were discovered on the west side of Acacia Creek (A7, A8, Fig. 3). Samples from both occurrences contained anomalous Pb-Zn-Ag values (Table 3). The abundance of silver in such veins is directly proportional to the amount of galena present.

The best exposure of these veins is at locality A8, where fracture openings between house-sized, slump blocks provide a 5 to 10m vertical exposure.

Vein mineralization occurs in a dark grey, sugary textured, massive, recrystallized quartz-wacke bounded below and above by narrow shear zones. Although quartz-veins are abundant throughout the quartz-wacke, mineralization occurs locally in the form of massive sphalerite and galena along 1 to 5cm wide, subvertical fractures in the quartz-veins. Sphalerite is disseminated throughout the quartz-wacke. Quartz-veins or mineralized fractures do not occur in the underlying or overlying sericite-ankerite schist.

Conclusions

It is apparent from the geological mapping that areas of weak base and sporadic precious metal mineralization are widespread in the grid area. The most significant mineralization from an exploration viewpoint is hosted at the contact between Units 2 and 3. Here, bedded massive sulphides dominated by pyrite and sphalerite but also containing small amounts of galena form small lenses. Associated with these are sphalerite-and galena-bearing calcite veins that may represent remobilized sulphides from the mineralized horizon. The permissive contact has been followed for a distance of approximately 2km across the grid. It is also interpreted to underlie the area between Acacia and Delores creeks. Potential for a significant accumulation of massive sulphide is considered to be good.

Vein and stringer type base metal mineralization exposed at numerous localities on the grid is similar to mineralized veins that occur throughout the Eagle Bay Assemblage. Most of these occurrences consist of sigmoidal tension gashes that have very limited size potential. They are not considered to be a viable target.

Description of Lithological Units (Acacia Grid - Table 3)

Lithologic Unit	Approximate Thickness Range (m)	Composition	Texture	Comments
1 Felsic Volcanics	1 - 150	qz, ms, pf, ± cl, ca, ak sulphides: py, trace cp	Strongly foliated or rarely massive 5%, 1 - 4mm quartz-eyes locally	Comprises a major part of the Acacia Property; comparable to the Homestake schist; locally anomalous in Cu-Pb-Zn-Ag; interlayered mafic tuff or argillites common.
2 Calcareous Mafic Volcanics	20 - 50	cl-ca ± bi, ak, ms sulphides: py, sl, gl, cp	Weakly to strongly foliated; calcite vein stockworks in places	Massive py, trace cpy found at the lower contact with felsic volcanics (Unit 1); semi-massive py, sl pods in upper part near contact with graphitic argillite; also sl, gl, bearing calcite veins; footwall mafics.
3 Calcareous Argillite	100 - 120	gp-cl-ca-qz ± ms, ak	Strongly foliated; friable with lenticles of quartz-wacke	No anomalous base or precious metal values. Hanging wall sediments.
4 Ankeritic Mafic Volcanic	1 - 10	cl-ak ± ms sulphides: 1 - 2% disseminated py	Moderately foliated or massive with 5 - 30%, 1 - 5mm large ankerite prophyroblasts	No anomalous base or precious metal values; interlayered with quartz-wackes (Unit 5)
5 Quartz-wacke/ Argillite	?	qz-ms-ak-cl-gra sulphides: py, sl, gl	Massive to strongly foliated; good granular texture preserved locally	Fractures in brittle massive quartz-wackes are healed with quartz-veins and locally contain pods of massive Sl and ga; graphitic argillites are interlayered with foliated quartz-wacke in the lower part of Unit 5.
6 Monzonite	?	pf-kf-cl-qz; mt locally sulphides: disseminated py	Massive to foliated equigranular rock	No anomalous base or precious metal values; contact with volcanic rocks is sharp and subvertical.

Abbreviations: qz = Quartz; ms = Sericite; cl = Chlorite; pf = Plagioclase Feldspar; kf = Potassium Feldspar; ca = Calcite; gp = Graphite; ak = Ankerite; py = Pyrite; cp = Chalcopyrite; sl = sphalerite; mt = magnetite

Description of Mineral Occurrences (Acacia Grid - Table 3)

Mineral Occurrence	Type	Host Rock	Sulphides Present	ICP Analysis (PPM) Cu	Pb	Zn	Ag	Comments
A1-1	quartz-ankerite vein	qz-ms-schist (felsic tuff?)	Disseminated 3% gl, 2% py, 1% sl, 1% cp	941	2461	1250	12.3	10 to 30cm thick quartz-ankerite veins host mineralization; they are also anomalous in Bi (23 PPM) possibly related to the nearby monzonite intrusion.
A1-2	replacement?	ak-ms-cl schist (mafic tuff?)	50% py, 1% cp in conformable stringers (2 - 10cm)	2563	896	276	13.1	Massive sulphide stringers are also anomalous in Bi (34 PPM) and As (134 PPM) possibly related to nearby monzonite intrusion.
A2	replacement? stratiform	ca-cl schist (mafic volcanic)	5 - 40% py, 1% cp disseminated or semi-massive layers	739 533	2 2	48 52	0.2 0.1	Sulphides occur as disseminations or in 0.5 to 1cm thick conformable layers; possibly syngenetic sulphide deposition at felsic-mafic contact.
A3	stratiform	ca-cl-schist (mafic volcanic)	95% py, 1% cp, 2m thick massive sulphide layer	1205 Massive py boulder to south 1281	26 28	54 91	0.6 0.1	The massive sulphide layer is conformable with a felsic-mafic volcanic contact; the sulphide is also anomalous in Co (163 PPM) and Mo (36 PPM).
A4	stratiform with epi-genetic calcite veins	ca-cl-schist (mafic volcanic)	Lenticular semi-massive sulphide pods of 95% py, 5% sl; one 15cm thick massive sl seam; 10% sl, 5% gl in calcite veins	Massive sphalerite 0.08% Banded sphalerite/pyrite 0.04% Massive pyrite 0.10% Calcite vein 188 0.02%	 0.96% 0.11% 0.07% 17177 18.57%	 19.2% 1.45% 0.45% 47878 6.65%	 8.5 3.6 1.6 140.8 160.5	Lenticular semi-massive py-sl pods occur within calcareous mafic volcanics in close proximity (2 - 3m) to a mafic volcanic/argillite contact. The best exposure of the mineralization is in the north adit. Assays of talus dump samples yield high Zn grades. Calcite vein rubble also from the adit dump are anomalous in Pb-Zn-Ag and also Sb (155 PPM). Ag content both in veins and stratiform sulphides is a function of galena content. The calcareous mafic volcanic becomes sericitic towards the contact with calcareous argillite.
A5	stratiform with epigenetic quartz-calcite veins	ca-cl-schist (mafic volcanic) gp-cl-schist (argillite)	Semi-massive py pods in mafic volcanic. gl, sl, cp, py in cross-cutting quartz-calcite veins in argillite	quartz-calcite vein 626 0.06%	 2099 0.23%	 12436 1.25%	 4.7 4.5	Mineralization in proximity to mafic volcanic-argillite contact; semi-massive py pods observed in 10m long adit; walls have been previously chip sampled; mineralized quartz-calcite veins in argillite found in 5m deep trench uphill from the adit.
A6	remobilized	ca-cl-schist (mafic volcanic)	5 - 20% disseminated to semi-massive pyrite in stringers	65	9	62	0.1	Mafic volcanic is silicified locally, pyrite is probably remobilized; massive py boulder found downhill from A6 is anomalous in Cu; probably representative of massive py at the felsic-mafic contact (ie. A3).
A7 & A8	fracture-filled by quartz-vein	quartz-wacke or quartzite	sl and gl in subvertical quartz-veins	1 23 50 0.01% 19 4 0.01%	3419 1656 211 0.02% 423 17691 6.43%	156 501 34937 4.52% 3917 99999 18.82%	3.6 1.5 0.1 0.5 0.5 30.8 34.5	Cross cutting quartz-veins (1 - 25cm) fill fractures in brittle quartzites overlain by ductile ak-cl schist; veins are typically barren of sulphides but in places contain massive sl and gl along thin fractures (1 - 6cm); sulphides are best exposed at the A8 locality; silver content of such veins is directly proportional to galena content.

Abbreviations: qz = Quartz; ms = Sericite; cl = Chlorite; pf = Plagioclase Feldspar; kf = Potassium Feldspar; ca = Calcite; gp = Graphite; ak = Ankerite; py = Pyrite; cp = Chalcopyrite; sl = sphalerite; mt = magnetite

4.3 Geophysics

22.1km of VLF-EM surveying was carried out on the Acacia Grid. The purpose of the survey was to locate conductors in the vicinity of the Acacia sulphide occurrences and to aid in the geological mapping of the property.

Equipment

A Geonics EM-16 VLF receiver was used for the survey. This unit measures signals put out by a world-wide network of transmitters operating in the 15 to 30 kHz range. The parameters measured were the tilt angle and the quadrature components of the secondary fields set up in the ground.

In this survey, the signal put out by the transmitter near Seattle, Washington (24.8 kHz) was measured. Readings were taken at 25m intervals along lines spaced 100m apart.

Data Presentation

The raw tilt angle and quadrature data and Fraser filtered results are found in Appendix 3. The filtered tilt angle data have been contoured and are presented in Figure 5 Conductor trends are indicated.

Results

A total of five VLF-EM conductors have been defined by the survey. These are identified as conductors A to E on Figure 5. The conductors are compiled with geochemical and geological data in Figure 12.

Conductor A consists of an 800m long feature that extends from 18+00E, 14+00N to 26+00E, 8+30N. It lies within and parallels the surface trace of rock unit 3 (Fig. 3); a sequence of graphitic, calcareous argillites. At its south end, a single line, parallel feature located at 24+00E, 9+65N suggests that the argillite unit contains perhaps several weakly conductive zones.

Conductor B is a 250m long feature that parallels conductor A between 21+00E, 14+00N and 23+50E, 13+10N. This zone lies close to the interpreted contact between felsic volcanics of Unit 1 and mafic volcanics of Unit 2 (Fig. 3). This feature may be reflecting the lithological contact.

Conductor C lies at the north end of the grid. It consists of a 300m long zone extending from 20+00E, 15+60N to 23+00E, 15+75N. Although there is no exposure, this area is interpreted to be underlain by felsic volcanics of Unit 1 (Fig. 3). This features has not been explained.

Conductor D is a 200m long anomaly trending between 20+00E, 7+90N and 22+00E, 6+75N. As with conductor B, this feature appears to be related to the geological contact between units 4 and 5 (Fig. 3).

Conductor E consists of two en echelon, short strike length (100m) features that lie between 20+00E, 4+00N and 18+00E, 5+10N. Graphitic argillite is exposed at the southeast end of the conductive trend thus explaining the anomaly.

Conclusions

The VLF-EM survey has outlined five anomalous trends. Of these, anomaly A can be attributed to conductive graphitic argillites bands within Unit 3; B and D appear to be responses to lithological contacts; and E appears to be caused by narrow graphitic argillite bands in Unit 5.

Only conductor C is unexplained. This feature lies within an area with relatively thick till cover and no exposure. It is interpreted on the basis of exposures in the nearby Delores Creek valley to be underlain by felsic volcanic rocks of Unit 1.

None of the VLF conductors correlate with the soil geochemical responses as illustrated by the grid compilation in Figure 12.

4.4 Soil Geochemistry

General Statement

A soil geochemical survey was carried out on the Acacia grid between May 25 and June 12, 1988. The objective of the survey was to delineate anomalous zones associated with the known mineralization in the Acacia Creek area and to identify additional potentially mineralized zones.

A total of 885 B horizon soil samples were collected at 25m sample stations on 100m spaced lines. Sample depths ranged less than 5cm to 15cm. Duplicate samples were collected at every fifteenth station so that sampling variability could be monitored. Field parameters, such as soil colour, wetness, presence of organics, sample depth, slope, and outcrop features were recorded by the samplers.

The samples were dried in the field and shipped to Acme Analytical Laboratories Ltd. in Vancouver where they were a 30 g split was sieved to -80 mesh. A 0.5 g sample of -80 mesh material was then digested with 3-1-2 HCl-HNO3-H_2O at 95^{o}C. Analysis for 30 elements (Appendix II) was done by ICP.

Surficial Environment

The gridded area lies between 900m and 1300m on the south slope of Sinmax valley (Fig. 1). Much of the grid covers a steep (28^{o}) northeast facing, heavily forested, slope. The remainder overlaps onto the relatively subdued plateau country to the south. Two steeply incised valleys referred to as Acacia Creek and Delores Creek transect the grid (Fig. 3). The creeks are active between March and December with flows steadily decreasing to a trickle between August and late September.

Tree cover consists of balsam, pine, spruce and cedar on the open slopes and black spruce, alder and willow in the valleys. Underbrush is patchy and consists mainly of Devil's Club in and adjacent to the creek valleys. Away from the creeks the ground is mostly free of underbrush, however appreciable amounts of dead-fall are present in most areas.

Overburden ranges in thickness from zero to over 10m. It consists of a poorly stratified glacial till (ablation till) containing abundant, well-rounded, exotic boulders. Soils are for the most part brunisolic in nature and characterized by a thin 1 to 2cm layer of leaf litter (AH horizon) underlain by a 5 to 25cm BM horizon (Fletcher et.al., 1987). The BF horizon is absent.

Outcrop is not abundant on the Acacia Grid. Most occurs in the incised creek valleys where it may reach 80%. On the remainder of the grid exposure is generally less than 5%.

Results

Geochemical data was treated statistically to determine threshold values and contour intervals. This was done using histograms and cumulative probability plots. All elements discussed in this section showed a single, log normal distribution and therefore the data had to be log transformed prior to threshold selection. Contour intervals were selected at mean plus one and mean plus two standard deviations or at specific percentiles. These values are summarized in Table 4. Anomalies are defined as groups of three or more contiguous samples with values exceeding the threshold (lowest contour interval - Table 4).

TABLE 4 - GEOCHEMICAL CONTOUR INTERVALS FOR ACACIA SOIL DATA

ELEMENT	DETECTION LIMIT	BACKGROUND	WEAKLY ANOMALOUS	MODERATELY ANOMALOUS	HIGHLY ANOMALOUS
Cu	1 ppm	<50	51 - 70	71 - 90	>90
Pb	2 ppm	<33	34 - 57	58 - 76	>76
Zn	1 ppm	<200	202 - 300	301 - 400	>400
Ag	0.1 ppm	<0.4	0.5 - 0.6	>0.6	-
As	2 ppm	<11	12 - 19	>19	-
Ba	2 ppm	<110	111 - 150	>150	-

Values are in ppm. Analysis for all elements by ICP.

Geochemical results for Cu, Pb, Zn, Ag, As and Ba are illustrated in Figures 6 to 11. Results for each element are discussed separately below:

Copper Geochemistry (Fig. 6)

Five anomalous areas have been delineated by the soil geochemical survey. These are referred to as Cu 1 to Cu 5 in Figure 6.

Anomaly Cu 1 consists of a high contrast (to 15.7 times background), southeast trending zone extending from 20+00E, 13+50N to 22+00E, 14+00N. The anomaly merges with a weaker feature (Cu 2) to the east. Highest values (786 and 143 ppm) occur only on line 22+00E. Adjacent lines to the east contain only weakly anomalous values. The trend of the anomaly parallel to the slope is not consistent with downhill mechanical dispersion or with the orientation of the underlying geological contacts (Fig. 3). The nearest outcrop lies 40m to the southwest where a contact between chlorite schists of Unit 2 and wackes of Unit 3 is exposed.

Cu 2 is a highly linear, southeast trending zone extending from 19+35E, 14+50N to 24+00E, 14+00N. It is a moderate contrast feature (4.6 times background) with a maximum concentration of 230 ppm located at 21+00E, 15+00N. As with Cu 1, this zone approximately parallels the slope and has no relationship with the trend of the underlying geology. The northwestern extremity lies 25m to the south of the North Adit, in an up-slope direction; approximately at the mineralized horizon. It trends across Units 1 and 2 to the southeast.

Cu 3 is another southeast trending linear zone extending from 24+00E, 12+75N to 28+00E, 11+75N. The anomaly is a moderate contrast feature (to 4 times background) with concentrations generally increasing in a southeasterly direction. The highest value, (209 ppm) lies at the east edge of the grid, suggesting that the zone continues southeastwards. Outcrops on the southwest margin of the anomaly consist of sericitized felsic volcanics of Unit 1. A semi-massive sulphide boulder located on the down slope margin of the zone on line 26+00E returned a value of 1281 ppm Cu.

Anomaly Cu 4 is the only anomalous feature located on the northwest side of Acacia Creek. It consists of a linear southeast trending zone that extends from 16+50E, 14+75N to Acacia Creek. A possible extension of the zone is present on the southeast of the creek. Cu 4 is of moderate contrast (4 times background) and has a maximum concentration of 211 ppm located at 16+00E, 14+50N. There is no exposure in the vicinity of the zone; however, rocks exposed in the creek valley indicate that it is underlain by quartzites of Unit 5.

Cu 5 consists of an east-southeast trending, moderate contrast (3.6 times background) zone extending from Delores Creek at 25+00E, 15+25N to 27+25E, 15+25N. Maximum concentration of 179 ppm at 26+00E, 15+50N is located 10m down hill from an exposure of Unit 1 quartz sericite schist.

Lead Geochemistry (Fig. 7):

Five anomalies are present on the Acacia grid. These are referred to as Pb 1 to Pb 5 on Figure 7 and are described below:

Pb 1 is the best defined feature on the grid. It consists of a moderate to high contrast (to 6 times background) zone extending from 20+50E, 8+75N to 24+00E, 9+25N. It has a maximum concentration of 196 ppm located at the northwest end of the zone. Values gradually decrease towards the southeast. No outcrops are present close to the anomaly; however, the nearest, located 125m uphill on line 22+00E consists of interbedded argillite and wacke of Unit 5.

Anomaly Pb 2 consists of a relatively short strike length (150 m) feature extending from 19+00E, 14+25N to 20+50E, 14+00N. The zone is of low to moderate contrast (3.7 times background) with a maximum concentration of 122 ppm located at 20+00E, 14+25N. The northwest extent of the zone lies 50m southwest of the north adit (Locality A4, Fig. 7.1) where sphalerite and galena mineralization is exposed. This location also corresponds to the contact between Units 2 and 3.

Pb 3 is a moderate contrast (5.0 times background), southeast trending elongated extending from 17+00E, 13+50N to 20+00E, 11+25N. A maximum value of 169 ppm occurs at the southeast end of the anomaly 25m uphill from Acacia creek. Although there is no exposure in the anomalous area, the unit would appear to be underlain by quartz wackes of Unit 5.

Pb 4 is a weak (2 times background) southeast trending anomalous zone that appears to be an extension of Pb 3. It extends from 21+00E, 12+00N to 27+75E, 13+50N and contains two modest peaks. At 26+00E, 13+00N, a 59 ppm value lies 25m uphill from a semi-massive pyrite boulder that ran 38 ppm Pb. The second peak (65 ppm) at 22+00E, 13+00N lies due east and slightly uphill from the south adit (Locality A5, Fig. 3) where a galena-bearing vein is exposed in an old trench.

Pb 5 is a two-line, moderate-contrast (3.1 times background) anomaly that exhibits a similar southeast elongation to the other Pb anomalies. The zone, centered at 25+00E, 11+50N has a maximum concentration of 102 ppm. This value lies at the contact between Units 1 and 2 and 70m downhill from Locality A6.

Zinc Geochemistry (Fig. 8):

Seven zinc anomalies are present on the Acacia grid. These are labelled Zn 1 to Zn 7 on Figure 7.6 and described below:

Zn 1 is the most prominent anomaly. It consists of a 350m long by 100m wide, east-southeast trending zone centered at 21+00E, 8+75N. The anomaly is a high-contrast feature (6.4 times background) with a maximum concentration of 1283 ppm. Although there is no exposure within or adjacent to the anomalous area, it is interpreted to be underlain by quartz wackes of Unit 5.

Zn 2 is a round-shaped anomaly centered at 20+00E, 11+25N. The zone is of high contrast (8.7 times background) and has a maximum concentration of 1743 ppm. The centre of the anomaly lies on the west side of the Acacia creek fault in an area interpreted to be underlain by sediments of Unit 5. It is joined to Zn 3 by an east-trending protuberance that crosses the hillside immediately below the south adit (A5 - Fig. 3).

Anomaly Zn 3 is a 600m long by 100m wide, low contrast feature that extends from the south adit to the east margin of the grid at 28+00E, 13+50N. Within this zone there is a 200m long area of higher concentrations centered on a 1362 ppm value at 22+00E, 13+00N. This lies 100m east and slightly uphill from the south adit. The eastern extremity of the zone is underlain by felsic rocks of Unit 1.

Zn 4 consists of an irregular shaped anomalous area that has a long axis extending from 14+00E, 12+75N to 16+00E, 13+25N. The zone is of low contrast and has a maximum concentration of 500 ppm located 125m down-hill from mineral locality A8 (Fig. 3) where galena-and sphalerite- bearing veins are exposed in quartzites.

Anomaly Zn 5, centered 250m uphill from Zn 4 is composed of two parallel, southeast-striking features; a northern low contrast zone (2.5 times background) that centered at 15+00E, 14+25N, and a southern high contrast zone (8.0 times background) centered at 15+00E, 14+25N. A weakly mineralized outcrop consisting of traces of disseminated galena in quartz stringers in Unit 5 quartzites is present 125m uphill from the zones.

Anomaly Zn 6 is a possible extension of zone Zn 4. It is a dog-leg shaped area that extends from 17+00E, 13+25N to 20+00E, 13+75N. Contrast is moderate (6.2 times background) with a maximum concentration of 846 ppm situated at 19+00E, 14+25N. This lies at the mineralized contact between Units 2 and 3. A second, less intense peak of 573 ppm lies at 18+00E, 13+50N in an area underlain by quartzites of Unit 5. The difference in the geology under the highs may indicate that this is two separate anomalies.

Zn 7 consists of a low contrast (1.8 times background) zone extending southeastwards off the grid from 27+00E, 12+00N. This area is interpreted to be underlain by quartz sericite schists of Unit 1.

Silver Geochemistry (Fig. 9):

Five weak silver anomalies (Ag 1 to Ag 5 - Fig. 9) are present on the grid.

Ag 1 consists of a southeast trending, elongated, low contrast (2 times background) zone that extends from 24+00E, 13+50N to 27+50E, 11+50N. It is underlain by altered felsic volcanic rocks of Unit 1. A semi-massive pyrite boulder located at the northeast contact suggests that the anomaly may have a sulphide source.

Ag 2 is a round-shaped anomaly situated on line 24+00E between 8+75N and 10+00N. It is a low contrast feature (2.25 times background) with a maximum concentration of 0.9 ppm lying at 9+25N. The uphill extent of the anomaly corresponds with the mineralized contact between Units 2 and 3.

Anomaly Ag 3 is another low contrast feature (1.2 times background). It consists of a southeast-trending, elongated zone approximately 250 m long by 100 m wide, centered at 17+50E, 11+50N. It straddles the west fork of Acacia Creek where pyrite-rich chlorite schists are exposed in low cliffs. Most of the anomaly lies directly down-slope from mineral locality A7 (Fig. 3) where quartz stockworks in silicified quartz-wackes contain visible trace of galena and sphalerite. Rock samples from these outcrops (8DAR 005, 006 and 016 - Appendix II) returned anomalous values for Pb, Zn and Ag.

Zone Ag 4 is made up of two sub-parallel, low contrast (to 1.2 times background) features. A western south trending, linear zone running from 23+75E, 11+00N to 27+00E, 9+25N; and an eastern, southeast elongated zone centered at 24+00E, 11+75N. Mineral Locality A6 (Fig. 3) lies at the uphill margin of the west zone. Here, silicified mafic volcanic rocks contain up to 10% disseminated pyrite. The east zone is underlain by felsic volcanics of Unit 1.

Ag 5 located between 15+00E, 9+50N and 18+00E, 10+75N, consists of an elongated, southeast trending, low contrast (1.75 times background) anomaly. The anomalous area and the vicinity directly up-slope from it is underlain by well exposed quartzites of Unit 5.

Arsenic Geochemistry (Fig. 10):

Six arsenic anomalies have been delineated on the Acacia grid. These are labelled As 1 to As 6 on Figure 10 and are described below:

As 1 is an irregular shaped, southeast elongated anomaly centered at 20+00E 13+75N. The zone is approximately 300m in length and 100m at its widest point. It is of moderate contrast (4.5 times background) and contains two distinct highs: one at 21+00E, 13+50N (51 ppm) and a second (21 ppm) on line 19+00E at 14+00N. The most intense part of the anomaly lies approximately 125m to the northeast and slightly uphill from the north adit.

Anomaly As 2 consists of a poorly defined zone made up of three anomalous samples, separated by areas with no sample. The highest values (56 and 26 ppm) lie on line 18+00E, 200m above the confluence of the two forks of Acacia Creek. In this area, traces of galena and sphalerite have been detected in quartz stringers in silicified quartzites (locality A7 - Fig. 3).

As 3 lies 300m west of As 2. It consists of a rectangular shaped, northeasterly elongated zone, centered at 15+00E, 9+50N. Mafic volcanic of Unit 4 outcrop in this area. These contain traces of galena in quartz stringers at the western-most extremity of the anomalous zone.

As 4 is a low contrast (2.6 times background), east trending zone centered at 14+50E, 13+25N. It is 225m long and averages 80m in width. It lies immediately (10m) uphill from the mineral occurrence at locality A8, where galena and sphalerite occur in quartz stringers in an ankerite-chlorite schist. Rock samples from A8 returned highly anomalous values for Pb, Zn and Ag.

As 5 is located 80m downhill from locality A8. It consists of a 200m by 50m east elongated, low contrast (2.6 times background) zone. The highest value is 29 ppm. Outcrops uphill from the anomaly are Unit 5 quartzite. A single outcrop within the zone contains abundant quartz- pyrite stringers.

As 6 is a weak to moderate (to 4.2 times background), highly linear, east trending anomaly that extends from 15+50E, 23+00N to23+00E, 14+25N. Maximum concentrations (47 ppm) occur at the northwest end of the zone with values steadily decreasing to the southeast. This part of the anomaly lies down slope and slightly to the north of the north adit (A4 - Fig. 3).

Barium Geochemistry (Fig. 11):

Three weak barium anomalies are present on the Acacia grid. These are labelled Ba 1 to Ba 3 on Figure 11 and described below:

Ba 1 consists of a southeast trending, linear zone that extends 600m from 20+00E, 10+50N to 26+00E, 11+25N. It is a low contrast feature (1.8 times background) with a maximum concentration of 203 ppm located at 21+00E, 10+50N. The anomaly trends across geological contacts and generally weakens to the southeast. The only outcrop close to the anomaly is at Locality A6, where silicified mafic volcanics containing 10% pyrite are exposed on the uphill margin of the zone.

Ba 2 is a moderate contrast (2.0 times background) anomaly, centered at 18+50E, 14+75N. The zone is approximately 300m in length with a southeast trending long axis. At its widest point it is almost 150m across. Maximum concentration of 736 ppm is located on line 19+00E; 100m directly down hill from the north adit.

Anomaly Ba 3 consists of a small, low contrast (1.9 times background) zone, centered at 17+00E, 10+50N. It has an irregular shape and an average diameter of 75m. A maximum value of 205 ppm is located at the contact between Units 4 and 5 on line 17+00E.

Discussion of Results

Interpretation of the anomalies described in the previous section is complicated by several factors: a) the presence of a variable thickness of glacial till cover; b) the presence of a dip-slope; and c) the relatively low contrast of the anomalies.

Figure 12 shows a compilation of the soil anomalies. Several notable features are immediately apparent. Firstly the anomalies appear to be distributed in almost a random fashion over the grid area. Most elements show only slight overlap, which makes the definition of specific targets extremely difficult.

Secondly, almost all of the anomalies have a pronounced southeasterly trend that crosses the surface traces of the underlying lithological contacts and parallels the topographic contours. This suggests that down-hill mechanical dispersion of metals has played a minor part in the formation of these anomalies. The most likely explanation of this dominant trend is glacial dispersion; local ice movements appear to have been from the northwest as evidenced by glacial striations observed on outcrops south of the grid. If this is the case, then the source of metals may well be from glacial material and not from the underlying bedrock. Nevertheless, some weak associations that may be caused by bedrock sources are present.

The most significant mineralization in the area consists of massive sulphide pods and base metal-rich calcite veins that lie on or cut the contact between Units 2 and 3. A cluster of partially overlapping Pb-Cu-As-(Ba-Zn) anomalies is present on the uphill side of the North adit. All of these zones appear to originate at or just downhill from the contact and extend in a linear fashion to the southeast. Their intensity decreases in the same direction, supporting the glacial dispersion hypothesis. Unfortunately, the exposed mineralization at the north adit does not have a detectable geochemical signature. This casts doubt on the validity of the anomalies uphill from it. If they truly are caused by mineralization at the contact, then it is likely that the source is weak and highly variable in terms of metal content.

A similar, loose Ag-Cu-Zn association is apparent on line 26+00E at 12+50N. Here the anomalous zones lie close to bedrock exposures of Unit 1 felsic volcanic rocks. These contain no visible source of mineralization; however, the weak nature of the anomalies may indicate a dispersed, perhaps disseminated sulphide source at the up-ice limit of the anomalies in the vicinity of 24+00E, 13+50N.

One hundred metres to the south of this anomaly, another weak association of elements, Ba-Ag-Pb, occurs within Unit 2, immediately down-slope from locality A6. This zone parallels the mineralized Unit 2/3 contact and may indicate a possible sulphide source in the vicinity of 23+50E, 11+50N.

It would appear that the soil survey failed to provide any high-quality geochemical targets. This does not necessarily reflect the mineral potential of the grid area, as massive sulphide and vein type base metal mineralization is present in this area. However, it does highlight two potential problems that may hinder surface exploration. These are the presence of an ablation till blanket over much of the hillside, and the dip-slope.

Glacial tills of the type found on the grid (i.e, poorly sorted and weakly stratified) act as impermeable barriers to the upward, hydromorphic migration of metals from a bedrock source. If bedrock material is present on surface, it will be at some distance down-ice from its source; in other words, it is unlikely that any anomaly on the grid is representative of the underlying bedrock.

The dip-slope presents a very difficult situation for all surface exploration techniques. Mineralization hosted at the Unit 2/3 contact is only exposed where the Acacia creek valley has cut into the hillside. Elsewhere, structurally overlying units (Units 1 and 2) act as a thick overburden layer that prevents metals from reaching the topographic surface to form geochemical anomalies. Similarly, if the overlying units are thick enough, the mineralized horizon may be too deep and oriented incorrectly for detection by geophysical methods.

4.5 Cost Statement

Group 2

Geophysics		
Equipment Rental VLF-EM	$ 225.00	
Operator 15 days @ $140/day (June 24 - July 8)	2,100.00	
Supervision and Report Z. Doborzynski: 3 days @ $333/day	1,000.00	
	$ 3,325.00	$ 3,325.00
Geology		
D. Seneshen - Project Geologist 32 days x $155/day (July 15 - August 15)	$ 4,960.00	
Assistant - J. MacRae 32 days x $140/day	4,480.00	
D. Heberlein - Supervisor (5 days x $253/day	1,265.00	
	$10,705.00	$ 10,705.00
Transportation/Accommodation		
Pro rata share (20%) of overall project		$ 9,853.16
Geochemistry		
Collectors of soil samples		
N. Rose 19 days @ $140/day	$ 2,660.00	
Al Lowe 19 days @ $110/day (May 25 - June 12)	2,090.00	
Analysis - 885 soils x $7.10 (Acme)	6,283.50	
	$11,033.50	$ 11,033.50

Sampling & Assaying		
7 assays x $22.00	$ 154.00	
14 lithogeochem x $9.25	129.50	
	$ 283.50	$ 283.50
Linecutting		
Contract - Amex Exploration Services 29.9km x $333.37/km		$ 9,967.76
Report Writing		
J. Marr 3 days x $404/day		$ 1,212.00
Direct Support Services		
Corporate and Office		$ 4,637.99
		$ 51,017.91

5.0 STATEMENT OF QUALIFICAITONS

1. I, Jack Marr, of 2630 Haywood Avenue, West Vancouver, B.C. obtained a B.Sc (Hons) in Geology from the University of St. Andrews, Scotland, in 1968.

2. I graduated with an M.Sc from the University of Manitoba in 1970.

3. I have practiced my profession as an Exploration Geologist since that time in Canada and Western Australia.

DATED THIS 26TH DAY OF APRIL, 1989 AT VANCOUVER, B.C.

J. M. Marr
District Geologist

APPENDIX I

DRILL LOG DATA LISTINGS
AND GEOCODER

Esso Minerals Canada
KAMAD

DRILLHOLE/TRAVERSE : K88031

PROJECT IDEN : KAMAD   START DATE : 88/ 7/ 4   COMPLETION DATE : 88/ 7/ 5   GEOLOGGED BY : DRH +
COLLAR NORTHING: -125.00   COLLAR EASTING : -9500.00   COLLAR ELEVATION: 1406.55   GRID AZIMUTH : 42.00
TOTAL LENGTH : 78.33   CORE/HOLE SIZE : NQ

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		240.00	-65.00		
001	78.00		240.00	-63.00		

R HED K88031 was collared to test the characteristics of the Rea Zone
R HED to the northwest of a normal fault that offsets the zone with a
R HED sinistral or east-side down displacement. The collar is located
R HED approximately 110m from the surface exposure of the Rea Gold,
R HED L97 lens.

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.-- -----.-- ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SHL I 2 AZM RT H H H H H H H H
G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

P CAS 0.00 6.90 CASE P
R 0.00 6.90 This interval was cased down to competent bedrock. Actual
R 0.00 6.90 overburden thickness in this area is around 2 to 4m.

P 6.90 12.90 83.0 SETF MS QZ MS4 FO << P FO 45 72 DO <+
L YA PY QZ3 PA 2 P4 V=
R 6.90 12.90 The hole was collared in what looks like typical Rea Zone
R 6.90 12.90 Sericitic tuff. The rock consists of fine grained, laminated
R 6.90 12.90 sericitic tuff with irregularly distributed pods, patches and
R 6.90 12.90 veins of quartz. The silica patches appear to be an alteration
R 6.90 12.90 feature rather than primary compositional variation. Traces of
R 6.90 12.90 disseminated pyrite occur in the siliceous intervals.
R 6.90 12.90 Reticulate pyrite microveins (~1mm) occur in the more sericitic
R 6.90 12.90 intervals. Good F1 folds are seen in the sericitic tuff. These
R 6.90 12.90 are axial planar to the penetrative foliation.
R 8.60 9.15 A dark grey polylithic chert breccia containing sparse laminae
R 8.60 9.15 and lenses of argillite sheets of sericite. Chert fragments are
R 8.60 9.15 sub-angular and average 2cm in diameter. They do not appear to
R 8.60 9.15 be rotated - this suggests that the breccia is perhaps
R 8.60 9.15 depositional rather than tectonic in nature.
N 8.60 9.15 X CHBR QZ MS MS+ BR FR 4 7 6 8 N FO 55 D*
L 2A FO PM 2 2 C 22 $+

12.90 36.25 MLTF AK QZ LF3 FR WF 6 7 3 8 P FO 60 V= P1 $1 DO D-
L AU DO << VS 5 7 0 1 P) O+ <+
R 12.90 36.25 This is a very distinctive mafic lapilli tuff unit
R 12.90 36.25 containing coffee coloured, sub-rounded, highly vesicular

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KAMAD

DRILLHOLE/TRAVERSE : K88031 (CONTINUED)

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LYN`
   F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E  A                          ERY      I      TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)     X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
-- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                          ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                          QUAL   MEM  V  Q LC- 3      3  4 0 N H / SML I   2    AZM  RT      H  H  H  H  H  H  H  H
Y  G                          DESIG  AGE       COL           R D P C           STRUCTUR-2        A  A  A  A  A  A  A  A

R      12.90     36.25          fragments that range in size from 10 to 80mm. Average clast
R      12.90     36.25          size is approximately 30mm. Clasts contain a high density of
R      12.90     36.25          quartz filled vesicles suggesting a pyroclastic origin.
R      12.90     36.25          Individual fragments are siliceous - perhaps weakly silicified.
R      12.90     36.25          Matrix consists of fine grained quartz and sericite  with
R      12.90     36.25          sheeted ankerite. Ankeritization increases in intensity down
R      12.90     36.25          the interval.
R      35.90     36.20          Highly veined interval. A 10cm quartz dolomite vein cuts the
R      35.90     36.20          MLTF. Wall rocks are pervasively silicified and dolomitized.
R      35.90     36.20          Intensity of ankeritization increases strongly towards the
R      35.90     36.20          contacts of this zone. Disseminated Pyrite occurs throughout
R      35.90     36.20          the interval.
N V/   35.90     36.20              7 QZVN QZ DO DO4 VV                 N     <<       50 V6            DO D+
L                                          VW    QZ6                                                     +4

P      36.25     41.30                MLTF AK PY AK3 << FR 6 7 2 7      P     FO       70 <+ $3 J=      DO <1
L                                          OU QZ PY1 PA    5 7   0 1                                     <=
R      36.25     41.30          Basically the same lithology as the previous PGI. In this unit
R      36.25     41.30          the fragments are smaller in size (av. 15mm) and less abundant.
R      36.25     41.30          The rock is significantly more altered to pervasive ankerite
R      36.25     41.30          which shows up as orange-brown sheets. The interval is
R      36.25     41.30          criss-crossed by numerous pyrite veinlets that form a
R      36.25     41.30          stockwork. The veins are restricted to the matrix. Fragments
R      36.25     41.30          contain disseminated pyrite aggregates.
N      38.60     38.70              X PYVN PY QZ PY7 SM XA              N     C/       60 J2 S+         DO R7
L                                          8A DO DO1                                                     J1

P      41.30     51.35   100.0       AKMT AK PY AK4 $T <<               P     FO       60 <= $4         DO <2
L                                          OU DO PY2 IB FR       O                          $1           71
R      41.30     51.35          Alteration intensity is steadily increasing down the hole. In
R      41.30     51.35          this interval original textures have been obliterated by strong
R      41.30     51.35          pervasive ankeritization. The rock is typified by irregular
R      41.30     51.35          sheets and whisps of orange ankerite. Reticulate pyrite
R      41.30     51.35          veinlets are abundant throughout the interval. These, in places
R      41.30     51.35          appear almost as laminations that have been deformed along the
R      41.30     51.35          foliation. Towards the bottom of the unit pervasive cream
R      41.30     51.35          coloured dolomite becomes increasing more abundant. This is
R      41.30     51.35          seen as an overall colour change in the rock. In places the
R      41.30     51.35          dolomite has a granular or oolitic texture.
N V/   41.50     41.55              X DOVN DO PY PY4 IG CK              N     C/       70 J1            DO R5
                                           AU    DO4 XA                                                  U4
R      50.20     51.35          Narrow interval containing sheets and laminae of ultra-fine
R      50.20     51.35          grained pyrite. This appears to be the only pyritic siltite in
R      50.20     51.35          the hole.
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KAMAD
DRILLHOLE/TRAVERSE : K88032

PROJECT IDEN : KAMAD START DATE : 88/ 7/ 5 COMPLETION DATE : 88/ 7/ 6 GEOLOGGED BY : DRH +
COLLAR NORTHING: -79.00 COLLAR EASTING : -9200.00 COLLAR ELEVATION: 1418.24 GRID AZIMUTH : 42.00
TOTAL LENGTH : 66.10 CORE/HOLE SIZE : NQ

	SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
	000	0.00		240.00	-65.00		
	001	65.00		240.00	-63.00		

R HED This drillhole was collared to test the ferricrete zone exposed
R HED in a trench at line 9100E. The hole is also a redrill of
R HED K87020, which intersected a massive sulphide zone but most of
R HED the core was not recovered.

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.-- -----.-- ----.- -- - ---- -- -- --- -- -- - - - - -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

.AS 0.00 4.00 CASE P

P OVB 4.00 4.10 TILL P
R 4.00 4.10 A boulder of hornblende diorite. Fine to medium grained
R 4.00 4.10 melanocratic rock composed of fresh plagioclase laths and
R 4.00 4.10 hornblend needles. This rock looks like the diorite exposed to
R 4.00 4.10 the northeast of the K7 lens.

P 4.10 7.20 100.0 MAFV DO PY= MT MX P FO 70 <) $/ DO D= BI
L .0 5A WF 3 O- 01 $?
R 4.10 7.20 A massive medium grey rock with a characteristic mottled
R 4.10 7.20 texture. Weak foliation. No evidence of fragments or bedding.
R 4.10 7.20 Mineralogy consists of Plagioclase-biotite-chlorite- dolomite.
R 4.10 7.20 The rock is moderately pyritized. Pyrite occurs as fine
R 4.10 7.20 disseminations, aggregates and porphyroblasts (to 3mm). The
R 4.10 7.20 rock may be an aphyric mafic flow.
R THN 5.80 5.90 Thin section sample - K88032 - TS1

P 7.20 8.35 100.0 MAFV LI PY1 MT FR P FO 65 DO D1 LI
L .0 OA WF MX 5 P/ C-
R 7.20 8.35 Same as the above unit except for an increased pyrite content
R 7.20 8.35 and abundant limonite coated fractures.

P 8.35 13.40 100.0 MAFV DO PY) MT FR E FO 80 DO D) LI
L 5.0 OA DO3 WF MX 3 P3 C-
9.90 10.30 X MAFV PY PY2 MT FR D FO 68 DO D2 LI
L OA DO3 WF MX 3 P3 C-

P 13.40 18.00 MAFV DO PY+ MT FR E FO 78 DO D+ LI

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KAMAD

DRILLHOLE/TRAVERSE : K88032 (CONTINUED)

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  F  - I N T E R V A L -    CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E A                          ERY      I      TM TM MAT TX TX F C X M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- - -  - -- --- -- -- -- -- -- -- -- -- -- -- --
K F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                         QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y G                         DESIG  AGE       COL           R D P C           STRUCTUR-2          A  A  A  A  A  A  A  A

L                                            6A        WF MX         6                              P4          C-
R       13.40      18.00        Variation of the dolomitized mafic volcanic unit seen in the
R       13.40      18.00        above PGI. Dolomite content steadily increases down the
R       13.40      18.00        interval. It occurs as globs or nebulous patches that average
R       13.40      18.00        5mm across. No other textures are seen. The pyrite content is
R       13.40      18.00        quite variable (from 1% to 20%).
N V/    14.13      14.20            X DOVN DO QZ DO7 MG PF               N            V3            DO D+
L                                            8A PY QZ3                                              V7
R       15.85      15.95        A much more intensely altered interval. The rock has taken on a
R       15.85      15.95        creamy-buff colour as a result of significantly increased
R       15.85      15.95        dolomite content. No primary textures preserved.
N       15.85      15.95            X MAFV DO PY DO7 PA MT               D    FO      75 0)             DO D+       LI
L                                            5A        WF MX         6                              P7          C.
R       15.95      16.50        Irregular patches of cream coloured dolomite - possibly veins-
R       15.95      16.50        disrupt this interval. The veins contain pyrite aggregates up
        15.95      16.50        to 10mm across. Host rock are more pyritic than the adjacent
R       15.95      16.50        intervals. Fine pyrite occurs as foliation parallel microveins
R       15.95      16.50        or sheets.
N       15.95      16.50            X MAFV DO    DO4 VV FO               N    FO      85                DO W2
L                                            7T    PY2                                              Q2

P       18.00      24.30    100.0      MAFV DO PY DO5 MT PA              E    FO      75    <.          DO W*       LI
L                            10.0            5A        MX WF         4                              P5          C-

P       24.30      25.00    100.0      STWK AK DO DO4 PA VV              P    FO      75 *= $1          DO X2
L                            10.0            UA PY AK1 $T CL         4                              Q4
R       24.30      25.00        An extremely carbonatized interval of mafic volcanic rock. This
R       24.30      25.00        interval contains approximately 40% dolomite occurring as grey
R       24.30      25.00        to tan patches and veins up to 20mm in width. Pyrite occurs as
R       24.30      25.00        disseminations in the sheeted, ankeritized wall rock. At 24.6
R       24.30      25.00        the rock has a distinctly clastic aspect. Lenses of quartz and
R       24.30      25.00        carbonatized mafic volcanic to 30mm are present.

P MTF   25.00      48.30    100.0      PYTF PY DO PY6 FR TF              P    FO      80                DO X6
L                             2.0            BZ        BN IB         8                      P/          I=
R       25.00      48.30        The "Muddy Tuff" marker unit. In this location it consists of
R       25.00      48.30        approximately 60% fine grained pyrite. Here the rock exhibits a
R       25.00      48.30        strong tuffaceous texture . It contains numerous (5%) fine
R       25.00      48.30        grained, feldspar crystals ( to 1mm) that appear to be
R       25.00      48.30        fragmented. Dolomite occurs as similar looking euhedral
        25.00      48.30        porphyroblasts. These are slightly larger than the feldspar
K       25.00      48.30        fragments. The remainder of the unit consists of intermediate
R       25.00      48.30        ash tuff bands. These are pale grey and contain abundant  <1mm
R       25.00      48.30        crystal fragments and chloritic whisps that strongly resemble
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KAMAD

DRILLHOLE/TRAVERSE : K88032 (CONTINUED)

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  F   - I N T E R V A L -  CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)          RECOV-   M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                        ERY     I     TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O     (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                       QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                       DESIG  AGE        COL             R D P C          STRUCTUR-2         A  A  A  A  A  A  A  A

R        25.00     48.30        shards.
R        26.30     27.50        Pyritic Siltite with irregular to lenticular masses of tan
R        26.30     27.50        coloured dolomite. Dolomite also occurs as 2cm veins at
R        26.30     27.50        27.15, 27.4 and 27.5m.
N        26.30     27.50   100.0     X PYST DO PY DO5 VV LM              N    FO      70 <+               DO X1
L                                         UA    PY1 NB PA        5                                    Q5
N        32.80     35.30             5 INAT PY    FX= FR TF              N                                  D.
L                                         GA                                           P-
R SAM    43.70     43.80        Hand Sample of intermediate crystal ash tuff.

P        48.30     49.50   100.0       INTF DO PY DO2 TF GB              P    FO      65                  DO D=
L                            .0                    PB            5                     P* P?          Q2
R        48.30     49.50        A bluish grey unit consisting of a moderately siliceous, fine
R        48.30     49.50        grained matrix with 1-5mm patches and lenses of dolomite.
R        48.30     49.50        Probably a thicker tuff unit.

  MTF    49.50     51.70   100.0       PYST PY     PY7 FG BN              P    BN      80                  DO X7
L                            .0               LF=                8                                    Q2

P        51.70     55.20   100.0       INTF DO     DO6 OO BR              P    FO      55                  DO B=
L                            .0           7A                     8                     P/             X6
R        51.70     55.20        A fairly non-descript garbage unit consisting of INTF that is
R        51.70     55.20        pervasively dolomitized. Narrow interbeds of PYST occur in the
R        51.70     55.20        top third of the interval.
R        53.60     54.10        An unusual, fine grained, massive unit composed of 1mm
R        53.60     54.10        spherical nodules (ooliths?). Whisps and slivers of PYST
R        53.60     54.10        outline fragments  or clasts that appear to be depositional in
R        53.60     54.10        nature (i.e. not tectonic). Perhaps a slump breccia ?
N        53.60     54.10             7 CARB DO     DO7 FR OO              N    FO      60                  DO D)
L                                         8T                     2                                    O7

P MSX    55.20     55.50   100.0       MSPY PY     PY9 MX GL              P    FO      60 <+               DO M9
L                                                  DO1 BN        X                                    J1
R        55.20     55.50        Massive to semi-massive granular pyrite with weak banding.
R        55.20     55.50        Interbeds of dolomite make up 10% of the interval. Banding is
R        55.20     55.50        on a 1 to 5mm scale.

P F/     55.50     55.95           FLBR                                   P
L                                                                X
R        55.50     55.95        Fault breccia, gouge and quartz vein at the contact with the
?        55.50     55.95        Rea Sediments.

P HWZ    55.95     66.10           ARGL GR         BD LM                  P    BD      60                     D(
L                                         1A       GB            8
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ESSO Minerals Canada
KAMAD

DRILLHOLE/TRAVERSE : K88032 (CONTINUED)

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.-- -----.-- ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

R	55.95	66.10	Typical Rea sediments - interbedded graphitic argillite and
R	55.95	66.10	fine grained wacke. Graded units up to 2cm thick indiate tops
R	55.95	66.10	down. Pyrite is disseminated in the coarser units.

ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88033

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PROJECT IDEN    : KAMAD        START DATE       : 88/ 7/ 5      COMPLETION DATE : 88/ 7/ 7      GEOLOGGED BY : DRH +
COLLAR NORTHING: -79.00        COLLAR EASTING : -9200.00        COLLAR ELEVATION: 1418.24       GRID AZIMUTH : 42.00
                               TOTAL LENGTH   : 90.50           CORE/HOLE SIZE : NQ

          SURVEY FLAG   SURVEY POINT   FORESIGHT   AZIMUTH     VERTICAL ANGLE   NORTHING   EASTING
                          LOCATION                 (DEGREES)     (DEGREES)

             000            0.00                    240.00        -90.00
             001           89.00                    240.00        -84.00

R HED                     This hole was drilled at 90 degrees from DDH K88032 to
R HED                     intersect the 30m thick pyritic siltite or muddy tuff unit at
R HED                     depth.

   F   - I N T E R V A L -   CORE     %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E  A                          ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G    F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - -- - -   - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                         QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                         DESIG  AGE       COL            R D P C             STRUCTUR-2         A  A  A  A  A  A  A  A

 CAS   0.00     2.50                CASE                       P

P OVB  2.50     2.60                OVER                       P
R      2.50     2.60          Pebbles of overburden material including - hornblende diorite and
R      2.50     2.60          mafic volcanic.

