1990 DIAMOND DRILLING REPORT

on the

KUTCHO CLAIM GROUPS

KUTCHO CREEK AREA, NORTHWESTERN B.C.

Liard Mining Division

NTS: 104I/1

Latitude: 58 12'N Longitude: 128 22

Owned and Operated by :

Homestake Mining (Canada) Limited
1000-700 West Pender Street
Vancouver, B.C. V6C 1G8

Report by:

Peter Holbek

November 29, 1990

3174.C.934

Distribution:

Ministry - 2 copies
File - 1 copy
Field - 1 copy
ARMC - 1 copy

SUMMARY

Six claim groups comprise the Kutcho Creek property which is located in the Liard Mining Division, approximately 100km east of Dease Lake. The property covers approximately 11,700 hectares of the Kutcho Formation which hosts the Kutcho Creek volcanogenic massive sulphide deposits. The Kutcho massive sulphide deposits consist of three sulphide lenses that lie along a gently plunging 3.5km long trend. The easternmost lens is the largest of the three and contains open pit mineable reserves of 13.9 million tonnes grading 1.75% Cu, 2.47% Zn, 29g/t Ag and 0.34g/t Au.

Exploration has been conducted in the property area since the early 1970's. In recent years, exploration has identified prospective stratigraphy with associated EM conductors or geochemical anomalies in the area south of the known sulphide deposits. The 1990 diamond drill program was designed to test the potential of the prospective stratigraphy to host additional sulphide deposits. In addition to geological and lithogeochemical information obtained from drill core, pulse electromagnetic (PEM) surveys were performed within most drill holes.

Twenty-eight drill holes, totaling 7,031m were drilled in twelve target areas which represent, approximately, a 32km strike length of favourable stratigraphy. Drill holes were completed between July 22, and September 14, 1990. Apart from two holes drilled within the Kutcho sulphide lens, only two holes intersected significant, but sub-economic, base metal mineralization. Five drill holes intersected a 1 to 2m thick bed(s) of massive pyrite along a 3.5km strike length in the

southwestern property area. Many of the EM conductors tested were caused by graphitic argillite, however the argillite commonly occurred within a sequence of hydrothermally altered rock which suggests a facies relationship between sulphides and argillite. Geology, alteration and lithogeochemistry of drill core indicates that much of the drill-tested stratigraphy has been modified by volcanogenic hydrothermal/exhalative processes.