P      2.60     5.10   100.0        MAFV DO LI PY+ MT MX             P   FO     55 <( $/          DO D+
L                                        6A        WF         4                          O-       01
R      2.60     5.10          Massive, mottled grey rock consisting of dolomite, sheeted
R      2.60     5.10          ankerite, chlorite and pyrite.

P      5.10     7.50   100.0        MAFV DO AK DO2 MT MX             E   FO     60 <( $1          DO D=
L                       20.0             6A        WF         4                       P= O-       Q2
R      5.10     7.50          This unit is fairly homogeneous. It contains patches  and
R      5.10     7.50          nebulous masses of dolomite. The carbonate also occurs as
R      5.10     7.50          ovoids that give the rock  a porphyritic appearance. It is
R      5.10     7.50          possible that the white spots are altered phenocrysts.

P      7.50    18.70   100.0        MAFV DO CL DO2 MX MT             E   FO     65 V) $1          DO D1
L                                        5A PY CL1 PA         4                          P1       Q2
R      7.50    18.70          Dolomitized mafic volcanic rock becoming more chloritic down
R      7.50    18.70          the interval. Over this PGI the chlorite content increases from
R      7.50    18.70          near zero to approximately 15%. Brown sheeting throughout the
R      7.50    18.70          unit appears to be fine grained ankerite or limonite stained
R      7.50    18.70          sericite.
      12.30    12.60          Two quartz-dolomite veins cutting the core at a 45 degree angle.
R     12.30    12.60          The veins vary in thickness from 2 to 7cm in width. Veins
R     12.30    12.60          consist of massive dolomite that is cross fractured and healed
R     12.30    12.60          by later quartz stringers. Pyrite and traces of galena occur in
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KAMAD

DRILLHOLE/TRAVERSE : K88033 (CONTINUED)

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  F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3       3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL            R D P C              STRUCTUR-2       A  A  A  A  A  A  A  A

R        12.30     12.60         late fractures in the dolomite. Pyrite is also concentrated at
R        12.30     12.60         the margins of the veins as a 2mm selvage. The host mafic
R        12.30     12.60         volcanic rock is more chloritic and pyrite rich than the
R        12.30     12.60         adjacent intervals.
N V/     12.30     12.60             4 DQVN DO QZ DO6 XF VV              N     C/      45 73 E= $1          +1     B-
L                                          7T PY QZ3                                           E/
N V/     14.30     14.40             4 DQVN DO QZ DO5 PF FO              N     V/      35 V5               DO E2    B.
L                                          UA    QZ5                                                       +5
R        16.80     17.00         A 2cm dolomite-quartz vein similar in nature to 12.3m. Pink
R        16.80     17.00         dolomite fractures are healed by later quartz stringers. Good
R        16.80     17.00         cockscomb texture along the vein margin suggests that the vein
R        16.80     17.00         has undergone multiple stages of fracturing and healing. Pyrite
R        16.80     17.00         is concentrated along vein margins. Traces of galena occur
R        16.80     17.00         within the vein.
N V/     16.80     17.00             4 DQVN DO QZ DO6 MX FR              N     V/      30 V3               DO 52    +.
                                           8R    QZ3 BO CK                                                 V6

P        18.70     26.50               MAFV DO CL CL1 MT MX              E     FO      50 <( $/            DO D=
L                                          6A        SP            3                          O1       O3
R        18.70     26.50         Same unit as the above PGI. Chlorite and cream coloured dolomite
R        18.70     26.50         seem to make up most of the interval. The matrix is not
R        18.70     26.50         identifiable. Dolomite increases down the interval.
R        18.80     19.40         A fine grained rock consisting of sheeted brown ankerite and
R        18.80     19.40         fine pyrite with irregularly distributed spots, bands and
R        18.80     19.40         patches of dolomite. At 18.9m a small 5cm gouge zone is
R        18.80     19.40         present.
N        18.80     19.40             X MATF DO AK AK2 $T BN              N     FO      35    $2            DO $1
L                                          AU    DO3 SP            5                                       Y3
R THN    21.70     21.80         Thin section and whole rock analysis. K88033- TS1.
R        26.30     26.50         A narrow interval of mafic ash tuff or weakly sericitic
R        26.30     26.50         tuff. This interval is very fine grained and contains laminae
R        26.30     26.50         of fine pyrite. An exhalite?
N        26.30     26.50             X SETF MS AK MS1 $T BN              N     FO      53 Q+ $1 Q+         DO L=
L                                          YA PY AK1 FO                                   P1           Q=

P        26.50     27.30               BRXX AK MS AK2 FR $T 6 7 3 7      P     FO      55 B= $2 <* <.      DO D1
L                                          GA DO MS/ LB    5 5   0 3                      P/ O*         71
R        26.50     27.30         An odd looking unit that appears to be some sort of breccia.
R        26.50     27.30         Not a tectonic breccia as the clasts are elongated parallel to
R        26.50     27.30         the foliation. Several clast types are noted: sericitic tuff,
o        26.50     27.30         chert, and dolomitized mafic volcanic.

P        27.30     27.85    100.0      CBEX AK MS AK6 MT <<              P     FO      65    P6            DO <1
L                            30.0          8T PY PY2 OO            2                      P1 O-         O+
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DRILLHOLE/TRAVERSE : K88033 (CONTINUED)

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G FROM - TO (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

R 27.30 27.85 A massive pale tan coloured unit consisting of mottled to
R 27.30 27.85 nebulous brown carbonate and fine grained sericite. Stringers
R 27.30 27.85 of pyrite +- carbonate, mimic lamination. These generally dip
R 27.30 27.85 shallower than the foliation, others cut at a high angle.

P 27.85 32.10 BRXX AK PY AK5 FR PM 5 7 1 7 P FO 55 P5 DO <=
L 6U PY1 FO 5 5 0 4 Q=
R 27.85 32.10
R 27.85 32.10 The same polymictic breccia as seen from 26.5 to 27.3m. Here
R 27.85 32.10 the unit seems to display a systematic decrease in grain size
R 27.85 32.10 down the PGI. Siliceous clasts and tensional veins
R 27.85 32.10 contain an unidentified black mineral. What is it?
R 27.90 28.40 A polymictic depositional breccia composed of sericitized
R 27.90 28.40 fragments, chert and rare PYST clasts. 2cm dolomite veins
R 27.90 28.40 parallel the foliation. These are boudined into lenses. Pyrite
27.90 28.40 is concentrated as fine disseminations in the matrix.
N 27.90 28.40 X BRXX DO AK LF4 BR FR N FO 58 ++ $3 DO D2
L AU PY VV PM 4 82
R 28.80 29.20 An irregular orange coloured vein of dolomite. The vein appears
R 28.80 29.20 to be disrupted - perhaps boudined into rounded dolomite pods
R 28.80 29.20 up to 5cm across. These are cut by quartz stringers oriented
R 28.80 29.20 parallel to the short axis of the carbonate pods. Grey-green
R 28.80 29.20 chlorite occurs in patches at the vein margin.
N V/ 28.80 29.20 X DOVN DO QZ DO8 BO << N <+ DO V8 +1
L 80 PY PY1 PA NB Q1 V8

P MSX 32.10 34.00 100.0 MSSX PY CP PY6 BN LM P BN 70 M6 L2 B= TT
L 40.0 BR SL CP2 IB 2 L2 J/
R 32.10 34.00 Massive polymetallic sulphide consisting of medium grained,
R 32.10 34.00 granular pyrite with interstitial, dark grey sphalerite and
R 32.10 34.00 possibly tetrahedrite. The sulphides are crudely banded on a
R 32.10 34.00 centimetre scale. Bands of massive chalcopyrite and
R 32.10 34.00 sphalerite/galena are clearly seen on split surfaces. Splashes
R 32.10 34.00 of galena and chalcopyrite up to 2cm across occur sporadically.
R 32.10 34.00 Gangue makes up <1% of the rock. It appears to consist
R 32.10 34.00 mainly of dolomite. The structural upper contact of the sulphide section
R 32.10 34.00 is knife sharp with little indication of a fault. The lower
R 32.10 34.00 contact is marked by a 5cm gouge zone.

P MTF 34.00 36.05 100.0 PYTF PY PY3 FR SH P FO 70 L3
1U FO BN 9
R 34.00 36.05 A highly fractured and crushed section of pyritic tuff (muddy
R 34.00 36.05 tuff) with sparse bands of grey chert up to 2cm wide. On fresh
R 34.00 36.05 surfaces the rock displays a tuffaceous habit, with small (3mm)

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DRILLHOLE/TRAVERSE : K88033 (CONTINUED)

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  F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                   H  H  H  H  H ANY H  H  H ANY
E  A                         ERY      I      TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--    -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- - -  - -- --- -- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE      COL              R D P C          STRUCTUR-2         A  A  A  A  A  A  A  A

R       34.00     36.05         white crysyal fragments.

P MCB   36.05     37.15              CARB DO PY DO9 MX VV           P    FO      68 71              DO D)
L                                         80       CG         6                                     M9
R       36.05     37.15         Massive, coarse grained dolomite containing patches of quartz
R       36.05     37.15         and quartz stringers. Slivers of pyritic tuff occur parallel to
R       36.05     37.15         the foliation. Pyrite content is minimal compared to the
R       36.05     37.15         adjacent units. This unit appears  to be completely
R       36.05     37.15         recrystallized.

P       37.15     38.60     100.0    CBEX DO PY DO6 BN IB           P    BN      55                 DO L4
L                            30.0         9T    PY4 LM        4          FO      65                 M6
R       37.15     38.60         A distinctive banded, cream coloured dolomite unit - probably
R       37.15     38.60         exhalative in origin. Dark bands up to 4mm are made up solely
R       37.15     38.60         of fine pyrite. This unit seems to occupy the stratigraphic
R       37.15     38.60         level of the barite in the Rea Lens.

r       38.60     42.20     100.0    PYTF PY DO PY4 SP FO           P    FO      70                 DO P4
L                                         1U    DO1 LM IB     7                                     O1
R       38.60     42.20         A pyritic tuff interval consisting of interbedded PYST and INTF.
R       38.60     42.20         PYST makes up 75% of the PGI. Contact with the CBEX is
R       38.60     42.20         gradational.

P       42.20     45.50     100.0    INTF MS    FX1 FR TF 5 6 2 6   P    FO      55                    D+
L                                         6A    MS= FO        O X                         P=
R       42.20     45.50         A relatively unaltered intermediate feldspar crystal tuff. Core
R       42.20     45.50         in this PGI is highly fractured - possibly a fault zone.
N F/    42.20     43.20            X FAUL                           N
L                                                             X

P       45.50     48.10      80.0    PYST PY GR PY5 BN SP           P    LM      60                 DO X5      GR
L                              .0         NN       LM         6                                     O+       S/
R       45.50     48.10         A coarser grained version of the pyritic siltite. Here the unit
R       45.50     48.10         contains a fair amount of graphite (not determinable). The
R       45.50     48.10         matrix is more argillaceous than tuffaceous. A good fold
R       45.50     48.10         closure is seen at 48.5m. The fold axis is oriented at 85
R       45.50     48.10         degrees to the core axis. Tuffaceous bands are brecciated
R       45.50     48.10         around the nose of the fold.

P       48.10     50.40              BRXX PY    LF5 FR FO 5 7 5 7   P    BD      35 *2                 &1
L                                         1U       BD         C 9
        48.10     50.40         A depositional polylithic breccia containing alternating beds of
        48.10     50.40         tuff and pyritic siltite. Clasts of chert, sericitic tuff,
R       48.10     50.40         quartz vein and carbonatized volcanic are observed. Bedding is 5
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DRILLHOLE/TRAVERSE : K88033 (CONTINUED)

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  F  - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE               H  H  H  H  H ANY H  H  H ANY
E A                         ERY      I       TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK     1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - - -- -   - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F     T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I     2    AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG  AGE       COL           R D P C             STRUCTUR-2          A  A  A  A  A  A  A  A

R      48.10     50.40         to 15cm thick. Dip of the units is much shallower - about 30
R      48.10     50.40         degrees to the core axis.
N F/   48.60     49.00             X FAUL                              N
L                                                                 X

P      50.40     58.25              PYTF PY DO PY4 SP LM               P    LM       10                DO X4
L                                        1U   DO=                 8                                    J=
R      50.40     58.25         A similar pyritic tuff or pyritic siltite unit to the above
R      50.40     58.25         PGI. This unit is more fine grained with white, euhedral
R      50.40     58.25         dolomite rhombs up to 2mm across. These give the rock a spotted
R      50.40     58.25         texture.
N F/   53.10     54.20             X FAUL                              N
L                                                                 X

P F/   58.25     59.70              FLBR                               P
                                                                  X
..     58.25     59.70         A classic fault breccia within the pyritic tuff unit. This rock
R      58.25     59.70         has been ground to a complete range of fragments sizes (from 10
R      58.25     59.70         to 40mm). Fragments have been completely rotated.

P      59.70     64.70     100.0        PYST PY DO DO= SP LM               P    LM       50 Q= $/          DO X5
L                           25.0             1U       <<          6                                    O=
R      59.70     64.70         A densly pyritic section of PYST. This unit is well banded and
R      59.70     64.70         laminated (primary textures). White rhombs of dolomite occur
R      59.70     64.70         throughout. Silica and white carbonate fill interstices.
N F/   62.70     63.00             X FLBR         BR SH                N
L                                                                 X
R      63.00     64.70         Interlayered pyritic siltite and intermediate ash tuff. Tuff
R      63.00     64.70         bands range up to 4mm in width and comprise up to 30% of the
R      63.00     64.70         PGI> Good evidence for partial transposition of the bedding by
R      63.00     64.70         the foliation.
N      63.00     64.70             3 INAT MS DO     IB $T              N    BD       45                DO
L                                        6A       BR              6                       P/           O)
R      64.40     64.70         A more pyritic section with good banding (So). The interval
R      64.40     64.70         becomes slightly brecciated towards the lower contact (down
R      64.40     64.70         hole). Fragments of INAT are probably disrupted beds or
R      64.40     64.70         boudins. Fragments up to 40mm by 15mm.
N      64.40     64.70             X PYST PY    PY6 BD IB              N    BD       35                    &7
L                                        3U    LF/

       64.70     80.80     100.0        INAT PY GR XF= BD FO 5 5 = 5       P    BD       45    I=          DO &+
                              .0             5A CB    IB          0 7           FO       45                O/
R      64.70     80.80         Interbedded intermediate ash tuffs, pyritic siltite and
R      64.70     80.80         argillite. Argillite and PYST each form 3% of the PGI.
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KAMAD

DRILLHOLE/TRAVERSE : K88033 (CONTINUED)

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  F  - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG  AGE       COL             R D P C           STRUCTUR-2         A  A  A  A  A  A  A  A

R       64.70      80.80       Argillite increases in abundance down interval while PYST
R       64.70      80.80       decreases. Fragmental textures are exhibited by the tuffs. Some
R       64.70      80.80       reach small lapilli size in the thicker beds (e.g. at 72.5m)
R       64.70      80.80       Crystal fragments are abundant throughout the PGI.
N       64.70      80.80            + PYST          BD LM                N    BD       45
N       64.70      80.80            = ARGL GR    GR/ $T FO               N
L                                          NN    LF) BD

P F/.   80.80      82.40   100.0      GOUG GR PY GR/ BR GG 2 6 4 6       P                                  D1
L                                          NN    PY1            C X
R       80.80      82.40       A fault breccia/gouge zone in graphitic argillite. Primary
R       80.80      82.40       textures lost.

        82.40      83.20   100.0      PYAR GR PY PY4 LM BD               P    LM       50 <=             GR &4
                              .0           2U        VV          4                                       $=

P V/    83.20      84.80   100.0      QZVN QZ CL QZ9 MX                  P              V9
L                           10.0           WW    CL+                                       Q+

P       84.80      90.50   100.0      IBAW GR        LM BD               P    BD       35 V1             GR           DO
L                             .0           3A        IB                                    +*            $/           <.
N V/    85.00      85.35   100.0    X QZVN QZ CL QZ9 MX                  N              M9               DO
L                           80.0           WW DO CL=                                          Q=         Q=
R END   95.10      95.10       End of Hole.
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KAMAD

DRILLHOLE/TRAVERSE : K88034

PROJECT IDEN : KAMAD START DATE : 88/ 7/ 7 COMPLETION DATE : 88/ 7/ 8 GEOLOGGED BY : RGC +
COLLAR NORTHING: -30.00 COLLAR EASTING : -8996.00 COLLAR ELEVATION: 1443.68 GRID AZIMUTH : 42.00
TOTAL LENGTH : 151.50 CORE/HOLE SIZE : NQ

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-50.00		
001	66.10		225.00	-48.00		
002	150.00		225.00	-46.00		

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   F  - I N T E R V A L -   CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E  A                         ERY     I     TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL           R D P C            STRUCTUR-2         A  A  A  A  A  A  A  A


P OVB   0.00      3.40              OVER                     P
R OVB   0.00      3.40        Casing.

        3.40      8.20             DIOR CL EP CL2 SP <<      P               81
L                                      5G QZ EP2          X                       P2 O2
R       3.40      8.20        Medium green color and 20% spotted epidote are distinguishing
R       3.40      8.20        features of this diorite.

P       8.20     84.20             MVCB DO AK DO2 $T FR    5 7     P   FO      80    $2    P1    DO D1
L                                      OA CA AK1 FO HO 1 7   O                       $=          P2
R       8.20     84.20        A thick, homogeneous section of intensely carbonatized mafic
R       8.20     84.20        lapilli tuff.  Color is generally light grey with an orange
R       8.20     84.20        tinge due to 20% sheeted ankerite.  10% pyrite is present
R       8.20     84.20        primarily as disseminations, but also as stringers and patches.
R       8.20     84.20        Fragmental textures are well developed over most of the
R       8.20     84.20        interval.

P      84.20     88.20    89.0     CHAR PY GR GR1 CH BR              P   CL      65 P=        Q1    GR D1
L                         60.0         NN CB PY1 BN                      BD      65                 P1
R      84.20     88.20        Black, graphitic cherty argillite.  This unit contains both
R      84.20     88.20        primary and secondary silica, patches of grey carbonate (7%)
R      84.20     88.20        and 10% disseminated pyrite.  Convoluted banding is seen (soft
R      84.20     88.20        sediment deformation) and local depositional breccias.  The
R      84.20     88.20        structural upper contact is marked by fault gouge
R      84.20     88.20        and the lower contact is razor sharp and definately
R      84.20     88.20        conformable.

P      88.20    106.10    96.0     SECH MS PY MS2 CH BN         30     P                                  D1
                           5.0        5A    PY1                 9                      $2 Q)
R      88.20    106.10        Sericitic chert.  The core in this interval is badly broken
R      88.20    106.10        with several small fault gouge zones.  Convoluted bands and
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DRILLHOLE/TRAVERSE : K88034 (CONTINUED)

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  F  - I N T E R V A L -   CORE     %    TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE              M  M  M  M  M ANY M  M  M ANY
E A                         ERY     I    TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O       (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK   1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK  FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL  MEM  V  Q LC- 3      3  4 O N H / SML I   2   AZM  RT       M  M  M  M  M  M  M  M
Y G                        DESIG  AGE     COL            R D P C           STRUCTUR-2         A  A  A  A  A  A  A  A

R        88.20    106.10       fragments of chert occur between sericitic bands, giving the
R        88.20    106.10       rock a chaotic, disorganized appearance.  Chlorite is seen
R        88.20    106.10       sporadically with the sericite and is particularly abundant
R        88.20    106.10       over the first 1.5m of this interval.  Color is a medium grey.
R F/     90.30     90.80       Fault gouge.
N F/     90.30     90.80           X FAUL                      N
R F/     92.50     92.80       Crushed core and fault gouge.
N F/     92.50     92.80           X FAUL                      N
R F/    100.30    101.60       Fault gouge with chert fragments.
N F/    100.30    101.60           X FAUL                      N
R F/    103.40    103.90       Fault gouge.
N F/    103.40    103.90           X FAUL                      N
R       104.20    104.70       Yellow sericitic tuff with 20% pyrite veinlets and 1% pervasive
R       104.20    104.70       carbonate.
N       104.20    104.70           X SETF MS PY MS3 WB         N                      P(       <2
                                         5Y CB PY2                               M3

P       106.10    119.80   90.0    PYCH SX    SX1 CH BR        P                                U1 R* R* AS
L                                        6A                                                             R* U1
R       106.10    119.80       Clean, grey chert with 10% disseminated pyrite uniformly
R       106.10    119.80       distributed.  This chert is extremely well mineralized and
R       106.10    119.80       carries bands of massive sulphide up to 40cm wide.  These
R       106.10    119.80       sulphides are coarse grained and are made up primarily of
R       106.10    119.80       euhedral to subhedral arsenopyrite and pyrite crystals.  They
R       106.10    119.80       occur as the matrix of a depositional chert breccia.  This is
R       106.10    119.80       the same mineralized chert seen in K87019 and other holes and
R       106.10    119.80       may be equivalent to Rea Gold's heterolithic chert breccia (ie.
R       106.10    119.80       equivalent to the ore horizon.)
R MSX   107.60    107.80       70% sulphides in a carbonate-chert gangue.  Arsenopyrite is the
R MSX   107.60    107.80       most abundant (30%), occurring as euhedral to subhedral
R MSX   107.60    107.80       crystals.  Pyrite, chalcopyrite, galena and pale sphalerite are
R MSX   107.60    107.80       also seen.  This is typical of the massive sulphide sections in
R MSX   107.60    107.80       this chert.  Both contacts are irregularly shaped (ie. not
R MSX   107.60    107.80       planar), but conformable, and stringers or breccia fillings of
R MSX   107.60    107.80       sulphide continue into the adjacent chert.
N MSX   107.60    107.80           X MSSX PY AS PY2 GB EU      N                      J1        U2 R* R* AS
L                                        BR GL AS3                                                      R* U3
R MSX   108.00    108.40       This 40cm interval is 60% sulphides, mainly euhedral
R MSX   108.00    108.40       arsenopyrite crystals.  Rounded chert fragments (5cm) are
R MSX   108.00    108.40       present within the sulphides and contacts are gradational.
  MSX   108.00    108.40           X MSSX AS PY AS4 GB BR      N                                U2 R( R( AS
L                                        BR SL PY2 IG                                                   R( U4
R SMS   109.10    109.80       This interval is different from the above two in that: pyrite
R SMS   109.10    109.80       is more abundant than arsenopyrite; sulphides occur as
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ESSO Minerals Canada
KAMAD
DRILLHOLE/TRAVERSE : K88034 (CONTINUED)

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  ;   - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                         ERY      I       TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - --- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT     H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL              R D P C          STRUCTUR-2       A  A  A  A  A  A  A  A

R SMS   109.10     109.80        granoblastic patches (1x1cm); and 1% chlorite is present.
N SMS   109.10     109.80            X SMSX PY AS PY3 PA GB              N                                  G3 R*    AS
L                                          BR    AS1                                            P*                 R= G1

P       119.80     122.20    95.0      SETF MS PY MS3 BN WF              P                                  D1
L                                          3Y    PY1                                         $3
R       119.80     122.20        Yellow sericitic tuff.  This interval contains the typical
R       119.80     122.20        sheeted yellow sericite with layers of cream colored silica and
R       119.80     122.20        10% disseminated pyrite which characterize this unit.  Also
R       119.80     122.20        present is a fine grained sericitic ash tuff.

P MTF   122.20     143.90   100.0      PYTF PY MS PY3 FR PA     1 7      P    BD      75          Q=        !3
L                            80.0          7A CB MS2 WF IB 3     0            FO      45     P2 P(
R       122.20     143.90        A thick interval of chlorite-carbonate altered muddy tuff.
R       122.20     143.90        Chlorite is present pervasively (1-5%) and gives the rock a
R       122.20     143.90        dark green-black color.  White carbonate knots and patches
        122.20     143.90        make up 5-8% of the rock.  Sulphides other than pyrite are very
R       122.20     143.90        poorly developed.  Texturally, the most distinctive feature is
R       122.20     143.90        the carbonate patches.  Poor compositional leayering can also
R       122.20     143.90        be seen.  A weak foliation is present and dips at 45 degrees to
R       122.20     143.90        the core axis.
R       124.70     129.00        Sericitic chert breccea.  Elongate chert fragments (1x2cm) are
R       124.70     129.00        separated by sheeted grey sericite.  Pyrite occurs both in the
R       124.70     129.00        fragments and with the sericite.  The structural upper contact
R       124.70     129.00        is faulted, the lower one is gradational over 40cm, with
R       124.70     129.00        fragment size decreasing and pyrite content increasing into the
R       124.70     129.00        muddy tuff.  Rare argillite fragments were noted in this unit.
N       124.70     129.00            X SECH MS PY MS2 FR        4 7      N                            P(        D1
L                                          5A    PY1      2 7 E 0                            $2
R       139.80     143.90        The chlorite content has increased to 20% over this interval.
R       139.80     143.90        Pyrite content increases down hole to massive over 30cm,
R       139.80     143.90        however, this appears to be vein related.  Evidence for this is
R       139.80     143.90        interstitial white carbonate and abundant pyrite veinlets (to
R       139.80     143.90        2cm) adjacent to the massive section.  It is interesting to
R       139.80     143.90        note that this occurs at the stratigraphic upper contact of the
R       139.80     143.90        muddy tuff.
N       139.80     143.90            X PYTF PY MS PY3                    N
L                                          8G CL

P       143.90     148.40    95.0      ARGR GR CB GR2 << AR              P                <=        <2    GR
L                                          NN    CB2                                                      P2
        143.90     148.40        Graphitic argillite with abundant (20%) coarse grained
K       143.90     148.40        carbonate veins.  The structural lower contact is faulted.

P       148.40     150.50              INTF MS CB MS2 SP FG        12    P    BD      75          O1
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ESSO Minerals Canada
KAMAD

DRILLHOLE/TRAVERSE : K88034 (CONTINUED)

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.-- -----.-- ----.- -- - ---- -- -- --- -- -- - - - - - -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

KEY	FROM	TO	
L			1G CB1 HO FO 5 FO 75 P2
R	148.40	151.50	Intermediate ash tuff. Ash sized fragments comprise 70% of
R	148.40	151.50	this rock. The matrix is largely green sericite which lends
R	148.40	151.50	its color to the rock. This unit is texturally homogeneous,
R	148.40	151.50	although a general decrease in fragment size towards the bottom
R	148.40	151.50	of the interval is noted.
P	150.50	151.50	ARGL P BD 75
L			8A
R	150.50	151.50	Argillite and greywacke are interlaminated on a 1-10mm scale.
R	150.50	151.50	This is in conformable contact with the INTF and clearly
R	150.50	151.50	represents hanging wall sediments.

ESSO Minerals Canada
KAMAD
DRILLHOLE/TRAVERSE : K88035

PROJECT IDEN : KAMAD START DATE : 88/ 7/ 8 COMPLETION DATE : 88/ 7/ 9 GEOLOGGED BY : RGC +
COLLAR NORTHING: -80.00 COLLAR EASTING : -8900.00 COLLAR ELEVATION: 1453.67 GRID AZIMUTH : 42.00
TOTAL LENGTH : 169.80 CORE/HOLE SIZE : NQ

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-50.00		
001	76.20		225.00	-46.00		
002	165.00		225.00	-48.00		

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.-- -----.-- ----.- -- - ---- -- -- --- -- -- - - - - - -- - - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

P 0.00 91.70 MFVC P

P 91.70 96.70 100.0 PYCH PY MS PY1 CO BN P GR D1 D. D. TT
50.0 8A GR MS* M* $* D. D.
R 91.70 96.70 This interval is the stratigraphic bottom of the Rea Zone in
R 91.70 96.70 this hole. It is a dark grey to black, chaotically banded,
R 91.70 96.70 well mineralized chert. Pyrite averages 10% and trace galena,
R 91.70 96.70 sphalerite, chalcopyrite and tetrahedrite were observed.
R 91.70 96.70 Sericite (.5%) occurs as massive coatings on fractures.
R 91.70 96.70 Graphite is present, possibly related to minor faults. This is
R 91.70 96.70 in fault contact with the footwall mafics.
R 91.70 91.80 Graphitic fault gouge marks the contact fault between the mafic
R 91.70 91.80 pyroclastics and the pyritic chert.
N F/ 91.70 91.80 X FAUL GR N

P 96.70 106.00 100.0 SETF MS PY MS4 BN WB P FO 65 <= <1
L 5Y PY1 << FO $4
R 96.70 106.00 This is a yellow sericitic tuff with 40% sheeted yellow
R 96.70 106.00 sericite and 10% wispy pyrite stringers. White, irregularly
R 96.70 106.00 shaped quartz veins are present (5%). The rock is well
R 96.70 106.00 foliated and shows compositional layering with alternating
R 96.70 106.00 sericite-rich and silica-rich bands (5-10mm).
R 101.30 102.40 An extremely well banded (5-10mm) pyritic chert. Bands
R 101.30 102.40 alternate light grey and dark grey chert. In addition to 10%
R 101.30 102.40 disseminated pyrite, traces of galena, chalcopyrite and
R 101.30 102.40 sphalerite were noted. The section from 101.8m to 102.3m shows
R 101.30 102.40 exceptional breccia textures with pyrite as the breccia matrix.
N 101.30 102.40 X PYCH PY PY1 BN N D1 R. R.
5A B.

P 106.00 113.10 100.0 INTF MS CL MS4 GB HO P <= DO G1 B. B.
L 10.0 8G PY CL1 MT M4 $1 P= B.

ESSO Minerals Canada
KAMAD
DRILLHOLE/TRAVERSE : K88035 (CONTINUED)

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  F   - I N T E R V A L -   CORE       %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-     M ROCK FYING MIN TURES CHARACS TURE                 M  M  M  M  M ANY M  M  M ANY
E  A                         ERY       I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)     X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - - -- -   - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F     T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I     2    AZM  RT       M  M  M  M  M  M  M  M
Y  G                        DESIG  AGE       COL            R D P C            STRUCTUR-2         A  A  A  A  A  A  A  A

R       106.00    113.10        This unit is difficult to interpret.  It is a dark green,
R       106.00    113.10        mottled rock with 10% granoblastic pyrite.  The rock is largely
R       106.00    113.10        (40-50%) green sericite with 10% sheeted chlorite.  Pervasive
R       106.00    113.10        dolomite (5-7%) is a minor component.  Texturally, this unit is
R       106.00    113.10        homogeneous and nondescript.  White quartz veins (to 5cm, dip
R       106.00    113.10        20 degrees) are a conspicuous feature.  Blebs of galena, pale
R       106.00    113.10        sphalerite and chalcopyrite occur in trace amounts throughout,
R       106.00    113.10        particularly at 107.1m.
R       108.20    108.30        A white quartz-dolomite vein.
N V/    108.20    108.30           X QDVN QZ DO QZ7                    N    CU     20 M7             DO
L                                         WW   DO3                          CL     20                Q3
R       108.60    109.30        Two white quartz-dolomite veins occur in this interval.  They
R       108.60    109.30        dip 20 degrees to the core axis and are 5cm in true thickness.
R       108.60    109.30        Base metal sulphides are abundant adjacent to these veins.
N V/    108.60    109.30           5 QDVN QZ DO QZ7                    N    CU     20 M7             DO
                                          WW   DO3                          CL     20                Q3
R       110.70    111.40        This interval is primarily cream-colored silica with 30%
R       110.70    111.40        sheeted sericite and 10% wispy pyrite stringers.  Possibly a
R       110.70    111.40        felsic volcanic.
N       110.70    111.40           X SECH MS PY MS3 WB CH              N                                <1
L                                         2Y   PY1                                   $3

P       113.10    126.00    100.0      SETF MS PY MS4 WB BN       20   P    FO     60                 <1 D. D. AS
L                             5.0           3Y    PY1 FO HO       8                  $4                   D. D.
R       113.10    126.00        Pale yellow sericitic tuff.  Bands of cream-colored silica are
R       113.10    126.00        separated by sheeted yellow sericite.  Wispy pyrite stringers
R       113.10    126.00        make up 10% of the rock.  Traces of galena, sphalerite,
R       113.10    126.00        chalcopyrite and arsenopyrite occur throughout, especially at
R       113.10    126.00        121m.  Both contacts are conformable.  This unit is quite
R       113.10    126.00        homogeneous.

P MTF   126.00    157.60     99.0      PYTF PY MS PY2 FR FO            P    BD     85       P1        !2
L                             5.0           8A CL MS2                       FO     70    P2 P1
R MTF   126.00    157.60        This is the first muddy tuff occurrence in this hole.  Pyrite
R MTF   126.00    157.60        content is low (20%), both dusty and granoblastic.  Pervasive
R MTF   126.00    157.60        sericite (15%), chlorite (10%) and carbonate (10%) are also
R MTF   126.00    157.60        present.  Scattered (1%) fragments are present.  Other than
R MTF   126.00    157.60        these fragments, primary textures are poorly preserved or,
R MTF   126.00    157.60        more likely, were never developed.  Chlorite content increases
R MTF   126.00    157.60        gradually to 20% over some sections.  Carbonate increases to
  MTF   126.00    157.60        90%, apparently related to later veining.  In places (146m),
R MTF   126.00    157.60        carbonate-cemented, quartz-rich wackes are interbedded
R MTF   126.00    157.60        (5-10mm) with chloritic, pyrite-rich tuff (?).   Pyritic,
R       126.80    128.30        sericitic, quartz-rich carbonate cemented greywacke.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88035 (CONTINUED)

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  F  - I N T E R V A L -   CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E A                         ERY     I     TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O       (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK   1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -  - -- --- -- -- -- -- -- -- -- -- -- -- --
K F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2   AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG  AGE      COL           R D P C          STRUCTUR-2        A  A  A  A  A  A  A  A

R        126.80    128.30       Pyrite is uniformly disseminated as euhedral cubes.  No grading
R        126.80    128.30       is evident.  This is very similar to typical hanging wall
R        126.80    128.30       greywacke except for the presence of pyrite and sericite.
N        126.80    128.30            X GWAC PY MS PY= FR FO      9 6       N    FO       85           P=         D=
L                                           5A CB MS=        7 3   C            BD       80     P=
R        139.30    139.40       A 2cm band of semi-massive (50%) pyrite, chalcopyrite,
R        139.30    139.40       sphalerite and galena which appears to be quartz vein related.
N        139.30    139.40            4 SMSX PY CP PY4 GB IG                N                                   G4 R1 R1
L                                              SL CP1                                                                R1
R F/     149.40    149.90       Fault zone with a pink and white, galena-bearing carbonate
R F/     149.40    149.90       vein.
N F/     149.40    149.90            X FAUL CB    CB5                      N                        <5               B*
R        152.80    155.10       Massive blue-grey patchy and mottled carbonate cut by white
R        152.80    155.10       quartz-carbonate veins.  Coarse crystal aggregates of carbonate
R        152.80    155.10       make up the bulk of this rock.
         152.80    155.10            X CARB CB QZ CB9 << MT                N                 <1        M9
L                                           AB MS QZ1 PA                                        O*

P MTF    157.60    165.20  100.0       PYTF PY QZ PY3 FR         2 7  8    P    BD       70 P3         Q1         !3    R. AS
L                           60.0            AU CB QZ3              0 4                          P= P=                   R. R.
R        157.60    165.20       This interval is differentiated on the basis of increased
R        157.60    165.20       silica content (30% pervasive).  It also hosts the most
R        157.60    165.20       significant mineralization in this hole.  Pyrite content
R        157.60    165.20       decreases gradually down-hole and sericite increases.  This
R        157.60    165.20       unit becomes a sericitic chert (felsic tuff?) towards the
R        157.60    165.20       bottom of the interval.  Irregular patches and spots of
R        157.60    165.20       carbonate occur sporadically and are associated with an
R        157.60    165.20       increase in chlorite.  This interval represents a silicified
R        157.60    165.20       muddy tuff.
R        158.00    160.00       Silicified muddy tuff with .2-.5% galena, sphalerite and
R        158.00    160.00       arsenopyrite occurring as scattered crystal aggregates.
R        158.00    160.00       Patchy, irregular shaped white dolomite stringers are also
R        158.00    160.00       present (5%).
N        158.00    160.00            X PYTF PY QZ PY4 FR                   N                 P2        P=         !4    R* AS
L                                           7U MS QZ2                                           P1                      R* R*
R MSX    160.00    160.10       A 10cm bed of stratiform massive (90%) sulphides.  Both
R MSX    160.00    160.10       contacts with muddy tuff are very sharp and conformable.
R MSX    160.00    160.10       Sulphides are pyrite (60%), galena (10%), sphalerite (10%) and
R MSX    160.00    160.10       arsenopyrite (10%) and are crudely banded and medium grained.
N MSX    160.00    160.10            X MSSX PY GL PY6 IG                   N    BD       70                            R6 R? R1 AS
                                            BR SL GL1 BD                                                             R1 R1
R F/     165.00    165.20       Contact fault between muddy tuff and hanging wall greywacke.
N F/     165.00    165.20            X FAUL                                N

P        165.20    169.80              GWAC QZ PY     FR CG      9 6       P                 F8                    D.
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ESSO Minerals Canada
KAMAD

DRILLHOLE/TRAVERSE : K88035 (CONTINUED)

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  F  - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--  -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK  FOR EN RT    TM QM2 TX TX S R S O DIP F     T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL  MEM  V  Q LC- 3       3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG AGE       COL            R D P C             STRUCTUR-2         A  A  A  A  A  A  A  A

L                                          5A             1 7  C
R       165.20    169.80        A poorly sorted, quartz-rich, coarse-grained greywacke typical
R       165.20    169.80        of the hanging wall sediments.
R END   165.20    169.80        End of hole.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88036

PROJECT IDEN : KAMAD START DATE : 88/ 7/ 9 COMPLETION DATE : 88/ 7/10 GEOLOGGED BY : RGC +
COLLAR NORTHING: -75.00 COLLAR EASTING : -9100.00 COLLAR ELEVATION: 1439.87 GRID AZIMUTH : 42.00
TOTAL LENGTH : 93.00 CORE/HOLE SIZE : NQ

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-45.00		
001	87.00		225.00	-44.00		

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   F   - I N T E R V A L -   CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)            RECOV-   M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                          ERY     I      TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O       (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                         QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                         DESIG  AGE       COL            R D P C           STRUCTUR-2        A  A  A  A  A  A  A  A


P OVB    0.00      7.30                 OVER                        P
R OVB    0.00      7.30        Casing.

P        7.30     38.80      97.0     MATF MS CB MS2 FO FR   4 7   8  P    FO      85          P2       D1
                             90.0          OG PY CB2 SP   1    0 2         BD      85   $2
R        7.30     38.80        This unit is a sericitic mafic tuff which represents the
R        7.30     38.80        footwall mafic series in this hole.  Alteration consisists of
R        7.30     38.80        15% sheeted orange-brown sericite, 15% pervasive carbonate and
R        7.30     38.80        10% pyrite, both disseminated and as stringers.  Alteration
R        7.30     38.80        intensity is quite uniform over the interval.  Textural
R        7.30     38.80        variations are minor and are due to differences in fragment
R        7.30     38.80        size and density.
R        8.90      9.50        This is more of an intense, pervasive dolomitization than a
R        8.90      9.50        discreet vein.  It consists of 80% grey, massive dolomite
R        8.90      9.50        containing 10% disseminated pyrite and 10% spots of amethystine
R        8.90      9.50        quartz.
N        8.90      9.50            8 DOVN DO PY DO8                 N           O1             DO D1
L                                        5A QZ
R F/    31.80     38.80        A well developed fault breccia occurs over this interval and
R F/    31.80     38.80        extends into the next PGI.  Angular fragments of sericitic
R F/    31.80     38.80        mafic tuff sit in a matrix of fault gouge.
N F/    31.80     38.80            X FAUL                           N

P SMS   38.80     45.00      73.0      SMSX PY MS PY5 GB            P                             G5    D) AS
L                            10.0          BR GL MS5                                M5                  D* D*
R SMS   38.80     45.00        Semi-massive granoblastic pyrite occurs in a matrix of massive
R SMS   38.80     45.00        green sericite.  Galena, sphalerite and arsenopyrite are
R SMS   38.80     45.00        present in amounts of about 1% each.  Core recovery is 73% over
R SMS   38.80     45.00        this interval, reflecting the faulted and crushed nature of the
  SMS   38.80     45.00        core.  This interval lies within the fault zone noted above
R SMS   38.80     45.00        (starting at 31.8m).  The contact with the underlying mafic
R SMS   38.80     45.00        pyroclastics appears sharp.  This unit grades stratigraphically
R SMS   38.80     45.00        upwards into massive sulphides.
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ESSO Minerals Canada
KAMAD
DRILLHOLE/TRAVERSE : K88036 (CONTINUED)

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  F  - I N T E R V A L -   CORE     %      TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)          RECOV-    M ROCK FYING MIN TURES CHARACS TURE               M  M  M  M  M ANY M  M  M ANY
E  A                        ERY      I      TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O     (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- - - - -- --- -- -- -- -- -- -- -- -- -- -- --
K  F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                       QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       M  M  M  M  M  M  M  M
Y  G                       DESIG  AGE       COL           R D P C           STRUCTUR-2          A  A  A  A  A  A  A  A


P MSX   45.00     49.70     73.0      MSSX PY GL PY7 MX FG            P                                    M7 D+ D1 AS
L                            5.0           BR SL GL1                                                          D1 D1
R MSX   45.00     49.70        Core recovery over this massive sulphide intersection is 73%.
R MSX   45.00     49.70        Sulphides include pyrite (70%), galena (10%), sphalerite (10%),
R MSX   45.00     49.70        arsenopyrite (10%) and chalcopyrite (5%).  This massive section
R MSX   45.00     49.70        is gradational into the stratigraphically underlying
R MSX   45.00     49.70        semi-massive sulphide.  The upper contact appears to have been
R MSX   45.00     49.70        lost.  No banding or other primary textures were seen in this
R MSX   45.00     49.70        section of fine-grained sulphide.

P       49.70     58.20    100.0      SETF MS PY MS3 FR FO    3 7 12  P    FO      65         P+       D=
L                           40.0           3A CB PY=      2 7  0 5          FO      30    $3
R       49.70     58.20        This is a light grey sericite-rich rock with 30% silica fragments
R       49.70     58.20        (well rounded, poorly sorted) and 5% disseminated pyrite.
        49.70     58.20        Pervasive carbonate (1%) was also noted.  This is interbedded
R       49.70     58.20        with and conformably overlain (stratigraphically) by muddy
R       49.70     58.20        tuff.  This unit makes up the stratigraphic hanging wall to the
R       49.70     58.20        massive sulphide in this hole and may be a felsic lapilli tuff.
R MTF   51.70     52.50        This is 60% dusty pyrite with 30% pervasive sericite and 10%
R MTF   51.70     52.50        white carbonate spots or ovoids.  The stratigraphic upper
R MTF   51.70     52.50        contact is conformable and dips 60 degrees to the core axis.
R MTF   51.70     52.50        This is a typical example of the muddy tuff.
N MTF   51.70     52.50             X PYST PY MS PY6 SP FR    1 7      N    CU      60         01       16
L                                          BR CB MS3      2 7               BD      60    P3

P MTF   58.20     73.20    100.0      PYTF PY MS PY6 PA FR    = 6 10  P                           01       16
L                           70.0           5U CB MS2       9   0 4                            P2 Q*
R MTF   58.20     73.20        Pyritic tuff with 20% pervasive sericite and 10% spotted and
R MTF   58.20     73.20        patchy carbonate.  This unit appears fragmental in places with
R MTF   58.20     73.20        well-rounded (5x3mm) carbonate and silica fragments (?).
R MTF   58.20     73.20        Carbonate knots and patches which are not fragments are also
R MTF   58.20     73.20        present.  Scattered patches of chlorite are seen, locally
R MTF   58.20     73.20        increasing to 15% with an associated increase in coarse pyrite.
R MTF   58.20     73.20        The stratigraphic lower contact with the sericitic tuff is
R MTF   58.20     73.20        marked by gouge and crushed core but appears conformable.  The
R MTF   58.20     73.20        stratigraphic upper contact appears faulted.
R V/    59.40     60.60        A white, coarse grained quartz-dolomite vein.  Well developed
R V/    59.40     60.60        bladed dolomite crystals are seen in vugs and on fracture
R V/    59.40     60.60        surfaces.   Trace galena is present.
  '/    59.40     60.60             X QDVN QZ DO QZ5 PA IG            N    CL      15 Q5              DO       B.
L                                          WW    DO5 EU VG                                            U5
R       60.60     61.90        This is a section of massive, granular blue-grey dolomite with
R       60.60     61.90        minor (5%) disseminated pyrite and sheeted sericite (<5%).
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ESSO Minerals Canada
KAMAD

DRILLHOLE/TRAVERSE : K88036 (CONTINUED)

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  F   - I N T E R V A L -  CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE               H  H  H  H  H ANY H  H  H ANY
E A                         ERY     I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O      (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG  AGE       COL           R D P C             STRUCTUR-2        A  A  A  A  A  A  A  A

R       60.60      61.90       Although it occurs adjacent to a quartz-dolomite vein, it
R       60.60      61.90       appears to be a primary lithology and does not seem to be an
R       60.60      61.90       alteration product.  Evidence for this is an extremely sharp
R       60.60      61.90       vein contact and thin (1cm) laminations or interbeds of pyritic
R       60.60      61.90       siltite.
N       60.60      61.90           X DOLM DO PY DO9 PA GN              N                         DO D=
L                                       AB MS PY=                                    $=          M9
R       69.60      71.10       This interval is marked by 40% coarse grained pyrite and 15%
R       69.60      71.10       chlorite as irregular shaped patches.  Pervasive dolomite (20%)
R       69.60      71.10       and sericite (20%) are also noted.  The chloritic patches are
R       69.60      71.10       typical of those seen elsewhere in the muddy tuff.
N       69.60      71.10           X SMPY PY DO PY4 PA GB              N                         DO G4
L                                       GU CL DO2 CG                                 P2 Q2       P2
P       72.20      73.20       Scattered zones of fault gouge throughout this interval
        72.20      73.20       indicate a fault zone.  Blue-grey patches of dolomite increase
R       72.20      73.20       to 70% towards the structural lower contact which is also
R       72.20      73.20       faulted.
N F/    72.20      73.20           6 FAUL CY DO CY6                    N                         DO
L                                       2A   DO3                                                 M3

P       73.20      89.60   95.0      ARGL GR PY GR1 LM HO              P   BD      85 <(         GR D.
L                           5.0             NN QZ     <<                                         P1
R       73.20      89.60       Hanging wall sediments in fault contact with the structurally
R       73.20      89.60       overlying muddy tuff.  This unit is graphitic argillite with
R       73.20      89.60       30% interlaminated (1-5mm) silty layers.   Trace coarse pyrite
R       73.20      89.60       is present as are scattered quartz micro veins (<10cm).
R       73.20      89.60       Bedding is well developed and shows little evidence of folding.

P       89.60      93.00   100.0     GWAC QZ    LF9 FR FG     9 6      P   BD      75
L                           5.0             3A              7 5   C
R       89.60      93.00
R       89.60      93.00       Well sorted, medium rounded, fine grained, quartz rich
R       89.60      93.00       greywacke.  This unit is massive with the exception of rare
R       89.60      93.00       argillite interbeds (1-5cm).
R F/    92.00      93.00       Fault breccia with fragments of wacke, argillite and quartz
R F/    92.00      93.00       vein in fault gouge.
N F/    92.00      93.00           X FAUL                              N
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ESSO Minerals Canada
KAMAD
DRILLHOLE/TRAVERSE : K88037

PROJECT IDEN : KAMAD START DATE : 88/ 7/10 COMPLETION DATE : 88/ 7/11 GEOLOGGED BY : RGC +
COLLAR NORTHING: -200.00 COLLAR EASTING : -8650.00 COLLAR ELEVATION: 1443.09 GRID AZIMUTH : 42.00
TOTAL LENGTH : 160.60 CORE/HOLE SIZE : NQ

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		240.00	-50.00		
001	76.20		240.00	-51.00		
002	160.00		240.00	-51.00		

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  F  - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE              M  M  M  M  M ANY M  M  M ANY
E A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL   MEM  V  Q LC- 3       3  4 O N H / SML I    2    AZM  RT       M  M  M  M  M  M  M  M
Y G                        DESIG  AGE       COL             R D P C            STRUCTUR-2        A  A  A  A  A  A  A  A

P OVB   0.00     3.70                 OVER                         P
R       0.00     3.70           Casing.

        3.70    25.60      100.0      DIOR CB EP CB1 SP <<           7    P                        P1
L                                          7G     EP1           2                                  01
R       3.70    25.60           Green, carbonatized diorite.  10-20% pervasive and veined
R       3.70    25.60           calcite are the most conspicuous feature of this homogeneous
R       3.70    25.60           diorite.  Irregular shaped epidote (?) spots (1mm) likely
R       3.70    25.60           represent replaced phenocrysts.  The structural lower contact
R       3.70    25.60           is faulted.