TABLE OF CONTENTS

APPENDICES

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

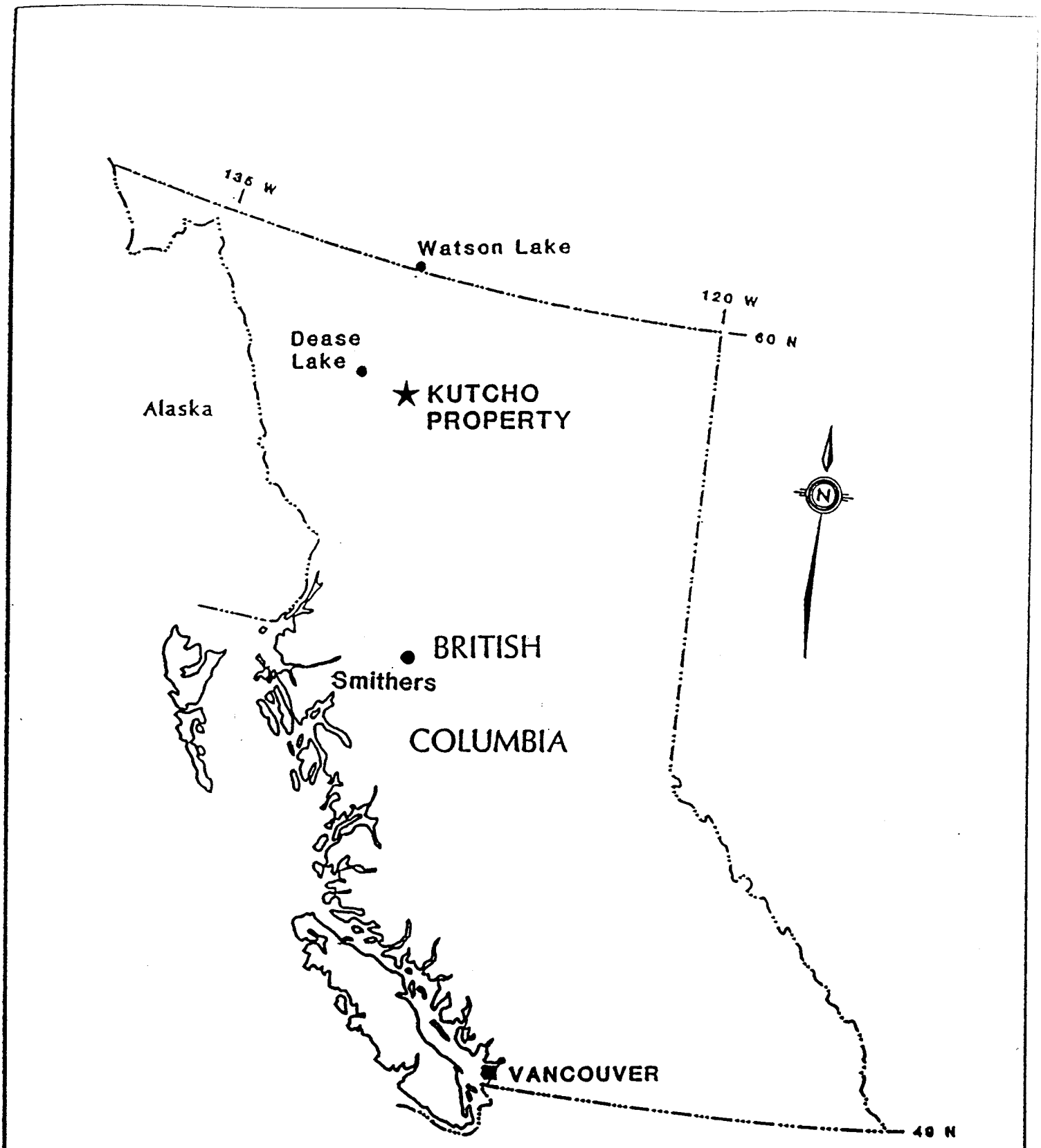
1.1 Location and Access

The Kutcho Creek property is located within the Liard Mining Divison, NTS 104I/1, approximately 100 km east of Dease Lake, in northwest British Columbia (Figure 1.1). Geodetic coordinates are 58° 12′ N and 128° 22′ W.

Access to the property is by fixed-wing aircraft from Smithers, Dease Lake or Watson Lake to the 1100m gravel airstrip located beside Kutcho Creek. The property is connected to the airstrip by an 8km long road, however, the large size of the property requires a helicopter for efficient exploration.

1.2 Climate and Physiography

Located within the Cassiar Mountains, on the divide between Arctic and Pacific watersheds, the area is moderately rugged with elevations ranging from 1400m to 2200m. Most of the area is alpine, with treeline at approximately 1500m. Snow cover can persist for nine months of the year. Structural fabric and two periods of glaciation have produced an intersecting pattern of east-west and north-south ridges. Major valleys are often filled with a deep layer of till.



HOMESTAKE MINING (CANADA) LIMITED

KUTCHO PROPERTY

LOCATION MAP

DRAWN	DATE	NTS	
		104I/1	Fig 1.1

Revised

0 250 500
kilometres

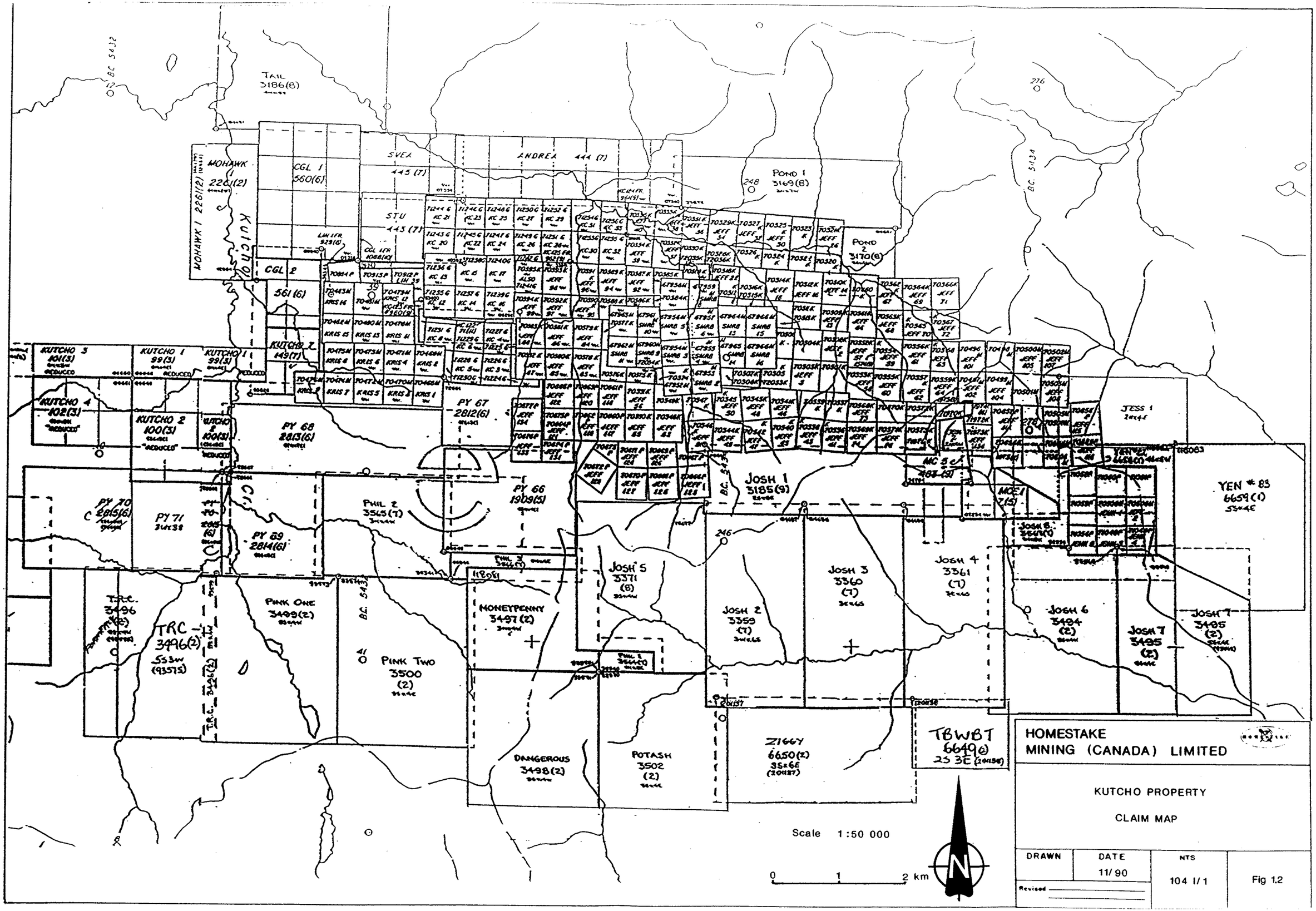
1.3 Property and History

The Kutcho property is comprised of six claim groups and a few ungrouped claims (Figs. 1.2 and 1.3). The property encloses claims held by Sumac Mines Ltd. The claim groups include ground which contains the Kutcho Creek polymetallic volcanogenic massive sulphide deposits. Claim data is listed in Appendix I.

Various portions of the property have been held and worked by different companies in the past. The most significant exploration was carried out by Imperial Oil Ltd. (Esso Minerals Canada) and Sumac Mines Ltd. who, indepently but co-operatively, explored the area and delineated three massive sulphide lenses between 1973 and 1981.

District scale exploration was re-initiated by Esso Minerals in 1984. Geological mapping suggested that altered felsic volcanics on the property were structurally related to rocks hosting the Kutcho deposits. A Questor airborne MKVII INPUT EM and Magnetic survey flown in November 1985 identified a number of conductors within areas of favourable geology south of the existing claims. Additional claims were staked and systematic evaluation of the airborne conductors, consisting of geological mapping, ground geophysics, and geochemical surveys, was undertaken. Results of this work provided the drill targets of the current program.

Esso Minerals Canada sold its Kutcho property to Homestake Mining Canada in early 1989. Homestake subsequently sold a 60% interest in the property to American Reserve Mining Corp.