P      25.60   100.20                MFVC MS CB MS1 FR WF      2 7      P     FO      70           P1       D.
L                                          2G     CB1                          FO      75     $1
R      25.60   100.20           This interval represents the footwall mafic series in this DDH.
R      25.60   100.20           Alteration levels (sericite-carbonate-pyrite) are moderate to
R      25.60   100.20           intense and are quite uniformly developed across the entire
R      25.60   100.20           interval.  Lapilli tuffs, ash tuffs and possible flows are
R      25.60   100.20           identified within this sequence.
R      33.00    34.80           This interval is distinguished by the presence of 50%
R      33.00    34.80           carbonatized fragments (1x5mm).  Foliation is well developed.
R      33.00    34.80           Sheeted brownish-yellow sericite is present (10%) as is finely
R      33.00    34.80           disseminated pyrite (10%).
N      33.00    34.80              X MATF MS CB MS1 FR SP      5 6      N     FO      65           02       01
L                                         YA PY CB2 FO    5     0                            $1
R      39.90    55.50           The textural homogeneity of this interval, its fine grained
R      39.90    55.50           appearance and absence of fragments suggest that this is a
R      39.90    55.50           mafic flow.  Pyrite is absent and overall alteration levels are
R      39.90    55.50           low.
       39.90    55.50              X MFFL CB MS CB1 FO HO               N     FO      80           P1
L                                         5G     MS=                                          $=
R      67.10    69.20           This interval is unique due to its relatively high (30%) free
R      67.10    69.20           silica content.  Grey, aphanitic silica is present pervasively
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88037 (CONTINUED)

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  F  -INTERVAL-      CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)     RECOV-   M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E A                   ERY     I     TM TM MAT TX TX F C % M       T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G  FROM  -  TO     (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK  1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                  ROCK   FOR EN RT   TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                  QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT     H  H  H  H  H  H  H  H
Y G                  DESIG  AGE      COL          R D P C          STRUCTUR-2       A  A  A  A  A  A  A  A

R      67.10     69.20      along with sheeted orange sericite and patches (5-10mm) of fine
R      67.10     69.20      grained pyrite.  This may represent a cherty lapilli tuff.
N      67.10     69.20          X LLTF MS QZ LF3 FR FO     3 7       N     FO      75 P3              01
L                                    OY PY                 O                        $2
R      78.50     84.30      This interval is 70% hydrothermal dolomite and also contains
R      78.50     84.30      abundant (20%) pyrite and 20% quartz, both as veins.  Textures
R      78.50     84.30      are mottled and patchy and suggest several stages of veining.
R      78.50     84.30      Two excellent conjugate veins are present at 80.8m.  Both are
R      78.50     84.30      2cm thick, one is white quartz-carbonate and one is
R      78.50     84.30      massive pyrite.  Traces of galena were noted in this interval
R      78.50     84.30      and minor fault gouge is developed near the bottom.
N V/   78.50     84.30          X DOVN DO PY DO7 << PA            N             <2          DO <2     B.
L                                    8A QZ PY2 MT BR                             O=          M7
R      99.30    100.00      A 1cm wide white quartz-dolomite vein runs down the middle of
R      99.30    100.00      this interval (parallel to C/A).  This vein carries .1% blebby
       99.30    100.00      galena.

P     100.20    108.00            GRCH GR PY GR2 BR FR            P     BD      85 <=          GR D1
L                                    1A    PY1 CH <<                                          P2
R     100.20    108.00      Mixed chert and graphitic argillite mark this as the
R     100.20    108.00      stratigraphic bottom of the Rea zone.  The structural upper
R     100.20    108.00      contact of this unit is extremely well exposed and is
R     100.20    108.00      conformable with the footwall mafics.  Well developed
R     100.20    108.00      depositional breccia textures are present with chert fragments
R     100.20    108.00      sitting in a graphitic argillite matrix.
N F/  100.60    101.60          X FAUL GR QZ GR3                  N             <2          GR
L                                        QZ2                                               P3
R     106.50    107.90      Dark grey dolomite occurs as mottled veins with sheeted
R     106.50    107.90      graphite (argillite inclusions) and 10% disseminated pyrite.
N     106.50    107.90          X DOVN DO PY DO7 PA MT            N                         DO D1      GR
L                                    3A GR PY1                                              M7         $1

P     108.00    132.30   90.0     SECH MS PY MS1 BN CH      13    P     BD      80            DO D1
L                        20.0          YA DO PY1            5                        $1      <=
R     108.00    132.30      Grey chert with 10% sheeted sericite and 10% disseminated
R     108.00    132.30      pyrite.  This unit is well banded and contains scattered small
R     108.00    132.30      (5cm) dolomite veins.
R F/  108.00    109.40      Fault zone marked by abundant gouge and scattered white quartz
R F/  108.00    109.40      veins.
N F/  108.00    109.40          X FAUL                            N
      110.10    113.80      Aphanitic, brownish green sericitic tuff (?).  This grades into
      110.10    113.80      and out of sericitic chert.
N     110.10    113.80          X SETF MS CB    AP HO             N
L                                    GU CL
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88037 (CONTINUED)

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  F  - I N T E R V A L -   CORE     %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E A                         ERY     I      TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O      (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG  AGE       COL          R D P C          STRUCTUR-2          A  A  A  A  A  A  A  A

R        128.00    129.60      Aphanitic, green-black chloritic tuff with 5% disseminated
R        128.00    129.60      pyrite.  This is similar to 110.2-113.8m.  The structural lower
R        128.00    129.60      contact with the chert is gradational, with a depositional
R        128.00    129.60      chert breccia occurring right at the contact.  This may be a
R        128.00    129.60      chloritized muddy tuff.
N        128.00    129.60          X CLTF CL MS     << AP           N                               D=
L                                        GN PY                                        P1 P1

P SMP    132.30    133.20  100.0      SMPY PY MS PY4 BN FG          P     BD      70                R4
L                                    BR    MS2                          CL      55     P2
R        132.30    133.20      Semi-massive (40%) disseminated pyrite occurs within a
R        132.30    133.20      sericitic, weakly banded tuffaceous rock.  The structural lower
R        132.30    133.20      contact with the pyritic chert is razor sharp and dips 55
R        132.30    133.20      degrees to the C/A.

         133.20    138.10  100.0      PYCH PY QZ PY= BN <<          P                <(             D=    B.
L                                    7A SL QZ(                                                            B.

P        138.10    147.80             SECH PY MS PY2 FR             P                               D2
L                                    5A    MS2                                        $2
R        138.10    147.80      This unit is in conformable contact with the structurally
R        138.10    147.80      overlying pyritic chert.  It contains 20% disseminated pyrite
R        138.10    147.80      and 20% pervasive sericite.  Texturally, this unit contains
R        138.10    147.80      sparse (<1%) fragments and seems to be, at least in part, a
R        138.10    147.80      depositional breccia.
R SMS    146.90    147.40      A section of semi-massive sulphides within the sericitic chert.
R SMS    146.90    147.40      Sulphides are dominated by euhedral to subhedral arsenopyrite
R SMS    146.90    147.40      crystals (20%) and include galena, pale sphalerite and
R SMS    146.90    147.40      chalcopyrite.
N SMS    146.90    147.40          X SMSX AS PY SX4 GB RX           N                               D1 D) D) AS
L                                    5A SL     IG                                                      D) D2

P MTF    147.80    155.40             PYST PY MS PY4 FG BN          P                               !4
L                                          MS2                                        P2
R MTF    147.80    155.40      A thin (7.6m) muddy tuff occurrence.  The structural lower
R MTF    147.80    155.40      contact is marked by a large fault zone which may cause a loss
R MTF    147.80    155.40      of stratigraphy.  This muddy tuff contains scattered (<1%)
R MTF    147.80    155.40      small fragments and becomes cherty towards the structural
R MTF    147.80    155.40      bottom.

  :/     155.40    157.00             FAUL                          P
R F/     155.40    157.00      Fault gouge indicates a major fault between the Rea zone (muddy
R F/     155.40    157.00      tuff) and the hanging wall sediments.

P        157.00    160.70  100.0      CGCP             FR IB    9 7 10  P     BD      70
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DRILLHOLE/TRAVERSE : K88037 (CONTINUED)

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  F  - I N T E R V A L -   CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-     STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE              H  H  H  H  H ANY H  H  H ANY
E A                         ERY     I      TM TM MAT TX TX F C X M       T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O      (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK  1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- ------.--   ------.-- ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK  FOR EN RT    TM QM2 TX TX S R S O DIP F  T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL  MEM  V  Q LC- 3      3  4 O N H / SML I  2    AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG AGE       COL            R D P C           STRUCTUR-2        A  A  A  A  A  A  A  A

L                           80.0                  FO    5 5 E C 3           FO     70
R       157.00    160.70       Interbedded chert pebble conglomerate and quartz-rich
R       157.00    160.70       greywackes.  Graded bedding indicates and overturned section.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88038

PROJECT IDEN : KAMAD START DATE : 88/ 7/11 COMPLETION DATE : GEOLOGGED BY : RGC +
COLLAR NORTHING: -250.00 COLLAR EASTING : -8500.00 COLLAR ELEVATION: 1424.63 GRID AZIMUTH : 42.00
TOTAL LENGTH : 142.40 CORE/HOLE SIZE : NQ

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		240.00	-50.00		
001	141.00		240.00	-47.00		

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   F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                          ERY      I      TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O   (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK     1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
--- --- ----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- - - -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                          ROCK    FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                          QUAL    MEM  V  Q LC- 3      3  4 O N H / SHL I    2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                          DESIG   AGE       COL           R D P C            STRUCTUR-2         A  A  A  A  A  A  A  A

P OVB     0.00     9.50                   OVER                      P
R OVB     0.00     9.50              Casing.

P         9.50    62.00      97.0       MFVC CB PY CB1 HO FR     = 7 12    P     FO      75             P1       D=
                             50.0            OA MS PY= FO SP     E O 3           FO      70    $1
R         9.50    62.00         This interval of footwall mafic volcanics is remarkable due to
R         9.50    62.00         its textural and compositional homogeneity.  Alteration levels
R         9.50    62.00         are quite high (carbonate 10%, pyrite 7%, sericite 10%) and are
R         9.50    62.00         consistent over the entire interval.  Pervasive carbonate,
R         9.50    62.00         sheeted orange sericite and spotty and disseminated pyrite are
R         9.50    62.00         the main alteration minerals.  The rock has a homogeneous,
R         9.50    62.00         bleached, virtually texturless appearance over most of this
R         9.50    62.00         interval, although local fragmental sections are identified.
R         9.50    62.00         Occasional 20-30cm dolomite veins are noted.
R        29.00    35.00         A distinct lensoid-banded texture makes this interval distinct.
R        29.00    35.00         Contacts are gradational and difficult to pin down.  The
R        29.00    35.00         lensoid-banded texture results from stretched lapilli-sized
R        29.00    35.00         fragments.  This interval is compositionally identical to the
R        29.00    35.00         PGI.
N        29.00    35.00              X MLTF CB PY CB1 FR LB        7        N                       P1       D=
L                                            OA MS PY=             0                       $1
R        41.60    43.30         Mislatch results in 1.7m of lost core.
N        41.60    43.30              X LOST                                 N
R        51.80    53.50         A grey, mottled dolomite vein with minor quartz and 10%
R        51.80    53.50         dissiminated pyrite sits in a zone of crushed and broken core
R        51.80    53.50         with some gouge development.
N        51.80    53.50              8 DOVN DO QZ DO8 PA MT                 N              <1             DO D1
L                                            8A PY QZ1                                                    M8
R F/     60.30    61.50         Crushed core and fault gouge.
  ?/     60.30    61.50              X FAUL                                 N

P        62.00    70.00     100.0       GRCH GR PY GR3 << CH                P                              GR D1         DO
L                              .0            NN DO PY1 BN                                                  $3            <1
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88038 (CONTINUED)

```
  F  - I N T E R V A L -  CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)          RECOV-    M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E A                        ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O     (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                       QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y G                       DESIG  AGE       COL          R D P C             STRUCTUR-2          A  A  A  A  A  A  A  A

R      62.00     70.00        An extremely (20-30%) graphitic chert.  Disseminated pyrite is
R      62.00     70.00        10% and mottled, dirty grey dolomite veins make up 10% of this
R      62.00     70.00        interval.  This unit is seen as the stratigraphic bottom of the
R      62.00     70.00        Rea Zone in this and other drill holes.

P      70.00     87.40     97.0     SECH MS PY MS2 LM CO                P    BD      55                    <1
L                                          YA    PY1                                       $2
R      70.00     87.40        This is and excellent example of the sericitic chert unit.
R      70.00     87.40        Clean grey chert bands and laminations (1-10mm) alternate with
R      70.00     87.40        laminations of yellow sericite.  The chert:sericite ratio
R      70.00     87.40        varies from 1:0 to 1:2 over this interval.
R      80.30     80.40        A tectonic breccia related to a 20cm dolomite vein.  Angular
R      80.30     80.40        chert fragments sit in a dolomite matrix.
       80.30     80.40            X DOBR DO        BR                   N
L                                          NW

P      87.40     92.40    100.0     PYCH PY QZ PY1 BN CO                P    BN      80 <=                  G1     B*
L                           5.0          7A    QZ= <<           7                                                 G*
R      87.40     92.40        An extremely clean, grey, well mineralized chert.  Sections of
R      87.40     92.40        coarse grained, semi-massive (50-60%) sulphides occur
R      87.40     92.40        sporadically.  These sulphides appear to be a primary feature
R      87.40     92.40        but may be related to later veining.  The structural upper
R      87.40     92.40        contact is marked by fault gouge.
R SMS  88.90     90.40        30-40% of this interval is sulphide minerals.  Pyrite is the
R SMS  88.90     90.40        most common, and galena, sphalerite and possible arsenopyrite
R SMS  88.90     90.40        are also present.
N SMS  88.90     90.40            9 SMSX PY SL PY3 CG RX                N                                  R3     B)
L                                             GL    IG PA                                                          B)

P      92.40     95.50    100.0     GRCH GR PY GR1 CO BN                P    FO      75                 GR D1
L                                          2A QZ PY2                                       P3
R      92.40     95.50        Dark grey to black pyrite-rich graphitic chert.  Convoluted
R      92.40     95.50        banding on a 1cm scale is present.  Graphite is sheeted on
R      92.40     95.50        foliation surfaces as well as pervasive.  10% disseminated
R      92.40     95.50        pyrite is noted.  Both contacts are conformable.

P      95.50    112.00    100.0     SETF MS PY MS3 SP FO                P    FO      60 <1                  D2
L                          80.0            5A QZ PY2                                       P3
       95.50    112.00        Grey, pyrite rich (20%) sericitic tuff.  The bulk of this
K      95.50    112.00        interval is homogeneous and has a slightly granular texture
R      95.50    112.00        with 20% uniformly disseminated pyrite.  This may represent a
R      95.50    112.00        felsic (?) ash tuff.  Distinct fragments are occasionally seen.
R     104.80    106.20        Banded, yellow sericitic tuff.  Pyrite is present (10%) as
R     104.80    106.20        wispy stringers.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88038 (CONTINUED)

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   F  - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E  A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL              R D P C           STRUCTUR-2         A  A  A  A  A  A  A  A


N       104.80     106.20            X SETF MS PY MS4 BN FO             N                                    <1
L                                          9Y    PY2                                        $4
R       109.20     111.00        A unique rock type which is composed largely (50-60%) of
R       109.20     111.00        massive green sericite.  This gives the rock a translucent,
R       109.20     111.00        aphanitic green appearance.  Minor chlorite alteration is seen
R       109.20     111.00        at the structural top of this interval.  Quartz stringers (1mm)
R       109.20     111.00        make up about 5-7% of the interval.
N       109.20     111.00            X SETF MS CL MS5 << AP             N                <=                  D1
L                                          5G QZ CL1                                      M5 P1
R F/    111.30     111.90        Crushed core and fault gouge.
N F/    111.30     111.90            X FAUL                             N

  MTF   112.00     126.70   100.0      PYST PY MS PY5 IB FG         5   P    BD      70          O=          15
L                                          2U CB                2                           P2
R MTF   112.00     126.70        This is an extremely good example of the pyritic siltite facies
R MTF   112.00     126.70        of the muddy tuff.  Significant clastic input is indicated by
R MTF   112.00     126.70        interlaminated black argillite.  In places, argillite is
R MTF   112.00     126.70        interlaminated (5-10mm) with massive dusty pyrite.  Clastic
R MTF   112.00     126.70        material increases towards the bottom of this interval.
R MTF   112.00     126.70        Carbonate ovoids (fragments ?) and abundant (30%) sericite over
R MTF   112.00     126.70        the top half of this interval suggest an increased volcanic
R MTF   112.00     126.70        input.
R       122.10     122.40        Ptygmatically folded 8mm wide quartz vein.
N       122.10     122.40            1 QZVN                             N

P       126.70     131.00              ARGL GR       LM AR              P    BD      65                    GR
L                                          NN                                                              P1
R       126.70     131.00        Black, graphitic argillite with interlaminated siltstone.  This
R       126.70     131.00        unit is very similar to the lower part of the PYST interval
R       126.70     131.00        except for a complete absence of pyrite.  A thin (5cm) gouge
R       126.70     131.00        zone marks the contact.
R F/    130.00     131.00        Crushed core and fault gouge mark this fault, which appears to
R F/    130.00     131.00        be a major contact fault between the argillite and the
R F/    130.00     131.00        coarse sediments.
N F/    130.00     131.00            X FAUL                             N

P       131.00     142.20              CGCP                             P
        131.00     142.20        This chert pebble conglomerate defines the hanging wall
R       131.00     142.20        sediments.  Scattered massive pyrite fragments are noted.
R F/    131.00     133.80        Fault gouge and a 60cm white quartz vein mark this contact
R F/    131.00     133.80        fault.
N       131.00     133.80            X FAUL QZ       <<                 N                <4
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88039

PROJECT IDEN : KAMAD	START DATE : 88/ 7/12	COMPLETION DATE : 88/ 7/13	GEOLOGGED BY : RGC + CGC
COLLAR NORTHING: -200.00	COLLAR EASTING : -8750.00	COLLAR ELEVATION: 1455.09	GRID AZIMUTH : 42.00
	TOTAL LENGTH : 121.00	CORE/HOLE SIZE : NQ	

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-50.00		
001	61.00		225.00	-47.00		
002	120.99		225.00	-47.00		

```
  F  - I N T E R V A L -  CORE    %   TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)          RECOV-  M ROCK FYING MIN TURES CHARACS TURE             M  M  M  M  M ANY M  M  M ANY
E A                        ERY    I      TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O     (FT.1)  X TYPE  1  2 QM1  1  2 F F C P  # TK  1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.-- ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                       ROCK  FOR EN RT   TM QM2 TX TX S R S O DIP F  T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                       QUAL  MEM  V  Q LC- 3     3  4 O N H / SML I  2    AZM  RT      H  H  H  H  H  H  H  H
Y G                       DESIG  AGE      COL            R D P C          STRUCTUR-2       A  A  A  A  A  A  A  A
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```
P OVB   0.00    5.00              OVER                          P
  OVB   0.00    5.00        Casing.

P       5.00   33.50   90.0       MLTF CB PY LF6 FR SP   6 7 1  2   P                <*         P=        D)
L                      60.0             5G       <<          5
R       5.00   33.50        Mafic lapilli tuff.  Alteration levels are low, especially
R       5.00   33.50        sericite.  Color is a medium green with white spots and patches
R       5.00   33.50        of calcite.  Large (2-8?cm) olive-green, vesicular lapilli can
R       5.00   33.50        be seen throughout much of this interval.  Small (<1mm)
R       5.00   33.50        irregularly shaped spots of a greenish-yellow mineral
R       5.00   33.50        (epidote?) are seen in places and may represent replaced
R       5.00   33.50        phenocrysts or vesicles.  Alteration levels are locally
R       5.00   33.50        increased (bleached, increased PY) as a result of faults and
R       5.00   33.50        veining.
R F/    8.50   10.50        This interval has been altered as a result of a fault.
R F/    8.50   10.50        Sericite, and pyrite levels are increased and the rock takes on
R F/    8.50   10.50        a very distinctive orange color.  A healed fault breccia is
R F/    8.50   10.50        seen at 9.7m.
N F/    8.50   10.50            X MLTF CB PY CB2 BR WB              N                     P2        <1
L                                     30 MS PY1 LB                             $=
R      15.00   26.70        This section contains the epidote (?) spots noted above and
R      15.00   26.70        contains no fragments.  Calcite alteration is moderate (10%).
R      15.00   26.70        Ths is the diorite intrusive seen in the area.
N      15.00   26.70            X DIOR CB EP CB1 SP <<              N                     O1
L                                     5G                                                       O?

       33.50   88.80   95.0       MFVC MS CB MS= FR LB              P                     P*        D*
_                                     GA PY CB*                                $=
R      33.50   88.80        This interval is overall more altered than the last and does
R      33.50   88.80        not contain the large, vesicular lapilli seen there.  Pervasive
R      33.50   88.80        carbonate alteration (.2%) is consistent across the interval.
R      33.50   88.80        Sericite content varies from 1% to 20% and generally increases
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88039 (CONTINUED)

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   F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                          ERY      I      TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                         QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                         DESIG  AGE       COL           R D P C            STRUCTUR-2         A  A  A  A  A  A  A  A

R        33.50     88.80          towards the bottom of the interval.  Finely disseminated pyrite
R        33.50     88.80          occurs up to 10% and also increases towards the interval
R        33.50     88.80          bottom.  In general, the footwall mafics in this hole are less
R        33.50     88.80          altered than those in most other Kamad drill holes.
R F/     35.20     35.90          Crushed core and fault gouge.  Alteration levels are elevated
R F/     35.20     35.90          adjacent to this fault.
N F/     35.20     35.90              X FAUL                              N
R F/     81.50     83.00          Fault gouge and a 15cm white quartz vein.
N F/     81.50     83.00              X FAUL QZ    QZ1 <<                 N                <1
R V/     83.80     87.70          A 3.9m mottled white-grey dolomite vein.  Fragments and
R V/     83.80     87.70          sections of intensely altered (20% sericite, 20% pyrite) mafic
R V/     83.80     87.70          volcanic sit in the vein and breccia textures are locally
R V/     83.80     87.70          developed.  This vein occurs entirely within intensely altered
  V/     83.80     87.70          mafic volcanics, and occurs 1.4m from the structural lower
R V/     83.80     87.70          contact.
N V/     83.80     87.70              X DOVN DO QZ DO8 MT PA              N                M2            DO D(
L                                            1A PY QZ2 BR                                                 M8

P        88.80     90.70     100.0       GRCH GR PY GR5 FT BR             P   CL      50                 GR D*
L                               .0           NN    PY*                                                    P5
R        88.80     90.70          This is a zone of black, graphitic fault gouge with graphitic,
R        88.80     90.70          cherty argillite fragments.  It represents the graphitic chert
R        88.80     90.70          unit in this hole.  This fault gouge zone extends to 92.3m,
R        88.80     90.70          however, the contact between the graphitic chert and the
R        88.80     90.70          structurally underlying sericitic chert is razor sharp and dips
R        88.80     90.70          50 degrees to the core axis.  It is marked by an abrupt color
R        88.80     90.70          change, loss of graphite and difference in fragment lithology.

P        90.70     99.70     100.0       SECH MS PY MS3 BN CH       40    P   BN      60                    D=
L                               .0           YA    PY= FT          9                         $3
R        90.70     99.70          Sericitic chert.  Banded grey chert with 30% sheeted yellow
R        90.70     99.70          sericite and 10% disseminated pyrite.  Chert content increases
R        90.70     99.70          towards the bottom of the interval at the expense of sericite.
R        90.70     99.70          The unit is chaotically banded and very incompetent due to the
R        90.70     99.70          sericite content.  The structural lower contact is faulted and
R        90.70     99.70          fault gouge is abundant (30%) throughout this interval.
R F/     90.70     91.80          This is the continuation of the fault seen in the graphitic
R F/     90.70     91.80          chert unit.
  F/     90.70     91.80              X FAUL                              N

P MTF    99.70     105.11            PYTF PY MS PY3 WB FO                 P   FO      65                    !3
L                              80.0          5U    MS1 SP                                P1
R MTF    99.70     105.11         Muddy tuff.  This is a dusty pyrite-rich rock (30%) with wispy
R MTF    99.70     105.11         argillite laminae which may represent transposed bedding.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88039 (CONTINUED)

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  F  - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)          RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                        ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O     (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1     AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                       QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2     AZM  RT      H  H  H  H  H  H  H  H
Y  G                       DESIG  AGE       COL           R D P C              STRUCTUR-2        A  A  A  A  A  A  A  A

R MTF   99.70    105.11        Sericite is present pervasively at 10%.

P       105.11   120.80    100.0      IBAW GR CB GR1 IB                   P    BD      60          P=    GR
L                                           NN    CB=                                                    P1
R       105.11   120.80        This sequence of interbedded graphitic argillite and fine
R       105.11   120.80        grained carbonate-cemented greywacke defines the Rea hanging
R       105.11   120.80        wall sediments in this hole.  Bedding dips fairly consistently
R       105.11   120.80        at 60 degrees to core axis.  The two units are interlaminated
R       105.11   120.80        on a 1mm to 30cm scale, with argillite being slightly more
R       105.11   120.80        abundant.

P       120.80   121.00    100.0      CGCP           FR        9 7        P    CU      65
L                                                          5 5  C              BD      65
        120.80   121.00        Chert pebble conglomerate.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88040

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PROJECT IDEN    : KAMAD      START DATE      : 88/ 9/ 3     COMPLETION DATE :            GEOLOGGED BY : RGC + RGC
COLLAR NORTHING: -40.00      COLLAR EASTING : -9050.00      COLLAR ELEVATION: 1438.42    GRID AZIMUTH : 42.00
                             TOTAL LENGTH    : 135.30       CORE/HOLE SIZE : NQ
```

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-50.00		
001	45.70		225.00	-48.00		
002	130.00		225.00	-46.00		

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  F  - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG  AGE       COL            R D P C            STRUCTUR-2        A  A  A  A  A  A  A  A


P      0.00      4.40                OVER                           P
R      0.00      4.40          CASING

.      4.40     61.80      100.0      MVCB AK DO AK2 $T FO              P    FO      85    $2          DO D(
L                           20.0           OA MS D01 FR          5                      $=          P1
R      4.40     61.80          Orange-grey carbonatized (ankerite and dolomite) mafic
R      4.40     61.80          pyroclastics.  The most distinctive charateristics of this unit
R      4.40     61.80          are its orange-grey color, and the presence of distinct orange
R      4.40     61.80          ankerite sheets.  Fragmental textures with both lapilli- and
R      4.40     61.80          ash-sized fragments, are seen occasionally while in other
R      4.40     61.80          sections original textures have been destroyed.  Pyrite is
R      4.40     61.80          disseminated and spotty at about 0.1%.  Foliation dips
R      4.40     61.80          consistently at 80 - 85 degrees.
R     15.80     18.50          Compositionally, this interval is identical to the PGI.
R     15.80     18.50          Texturally, well-preserved lapilli-sized fragments are seen.
R     15.80     18.50          These fragments make up 50% of the rock and have been intensely
R     15.80     18.50          dolomitized.
N     15.80     18.50              X MLTF AK DO AK2 FR $T        5  7    N    FO      80    $2          DO D(
L                                        OA MS D01 FO    2 7 E O                         $=          P1
R     26.80     31.40          This is a homgeneous, orange-brown unit with 40% white dolomite
R     26.80     31.40          spots (1-3mm). Scattered lapilli indicate that this is a tuff.'
N     26.80     31.40              X MATF AK DO AK2 SP $T       4 6      N                  $2          DO D-
L                                        OU MS D01 FO       O                              $)          O1
R     38.20     48.00          This is an ash tuff with scattered (<1%) vesicular lapilli,
R     38.20     48.00          ankerite content is relatively low (10 - 15%) and it occurs as
R     38.20     48.00          short, wispy patches rather than the large sheets usually seen
R     38.20     48.00          in this PGI.  Pyrite content increases to 30% over the bottom
'     38.20     48.00          30cm of this interval, both contacts are indistict.
      38.20     48.00              X MATF DO AK DO2 FR WF       5 7      N                  W1          DO D*
L                                        GA MS AK1 HO       O                              P*          P2
R     38.70     47.20          This section is blocky and contains numerous thin (to 10cm)
R     38.70     47.20          fault gouge zones.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88040 (CONTINUED)

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  F  - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E A                         ERY      I      TM TM MAT TX TX F C % M         T ID STK DIP A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK   1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--  -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK  FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL  MEM  V  Q LC- 3      3  4 O N H / SML I    2   AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG AGE       COL          R D P C              STRUCTUR-2       A  A  A  A  A  A  A  A

R      53.30     60.60        This is a fairly ordinary interval of carbonatized mafic
R      53.30     60.60        volcanic typified by 20% sheeted orange ankerite and 30%
R      53.30     60.60        pervasive and patchy dolomite.  One unique feature, however, is
R      53.30     60.60        the presence of 20% very fine disseminated pyrite.  In general,
R      53.30     60.60        pyrite content increases with depth.
N      53.30     60.60            X MVCB DO AK DO3 FO $T               N            $2          DO D2
L                                        OA PY AK2 SP                                           P3

P      61.80     74.40              MATF DO MS DO1 SP WF               P   FO    80  $1    O*   DO D=
L                                        GA AK MS1 $T                                P(          O1
R      61.80     74.40        A visually distict grey-green, spotted ash tuff or possible
R      61.80     74.40        vesicular flow.  No bedding, grading or lapilli are noted.
R      61.80     74.40        Ankerite (8-10%) is seen as very thin (<1mm) wispy sheets.
       61.80     74.40        White spots seen throughout are dolomite and calcite. Finely
R      61.80     74.40        disseminated pyrite is about 5%.
R      66.20     67.00        This section represents a more carbonatized interval of the
R      66.20     67.00        mafic tuff.  Ankerite content is slightly elevated and it
R      66.20     67.00        occurs here as continuous sheets.  The dolomite content is also
R      66.20     67.00        up (to 30%) and this forms irregular patches separated by
R      66.20     67.00        sheeted ankerite.  The original spotted texture does show
R      66.20     67.00        faintly through this alteration.
N      66.20     67.00            X MATF DO AK DO3 $T WF               N            $1          DO O5
L                                        OA MS AK1                                   P*          P3
R      72.90     73.10        Foliation over this interval has been kinked into a monoclinal
R      72.90     73.10        fold.  Assuming a strike direction of 135 degrees, lineations
R      72.90     73.10        (slickensides?) on the foliation surface plunge towards 022
R      72.90     73.10        degrees.
N      72.90     73.10            X MATF                               N

P      74.40     92.40     100.0    MVCB PY DO PY2 SP FO               P   FO    80  $=          DO D2
L                                        BR    DO2                                   P*          O2
R      74.40     92.40        This interval is similar to the last PGI but contains
R      74.40     92.40        significantly more pyrite (20-30%).  This pyrite is quite
R      74.40     92.40        uniformly disseminated and fine grained.  Much of this interval
R      74.40     92.40        shows a spotted texture very similar to the last interval.
R      74.40     92.40        Ankerite is wispy and is about 5%.  Sericite is slightly
R      74.40     92.40        elevated relative to the last PGI (0.3%).
R      74.40     81.20        70% of this interval is characterized by large (2x5cm) patches
       74.40     81.20        of dolomite and quartz separated by sheeted ankerite.  Pyrite
K      74.40     81.20        is disseminated throughout the ankerite-rich foliation
R      74.40     81.20        surfaces.
N      74.40     81.20            7 MVCB DO PY DO3 PA $T               N         Q1 $1          DO D2
L                                        3A AK PY2 FO                                            Q3
R      78.50     78.70        A 20cm patchy quartz-dolomite vein with coarse pyrite
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88040 (CONTINUED)

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  F   - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE               H  H  H  H  H ANY H  H  H ANY
E A                          ERY      I     TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                         QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y G                         DESIG  AGE      COL           R D P C            STRUCTUR-2        A  A  A  A  A  A  A  A

R       78.50      78.70        (20%), sphalerite (1%) and TT (1%).  Chalcopyrite
R       78.50      78.70        and galena are present in lesser amounts.
N       78.50      78.70            X QDVN QZ DO QZ3 PA IG                N               Q3          DO R2 R. R* TT
L                                         7A SX DO3 CG                                                Q3       R) R)

P       92.40      95.10    100.0      CLCB DO CL DO2 PA WF               P     FO      80 Q) $=          DO !1
L                                        2A PY CL2            6                              P+ P2    Q2
R       92.40      95.10        Intense chlorite-carbonate alteration typifies this interval.
R       92.40      95.10        Dark greenish brown chlorite and ankerite form an extremely
R       92.40      95.10        fine-grained matrix which supports patches and knots of
R       92.40      95.10        dolomite and minor silica.  Fine grained pyrite occurs
R       92.40      95.10        throughout the chloritic matrix.

        95.10      96.70    100.0     MVSI QZ SX QZ7 PA $T                P     CL      50 P7 $=          DO D1    D) AS
L                                        9A AK SX2 SP                                                 O1       D= D=
R       95.10      96.70        This interval is 70% grey silica with 10 % spotted dolomite.
R       95.10      96.70        Disseminated sulphides are Py (10%), As (5%), Sl (5%), GL (1%).
R       95.10      96.70        Sheeted ankerite and patchy textures suggest this may be a
R       95.10      96.70        silicified mafic volcanic.  This is also suggested by the
R       95.10      96.70        lowermost 10cm of this interval, which is a carbonatized mafic.
R       95.10      96.70        The structural lower contact seems sharp and conformable and
R       95.10      96.70        dips 50 degrees to C/A.

P       96.70     101.00           GRCH GR PY GR1 << RB               P                <1             GR D1    +( DO
L                                        NN    PY1 FD CH      7                                       $1       =( <=
R       96.70     101.00        This graphitic chert represents the structural top of the Rea
R       96.70     101.00        zone in this DDH.  Ribbon-banded compositional layering dips
R       96.70     101.00        from 10 degrees to 90 degrees to the C/A suggesting a
R       96.70     101.00        chaotically folded unit.  Local breccia textures (99.0m)
R       96.70     101.00        indicate that this variation in orientation may be a result of
R       96.70     101.00        large scale (ie fragment size) tectonic brecciation.  Galena
R       96.70     101.00        and sphalerite are noted in this interval, primarily in
R       96.70     101.00        dolomite-quartz veins.
R       97.50      97.60        This is a semi-massive sulphide occurrence within a dolomite
R       97.50      97.60        vein.
N       97.50      97.60           X SMSX PY DO PY3 CG GB                 N                               DO R3    R1
L                                        BR SL DO4 IG                                                 J4       R1

       101.00     108.80    95.0      SECH MS PY MS1 $T WB                P     FO      85 <3                D1    B- AS
                                         YA    PY1 << WF                                      $1               B- B-
R      101.00     108.80        A cream-colored unit which is composed primarily of chert and
R      101.00     108.80        sheeted yellow sericite.  Sulphide disseminations and stringers
R      101.00     108.80        are an important feature.  The sericite gives this rock a
R      101.00     108.80        distinctive sheeted appearance and sulphide stringers are often
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88040 (CONTINUED)

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  F  - I N T E R V A L -   CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E A                         ERY     I      TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O      (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y G                        DESIG  AGE       COL           R D P C           STRUCTUR-2          A  A  A  A  A  A  A  A

R       101.00    108.80       wispy.  The lower 2m of the interval are crushed and faulted.
N       106.80    108.80           X FAUL                           N

P SMS   108.80    110.60   100.0       SMSX PY MS SX4 GB CG             P                              DO G3 R= R= AS
L                                          BR CL MS3            7                        M3 P1         J1       R= R=
R       108.80    110.60       Semi-massive sulphide (pyrite (30-40%); sphalerite (5-10%);
R       108.80    110.60       chalcopyrite (30%)).  Total sulphide content ranges from
R       108.80    110.60       30-60%.  Massive green sericite (30%) and pervasive chlorite
R       108.80    110.60       (10%) are the other minerals present, along with 10% dolomite.
R       108.80    110.60       These form the matrix to the granoblastic sulphides.  Sulphide
R       108.80    110.60       content increases with depth, grading into massive sulphide at
R       108.80    110.60       about 110.6m.

  MSX   110.60    120.50    95.0       MSSX PY SL SX9 GB BN             P    BN      75 <*       J*      TT G6 B+ R1 AS
L                                          BR GL                7                                      +-       R1 R1
R       110.60    120.00       Medium-grained, banded massive sulphide.  Pyrite is the
R       110.60    120.00       dominant sulphide mineral (60-70%) and is present as medium to
R       110.60    120.00       coarse granoblasts.  Galena, sphalerite and arsenopyrite occur
R       110.60    120.00       interstitial to the pyrite and as crystal aggregates in bands
R       110.60    120.00       of pyrite-poor sulphides.  Tetrahedrite is limited to fracture
R       110.60    120.00       fillings and stringers within quartz-veins.  Chalcopyrite is
R       110.60    120.00       both blebby and veined.  Gangue minerals are a minor component
R       110.60    120.00       of this interval, and are limited to quartz and dolomite.  Base
R       110.60    120.00       metal abundance increases toward the bottom of this interval.
R       110.60    120.00       The structural upper contact is gradational.  The structural
                               lower contact is sharp and conformable.
N       112.90    113.00           1 DOVN DO TT DO7 CG <<           N                              DO             TT
L                                          NW    TT3                                               M7             <3
R       114.00    115.20       This interval is a tectonic massive sulphide breccia.
R       114.00    115.20       Fragments (1-10cm) of well-banded sulphides are very angular
R       114.00    115.20       and have been rotated, as indicated by band orientations.
R       114.00    115.20       Tetrahedrite-bearing dolomite has filled spaces and cemented
R       114.00    115.20       blocks occasionally.  Much open space is present between
R       114.00    115.20       fragments and calcite forms the cement throughout much of the
R       114.00    115.20       breccia.
N       114.00    115.20           X MSSX PY SL SX9 BR <<           N
L                                          BR GL

        120.50    122.10   100.0       CHER DO SX DO2 << CL             P                              DO D+    <* AS
L                                          7A    SX1 PA                                                Q2       <* U=
R       120.50    122.10       This unit represents a silica-carbonate cap on the massive
R       120.50    122.10       sulphide.  Grey chert contains knots of dolomite and veins and
R       120.50    122.10       disseminations of pyrite (3%); arsenopyrite (0.3%) and
R       120.50    122.10       sphalerite (0.3%).
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88040 (CONTINUED)

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

P MTF 122.10 125.10 PYST PY MS PY5 FR BD P BD 80 !5
L 5U MS3 P3
R MTF 122.10 125.10 A good example of the 'muddy tuff' pyritic siltite unit. Dusty
R MTF 122.10 125.10 pyrite, (50%) and pervasive sericite (30%) are the most
R MTF 122.10 125.10 abundant components. Good sedimentary textures (ie bedding)
R MTF 122.10 125.10 are seen. Thin (1-3cm) pyrite 'wacke' beds with relatively
R MTF 122.10 125.10 coarse (1mm) pyrite grains are seen. The bottom 1.5m is
R MTF 122.10 125.10 largely fault gouge, however this unit appears to grade into
R MTF 122.10 125.10 the structurally underlying massive carbonate.

P 125.10 128.70 CBEX DO CA DO7 PA VG P M2 DO I)
L 8A CL CA2 Q1 M7
125.10 128.70 This unit is almost exclusively carbonate and chlorite.
R 125.10 128.70 Massive patchy white dolomite (70%) and calcite (20%) form the
R 125.10 128.70 matrix for scattered (10%) chloritic patches. Sulphide content
R 125.10 128.70 is low (pyrite = 1%), vugs are seen and fault gouge is common
R 125.10 128.70 throughout this interval.
R 128.00 128.70 This section of carbonate is largely fault gouge (80%) and
R 128.00 128.70 contains 40% pyrite.
N 128.00 128.70 X FAUL PY MS PY4 N D4
L 5U

P 128.70 135.30 100.0 ARGR GR GR3 LM FT P BD 90 GR
L NN P3
R 128.70 135.30 A fault contact with the hanging wall sediments is apparent
R 128.70 135.30 within this interval. The first 3m is graphitic fault gouge
R 128.70 135.30 with minor quartz-dolomite veining. The remainder is
R 128.70 135.30 inter laminated graphitic argillite and dolomitic wacke. No
R 128.70 135.30 definitive facing direction is seen.

ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88041

PROJECT IDEN : KAMAD START DATE : 88/ 9/ 2 COMPLETION DATE : GEOLOGGED BY : RGC + RGC
COLLAR NORTHING: -40.00 COLLAR EASTING : -9050.00 COLLAR ELEVATION: 1438.42 GRID AZIMUTH : 42.00
TOTAL LENGTH : 154.60 CORE/HOLE SIZE : NQ

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00			-90.00		
001	45.70		225.00	-85.00		
002	150.00		225.00	-72.00		

R HED This hole was drilled to test for an easterly plunge to the
R HED massive sulphide encountered in K88036 and for down-dip
R HED continuity of the massive sulphide intersected in K88040.

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.-- -----.-- ----.- -- - ---- -- -- --- -- -- - - - - -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

P OVB 0.00 3.00 OVER P
R OVB 0.00 3.00 Casing.

P 3.00 56.10 100.0 MVCB DO AK DO3 $T FO P FO 45 $2 P) DO D=
L OA MS AK2 LB FR 7 FO 40 $1 P3
R 3.00 56.10 This is the intensely carbonatized mafic volcanic seen at the
R 3.00 56.10 top of K88040. Conspicuous features include 20% sheeted orange
R 3.00 56.10 ankerite, 20-30% white dolomite and 5-10% disseminated and
R 3.00 56.10 spotty pyrite. Dolomite occurs as irregular lensoid bands
R 3.00 56.10 separated by sheets of ankerite and sericite. Foliation is
R 3.00 56.10 strongly developed and has a consistent 40 to 45 degree dip
R 3.00 56.10 (wrt core axis). Local lapilli and ash tuffs may be
R 3.00 56.10 recognized. This interval is blocky and fracture intensity is
R 3.00 56.10 high.
R 7.90 21.00 This section is texturally distinct, although the composition
R 7.90 21.00 is nearly identical to the PGI. Dolomite lensoid bands are
R 7.90 21.00 absent and a much more granular texture is observed. Scattered
R 7.90 21.00 lapilli are seen. The presence of scarce dolomite bands
R 7.90 21.00 suggest this unit represents a less altered version of the PGI
R 7.90 21.00 lithology.
N 7.90 21.00 8 LATF DO AK DO2 FR FO 6 6 N FO 45 $2 P) DO D=
L OA MS AK2 SP 0 $1 P2
R 53.70 55.10 Well-preserved lapilli can be seen throughout this interval.
53.70 55.10 Dolomite replacement of these fragments is virtually 100%.
53.70 55.10 sheeted ankerite and sericite form the matrix.
N 53.70 55.10 X MLTF DO AK DO2 FR FO 7 7 N FO 55 $2 DO D=
L OA MS AK2 1 5 E 0 $1 P2

P 56.10 73.80 95.0 MAFV MS DO MS2 FO SP P FO 40 $= DO D=

ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88041 (CONTINUED)

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  F  - I N T E R V A L -    CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                M  M  M  M  M ANY M  M  M ANY
E  A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE MA PR MO SL MA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2   AZM  RT       M  M  M  M  M  M  M  M
Y  G                        DESIG  AGE       COL           R D P C            STRUCTUR-2          A  A  A  A  A  A  A  A

L                              .0            GA AK DO1 GN           9          FO      40    $2 $+       O1
R        56.10      73.80       This grey-green, dolomite spotted unit may represent a
R        56.10      73.80       vesicular flow.  Ankerite has decreased relative to the last
R        56.10      73.80       interval and is now seen as thin, wispy sheets rather than
R        56.10      73.80       thick, planar ones.  Sericite is 15-20% and chlorite is present
R        56.10      73.80       at about 3%.  The color and distinct spotted, grainy texture
R        56.10      73.80       make this interval visually distinct from the last.  This
R        56.10      73.80       interval is intensely fractured and crushed.  Thin (10-20cm)
R        56.10      73.80       sections of lensoid banded dolomite are occasionally seen (5%
R        56.10      73.80       of interval).

P        73.80      83.30     95.0      MVMS MS DO MS2 FO WB              P    FO      40    $1            DO W1
L                             10.0           5A AK DO2 $T           6                      $2            P2
         73.80      83.30       Sericite (20%) is the most abundant alteration mineral here.
R        73.80      83.30       Pyrite occurs as wispy bands and is more common than in
R        73.80      83.30       previous intervals (10%).  Dolomite is pervasive throughout the
R        73.80      83.30       interval and is also seen as large (10cm), irregular patches,
R        73.80      83.30       possibly related to veining.
R        74.40      75.00       One centimeter lensoid bands of granular, grey dolomite are
R        74.40      75.00       separated by sheeted ankerite and sericite.  This is very
R        74.40      75.00       similar to the carbonatized mafic volcanic unit at the top of
R        74.40      75.00       this hole.
N        74.40      75.00           X MVCB DO AK DO3 LB FO                N    FO      50    $2            DO D=
L                                            OA MS AK2 $T                                  $1            P3

P        83.30     134.50    100.0      MAFV MS PY MS1 FO $T              P    FO      35 P1 $1            DO <1
L                             70.0           1G AK PY1 HO <<        3          FO      60    $1            P+
R        83.30     134.50       This rock is typified by 10% wispy, sheeted ankerite, 10% very
R        83.30     134.50       fine wispy stringers of pyrite and 10% sheeted sericite.  3-5%
R        83.30     134.50       pervasive dolomite and 10% pervasive silica are also noted.
R        83.30     134.50       Textural and compositional variation over this 51m section is
R        83.30     134.50       remarkably small.  Foliation is well developed with sheeted
R        83.30     134.50       sericite on the foliation surfaces.  Pyrite stringers are also
R        83.30     134.50       foliation parallel.  Yellowish vesicular fragments are seen
R        83.30     134.50       very occasionally (eg. 87.4m).
R        83.90      84.20       Pervasively silicified mafic volcanic with 10% dolomite veins.
N        83.90      84.20           X MVSI QZ DO QZ8 PA MT                N                P8            DO D=
L                                            3A MS DO1 $T                                  $1            <1
         92.00      92.40       This 40cm fault zone is made up of 20cm of fault gouge and 20cm
.        92.00      92.40       of grey-white dolomite vein.
N F/     92.00      92.40           X FAUL GG DO GG5 FT <<                N    CL      45                  DO
L                                            7A    DO5                                                   <5
R        94.80      95.40       Light grey, patchy dolomite vein with 10% late-stage quartz
R        94.80      95.40       stringers (1-3mm).  This vein is related to silicification and
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KAMAD

DRILLHOLE/TRAVERSE : K88041 (CONTINUED)

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  F   - I N T E R V A L -  CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)          RECOV-    M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E  A                        ERY      I      TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G    F R O M  -  T O    (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - - -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                       QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                       DESIG  AGE       COL           R D P C          STRUCTUR-2          A  A  A  A  A  A  A  A

R       94.80     95.40       sericitization of the wall rock and is folded.  Foliation in
R       94.80     95.40       the wall rock has been distorted by this vein.  Two identical
R       94.80     95.40       but smaller veins are seen from 96.5-96.8m and 97.1-97.2m.
N V/    94.80     95.40           9 DOVN DO QZ DO9 << PA               N              <1             DO
L                                        1A   QZ1                                                   M9
R      121.00    124.00       This section contains fault gouge, tectonic breccias and
R      121.00    124.00       hairline fractures.  Zones of failure are about 10% of this
R      121.00    124.00       interval, but the entire section appears to have been strained.
R      121.00    124.00       Dolomite veins totalling 20cm in width are noted in this
R      121.00    124.00       section.
N      121.00    124.00           X SHER                               N
R      127.50    128.20       A tectonic breccia with vein dolomite and 10% patchy chlorite.
R      127.50    128.20       Minor (<1%) pyrite and trace galena were noted.  This is
       127.50    128.20       similar to the chlorite-carbonate alteration seen in K88040
       127.50    128.20       but has been brecciated.
N F/   127.50    128.20           X FLBR DO CL DO3 PA BR               N              <1             DO D*    D.
L                                        5A MS CL1                                  $1 Q1            Q3
R F/   130.00    130.40       3cm quartz vein carries trace arsenopyrite and galena and sits
R F/   130.00    130.40       in a 40cm fault zone.
N F/   130.00    130.40           X FAUL QZ DO     <<                  N              <1                +(    +. AS
L                                                                                                              +.
R      133.20    133.50       Dolomite makes up 70% of this section and occurs as a patchy,
R      133.20    133.50       irregular vein.  Disseminated pyrite (10%), arsenopyrite (1%)
R      133.20    133.50       and galena (.1%) are noted.
N V/   133.20    133.50           9 DOVN DO MS DO7 PA $T               N                             DO D1    B( AS
L                                        3A PY MS1                                  $1               Q7          D)
R      134.40    134.50       This 10cm fault breccia consists of altered mafic volcanic
R      134.40    134.50       fragments in fault gouge.  This fault marks the contact with
R      134.40    134.50       the structural underlying massive sulphide.
N F/   134.40    134.50           X FLBR                               N

P MSX  134.50    136.90   100.0      MSSX PY DO PY6 GB BR              P              Q1             DO G6 B- R= TT
L                           5.0          BR CL DO2 PA            5                  P= Q1            Q2    R= J1 B-
R MSX  134.50    135.00       Total sulphide content of this interval is 70-80%.  Pyrite is
R MSX  134.50    135.00       most abundant (60%) and is granoblastic.  Arsenopyrite varies
R MSX  134.50    135.00       from 1% to 30% but averages about 5% and occurs as crystal
R MSX  134.50    135.00       aggregates.  Sphalerite is abundant (10-20%), occurring as
R MSX  134.50    135.00       mesh-like blebs interstitial to pyrite.  Galena is at most 5%
  MSX  134.50    135.00       and forms crystal aggregates and occasional fracture fillings.
  MSX  134.50    135.00       Chalcopyrite and tetrahedrite are about .03% each and are often
R MSX  134.50    135.00       seen intergrown, associated with patches of quartz and
R MSX  134.50    135.00       dolomite.  This massive sulphide shows a unique breccia
R MSX  134.50    135.00       texture.(continued)
R      135.00    136.90       Fragments are sub-rounded and are primarily quartz-dolomite,
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88041 (CONTINUED)

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  F   - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E  A                         ERY      I      TM TM MAT TX TX F C % M           T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK     1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F     T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3       3  4 O N H / SML I    2    AZM  RT     H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL           R D P C             STRUCTUR-2        A  A  A  A  A  A  A  A

R        135.00     136.90       but occasional fragments of footwall volcanic are seen.  This
R        135.00     136.90       is a tectonic breccia.  Patches of chlorite are noted.  This
R        135.00     136.90       massive sulphide is bounded by fault contacts at both sides.

P SMS    136.90     137.90  100.0       SMSX PY MS PY5 GB PA             P                          DO G5    B-
L                             .0            BR CL MS3 << FT        7                     P3 Q2      Q=       J=
R SMS    136.90     137.90       Total sulphide content here is just over 50%.  Sericite and
R SMS    136.90     137.90       patchy chloritic alteration are conspicuous.  Patchy dolomite
R SMS    136.90     137.90       is present at about 5%.  A 1cm dolomite vein is also noted
R SMS    136.90     137.90       (dip=30 degrees) and has been offset 2cm along a fault.
R        137.10     137.20       A 1cm dolomite vein shows 1cm of dextral offset along a small
R        137.10     137.20       fault.
N V/     137.10     137.20           1 DOVN DO   DOX MX              N   V/     30                  DO
                                            WW                           F/     60                  <X

P MSX    137.90     141.30   98.0       MSSX PY SL PY4 GB IG             P                          DO G4 B* R1 TT
L                                           BR GL SL2 XA CG        3                     J1         J=    R1 B)
R MSX    137.90     141.30       70-80% of this interval is made up of sulphide minerals
R MSX    137.90     141.30       including 40% granoblastic pyrite, 20% buff-colored sphalerite,
R MSX    137.90     141.30       10% galena, 10% arsenopyrite, 1% chalcopyrite and 1%
R MSX    137.90     141.30       tetrahedrite.  Sulphides are coarse grained and do not show
R MSX    137.90     141.30       obvious banding.  Chalcopyrite content decreases with depth
R MSX    137.90     141.30       and, as in previous sections, occurs intergrown with
R MSX    137.90     141.30       tetrahedrite.  The structural upper contact is marked by 10cm
R MSX    137.90     141.30       of fault gouge.  The lower is conformable.  Gangue minerals are
R MSX    137.90     141.30       dolomite and sericite.
R MSX    137.90     138.50       This is identical to the PGI except for increased blebby
R MSX    137.90     138.50       chalcopyrite (5%).
N MSX    137.90     138.50           X MSSX PY SL PY4 GB IG              N                          DO G4 B= R1 TT
L                                           BR CP SL2 XA CG                              J1         J=    R1 B2 B)

P        141.30     143.70  100.0       DOCH DO MS DO2 PA FO             P   FO     80              DO !2
L                                           5A PY MS2 MT           8         CU     75   P2         Q2
R        141.30     143.70       This cherty unit forms the immediate stratigraphic hanging wall
R        141.30     143.70       to the massive sulphide.  It is a result of a mixing of chert
R        141.30     143.70       and muddy tuff, but also contains 20% patchy and spotted
R        141.30     143.70       dolomite, possibly of exhalitive origin.  Dusty pyrite (20%)
R        141.30     143.70       and sericite (20%) occur between and mixed with bands of chert.
         141.30     143.70       Bedding contacts and foliation have become almost perpendicular
n        141.30     143.70       to the core axis at this point.
R MTF    141.30     141.70       Typical pyritic siltite with 20% mixed chert.  This interval is
R MTF    141.30     141.70       intensely fractured.
N MTF    141.30     141.70           X PYST PY MS PY4 FT FO              N   FO     70                  !4
L                                           BR    MS4                                P4
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88041 (CONTINUED)

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  F   - I N T E R V A L -   CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E  A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--    -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL           R D P C            STRUCTUR-2          A  A  A  A  A  A  A  A

R       143.10     143.30        Two veins are seen in this interval.  One is dark grey, patchy
R       143.10     143.30        dolomite with 10% pyrite and one is white quartz.  They appear
R       143.10     143.30        to be more patches than veins.  The quartz vein is
R       143.10     143.30        foliation-parallel on one side and perpendicular to foliation
R       143.10     143.30        of the other.
N       143.10     143.30            X QDVN QZ DO                    N

P MTF   143.70     150.40              PYST PY MS PY3 FR BD     1 7       P     FO       80                DO !3
L                                           BR DO MS3 SP FO      0 9             BD       80    P3          O2
R MTF   143.70     150.40        This pyritic siltite is extremely well foliated, locally
R MTF   143.70     150.40        fragmental and shows excellent bedding contacts (eg. 144.9m).
R MTF   143.70     150.40        Sericite and dusty pyrite form foliation parallel sheets with
R MTF   143.70     150.40        spotted dolomite and scattered pyrite granoblasts in between.
  MTF   143.70     150.40        The sericite creates greasy foliation surfaces and makes this
R MTF   143.70     150.40        rock very incompetent.
R       147.60     147.90        Dolomite spots increase to 50% of the rock over this interval.
R F/    147.60     148.00        This interval contains numerous fault gouge zones, including
R F/    147.60     148.00        one 30cm zone and one 10cm zone.
N F/    147.60     148.00            5 FAUL GG                       N
N SMP   148.00     149.20            X SMPY PY MS PY5 FG FT          N     FO       80                DO R5
L                                           BR DO MS2 FO                 BD       80    P2          O2

P       150.40     151.50              CLCB DO CL DO7 PA MT           P                                DO !2
L                                              PY CL2                                       Q2          M7

P MTF   151.50     153.00              PYST PY MS PY3 FR BD     3 7       P     BD       75                   !3
L                                           7U   MS2      1 5   0                           P2
R       151.50     153.00        An excellent fragmental muddy tuff.  Poorly sorted,
R       151.50     153.00        heterolithic fragments form 30-40% of the rock and sit in a
R       151.50     153.00        matrix of dusty pyrite and sericite.  Grading indicates an
R       151.50     153.00        inverted section.  Fragment lithologies include chert,
R       151.50     153.00        sericitic chert and argillite.

P       153.00     154.50              INTF MS CL MS5 MT SP           P     FO       70                DO D+
L                                           7G    CL1 WF                                    M5 P(       P*
R       153.00     154.50        This dark green, homogeneous rock is primarily (50%) green
R       153.00     154.50        sericite with chlorite and <5% disseminated pyrite.  Minor
R       153.00     154.50        dolomite is seen as is scarce dusty pyrite.  The structural
        153.00     154.50        upper contact is conformable.  Blocks of this lithology are
        153.00     154.50        seen within the stratigraphically underlying fragmental unit
R       153.00     154.50        within 5cm of the contact.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88042

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PROJECT IDEN    : KAMAD      START DATE       : 88/ 9/ 6      COMPLETION DATE :             GEOLOGGED BY : RGC + RGC
COLLAR NORTHING: -20.00      COLLAR EASTING : -9150.00        COLLAR ELEVATION: 1425.39     GRID AZIMUTH : 42.00
                             TOTAL LENGTH   : 130.20          CORE/HOLE SIZE : NQ
```