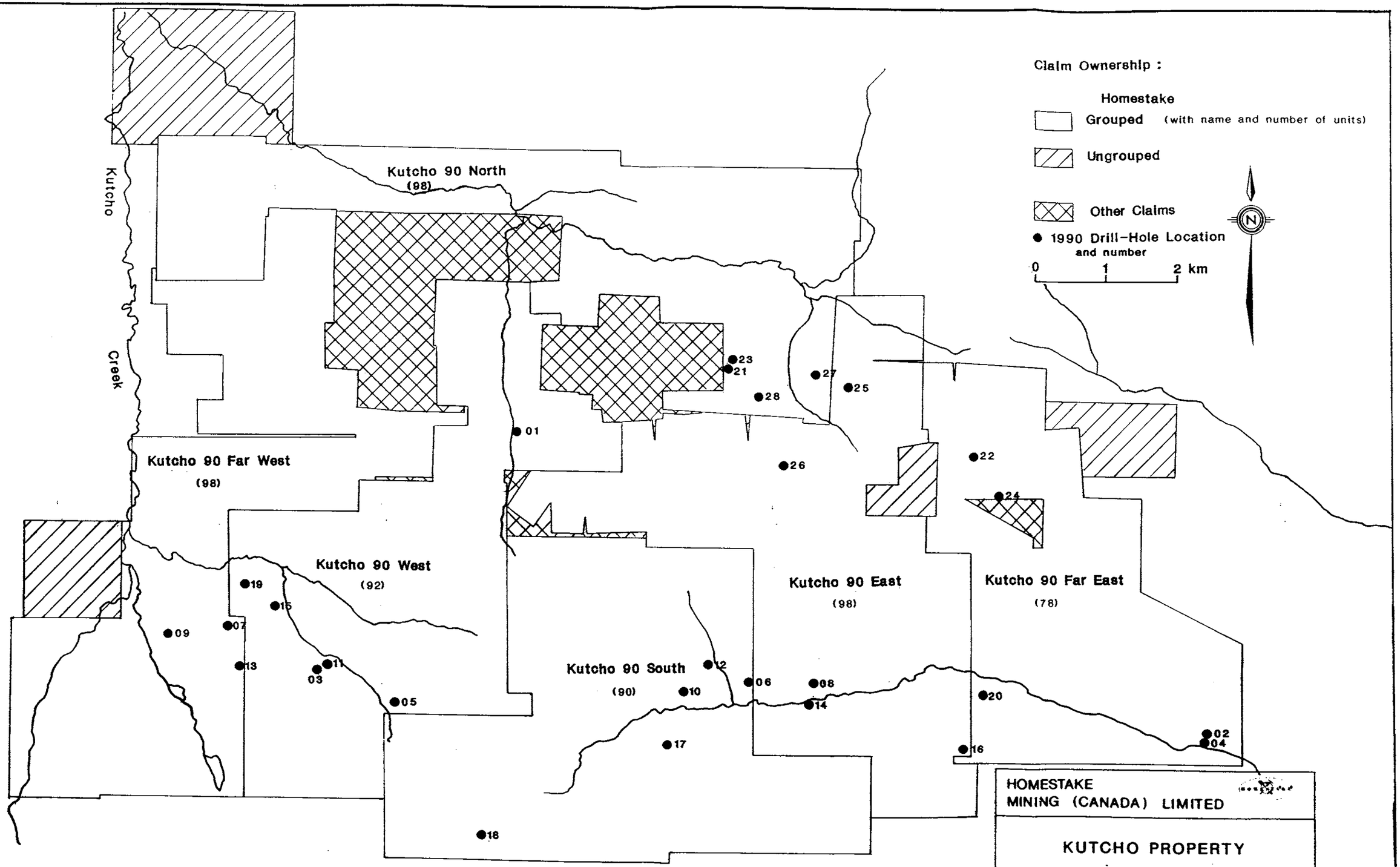
HOMESTAKE MINING (CANADA) LIMITED

KUTCHO PROPERTY

CLAIM MAP

DRAWN	DATE	NTS	
	11/90	104 I/1	Fig 1.2

Revised



HOMESTAKE MINING (CANADA) LIMITED

KUTCHO PROPERTY

CLAIM GROUPING

DRAWN	DATE	NTS	
	11/90	104 I/1	Fig 1.3
Revised			

1.4 Current Work

The 1990 diamond drill program consisted of 7,031m in 28 holes and was carried out between July 20 and September 16. 1990. Previous geological, geochemical and geophysical surveys on the property indicated that near-surface, potentialy economic, massive sulphide deposits were unlikely to be discoverd. Therefore, the primary objective of the drill program was to evaluate the potential of specific stratigraphic intervals to host volcanogenic massive sulphide deposits and to identify the most favourable areas for additional drilling. The stratigraphic intervals to be tested were selected on the basis of interpretted geology, geophysical, and soil and rock geochemical data. Twelve target areas covering a cumulative strike length of 32 kilometres were tested.

Table 1.1 Distribution of Work Within the Claim Groups

Group	Work Dates	Drill Holes	Total Meterage	% of work	$$ Applied
East	08/01-09/16	K-08,-14,-16	791.56	11.3	97,400
West	07/25-08/27	K-01,-03,-05, -11,-15,-19	1920.84	27.3	235,585
North	07/23-09/16	K-21,-23,-27, -28	1173.47	16.7	144,112
South	07/23-09/16	K-06,-10,-12 -17,-18	1076.31	15.3	132,031
Far East	07/23-09/16	K-02,-04,-20 -22,-24	594.06	8.5	73,350
Far West	07/23-09/16	K-07,-09,-13	927.51	13.2	113,909
		SUB-TOTAL	6,483.75m	92.3	$796,387
**** expenditures for work not applied to these claims (DDH 90-K25,26)			547.37	7.7	66,560
		TOTAL	7,031.12	100.0	$862,947