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-45.00		
001	61.00		225.00	-47.00		
002	130.00		225.00	-46.00		

```
R HED                         This hole was drilled to test for strike continuity of the
R HED                         massive sulphide between K88033 and K88036.

  F   - I N T E R V A L -  CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)          RECOV-    M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E  A                        ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O     (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK     1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F     T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                       QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I     2   AZM  RT      H  H  H  H  H  H  H  H
Y  G                       DESIG  AGE       COL           R D P C              STRUCTUR-2       A  A  A  A  A  A  A  A


P OVB    0.00      7.50                 OVER                               P
R OVB    0.00      7.50          Casing.

P        7.50     40.40    100.0        MVCB DO AK DO2 $T FO               P    FO      90    $2          DO D=
L                           30.0             OA MS AK2 FR LB       5                        P1              P2
R        7.50     40.40          Orange-grey carbonatized mafic volcanic.  Sheeted orange
R        7.50     40.40          ankerite and pervasive and patchy dolomite (20%) are the most
R        7.50     40.40          abundant minerals.  10% pervasive sericite is also seen.
R        7.50     40.40          Pyrite content averages 5% and is fairly uniform throughout.
R        7.50     40.40          Foliation is well developed and scattered lapilli are seen
R        7.50     40.40          throughout.
R        8.70      8.90          Barren white quartz-dolomite vein.
N V/     8.70      8.90             X QDVN QZ DO QZ5 PA IG                 N             Q5               DO
L                                            WW   DO5                                                     Q5
R       11.30     11.80          This interval is marked by increased pervasive silica content
R       11.30     11.80          and a color change to orange green.
N       11.30     11.80             X MVSI QZ AK QZ4 $T FO                 N             P4 $1            DO D+
L                                            OG    AK1 <<                                                 <=
R       19.20     20.60          This section shows increased pyrite content to 10%.  Vesicular
R       19.20     20.60          fragments are also noted (eg. 19.3m).
N       19.20     20.60             X MVCB DO AK DO1 FO FR     * 7         N                $2            DO !1
L                                            OA PY AK2 $T          0                                      P1
R V/    21.00     21.80          An 80cm mottled quartz-dolomite vein.
  V/    21.00     21.80             X QDVN DO QZ DO5 MT PA                 N             Q5               DO
L                                            9A   QZ5 IG                                                  Q5
R V/    39.60     40.40          Patchy, coarse grained dolomite vein cut by quartz and pyrite
R V/    39.60     40.40          stringers.  Vein contacts are very irregular and the structural
R V/    39.60     40.40          lower contact is faulted.
N V/    39.60     40.40             8 DOVN DO QZ DO9 MT PA                 N             <1               DO <=
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88042 (CONTINUED)

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  F   - I N T E R V A L -   CORE       %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E  A                          ERY      I      TM TM MAT TX TX F C % M         T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                          ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                          QUAL   MEM  V  Q LC- 3       3  4 O N H / SHL I   2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                          DESIG  AGE       COL            R D P C            STRUCTUR-2         A  A  A  A  A  A  A  A

L                                              7A PY QZ1 CL <<                                               Q9

P      40.40      44.00       100.0        MVCB DO AK DO3 GN $T              P    FO      85     $1          DO O=
L                               .0             OA MS AK1 FO SP                                   P1          P3
R      40.40      44.00         Relative to the last PGI, dolomite content has increased to
R      40.40      44.00         30%, ankerite has decreased to 10% and pyrite occurs as 1-10mm
R      40.40      44.00         spots rather than disseminated.  A more granular texture is
R      40.40      44.00         observed, suggesting this may be an ash tuff.
R      42.30      42.70         Fine grained, tan colored sericitic mafic volcanic.  Sericite
R      42.30      42.70         content is increased to 30% at the expense of dolomite (1-5%).
R      42.30      42.70         Pyrite stringers and disseminations are seen (5%).
N      42.30      42.70            X MVMS MS AK MS3 $T FO                N    FO      80 <) $1          DO <=
L                                              5T PY AK1 FG <<                                   P3          P)

P      44.00      59.90       100.0        MLAT MS CL MS1 FR FO    4 7       P    FO      90 P+ $=          DO D(
L                              60.0            7G DO CL1 GN    1    0 3                          P1 P1       O1
R      44.00      59.90         Carbonate content has decreased dramatically over this
R      44.00      59.90         interval.  Sericite is constant at 10% and chlorite is
R      44.00      59.90         present pervasively at about 10%.  Scattered chloritic patches
R      44.00      59.90         (up to 20-30%) are occasionally seen.  This unit has a grainy
R      44.00      59.90         texture and carries 40% lapilli and ash sized fragments.
R      44.00      59.90         Silicification is seen over the interval but varies in
R      44.00      59.90         intensity.
R      44.00      52.70         This section of the PGI is badly broken with zero RQD.
R      52.60      52.70         Chips from this badly broken section show a patchy dolomite
R      52.60      52.70         vein with 0.3% blebby sphalerite and galena and 10% pyrite.
N V/   52.60      52.70            X DOVN DO QZ DO8 PA                   N               <1          DO D1    B*
L                                              7A PY QZ1                                             M8       B*

P      59.90      67.80                    MVSI QZ MS QZ1 MT WB              P    FO      80 P1 $)          DO D)
L                                              YT CL MS1 SP FO       3                           P1 Q+       O)
R      59.90      67.80         This section is complex and shows quite a variation in
R      59.90      67.80         composition over short distances.  These differences are due to
R      59.90      67.80         alteration.  Most of the rock is a mustard yellow siicified and
R      59.90      67.80         sericitized mafic volcanic (ash tuff?).  This lithology shows
R      59.90      67.80         wispy, web-like ankerite (1%) and 10% pervasive silica.  Thin
R      59.90      67.80         (1mm) wispy pyrite stringers are another distinguishing
-D     59.90      67.80         feature.
       60.00      60.60         Chloritic alteration dominates this section, giving it a
K      60.00      60.60         distinct dark green color and making it noticably softer than
R      60.00      60.60         the silicified lithology of the PGI.  Pyrite is present here as
R      60.00      60.60         both disseminations and stringers.  Contacts with the
R      60.00      60.60         silicified rock are remarkably sharp.
N      60.00      60.60            8 MVCL CL MS CL2 PA MT                N                  $)            D1
```

ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88042 (CONTINUED)

```
  F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3       3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE        COL            R D P C           STRUCTUR-2         A  A  A  A  A  A  A  A

L                                            2G PY MS2 FO                                     P2 P2
N        60.90      61.00             X MVCL CL MS CL2 PA MT             N                    $)             D1
L                                            2G PY MS2                                        P2 P2
R        62.20      63.40       Typical chloritic alteration except for the presence of 3-5%
R        62.20      63.40       dolomite spots 1-5mm in diameter.
N        62.20      63.40             8 MVCL CL MS CL2 PA MT             N                    $)          DO D1
L                                            5G PY MS2 SP                                     P2 P2       O+
R        64.60      66.10       Chlorite and sericite content is down slightly and color is a
R        64.60      66.10       lighter green than the more intensely chloritic sections.  5%
R        64.60      66.10       spotted dolomite is a distinctive feature.
N        64.60      66.10             X MVCL CL MS CL1 SP MT             N                    $*          DO D*
L                                            5G DO MS1 PA                                     P1 P1       O=

         67.80      75.80   100.0       MLAT MS CL MS1 FR FO     4 7     P    FO      85                  DO <=
L                            80.0            7G PY CL1 MT    1     O 2                        P1 P1       P*
R        67.80      75.80       This is very similar to the interval from 44.0m to 59.9m.
R        67.80      75.80       Sections of both chloritic alteration and silicification
R        67.80      75.80       suggest that the last PGI is an altered equivalent of this
R        67.80      75.80       lithology.
R        73.50      74.00       This chloritized section includes 10cm of semi-massive pyrite
R        73.50      74.00       related to dolomite veining.  Interstitial to this pyrite is
R        73.50      74.00       blebby sphalerite and galena.  Minor fault gouge occurs in this
R        73.50      74.00       section.
N        73.50      74.00             X MVCL CL PY CL2 PA GB             N                                DO G2    B(
L                                            4G DO PY2 <<                                     P1 P2       Q2       B(

P MTF    75.80      96.80   100.0        PYTF PY MS PY4 SP MO            P    FO      85                  DO I4
L                                            3U DO MS2 FO MT                                  P2          O1
R        75.80      96.80       This is a thick (31m) homogeneous muddy pyritic very similar
R        75.80      96.80       to that seen in DDH K88032.  Dusty pyrite is the most
R        75.80      96.80       characteristic mineral and occurs in amounts from 20-60%.
R        75.80      96.80       Pyrite also occurs as scattered stringers and individual
R        75.80      96.80       porphyroblasts.  Sericite is also abundant (20-30%).  Another
R        75.80      96.80       distinctive feature is the presence of 10% evenly distributed
R        75.80      96.80       dolomite spots (1-3mm) which may be fragments.  The structural
R        75.80      96.80       upper contact is marked by minor fault gouge and a 10cm
R        75.80      96.80       stringer zone.  A mottled texture is caused by variation in
R        75.80      96.80       pyrite content.
  F/     88.20      88.30       A 1cm gouge-filled fault dips 30 degrees to the core axis.
  F/     88.20      88.30             1 FAUL                             N    F/      30
R        90.60      91.00       This section of pyritic tuff contains 30% poorly sorted fragments
R        90.60      91.00       of chert and sericitic chert.
N        90.60      91.00             X PYCG PY MS PY6 FR        3 7     N                                   I6
L                                            3U    MS2       1 5   O                          P2
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KAMAD

DRILLHOLE/TRAVERSE : K88042 (CONTINUED)

```
  F  - I N T E R V A L -  CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)          RECOV-   M ROCK FYING MIN TURES CHARACS TURE               H  H  H  H  H ANY H  H  H ANY
E A                        ERY     I      TM TM MAT TX TX F C % M        T ID STK DIP A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O      (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK  1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --

K F                       ROCK   FOR EN RT   TM QM2 TX TX S R S O DIP F  T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                       QUAL   MEM  V  Q LC- 3     3  4 O N H / SML I  2   AZM  RT       H  H  H  H  H  H  H  H
Y G                       DESIG  AGE       COL          R D P C            STRUCTUR-2       A  A  A  A  A  A  A  A

R      91.50     91.70        A 15cm chert band in pyritic tuff.
N      91.50     91.70            8 CHER                            N
L                                      5A
R      95.90     96.70        Extremely well peserved textures are seen throughout this
R      95.90     96.70        interval.  This represents the stratigraphic top of the muddy
R      95.90     96.70        tuff in this hole and the contact is conformable.  Large blocks
R      95.90     96.70        of stratigraphically overlying intermediate volcanic have
R      95.90     96.70        slumped into the muddy tuff, creating a razor-sharp but
R      95.90     96.70        irregularly shaped contact.  Smaller fragments within the
R      95.90     96.70        pyritic siltite are chert and sericitic chert.  Scattered (5%)
R      95.90     96.70        arsenopyrite porphyroblasts are noted within this depositional
R      95.90     96.70        breccia.
       95.90     96.70            X BRHT PY MS PY4 FR        5 7    N                                  14       AS
L                                      5U   MS2      1    C                        P2                           U=

P      96.80    109.10    100.0      INTF CA MS CA1 BR SP           P                  F2      01
L                          10.0            8G   MS= FO                              P=
R      96.80    109.10        Intermediate flow or crystal tuff contains wispy argillite
R      96.80    109.10        bands and fragments.  This volcanic seems to form the matrix of
R      96.80    109.10        a slump breccia.  Calcite replaced phenocrysts and small (1mm)
R      96.80    109.10        quartz fragments or vesicles are common.  The spotted texture,
R      96.80    109.10        light green color and argillite fragments make this a very
R      96.80    109.10        distinctive unit.

P     109.10    130.10    100.0      ARGR GR    GR1 IB FO           P
L                            .0            NN
R     109.10    130.10        Graphitic argillite with minor interbedded greywacke.
R F/  109.10    116.70        Contact fault with abundant graphitic fault gouge and crushed
R F/  109.10    116.70        and broken core.
N F/  109.10    116.70            X FAUL                            N
R     117.90    119.00        Coarse grained, quartz rich greywacke with a 10cm quartz vein
R     117.90    119.00        marking the structural upper contact.  A possible fold hinge is
R     117.90    119.00        seen at 118.5m.
N     117.90    119.00            X GWAC QZ    QZ7 FR             N                  F7
L                                      5A
R     121.20    121.40        Bedding in the argillite indicates a fold hinge at this depth.
R     128.60    130.10        Graded bedding within this greywacke indicates an over turned
      128.60    130.10        section.
N     128.60    130.10            X GWAC QZ    QZ7 FR        8 6    N                  F7
L                                                    7    C
```

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KAMAD

DRILLHOLE/TRAVERSE : K88043

PROJECT IDEN : KAMAD START DATE : 88/ 9/ 7 COMPLETION DATE : GEOLOGGED BY : RGC + RGC
COLLAR NORTHING: -150.00 COLLAR EASTING : -9300.00 COLLAR ELEVATION: 1409.17 GRID AZIMUTH : 42.00
TOTAL LENGTH : 68.90 CORE/HOLE SIZE : NQ

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-50.00		
001	60.00		225.00	-47.00		

R HED This hole was drilled to determine the nature of the Rea Zone
R HED offset and to test the strength of the zone.

```
  F  - I N T E R V A L -  CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)          RECOV-   M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E A                        ERY     I     TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O      (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK  1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--  -----.--  -----.- -- - ---- -- -- --- -- -- - - - - -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F  T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                       QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I  2    AZM  RT       H  H  H  H  H  H  H  H
Y G                       DESIG  AGE       COL           R D P C           STRUCTUR-2        A  A  A  A  A  A  A  A

P OVB   0.00    10.50              OVER                          P
R OVB   0.00    10.50        Casing.

P       10.50   12.50     100.0       MATF CL AK CL1 SP FO       P    FO      45 P) $1          DO D1
L                          .0             5G MS AK1 $T          X                   $1 P1        O=
R       10.50   12.50        Mafic ash tuff.  This unit is very similar to the immediate
R       10.50   12.50        footwall to the Rea Zone in most DDH's in this area.  Fine,
R       10.50   12.50        wispy ankerite (10%) and pervasive chlorite (10%) and sericite
R       10.50   12.50        (10%) are noted.  A distinct spotty texture is seen.  This
R       10.50   12.50        interval is crushed and badly broken.

P F/    12.50   25.00     100.0       FAUL CY       FT BR          P
L                          .0
R F/    12.50   25.00        Four lithologies are seen within this major fault as outlined
R F/    12.50   25.00        below.  Breccia fragments in the gouge zone clearly outline the
R F/    12.50   25.00        extent of the different units.
R       12.50   22.50        This is the faulted equivalent of the last PGI.
N       12.50   22.50           X MATF CL AK CL1 SP $T           N                  $1          DO D1
L                                 7G DO AK1                                         P1          O1
R       22.50   23.60        This interval has been completely crushed with no fragments
R       22.50   23.60        larger than 2cm remaining.  Sheeted yellow sericite is
R       22.50   23.60        conspicuous, suggesting that this is the Rea Zone sericitic
R       22.50   23.60        tuff unit.
N       22.50   23.60           X SETF MS PY MS2                 N                                 D1
                                  YA    PY1                                         $2
R       23.60   24.60        Faulted muddy tuff.  Breccia fragments up to 10cm long allow a
R       23.60   24.60        detailed look at this unit.  40-50% dusty pyrite gives the unit
R       23.60   24.60        a distinctive muddy brown color.  Elongated fragments are seen
R       23.60   24.60        in some sections and a well developed foliation is apparent.
R       23.60   24.60        Fault breccia fragments have obviously been rotated.
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88043 (CONTINUED)

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  F   - I N T E R V A L -    CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)             RECOV-    M ROCK FYING MIN TURES CHARACS TURE               H  H  H  H  H ANY H  H  H ANY
E A                           ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O        (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - - -- -   - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                          ROCK   FOR EN RT     TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                          QUAL   MEM  V  Q LC- 3       3  4 O N H / SML I   2    AZM  RT       H  H  H  H  H  H  H  H
Y G                          DESIG  AGE       COL             R D P C            STRUCTUR-2        A  A  A  A  A  A  A  A


N MTF   23.60      24.60              X PYTF PY MS PY4 FT FR      4 7       N                                     14
L                                            5U    MS3 SP         E O                           P3
R       24.60      25.00         Faulted graphitic argillite indicates the stratigraphic bottom
R       24.60      25.00         of the hanging wall sediments.
N       24.60      25.00              X ARGR GR                             N
L                                            NN

P       25.00      36.60                IBAW GR        IL FO                P     BD       60
L                                            1A        FT                         FO       60
R       25.00      36.60         Interlaminated graphitic argillite and greywacke.  Bedding is
R       25.00      36.60         graded in places, indicating tops down.  Contacts dip
R       25.00      36.60         consistently at 60 degrees to the core axis and no evidence of
        25.00      36.60         folding is seen.  Bedding is on a 1cm scale or less.
R F/    28.30      29.40         Fault gouge and rotated fragments of interbedded argillite and
R F/    28.30      29.40         wacke mark this as a fault.
N F/    28.30      29.40              X FAUL                                N

P       36.60      68.80                GWAC QZ PY     BD FR      8 6       P     BD       75 F8                      F)
L                                            5A               5 5  C              BD       80
R       36.60      68.80         90% of this interval is medium to coarse grained, medium sorted
R       36.60      68.80         quartz rich greywacke and 10% is graphitic argillite.  Well
R       36.60      68.80         graded beds range from 10cm to 1m and indicate an overturned
R       36.60      68.80         section.  Bedding contacts dip consistently at 70-80 degrees to
R       36.60      68.80         core axis.  Massive pyrite fragments are seen occasionally.
N F/    48.10      48.80              X FAUL                                N
N F/    56.60      58.30              8 FAUL                                N
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88044

PROJECT IDEN : KAMAD	START DATE : 88/ 9/ 8	COMPLETION DATE :	GEOLOGGED BY : RGC + RGC
COLLAR NORTHING: 20.00	COLLAR EASTING : -9200.00	COLLAR ELEVATION: 1428.96	GRID AZIMUTH : 42.00
	TOTAL LENGTH : 145.40	CORE/HOLE SIZE : NQ	

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-55.00		
001	61.00		225.00	-52.00		
002	140.00		225.00	-47.00		

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R HED                        This hole was drilled to test for a westerly plunge to the
R HED                        massive sulphide seen in K88033.

  F  - I N T E R V A L -   CORE     %      TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E A                         ERY     I      TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O       (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK  1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--  -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK  FOR EN RT   TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL  MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT     H  H  H  H  H  H  H  H
Y G                        DESIG AGE        COL          R D P C           STRUCTUR-2        A  A  A  A  A  A  A  A


P OVB   0.00    12.30              OVER                        P
R OVB   0.00    12.30        Casing.

P       12.30   37.20      100.0    MLTF DO MS DO3 FR FO    4 7      P    FO     80 P) $1    P*     DO D.
L                            .0          7G AK MS2 FT    1 7 E 0 9        FO     85    $2 P1        P3
R       12.30   37.20        This interval is blocky and badly broken.  The primary
R       12.30   37.20        lithology is a mafic lapilli tuff showing moderate carbonate
R       12.30   37.20        and sericite alteration.  Dolomite, ankerite and minor calcite
R       12.30   37.20        are the carbonate minerals noted.  Dolomite (30%) is the most
R       12.30   37.20        abundant and occurs pervasively, more plentifully in the
R       12.30   37.20        fragments.  Sheeted orange ankerite is about 10%.  Sericite is
R       12.30   37.20        quite obvious (20%), especially on foliation surfaces, and is
R       12.30   37.20        sheeted with the ankerite.  Pyrite is seen in trace amounts
R       12.30   37.20        only.  Fragments are well rounded and make up 40% of the rock.
R       14.30   21.90        An unidentified apple-green mica is seen over this interval
R       14.30   21.90        ranging from 3 to 10%.  This mineral gives the rock a very
R       14.30   21.90        distinctive green color where it is most abundant.
N       14.30   21.90             X MLTF                       N
R V/    24.40   25.60        Grey dolomite vein with 10-20% granoblastic pyrite.
N V/    24.40   25.60             X DOVN DO PY DO8 $T GB       N                 $=         DO G1
L                                        5A AK PY1                               $=         Q8

P F/    37.20   43.50       87.0     FAUL GG MS GG8            P                                D1
                             .0             PY MS3
R F/    37.20   43.50        A fault zone is indicated by 80% fault gouge in this interval.
R F/    37.20   43.50        Fragments of carbonatized and sericitized mafic volcanic are
R F/    37.20   43.50        seen within the gouge.

P       43.50   68.60      100.0    MVCB DO AK DO2 FT FO           P    FO      70 O= $1         DO D=
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ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88044 (CONTINUED)

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  F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                   H  H  H  H  H ANY H  H  H ANY
E A                          ERY      I      TM TM MAT TX TX F C % M            T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK      1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -    - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F      T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                         QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I      2    AZM  RT        H  H  H  H  H  H  H  H
Y G                         DESIG  AGE       COL              R D P C            STRUCTUR-2          A  A  A  A  A  A  A  A

L                              .0            OA MS AK1 LB FR         8           FO      75    $1          P2
R       43.50       68.60        Orange-grey carbonatized mafic volcanic is the principal rock
R       43.50       68.60        type over this interval.  Pervasive, often lensoid banded,
R       43.50       68.60        dolomite is 20% and sheeted orange ankerite is 10%.  Poorly
R       43.50       68.60        preserved fragmental textures are occasionally noted.  Minor
R       43.50       68.60        variations in alteration are seen and are described in the
R       43.50       68.60        nested intervals.
R       48.90       50.90        This lithology is made conspicuous by its fine grained,
R       48.90       50.90        homogeneous appearance and by the presence of 20% small (<1mm)
R       48.90       50.90        quartz spots and irregularly shaped patches.  Sheeted ankerite
R       48.90       50.90        (5%), sericite (5%) and minor disseminated pyrite (.3%) are
R       48.90       50.90        noted.
N       48.90       50.90            X MVSI QZ AK QZ2 SP $T             N     FO      70 Q2 $=          DO D*
                                         OA DO AK= FO FG                                  $=          P=
R       57.00       59.40        This yellow-tan, very fine grained rock is 40% pervasive
R       57.00       59.40        dolomite and 20% pervasive sericite.  Thin (1mm), wispy pyrite
R       57.00       59.40        stringers are 1% and ankerite content is significantly
R       57.00       59.40        decreased.
N       57.00       59.40            8 MVMS DO MS DO4 FG FO             N                 $)          DO W)
L                                        YT    MS2                                        P2          P4
R       61.00       61.30        A distinct, grey, granular, very hard section containing 70%
R       61.00       61.30        quartz and 20% dolomite.  This silicification is possibly
R       61.00       61.30        related to small (<1cm) quartz veins which make up 5% of the
R       61.00       61.30        interval.
N       61.00       61.30            X MVSI QZ DO QZ7 FG <<             N              P7             DO D*
L                                        5A PY DO2 GN                                                 P2

P F/    68.60       77.50      94.0      FAUL GG    GGX                 P
L                              .0            GA
R F/    68.60       77.50        8.9m of fault gouge indicates a major fault.  The largest rock
R F/    68.60       77.50        fragments within the gouge are in the order of 3cm diameter.
R F/    68.60       77.50        All fragments are altered mafic volcanics.  This fault has
R F/    68.60       77.50        footwall mafics on both sides at this location.

P F/    77.50       82.00     100.0      FAUL                           P
L                              .0
R F/    77.50       82.00        This interval is adjacent to the main fault and contains short
R F/    77.50       82.00        intervals of variably altered volcanics, all in fault contact
  F/    77.50       82.00        with one another.  Sudden changes in foliation dip suggest
  F/    77.50       82.00        rotation of faulted fragments.
R       77.50       78.80        Grey-green, grainy mafic ash tuff.  Ash-sized fragments have
R       77.50       78.80        been replaced by dolomite.  10% disseminated pyrite is
R       77.50       78.80        apparent.
N       77.50       78.80            X MATF DO AK DO2 GN SP             N                 $1          DO D1
```

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KAMAD

DRILLHOLE/TRAVERSE : K88044 (CONTINUED)

```
  F   - I N T E R V A L -    CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = FT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H   H   H   H   H ANY H   H   H ANY
E  A                          ERY      I       TM TM MAT TX TX F C % M          T ID STK DIP  A   A   A   A   A MIN A   A   A MIN
Y  G   F R O M  -  T O       (FT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK     1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F     T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                         QUAL   MEM  V  Q LC- 3       3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                         DESIG  AGE       COL            R D P C             STRUCTUR-2          A  A  A  A  A  A  A  A

L                                             GA PY AK1                                          $= P+        O2
R        77.80     80.80          This rock is intensely silicified (80%) and carries 15-20%
R        77.80     80.80          dusty pyrite and 5-10% sheeted ankerite.  Its dark grey color
R        77.80     80.80          and lensoid banded texture are conspicuous.
N        77.80     80.80              X MVSI QZ PY QZ8 LB $T               N                  P8 $1             12
L                                             3A AK PY2

P        82.00     88.90     100.0      MLAT MS CL MS2 FR GN               P    FO     70     $=           DO D=
L                             20.0            3G DO CL1 WF MT                                 P2 P1        O1
R        82.00     88.90          Dark green, granular ash tuff with scattered (1%) lapilli.
R        82.00     88.90          Green sericite (20%) and chlorite (10%) are pervasive, although
R        82.00     88.90          slight differences in chlorite content give the rock a mottled
R        82.00     88.90          texture.  Spotted dolomite appears to be a replacement of
         82.00     88.90          fragments.

P        88.90     98.30     100.0      MVSI QZ MS QZ2 FG WF               P                  P2 $+        DO D1
L                               .0            3G DO MS2                                       P2 Q=        P=
R        88.90     98.30          Dark green, silicified mafic volcanic.  This rock is very fine
R        88.90     98.30          grained and texturally featureless, except for 3% wispy
R        88.90     98.30          ankerite and 10% pyrite as disseminations and wispy stringers.
R        88.90     98.30          Silica content (20%) is indicated by the hardness and
R        88.90     98.30          brittleness of the unit.  Sericite can be seen on poorly
R        88.90     98.30          developed foliation planes.  Local vesicular textures (eg. 90.5
R        88.90     98.30          to 90.7m) suggest this is a flow.
R        88.90     89.30          This orange-grey dolomitized and sericitized section marks the
R        88.90     89.30          contact between this PGI and the last.  The dolomite in this
R        88.90     89.30          section is related to veining.  An unknown black mineral occurs
R        88.90     89.30          as patches within the veins.
N        88.90     89.30              X MVCB DO MS DO3 << $T               N                  <= $=        DO <1
L                                             OA PY MS1                                          $1        Q3
R V/     97.00     98.00          This is a grey, patchy dolomite vein with 10% quartz stringers.
R V/     97.00     98.00          Pyrite (10%) in this vein has a unique colliform texture and
R V/     97.00     98.00          occurs as circular patches 1-5mm in diameter.  Massive patches
R V/     97.00     98.00          of green, transluscent sericite can also be seen (5%).  Wall
R V/     97.00     98.00          rock 10cm either side of this vein shows intense (70%)
R V/     97.00     98.00          silicification.
N V/     97.00     98.00              8 DOVN DO QZ DO8 PA MT               N                  <1           DO G1
L                                             5A PY QZ1 <<                                       M= Q=     M8
         98.20     98.30          An unusual breccia which may represent the top of a flow.  It
R        98.20     98.30          appears to be depositional rather than tectonic.
N        98.20     98.30              5 BRXX DO PY     BR                  N                               DO D2
L                                                                                                          F2

P        98.30    102.00     100.0      MAFV MS AK MS2 $T GN               P    FO     80      $1              D+
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DRILLHOLE/TRAVERSE : K88044 (CONTINUED)

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C % M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (FT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.-- -----.-- ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

L 10.0 3G CL AK1 WF 7 P2 P1
R 98.30 102.00 This unit is similar in composition and texture to the
R 98.30 102.00 lithology noted from 82.0 to 88.9m, however, no fragments or
R 98.30 102.00 dolomite are noted here. This rock is homogeneous and granular
R 98.30 102.00 with 5-10% wispy sheeted ankerite, 20% pervasive sericite,
R 98.30 102.00 10% pervasive chlorite and is a possible ash tuff. Foliation
R 98.30 102.00 is weakly developed.
N V/ 98.50 98.70 X DOVN DO QZ DO8 PA MT N <1 DO <1
L 3A PY QZ1 << Q= M8
N V/ 101.30 101.50 X DOVN DO QZ DO8 PA MT N <1 DO <1
L 3A PY QZ1 << Q= M8

P 102.00 125.10 100.0 PYTF PY QZ PY4 FR MT P FO 65 F2 !4
40.0 3U MS QZ2 WF P=
R 102.00 125.10 Pyritized felsic ash tuff or flow. Quartz fragments and shards
R 102.00 125.10 are clearly seen in less pyritic sections of this unit. These
R 102.00 125.10 less pyritic sections form bands and may be large fragments.
R 102.00 125.10 Pyrite stringers with diffuse pyritized envelopes are seen
R 102.00 125.10 cutting these sections, suggesting a similar origin for the
R 102.00 125.10 abundant (40%) pyrite seen in this unit. This is a distinct
R 102.00 125.10 marker unit and is seen in several other holes in this area.
R 102.00 108.40 This section contains intervals up to 20cm of intense
R 102.00 108.40 chlorite-carbonate alteration. The ash-sized fragments and
R 102.00 108.40 sections of low pyrite content described in the PGI are absent
R 102.00 108.40 here.
N 102.00 108.40 X PYTF PY CL PY3 FR PA N FO 80 DO !3
L 7U DO CL1 MT FO Q1 Q1
R MSX 122.80 123.10 Massive fine-grained pyrite with 20% arsenopyrite, 5-10%
R MSX 122.80 123.10 sphalerite and galena, and 1-3% chalcopyrite. This massive
R MSX 122.80 123.10 sulphide band has conformable contacts on either side and is
R MSX 122.80 123.10 stratiform.
N MSX 122.80 123.10 X MSSX PY AS PY5 XA IG N CU 70 R5 ++ R= AS
L BR SL AS2 FG BN P1 J= R2

P MSX 125.10 126.10 100.0 MSSX PY AS PY5 GB CG P J2 G5 B. R? AS
L .0 BR AS1 XA FT R? R1
R MSX 125.10 126.10 Coarse grained pyrite (50%) with 10-20% arsenopyrite crystal
R MSX 125.10 126.10 aggregates, trace blebby chalcopyrite and possibly sphalerite
MSX 125.10 126.10 and galena. This interval contains sections of crushed core
R MSX 125.10 126.10 and fault gouge.

P MTF 126.10 127.70 100.0 PYWA PY MS PY5 FR WF 1 7 P !5
L 10.0 3U MS2 2 0 P2
R MTF 126.10 127.70 Dusty pyrite (50%) forms the matrix to this wacke which

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KAMAD

DRILLHOLE/TRAVERSE : K88044 (CONTINUED)

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  F   - I N T E R V A L -   CORE     %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = FT)            RECOV-   M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E A                          ERY     I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O       (FT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
-- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                         ROCK  FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                         QUAL  MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y G                         DESIG  AGE      COL            R D P C            STRUCTUR-2        A  A  A  A  A  A  A  A

R MTF   126.10    127.70        contains 10% argillite, chert and sericitic chert fragments
R MTF   126.10    127.70        ranging from 1mm to 3cm in diameter.  Coarse granoblastic
R MTF   126.10    127.70        pyrite is also seen within the extremely fine-grained matrix.

P       127.70    144.80    100.0      INVL FX QZ FX2 HO WF              P    FO      70 F1
L                             5.0          8G    QZ1 PP          8                    X2
R       127.70    144.80        Feldspar phenocrysts (20%) and scattered (10%) small (1mm)
R       127.70    144.80        quartz fragments identify this intermediate flow or crystal
R       127.70    144.80        tuff.  These minerals occur within a pale green, aphanitic
R       127.70    144.80        matrix.  Foliation is weakly developed within this homogeneous
R       127.70    144.80        interval.
R       140.80    144.80        This interval represents the same lithology as the PGI with
R       140.80    144.80        graphite (10%) occurring in foliation surfaces and as breccia
        140.80    144.80        matrix.  Syndepositional mixing of graphitic argillite and the
R       140.80    144.80        intermediate volcanic is suggested.
N       140.80    144.80             X INVB GR    GR= BR                 N

P       144.80    145.40               ARGR GR PY GR2 IB FO              P    BD      55 <+             D+
L                                          NN    PY+ <<          X
R       144.80    145.40        Graphitic argillite with minor interbedded wacke.
```

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KAMAD

DRILLHOLE/TRAVERSE : K88045

PROJECT IDEN : KAMAD	START DATE : 88/ 9/12	COMPLETION DATE :	GEOLOGGED BY : RGC + RGC
COLLAR NORTHING: -20.00	COLLAR EASTING : -9150.00	COLLAR ELEVATION: 1425.39	GRID AZIMUTH : 42.00
	TOTAL LENGTH : 142.30	CORE/HOLE SIZE : NQ	

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-90.00		
001	66.10		225.00	-90.00		
002	140.00		225.00	-83.00		

R HED This hole was drilled from the same collar as K88042 to test
R HED for continuation of the massive sulphide seen in K88033.

```
  F   - I N T E R V A L -   CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = MT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E  A                         ERY     I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (MT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK    1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2   AZM  RT       H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL           R D P C            STRUCTUR-2        A  A  A  A  A  A  A  A


P OVB   0.00     6.70              OVER                             P
R OVB   0.00     6.70         Casing.

P       6.70    34.80       100.0      MVCB DO AK DO2 $T LB         P    FO      50    $2           DO D=
L                            40.0           OA MS AK2 FO        4        FO      50    $1           P2
R       6.70    34.80         Orange-grey, carbonatized mafic volcanic.  This interval is
                              typified by sheeted orange ankerite (20%) and 1-2cm thick
                              dolomite lensoid bands (20%).  Sheeted sericite and
                              disseminated pyrite are present at about 10% each.  Subtle
                              textural variations are seen but the overall composition is
                              constant.  Foliation dips consistently at 50 degrees to core
                              axis.  Yellowish, silicified vesicular fragments from 1 to 10cm
                              have been preserved, indicating a pyroclastic origin.
                              Abundant (40%) vein-related silica and granoblastic pyrite
                              (20%) occur throughout this interval.
N      19.10    19.90              X MVSI QZ AK QZ4 $T LB           N              P4 $2           DO G2
L                                           OA PY AK2 FO                                           P1
R      27.20    27.40         60% granoblastic pyrite occurs, with quartz, as a vein.
N      27.20    27.40              X PYVN PY QZ PY6 GB CG           N              J3 $1              G6
L                                           BR AK QZ3
R V/   31.70    31.90         Massive white dolomite vein cut by quartz stringers.
N V/   31.70    31.90              X QDVN DO QZ DO7                 N              <3              DO
L                                           WW    QZ3                                              M7
  V/   32.10    32.60         This mottled, light grey dolomite-quartz vein carries trace
R V/   32.10    32.60         blebby galena.
N V/   32.10    32.60              X QDVN DO QZ DO7 PA MT           N              <2 $=           DO D+    B.
L                                           9A AK QZ2 <<                                           M7
R      32.60    33.50         Pyrite content is elevated to 20% over this interval.
N      32.60    33.50              X MVCB AK DO AK2 $T              N                 $2           DO D2
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KAMAD

DRILLHOLE/TRAVERSE : K88045 (CONTINUED)

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  F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = MT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E A                          ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O       (MT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK     1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT     H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL          R D P C             STRUCTUR-2        A  A  A  A  A  A  A  A

L                                            OA PY DO2                                                   P2
R V/    33.50      34.00        Massive, grey, granular dolomite vein with 10% sheeted
R V/    33.50      34.00        ankerite.
N V/    33.50      34.00            X DOVN DO AK DO9 PA MT              N                 $1             DO
L                                            6A    AK1 $T                                                M9

P       34.80      74.20    100.0      MVCB DO AK DO1 FO $T             P    FO     55 P1 $1             DO D=
L                            30.0            OA MS AK1 HT          4         FO     45    $1             P1
R       34.80      74.20        This interval is generally marked by a decrease in dolomite and
                                ankerite to 10% each.  Silicification varies from intense to
                                very light.  Overall, this section is rather heterogeneous and
                                contains many subtle variations of carbonatized mafic volcanic.
                                Medium tan, very fine grained silicified mafic volcanic.
        38.10      40.80            X MVSI QZ AK QZ8 WB                 N              P8 $1                W+
L                                            5T PY AK1                                    $1
R       51.50      53.00        Banded silicified mafic volcanic is fine grained and represents
                                a possible ash tuff.  The structural lower contact of this
                                interval is extremely sharp.  The structural underlying unit is
                                texturally similar but shows a distinct decrease in silica
                                content and a sharp color change.
N       51.50      53.00            X MVSI QZ MS QZ7 FO $T              N    FO     55 P7                   D=
L                                            OA PY MS1 BN                                 $1
R       57.70      66.40        This homogeneous, fine grained, light green rock contains
                                scattered quartz-dolomite spots which appear to be vesicles.
                                Wispy pyrite stringers are foliation-parallel and average 3-5%.
N       57.70      66.40            X MFFL AK MS AK1 WF HO              N    FO     45 P1 $1             DO W+
L                                            7G QZ MS1 VS FG                              $1 P=          P1
R       69.90      73.80        This interval contains badly broken core and several
                                quartz-dolomite veins and is possibly a fault zone.
R V/    70.70      71.00        White quartz with 50% granoblastic pyrite.
N V/    70.70      71.00            X QZVN QZ PY QZ5 GB CG              N              M5                   G5
L                                            BR    PY5 <<

P       74.20      92.00    100.0      MFFL CL MS CL1 FG HO             P              P*                DO
L                              5.0           7G    MS= FO <<                               O= P1         P*
R       74.20      92.00        Homogeneous, fine-grained medium green mafic flow.  Alteration
                                of this unit is light and consists of minor carbonate addition
                                and patches of silicification.
  V/    76.30      76.80        White, patchy dolomite vein.
N V/    76.30      76.80            X DOVN DO    DOX PA MT              N                                DO
L                                            WW                                                          MX
R V/    84.50      84.90        Patchy dolomite vein with 20% coarse granoblastic pyrite, 10%
R V/    84.50      84.90        quartz stringers and trace blebby galena and sphalerite.
N V/    84.50      84.90            X DOVN DO QZ DO7 PA IG              N              <1                DO G2    B.
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KAMAD

DRILLHOLE/TRAVERSE : K88045 (CONTINUED)

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  F   - I N T E R V A L -    CORE     %      TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = MT)            RECOV-   M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                          ERY     I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O       (MT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - - -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                         QUAL   MEM  V  Q LC- 3       3  4 O N H / SML I  2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                         DESIG  AGE       COL            R D P C            STRUCTUR-2        A  A  A  A  A  A  A  A

L                                                7A PY PY2 GB <<                                                M7      B.

P        92.00     107.90    100.0       MLAT DO CL DO1 FR SP              P    FO      55    $=                DO W*
L                             40.0               5G AK CL1 FO GN                                         P1       O1
R        92.00     107.90        Fragmental textures are well preserved throughout this section.
                                 A grainy, spotted texture is created by spots of white dolomite
                                 and possibly represent altered fragments.  Scattered (1-2%)
                                 lapilli are also noted.  Patchy chloritic alteration is
                                 occasionally seen.
R        98.30      98.80        A section of intense chlorite alteration.
N        98.30      98.80           X CLCB CL DO CL4 PA                    N                                      DO
L                                                2G    DO1                                               Q4       P1
R       100.50     100.70        Dolomite vein with 10% patchy chlorite.
        100.50     100.70           X DCVN DO CL DO9 PA MT                 N    CL      50                        DO
L                                                7G    CL1                      CU      50               Q1       M9
R       101.10     101.20        Dolomite vein with 20% patchy chlorite, 10% pyrite stringers
R       101.10     101.20        and trace galena.
N       101.10     101.20           X DCVN DO CL DO7 PA                    N                                      DO <1   B.
L                                                7G PY CL2                                               Q2       M7

P       107.90     109.10    100.0       SECH MS PY MS2 $T WB              P              <4                         W1
L                               .0               YA    PY1 <<        7                        $2
R       107.90     109.10        This thin interval of sericitic chert marks the structural top
                                 of the Rea Zone in this hole.  Wispy pyrite stringers are 10%.
                                 Much of this interval (40%) is quartz veins.  The structural
                                 lower contact is conformable, the upper is marked by a 10cm
                                 dolomite vein.

P       109.10     114.50    100.0       PYTF PY MS PY5 BN FO              P    FO      70                           I5
L                               .0               3U    MS3 FR MT     9                        $3
R       109.10     114.50        Dusty pyrite (50%) and sheeted and pervasive sericite (30%) are
                                 the main components of this pyritic tuff.  This section has
                                 been faulted and abundant fault gouge is seen.  The structural
                                 lower contact is faulted.
R F/    111.90     114.50        Crushed core and fault gouge occur throughout this section.
N F/    111.90     114.50           X FAUL                                 N

P       114.50     131.90    100.0       FETF PY QZ PY3 FR VG              P    FO      65 F1          O1            I3
                              90.0               3U CA QZ1 FO        3                        P=
R       114.50     131.90        Pyritized felsic crystal tuff.  30% dusty pyrite appears to be
                                 secondary as indicated by pyrite stringers and diffuse margins
                                 between pyritic and non-pyritic sections.  Small (1mm) quartz
                                 spots are 10% and appear to be fragments.  This unit also
                                 contains vuggy sections which may be large (10+cm) vesicular
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KAMAD

DRILLHOLE/TRAVERSE : K88045 (CONTINUED)

K E Y | F L A G | - I N T E R V A L - (UNITS = MT) FROM | TO | CORE RECOV- ERY (MT.1) | % M I X | ROCK TYPE | TYPI- FYING TM 1 | TM 2 | QAL MIN MAT QM1 | TEX- TURES TX 1 | TX 2 | GRAIN CHARACS F F | C F | % C | M P | FRAC- TURE # | TK | STRUCTUR-1 T 1 | ID | STK AZM | DIP RT | ALTERATION MINS H A QZ | H A BI | H A CY | H A CB | H A MG | ANY MIN XX | ORE-TYPE MINS H A PY | H A CP | H A GL | ANY MIN YY
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
K E Y | F L G | | | ROCK QUAL DESIG | FOR MEM AGE | EN V | RT Q | LC- COL | TM 3 | QM2 | TX 3 | TX 4 | S O R | R N D | S H P | O / C | DIP SML | F I | T 2 | ID | STK AZM | DIP RT | KF | MU H A | CL H A | EP H A | HE H A | HA H A | PR H A | MO H A | SL H A | HA H A

(STRUCTUR-2)

R 114.50 131.90 fragments. Calcite is seen primarily as small spots in less pyritic sections. Massive pyrite-quartz veins are abundant (5%) over the lower 5m of this interval.
Twenty pyrite-quartz veins ranging in width from 1cm to 20cm occur over this section. Coarse, granoblastic pyrite makes up 70% of these veins, with the rest being quartz and dolomite.

N 127.10 131.90 = PYVN PY QZ PY7 GB CG N J3 DO G7
L BR DO QZ3 IG J1

P MTF 131.90 134.90 100.0 PYCG PY MS PY4 FR GD 4 7 P BD 60 F3 14
L 90.0 3U MS2 5 0 2 FO 60 P2
R 131.90 134.90 Chert pebbles, sericitic chert and argillite fragments (40%) sit in a dusty pyrite (40%) matrix. Fragment size ranges from 3cm to .5mm and decreases top to bottom, indicating an inverted section. The structural upper contact is conformable, the lower is an erosional unconformity.

P 134.90 142.30 100.0 INVL CA CL CA2 SP FO P FO 70 01 P2
L 60.0 8G MS CL2 5 P1 P2
R 134.90 142.30 This is the intermediate volcanic unit seen in this stratigraphic location in other DDH's. It is a pale green, massive unit with spotted and pervasive calcite (20%) and spots (<1mm) of quartz (10%). An unusual feature of this unit, which is also seen in K86008, is the presence of blue-black limestone, apparently as slump blocks. This carbonate also occurs as wispy, jagged 'stringers'. A large section of limestone demonstrating the intricate contact relationship is seen between 136.5 and 136.7m.

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KAMAD

DRILLHOLE/TRAVERSE : K88046

PROJECT IDEN : KAMAD	START DATE : 88/ 9/10	COMPLETION DATE :	GEOLOGGED BY : RGC + RGC
COLLAR NORTHING: 25.00	COLLAR EASTING : -9000.00	COLLAR ELEVATION: 1437.38	GRID AZIMUTH : 42.00
	TOTAL LENGTH : 181.40	CORE/HOLE SIZE : NQ	

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-50.00		
001	99.70		225.00	-44.00		
002	180.00		225.00	-42.00		

R HED This hole was drilled to test for down-dip extension of the
R HED massive sulphide intersected in K88040 and K88041.

KEY FLAG: F - I N T E R V A L - L (UNITS = MT) FROM - TO | CORE RECOVERY (MT.1) | % M I X | ROCK TYPE | TYPIFYING TM 1 TM 2 | QAL MIN MAT QM1 | TEXTURES TX 1 TX 2 | GRAIN CHARACS F F C C % P | FRACTURE M # TK | STRUCTUR-1 T 1 ID STK AZM DIP RT | ALTERATION MINS H A QZ, H A BI, H A CY, H A CB, H A MG, ANY MIN XX | ORE-TYPE MINS H A PY, H A CP, H A GL, ANY MIN YY

KEY FLAG: K F E L Y G | ROCK QUAL DESIG | FORMEM AGE | EN V | RT Q | LC-COL | TM 3 | QM2 | TX 3 | TX 4 | S O N R D | R H D | S / P | O C | DIP SML | F I | STRUCTUR-2 T 2 ID STK AZM DIP RT | KF, MU, CL, EP, HE, HA, PR, MO, SL, HA (H A)

P OVB	0.00	6.10		OVER	P		
R OVB	0.00	6.10	Casing.				
P	6.10	34.10	100.0	MFFL EP CB EP2 SP <<	P	01	
L			10.0	3G CB1 5		P1 02	

R 6.10 34.10 This is a unique, epidote-spotted, green mafic flow (or possible intrusive) which has not been seen in previous drill holes in this area. An unidentified, pinkish-tan mineral forms blebby, amoeboid spots (1-2mm) and forms 10-15% of the rock. Calcite spots (10%) are indicated by a strong HCl reaction. Calcite content decreases slightly with depth, inversely to pervasive chlorite content. Calcite stringers are noted and are more abundant towards the bottom of the interval.

R 19.20 20.40 Carbonate alteration (dolomite + ankerite) increases towards the centre of the interval. Contacts are gradational into MFFL. At its peak, this alteration consists of dolomite lensoid bands (1-2cm) separated by sheeted ankerite. Pyrite is elevated to 5-8% over this interval. This alteration is related to two 4cm quartz-dolomite veins.

N	19.20	20.40		X MVCB DO AK DO3 $T LB	N	<+ $2	DO D=
L				OA PY AK2 <<			P3
R F/	21.50	24.40	Fault gouge and crushed core.				
N F/	21.50	24.40		X FAUL	N		
P	34.10	50.20	100.0	MLAT AK CL AK1 $T SP	P FO	75 P($1	DO D(
L			30.0	5G DO CL1 HO FO 6		$1 P1	01
P	50.20	105.10	100.0	MVCB DO AK DO3 FO $T	P FO	80 $2	DO D=
L			50.0	OA MS AK2 LB	FO	80 $1	P3

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KAMAD

DRILLHOLE/TRAVERSE : K88046 (CONTINUED)

```
  F  - I N T E R V A L -  CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = MT)          RECOV-   M ROCK FYING MIN TURES CHARACS TURE            M  M  M  M  M ANY M  M  M ANY
E A                        ERY     I      TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G  F R O M  -  T O      (MT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK   1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                       ROCK  FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                       QUAL  MEM  V  Q LC- 3       3  4 O N H / SML I   2   AZM  RT       H  H  H  H  H  H  H  H
Y G                       DESIG AGE        COL           R D P C          STRUCTUR-2          A  A  A  A  A  A  A  A

L                                          YA    PY2 <<                                    $2          <1

P      124.40   130.40    100.0       CLCB CL DO CL3                  P               <=              DO D1 D. <. AS
L                          40.0            GN PY DO2          4                          P3           Q2       <( <.
R      124.40   130.40
```

This is a zone of intense chlorite-carbonate alteration. The original lithology is obliterated, although a gradational contact with the structurally overlying mafic volcanic suggest it may have been this. Sphalerite, galena and minor chalcopyrite are seen within bands of dolomite and as stringers. The structural lower contact is gradational over 60cm.

```
R V/   127.50   128.20
```

A vuggy quartz-dolomite vein with trace galena.

```
N V/   127.50   128.20          X QDVN QZ DO QZ7 VG PA            N              M7           DO       B.
                                       WW    DO3 MT                                           Q3
K      129.90   130.20
```

An unusual fine grained chert pebble conglomerate. Fragments comprise 90% of the rock and are chert and sericitic chert. This interval marks the structural top of the gradational contact with the chert.

```
N      129.90   130.20          X CONG                  9 6       N
L                                      YA            3   E C

P      130.40   153.90    100.0       SECH MS PY MS1 $T FO            P    FO      80                 D1    R- AS
L                          40.0            7A AS PY1 <<          6                       $1                 R- R+
R      130.40   153.90
```

A very well mineralized sericitic chert. Sheeted yellow sericite (10-15%) occurs on foliation surfaces and gives the grey chert a yellow tinge. Sections of semi-massive to massive sulphide from 0.5cm to 60cm are seen. These sulphides appear to be veins, although the larger sections may be syndepositional as they frequently carry chert fragments.

```
N      130.40   130.90          X CHER AS PY AS2 XA GB            N                               R1 B* B* AS
L                                          PY1                                                          B* R2
R      133.30   133.50
```

Yellow sericitic chert with 3% wispy pyrite stringers.

```
N      133.30   133.50          X SECH MS PY MS1 FO WB            N                               W+
L                                      8Y    PY+                                         $1
R      139.10   139.30
```

Massive sulphide veins or bands make up 30% of this interval.

```
N      139.10   139.30          X PYCH PY AS PY2 XA GB            N                               R2 B) R) AS
L                                      5A SL AS1                                                        R) R1
R SMS  145.80   146.70
```

Arsenopyrite (30%) crystals with minor pyrite, sphalerite, chalcopyrite and galena occur in massive, very irregularly shaped bands.

```
N SMS  145.80   146.70          X SMSX AS SL AS3 XA               N                               R1 R* R* AS
L                                          PY SL+                                                       R+ R3
R MSX  148.40   148.50
```

These massive sulphide bands appear to be veins.

```
N MSX  148.40   148.50          2 MSSX AS PY AS6 XA GB            N                               R3 B+ B+ AS
```

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KAMAD

DRILLHOLE/TRAVERSE : K88046 (CONTINUED)

F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
K L (UNITS = MT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
E A ERY I TM TM MAT TX TX F C X M T ID STK DIP A A A A A MIN A A A MIN
Y G F R O M - T O (MT.1) X TYPE 1 2 QM1 1 2 F F C P # TK 1 AZM RT QZ BI CY CB MG XX PY CP GL YY

K F ROCK FOR EN RT TM QM2 TX TX S R S O DIP F T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L QUAL MEM V Q LC- 3 3 4 O N H / SML I 2 AZM RT H H H H H H H H
Y G DESIG AGE COL R D P C STRUCTUR-2 A A A A A A A A

L SL PY3 B+ R6
R SMS 148.80 149.50 Three massive sulphide bands occur within this interval; two
massive pyrite bands (10 and 2cm) and one arsenopyrite band
(10cm). These bands occur within grey chert and contain
abundant sphalerite and galena.
N SMS 148.80 149.50 X SMSX PY AS PY3 XA GB N R3 R1 AS
L SL AS2 R1 R2
R SMS 151.10 152.10 Coarse grained, granoblastic sulphides are present in massive
bands and patches within the chert. Pyrite (30%) and
arsenopyrite (10%) are the most abundant.
N SMS 151.10 152.10 X SMSX PY AS PY3 GB XA N R3 J= AS
L BR SL AS1 J= R1
R 152.60 153.90 A razor-sharp structural upper contact with grey chert
highlights this sericitic chert interval.
N 152.60 153.90 X SECH MS PY MS2 $T FO N D=
L YA PY= $2

P 153.90 159.50 100.0 CLCB DO CL DO2 PA SP P DO 12
L 80.0 2A PY CL2 WF 3 P2 N2
R 153.90 159.50 This is a zone of intense carbonate-chlorite alteration. The
most distinctive feature is spotty, nebulous dolomite patches
which account for 20% of the rock. Pervasive chlorite (20%)
occurs as the matrix for these dolomite patches. Dusty pyrite
is uniformly distributed at 15-20%. Sections of this rock
which are less altered are light grey, fine grained and carry
the odd quartz fragment. This unit appears to be a carbonate-
chlorite altered equivalent of the pyritic tuff seen in K88044.
The structural upper contact is marked by 2cm of fault gouge.
A coarse grained, quartz rich wacke with 20% conglomerate sized
(1-3cm) chert clasts and 10% disseminated pyrite.
N 154.10 154.40 X GWAC QZ PY QZ8 FR CG 8 6 N F8 D1
L 5A PY1 1 C
R 155.90 156.10 This coarse grained pyritic wacke contains both chert and
massive pyrite fragments. Significantly, polymetallic massive
sulphide fragments were also identified.
N 155.90 156.10 X PYWA PY QZ PY4 FR CG 8 6 N F4 F4 F.
L BR QZ4 1 C

MTF 159.50 170.30 100.0 PYST PY DO PY5 PA SP P FO 85 DO 15
70.0 3U CL DO2 FO FR P1 P1 O2
R 159.50 170.30 This section of pyritic siltite is identified by 50% dusty
pyrite. Carbonate-chlorite alteration is strong at the top and
gradually decreases towards the bottom of the interval.
Fragmental sections are noted within this interval and carry

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DRILLHOLE/TRAVERSE : K88046 (CONTINUED)

```
  F  - I N T E R V A L -   CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = MT)           RECOV-   M ROCK FYING MIN TURES CHARACS TURE               M  M  M  M  M ANY M  M  M ANY
E A                         ERY     I      TM TM MAT TX TX F C % M        T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y G   F R O M  -  T O      (MT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK  1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                        ROCK  FOR EN RT    TM QM2 TX TX S R S O DIP F  T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                        QUAL  MEM  V  Q LC- 3      3  4 O N H / SML I  2    AZM  RT       M  M  M  M  M  M  M  M
Y G                        DESIG  AGE       COL          R D P C            STRUCTUR-2       A  A  A  A  A  A  A  A

R       159.50    170.30       conspicuous, well rounded chert clasts.
                               Pyrite forms both the matrix and 50% of the fragments in this
                               poorly sorted, coarse grained pyritic wacke.  Chert and
                               sericitic chert make up the balance of the fragments.
N       159.50    160.10           X PYWA PY QZ PY6 FR CH     8 6        N             F2            DO F6
L                                        BR MS QZ2        1    O                          P2          O+
R       160.10    163.60       This section of pyritic siltite is marked by 30% nebulous,
                               patchy dolomite and 10% chlorite.  This alteration decreases in
                               intensity towards the bottom of this interval.
N       160.10    163.60           X CLCB DO PY DO3 PA SP                N                           DO !3
L                                        3A CL PY3 WF                                      P1         N3
R F/    169.80    170.30       This fault marks the contact between the pyritic siltite and
                               the graphitic argillite.
  F/    169.80    170.30           X FAUL                                N

P       170.30    181.40   100.0     ARGR GR DO GR3 << PA                P                           DO D+
L                           10.0         NN PY DO2 MX            7                                    Q2
R       170.30    181.40       Massive, black graphitic argillite.  This unit contains
                               abundant (10%) dolomite stringers.  Dolomite is also present as
                               crystal aggregates, spots and patches.  This unit is different
                               from the typical hanging wall sediments seen in this area.
```

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KAMAD

DRILLHOLE/TRAVERSE : K88047

PROJECT IDEN : KAMAD
COLLAR NORTHING: -85.00
START DATE : 88/ 9/14
COLLAR EASTING : -9150.00
TOTAL LENGTH : 63.10
COMPLETION DATE :
COLLAR ELEVATION: 1434.68
CORE/HOLE SIZE : NQ
GEOLOGGED BY : RGC + RGC
GRID AZIMUTH : 42.00

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		225.00	-45.00		
001	63.00		225.00	-42.00		

R HED This hole was drilled to test the strength and continuity of
R HED the massive sulphide zone up dip from DDH K88036.

```
   F   - I N T E R V A L -   CORE     %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = MT)            RECOV-   M ROCK FYING MIN TURES CHARACS TURE                H  H  H  H  H ANY H  H  H ANY
E  A                          ERY     I     TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (MT.1)   X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - -- -- -   - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I   2    AZM  RT     H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL          R D P C              STRUCTUR-2      A  A  A  A  A  A  A  A

P OVB    0.00    12.50              OVER                           P
R OVB    0.00    12.50        Casing.

P       12.50    17.10              MLAT MS AK MS2 SP FR           P   FO      75     $1          DO
L                                       5G CL AK1 WF         9                        $2 P1       P+
R       12.50    17.10        Medium grey-green mafic lapilli ash tuff.  The structural lower
                              contact is marked by fault gouge.
N F/    14.40    14.70            X FAUL                           N
N F/    16.90    17.10            X FAUL                           N

P       17.10    20.80     100.0    STWK QZ PY QZ6 << WF           P   FO      75 P6 $1                 <3    <( AS
L                           80.0        OA AK PY3 $T         3                                                <* <(
R       17.10    20.80        This stockwork zone is made up of massive sulphide stringers
                              and veins cutting an intensely silicified rock.  The original
                              lithology is a mafic volcanic, as suggested by 10% sheeted
                              ankerite.  Veins are coarse-grained and are mainly granoblastic
                              pyrite but do carry galena, sphalerite and arsenopyrite.
                              Orientations of these veins are widely variable.
                              Massive sulphide vein carrying 10% fragments of silicified
                              mafic volcanic.  Sulphides are coarse grained.
N       20.50    20.80          X MSSX PY GL PY5 GB CG             N               J2                   G5    R1 AS
L                                       BR SL GL1 XA                                                          R1 R1

P       20.80    24.50     100.0    SECH MS SX MS1 FO $T           P   FO      85     $*                D= B- D) AS
                            20.0        YA   SX2 <<          5                        P1                      D) D=
..      20.80    24.50        Yellow-grey sericitic chert with 20% veined and disseminated
                              sulphides.  Sulphides are coarse-grained and occur as irregular
                              bands of intergrown crystals.  Both contacts are conformable.

P       24.50    25.40      90.0    PYST PY MS PY5 MT FO           P   FO      75                 DO !5
```

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DRILLHOLE/TRAVERSE : K88047 (CONTINUED)

```
  F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = MT)           RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                         ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O      (MT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1   AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                        ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                        QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2   AZM  RT       H  H  H  H  H  H  H  H
Y  G                        DESIG  AGE       COL           R D P C              STRUCTUR-2       A  A  A  A  A  A  A  A

L                              .0          5U DO MS2                                        P2          O3
R        24.50     25.40          This thin interval of pyritic siltite contains 40% fault gouge
                                  and shows about 90% recovery.  It is mostly (50%) dusty pyrite
                                  with 20% pervasive sericite and 30% spotty dolomite.  The
                                  structural lower contact is faulted and the last 10cm of the
                                  interval is made up of ground chert fragments.

P MSX    25.40     26.10    100.0      MSSX PY SL PY6 CG IG            P    BN      20 J=               DO G6    R2 AS
L                                          BR GL SL2 BN                                                 J=    R1 R2 R1
R MSX    25.40     26.10          This is a high grade massive sulphide intersection.  Sulphides
                                  are coarse grained and show crude to well-developed banding.
                                  Bands dip at 20 degrees to core axis over the top 10cm,
                                  however, this piece is surrounded by fault gouge and may be a
                                  rotated fragment.  The structural lower contact is marked by
                                  1cm of fault gouge but appears conformable.

P MSX    26.10     27.70    100.0      MSSX PY SL PY3 CG FR            P              F1                DO R3 R- R1
L                            90.0          BR CL SL1 PA                                        Q2       O1    R1 R1
R MSX    26.10     27.70          Overall sulphide content is slightly lower over this interval
                                  (60%) and patchy chlorite-carbonate alteration is becoming
                                  apparent.  The lower 60cm of this interval contains scattered
                                  chert clasts within a sulphide matrix.
                                  High grade, polymetallic massive sulphide.
N MSX    26.50     26.80              X MSSX PY SL PY4 CG GB            N                                    R4 R( R2 AS
L                                          BR GL SL2 IG                                                      R1 R2 R)

P MTF    27.70     32.10    100.0      PYST PY MS PY4 HT PA            P    BD      70 F1               DO 14
L                             5.0          BR DO MS3 IB FO        7         FO      65   P3 Q1          Q1
R MTF    27.70     32.10          The bulk of this interval is pyritic siltite characterized by
                                  50-60% dusty pyrite and 30% pervasive sericite.  Sections of
                                  pyritic chert pebble conglomerate and chlorite-carbonate
                                  alteration are also noted.
R        27.70     28.70          Intense carbonate-chlorite alteration of muddy tuff.
                                  Conformable structural lower contact.
N        27.70     28.70          X CLCB DO CL DO4 PA WF               N                                DO !2
L                                          GW PY CL4                                           Q4       Q4
R        29.60     30.60          Pyritic conglomerate.  Chert, sericitic chert and possible
                                  carbonatized mafic volcanic fragments sit in a matrix of pyrite
                                  (50%) and sericite (20%).  Both contacts are conformable and
                                  this unit appears to fine downwards.
N        29.60     30.60          X PYCG PY MS PY5 FR CG      2 7      N    FO      70 F1 $+            DO R5
L                                          BR QZ MS2 FO     2 7   0                         P2          O1
R F/     31.40     31.70          Fault gouge.
N F/     31.40     31.70          X FAUL                               N
```

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KAMAD

DRILLHOLE/TRAVERSE : K88047 (CONTINUED)

```
   F   - I N T E R V A L -   CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-        STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K  L (UNITS = MT)            RECOV-    M ROCK FYING MIN TURES CHARACS TURE                  H  H  H  H  H ANY H  H  H ANY
E  A                          ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O       (MT.1)    X TYPE  1  2 QM1  1  2 F F C P  # TK    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --
K  F                         ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E  L                         QUAL   MEM  V  Q LC- 3      3  4 O N H / SML I    2    AZM  RT       H  H  H  H  H  H  H  H
Y  G                         DESIG  AGE       COL             R D P C            STRUCTUR-2        A  A  A  A  A  A  A  A


P        32.10     35.60     100.0       SETF MS PY MS3 FO LB              P                                    I2
L                              .0             3A    PY2                                         $3
R        32.10     35.60         Sericitic (30%) pyritic (20%) tuff.  This rock is made up of
R        32.10     35.60         siliceous lensoid bands and fragments surrounded by sheeted
                                 sericite and dusty pyrite.

P F/     35.60     36.50                 FAUL                              P
R F/     35.60     36.50         Pyritic fault gouge.

P        36.50     41.20                 PYTF PY MS PY4 FG MT              P    FO       75 F+                 DO I4
L                             30.0            5U QZ MS2 FO                                      P2             <+
R        36.50     41.20         Pyritized felsic crystal tuff.  Dusty pyrite averages 40% but
                                 ranges from 10 to 60%.  Tiny (<1mm) quartz grains (10%) are
                                 seen throughout.  The pyrite is apparently secondary, as
                                 suggested by pyritic stringers seen within the less pyritic
                                 sections.
R MSX    36.50     37.00         Polymetallic massive sulphide displays crude, irregular
                                 banding.  This section is coarse grained and contains 50%
                                 pyrite, 10% sphalerite, 10% galena, 10% arsenopyrite and minor
                                 (<1%) tetrahedrite.
N MSX    36.50     37.00               X MSSX PY SL PY5 GB CG              N                                   DO R5    R1 AS
L                                             BR GL SL1 BN                                                     J1    R* R1 R1

P        41.20     53.00     100.0       CLCB CL DO CL4 PA MT              P                                   DO D2
L                             20.0            GN PY DO4                                         P1 Q4          N4
R        41.20     53.00         Intense patchy carbonate-chlorite alteration.  This section is
                                 characterized by 40% grey dolomite and 40% patchy green-black
                                 chlorite.  No features of the original lithology remain.  The
                                 structural lower contact is marked by a large fault.
R        41.20     42.00         A grey, siliceous unit with definite fragments towards the
                                 bottom of the interval.
N        41.20     42.00               X FETF PY DO PY2 FR                 N                                   DO D2
L                                             5A MS DO2                                         $1             P2
R F/     52.10     53.00         Fault gouge with fragments of carbonate-chlorite alteration.
N F/     52.10     53.00               X FAUL                              N

P        53.00     63.10     100.0       IBAW GR PY GR2 IL FO              P                                        F+
.                              .0             NN    PY+
R        53.00     63.10         Interlaminated (1-2mm) graphitic argillite (70%) and
                                 fine-grained wacke (30%).  Scattered pyrite fragments ae noted.
                                 Bedding angles and bedding/foliation relations indicate
                                 folding.  Sketchy tops data suggests an inverted section.
R F/     53.00     55.30         Continuation of the major fault seen at this contact.
```

ESSO Minerals Canada

KAMAD

DRILLHOLE/TRAVERSE : K88047 (CONTINUED)

```
  F  - I N T E R V A L -  CORE      %     TYPI- QAL  TEX-  GRAIN FRAC-       STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
K L (UNITS = MT)          RECOV-    M ROCK FYING MIN TURES CHARACS TURE                 H  H  H  H  H ANY H  H  H ANY
E A                        ERY      I      TM TM MAT TX TX F C % M          T ID STK DIP  A  A  A  A  A MIN A  A  A MIN

- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- - - -- --- --- -- -- -- -- -- -- -- -- -- --
K F                       ROCK  FOR EN RT   TM QM2 TX TX S R S O DIP F     T ID STK DIP KF MU CL EP HE HA PR MO SL HA
E L                       QUAL  MEM  V  Q LC- 3     3  4 O N H / SML I     2    AZM  RT     H  H  H  H  H  H  H  H
Y G                       DESIG AGE       COL            R D P C             STRUCTUR-2      A  A  A  A  A  A  A  A

N F/   53.00     55.30            X FAUL                               N
```

FLAG

"	Clear Field
BRX	Brecciated Zone
C/	Contact
CAS	Casing
D/	Dyke dike
D/1	Identified dykes
END	End of Hole
F/	Fault
HED	Header Remark
HW	Hangingwall
HWZ	Hanging wall Zone
LST	Lost core
M	Marker bed
MCB	Massive Carbonate
MSX	Massive sulphide
MTF	Pyritic siltite marker
OVB	Overburden
REA	Rea Stratigraphy
SAM	Remark - samples taken
SMP	Semi-Massive Pyrite
SMS	Semi-massive sulphide
SUM	Summary Remark
THN	Remark - thin section
V/	Vein
VQC	Vein - quartz calcite
VQD	Vein - quartz dolomite
VSX	Vein sulphides
WET	Weathered zone
WTH	Weathered zone

ROCK TYPE

AGGL	Agglomerate
AGLM	Agglomerate
AKMT	Ankeritized Mafic Tuff
AKPH	Ankeritic phyllite
AKSS	Ankerite sericite schist
AN#F	Andesite Flow
ANDS	Andesite Flow
ANTF	Andesite tuff
ARGL	Argillite
ARGR	Graphitic argillite
ARSL	Argillite with siltstone
ARSN	Argillite with sandstone
ASHT	Ash tuff
ASTF	Ash tuff - Alternate form
BASL	Basalt
BRAR	Brecciated Argillite
BRDI	Diorite Breccia/Intrusive BRXX
BRFA	Breccia - fault
BRHM	Breccia homolithic (polymicti
BRHT	Breccia heterolithic
BRQC	Breccia quartz-carbonate
BRQD	Qz-Dol Vein Breccia
BRSX	Breccia sulphide
BRVC	Breccia volcaniclastic
BRXX	Breccia general
BS#F	Basalt flow
CARB	Massive Carbonate
CASE	Casing
CAVN	Calcite vein
CBEX	Carbonate Exhalite
CBVN	Carbonate Vein
CDPH	Chlorite dolomite phyllite
CDSH	Chlorite dolomite schist.
CGCP	Conglomerate chert pebble
CHAR	Cherty Argillite
CHBR	Chert breccia
CHER	Massive chert
CHTF	Cherty Tuff
CLCB	Chlorite Carbonate Alteration
CLPH	Chlorite phyllite
CLSH	Chlorite Schist
CLTF	Chloritic Tuff
CONG	Conglomerate
CSQS	Chlorite sericite qz schist
CSSH	Chlorite sericite schist
DCVN	DOLOMITE-CHLORITE VEIN
DIOR	Diorite
DOBR	Dolomite Breccia
DOCH	Dolomitic chert
DOLM	Massive Dolomite
DOVN	Dolomite vein
DQVN	Dolomite Quartz Vein

ROCK TYPE (Continued)

DSSH	Dolomite sericite schist
FAUL	Fault (zone)
FETF	Mixed felsic tuffs
FLBR	Fault breccia
FQXT	Feldspar Quartz Crystal Tuff
FXTF	Feldspar crystal tuff
GOUG	Gouge zone - Fault
GRCH	Graphitic Chert
GSCH	Greenschist
GSTN	Greenstone
GWAC	Graywacke
GWTF	Wacke tuff
HORN	Hornfels
IATF	Intermediate Tuff
IBAW	Interbedded Argillite and Wacke
IBCA	Interbedded Chert and Argillite
IFXT	Int. Feldspar Crystal Tuff
ILTF	Intermediate Lapilli Tuff
INAT	Intermediate Ash Tuff
INTF	Intermediate tuff
INVB	Intermediate Volcanic Breccia
INVL	Intermediate Volcanic
IXTF	Intermediate Crystal Tuff
LAPL	Lapillistone
LATF	Lithic ash tuff
LBCH	Lensoid Banded Chert
LBFV	Lensoid banded felsic volcanic
LIMS	Limestone
LLAT	Lapilli bearing ash tuff
LLTF	Felsic Lapilli Tuff
LMST	Limestone
LOST	Lost core
LWAC	Lithic Wacke
MAFV	Mafic Volcanic-General
MATF	Mafic Ash Tuff
MFBR	Mafic (Flow-Top) Breccia
MFDK	Mafic dyke
MFFL	Mafic Flow
MFTF	Mafic Tuff
MFVC	Mafic Volcaniclastic
MLAT	Mafic Lapilli Bearing Ash Tuff
MLTF	Mafic Lapilli Tuff
MSBA	Massive Barite
MSPY	Massive Pyrite
MSSU	Massive Sulphates
MSSX	Massive Sulphides
MTSD	Metasediments general
MVCB	Carbonatized Mafic Volcanic
MVCL	Chloritized Mafic Volcanic
MVMS	Sericitized Mafic Volcanic
MVSI	Silicified Mafic Volcanic
MXLT	Mafic Crystal Lithic Tuff

ROCK TYPE (Continued)

MXTF	Mafic crystal tuff
OVER	Overburden
PEB.	Pebbles overburden
PHYL	Phyllite
PQVN	Pyrite quartz vein
PSLT	Pyritic siltite
PYAR	Pyritic Argillite
PYCG	Pyritic Conglomerate
PYCH	Pyritic chert
PYST	Pyritic siltite (Muddy Tuff)
PYTF	Pyritic Tuff
PYVN	Pyrite vein
PYWA	Pyritic Wacke
QAVN	Quartz ankerite vein
QCVN	Quartz calcite vein
QDVN	Quartz dolomite vein
QITF	Quartz Eye Bearing Tuff
QSSH	Quartz sericite schist
QTZT	Quartzite
QXTF	Quartz crystal tuff
QZBR	Quartz Vein Breccia
QZPH	Quartz phyllite
QZVN	Quartz vein alternative form
QZWK	Quartz Wacke
RBCH	Ribbon banded chert
RHYL	Rhyolite massive
SAND	Sandstone
SCH#	Schist
SCHS	Schist alternative form
SDSH	Sericite dolomite schist
SECH	Sericitic chert
SESH	Sericite schist
SETF	Sericitic tuff
SEWA	Sericitized Wacke
SHAL	Shale
SHER	SHear Zone
SILT	Siltstone
SLAT	Slate
SMPY	Semi-massive pyrite
SMSX	Semi-massive sulphides - Gen
STWK	Stockwork zone
SULF	Sulphide
TFBR	Tuff Breccia
TFLP	Tuff lapilli
TFWL	Tuff welded
TFXL	Tuff crystal lapilli
TFXT	Tuff crystal
TILL	Glacial Till (Unconsolidated)
TUFF	Tuff
VEIN	Vein
XATF	Crystal ash tuff
XLAT	Crystal lithic ash tuff

MINERAL

"	Clear Field
AB	Albite
AH	Anhydrite
AK	Ankerite
AL	Alunite
AS	Arsenopyrite
AX	Amphibole general
AZ	Azurite
BA	Barite
BI	Biotite
BK	Biotite : hornblende
BL	BI>HB
BM	BI=HB
BN	BI<HB
C<	CY<MU
C=	CY=MU
C>	CY>MU
CA	Calcite
CB	Carbonates general
CD	Chloritoid
CE	Cerussite
CI	Cuprite
CL	Chlorite
CP	Chalcopyrite
CY	Clay
D:	Dolomite : calcite
D<	DO<CA
D=	DO=CA
D>	DO>CA
DO	Dolomite
EP	Epidote
FL	Fluorite
FM	Fluoromica
FU	Fuchsite
FX	Feldspar general
G:	Galena : sphalerite
G<	GL<SL
G=	GL=SL
G>	GL>SL
GD	Gold
GG	GOUGE
GL	Galena
GO	Goethite
GR	Graphite
GY	Gypsum
H:	Hematite : magnetite
H<	HE<MG
H=	HE=MG
H>	HE>MG
HB	Hornblende
JA	Jarosite
KF	K-spar orthoclase

MINERAL (Continued)

LI	Limonite
M:	Malachite : azurite
M<	MC<AZ
M=	MC=AZ
M>	MC>AZ
MA	Magnesite
MC	Malachite
MG	Magnetite
MI	Micas general
MS	Muscovite-sericite
MU	Muscovite
PF	Plagioclase feldspar
PL	Pyrolusite
PP	Pyrophyllite
PR	Pyrrhotite
PY	Pyrite
QZ	Quartz
RC	Rhodochrosite
RN	Rhodonite
SD	Siderite
SF	Sericite-fluorite assemblage
SL	Sphalerite
SS	Silver & sulphosalts
SU	Sulphates general
SV	Silver
SX	Sulphides general
TA	Talc
TN	Tennantite
TT	Tetrahedrite
TX	TT & TNundif
ZI	Zircon

TEXTURE

"	Clear Field
$T	Sheeted
<<	Microveined
>>	Macroveined
A*	Amygdaloidal
AP	Aphanitic
AR	Argillaceous
BD	Bedded
BN	Banded
BO	Boudinaged
BR	Brecciated
BT	Botryoidal
CG	Coarse grained
CH	Chaotic textured
CK	Cockscomb texture in veins
CL	Colloform
CO	Convoluted
CS	Closed-structured
CT	Clastic
DF	Drag-folded
EL	Elongated fragments
EQ	Equigranular
EU	Euhedral crystals
F$	Fissile
FB	Flow banded
FD	Folded
FG	Fine grained
FO	Foliated
FR	Fragmental
FT	Faulted
GB	Granoblastic
GD	Graded
GG	Fault Gouge
GL	Granulose
GN	Granular
GY	Greasy sectile
HO	Homogeneous
HT	Heterogeneous
IB	Interbedded
IG	Intergrown
IL	Interlaminated
IN	Interstitial mineralization
KB	Kink banded
LB	Lensoid banded
LM	Laminated
LN	Lenticular
MF	Moderately well foliated
MG	Medium Grained
MT	Mottled
MX	Massive
NB	Nebulous (Cloud Like)
ND	Nodular

TEXTURE (Continued)

OO	Oolitic/Nodular (<5MM)
OS	Open-structured
PA	Patchy
PB	Porphyroblastic
PF	Ptygmatically Folded
PH	Phyllitic
PI	Pisolitic pea-like
PL	Pillowed
PM	Polymictic
PP	Pprphyritic
RB	Ribbon-like banded
RT	Reticulate veined
RW	Reworked
RX	Recrystallized
SA	Sandy
SC	Schistose
SH	Shattered
SL	Slaty
SM	Semi-massive
SP	Spotted
SW	Stockworked
TF	Tuffaceous
VG	Vuggy
VS	Vesicular
VV	Veined
WB	Wispy Banaded
WF	Weakly foliated
WL	Welded
XA	Crystal aggregates
XB	Cross-bedded
XC	Cross-cutting
XF	Cross Fractured

QUALIFYING MINERAL

"	Clear Field
AB	Albite
AC	Actinolite
AG	Anglesite
AH	Anhydrite
AK	Ankerite
AL	Alunite
AM	Almandine
AS	Arsenopyrite
AX	Amphiboles general
AZ	Azurite
BA	Barite
BI	Biotite
BK	Biotite hornblende
BL	BI>HB
BM	BI=HB
BN	BI<HB
BO	Bornite
C:	Clay : muscovite
C<	CY<MU
C=	CY=MU
C>	CY>MU
CA	Calcite
CB	Carbonates general
CD	Chloritoid
CE	Cerussite
CL	Chlorite
CP	Chalcopyrite
CU	Coppernative
CY	Clay
CZ	Clinozoisite
D:	Dolomite : calcite
D<	DO<CA
D=	DO=CA
D>	DO>CA
DC	Dickite
DO	Dolomite
EN	Enargite
EP	Epidote
FL	Fluorite
FU	Fuchsite
FX	Feldspars general
G:	Galena : sphalerite
G<	GL<SL
G=	GL=SL
G>	GL>SL
GA	Garnet
GD	Gold
GG	GOUGE
GL	Galena
GO	Goethite

QUALIFYING MINERAL (Continued)

GR	Graphite
GY	Gypsum
H:	Hematite : magnetite
H<	HE<MG
H=	HE=MG
H>	HE>MG
HB	Hornblende
JA	Jarosite
K:	K-spar : plagioclase
K<	KF<PF
K=	KF=PF
K>	KF>PF
LF	Lithic fragments
LI	Limonite
LL	Lithic lapilli
M:	Malachite : azurite
M<	MC<AZ
M=	MC=AZ
M>	MC>AZ
MA	Magnesite
MC	Malachite
MG	Magnetite
MI	Micas general
MR	Mariposite
MS	Muscovite-sericite
MT	Marcasite
MU	Muscovite
PF	Plagioclase
PL	Pyrolusite
PP	Pyrophyllite
PR	Pyrrhotite
PY	Pyrite
QI	Quartz eyes
QS	Quartz-sericite
QX	Quartz crystals
QZ	Quartz general
RC	Rhodochrosite
RN	Rhodonite
RU	Rutile
SD	Siderite
SL	Sphalerite
SS	Silver & sulphosalts
SU	Sulphates general
SV	Silver
SX	Sulphides general
TA	Talc
TN	Tennantite
TT	Tetrahedrite
TX	TT & TNundif
VS	Vesicles
XF	Crystal Fragments
ZI	Zircon
ZO	Zoisite

HOW-SCALE (Mode of Occur ence)

!	Sooty Dusty (Very Fine Grained)
"	Clear Field
#	Breccia fillings
$	Sheeting
&	Bands
)	CL/MG replaces MF
*	Clasts
+	Within quartz vein
0	Freshprimary rock
1	A minor > and/or scat. Crysta
2	Macroveins and Veins
3	Veins Spots or Patches
4	Veins and/or occas. Envelopes
5	Veins and/or abundant Envelop
6	P or D Less Than < S and E
7	P or D Equal To < S and E
8	P or D Greater Than < S and E
9	P or D V < S and E
<	Microveins fracture fillings
=	MS/CY replaces FX
>	Macroveins
A	A cavity fillings
B	Blebs
C	Coatings & encrustations
D	Disseminations scat. crystals
E	Envelopes
F	Framework crystals
G	Granoblastic
H	Replaced phenocrysts
I	Eyesaugen
J	Interstitial
K	Stockwork
L	Laminations/bedded
M	Massive
N	Nebulous
O	Spots
P	Pervasive
Q	Patches as in quilts
R	Aggregates
S	Selvages
T	Stainings as in tarnish
U	Eu-hedral crystals
V	Veins
W	Whisps
X	K and/or $ M and/or L
Y	Dalmationite
Z	MassiveLaminated/Bedded
^	Within clasts or lapilli

SIZE-SCALE

"	Clear Field
0	< .004 mm
1	.004 to .016 mm
2	.016 to .06 mm
3	.06 to .25 mm
4	.25 to 1 mm
5	1 to 4 mm
6	4 to 16 mm
7	16 to 64 mm
8	64 to 256 mm
9	256 to 1 m

TABLEG-SCALE

"	Clear Field
(	.05 to <.2
)	.5 to < 2
*	.2 to <.5
+	2 to < 3
-	.02 to <.05
.	Trace = <.02
/	Est. Impossible
0	Nil Absent
1	7 to <15
2	15 to <25
3	25 to <35
4	35 to <45
5	45 to <55
6	55 to <65
7	65 to <75
8	75 to <85
9	85 to 99
=	3 to < 7
?	Poss. Present
X	Essentially 100%

TABLEN001-SCALE

"	Clear Field
1	Extremely poor
2	Very poor
3	Poor
4	Moderately Poor
5	Moderate
6	Moderately good
7	Good
8	Very good

TABLEN002-SCALE

"	Clear Field
1	Extremely angular
2	Very Angular
3	Angular
4	Moderately Angular
5	Intermediate
6	Moderately rounded
7	Rounded
8	Very rounded
9	Extremely rounded

TABLEN003-SCALE

"	Clear Field
1	Extremely poor
2	Very poor
3	Poor
4	Moderately Poor
5	Moderate
6	Moderately good
7	Good
8	Very good
9	Extremely good

ENVIRONMENT

"	Clear Field
AC	autoclastic
AL	allochthonous
AO	aeolian
AT	autochthonous
BH	biohermal
BK	brackish-water
BR	back-reef
BS	biostromal
CO	continental
DS	distal
EC	epiclastic
EV	epivolcaniclastic
FL	fluvial fluviatile
FR	fore-reef
GF	glacio-fluvial
GL	glacial lacustrine
IN	intrusive
LC	lacustrine
LG	lagoonal
MD	marine deep water
MM	marine mod. depth
MR	marine general
MS	marine shallow
NM	non-marine
PC	pyroclastic
PL	plutonic
PX	proximal
SD	sedimentary
SV	sub-volcanic
VC	volcaniclastic
VL	volcanic general

LIGHTNESS-COLOUR SCALE (Continued)

OG	Orange-Green
OU	Orange-brown
OY	Orange-Yellow
TA	Tan grey
UA	Grey-brown
WW	White
YA	Yellow-grey
YG	Yellow-green
YT	Yellow-tan
YU	Yellow-brown

FRACTURE SCALE

"	Clear Field
0	Unfractured
1	Slightly fractured
2	Very lightly fractured
3	Lightly fractured
4	Fairly lightly fractured
5	Moderately fractured
6	Fairly well fractured
7	Well fractured
8	Very well fractured
9	Extremely well fractured
X	Shattered

STRUCTURE ID

"	Clear Field
$$	Slickensides
-	0
<<	Microvein
>>	Macrovein
AX	Axis of fold
BD	Bedding
BN	Banding
C/	Contact
CL	Lower contact
CU	Upper contact
D/	Dyke
F/	Fault
FB	Flow banding
FO	Foliation
FR	Fractures
FS	Fracture set
FZ	Fault zone
GN	Gneissosity
JS	Joint set
LM	Lamination
LN	Lineations
S#	Schistosity
S/	Shear zone

STRUCTURE ID (Continued)

SF	Single fracture
SJ	Single joint
SL	Sill
U/	Unconformity
UA	Unconformity - angular
UD	Unconformity - disconform
UN	Unconformity - nonconform
V/	Vein
VC	Carbonate vein
VE	Epidote vein
VP	Pyrite vein
VQ	Quartz vein

APPENDIX II

ANALYTICAL RESULTS

AUG 13 '88 14:15

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: AUG 10 1988
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED: Aug. 13./88..

ASSAY CERTIFICATE

- SAMPLE TYPE: Core

ASSAYER: C. Leong .... D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT TWIN 117 FILE # 88-3453A

SAMPLE#	Cu %	Pb %	Zn %	Ag OZ/T	Au OZ/T
K33 03110321	.02	.05	.08	.01	.006

DH

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: JUL 19 1988
DATE REPORT MAILED: July 27/88.

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp

ASSAYER: C. Leong. D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. FILE # 88-2605R 107

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	As %	Au GM/T	Ba* %
K33 0321003260	.85	4.92	6.22	46.0	6.02	9.19	.10
K33 0326003300	1.45	6.90	6.94	46.0	5.94	7.85	.03
K33 033003365	1.46	6.56	6.73	40.5	4.37	5.72	.04
K33 0336503400	1.25	8.24	7.98	97.0	5.27	8.19	.02
K33 03400353	.02	.08	.10	.5	.03	.14	.16

cc: DH, BC, JMM

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: JAN 4 1989
DATE REPORT MAILED: Jan. 5/89

JAN 0 1989

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp

SIGNED BY C. Leong .... D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT-KAMAD 107 FILE # 88-2842R

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	As %	Au GM/T
K34 10611071	.03	.31	1.05	3.5	.33	.35
K34 10711080	.08	.41	.99	4.0	3.57	1.73
K34 10851097	.06	.59	2.95	7.0	.48	.50
K34 10971117	.01	.07	.18	2.0	.02	.21
K34 11171127	.06	.22	.37	4.0	.60	.53

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: JUL 20 1988
DATE REPORT MAILED: July 30/88

ASSAY CERTIFICATE

- SAMPLE TYPE: Core

ASSAYER: C. Leong D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT KAMAD 107 FILE # 88-2842

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T	As %	Ba %
K34 10801085	.06	.34	1.58	1.5	7.24	13.63	.01
K35 16011606	.41	2.09	.65	20.0	.75	.52	.01

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: NOV 17 1988
DATE REPORT MAILED: Nov. 29/88

ASSAY CERTIFICATE

NOV 30 1988

- SAMPLE TYPE: Pulp

SIGNED BY C. Leong D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT KAMAD 107 FILE # 88-2842R

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T
K34 14301439	.03	.03	.12	1.0	.01
K35 15721582	.01	.13	.25	2.0	.21
K35 15821592	.11	.99	1.03	8.5	.31
K35 15921601	.05	.42	.36	3.5	.04
K35 16061617	.01	.01	.02	1.5	.03
K36 06860696	.01	.01	.01	.5	.07
K36 06960711	.01	.01	.02	.5	.05
K36 07110721	.01	.01	.02	.5	.04

- SAMPLE TYPE: Core

ASSAYER: C. Leong. D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-3147

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T	As %	
K36R 04740482	.39	8.48	12.17	83.5 ✓	30.53 ✓	7.44	(walsave)
K36R 04820497	.19	3.50	5.06	59.5	5.97	.80	barite - broken ground

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: JUL 18 1988
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED: July 21/88

ASSAY CERTIFICATE

- SAMPLE TYPE: Core

ASSAYER: C. Leong D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT 170 FILE # 88-2770A

SAMPLE#	Cu %	Pb %	Zn %	Ag OZ/T	Au OZ/T	As %	Ba* %
K32-05520555	.32	1.22	1.53	.94	.062	.86	.21
K36-03740389	.01	.01	.04	.01	.002	.06	.04
K36-03890399	.01	.04	.12	.05	.004	.08	.05
K36-03990424	.08	.78	1.97	.27	.025	.31	.83
K36-04240434	.13	1.41	3.89	.42	.038	.73	1.17
K36-04340444	.09	1.39	3.18	.33	.017	.13	.87
K36-04440454	.13	1.62	3.64	.46	.034	.96	1.25
K36-04540464	.21	3.36	4.45	.78	.054	2.10	1.89
K36-04640474	.43	8.90	9.16	2.19	.242	2.50	2.81
K36-04740497	.38	8.86	9.01	2.33	.880	7.61	3.85
K36-04970524	.01	.13	.18	.09	.007	.12	.42
K36-05240535	.01	.03	.04	.03	.003	.02	.37

cc-DM, +mm

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: NOV 16 1988
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
ONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED: Dec. 23/88.

ASSAY CERTIFICATE

JAN 03 1989

- SAMPLE TYPE: Pulp AU** & AG** BY FIRE ASSAY FROM 1/2 A.T.

SIGNED BY........ D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-2866R

SAMPLE#	CU %	PB %	ZN %	AG** gm/t	AU** gm/t
K37 14701475	.19	2.53	4.70	38.5	.84
K38 08890899	.22	2.39	1.81	27.5	.52

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: SEP 8 1988
DATE REPORT MAILED: Sept. 16/88

ASSAY CERTIFICATE

- SAMPLE TYPE: Core

ASSAYER: C. Leong ... D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-4304

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T	Au OZ/T	As %	Ba %
K40 09520957	.05	.37	.60	5.5	.27	.008	.50	.07
K40 09570962	.06	.54	1.32	7.5	.62	.018	1.25	.07
K40 09620967	.02	.20	.15	5.0	.21	.006	.17	.14
K40 09670979	.02	.08	.11	3.5	.17	.005	.50	.06
K40 09790989	.03	.12	.19	4.0	.10	.003	.11	.09
K40 09890999	.02	.29	.11	2.5	.07	.002	.10	.07
K40 09991009	.01	.12	.13	4.0	.21	.006	.21	.10
K40 10091019	.06	.41	.64	6.0	.34	.010	.94	.20
K40 10191029	.02	.36	.28	6.0	.31	.009	1.04	.12
K40 10291039	.01	.08	.24	4.0	.34	.010	.87	.15
K40 10391049	.01	.16	.08	5.0	.21	.006	.35	.14
K40 10491059	.01	.07	.05	5.0	.14	.004	.07	.14
K40 10591069	.01	.02	.01	4.0	.41	.012	.04	.17

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ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
HONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: SEP 8 1988
DATE REPORT MAILED: Sept.16/88.

SEPT 26 88

ASSAY CERTIFICATE

- SAMPLE TYPE: Core

ASSAYER: .... D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-4303 Page 1

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T	Au OZ/T	As %	Ba %
K40 10691079	.01	.06	.09	3.0	.31	.009	.17	.24
K40 10791089	.01	.05	.04	5.5	.27	.008	.04	.27
K40 10891094	.32	1.36	2.29	31.0	2.26	.066	1.18	.59
K40 10941099	.10	1.30	4.55	20.5	1.51	.044	2.22	.47
K40 10991106	.14	2.10	4.71	22.5	1.41	.041	1.75	.45
K40 11061113	.20	2.86	5.19	26.0	1.61	.047	1.11	.34
K40 11131137	.51	4.68	6.65	51.0	4.32	.126	2.73	.11
K40 11371149	.61	5.13	7.39	85.5	8.27	.241	3.48	.14
K40 11491154	.73	8.31	10.15	116.5	2.13	.062	.43	.03
K40 11541161	.78	15.21	16.74	137.0	1.92	.056	.32	.02
K40 11611167	.48	8.55	11.67	94.5	4.77	.139	3.75	.06
K40 11671172	.75	6.14	7.99	99.0	5.42	.158	5.61	.03
K40 11721177	1.37	5.53	6.67	73.5	3.70	.108	4.44	.02
K40 11771180	.76	7.83	7.77	70.0	1.92	.056	1.96	.05
K40 11801183	.88	5.72	6.94	58.5	2.23	.065	3.77	.07
K40 11831187	.73	6.41	7.76	69.0	1.58	.046	1.67	.06
K40 11871192	.76	11.40	12.17	82.5	3.12	.091	5.56	.05
K40 11921201	.45	13.68	14.06	172.0	2.61	.076	2.86	.03
K40 12011205	.67	17.10	12.31	145.5	3.60	.105	2.26	.07
K40 12051215	.03	.20	.24	4.5	.34	.010	.29	.17
K40 12151221	.09	1.38	.45	13.0	.93	.027	2.67	.16
K40 12211236	.02	.12	.21	3.0	.31	.009	.23	.29

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-4303 Page 2

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T	Au OZ/T	As %	Ba %
K41 13251335	.01	.03	.04	1.0	.10	.003	.05	.16
K41 13351345	.02	.03	.05	2.0	.10	.003	.04	.17
K41 13451350	.27	2.20	2.46	26.5	1.68	.049	.36	.08
K41 13501355	.20	1.59	2.09	18.5	1.75	.051	1.02	.08
K41 13551360	.22	1.08	1.59	15.5	1.06	.031	.11	.08
K41 13601365	.19	1.54	2.96	17.0	1.30	.038	1.17	.10
K41 13651370	.26	1.80	2.49	20.0	3.33	.097	3.66	.07
K41 13701379	.21	1.30	3.38	15.0	.89	.026	1.01	.20
K41 13791385	.98	5.87	7.05	39.5	1.30	.038	1.09	.09
K41 13851390	.88	6.69	8.13	74.0	2.02	.059	1.67	.08
K41 13901395	.64	5.39	6.09	90.0	3.77	.110	3.85	.14
K41 13951400	.37	4.26	5.73	59.0	3.09	.090	4.05	.36
K41 14001405	.56	4.51	5.13	85.5	3.22	.094	6.29	.38
K41 14051410	.19	2.92	3.86	36.0	1.78	.052	2.87	.65
K41 14101413	.30	3.57	4.17	56.0	1.58	.046	.75	.53
K41 14131420	.08	.78	.99	18.0	.86	.025	.26	.77
K41 14201430	.02	.02	.10	5.0	.38	.011	.18	.26
K41 14301437	.01	.08	.11	2.5	.14	.004	.01	.36
K41 14371447	.01	.01	.01	2.0	.10	.003	.02	.32

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ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: SEP 12 1988
DATE REPORT MAILED: Sept. 26/88

ASSAY CERTIFICATE

SEP 28 1988

- SAMPLE TYPE: Core

ASSAYER: C. Leong D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

88.9.30

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-4402A

SAMPLE#	CU %	PB %	ZN %	AG gm/t	AU gm/t	AU oz/t	AS %
K41 14921504	.04	.30	.52	11.0	.41	.012	.09

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: SEP 15 1988
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED: Sept. 26/88.