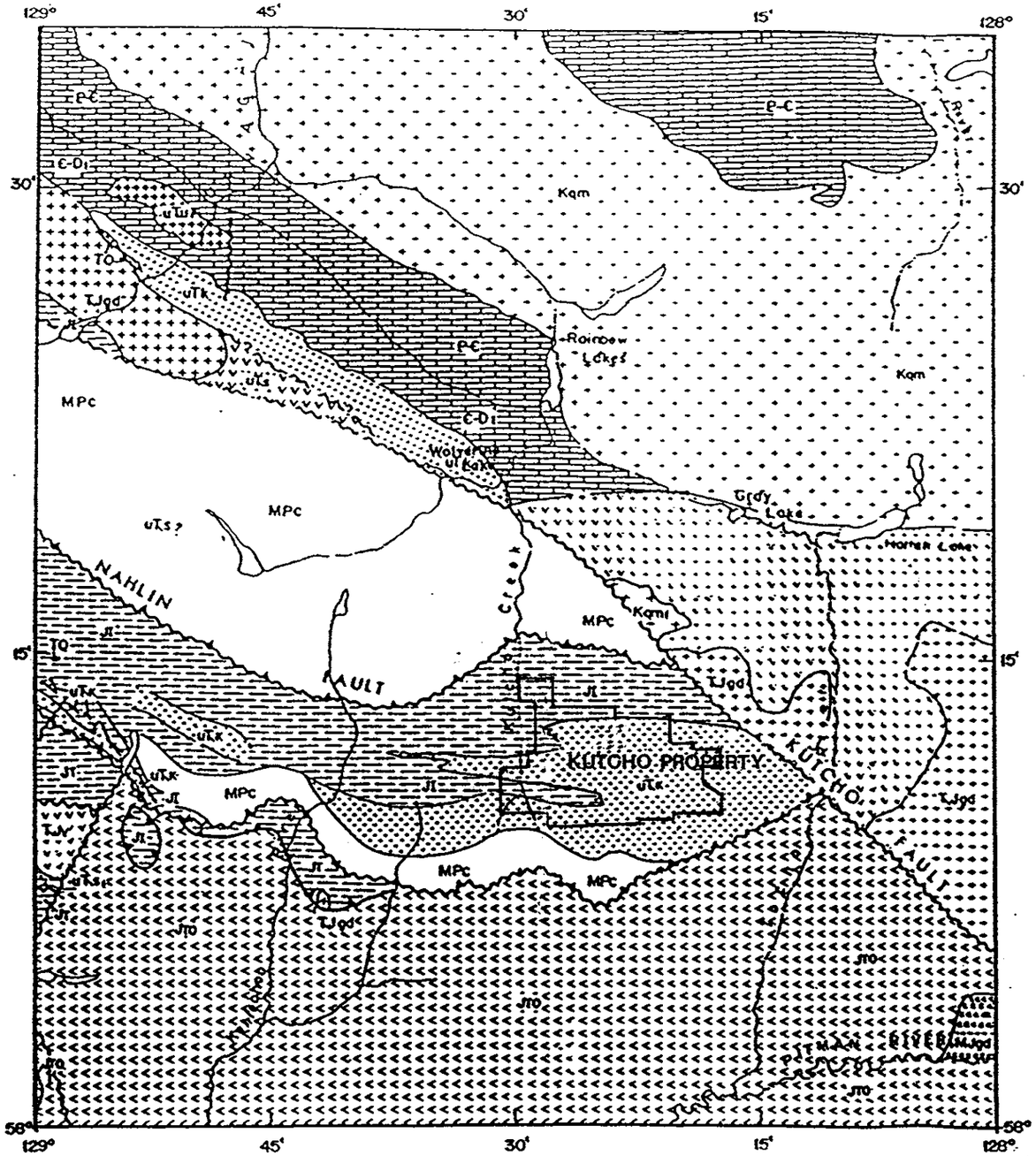
2.0 GEOLOGY

2.1 Regional Geology

The Kutcho property lies within the King Salmon Allochthon, a narrow belt of Triassic island arc volcanics and Jurassic sediments sandwiched between two northerly dipping thrust faults (Fig. 2.1). Penetrative foliation and axial planes of the major folds are parallel to these bounding faults. The belt of volcanics is thickest in the area where it hosts volcanogenic massive sulphide deposits; due in part to primary deposition, but also to stratigraphic repetition by folding and thrusting. Major folds are delineated by the Sinwa Limestone and the contact between Kutcho Formation volcanics and Inklin Formation argillites.

Volcanogenic mineralization of the Kutcho deposits occurs at the contact between footwall lapilli tuffs and hanging wall quartz and quartz-feldspar crystal tuffs. The main sulphide bearing horizon is marked by extensive hydrothermal alteration and the presence of thinly bedded ash tuffs, the latter indicating a temporary hiatus in volcanic activity. This sulphide horizon is geochemically, and often visually, recognizable over a strike length of 8km.

The coarsest grained pyroclastic rocks of the Kutcho Formation occur in the vicinity of the known sulphide deposits and become noticeably finer grained towards the south and east. The major center of volcanism is postulated to be northeast of the Kutcho sulphide lens, although subordinate centers may exist elsewhere on the property.