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ASSAY CERTIFICATE

SEP 28 1988

88.9.30

- SAMPLE TYPE: Core

ASSAYER: C. Leong . D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-4497 Page 1

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T	Au OZ/T	As %	Ba %
K42 09360946	.01	.01	.03	.5	.14	.004	.03	-
K42 09460956	.01	.01	.01	.5	.10	.003	.01	-
K42 09560966	.01	.04	.14	.5	.24	.007	.08	-
K43 02260236	.01	.02	.03	1.5	.21	.006	-	-
K43 02360246	.02	.05	.14	4.0	.24	.007	-	-
K44 09660971	.01	.01	.02	.5	.03	.001	.01	-
K44 09710976	.01	.01	.01	.5	.03	.001	.01	-
K44 09760981	.01	.01	.02	.5	.07	.002	.02	-
K44 10641074	.01	.01	.01	.5	.03	.001	.01	-
K44 10741084	.01	.01	.01	.5	.03	.001	.01	-
K44 10841094	.01	.01	.01	1.0	.03	.001	.01	-
K44 12221227	.01	.02	.02	8.5	.14	.004	.01	.15
→K44 12271232	.12	.99	1.56	92.0	5.01	.146	1.59	.07
K44 12321237	.01	.01	.01	5.5	.17	.005	.01	.10
K44 12371251	.01	.01	.01	3.5	.24	.007	.09	.09
K44 12511256	.28	.74	1.46	22.5	3.16	.092	2.22	.06
K44 12561261	.08	.40	.63	9.0	1.30	.038	2.09	.08
K44 12611271	.02	.11	.14	3.5	.41	.012	.37	.09
K45 06990714	.03	.02	.04	1.0	.14	.004	.04	-
K45 02710276	.01	.02	.01	.5	.03	.001	.02	-
K45 13491423	.01	.01	.03	.5	.03	.001	.04	-
K46 12341244	.01	.01	.02	.5	.07	.002	.01	-
K46 12441254	.01	.05	.04	1.0	.03	.001	.02	-
K46 12541264	.01	.18	.27	1.0	.03	.001	.01	-
K46 12641274	.01	.26	.12	2.0	.03	.001	.02	-
K46 12741284	.01	.12	.16	.5	.07	.002	.01	-
K46 12841294	.06	.78	1.06	6.0	.10	.003	.05	-
K46 12941304	.02	.18	.38	2.5	.65	.019	.43	-
K46 13041314	.06	.42	.60	7.0	.89	.026	1.43	-
K46 13141324	.01	.05	.04	1.5	.41	.012	.37	-
K46 13241334	.01	.01	.01	.5	.27	.008	.27	-
K46 13341344	.01	.05	.06	1.5	.38	.011	.09	-
K46 13441364	.01	.08	.06	2.0	.93	.027	.39	-
K46 13641384	.01	.10	.19	1.5	.38	.011	.14	-
K46 13841391	.02	.10	.07	2.0	.24	.007	.07	-
K46 13911396	.09	.40	1.07	5.5	.62	.018	.26	-
K46 13961416	.01	.03	.03	1.5	.27	.008	.03	-

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-4497 Page 2

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T	Au OZ/T	As %
K46 14161436	.01	.04	.03	1.0	.17	.005	.02
K46 14361448	.02	.15	.06	3.5	.31	.009	.19
K46 14481458	.01	.06	.10	1.5	.72	.021	.27
K46 14581467	.12	.92	2.12	12.0	2.13	.062	7.22
K46 14671484	.01	.12	.26	1.5	.65	.019	.69
K46 14841488	.20	1.25	1.81	8.5	1.06	.031	4.00
K46 14881495	.39	1.95	3.01	16.0	1.58	.046	4.70
K46 14951511	.04	.30	.46	5.0	.93	.027	.87
K46 15111521	.40	1.64	4.68	27.0	.72	.021	.39
K46 15211526	.03	.16	.50	4.0	.38	.011	.19
K46 15261539	.01	.01	.01	.5	.10	.003	.01

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716 DATE RECEIVED: SEP 19 1988
DATE REPORT MAILED: Sept. 23/88

ASSAY CERTIFICATE

- SAMPLE TYPE: Core

ASSAYER: C. Leong D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT 107 FILE # 88-4582A

SAMPLE#	Cu %	Pb %	Zn %	Ag GM/T	Au GM/T	Au OZ/T	As %
K47 01660171	.01	.01	.01	1.5	.02	.001	.01
K47 01710181	.01	.23	.16	6.0	.76	.022	.50
K47 01810191	.07	.21	.32	10.0	1.23	.036	.17
K47 01910201	.02	.48	.30	7.0	.49	.014	.09
K47 02010208	.13	1.03	1.00	13.5	2.44	.071	4.42
K47 02080218	.26	1.02	2.13	18.0	1.95	.057	2.97
K47 02180228	.08	.50	1.01	8.0	.55	.016	.61
K47 02280245	.04	.23	.48	6.0	1.59	.046	2.44
K47 02450254	.01	.15	.11	5.0	.63	.018	.19
K47 02540258	1.19	4.28	6.71	126.5	15.01	.438	1.33
K47 02580261	.90	4.15	6.78	104.0	9.37	.274	.46
K47 02610265	.27	1.48	1.80	41.5	5.72	.167	.22
K47 02650268	.66	4.26	5.45	103.5	29.25	.854	6.50
K47 02680277	.18	.80	1.30	31.0	3.27	.095	.35
K47 02770287	.05	.16	.33	16.0	1.98	.058	.06
K47 02870296	.09	.45	.68	33.5	2.01	.059	.47
K47 02960306	.16	1.45	1.68	47.5	2.18	.064	.37
K47 03060321	.04	.30	.32	14.5	3.15	.092	.16
K47 03210331	.01	.01	.03	3.0	.07	.002	.17
K47 03310341	.01	.01	.02	2.5	.04	.001	.01
K47 03410351	.01	.01	.02	2.5	.02	.001	.02
K47 03510360	.01	.02	.04	3.0	.04	.001	.15
K47 03600365	.01	.06	.07	2.5	.17	.005	.16
K47 03650370	.44	2.68	3.59	91.5	4.92	.144	3.23
K47 03700375	.02	.08	.14	5.5	.60	.018	.25

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
K32-02430230	1	69	68	214	.1	67	25	1892	5.26	447	5	ND	2	133	1	2	2	52	3.75	.056	2	79	5.09	44	.01	7	3.27	.03	.05	1
K32-02500264	2	109	278	462	.7	33	17	854	5.52	206	5	ND	4	79	2	8	2	29	2.24	.104	3	21	3.58	36	.01	3	2.33	.04	.07	1
K32-02640277	1	26	98	203	.3	8	13	2473	5.28	55	5	ND	2	192	1	2	2	34	5.49	.082	2	10	7.25	39	.01	7	3.35	.03	.04	1
K32-02770297	1	51	63	97	.2	12	17	542	7.53	85	5	ND	6	70	1	3	2	18	1.93	.129	4	6	3.01	34	.01	3	1.84	.02	.10	1
K32-02970305	1	24	31	155	.1	7	17	367	6.74	54	5	ND	4	71	1	3	3	11	1.52	.052	2	5	.87	22	.01	2	.38	.04	.08	1
K32-03050320	1	19	25	336	.1	13	17	419	5.84	53	5	ND	2	113	1	4	2	13	2.41	.051	2	5	1.26	15	.01	6	.34	.05	.06	1
K32-05010515	9	52	129	318	.6	22	24	322	9.02	142	5	ND	4	17	1	8	2	20	.22	.043	2	11	.09	9	.01	2	.33	.03	.13	1
K32-05130519	4	54	123	155	.7	57	21	341	7.93	168	8	ND	4	16	1	8	2	11	.27	.002	2	29	.18	9	.01	5	.33	.03	.13	1
K32-05360552	1	17	22	64	.1	7	7	424	3.15	14	5	ND	6	89	1	2	2	13	1.93	.045	7	9	1.46	127	.01	3	1.43	.01	.14	1
K33-02650274	1	96	24	443	.3	74	26	1193	6.17	151	5	ND	3	85	1	5	2	62	2.16	.052	2	98	4.78	33	.01	2	3.80	.04	.06	1
K33-02740279	1	71	51	115	.1	80	30	2091	7.02	923	5	ND	2	129	1	8	2	27	4.22	.046	2	50	3.35	52	.01	3	1.51	.03	.11	1
K33-02790264	1	65	178	306	.2	94	33	1497	7.65	227	5	ND	2	90	1	2	2	53	3.04	.048	2	88	4.97	34	.01	4	3.60	.02	.06	1
K33-02840298	1	89	165	370	.4	69	26	2605	5.95	1153	5	ND	1	132	1	8	3	32	5.00	.043	2	55	4.43	38	.01	3	2.16	.04	.08	1
K33-02980208	1	80	16	157	.1	75	28	1409	5.74	73	5	ND	2	94	1	2	2	51	3.19	.049	2	85	4.77	56	.01	2	3.60	.02	.08	1
K33-03520360	1	53	76	150	.2	13	17	1590	5.83	73	5	ND	2	103	1	2	2	43	4.66	.057	2	9	5.56	55	.01	3	2.52	.04	.07	1
K33-03600371	1	34	338	548	.6	2	3	3339	2.04	39	5	ND	3	230	1	3	2	3	8.96	.024	3	1	6.34	66	.01	2	.58	.03	.04	1
K33-03710356	1	22	54	430	.1	4	11	1406	5.54	55	5	ND	1	180	1	2	2	10	6.03	.047	2	3	3.73	24	.01	2	.47	.04	.05	1
K33-06300633	5	221	1128	1678	1.2	34	20	259	8.63	3921	5	ND	4	44	6	17	2	12	.94	.041	2	13	.45	13	.01	7	.30	.04	.08	1
STD C	17	58	37	133	7.1	68	28	1054	4.04	40	18	7	37	49	17	16	20	57	.49	.089	39	55	.92	173	.06	35	1.86	.06	.14	11

ACME ANA ICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCO R B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253 6

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: Core AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 20 1988 DATE REPORT MAILED: July 30/88 ASSAYER C. Leong .D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT KAMAD 107 File # 88-2842

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM
K34 10611071	1	292	2348	10113	2.7	16	9	973	4.52	3183	5	ND	3	44	36	25
K34 10711080	1	798	3180	9520	3.3	26	23	464	7.46	13459	5	2	4	26	33	108
K34 10851097	1	539	4752	29164	6.0	21	12	459	7.40	5065	5	ND	5	23	102	31
K34 10971112	1	92	578	1731	1.2	31	14	371	5.38	293	5	ND	4	20	6	9
K34 11171127	1	572	1761	3359	3.6	46	24	781	5.59	6065	5	ND	5	32	12	82
K34 14301439	33	237	242	930	.7	29	16	809	15.83	121	5	ND	2	121	5	2
K35 15721582	1	102	957	2067	1.3	5	5	923	2.71	1569	5	ND	1	72	5	8
K35 15821592	1	1042	7948	8509	7.5	15	26	1555	8.96	1663	5	ND	1	154	23	9
K35 15921601	1	445	3068	2901	2.9	14	19	917	5.28	108	5	ND	3	105	8	3
K35 16061617	2	29	113	190	.2	8	8	975	3.60	57	5	ND	4	165	1	2
K36 06860696	2	27	42	57	.1	14	24	371	6.16	61	5	ND	5	32	1	2
K36 06960711	21	130	125	147	.4	8	17	1145	15.95	191	5	ND	3	97	1	2
K36 07110721	2	71	92	137	.3	14	26	683	8.14	97	5	ND	5	76	1	2
STD C/AU-R	18	57	39	128	7.0	67	27	1055	3.71	38	17	7	36	47	16	18

SAMPLE#	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
K34 10611071	2	1	1.20	.024	2	3	.70	36	.01	2	.24	.01	.07	1	312
K34 10711080	2	2	.60	.042	2	2	.40	22	.01	29	.32	.02	.07	1	1764
K34 10851097	2	1	.63	.032	2	2	.44	12	.01	6	.29	.01	.07	1	493
K34 10971112	2	2	.58	.022	3	4	.39	15	.01	3	.30	.01	.09	1	159
K34 11171127	3	6	1.09	.036	4	7	1.07	29	.01	26	.67	.02	.10	1	582
K34 14301439	2	73	2.76	.130	3	19	5.90	12	.01	2	3.78	.01	.03	1	20
K35 15721582	2	3	1.68	.008	6	2	1.80	51	.01	3	.95	.01	.06	1	203
K35 15821592	2	20	2.98	.039	2	34	4.14	25	.01	2	2.56	.01	.06	1	292
K35 15921601	2	21	1.93	.042	4	27	4.52	51	.01	2	3.21	.01	.07	1	34
K35 16061617	2	14	3.68	.030	6	6	4.07	60	.01	3	2.14	.01	.10	1	23
K36 06860696	2	15	1.00	.051	3	16	2.27	27	.01	3	1.74	.01	.11	1	58
K36 06960711	2	31	2.49	.048	2	12	5.41	9	.01	2	3.52	.01	.06	1	51
K36 07110721	2	36	1.93	.084	4	7	4.73	16	.01	4	3.55	.01	.09	1	39
STD C/AU-R	18	53	.43	.086	36	52	.84	169	.06	33	1.77	.06	.13	13	480

- ASSAY REQUIRED FOR CORRECT RESULT for Pb Zn > 10,000 ppm

ACME ANAL[illegible]CAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOU[illegible] B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-[illegible]

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 21 1988 DATE REPORT MAILED: July 28/88 ASSAYER. C. Leong .D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS CANADA LTD. PROJECT 107 File # 88-2866

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
K37 13131323	5	32	53	93	.4	41	16	3629	4.20	56	5	ND	3	191	1	2	2	9	4.47	.047	2	7	2.51	30	.01	5	.40	.01	.10	1	4
K37 13231334	1	196	618	922	1.7	98	41	476	14.17	200	5	ND	2	47	3	6	2	12	1.08	.245	2	12	.82	16	.01	7	.80	.01	.15	1	93
K37 13341349	1	148	861	2163	1.9	32	16	373	4.09	117	5	ND	2	25	7	5	2	3	.65	.036	3	4	.40	28	.01	8	.22	.01	.07	2	80
K37 14451455	1	95	997	1893	1.6	10	13	442	6.93	1362	5	ND	1	32	5	12	2	4	.88	.060	2	3	.59	20	.01	8	.37	.01	.10	1	210
K37 14551470	1	108	401	493	1.2	12	14	282	7.81	187	5	ND	2	22	1	2	2	4	.55	.070	3	4	.46	14	.01	6	.45	.01	.13	1	45
K37 14701475	1	1809	23843✓	47372✓	36.1	12	23	238	11.97	20685✓	5	ND	1	20	110	154	2	3	.47	.070	2	15	.40	11	.01	7	.40	.02	.10	1	820
K37 14751485	1	526	2033	2952	6.8	55	18	971	6.49	2342	5	ND	1	68	7	62	2	15	1.76	.055	2	45	2.84	32	.01	6	1.67	.01	.08	2	250
K38 08740889	1	212	1761	1925	2.9	30	18	431	3.63	686	5	ND	2	34	5	13	2	3	.74	.037	2	8	.50	33	.01	6	.24	.01	.06	1	220
K38 08890899	1	2150	21609✓	18110✓	25.4	9	6	292	6.49	3705	5	ND	1	18	42	52	2	1	.45	.006	2	2	.38	23	.01	6	.19	.01	.04	1	610
K38 08990909	1	205	1857	2463	3.3	17	7	127	4.77	2950	5	ND	4	11	6	23	2	1	.18	.023	4	3	.11	32	.01	7	.17	.03	.07	2	430
K38 09090919	1	474	4761	3575	5.8	6	4	127	4.91	11963	5	ND	4	9	9	103	2	1	.17	.016	3	1	.17	33	.01	8	.18	.03	.06	5	980
STD C/AU-R	17	57	38	132	6.7	68	28	1050	4.09	41	21	7	35	47	17	17	18	55	.49	.089	38	55	.91	175	.06	38	1.98	.05	.13	12	480

✓ASSAY REQUIRED FOR CORRECT RESULT -

ACACIA GRID
SOIL GEOCHEMISTRY

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

JUN 15 1988

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-P5 SOIL P6 ROCK

DATE RECEIVED: JUN 07 1988 DATE REPORT MAILED: June 14/88 ASSAYER. C. Leong ..D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

ESSO MINERALS PROJECT-KAMAD-107 File # 88-1812 Page 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8NAS036 L11+00E 17+00N	1	7	9	63	.1	23	5	226	1.49	5	5	ND	1	14	1	2	2	22	.14	.038	5	11	.12	67	.06	2	1.47	.02	.06	2
8NAS035 L11+00E 16+75N	1	50	16	133	.1	43	12	255	3.04	8	5	ND	4	22	2	4	2	22	.19	.036	8	19	.30	104	.06	9	2.25	.02	.09	1
8NAS034 L11+00E 16+50N	1	11	25	177	.1	30	6	435	2.11	5	5	ND	1	17	1	2	2	20	.18	.039	6	18	.16	66	.04	2	1.05	.01	.07	1
8NAS033 L11+00E 16+25N	1	11	13	103	.1	29	7	387	2.03	5	5	ND	4	23	1	4	2	20	.18	.143	9	16	.18	106	.05	3	1.26	.01	.06	2
8NAS032 L11+00E 16+00N	1	27	37	105	.1	64	15	340	3.76	12	5	ND	4	27	1	2	2	22	.19	.057	14	31	.33	117	.04	5	1.85	.01	.06	1
8NAS031 L11+00E 15+75N	1	9	3	71	.1	21	6	539	1.60	6	5	ND	1	28	1	3	2	20	.26	.214	3	9	.11	87	.06	2	1.88	.02	.07	1
8NAS030 L11+00E 15+50N	1	4	6	70	.1	20	5	772	1.48	5	5	ND	1	15	1	2	4	24	.14	.091	3	9	.09	70	.07	8	1.76	.02	.03	1
8NAS030 L11+00E 15+50N D	1	7	11	77	.1	24	5	640	1.61	6	5	ND	1	15	1	3	2	24	.15	.067	5	10	.12	66	.07	7	1.93	.02	.04	1
8NAS029 L11+00E 15+25N	1	7	18	66	.2	26	6	356	1.94	9	5	ND	2	13	1	3	3	21	.15	.234	5	14	.14	76	.07	6	2.23	.01	.05	2
8NAS028 L11+00E 15+00N	1	9	14	62	.1	31	6	304	1.71	5	5	ND	3	14	1	2	3	20	.15	.052	5	12	.14	72	.05	5	1.40	.02	.05	1
8NAS027 L11+00E 14+75N	1	14	21	62	.1	39	8	207	2.04	7	5	ND	1	16	1	2	2	17	.17	.041	7	14	.15	100	.05	2	1.76	.02	.06	2
8NAS026 L11+00E 14+50N	1	10	12	61	.1	22	6	179	1.75	8	5	ND	4	19	1	2	2	22	.30	.102	9	12	.15	68	.04	6	1.63	.01	.08	1
8NAS025 L11+00E 14+25N	1	30	19	97	.1	38	10	238	2.92	12	5	ND	7	6	1	2	2	11	.06	.022	28	22	.18	28	.01	7	.64	.01	.05	1
8NAS024 L11+00E 14+00N	1	17	22	80	.1	31	7	472	2.41	15	5	ND	3	16	1	2	2	23	.20	.295	7	15	.12	77	.08	2	2.75	.01	.05	1
8NAS023 L11+00E 13+75N	1	9	14	84	.1	19	6	723	1.56	8	5	ND	2	14	1	2	2	19	.15	.127	7	11	.10	78	.05	3	1.69	.01	.05	1
8NAS022 L11+00E 13+50N	1	26	34	98	.1	35	9	591	2.99	7	5	ND	7	19	1	2	2	16	.30	.058	14	16	.14	92	.02	2	1.29	.01	.08	1
8NAS021 L11+00E 13+25N	1	15	12	61	.1	34	7	272	2.36	10	5	ND	4	19	1	2	2	19	.21	.075	11	19	.20	74	.06	2	2.27	.01	.05	1
8NAS020 L11+00E 13+00N	1	11	13	51	.1	28	6	458	1.92	6	5	ND	3	19	1	3	5	20	.20	.070	8	14	.15	69	.05	2	1.65	.01	.06	3
8NAS019 L11+00E 12+75N	1	13	18	68	.1	25	7	524	2.11	3	5	ND	3	14	1	2	2	20	.13	.058	10	12	.14	59	.04	6	1.19	.01	.05	1
STD C	17	56	37	125	7.2	66	27	1027	3.91	35	16	8	36	48	16	16	22	54	.44	.088	36	56	.90	170	.06	36	1.85	.06	.14	13
8NAS018 L11+00E 12+50N	1	36	22	117	.1	52	12	252	3.46	8	5	ND	7	11	1	2	4	22	.08	.025	25	50	.59	49	.01	2	1.36	.01	.06	1
8NAS017 L11+00E 12+25N	1	13	12	65	.1	28	7	309	2.21	7	5	ND	3	20	1	2	2	19	.19	.084	12	20	.19	64	.05	2	1.90	.01	.06	2
8NAS016 L11+00E 12+00N	1	20	24	86	.2	39	10	452	2.47	5	5	ND	7	17	1	5	2	21	.20	.040	16	30	.31	71	.03	6	1.42	.01	.09	1
8NAS015 L11+00E 11+75N	1	11	13	49	.1	19	5	474	1.72	5	5	ND	1	18	1	2	2	19	.16	.137	7	10	.12	48	.04	4	1.37	.01	.04	2
8NAS015 L11+00E 11+75N D	1	11	12	56	.1	25	6	454	1.87	7	5	ND	2	18	1	2	4	19	.18	.102	8	11	.13	58	.05	2	1.65	.02	.05	1
8NAS014 L11+00E 11+50N	1	19	20	73	.1	28	9	283	3.06	6	5	ND	6	18	1	3	2	16	.13	.055	21	18	.19	63	.01	4	1.00	.01	.07	1
8NAS013 L11+00E 11+25N	1	25	23	80	.1	39	10	273	2.89	8	5	ND	7	18	1	3	2	18	.16	.041	15	20	.22	75	.03	5	1.52	.01	.08	2
8NAS012 L11+00E 11+00N	1	12	12	69	.2	31	6	376	2.13	6	5	ND	4	20	1	2	2	19	.22	.101	10	15	.18	83	.05	2	1.55	.01	.07	1
8NAS011 L11+00E 10+75N	1	15	18	72	.1	31	8	423	2.46	6	5	ND	2	18	1	2	2	21	.16	.097	13	22	.26	55	.03	2	1.21	.01	.06	1
8NAS010 L11+00E 10+50N	1	7	10	61	.2	14	6	681	1.63	3	5	ND	3	17	1	2	2	22	.17	.118	6	12	.14	63	.04	12	1.32	.02	.04	1
8NAS009 L11+00E 10+00N	1	12	19	104	.1	21	8	863	2.17	5	5	ND	2	19	1	2	2	23	.16	.110	8	17	.19	93	.04	3	1.21	.01	.04	1
RE 8NAS013 L11+00E 11+25N	1	25	25	80	.2	39	10	272	2.89	8	5	ND	9	18	2	3	2	18	.16	.042	15	19	.22	76	.03	8	1.51	.01	.08	1
8NAS008 L11+00E 9+75N	1	30	17	85	.2	44	12	431	3.63	8	5	ND	4	15	1	2	2	25	.16	.074	13	39	.46	52	.03	9	1.29	.01	.05	1
8NAS007 L11+00E 9+50N	1	12	18	91	.1	28	9	556	2.77	7	5	ND	3	13	1	2	2	28	.12	.128	11	34	.45	67	.04	2	1.88	.01	.06	1
8NAS006 L11+00E 9+25N	1	33	20	95	.1	40	12	342	3.71	6	5	ND	4	13	1	2	2	25	.10	.046	17	40	.57	44	.01	2	1.26	.01	.06	1
8NAS005 L11+00E 9+00N	1	12	10	83	.5	46	10	366	2.70	10	5	ND	4	21	1	2	4	29	.24	.140	8	37	.51	69	.07	4	2.68	.01	.08	1
8NAS004 L11+00E 8+75N	1	8	9	62	.1	25	7	783	2.02	5	6	ND	4	16	1	2	6	25	.18	.141	6	20	.23	73	.05	2	1.59	.02	.05	1
8NAS003 L11+00E 8+50N	1	11	9	56	.1	27	8	341	2.25	5	5	ND	3	12	1	2	2	25	.12	.049	7	28	.36	52	.04	4	1.44	.01	.03	1
STD C	[illegible]	60	[illegible]	[illegible]	[illegible]	[illegible]	28	[illegible]	[illegible]	37	18	6	36	47	17	17	22	59	.46	.090	39	60	.96	183	.07	[illegible]	1.95	.07	.13	11

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8NAS002 L11+00E 8+25N	1	20	9	83	.1	45	13	248	3.55	5	5	ND	5	24	1	2	2	32	.15	.013	15	59	.73	66	.04	2	1.56	.01	.06	1
8NAS001 L11+00E 8+00N	1	14	12	71	.1	41	12	306	2.98	18	5	ND	5	21	1	2	4	30	.17	.059	8	37	.43	90	.07	6	2.91	.02	.05	1
8NAS037 L12+00E 17+00N	1	41	23	120	.1	64	15	349	4.10	9	5	ND	5	24	2	2	2	21	.78	.026	17	42	.32	36	.03	4	1.19	.01	.09	1
8NAS038 L12+00E 16+75N	1	23	19	87	.1	40	10	324	2.85	13	5	ND	7	17	2	2	2	19	.18	.032	14	19	.18	77	.05	7	1.41	.01	.05	1
8NAS039 L12+00E 16+50N	1	11	15	59	.1	37	7	306	2.27	8	5	ND	4	23	1	2	2	16	.17	.043	14	18	.18	151	.04	4	1.93	.01	.09	1
8CAS035 L10+00E 17+00N	1	23	16	90	.1	33	9	217	3.22	7	5	ND	6	14	.2	2	4	17	.13	.060	17	14	.16	54	.02	2	1.13	.01	.05	1
8CAS034 L10+00E 16+75N	1	8	2	63	.3	32	5	315	1.40	4	5	ND	3	26	2	2	2	17	.26	.138	5	15	.14	78	.05	10	1.46	.01	.06	1
8CAS033 L10+00E 16+50N	1	6	12	36	.1	30	5	389	1.46	3	5	ND	2	21	1	2	3	17	.22	.118	6	15	.16	78	.07	9	1.79	.01	.08	1
8CAS032 L10+00E 16+25N	1	8	5	67	.2	32	6	411	2.01	7	5	ND	2	19	1	2	5	22	.22	.112	7	14	.14	64	.06	8	2.06	.02	.07	2
8CAS031 L10+00E 16+00N	1	21	10	69	.1	42	9	390	3.18	5	5	ND	5	16	2	2	2	19	.15	.068	14	23	.14	73	.04	5	1.37	.01	.05	2
8CAS030 L10+00E 16+00N A	1	20	12	86	.1	40	8	366	3.17	9	6	ND	7	15	1	3	2	19	.13	.061	15	19	.14	68	.04	12	1.37	.01	.06	1
8CAS029 L10+00E 15+75N	1	36	29	64	.1	46	16	365	4.01	10	5	ND	6	11	1	2	2	20	.10	.057	18	23	.21	78	.03	2	1.20	.01	.05	2
8CAS028 L10+00E 15+50N	1	22	17	73	.1	36	10	377	2.68	5	5	ND	5	11	1	3	2	18	.11	.051	20	20	.18	54	.03	3	1.04	.01	.07	2
8CAS027 L10+00E 15+25N	1	13	10	92	.4	38	8	457	2.16	6	6	ND	5	19	2	2	2	20	.23	.088	10	20	.16	91	.04	8	1.29	.01	.08	1
STD C	18	60	37	130	6.5	68	28	1029	4.02	39	22	8	36	46	19	16	20	57	.47	.089	39	58	.94	165	.06	33	1.50	.06	.14	12
8CAS026 L10+00E 15+00N	1	14	15	67	.1	38	7	337	2.30	10	5	ND	4	17	1	2	2	18	.19	.072	10	18	.17	99	.06	2	2.15	.02	.08	1
8CAS025 L10+00E 14+75N	1	15	13	81	.1	28	9	661	2.46	6	5	ND	3	15	1	2	2	20	.24	.105	9	16	.15	87	.04	2	1.34	.01	.06	1
8CAS024 L10+00E 14+50N	1	6	5	45	.1	18	5	348	1.72	5	5	ND	3	13	1	2	2	23	.20	.128	5	13	.09	75	.06	5	1.56	.02	.04	1
RE 8CAS018 L10+00E 13+00N	1	22	12	58	.4	38	5	153	2.33	3	5	ND	6	19	1	2	3	13	.17	.099	14	8	.10	67	.05	6	1.68	.01	.07	1
8CAS023 L10+00E 14+25N	1	22	6	67	.2	139	12	295	2.33	22	5	ND	3	23	1	2	2	29	.25	.084	7	59	.22	40	.07	12	1.72	.02	.04	1
8CAS022 L10+00E 14+00N	1	11	16	62	.1	36	7	323	1.73	7	5	ND	3	17	2	3	3	20	.22	.071	6	16	.16	45	.07	6	1.84	.02	.09	1
8CAS021 L10+00E 13+75N	1	14	7	84	.2	34	8	489	2.09	8	5	ND	2	20	1	3	2	25	.24	.080	7	24	.15	74	.07	4	1.78	.02	.06	1
8CAS020 L10+00E 13+50N	1	6	7	54	.3	18	4	340	1.54	2	5	ND	2	15	1	2	2	20	.18	.062	8	10	.10	49	.06	4	1.45	.02	.05	1
8CAS019 L10+00E 13+25N	1	10	7	53	.1	29	6	480	2.13	10	5	ND	3	14	1	2	2	21	.14	.148	6	14	.15	92	.08	4	2.64	.02	.05	1
8CAS018 L10+00E 13+00N	1	22	13	59	.2	38	8	155	2.39	5	5	ND	6	19	1	2	5	13	.17	.102	14	9	.10	68	.05	4	1.71	.01	.08	1
8CAS017 L10+00E 12+75N	1	9	14	60	.1	23	6	759	1.81	3	8	ND	4	19	1	3	2	19	.18	.118	9	12	.14	87	.04	3	1.10	.01	.08	1
8CAS016 L10+00E 12+50N	1	37	14	82	.1	43	11	285	3.64	8	5	ND	8	12	1	2	2	18	.10	.032	27	29	.35	46	.01	2	.83	.01	.08	1
8CAS015 L10+00E 12+50N A	1	35	11	80	.3	40	11	253	3.56	7	5	ND	7	11	2	2	2	16	.08	.033	29	26	.32	44	.01	7	.83	.01	.08	2
8CAS014 L10+00E 12+25N	1	12	11	65	.1	25	7	301	2.17	8	5	ND	5	18	1	2	2	19	.17	.178	11	15	.15	77	.06	2	2.01	.01	.07	2
8CAS013 L10+00E 12+00N	1	13	11	71	.1	30	8	817	2.25	11	6	ND	5	24	2	2	2	24	.27	.143	8	17	.19	123	.09	6	2.72	.02	.10	1
8CAS012 L10+00E 11+75N	1	18	16	78	.3	41	10	418	2.99	7	5	ND	8	19	1	2	2	21	.19	.056	17	21	.22	91	.04	4	1.59	.01	.08	1
8CAS011 L10+00E 11+50N	1	11	12	70	.2	22	7	469	2.29	5	5	ND	6	20	1	3	2	19	.15	.136	13	14	.16	90	.03	7	1.18	.01	.08	1
8CAS010 L10+00E 11+25N	1	21	13	77	.3	31	9	387	3.02	7	5	ND	7	26	2	2	2	20	.20	.131	16	22	.25	74	.03	13	1.26	.01	.07	2
8CAS009 L10+00E 11+00N	1	14	18	78	.2	25	9	852	2.73	4	5	ND	5	21	1	2	3	19	.17	.124	15	17	.19	108	.03	7	1.14	.01	.07	1
8CAS008 L10+00E 10+75N	1	11	13	58	.4	23	7	338	2.24	6	5	ND	5	18	1	3	2	21	.20	.059	9	14	.16	63	.06	11	1.93	.02	.07	1
8CAS007 L10+00E 10+50N	1	38	16	75	.1	41	11	215	3.56	8	5	ND	8	12	1	2	2	17	.08	.019	28	28	.35	27	.01	2	.91	.01	.08	1
8CAS006 L10+00E 10+25N	1	22	10	86	.2	32	9	432	2.75	6	5	ND	5	17	1	2	2	21	.17	.069	16	28	.31	75	.03	6	1.50	.01	.07	1
8CAS005 L10+00E 10+00N	1	21	18	105	.2	38	10	456	2.86	5	5	ND	5	18	1	2	2	26	.23	.060	12	29	.36	59	.03	11	1.60	.01	.08	1
STD C	18	60	37	133	6.6	70	29	1043	4.15	39	25	8	38	47	18	18	22	60	.48	.092	41	62	.96	183	.07	31	1.97	.07	.14	14

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8CAS004 L10+00E 9+75N	1	23	13	96	.2	34	5	330	2.88	8	5	ND	7	15	3	2	2	23	.15	.082	14	34	.44	65	.03	7	1.45	.01	.07	1
8CAS003 L10+00E 9+50N	1	15	7	96	.2	35	11	297	3.17	6	5	ND	4	27	2	4	3	31	.31	.057	7	26	.44	45	.05	8	1.83	.01	.07	1
8CAS002 L10+00E 9+25N	1	9	10	62	.1	22	6	377	2.20	10	5	ND	4	17	2	5	2	24	.17	.103	6	22	.26	60	.06	6	2.45	.01	.06	2
8CAS001 L10+00E 9+00N	1	21	16	89	.1	44	12	651	3.55	5	5	ND	5	32	3	4	2	26	.31	.023	13	42	.57	82	.04	7	2.15	.01	.07	1
8CAS077 L13+00E 15+75N	1	18	12	100	.1	37	10	433	2.99	7	5	ND	5	15	1	2	2	21	.25	.034	15	34	.38	47	.03	2	1.21	.01	.10	1
8CAS076 L13+00E 15+50N	1	15	15	88	.1	31	6	395	2.52	4	5	ND	5	19	1	2	2	21	.20	.042	14	29	.25	64	.03	4	1.13	.01	.09	1
8CAS075 L13+00E 15+25N	1	9	12	82	.1	30	7	498	2.33	4	5	ND	6	16	2	2	2	15	.15	.061	16	32	.27	75	.01	9	.76	.01	.09	2
8CAS074 L13+00E 15+00N	1	5	11	80	.1	20	5	781	1.46	2	5	ND	3	23	2	2	3	16	.23	.083	6	15	.13	102	.03	5	1.00	.01	.09	1
8CAS073 L13+00E 14+75N	1	14	14	75	.2	32	7	333	2.17	5	5	ND	5	16	1	2	2	18	.15	.061	13	25	.24	72	.03	8	1.13	.01	.08	1
8CAS072 L13+00E 14+50N	1	24	16	75	.1	38	10	368	3.00	5	5	ND	6	17	1	2	2	19	.15	.025	22	36	.38	47	.01	6	.87	.01	.10	1
8CAS071 L13+00E 14+25N	1	5	10	65	.2	27	7	405	2.08	5	5	ND	5	16	2	2	2	16	.15	.078	12	19	.19	68	.04	5	1.40	.01	.06	1
8CAS070 L13+00E 14+00N	1	17	14	90	.1	36	10	447	3.11	7	5	ND	5	12	2	2	2	19	.09	.087	18	28	.28	74	.02	6	1.24	.01	.09	1
8CAS069 L13+00E 13+75N	1	21	18	73	.1	42	11	433	3.07	7	5	ND	8	14	1	3	2	20	.12	.035	20	35	.35	54	.02	3	1.05	.01	.12	1
8CAS068 L13+00E 13+50N	1	16	16	112	.1	37	11	596	3.23	7	5	ND	7	21	2	2	2	19	.20	.068	20	33	.32	66	.01	6	1.11	.01	.11	1
8CAS067 L13+00E 13+25N	1	43	15	105	.2	54	15	508	4.26	9	5	ND	10	17	2	4	2	21	.14	.024	24	44	.47	40	.01	4	1.02	.01	.14	1
8CAS066 L13+00E 13+25N A	1	42	24	99	.1	50	14	460	4.16	9	5	ND	10	17	1	2	2	21	.13	.024	23	42	.47	37	.01	8	1.00	.01	.13	2
RE 8CAS060 L13+00E 11+75N	1	11	10	71	.1	30	7	345	2.14	4	5	ND	6	13	1	2	2	17	.13	.049	12	16	.17	66	.03	8	1.30	.01	.08	1
8CAS065 L13+00E 13+00N	1	31	12	76	.1	39	10	205	3.27	6	5	ND	10	12	2	2	2	17	.08	.020	23	32	.32	25	.01	5	.76	.01	.08	1
8CAS064 L13+00E 12+75N	1	12	13	65	.1	28	6	558	2.04	4	5	ND	5	17	1	2	2	16	.18	.072	10	15	.15	88	.04	7	1.24	.01	.07	1
8CAS063 L13+00E 12+50N	1	5	13	60	.1	26	5	553	1.58	5	5	ND	4	16	1	2	3	19	.17	.085	5	10	.12	69	.05	5	1.42	.01	.06	1
8CAS062 L13+00E 12+25N	1	10	13	68	.1	27	7	442	2.06	4	5	ND	5	21	2	2	2	16	.18	.065	11	15	.16	64	.03	5	1.09	.01	.07	1
STD C	16	58	37	125	7.0	68	27	1013	3.97	36	18	8	35	48	16	19	23	52	.44	.087	36	56	.92	170	.06	33	1.86	.06	.14	13
8CAS061 L13+00E 12+00N	1	21	18	83	.1	31	9	220	2.85	10	5	ND	6	19	1	2	2	18	.17	.086	13	19	.20	78	.04	4	1.84	.01	.07	1
8CAS060 L13+00E 11+75N	1	12	8	73	.3	30	7	353	2.16	6	5	ND	5	14	1	2	2	17	.13	.050	12	17	.17	67	.03	7	1.33	.01	.09	1
8CAS059 L13+00E 11+50N	1	19	16	82	.1	32	8	317	2.76	6	6	ND	7	13	1	2	2	15	.09	.040	17	17	.19	83	.02	8	1.13	.01	.06	1
8CAS058 L13+00E 11+25N	1	7	7	78	.1	23	5	734	1.71	6	5	ND	4	15	1	4	2	18	.16	.070	10	16	.15	90	.04	2	1.39	.01	.07	1
8CAS057 L13+00E 11+00N	1	6	10	63	.1	17	5	595	1.56	3	5	ND	1	22	1	2	2	16	.25	.170	6	11	.11	75	.04	2	1.17	.01	.06	1
8CAS056 L13+00E 10+75N	1	11	20	76	.3	27	6	499	2.11	6	5	ND	2	26	1	2	2	17	.26	.140	9	17	.16	89	.03	5	1.28	.01	.08	1
8CAS055 L13+00E 10+50N	1	7	10	72	.1	23	6	587	1.85	7	5	ND	2	22	1	3	3	18	.32	.094	6	15	.15	57	.05	6	1.79	.01	.06	1
8CAS054 L13+00E 10+25N	1	5	7	61	.1	10	4	890	1.45	3	5	ND	2	37	1	3	2	17	.33	.286	4	10	.11	91	.04	2	1.19	.01	.04	1
8CAS053 L13+00E 10+00N	1	18	21	70	.1	27	8	286	2.76	8	5	ND	4	15	1	2	2	20	.24	.077	11	21	.22	54	.04	6	1.87	.01	.05	1
8CAS052 L13+00E 9+75N	1	18	20	74	.1	30	9	351	2.89	7	5	ND	3	17	1	2	3	26	.21	.033	10	27	.31	82	.03	2	1.54	.01	.05	1
8CAS051 L13+00E 9+75N A	1	31	23	82	.1	34	10	466	3.05	9	5	ND	5	16	1	2	2	26	.23	.037	12	29	.35	100	.03	4	1.64	.01	.06	1
8CAS050 L13+00E 9+50N	1	15	21	131	.1	28	9	844	2.80	7	5	ND	5	21	1	2	2	26	.22	.084	9	24	.31	107	.05	5	1.71	.01	.07	1
8CAS049 L13+00E 9+25N	1	11	17	70	.1	27	8	625	2.49	8	5	ND	4	15	1	2	2	26	.23	.038	8	24	.29	74	.06	3	2.11	.01	.05	1
8CAS048 L13+00E 9+00N	1	11	31	63	.1	28	9	492	2.81	10	5	ND	3	13	1	2	2	27	.23	.051	8	27	.31	70	.06	3	2.26	.01	.04	1
8CAS047 L13+00E 8+75N	1	12	24	97	.1	28	9	525	2.73	11	6	ND	4	19	1	2	2	21	.29	.068	7	18	.18	88	.07	2	3.17	.01	.06	1
8CAS046 L13+00E 8+50N	1	12	18	73	.2	25	6	362	2.49	16	5	ND	4	21	1	5	3	22	.29	.119	6	19	.19	87	.09	3	3.50	.01	.04	1
STD C	18	57	39	132	7.1	68	27	1057	4.21	39	18	8	37	47	16	17	21	57	.46	.090	39	60	.98	175	.07	33	1.96	.06	.13	11

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8CAS045 L13+00E 8+25N	1	10	23	73	.1	21	8	1152	2.00	12	5	ND	2	19	1	2	2	26	.26	.055	5	15	.15	82	.07	4	2.04	.02	.05	1
8CAS044 L13+00E 8+00N	1	10	19	72	.1	28	6	490	1.97	18	5	ND	3	19	1	2	2	25	.34	.124	5	17	.19	136	.09	8	2.66	.02	.04	1
8CAS043 L13+00E 7+75N	1	11	17	75	.1	29	9	389	2.67	16	6	ND	3	17	1	2	2	27	.19	.220	6	26	.30	76	.07	6	3.00	.01	.06	1
8CAS042 L13+00E 7+50N	1	10	11	57	.2	20	8	361	1.95	13	5	ND	3	18	1	2	2	23	.23	.051	6	16	.17	57	.05	5	1.95	.01	.04	1
8CAS041 L13+00E 7+25N	1	9	16	62	.2	15	6	420	2.12	14	5	ND	2	9	1	2	2	25	.06	.081	6	15	.19	63	.07	5	2.31	.01	.04	1
8CAS040 L13+00E 7+00N	1	6	11	63	.1	13	5	1405	1.41	8	5	ND	1	25	1	2	2	19	.41	.086	4	10	.10	95	.04	2	1.43	.01	.03	1
8CAS039 L13+00E 6+75N	1	29	22	73	.1	36	10	397	3.02	14	5	ND	5	13	1	2	3	25	.15	.037	13	29	.47	86	.04	2	1.55	.01	.07	1
8CAS038 L13+00E 6+50N	1	12	18	99	.2	31	7	708	2.20	16	5	ND	2	14	1	5	2	23	.17	.150	6	19	.23	118	.07	4	2.72	.01	.05	1
8CAS037 L13+00E 6+25N	1	12	18	73	.1	26	6	793	2.32	11	5	ND	3	12	1	4	2	23	.12	.052	9	20	.22	88	.03	6	1.50	.01	.06	2
8CAS036 L13+00E 6+00N	1	24	22	56	.1	29	8	227	2.77	11	5	ND	5	10	1	2	2	19	.16	.037	14	26	.37	54	.02	2	1.04	.01	.05	1
8JA038 L12+00E 16+25N	1	7	17	69	.3	17	5	458	1.31	8	8	ND	4	15	2	2	3	17	.25	.062	5	10	.10	65	.04	10	1.06	.01	.05	1
8JA037 L12+00E 16+00N	1	6	18	59	.1	48	7	343	1.89	9	6	ND	3	17	1	2	2	22	.15	.023	7	24	.14	56	.03	7	.56	.01	.06	1
8JA036 L12+00E 15+75N	1	8	17	60	.1	32	5	257	1.62	12	6	ND	2	18	1	2	2	16	.21	.052	6	12	.13	60	.07	4	1.57	.02	.06	1
8JA035 L12+00E 15+50N	1	9	14	78	.1	31	6	234	1.86	13	5	ND	3	22	1	3	2	18	.25	.064	6	16	.16	74	.08	5	2.32	.02	.06	1
8JA034 L12+00E 15+25N	1	12	17	64	.1	34	7	340	2.63	9	5	ND	2	17	1	2	2	24	.21	.086	7	35	.14	53	.04	2	1.36	.01	.05	1
8JA033 L12+00E 15+00N	1	6	11	61	.1	27	5	505	1.38	12	5	ND	2	19	1	2	2	18	.17	.105	5	13	.12	61	.05	6	1.63	.02	.04	1
8JA032 L12+00E 14+75N	1	10	12	69	.1	34	7	348	1.93	7	5	ND	2	19	1	2	3	21	.17	.059	7	31	.22	47	.04	3	1.27	.01	.05	1
8JA031 L12+00E 14+50N	1	6	17	71	.2	19	4	536	1.46	8	5	ND	1	18	1	4	2	20	.19	.117	5	10	.11	106	.05	2	1.35	.01	.05	1
8JA030 L12+00E 14+25N	1	10	15	97	.1	29	7	406	2.09	8	5	ND	4	18	1	2	2	21	.19	.047	9	19	.20	64	.04	4	1.20	.01	.06	1
RE 8JA034 L12+00E 15+25N	1	12	17	63	.1	34	7	341	2.57	10	5	ND	3	18	1	3	2	24	.21	.091	8	34	.14	53	.04	4	1.34	.01	.05	1
8JA030 L12+00E 14+25N A	1	6	15	97	.1	21	7	550	1.89	5	5	ND	3	19	1	6	2	24	.17	.053	6	15	.15	73	.05	5	.94	.01	.06	1
STD C	17	55	37	124	7.1	68	27	1027	3.80	38	18	8	35	48	16	18	21	53	.44	.087	36	54	.89	168	.05	30	1.81	.06	.14	13
8JA029 L12+00E 14+00N	1	8	14	55	.5	25	6	237	1.90	10	5	ND	5	15	2	2	2	19	.17	.057	7	12	.14	52	.06	10	1.73	.01	.05	1
8JA028 L12+00E 13+75N	1	8	20	61	.3	21	5	458	1.65	9	7	ND	4	16	1	2	2	19	.17	.100	5	14	.14	57	.06	9	1.51	.02	.05	1
8JA027 L12+00E 13+50N	1	19	13	82	.2	65	13	379	2.62	10	5	ND	8	13	1	2	2	23	.11	.040	18	80	.53	60	.03	7	1.12	.01	.12	1
8JA026 L12+00E 13+25N	1	9	15	77	.1	25	7	516	1.88	6	6	ND	3	19	1	2	2	19	.17	.059	8	15	.16	73	.03	7	.92	.01	.06	1
8JA025 L12+00E 13+00N	1	13	18	68	.3	35	7	335	2.16	12	5	ND	5	15	1	2	2	20	.15	.170	8	18	.19	73	.06	3	1.74	.01	.06	1
8JA024 L12+00E 12+75N	1	12	17	63	.1	29	7	505	2.14	7	5	ND	4	12	1	2	2	17	.11	.095	10	15	.16	67	.04	3	1.34	.01	.06	1
8JA023 L12+00E 12+50N	1	19	23	60	.3	30	11	566	2.85	7	5	ND	7	18	1	4	2	15	.20	.038	16	20	.20	55	.02	4	.94	.01	.07	1
8JA022 L12+00E 12+25N	1	11	13	56	.4	21	6	411	1.76	11	5	ND	6	18	2	2	2	17	.23	.084	7	11	.14	66	.06	8	1.99	.02	.07	1
8JA021 L12+00E 12+00N	1	5	12	48	.4	10	4	343	1.49	7	5	ND	3	16	1	3	2	22	.22	.105	4	7	.08	35	.05	4	1.38	.02	.04	1
8JA020 L12+00E 11+75N	1	8	17	68	.2	19	6	491	1.89	12	5	ND	4	19	1	2	2	17	.23	.247	6	13	.13	69	.06	6	2.28	.01	.07	1
8JA019 L12+00E 11+50N	1	8	12	59	.3	22	6	364	1.89	6	5	ND	4	14	1	2	2	19	.14	.095	8	15	.16	65	.03	8	1.13	.01	.05	1
8JA018 L12+00E 11+25N	1	32	23	86	.1	33	11	258	3.45	6	5	ND	10	11	1	2	2	16	.10	.042	22	23	.29	32	.01	10	.81	.01	.06	1
8JA017 L12+00E 11+00N	1	15	23	90	.1	30	10	738	2.55	9	5	ND	6	21	3	3	2	15	.19	.134	12	27	.31	90	.02	6	1.10	.01	.08	1
8JA016 L12+00E 10+75N	1	6	6	72	.4	11	5	328	1.43	4	6	ND	4	14	2	2	2	22	.12	.063	6	6	.08	54	.03	4	.80	.02	.05	1
8JA015 L12+00E 10+50N	1	10	17	66	.3	27	6	285	1.92	7	6	ND	5	22	2	3	2	17	.27	.111	9	16	.20	62	.04	15	1.38	.01	.07	1
8JA015 L12+00E 10+50N A	1	12	16	67	.2	28	6	251	1.97	7	5	ND	3	21	1	2	2	17	.27	.089	8	17	.21	62	.04	4	1.38	.01	.07	1
STD C	17	58	41	133	7.2	65	28	1064	4.05	39	21	8	37	47	17	16	20	56	.47	.088	38	58	.95	173	.06	33	1.92	.07	.13	11

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8JA014 L12+00E 10+25N	1	9	10	63	.1	31	6	549	1.96	7	5	ND	1	38	1	2	3	16	.40	.184	8	17	.19	85	.06	2	2.25	.02	.07	1
8JA013 L12+00E 10+00N	1	13	22	98	.1	27	9	441	2.74	9	5	ND	1	26	1	2	4	20	.30	.143	11	18	.17	55	.04	4	2.06	.01	.05	1
8JA012 L12+00E 9+75N	1	14	20	60	.1	27	8	572	2.57	9	5	ND	3	27	1	3	5	20	.29	.310	12	23	.26	93	.04	5	2.19	.01	.09	1
8JA011 L12+00E 9+50N	1	12	15	65	.2	21	7	749	2.38	2	5	ND	3	27	2	2	6	19	.25	.071	14	17	.20	66	.02	2	1.16	.02	.06	1
8JA010 L12+00E 9+25N	1	13	13	75	.1	26	8	413	2.46	4	5	ND	4	22	1	2	5	22	.18	.161	9	26	.33	59	.04	6	1.78	.01	.06	1
8JA009 L12+00E 9+00N	1	39	30	162	.1	44	15	396	4.78	6	5	ND	7	17	1	2	4	30	.15	.033	26	60	.86	32	.01	2	1.45	.01	.06	2
8JA008 L12+00E 8+75N	1	9	9	56	.1	21	9	426	2.61	7	5	ND	2	24	1	2	7	30	.26	.038	7	30	.27	60	.04	2	2.27	.02	.06	1
8JA007 L12+00E 8+50N	1	25	17	67	.2	42	12	264	3.34	12	5	ND	7	28	3	2	4	26	.17	.021	13	39	.45	110	.05	2	2.77	.02	.06	1
8JA006 L12+00E 8+25N	1	12	17	65	.2	34	11	494	3.05	14	5	ND	3	21	2	2	7	29	.20	.071	10	30	.34	58	.08	5	3.13	.01	.06	1
8JA005 L12+00E 8+00N	1	27	13	86	.1	34	10	151	3.61	8	5	ND	7	13	1	2	2	28	.11	.020	27	39	.45	55	.01	2	1.22	.02	.05	1
STD C	18	58	37	131	7.0	64	28	1109	4.06	43	18	8	36	50	17	19	23	56	.47	.086	39	57	.95	167	.06	33	1.95	.06	.14	14
8JA004 L12+00E 7+75N	1	22	15	72	.1	20	7	217	2.22	14	5	ND	2	19	1	2	2	26	.26	.115	6	18	.19	50	.11	9	3.11	.02	.04	1
RE 8JA008 L12+00E 8+75N	1	7	8	60	.1	22	9	446	2.55	8	5	ND	3	26	1	2	5	30	.28	.040	8	29	.29	64	.04	3	2.39	.02	.07	1
8JA003 L12+00E 7+50N	1	6	13	60	.1	15	5	755	1.64	8	5	ND	1	19	1	3	6	23	.27	.090	5	11	.12	61	.08	9	2.22	.02	.06	1
8JA002 L12+00E 7+25N	1	15	12	83	.1	26	8	474	2.25	9	5	ND	1	22	1	2	2	23	.23	.068	11	20	.20	61	.06	2	2.38	.02	.05	1
8JA001 L12+00E 7+00N	1	14	22	69	.1	29	7	694	2.46	14	5	ND	2	18	1	2	2	25	.22	.203	8	24	.31	120	.09	8	3.19	.02	.07	1
8JA039 L13+00E 17+00N	1	10	13	68	.1	34	7	324	2.41	2	5	ND	6	16	1	2	2	24	.14	.033	22	35	.38	56	.03	5	1.11	.01	.10	2
8JA040 L13+00E 16+75N	1	7	11	52	.1	23	5	210	1.83	2	5	ND	2	23	1	2	2	18	.22	.093	9	13	.15	48	.04	2	1.27	.02	.07	2
8JA041 L13+00E 16+50N	1	10	17	82	.1	28	6	415	2.03	6	5	ND	3	22	1	2	2	18	.22	.084	10	13	.14	85	.05	3	1.35	.02	.07	1
8JA042 L13+00E 16+25N	1	5	10	90	.1	18	6	253	1.75	2	5	ND	2	16	1	2	2	27	.13	.051	7	12	.12	50	.06	2	.96	.01	.05	1
8JA043 L13+00E 16+00N	1	10	14	82	.1	32	8	431	1.84	4	5	ND	3	22	1	2	2	21	.20	.040	7	13	.16	73	.06	3	1.61	.02	.05	2
STD C	17	58	37	132	7.2	66	27	1055	4.03	44	18	8	36	50	17	16	19	56	.47	.087	38	57	.95	173	.06	30	1.93	.07	.13	12

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Hg PPB
8HHR 001	1	12	697	154	2.1	2	1	57	1.02	19	5	ND	3	70	2	4	2	1	1.05	.004	10	2	.04	64	.01	4	.15	.01	.07	1	240
8HHR 002	3	54	215	219	3.9	3	1	58	1.09	17	5	ND	4	45	1	9	2	1	.45	.004	11	3	.03	76	.01	2	.13	.05	.06	1	340
8HHR 003	1	8	266	30	1.7	3	2	22	.26	5	6	ND	5	29	2	3	2	1	.03	.002	23	3	.01	1202	.01	10	.16	.01	.09	2	40
8HHR 004	4	75	588	283	15.3	1	1	24	.44	12	5	ND	5	44	2	174	2	1	.07	.002	20	2	.01	251	.01	15	.19	.01	.08	2	3500
8HHR 005	13	71	1382	1893	47.2	3	1	82	.74	11	5	ND	4	26	6	166	2	1	.12	.003	5	2	.08	98	.01	2	.24	.01	.16	4	5400
8HHR 006	5	38	131	275	1.8	3	1	105	1.20	3	5	ND	7	18	2	7	2	1	.12	.001	13	4	.07	187	.01	5	.21	.01	.09	3	290
RE 8HHR 005	13	71	1385	1884	46.6	2	1	81	.75	12	5	ND	4	26	4	168	2	1	.11	.003	5	1	.08	105	.01	2	.27	.01	.16	3	6000
8HHR 007	2	41	2872	1418	15.9	1	1	24	.35	10	5	ND	4	89	5	36	2	1	.05	.002	12	2	.02	150	.01	8	.18	.01	.08	2	3900
8HHR 009	9	301	3844	2591	62.0	2	1	21	.69	57	5	ND	3	148	6	735	2	1	.03	.002	9	2	.02	80	.01	7	.13	.01	.06	3	14400
8HHR 010	1	17	341	265	1.3	2	1	36	.66	3	7	ND	3	24	2	7	2	1	.16	.002	8	2	.04	253	.01	5	.19	.01	.10	1	140
8HHR 011	1	18	4469	96	4.2	2	1	25	.66	11	5	ND	4	30	2	11	2	1	.04	.004	23	3	.02	282	.01	5	.22	.01	.13	4	1100
STD C	17	58	37	132	7.2	66	27	1055	4.03	44	18	8	36	50	17	16	19	56	.47	.087	38	57	.95	173	.06	30	1.93	.07	.13	12	1300

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SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
88AAS 156 L21E 11+50N	1	12	24	164	.1	24	6	570	2.25	6	5	ND	2	21	1	2	2	25	.33	.159	9	16	.19	75	.09	2	2.40	.02	.06	1
88AAS 157 L21E 11+75N	1	10	11	174	.1	25	6	874	2.01	5	5	ND	1	17	1	2	3	21	.21	.212	8	14	.18	111	.09	2	2.65	.02	.05	1
88AAS 158 L21E 12+00N	1	12	23	215	.1	24	6	707	1.90	2	5	ND	1	20	1	2	2	22	.22	.149	11	17	.18	94	.06	9	1.85	.02	.08	1
88AAS 159 L21E 12+25N	1	7	38	239	.2	27	7	902	2.10	17	5	ND	1	33	1	3	2	20	.33	.489	8	20	.22	107	.10	2	3.19	.02	.07	1
88AAS 160 L21E 12+50N	1	14	37	330	.1	74	11	442	2.76	65	5	ND	1	29	1	2	3	30	.24	.139	10	38	.36	62	.10	2	2.91	.02	.04	1
88AAS 161 L21E 12+75N	1	15	10	148	.1	43	8	763	2.27	4	5	ND	2	20	1	2	2	28	.19	.093	15	17	.23	84	.08	6	2.12	.02	.06	1
88AAS 162 L21E 13+00N	1	26	16	108	.1	35	12	650	3.32	6	5	ND	1	16	1	2	2	31	.17	.052	15	20	.30	63	.06	2	1.75	.02	.05	1
RE 88AAS 168 L21E 14+25N	6	59	26	89	.1	44	16	319	4.63	11	5	ND	1	19	1	2	2	35	.23	.067	6	33	.41	34	.05	3	2.03	.02	.06	1
88AAS 163 L21E 13+25N	1	15	21	134	.1	39	8	567	2.38	5	5	ND	2	17	1	2	2	25	.15	.059	10	17	.20	74	.06	8	1.90	.02	.06	1
88AAS 164 L21E 13+50N	3	786	30	124	.1	142	163	1368	15.93	51	5	ND	5	28	1	2	2	36	.27	.171	23	67	.47	76	.04	2	3.01	.01	.05	1
88AAS 165 L21E 13+75N	2	143	21	106	.1	73	29	426	6.12	13	5	ND	4	18	1	2	2	24	.19	.096	21	26	.33	53	.04	2	1.52	.01	.07	1
88AAS 166 L21E 14+00N	1	27	14	74	.1	43	12	526	3.12	6	5	ND	4	18	1	2	2	28	.21	.088	10	15	.18	70	.06	9	1.67	.02	.08	1
88AAS 167 L21E 14+00DN	2	35	17	80	.1	48	13	455	3.53	8	5	ND	3	21	1	4	2	30	.22	.114	11	16	.20	77	.06	6	1.92	.02	.09	1
88AAS 168 L21E 14+25N	6	62	23	88	.1	47	17	342	4.80	13	5	ND	2	20	1	2	2	38	.24	.073	7	29	.44	37	.06	2	2.10	.02	.08	1
88AAS 169 L21E 14+50N	3	18	12	59	.3	33	9	347	2.40	5	5	ND	3	22	1	2	2	28	.28	.054	6	18	.18	45	.06	11	2.04	.02	.05	1
88AAS 170 L21E 14+75N	2	16	28	64	.1	29	8	240	2.43	8	5	ND	3	20	1	2	2	31	.27	.064	5	24	.46	35	.06	15	1.70	.02	.05	1
88AAS 171 L21E 15+00N	6	230	31	225	.1	79	35	368	8.01	12	5	ND	5	25	1	3	3	42	.19	.074	35	41	.75	80	.06	2	2.79	.01	.08	1
88AAS 172 L21E 15+25N	1	12	14	145	.1	27	8	298	2.27	2	5	ND	2	20	1	2	2	31	.24	.046	6	21	.19	41	.07	5	1.65	.02	.05	1
88AAS 173 L21E 15+50N	1	19	31	124	.1	33	8	320	2.44	7	5	ND	1	21	1	2	2	26	.27	.088	6	20	.17	64	.11	3	2.05	.02	.05	1
88AAS 174 L21E 15+75N	1	9	18	183	.1	42	8	543	2.34	6	5	ND	2	24	1	2	2	26	.24	.073	10	22	.23	83	.06	4	1.58	.02	.08	1
88AAS 175 L21E 16+00N	1	22	30	186	.1	63	10	303	3.07	13	5	ND	1	23	1	2	3	27	.21	.072	13	25	.31	91	.07	2	2.21	.01	.08	1
88AAS 176 L21E 16+25N	2	54	31	121	.1	55	14	298	5.17	8	5	ND	6	18	1	3	2	28	.19	.047	22	33	.53	58	.03	7	1.91	.01	.10	1
88AAS 177 L21E 16+50N	1	6	15	74	.1	17	5	334	1.94	6	5	ND	1	19	1	2	2	28	.23	.133	4	15	.13	37	.08	9	2.23	.02	.04	1
88AAS 178 L21E 16+75N	1	55	37	186	.1	48	15	539	4.41	9	5	ND	8	15	2	2	2	31	.15	.029	18	32	.60	70	.04	11	1.75	.01	.09	1
88AAS 179 L21E 17+00N	1	34	33	219	.2	68	13	293	4.01	19	5	ND	5	25	1	2	2	30	.25	.053	16	44	.41	69	.06	10	1.77	.01	.11	1
STD C	19	62	43	134	7.2	71	31	1115	4.20	43	25	8	39	47	19	19	18	60	.47	.098	41	61	.92	170	.08	39	2.04	.06	.15	13
88AAS 180 L22E 4+00N	1	17	16	81	.1	37	13	472	3.75	2	5	ND	4	17	1	2	2	44	.14	.052	18	30	.67	112	.08	2	2.05	.01	.08	1
88AAS 181 L22E 4+25N	1	12	18	70	.1	28	8	343	2.64	2	5	ND	3	11	1	2	2	26	.09	.048	13	28	.23	112	.06	2	2.18	.01	.06	1
88AAS 182 L22E 4+50N	1	22	10	100	.1	47	15	787	3.97	2	5	ND	6	15	1	4	2	54	.18	.069	13	54	1.29	154	.13	10	2.62	.01	.14	1
88AAS 183 L22E 4+75N	1	17	17	74	.1	30	9	355	2.45	2	5	ND	6	13	1	2	2	26	.11	.110	11	21	.26	117	.08	4	2.79	.02	.05	1
88AAS 184 L22E 5+00N	1	20	69	109	.1	65	14	818	3.25	5	5	ND	5	15	1	3	2	34	.13	.072	16	56	.65	170	.06	3	2.62	.01	.07	2
88AAS 185 L22E 5+25N	1	15	16	112	.1	29	9	634	2.92	4	5	ND	4	16	1	2	2	31	.15	.110	15	23	.36	111	.06	7	2.15	.01	.05	1
88AAS 186 L22E 5+50N	1	12	22	115	.1	36	9	961	2.61	4	5	ND	5	23	1	4	2	27	.20	.211	12	22	.28	135	.08	10	2.40	.01	.07	1
88AAS 187 L22E 5+75N	1	7	15	70	.1	16	6	333	1.79	2	5	ND	3	17	1	3	2	26	.22	.152	4	21	.13	49	.08	9	2.24	.02	.04	1
88AAS 188 L22E 6+00N	1	9	14	106	.3	25	7	518	2.10	5	5	ND	4	17	1	2	2	24	.24	.117	10	14	.20	77	.08	7	2.43	.02	.06	1
88AAS 189 L22E 6+25N	1	19	25	128	.1	45	10	708	2.75	7	5	ND	5	21	1	3	2	28	.19	.098	12	38	.28	122	.07	6	2.56	.02	.07	1
88AAS 190 L22E 6+50N	1	11	16	78	.2	30	7	282	2.12	2	5	ND	4	18	2	3	2	25	.20	.118	9	21	.18	88	.09	4	2.83	.02	.05	1
88AAS 191 L22E 6+75N	1	12	14	90	.3	23	7	350	2.02	4	5	ND	5	21	3	2	2	26	.29	.132	8	19	.17	72	.10	18	2.31	.02	.06	1
STD C	19	60	38	132	6.7	71	30	1092	4.10	42	17	8	40	47	17	21	18	59	.48	.097	40	53	.96	181	.08	42	1.97	.07	.15	13

ESSO MINERALS CANADA LTD. PROJECT-KAMAD-107 FILE # 88-2022

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8AAS228 22E 15+50N	1	37	37	161	.1	51	13	386	3.46	10	5	ND	1	18	1	2	2	28	.22	.065	11	16	.30	83	.08	2	2.13	.01	.06	1
8AAS229 22E 15+75N	1	38	28	126	.1	38	12	657	3.64	8	5	ND	2	17	1	2	2	28	.22	.048	19	19	.48	81	.03	2	1.89	.01	.09	1
8AAS230 22E 16+00N	1	13	17	132	.1	31	8	552	2.58	5	5	ND	1	24	2	2	2	27	.28	.114	10	15	.24	75	.07	9	1.90	.02	.08	1
8CAS187 2DE 2+00N	1	16	10	60	.1	27	9	490	2.43	3	5	ND	2	13	1	2	3	23	.10	.049	17	23	.21	83	.04	2	1.95	.01	.05	1
8CAS188 2DE 2+25N	1	34	23	201	.2	53	15	534	4.53	12	5	ND	4	18	1	7	2	32	.13	.307	15	19	.29	228	.05	11	4.14	.01	.10	1
8CAS189 2DE 2+50N	1	17	13	82	.1	32	8	187	2.59	7	5	ND	1	22	1	2	2	25	.11	.023	7	10	.17	161	.05	2	2.38	.02	.06	1
8CAS190 2DE 2+75N	1	25	17	61	.4	32	10	800	3.20	7	5	ND	3	47	1	5	2	20	.40	.029	17	23	.37	90	.05	2	2.38	.02	.07	1
8CAS191 2DE 3+00N	1	20	27	76	.2	35	9	98	3.23	6	5	ND	3	22	2	5	2	32	.11	.035	10	13	.20	186	.08	3	3.00	.01	.06	1
8CAS192 2DE 3+25N	1	19	16	73	.1	30	11	104	3.08	9	5	ND	5	8	2	2	2	23	.06	.051	17	21	.24	82	.04	2	2.37	.01	.04	1
8CAS193 2DE 3+50N	1	20	29	66	.1	30	11	126	3.02	9	5	ND	9	9	2	2	2	20	.06	.023	24	17	.27	66	.01	6	1.54	.01	.05	1
8CAS194 2DE 3+75N	1	27	30	98	.2	104	19	619	3.74	24	5	ND	5	30	1	2	2	26	.41	.042	26	29	.26	109	.01	2	1.60	.01	.10	1
8CAS195 2DE 4+00N	1	61	16	96	.4	295	69	1196	4.27	94	5	ND	2	98	1	2	2	36	12.80	.161	15	100	.52	45	.01	6	.71	.01	.06	1
8CAS196 2DE 4+25N	1	9	22	54	.1	25	7	135	2.38	7	5	ND	2	16	1	3	6	26	.18	.054	10	12	.16	72	.08	2	2.35	.01	.05	1
8CAS197 2DE 4+50N	1	6	20	63	.1	15	6	343	2.17	6	5	ND	1	10	1	2	2	27	.08	.192	5	10	.11	64	.09	3	2.82	.01	.03	1
8CAS198 2DE 4+75N	1	9	21	41	.3	14	5	202	1.99	3	5	ND	3	30	1	6	2	24	.29	.053	8	9	.10	78	.11	11	3.50	.02	.04	2
8CAS199 2DE 5+00N	1	13	14	56	.2	17	5	108	2.26	3	5	ND	1	23	1	2	2	29	.28	.048	7	10	.16	83	.09	4	2.62	.02	.04	1
8CAS200 2DE 5+25N	1	9	19	80	.3	13	6	752	2.12	7	5	ND	2	15	2	2	2	29	.16	.189	6	15	.15	76	.11	11	2.47	.01	.05	1
8CAS201 2DE 5+50N	1	18	19	90	.1	31	11	367	2.86	6	5	ND	3	16	1	3	2	26	.19	.070	14	26	.32	96	.06	2	2.40	.01	.07	1
8CAS202 2DE 5+50AN	1	17	21	92	.1	31	10	364	2.89	6	5	ND	4	16	2	2	2	26	.19	.073	15	22	.33	98	.06	6	2.38	.01	.06	1
8CAS203 2DE 5+75N	1	10	22	91	.1	25	9	315	2.70	6	5	ND	2	24	1	5	2	28	.27	.248	10	13	.27	123	.06	3	2.36	.01	.09	1
8CAS204 2DE 6+00N	1	16	29	147	.3	34	11	699	2.80	6	5	ND	2	23	1	2	2	31	.25	.124	10	18	.30	136	.07	4	2.35	.01	.07	1
8CAS205 2DE 6+25N	1	27	25	86	.1	39	10	614	3.17	7	5	ND	4	19	1	4	2	24	.17	.122	14	21	.26	96	.06	2	2.61	.01	.06	1
8CAS206 2DE 6+50N	1	27	17	92	.1	40	10	752	3.23	8	5	ND	3	32	1	3	2	31	.30	.061	14	18	.29	110	.07	2	2.49	.02	.06	2
8CAS207 2DE 6+75N	1	27	31	114	.1	50	10	1063	3.75	7	5	ND	3	29	1	2	2	30	.29	.085	10	18	.28	127	.11	2	3.63	.02	.10	1
8CAS208 2DE 7+00N	1	14	24	82	.3	28	9	686	2.85	8	5	ND	4	29	2	4	2	28	.26	.293	12	16	.28	72	.08	13	2.44	.01	.07	1
8CAS209 2DE 7+25N	1	11	13	111	.2	36	16	1824	2.87	11	5	ND	1	33	1	2	5	50	.28	.097	7	25	.37	75	.07	12	1.98	.02	.03	1
8CAS210 2DE 7+50N	1	17	18	91	.1	26	10	561	2.58	10	5	ND	2	37	1	2	2	26	.48	.140	9	17	.21	55	.10	10	3.27	.02	.05	1
8CAS211 2DE 7+75N	1	25	1183	1176	.6	101	17	2491	5.59	15	5	ND	3	33	6	3	2	29	.39	.107	15	13	.17	85	.03	8	1.21	.01	.09	1
8CAS212 2DE 8+00N	1	24	34	254	.4	111	20	576	4.16	37	5	ND	2	31	1	2	2	26	.37	.166	26	24	.21	74	.04	9	1.80	.01	.08	1
8CAS213 2DE 8+25N	1	14	21	135	.3	30	8	270	2.33	7	5	ND	3	18	3	2	2	23	.20	.091	10	16	.30	76	.06	4	2.00	.01	.06	1
8CAS214 2DE 8+50N	1	16	24	101	.2	39	11	364	2.90	6	5	ND	4	12	2	2	2	27	.12	.061	14	30	.38	54	.03	2	1.51	.01	.07	1
8CAS215 2DE 8+50AN	1	17	17	101	.3	41	11	364	3.01	6	5	ND	3	12	2	5	2	28	.12	.062	14	34	.39	55	.04	2	1.60	.01	.08	1
RE 8CAS211 2DE 7+75N	1	26	1181	1175	.5	102	17	2471	5.66	16	5	ND	3	33	5	2	2	29	.38	.108	15	16	.17	85	.04	6	1.21	.01	.08	1
8CAS216 2DE 8+75N	1	13	17	81	.3	24	8	440	2.39	5	5	ND	3	14	1	2	2	25	.14	.063	11	18	.21	44	.06	3	1.46	.01	.04	1
8CAS217 2DE 9+00N	1	33	24	139	.4	52	13	271	3.39	7	5	ND	7	16	4	3	2	25	.12	.028	20	25	.37	82	.03	16	1.59	.01	.07	2
8CAS218 2DE 9+25N	1	14	14	132	.3	35	10	1212	2.39	5	5	ND	3	23	1	2	4	26	.19	.137	11	21	.26	93	.05	8	1.65	.01	.08	1
STD C	18	60	42	136	6.8	69	30	1101	4.09	44	17	7	38	48	20	16	19	60	.49	.091	40	57	.92	177	.08	38	1.98	.06	.13	14
8CAS219 2DE 9+50N	1	20	25	131	.3	40	10	656	2.55	11	5	ND	3	15	1	5	2	24	.14	.173	10	26	.27	70	.06	7	2.32	.02	.05	1
STD C	17	58	38	131	6.7	68	29	1071	4.03	42	19	7	36	47	18	17	21	58	.47	.086	39	60	.95	178	.07	36	1.96	.07	.14	13

ACME ANALYTICAL LABORATORIES LTD.   852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6   PHONE(604)253-3158 FAX(604)25[illegible]16

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-P6 SOIL P7 ROCK

DATE RECEIVED: JUN 13 1988   DATE REPORT MAILED: June 22/88   ASSAYER. C. Leong ..D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

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SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8AAS044 18+00E 1+00N	1	15	11	79	.1	25	8	204	2.30	2	5	ND	5	12	1	2	2	26	.10	.051	14	19	.15	84	.05	2	2.27	.01	.04	1
8AAS045 18+00E 1+50N	1	13	11	53	.1	25	9	97	2.72	2	5	ND	3	18	1	2	2	27	.14	.030	12	18	.16	106	.04	2	1.66	.02	.05	1
8AAS046 18+00E 2+00N	1	15	14	68	.1	32	10	127	3.33	4	5	ND	5	34	1	2	2	27	.21	.028	13	24	.26	102	.04	5	2.15	.01	.06	1
8AAS047 18+00E 2+50N	1	26	17	92	.2	45	11	578	4.51	5	5	ND	6	81	1	2	2	33	.39	.027	12	29	.41	183	.07	3	3.31	.02	.09	1
8AAS048 18+00E 3+00N	1	29	20	100	.7	28	9	254	3.04	3	5	ND	3	97	1	3	2	20	1.19	.042	12	23	.47	108	.05	3	2.21	.02	.08	1
8AAS049 18+00E 3+50N	1	21	13	84	.2	33	7	161	2.46	2	5	ND	3	47	1	2	2	22	.44	.022	9	20	.30	132	.05	2	1.98	.01	.07	1
8AAS050 18+00E 4+00N	1	19	13	109	.3	46	9	122	3.12	3	5	ND	4	23	1	3	2	31	.17	.084	9	22	.18	121	.06	5	2.26	.01	.07	1
8AAS051 18+00E 4+50N	1	34	16	90	.1	52	14	281	4.03	6	5	ND	10	14	1	2	2	29	.08	.024	25	53	.54	52	.01	3	1.13	.01	.06	1
8AAS052 18+00E 5+00N	1	6	19	106	.1	6	4	345	1.66	2	5	ND	2	8	1	2	2	27	.07	.149	7	10	.08	79	.03	2	1.25	.01	.03	1
8AAS053 18+00E 5+50N	1	17	10	73	.1	36	9	184	2.50	2	5	ND	5	12	1	2	2	30	.09	.025	15	25	.24	82	.03	2	1.29	.01	.05	1
8AAS054 18+00E 6+00N	1	19	10	87	.1	26	7	522	2.36	2	5	ND	6	21	1	2	2	25	.21	.033	17	29	.38	88	.05	2	1.35	.01	.08	1
8AAS055 18+00E 6+50N	1	13	29	103	.5	24	9	461	2.36	6	5	ND	6	18	1	4	2	26	.17	.112	12	24	.23	93	.05	2	1.96	.02	.08	1
8AAS056 18+00E 7+00N	1	12	13	96	.3	29	10	462	2.88	5	5	ND	9	14	1	3	2	29	.12	.103	18	31	.30	94	.03	5	1.50	.01	.08	1
8AAS057 18+00E 7+50N	1	47	21	96	.1	50	15	569	3.90	9	5	ND	9	28	1	2	2	26	.34	.056	24	35	.50	48	.04	3	1.09	.01	.07	2
8AAS058 18+00E 8+00N	1	25	20	77	.1	30	10	544	2.64	5	5	ND	2	15	1	2	2	25	.17	.067	19	22	.26	50	.03	2	1.42	.01	.06	1
8AAS059 18+00E 9+00N	1	56	33	103	.1	134	36	597	4.03	56	5	ND	10	32	1	2	2	24	.26	.042	36	111	.62	41	.01	3	.96	.01	.06	1
8AAS060 18+00E 10+00N	1	42	27	109	.1	69	23	647	3.74	12	5	ND	10	35	1	2	2	25	.26	.043	22	50	.46	60	.02	4	1.65	.02	.13	1
8AAS061 18+00E 10+50N	1	44	40	146	.2	67	33	1831	6.57	26	5	ND	15	33	1	2	3	21	.26	.136	31	45	.44	64	.01	4	.71	.01	.07	1
STD C	18	60	41	132	7.1	71	30	1083	4.04	41	20	8	40	50	17	20	18	60	.48	.084	41	60	.93	169	.07	39	1.78	.06	.13	15
8AAS062 18+00E 11+50N	1	27	11	123	.5	44	14	501	2.33	4	5	ND	8	24	1	3	2	21	.16	.033	16	12	.17	70	.03	6	1.44	.02	.09	1
8AAS063 18+00E 12+00N	1	65	26	168	.1	106	24	757	3.94	6	5	ND	8	74	1	2	2	27	1.72	.060	27	63	.70	62	.03	2	1.13	.01	.13	1
8AAS064 18+00E 12+50N	1	50	39	162	.2	71	17	875	3.37	6	5	ND	6	81	1	2	2	17	2.25	.047	17	33	.40	71	.02	7	1.06	.02	.11	1
8AAS065 18+00E 13+00N	1	43	35	265	.1	58	15	908	3.64	2	5	ND	7	51	1	2	2	28	.40	.060	25	39	.45	129	.04	2	1.51	.01	.15	1
8AAS066 18+00E 13+50N	1	66	26	573	.1	45	14	555	3.90	3	5	ND	11	28	1	2	2	28	.25	.037	32	36	.58	88	.05	11	1.41	.01	.13	1
8AAS067 18+00E 15+00N	1	11	18	180	.1	168	34	1846	7.14	2	5	ND	2	413	1	2	2	125	3.26	.128	21	257	4.17	736	.25	2	2.65	.01	.56	1
8AAS068 18+00E 15+50N	1	120	39	109	.3	197	47	985	8.93	23	5	ND	15	104	1	3	3	53	.54	.135	72	124	2.20	110	.03	7	2.72	.01	.10	1
8AAS069 18+00E 16+00N	2	109	19	95	.3	79	31	531	5.16	7	5	ND	22	52	1	2	2	17	.37	.043	61	29	1.38	37	.01	2	1.87	.01	.08	1
8AAS070 18+00E 16+50N	1	34	16	123	.3	66	17	403	2.85	5	5	ND	9	31	1	3	2	23	.23	.019	21	20	.37	166	.06	5	2.35	.02	.10	2
8AAS071 18+00E 17+00N	5	258	28	98	.2	95	43	429	7.07	25	5	ND	17	22	1	2	2	37	.17	.031	50	38	1.11	95	.04	2	2.57	.01	.07	1
8AAS071A 24+00E 5+00N	1	113	33	131	1.4	75	13	470	5.81	11	5	ND	5	106	1	2	2	38	.75	.052	34	40	.41	236	.07	2	4.63	.02	.09	1
8AAS072 24+00E 6+25N	1	31	21	114	.5	37	10	249	3.38	5	5	ND	4	62	1	2	2	20	.71	.035	14	27	.36	110	.07	2	2.96	.02	.06	1
RE 8AAS069 18+00E 16+00N	2	112	18	99	.1	80	32	567	5.33	8	5	ND	20	55	1	2	2	17	.40	.045	63	30	1.42	38	.01	2	1.93	.01	.05	1
8AAS073 24+00E 6+50N	1	12	13	169	.1	39	9	733	2.26	2	5	ND	4	18	1	2	2	25	.17	.109	8	21	.21	105	.08	2	2.97	.03	.06	1
8AAS074 24+00E 6+75N	1	16	16	126	.4	32	10	314	2.30	5	5	ND	9	14	1	2	2	32	.12	.061	16	25	.31	93	.06	3	1.78	.01	.06	1
8AAS075 24+00E 7+00N	1	14	13	87	.1	32	8	323	2.60	2	5	ND	5	19	1	2	2	30	.19	.083	11	19	.23	94	.09	2	3.12	.03	.05	1
8AAS076 24+00E 7+25N	1	10	13	71	.2	24	8	400	2.27	2	5	ND	5	13	1	2	2	27	.13	.086	9	14	.16	72	.07	2	1.95	.02	.05	1
8AAS077 24+00E 7+50N	1	20	19	91	.4	36	10	766	2.52	9	5	ND	6	27	1	3	2	31	.25	.072	14	18	.25	69	.06	2	1.66	.03	.07	1
8AAS078 24+00E 7+75N	1	27	22	111	.4	49	12	430	3.56	12	5	ND	7	26	1	2	2	24	.19	.071	18	20	.29	102	.04	3	2.11	.01	.07	1
STD C	18	55	33	132	7.2	65	29	1080	3.95	39	21	6	36	50	17	17	18	55	.48	.084	40	59	.92	183	.07	35	1.73	.07	.14	12

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8AAS079 24+00E 8+00N	1	26	29	105	.2	40	10	273	3.02	7	5	ND	4	17	1	2	3	25	.15	.040	23	19	.22	63	.05	4	1.70	.01	.09	1
8AAS080 24+00E 8+25N	1	20	32	142	.2	42	11	265	3.40	3	5	ND	4	18	1	2	2	29	.19	.066	13	26	.28	54	.04	2	1.55	.01	.12	1
RE 8AAS086 24+00E 9+75N D	1	24	11	63	.3	45	13	357	3.29	2	5	ND	5	22	1	2	2	26	.20	.015	19	15	.21	109	.05	2	2.03	.01	.10	1
8AAS081 24+00E 8+50N	1	23	18	102	.2	33	10	960	3.38	12	5	ND	3	26	1	2	4	25	.23	.088	24	18	.17	76	.04	3	1.54	.01	.10	1
8AAS082 24+00E 8+75N	1	28	24	132	.8	28	12	716	4.08	12	6	ND	4	26	1	2	2	25	.24	.225	18	19	.20	64	.03	2	1.80	.01	.10	1
8AAS083 24+00E 9+00N	1	20	24	113	.5	27	9	739	3.57	9	5	ND	4	38	1	3	2	26	.34	.205	17	9	.12	45	.05	6	1.62	.01	.07	1
8AAS084 24+00E 9+25N	1	33	33	115	.9	41	13	901	4.91	3	5	ND	9	39	1	3	3	24	.31	.064	27	8	.11	59	.03	7	1.20	.02	.14	1
8AAS085 24+00E 9+75N	1	24	13	57	.6	42	13	372	3.22	4	9	ND	7	23	1	3	3	25	.22	.015	21	15	.21	106	.04	2	1.96	.01	.13	1
8AAS086 24+00E 9+75N D	1	25	10	63	.4	46	13	374	3.33	2	5	ND	6	24	1	2	2	26	.21	.015	20	16	.22	115	.05	4	2.11	.02	.12	1
8AAS087 24+00E 10+00N	1	19	13	78	.4	41	10	347	3.17	2	5	ND	5	19	1	2	3	29	.19	.030	18	35	.41	112	.03	6	1.65	.01	.14	1
8AAS088 24+00E 10+25N	1	20	13	85	.5	60	10	611	2.97	4	5	ND	3	17	1	3	3	27	.20	.070	12	31	.37	136	.06	2	2.11	.01	.12	1
8AAS089 24+00E 10+50N	1	60	16	101	.2	114	20	582	4.87	15	5	ND	2	15	1	2	2	45	.25	.065	12	105	.95	99	.08	4	2.08	.01	.11	1
8AAS090 24+00E 10+75N	1	60	17	89	.1	114	19	502	4.51	10	5	ND	1	13	1	2	2	42	.19	.059	11	78	.71	64	.07	4	1.69	.02	.05	1
8AAS091 24+00E 11+00N	1	35	22	154	.5	128	31	1064	3.94	11	5	ND	3	19	1	2	2	40	.27	.158	10	48	.46	160	.07	2	1.97	.01	.11	1
8AAS092 24+00E 11+25N	1	14	16	134	.4	53	10	709	2.38	13	5	ND	2	23	1	2	2	27	.21	.312	7	28	.26	173	.08	2	2.11	.02	.09	1
8AAS093 24+00E 11+50N	1	62	15	113	.6	93	26	664	4.05	12	5	ND	2	20	1	2	2	52	.24	.078	11	81	.69	82	.08	2	2.50	.02	.07	1
8AAS094 24+00E 11+75N	1	40	23	136	.5	50	20	461	3.92	13	5	ND	3	28	1	2	2	41	.39	.199	11	30	.43	89	.10	2	3.39	.02	.07	1
8AAS095 24+00E 12+00N	1	31	12	108	.6	36	11	282	2.50	5	5	ND	3	29	1	2	2	33	.34	.093	13	24	.34	57	.06	4	1.68	.02	.07	1
8AAS096 24+00E 12+25N	1	123	23	136	.7	55	27	412	5.06	12	5	ND	7	36	1	2	2	47	.35	.145	41	32	.63	81	.04	9	1.96	.01	.12	1
8AAS097 24+00E 12+50N	1	52	26	181	.1	54	14	604	3.67	7	5	ND	2	19	1	2	2	31	.25	.075	23	31	.42	87	.05	6	1.62	.01	.07	1
8AAS098 24+00E 12+75N	1	85	45	232	.1	50	17	942	4.44	8	5	ND	4	13	1	2	2	31	.13	.064	24	31	.42	80	.05	4	1.52	.01	.07	1
8AAS099 24+00E 13+00N	1	60	41	246	.1	46	18	738	4.15	11	5	ND	2	20	1	2	2	37	.27	.070	26	25	.42	86	.08	2	2.49	.01	.04	1
8AAS100 24+00E 13+25N	1	53	35	226	.1	40	12	407	3.32	14	5	ND	2	16	1	2	2	33	.19	.039	14	20	.33	73	.07	2	1.83	.02	.04	1
STD C	17	57	36	128	7.3	68	29	1057	4.06	42	16	8	38	47	17	20	19	58	.47	.082	39	57	.91	171	.07	34	1.69	.05	.16	14
8AAS101 24+00E 13+50N	1	24	69	331	.2	45	12	910	3.46	8	5	ND	1	28	1	2	2	28	.23	.135	13	24	.32	100	.05	8	1.41	.02	.09	1
8AAS102 24+00E 13+50N A	1	23	53	281	.6	46	11	669	3.22	10	5	ND	3	23	1	2	2	27	.23	.122	14	24	.33	80	.05	2	1.43	.01	.11	1
8AAS103 24+00E 13+75N	1	13	21	193	.3	37	8	485	2.61	4	5	ND	2	17	1	2	2	27	.23	.097	10	18	.23	60	.07	8	1.51	.02	.10	1
8AAS104 24+00E 14+00N	1	44	24	158	.5	50	12	452	3.44	8	5	ND	3	16	1	2	3	27	.17	.053	12	22	.29	76	.07	5	1.77	.03	.11	1
8AAS105 24+00E 14+25N	1	43	21	157	.1	50	13	402	4.08	8	5	ND	2	19	1	2	4	28	.23	.093	17	26	.38	74	.07	9	1.96	.03	.07	1
8AAS106 24+00E 14+50N	2	93	19	120	.1	46	15	414	4.22	6	5	ND	1	15	1	2	2	28	.15	.051	21	25	.40	68	.05	2	1.57	.02	.06	1
8AAS107 24+00E 14+75N	2	57	17	119	.1	38	13	524	4.12	2	5	ND	1	21	1	2	2	27	.18	.079	21	27	.38	95	.04	2	1.30	.01	.08	1
8AAS108 24+00E 15+00N	1	36	17	112	.4	25	10	491	2.78	2	5	ND	3	17	1	2	2	22	.23	.057	21	16	.28	63	.05	7	1.53	.01	.11	1
8AAS109 24+00E 15+25N	1	27	21	142	.3	30	10	394	3.07	9	5	ND	3	17	1	2	2	27	.19	.074	12	17	.26	71	.06	2	1.57	.02	.10	2
8AAS110 24+00E 15+50N	1	16	14	116	.2	7	5	235	1.75	3	5	ND	2	12	1	2	2	17	.11	.039	14	6	.14	83	.02	2	1.04	.01	.11	1
8AAS111 24+00E 15+75N	1	23	16	139	.2	25	8	433	2.41	5	5	ND	3	19	1	2	3	20	.17	.127	13	12	.23	100	.05	2	1.68	.01	.13	1
8AAS112 24+00E 16+00N	1	19	13	107	.1	29	9	606	2.52	4	5	ND	1	22	1	2	2	29	.24	.108	11	13	.20	76	.06	2	1.45	.03	.05	1
8AAS113 24+00E 16+25N	1	42	23	144	.1	35	12	332	4.03	4	5	ND	4	15	1	2	2	25	.14	.037	28	26	.61	84	.03	3	1.45	.01	.16	1
8AAS114 24+00E 16+50N	1	48	21	134	.1	39	11	459	4.06	4	5	ND	4	20	1	2	2	29	.19	.038	33	38	.77	89	.03	3	1.57	.03	.18	1
STD C	17	59	39	132	7.0	69	29	1075	4.11	42	18	6	36	49	17	17	19	58	.48	.083	39	58	.93	179	.07	34	1.72	.06	.14	11

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8AAS115 24+00E 16+75N	1	16	13	94	.4	13	6	311	1.80	2	5	ND	8	16	1	2	2	19	.14	.046	20	19	.36	79	.06	4	1.11	.01	.20	2
8AAS116 24+00E 17+00N	1	16	11	108	.4	8	5	247	1.57	2	5	ND	6	15	1	2	2	15	.16	.039	13	7	.17	76	.04	2	1.12	.01	.14	1
RE 8CAS169 13+00E 3+25N	1	17	10	68	.1	24	8	145	2.71	2	5	ND	3	36	1	2	2	19	.33	.014	15	21	.33	71	.03	2	1.49	.01	.05	1
8AAS117 24+00E 17+00N D	1	15	11	111	.1	6	4	238	1.52	2	5	ND	3	16	1	2	3	12	.17	.044	11	4	.12	80	.03	2	1.18	.01	.09	1
8CAS165 18+00E 1+25N	1	18	9	67	.1	18	6	192	2.11	2	5	ND	3	19	1	2	2	19	.20	.031	11	15	.17	71	.03	2	1.15	.01	.05	1
8CAS166 18+00E 1+75N	1	15	12	63	.1	29	9	213	2.94	7	5	ND	3	12	1	2	2	19	.09	.028	15	24	.27	55	.03	2	1.32	.01	.07	1
8CAS167 18+00E 2+25N	1	18	12	65	.1	33	8	165	3.81	8	5	ND	3	28	1	2	2	25	.14	.038	7	21	.18	126	.07	2	3.08	.01	.05	1
8CAS168 18+00E 2+75N	1	27	13	63	.1	34	9	311	3.36	9	5	ND	4	47	1	2	2	25	.23	.013	13	22	.32	107	.05	2	2.47	.01	.03	1
8CAS169 13+00E 3+25N	1	15	11	67	.1	22	7	133	2.61	3	5	ND	3	36	1	2	2	18	.33	.013	15	20	.33	68	.02	2	1.43	.01	.04	1
8CAS170 13+00E 3+75N	1	17	9	55	.1	27	8	86	2.48	4	5	ND	4	11	1	2	2	21	.07	.032	11	16	.17	102	.03	2	1.57	.01	.02	1
8CAS171 18+00E 4+25N	1	14	11	58	.1	25	8	117	2.83	4	5	ND	3	7	1	2	2	21	.04	.033	17	20	.22	50	.02	2	1.17	.01	.03	1
8CAS172 18+00E 4+75N	1	27	20	121	.5	36	10	222	3.57	9	5	ND	8	8	1	2	2	27	.08	.042	19	34	.38	53	.02	2	1.15	.01	.07	1
8CAS173 18+00E 5+25N	1	12	25	105	.5	34	9	122	2.41	6	8	ND	8	8	1	4	2	26	.07	.018	16	35	.36	64	.02	2	1.34	.01	.08	2
STD C	19	59	38	129	6.8	67	29	1085	4.16	39	17	7	37	48	17	18	17	57	.46	.081	39	56	.90	164	.06	34	1.80	.06	.14	14
8CAS174 18+00E 5+75N	1	16	14	71	.6	34	10	332	3.26	7	5	ND	8	14	1	3	2	24	.16	.028	17	38	.44	58	.02	2	1.09	.01	.08	2
8CAS175 19+00E 5+75N	1	16	11	63	.5	34	11	348	3.31	4	8	ND	7	15	1	2	2	24	.17	.028	17	37	.44	57	.02	2	1.07	.01	.09	2
8CAS176 18+00E 6+25N	1	8	4	60	.2	12	5	144	1.93	2	5	ND	4	10	1	2	2	26	.09	.054	6	16	.16	29	.05	3	1.30	.01	.04	1
8CAS177 18+00E 6+75N	1	14	10	54	.2	25	9	169	2.85	4	5	ND	5	14	1	2	3	24	.15	.041	11	22	.33	49	.04	2	1.20	.01	.05	1
8CAS178 18+00E 7+25N	2	17	12	99	.4	40	11	361	3.54	6	5	ND	6	16	1	2	2	24	.14	.142	11	27	.23	95	.04	2	1.78	.01	.08	1
8CAS179 18+00E 7+75N	1	27	16	112	.1	42	13	248	3.99	10	5	ND	4	11	1	2	2	28	.07	.078	14	35	.35	73	.03	2	1.99	.01	.03	1
8CAS180 18+00E 9+75N	1	36	27	142	.6	69	26	1055	4.33	18	11	ND	10	34	1	4	2	26	.34	.060	16	58	.51	96	.01	2	1.69	.01	.16	1
8CAS181 18+00E 11+25N	1	12	14	136	.5	35	13	695	2.28	2	5	ND	6	29	1	2	3	23	.20	.022	14	18	.21	104	.03	2	1.46	.01	.10	1
8CAS182 18+00E 11+75N	1	58	29	147	.2	60	22	915	4.72	6	5	ND	10	36	1	2	2	21	.28	.038	22	36	.43	48	.02	4	1.06	.01	.07	1
8CAS183 18+00E 12+25N	1	51	20	156	.1	59	17	725	3.58	4	5	ND	7	47	1	2	2	21	1.04	.041	21	31	.37	66	.03	5	1.01	.01	.11	1
8CAS184 18+00E 12+75N	1	40	32	203	.2	35	13	576	3.61	3	5	ND	7	23	1	2	2	20	.23	.026	23	19	.34	71	.02	2	1.20	.01	.10	1
8CAS185 18+00E 13+75N	1	51	21	148	.1	36	13	423	3.81	2	5	ND	6	19	1	2	2	23	.22	.053	27	30	.50	59	.03	5	1.14	.01	.12	1
8CAS186 18+00E 16+25N	1	26	13	82	.1	54	15	215	2.82	2	5	ND	4	26	1	2	2	28	.17	.013	13	23	.33	136	.06	2	2.19	.01	.04	1
8NAS079 16+00E 3+25N	1	21	7	65	.1	34	17	19796	1.55	2	5	ND	1	199	1	2	2	12	3.02	.044	3	8	.44	742	.02	3	.92	.01	.03	1
8NAS080 16+00E 3+50N	1	9	8	72	.1	15	7	503	2.49	5	5	ND	2	17	1	2	2	27	.14	.064	5	13	.14	62	.07	2	2.58	.01	.02	1
8NAS081 16+00E 3+75N	1	6	9	44	.1	9	6	97	2.82	10	5	ND	1	10	1	2	2	30	.08	.054	2	11	.08	33	.06	2	2.41	.01	.01	2
8NAS082 16+00E 4+00N	1	14	10	77	.1	26	8	175	2.54	2	5	ND	5	12	1	2	2	25	.09	.051	8	16	.18	81	.05	2	1.88	.03	.03	1
8NAS083 16+00E 4+25N	1	10	11	108	.1	25	7	660	2.37	3	5	ND	4	11	1	2	2	26	.09	.094	8	17	.22	129	.07	2	1.94	.01	.04	1
8NAS084 16+00E 4+50N	1	13	10	71	.7	24	7	661	2.31	7	9	ND	6	14	1	3	2	26	.12	.095	10	14	.19	106	.07	2	2.13	.02	.06	1
8NAS085 16+00E 4+75N	1	7	9	51	.1	16	6	442	1.82	3	5	ND	1	15	1	2	2	23	.11	.139	5	9	.10	77	.08	2	2.09	.01	.01	2
8NAS086 16+00E 5+00N	1	8	13	74	.1	24	8	925	2.07	5	5	ND	2	18	1	3	2	23	.18	.105	7	17	.18	84	.05	2	1.68	.01	.03	1
8NAS087 16+00E 5+25N	1	6	8	69	.2	18	6	542	1.94	3	5	ND	2	18	1	3	2	25	.17	.074	7	16	.17	81	.04	2	1.53	.01	.04	1
8NAS088 16+00E 5+50N	1	8	8	84	.1	19	9	476	2.70	6	5	ND	1	14	1	2	3	28	.11	.213	6	15	.16	86	.07	2	2.19	.01	.04	1
8NAS089 16+00E 5+75N	1	8	10	73	.2	19	6	526	1.99	5	5	ND	3	16	1	2	2	22	.19	.097	7	13	.15	80	.06	2	2.05	.01	.03	1
STD C	18	61	36	132	7.2	69	29	1086	4.09	40	18	7	39	51	17	17	19	59	.49	.083	41	59	.94	179	.07	34	1.75	.06	.13	13

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SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8NAS090 16+00E 6+00N	1	65	33	145	.6	106	13	1856	5.64	10	5	ND	6	66	1	2	2	32	.52	.043	15	43	.33	223	.07	4	3.67	.03	.09	1
8NAS091 16+00E 6+25N	1	26	29	157	.1	63	14	651	3.87	6	5	ND	4	59	1	2	2	28	.72	.050	17	28	.36	84	.05	6	2.27	.03	.03	1
STD C	18	55	38	127	7.2	65	28	1036	4.00	39	17	7	36	48	17	17	19	56	.47	.086	39	56	.91	165	.06	33	1.73	.06	.14	13
8NAS092 16+00E 6+50N	1	32	18	82	.1	59	14	283	3.46	6	5	ND	3	19	1	2	2	27	.17	.046	11	25	.30	97	.07	2	2.42	.02	.02	1
8NAS093 16+00E 6+75N	1	15	15	107	.1	27	12	638	2.89	2	5	ND	1	18	1	2	2	26	.19	.130	8	19	.20	93	.06	2	2.39	.01	.01	1
8NAS094 16+00E 6+75N	1	16	15	101	.1	27	12	545	2.95	9	5	ND	1	17	1	2	2	26	.18	.122	8	20	.21	87	.06	2	2.18	.01	.01	1
8NAS095 16+00E 7+00N	1	13	10	85	.1	26	8	628	2.62	4	5	ND	2	14	1	2	2	26	.19	.052	11	19	.22	99	.06	4	1.66	.01	.02	1
8NAS096 16+00E 7+25N	1	17	14	101	.1	39	10	859	2.97	3	5	ND	3	16	1	2	2	24	.23	.066	15	27	.28	150	.04	2	1.92	.01	.03	1
8NAS097 16+00E 7+5CN	1	9	8	40	.1	21	5	305	2.01	2	5	ND	1	36	1	2	2	18	.64	.023	8	20	.20	77	.06	2	2.60	.01	.01	1
8NAS098 16+C0E 7+75N	1	6	11	49	.1	24	6	532	2.02	5	5	ND	1	25	1	2	2	26	.37	.101	5	21	.14	70	.08	4	2.15	.02	.02	2
8NAS099 16+00E 8+00N	1	11	15	60	.3	23	8	331	2.44	5	7	ND	3	11	1	2	2	27	.12	.060	9	20	.23	69	.05	2	1.83	.03	.04	.1
8NAS100 16+00E 8+25N	1	10	10	65	.1	26	6	592	2.13	4	5	ND	2	16	1	2	2	26	.18	.096	7	20	.21	84	.06	8	1.96	.02	.03	1
8NAS101 16+00E 8+50N	1	11	11	98	.1	39	8	596	2.29	4	7	ND	5	19	1	2	2	25	.21	.075	8	26	.33	117	.08	4	2.15	.01	.06	1
8NAS102 16+00E 8+75N	1	21	10	113	.4	99	14	291	3.17	7	7	ND	6	16	1	3	2	35	.13	.058	11	75	.46	69	.05	2	1.74	.02	.06	1
8NAS103 16+00E 9+00N	1	12	16	114	.3	58	13	435	3.01	5	5	ND	5	21	1	2	2	32	.21	.032	12	46	.44	71	.06	7	1.61	.03	.08	1
8NAS104 16+00E 9+25N	1	10	11	118	.1	37	9	362	2.59	3	5	ND	3	21	1	2	2	28	.22	.101	9	30	.32	77	.07	5	2.19	.03	.06	1
8NAS105 16+00E 9+50N	1	16	14	279	.1	23	9	753	2.47	2	6	ND	3	20	1	3	2	26	.26	.071	8	18	.22	70	.05	2	1.44	.02	.06	1
8NAS106 16+00E 9+75N	1	15	21	474	.3	37	10	619	3.18	5	8	ND	6	24	1	3	2	28	.24	.128	8	25	.33	99	.09	3	3.07	.01	.06	1
8NAS107 16+G0E 10+CON	1	29	19	318	.1	148	21	365	4.23	9	5	ND	3	18	1	2	2	38	.19	.082	11	124	1.14	88	.06	4	2.40	.01	.04	1
8NAS108 16+00E 10+25N	1	77	27	415	.1	170	30	1188	5.15	34	5	ND	1	20	1	2	2	47	.23	.067	9	124	1.14	80	.07	2	2.23	.01	.05	1
RE 8NAS104 16+00E 9+25N	1	11	11	118	.3	41	9	363	2.60	4	5	ND	5	21	1	2	3	28	.22	.102	9	32	.32	76	.07	4	2.18	.02	.08	1
8NAS109 16+00E 10+50N	1	24	21	197	.1	63	13	261	3.63	7	5	ND	6	14	1	2	3	34	.11	.047	18	48	.50	61	.03	2	1.52	.03	.08	2
8NAS110 16+00E 10+50N	1	20	18	199	.1	58	13	268	3.70	6	5	ND	5	14	1	2	2	37	.12	.055	17	43	.47	65	.04	10	1.56	.02	.07	1
8NAS111 16+00E 10+75N	1	21	19	97	.1	42	11	293	3.13	5	5	ND	5	14	1	2	2	25	.14	.031	16	31	.32	58	.04	5	1.37	.01	.05	1
8NAS112 16+00E 11+00N	1	72	30	238	.2	49	11	295	3.89	7	8	ND	8	18	1	3	2	28	.17	.033	20	33	.36	78	.04	3	1.36	.02	.10	1
8NAS113 16+00E 11+25N	1	16	43	500	.1	31	11	332	3.57	7	5	ND	3	19	1	2	2	33	.19	.024	12	12	.20	76	.04	4	1.56	.01	.08	1
8NAS114 16+00E 11+50N	1	25	36	378	.1	47	13	437	3.24	8	5	ND	4	31	1	2	2	22	.23	.060	14	19	.28	102	.06	7	2.22	.03	.07	1
8NAS115 16+00E 11+75N	1	49	24	144	.1	52	16	377	4.28	9	5	ND	6	15	1	2	2	23	.10	.040	20	27	.35	57	.04	2	1.55	.01	.04	1
8NAS116 16+00E 12+25N	1	44	34	185	.1	53	16	625	4.14	8	5	ND	10	14	1	2	3	20	.09	.028	29	31	.34	44	.02	2	1.14	.02	.05	1
8NAS117 16+00E 12+60N	1	16	33	490	.1	24	9	1637	2.26	2	5	ND	1	35	1	2	2	27	.33	.063	9	17	.20	102	.04	3	1.04	.01	.07	1
8NAS118 16+00E 13+00N	1	6	13	349	.1	19	8	487	2.10	2	5	ND	2	21	1	2	2	25	.20	.055	9	12	.16	78	.04	5	1.23	.03	.07	2
8NAS119 16+00E 13+25N	1	9	17	191	.4	35	9	630	2.42	2	5	ND	4	24	1	3	2	28	.24	.065	8	18	.21	72	.08	9	2.02	.02	.08	1
8NAS120 16+00E 13+50N	1	14	14	266	.3	38	11	827	2.67	3	5	ND	4	32	1	3	2	23	.27	.100	15	26	.26	112	.03	3	1.75	.01	.16	1
8NAS121 16+00E 13+75N	1	23	16	104	.2	49	12	200	2.38	4	5	ND	5	34	1	3	2	23	.18	.043	9	12	.25	83	.05	2	1.94	.03	.09	1
8NAS122 16+00E 14+0CN	1	9	12	87	.3	39	10	277	2.10	3	8	ND	4	24	1	2	3	27	.21	.033	10	25	.27	59	.06	10	1.44	.03	.09	1
8NAS123 16+00E 14+00N	1	8	13	90	.1	40	9	277	2.18	7	5	ND	2	26	1	2	2	28	.23	.042	8	26	.27	62	.06	2	1.55	.02	.06	1
8NAS124 16+00E 14+25N	1	15	17	193	.1	65	14	337	3.32	3	5	ND	6	19	1	2	2	30	.15	.025	18	69	.68	55	.03	5	1.36	.01	.08	1
8NAS125 16+00E 14+50N	1	22	19	121	.1	61	15	689	3.47	7	5	ND	3	30	1	2	2	25	.23	.055	17	51	.46	90	.03	6	1.51	.02	.07	1
STD C	18	58	36	131	7.0	69	29	1063	4.11	42	19	7	36	49	17	17	19	58	.48	.083	40	57	.93	178	.07	35	1.71	.06	.15	13

8HAS230 37W 1+75S	1	18	112	265	.6	17	5	422	3.75	4	5	ND	4	55	1	2	2	19	.21	.065	15	1	.17	261	.06	10	1.33	.02	.17	1
8HAS231 37W 1+50S	2	13	125	140	.3	11	5	362	3.59	7	5	ND	4	55	1	2	2	18	.17	.063	16	1	.10	198	.04	2	1.65	.02	.13	1
8HAS232 37W 1+25S	2	10	100	143	.5	8	5	430	3.31	5	5	ND	4	48	1	2	2	16	.19	.040	16	1	.10	155	.03	6	1.34	.02	.12	1
8HAS233 37W 1+00S	3	11	151	110	.6	6	3	184	4.27	8	5	ND	7	43	1	2	2	13	.07	.037	22	1	.06	137	.01	4	.90	.02	.10	2
8HAS234 37W 0+75S	1	22	106	268	.8	8	6	173	5.22	8	5	ND	6	87	1	2	2	16	.18	.051	20	1	.11	175	.02	2	1.08	.02	.14	1
8HAS235 37W 0+50S	1	18	91	539	.4	9	6	735	4.23	7	5	ND	5	60	1	2	2	22	.17	.070	15	5	.13	194	.03	4	1.41	.01	.14	1
8HAS236 37W 0+25S	2	45	141	375	.4	13	7	838	6.01	4	5	ND	7	65	1	4	2	23	.27	.078	22	4	.16	205	.02	2	1.61	.02	.22	1
8HAS237 37W 0+00S	2	51	188	282	.2	13	7	240	6.50	9	5	ND	6	88	1	2	2	20	.15	.095	26	10	.19	201	.01	2	1.24	.02	.13	1
8HAS238 37W 0+25N	3	69	197	221	.3	8	5	111	7.05	16	5	ND	8	119	1	2	2	18	.06	.164	23	4	.13	259	.01	2	1.33	.03	.19	1
8HAS239 37W 0+50N	3	54	270	126	.9	8	3	85	7.59	16	5	ND	13	126	1	3	2	21	.05	.126	33	11	.13	135	.02	2	.49	.04	.35	1
8HAS240 37W 0+75N	4	31	80	134	.5	10	4	152	5.72	12	5	ND	13	70	3	2	2	14	.11	.121	40	9	.17	204	.01	8	.71	.01	.17	1
8HAS241 37W 1+00N	5	64	71	567	.6	57	17	1147	7.19	10	5	ND	9	49	2	2	2	39	.23	.087	26	43	.74	205	.04	14	2.09	.02	.29	1
8HAS242A 37W 1+25N	2	37	260	631	.5	8	5	680	4.11	19	5	ND	6	82	1	2	2	13	.32	.067	27	1	.14	309	.02	2	1.29	.02	.25	1
STD C	18	60	39	132	6.7	72	31	1062	4.21	44	24	8	38	48	17	17	19	61	.50	.096	41	54	.90	178	.05	38	1.93	.06	.15	14

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8HAS242 27W 1+50N	3	150	642	664	1.0	5	10	1088	6.71	29	5	ND	16	88	3	2	2	9	.04	.079	28	9	.07	224	.01	7	1.06	.03	.19	2
8HAS244 27W 1+75N	2	19	556	327	.8	4	4	195	3.65	18	5	ND	9	63	1	4	4	11	.19	.058	18	1	.11	356	.01	2	1.19	.01	.21	1
8HAS245 27W 2+00N	2	46	1646	974	1.1	10	7	366	7.05	26	5	ND	10	42	2	8	2	15	.26	.058	14	5	.18	229	.04	2	1.40	.02	.25	1
8HAS246 27W 2+25N	1	30	56	157	.1	15	11	638	4.07	10	7	ND	11	40	2	2	2	20	.44	.043	21	15	.38	169	.04	8	1.84	.01	.21	1
8HAS247 27W 2+50N	1	25	44	126	.1	14	14	971	3.94	14	5	ND	11	67	1	4	2	15	.76	.100	19	14	.47	157	.01	10	1.59	.01	.20	1
8HAS248 27W 2+50DN	2	24	43	124	.1	13	14	982	3.89	15	5	ND	12	68	1	2	2	15	.76	.100	20	12	.46	157	.01	8	1.47	.01	.19	1
8HAS249 27W 2+75N	1	35	36	163	.1	44	12	225	4.14	23	5	ND	4	38	1	2	3	34	.43	.041	21	36	.59	162	.10	2	2.24	.01	.15	1
8HAS250 27W 3+00N	5	109	257	709	1.9	42	11	689	4.00	143	5	ND	7	62	4	3	2	24	.51	.079	30	12	.30	247	.02	2	1.29	.01	.18	1
8HAS251 27W 3+50N	2	67	53	106	.1	31	20	768	5.28	8	5	ND	7	99	2	4	2	36	1.56	.254	54	36	.99	193	.02	16	1.66	.01	.14	1
8HAS252 28W 3+00N	5	59	62	216	.7	39	23	1718	6.09	21	5	ND	7	95	4	2	2	36	.69	.086	28	25	.59	202	.04	10	2.15	.01	.25	1
8HAS253 28W 2+50N	3	64	33	158	.4	16	20	1171	6.23	64	5	ND	4	70	1	4	2	32	.88	.109	20	16	.68	117	.01	4	2.15	.01	.26	1
8HAS254 28W 2+25N	4	57	272	254	1.6	13	14	589	5.77	49	5	ND	8	85	1	3	3	22	.42	.086	25	6	.37	260	.01	2	1.73	.01	.27	1
8HAS255 28W 2+00N	3	66	199	282	.6	18	15	1039	5.55	19	5	ND	7	90	4	3	2	29	.77	.115	29	11	.59	182	.01	8	2.00	.01	.31	1
8HAS256 28W 1+75N	3	79	140	224	.2	18	19	1193	6.14	15	5	ND	6	91	1	2	2	32	.87	.143	31	15	.65	162	.01	6	2.13	.01	.27	1
8HAS257 28W 1+50N	2	67	70	195	.2	19	17	827	6.23	11	5	ND	8	69	3	2	2	33	.63	.131	33	15	.73	130	.01	16	2.24	.01	.27	1
8HAS258 28W 1+00N	2	53	100	193	.1	16	16	618	5.87	16	5	ND	7	66	1	2	2	33	.45	.138	30	18	.65	118	.01	2	2.08	.01	.24	1
8HAS259 28W 0+75N	2	67	182	714	.3	14	12	1413	6.92	20	5	ND	10	185	2	2	2	26	.31	.149	26	4	.18	386	.03	4	1.99	.02	.25	1
8HAS260 28W 0+50N	5	78	223	137	.6	1	3	110	14.87	39	5	ND	16	167	1	2	3	14	.03	.202	20	1	.06	81	.01	11	.52	.07	.48	2
8HAS261 28W 0+25N	2	103	118	259	.2	1	10	603	7.44	18	5	ND	5	106	1	2	5	6	.10	.183	20	4	.06	140	.01	2	.60	.01	.16	1
8HAS262 28W 0+00N	1	37	152	666	.9	5	7	1116	3.56	10	5	ND	6	57	2	2	2	17	.29	.041	23	11	.24	122	.03	9	1.72	.02	.29	1
8HAS263 28W 0+25S	3	17	146	135	.5	4	7	584	5.41	10	5	ND	7	122	2	2	2	12	.22	.169	27	1	.07	398	.01	2	1.20	.02	.23	1
RE 8HAS259 28W 0+75N	2	69	186	719	.2	14	12	1530	7.12	22	5	ND	8	190	1	2	3	26	.32	.156	26	5	.18	395	.03	4	2.08	.02	.25	1
8HAS264 28W 0+50S	2	69	72	321	.1	55	15	398	5.23	6	5	ND	7	62	4	2	2	40	.08	.141	30	44	.63	233	.06	2	3.09	.01	.18	1
8HAS265 28W 0+50DS	1	71	72	312	.1	55	13	275	5.36	9	7	ND	7	65	2	4	4	41	.07	.138	29	51	.65	231	.06	2	3.06	.01	.18	3
8HAS266 28W 0+75S	1	33	38	509	.3	35	14	3738	3.44	5	5	ND	3	58	3	2	2	25	.48	.131	15	21	.41	315	.04	11	1.81	.02	.24	1
8HAS267 28W 1+00S	1	17	31	342	.1	13	9	2091	2.70	6	5	ND	3	44	2	2	2	17	.31	.110	14	7	.17	251	.05	2	1.51	.02	.24	1
STD C	20	61	38	135	6.5	75	32	1081	4.36	45	16	9	38	48	19	20	19	61	.50	.094	39	56	.92	169	.08	34	1.97	.06	.14	13
8HAS268 28W 1+25S	1	24	35	497	.2	9	12	1931	3.78	4	5	ND	2	36	1	2	2	28	.24	.253	13	8	.27	230	.03	2	1.97	.02	.11	2
8HAS269 28W 1+50S	1	23	33	336	.2	9	10	796	3.72	3	5	ND	3	43	2	2	3	27	.30	.128	12	7	.29	156	.04	5	1.84	.02	.12	1
8HAS270 28W 1+75S	2	51	64	421	.2	11	16	1015	5.59	7	6	ND	6	72	3	2	2	27	.41	.137	20	8	.30	188	.03	4	2.24	.02	.16	2
8HAS271 28W 2+00S	1	32	30	214	.3	11	11	531	3.78	5	5	ND	3	51	1	2	2	25	.35	.091	14	7	.26	138	.05	2	2.32	.02	.12	1
8HAS272 34W 5+00S	1	35	48	389	.3	26	11	466	3.78	5	5	ND	3	48	1	3	2	26	.37	.103	16	14	.39	169	.03	2	1.55	.01	.19	1
8HAS273 34W 4+75S	1	27	42	420	.3	32	12	361	3.82	6	5	ND	4	38	1	4	2	29	.28	.158	17	15	.38	224	.04	2	1.89	.01	.16	2
8HAS274 34W 4+50S	2	57	42	207	.4	30	13	273	4.23	5	5	ND	6	40	3	2	2	26	.33	.145	19	11	.38	219	.04	6	1.88	.01	.17	2
8HAS275 34W 4+25S	1	32	43	212	.4	50	13	233	3.52	5	5	ND	5	34	2	2	2	29	.28	.173	14	19	.54	229	.06	2	2.06	.01	.19	1
8HAS276 34W 4+00S	1	21	34	228	.1	74	14	503	3.59	6	5	ND	3	31	1	2	2	39	.28	.086	10	50	.84	244	.10	2	2.33	.01	.19	1
8HAS277 34W 3+75S	1	62	57	200	.4	114	26	720	6.04	13	5	ND	6	32	2	2	2	58	.45	.088	18	101	1.44	199	.09	10	2.16	.01	.24	1
8HAS278 34W 3+50S	1	97	18	98	.3	17	22	806	5.72	4	5	ND	7	47	2	2	5	8	.63	.135	12	9	.31	74	.01	25	.64	.01	.10	1
STD C	18	60	38	132	6.8	70	30	1051	4.19	43	15	8	40	48	19	16	19	60	.49	.099	41	55	.89	178	.08	36	1.92	.07	.15	13

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8HAS279 34W 3+25S	1	51	27	226	.1	48	12	630	3.85	9	5	ND	3	34	1	2	2	33	.45	.075	11	31	.64	206	.07	2	2.36	.01	.20	1
8HAS280 34W 3+00S	1	14	24	337	.1	36	9	941	2.83	6	5	ND	2	27	1	2	4	28	.26	.100	8	21	.48	315	.06	6	1.92	.01	.18	1
8HAS281 34W 2+75S	1	23	32	330	.1	30	10	728	3.12	6	5	ND	3	37	1	2	2	28	.29	.099	10	22	.44	153	.06	5	2.10	.02	.16	1
8HAS282 34W 2+50S	1	37	60	172	.1	51	16	911	4.46	6	5	ND	4	35	1	2	2	37	.32	.034	16	35	.80	175	.08	4	2.26	.01	.25	1
8HAS283 34W 2+00S	1	59	45	160	.2	77	20	933	5.01	8	5	ND	4	39	1	2	2	44	.40	.067	15	63	1.13	190	.08	6	2.40	.01	.26	1
8HAS285 34W 1+75S	1	48	58	220	.1	52	18	1943	4.92	10	5	ND	4	63	1	2	2	37	.67	.071	17	40	.89	343	.06	5	2.26	.01	.34	1
8HAS286 34W 1+50S	1	71	70	254	.1	74	21	1773	5.23	9	5	ND	5	49	1	2	2	45	.57	.077	18	66	1.10	290	.07	6	2.43	.01	.32	1
8HAS287 34W 1+25S	1	63	38	144	.1	117	25	938	5.66	11	5	ND	3	48	1	2	2	58	.46	.060	16	104	1.62	232	.10	3	2.83	.01	.34	2
8HAS288 34W 1+00S	1	66	38	136	.1	130	28	1485	5.75	10	5	ND	3	44	1	2	2	63	.63	.046	14	261	1.84	378	.12	2	2.88	.01	.34	1
8HAS289 34W 0+75S	1	111	44	141	.1	142	31	967	6.57	15	5	ND	5	33	1	2	2	73	.66	.077	20	298	2.27	191	.12	2	3.09	.01	.30	1
8HAS290 34W 0+75DS	1	104	42	140	.1	138	30	1012	6.44	14	5	ND	4	35	1	2	2	71	.73	.077	20	236	2.23	197	.12	5	3.00	.01	.31	1
8HAS291 34W 0+50S	1	58	34	145	.1	105	24	1047	5.82	9	5	ND	4	45	1	2	2	57	.45	.058	17	96	1.50	203	.10	3	2.60	.01	.39	1
8HAS292 34W 0+00N	1	76	186	471	.5	17	11	473	5.42	17	5	ND	6	47	2	2	2	27	.41	.065	18	13	.43	156	.04	7	1.93	.01	.22	1
8HAS293 34W 0+75N	2	58	664	181	1.3	2	2	89	7.38	103	5	ND	11	201	1	6	2	10	.02	.127	17	1	.06	112	.01	2	.49	.03	.56	1
RE 8HAS299 31W 3+50S	1	28	36	200	.3	12	10	600	3.89	4	5	ND	4	59	2	3	3	27	.43	.095	16	3	.25	133	.03	8	1.43	.01	.13	1
8HAS294 34W 1+00N	1	94	1006	1293	.4	6	8	1712	4.79	70	5	ND	8	78	3	3	2	11	.44	.062	31	3	.24	118	.01	7	1.19	.02	.20	1
8HAS295 31W 4+50S	2	60	126	257	.3	14	10	328	4.95	8	5	ND	5	48	1	2	3	23	.42	.079	19	7	.33	129	.02	4	1.53	.01	.16	1
STD C	17	59	38	131	6.6	69	29	1103	4.25	42	15	8	38	45	18	16	20	57	.50	.094	39	55	.98	175	.06	39	2.03	.06	.14	15
8HAS296 31W 4+25S	1	35	57	262	.1	12	9	647	3.77	5	5	ND	3	45	1	2	4	23	.36	.082	15	6	.25	170	.03	3	1.57	.01	.18	1
8HAS297 31W 4+00S	1	28	34	173	.2	9	9	655	3.73	4	5	ND	4	56	1	2	2	25	.48	.083	13	6	.25	128	.02	13	1.17	.01	.12	1
8HAS298 31W 3+75S	1	28	28	165	.1	11	10	495	3.76	2	5	ND	2	51	1	2	3	26	.45	.087	18	3	.25	134	.02	2	1.31	.01	.12	1
8HAS299 31W 3+50S	1	28	34	203	.2	11	10	610	4.05	3	5	ND	4	59	2	3	2	29	.44	.097	17	1	.25	135	.03	6	1.43	.01	.14	1
8HAS300 31W 3+25S	1	73	71	201	.3	16	14	476	5.15	5	5	ND	6	59	2	2	2	28	.38	.113	18	6	.34	161	.03	7	2.03	.01	.17	1
8HAS301 31W 3+00S	1	16	18	207	.1	9	7	452	2.94	3	5	ND	2	51	1	2	4	28	.37	.102	12	8	.21	99	.03	7	1.32	.02	.11	1
8HAS302 31W 2+75S	1	27	46	203	.3	13	10	766	3.61	3	5	ND	3	60	1	2	3	27	.34	.118	13	1	.28	193	.04	7	2.01	.02	.14	1
8HAS303 31W 2+50S	1	19	25	276	.1	13	9	706	3.33	3	5	ND	2	52	1	2	5	29	.35	.124	13	4	.26	160	.03	2	1.52	.01	.14	1
8HAS304 31W 2+25S	1	24	26	194	.3	14	10	1820	3.54	3	5	ND	4	66	2	2	2	29	.45	.153	15	4	.24	283	.03	3	1.53	.01	.12	1
8HAS305 31W 2+00S	1	20	170	361	.5	11	7	721	2.95	9	5	ND	3	43	1	2	2	24	.28	.070	12	1	.23	367	.04	2	1.55	.02	.13	1
8HAS306 31W 1+75S	1	24	343	366	.7	10	6	545	3.43	12	5	ND	6	39	2	4	2	20	.19	.062	15	1	.22	376	.02	2	1.53	.02	.15	1
8HAS307 31W 1+50S	1	71	39	128	.2	100	24	1010	5.68	10	5	ND	5	33	1	2	2	56	.65	.062	20	84	1.48	159	.07	6	2.43	.01	.27	1
8HAS308 31W 1+25S	2	55	68	224	.3	46	15	1208	5.97	8	5	ND	7	57	1	2	3	34	.33	.089	19	46	.65	251	.04	3	1.96	.02	.24	1
8HAS309 31W 1+00S	4	34	157	137	.4	6	4	91	5.21	10	5	ND	12	128	2	3	2	17	.04	.156	24	4	.10	327	.01	4	1.23	.02	.20	1
8HAS310 31W 0+75S	2	27	98	256	.2	7	8	880	3.92	5	5	ND	13	93	2	2	2	15	.21	.124	32	1	.17	538	.01	7	1.72	.03	.20	1
8HAS311 31W 0+50S	2	10	133	246	.2	5	6	660	2.80	3	5	ND	10	36	3	2	3	8	.17	.107	39	1	.08	570	.01	2	1.47	.01	.18	1
8HAS312 31W 0+50DS	2	13	145	232	.2	4	5	638	2.83	4	5	ND	10	36	3	2	2	9	.15	.098	40	1	.07	545	.01	2	1.46	.01	.18	1
8HAS313 31W 0+25S	7	13	130	86	.7	4	3	167	3.41	6	5	ND	11	34	1	2	2	9	.05	.070	24	1	.05	294	.01	2	.86	.02	.11	2
8HAS314 31W 0+00S	1	65	101	133	.3	18	8	193	11.77	11	5	ND	42	150	1	4	2	40	.05	.128	18	26	.47	105	.03	18	1.69	.07	1.03	1
STD C	17	58	38	127	7.1	68	27	1043	3.99	40	18	7	36	48	17	17	19	55	.47	.085	37	55	.92	173	.06	31	1.84	.06	.14	12

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
8HAS315 31W 0+25N	1	91	99	389	.5	10	18	1555	6.40	6	5	ND	4	59	3	2	2	40	.61	.166	15	8	.62	146	.02	8	2.68	.01	.22	1
8HAS316 31W 0+50N	1	98	50	282	.3	10	19	1883	6.68	9	8	ND	3	72	2	2	2	40	.96	.162	16	12	.70	150	.02	9	2.68	.01	.25	1
8HAS317 31W 0+75N	1	97	32	141	.6	11	21	850	7.36	8	5	ND	5	31	4	2	5	44	.53	.091	15	13	.87	81	.01	10	2.71	.01	.16	1
8HAS318 31W 1+25N	4	194	424	2156	1.8	6	7	1048	6.59	32	5	ND	8	63	5	6	2	8	.63	.098	18	1	.14	375	.01	4	.72	.01	.12	1
8HAS319 31W 1+50N	2	104	52	223	.7	18	19	837	7.02	12	5	ND	5	45	4	3	2	39	.66	.123	15	15	.67	95	.01	8	2.50	.01	.23	1
8HAS320 31W	2	103	40	206	.6	20	22	1838	6.87	12	9	ND	3	52	2	3	2	40	.95	.098	13	14	.74	123	.01	6	2.47	.01	.20	1
8HAS321 31W	8	125	48	301	2.2	92	22	924	5.63	8	5	ND	10	68	6	2	2	41	1.09	.103	36	22	1.08	128	.02	8	2.50	.01	.22	1
8HAS322 32W 2+25N	1	103	27	131	.4	23	20	1252	6.24	7	5	ND	4	31	2	2	2	46	.88	.056	23	19	.96	159	.03	8	2.61	.01	.15	1
8HAS323 32W 2+00N	1	88	28	155	.4	25	20	1492	6.23	6	5	ND	3	58	2	2	2	40	1.21	.088	17	14	.90	152	.02	2	2.51	.01	.20	1
8HAS324 32W 1+50N	2	50	542	391	1.0	4	8	779	4.03	16	8	ND	9	35	2	2	2	12	.30	.036	16	2	.23	79	.01	2	1.00	.01	.13	1
8HAS325 32W 1+25N	3	66	652	717	.8	3	7	830	4.66	29	5	ND	8	45	3	3	2	10	.50	.055	15	4	.20	109	.01	2	.93	.01	.12	1
8HAS326 32W 1+00N	2	63	496	758	.9	4	7	905	4.63	22	5	ND	8	39	3	7	2	14	.24	.067	20	1	.22	295	.01	4	1.16	.01	.21	1
8HAS327 32W 0+75N	2	48	438	250	.6	2	4	299	4.10	17	5	ND	3	66	1	2	2	13	4.43	.033	2	3	.09	45	.01	2	.41	.01	.11	1
8HAS328 32W 0+50N	4	49	890	240	1.0	1	3	204	4.84	41	5	ND	11	52	2	6	2	4	.16	.046	19	1	.09	133	.01	2	.40	.02	.16	1
8HAS329 32W 0+25N	2	63	675	423	2.1	5	6	524	5.37	35	6	ND	10	58	3	7	2	15	.50	.075	19	1	.20	148	.01	7	1.13	.01	.20	1
8HAS330 32W 0+00N	3	56	820	377	2.6	5	11	550	3.91	27	5	ND	9	44	3	10	2	13	.13	.049	24	1	.12	177	.01	4	1.59	.01	.15	1
8HAS331 32W 0+25S	1	23	41	281	.1	9	11	833	3.07	3	5	ND	5	37	2	3	2	12	.48	.039	16	7	.23	130	.02	3	1.36	.01	.26	1
8HAS332 32W 0+50S	2	25	186	464	.4	6	7	1349	3.54	9	6	ND	10	78	2	2	2	11	.39	.090	30	1	.14	356	.01	2	1.45	.01	.23	1
8HAS333 32W 1+00S	1	76	66	205	.5	52	19	813	5.42	10	5	ND	5	94	1	2	3	37	4.13	.084	18	41	.98	132	.03	4	1.68	.01	.11	1
8HAS334 32W 1+25S	2	88	37	131	.6	14	16	670	5.48	3	5	ND	4	126	2	2	2	23	2.60	.138	25	3	.41	107	.01	7	.95	.01	.12	1
8HAS335 32W 1+50S	2	59	56	241	.2	15	17	1236	5.66	4	6	ND	6	87	2	2	2	27	.56	.174	28	5	.33	206	.01	2	1.32	.01	.23	1
RE 8HAS331 32W 0+25S	1	24	41	274	.1	8	11	811	3.00	3	5	ND	4	36	2	2	2	13	.47	.038	16	5	.22	127	.02	2	1.32	.01	.25	1
8HAS336 32W 1+75S	1	32	28	170	.1	13	14	1408	4.15	3	5	ND	3	57	1	2	2	29	.33	.109	17	3	.29	173	.02	6	1.57	.01	.19	1
8HAS337 32W 2+25S	1	37	30	275	.2	12	14	775	4.91	3	5	ND	4	76	2	2	3	29	.39	.128	21	1	.34	184	.02	2	1.54	.01	.22	1
8HAS338 32W 2+25DS	1	38	35	271	.2	13	14	850	4.99	3	5	ND	5	74	2	2	2	29	.39	.123	22	1	.35	178	.02	6	1.51	.01	.21	1
8HAS339 32W 2+50S	1	34	19	251	.2	13	11	1505	3.40	3	5	ND	3	101	2	3	3	26	.61	.124	16	3	.24	195	.03	11	1.30	.02	.14	1
8HAS340 32W 2+75S	1	23	12	139	.2	10	9	444	3.01	3	5	ND	3	51	2	2	2	27	.34	.138	16	4	.20	113	.03	2	1.29	.02	.08	1
8HAS341 32W 3+00S	2	44	30	160	.4	15	12	297	4.31	5	5	ND	6	47	3	3	2	28	.34	.119	23	7	.29	87	.03	17	1.61	.02	.12	2
STD C	18	59	37	134	6.7	69	28	1167	4.12	42	23	8	38	45	19	17	18	57	.48	.088	39	57	.92	169	.06	34	2.02	.06	.14	14
8HAS342 32W 3+25S	1	27	85	225	.3	14	10	238	3.57	3	5	ND	3	58	1	2	2	23	.42	.165	14	13	.31	100	.04	6	2.06	.02	.13	1
8HAS343 32W 3+50S	1	28	52	224	.4	13	9	635	3.20	3	5	ND	3	61	3	2	2	23	.49	.118	12	7	.27	184	.04	2	1.72	.01	.13	1
8HAS344 32W 3+75S	1	45	55	187	.3	14	11	456	4.23	4	5	ND	3	52	2	2	2	26	.45	.066	16	8	.37	132	.03	4	1.71	.01	.14	1
8HAS345 32W 4+00S	1	39	52	199	.3	16	11	380	3.81	4	5	ND	4	48	2	2	2	23	.44	.082	15	5	.32	140	.04	5	2.13	.01	.12	1
8HAS346 32W 4+25S	1	33	46	211	.3	13	10	819	3.86	3	5	ND	3	46	2	2	2	27	.38	.066	16	1	.28	210	.03	11	1.48	.01	.13	1
8HAS347 32W 4+50S	1	44	64	197	.3	16	12	322	4.52	6	6	ND	5	35	3	4	2	27	.27	.072	17	9	.36	130	.03	2	1.73	.01	.14	1
8JHS187 25W 1+75S	1	24	45	210	.2	37	10	707	3.13	7	5	ND	3	31	2	2	2	28	.36	.104	12	24	.50	210	.06	2	2.25	.02	.16	1
8JHS188 25W 1+50S	1	50	59	228	.1	45	13	777	4.28	9	5	ND	2	36	1	4	2	33	.44	.087	16	37	.70	196	.07	2	2.21	.01	.19	1
STD C	16	57	39	132	7.1	68	28	947	3.98	39	15	7	36	44	18	17	19	55	.48	.087	38	53	.96	175	.06	34	1.91	.06	.13	13

APPENDIX III

GEOPHYSICAL DATA

1988 ACACIA GRID VLF

LINE	STATION	DIP	OP	COR. DIP	COR. OP
28+00	10+00	-80	26	-3	46
	10+25	-13	24	-139	-78
	10+75	-101	-34	-128	-59
	11+00	11	38	-19	5
	11+25	14	30	2	3
	11+50	24	33	14	5
	11+75	20	30	16	3
	12+00	16	30	25	0
	12+25	14	28	31	2
	12+50	6	29	32	3
	12+75	-1	29	28	2
	13+00	-10	26	17	8
	13+25	-17	29	-2	9
	13+50	-22	24	-9	-4
	13+75	-22	23	18	-17
	14+00	-15	21	22	-6
	14+25	-20	30	-11	7
	14+50	-35	31	-11	4
	14+75	-22	26	-2	4
	15+00	-22	28	-5	-4
	15+25	-24	25	3	-5
	15+50	-18	25	4	10
	15+75	-23	32	-13	9
	16+00	-22	23	-25	-7
	16+25	-23	24	-6	-18
	16+50	-9	22	7	-22
	16+75	-11	32	86	-20
28+00	17+00	-15	32	100	-8

27+00	17+00	-12	44	-7	-6
	16+75	-100	40	-86	-15
	16+50	-27	44	-100	-1
	16+25	-36	34	49	-61
	16+00	-27	35	64	-72
	15+75	-91	42	-55	53
	15+50	-20	-34	-48	39
	15+25	-62	39	36	3
	15+00	-26	22	23	28
	14+75	-9	22	47	-12
	14+50	-14	42	65	-30
	14+25	10	30	31	-14
	14+00	0	22	33	-10
	13+75	-5	20	-1	-6
	13+50	16	18	1	-8
	13+25	1	14	22	-20
	13+00	-2	18	-12	-10
	12+75	-2	6	-21	20
	12+50	-2	6	-3	38
	12+25	8	8	10	39
	12+00	35	24	47	15
	11+75	34	28	63	-13
	11+50	34	43	25	-7
	11+25	16	24	-19	-23
	11+00	15	34	-37	-28
	10+75	-3	26	-38	0
	10+50	-27	9	-61	-8
	10+25	-37	23	-76	-16
	10+00	-25	12	-32	-10
	9+75	-26	12	13	-10
	9+50	-31	7	5	-2
	9+25	-19	7	1	4
27+00	9+00	3	2	41	-9

26+00	8+00	65	10	127	17
	8+25	43	3	95	7
	8+50	3	0	9	-20
	8+75	-22	-4	-25	-22
	9+00	-27	0	31	12
	9+25	-1	16	49	8
	9+50	-23	2	15	-14
	9+75	-36	2	1	-12
	10+00	-37	8	-11	-6
	10+25	-37	10	-21	-9
	10+50	-37	12	-18	-13
	10+75	-26	12	-20	-5
	11+00	-27	19	-27	-7
	11+25	-18	18	-46	-20
	11+50	-15	18	-60	-15
	11+75	-3	26	-38	-2
	12+00	16	30	9	16
	12+25	26	29	37	31
	12+50	25	29	27	27
	12+75	8	14	19	28
	13+00	6	13	13	18
	13+25	0	3	-10	-14
	13+50	-5	-4	-25	-21
	13+75	-2	2	-37	-21
	14+25	7	11	-33	-34
	14+50	11	8	13	-11
	14+75	31	26	58	23
	15+00	20	27	56	13
	15+25	9	18	24	-19
	15+50	-16	12	4	-40
	15+75	-11	20	-4	-30
	16+00	-20	29	31	-3
	16+25	-11	43	52	11
	16+50	-16	36	-44	12
	16+75	-46	39	-105	18
26+00	17+00	-33	29	-32	33

25+00	17+00	15	34	44	-20
	16+75	11	16	105	2
	16+50	3	14	32	-13
	16+25	-2	16	-25	-29
	16+00	-12	16	-28	-7
	15+75	-15	1	-28	15
	15+50	-23	2	-24	10
	15+25	-9	8	-5	-2
	15+00	-14	10	15	-8
	14+75	-25	10	-7	2
	14+50	-25	6	-27	14
	14+25	-22	6	-8	13
	14+00	-21	12	7	14
	13+75	-15	14	11	30
	13+50	-17	17	11	16
	13+25	-28	23	-9	-26
	13+00	-16	38	-12	-27
	12+75	-26	18	3	-18
	12+50	-35	17	-17	-17
	12+25	-38	12	-31	-6
	12+00	-55	5	-32	1
	11+75	-38	7	-20	3
	11+50	-43	4	12	-18
	11+25	-50	9	0	-26
	11+00	-68	5	-37	1
	10+75	-111	-10	-86	15
	10+50	-98	-2	-91	19
	10+25	-89	-2	-8	28
	10+00	-47	5	73	19
	9+75	-25	10	115	1
	9+50	-8	21	103	7
	9+25	7	13	71	22
	9+00	33	19	73	35
	8+75	70	22	104	-6
	8+50	58	32	88	-74
	8+25	78	44	33	-35
	8+00	-14	4	-64	25
	7+75	-9	-2	-159	-11
	7+50	-10	15	-83	-69
	7+25	-18	12	-5	-64
25+00	7+00	-29	-10	-28	-24

24+00	6+00	-60	-32	-45	-23
	6+25	-62	-30	-68	-52
	6+50	-57	-36	4	-18
	6+75	-20	-3	31	-8
	7+00	-31	-11	-6	-5
	7+25	-50	-10	-8	24
	7+50	-32	4	-8	20
	7+75	-43	-20	-5	26
	8+00	-31	-10	-30	6
	8+25	-36	-26	-70	-84
	8+50	-33	-30	-192	-126
	8+75	-4	-12	-227	-40
	9+00	5	40	52	36
	9+25	150	44	196	20
	9+50	78	24	166	-26
	9+75	25	24	168	-12
	10+00	7	24	131	66
	10+25	-70	50	84	64
	10+50	-66	10	-4	20
	10+75	-128	-2	-46	7
	11+00	-92	-2	-8	2
	11+25	-98	-10	12	7
	11+50	-76	-1	-20	2
	11+75	-106	-13	-24	-4
	12+00	-80	-5	-17	-9
	12+25	-82	-11	-5	12
	12+50	-80	-3	27	21
	12+75	-65	-4	-16	-21
	13+00	-92	-22	-45	-24
	13+25	-80	-6	-9	4
	13+50	-61	1	-5	-2
	13+75	-66	-5	-26	-10
	14+00	-66	-4	-16	2
	14+25	-56	2	-2	10
	14+50	-50	-1	-16	5
	14+75	-56	-3	-39	-10
	15+00	-48	-6	-51	-17
	15+25	-42	-3	-37	-14
	15+50	-23	4	-16	-15
	15+75	-16	4	-6	-6
	16+00	-12	11	8	8
	16+25	-11	12	16	7
	16+50	-11	9	27	17
	16+75	-20	6	39	29
24+00	17+00	-18	8	49	7

23+00	17+00	-40	-10	-27	10
	16+75	-37	-5	-39	-18
	16+50	-70	-4	-49	-33
	16+25	-76	-1	-69	6
	16+00	-88	-26	-57	20
	15+75	-56	-12	2	4
	15+50	-72	-9	36	-5
	15+25	-63	-9	9	-8
	15+00	-80	-8	-15	-7
	14+75	-150	-15	-95	-9
	14+50	-128	-10	-135	10
	14+25	-120	-20	-18	23
	14+00	-150	-14	8	5
	13+75	-74	-6	24	-2
	13+50	-63	-5	133	9
	13+25	-67	-10	94	21
	13+00	-30	-3	40	62
	12+75	-39	-3	61	62
	12+50	-17	11	41	-25
	12+25	-16	45	36	-43
	12+00	-59	25	-19	13
	11+75	-78	6	-104	13
	11+50	-11	21	-14	-14
	11+25	12	23	138	-12
	11+00	-6	17	95	23
	10+75	6	13	-1	50
	10+50	22	15	22	26
	10+25	39	38	61	-83
	10+00	53	40	64	-79
	9+75	62	39	54	68
	9+50	60	-44	30	40
	9+25	32	44	-23	-27
	9+00	-33	19	-123	-9
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	6+25	-9	16	-31	-26
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	7+50	-8	-9	-5	0
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	11+25	23	8	168	-51
	11+50	16	16	-59	-2
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	16+50	3	-25	22	-62
	16+75	14	-30	32	-105
16+00	17+00	3	-21	15	-37

17+00	2+00	-8	28	17	26
	2+25	-7	26	5	26
	2+50	-13	18	-4	30
	2+75	-19	10	22	34
	3+00	-6	8	1	-23
	3+25	-22	-10	-47	-54
	3+50	-25	-6	-15	8
	3+75	-4	27	25	27
	4+00	4	11	-2	2
	4+25	-18	2	-5	3
	4+50	-7	9	21	-8
	4+75	-5	2	12	24
	5+00	-15	6	10	29
	5+25	-18	13	11	2
	5+50	-14	-29	-32	-4
	5+75	-29	19	-48	-56
	6+00	-14	-37	-6	-8
	6+25	3	31	19	49
	6+50	2	7	-18	25
	6+75	-7	-5	-134	43
	7+00	-7	-6	-61	30
	7+25	20	-17	181	-18
	7+50	100	-37	138	-11
	7+75	-26	-16	7	6
	8+00	-35	-20	16	-4
	8+25	-29	-22	7	-13
	8+50	-39	-20	-14	-13
	8+75	-41	-18	-13	-6
	9+00	-34	-11	28	24
	9+25	-32	-14	38	43
	9+50	-30	-9	-11	7
	9+75	-64	-40	-4	-6
	10+00	-36	-26	18	10
	10+25	-47	-30	7	17
	10+50	-49	-30	-10	13
	10+75	-52	-36	-23	-7
	11+00	-51	-41	-14	-5
	11+25	-40	-38	-1	14
	11+50	-40	-32	1	10
	11+75	-37	-42	-9	-1
	12+00	-42	-42	-22	-5
	12+25	-36	-42	-26	-3
	12+50	-34	-41	-10	4
	12+75	-22	-38	-4	4
	13+00	-22	-42	-11	-1
	13+25	-24	-41	-9	-14
	13+50	-16	-43	-14	-17
	13+75	-19	-39	-18	4
	14+00	-12	-31	-9	9
	14+25	-9	-34	-7	2
	14+50	-4	-40	-24	11
	14+75	-8	-34	-27	9
	15+00	2	-42	-13	-3
	15+25	10	-43	-6	-10
	15+50	11	-42	-6	-15
	15+75	14	-40	-2	-15
	16+00	13	-35	-18	-16
	16+25	18	-32	-41	-35

17+00	16+50	11	-28	-20	-5
	16+75	38	-23	2	-12
	17+00	32	-2	17	-82
18+00	1+00	37	-44	30	-13
	1+25	31	31	33	42
	1+50	21	5	42	-25
	1+75	17	-5	23	-57
	2+00	2	-1	-17	-23
	2+25	-6	26	-28	25
	2+50	2	25	-13	54
	2+75	11	23	12	38
	3+00	13	3	33	-10
	3+25	13	-9	30	-34
	3+50	-1	-3	26	-34
	3+75	-6	7	-10	-22
	4+00	-12	15	-86	7
	4+25	-21	23	-66	28
	4+50	13	21	55	5
	4+75	40	10	108	-16
	5+00	18	6	68	3
	5+25	-20	20	26	-1
	5+50	-30	12	13	-36
	5+75	-40	11	-6	-45
	6+00	-36	22	-54	-22
	6+25	-47	37	-48	4
	6+50	-23	41	23	3
	6+75	-6	40	38	4
	7+00	-16	34	-4	32
	7+25	-36	44	-10	37
	7+50	-24	26	1	29
	7+75	-24	20	-8	29
	8+00	-26	13	4	32
	8+25	-23	4	17	31
	8+50	-19	0	-10	15
	8+75	-34	-15	-21	12
	9+00	-25	-12	-8	21
	9+25	-18	-18	-8	29
	9+50	-20	-21	-2	13
	9+75	-15	-30	-3	-16
	10+00	-15	-38	-23	3
	10+25	-18	-26	-32	16
	10+50	-9	-26	-19	-72
	10+75	-1	-41	8	-76
	11+00	6	-27	24	60
	11+25	3	32	18	79
	11+50	-6	-24	0	27
	11+75	-9	-31	-1	13
	12+00	-12	-40	-10	-1
	12+25	-3	-42	10	-13
	12+50	-17	-42	71	-20
	12+75	12	-39	-71	-31
	13+00	-42	-32	-246	-51
	13+25	-34	-29	-138	-38
	13+50	75	-11	170	-17
	13+75	95	1	216	-15
	14+00	84	-3	-106	-13

18+00	14+25	-84	10	-153	-18
	14+50	47	3	-1	-15
	14+75	59	17	26	-20
	15+00	57	14	40	-32
	15+25	50	21	64	-30
	15+50	40	30	49	-21
	15+75	27	37	-25	-8
	16+00	-1	44	-56	-1
	16+25	19	44	-36	1
	16+50	32	45	55	50
	16+75	42	44	140	98
	17+00	45	44	55	39
19+00	1+00	-26	-5	-49	-28
	1+25	-27	-5	-35	-31
	1+50	-9	5	-2	-11
	1+75	5	13	-7	9
	2+00	-6	18	-22	2
	2+25	4	11	-39	3
	2+50	2	11	-36	26
	2+75	18	16	-5	20
	3+00	27	3	34	0
	3+25	29	-2	48	-2
	3+50	21	1	-5	-40
	3+75	1	0	-29	-48
	4+00	1	1	39	5
	4+25	26	40	85	-14
	4+50	5	9	107	-44
	4+75	-17	27	35	-13
	5+00	-37	36	-96	24
	5+25	-82	44	-56	36
	5+50	-7	32	12	26
	5+75	-16	24	0	19
	6+00	-17	16	-1	19
	6+25	-18	14	-6	16
	6+50	-15	7	-14	10
	6+75	-19	4	-15	-3
	7+00	-8	1	-19	-10
	7+25	-12	0	-19	-1
	7+50	0	8	-26	-6
	7+75	-1	3	-33	-12
	8+00	8	6	-16	5
	8+25	17	11	9	25
	8+50	23	10	10	23
	8+75	18	2	-1	8
	9+00	13	-6	5	5
	9+25	18	-5	18	7
	9+50	14	-7	1	-6
	9+75	12	-9	-25	-15
	10+00	2	-10	-8	4
	10+25	23	0	-2	17
	10+50	16	-4	-20	12
	10+75	17	-10	-27	4
	11+00	24	-11	-36	-14
	11+25	29	-15	-32	-19
	11+50	39	-10	4	8
	11+75	50	-2	-2	-30
	12+00	50	-4	-9	-55
	12+25	35	-16	36	18

	12+50	67	40	9	-4
	12+75	27	-5	-37	-46
	13+00	39	11	-4	-5
	13+25	46	28	45	5
	13+50	57	24	45	-19
	13+75	32	20	36	-33
	14+00	26	27	43	-20
	14+25	18	36	28	-4
	14+50	4	44	-9	-1
	14+75	-3	39	-47	1
	15+00	-3	45	-44	7
	15+25	13	39	-3	31
	15+50	28	44	12	35
	15+75	26	33	23	30
	16+00	18	19	65	40
	16+25	24	23	61	21
	16+50	-3	-1	-3	4
	16+75	-20	3	-40	1
19+00	17+00	-20	-2	-20	-2