After Gabrielse 1978

LEGEND

Stratified Rocks

JURASSIC
MIDDLE JURASSIC (mainly?)

TJTo: "TOODOGGONE VOLCANICS": Mauve and green andesitic and dicitic volcanics; conglomerate, siltstone, shale

LOWER JURASSIC (mainly Pliensbachian)

JL/T: INKLIN FORMATION: Greywacke, slate conglomerate (age range uncertain), locally includes
TAKWAHONI FORMATION: Greywacke, siltstone, argillite, conglomerate

TRIASSIC AND JURASSIC
UPPER TRIASSIC AND LOWER JURASSIC

TJv: Andesitic green and maroon weathering volcanics

UPPER TRIASSIC

uTs: STUHINI FORMATION: Augite porphyry, coarse-bladed feldspar porphyry; minor sedimentary rocks

uTsl: SINWA FORMATION: Felid limestone; minor calcareous shale

uTk: "KUTCHO FORMATION": Quartz-eye sericite schist, chlorite schist, breccia, conglomerate

MISSISSIPPIAN TO PERMIAN

MPc: CACHE CREEK GROUP: Chert, shale, limestone, ultramafics, gabbro, diorite, basic volcanics

MPs: SYLVESTER GROUP: Chert, slate, limestone, ultramafics, gabbro, diorite, basic volcanics; lower part includes chert arenite and chert-pebble conglomerate

CAMBRIAN TO DEVONIAN

C-D: Limestone, dolomite, sandstone, siltstone, shale; C-D, , mainly black, carbonaceous phyllite.

Intrusive Granitic Rocks

MID-CRETACEOUS (mainly)

Kqm: CASSIAR BATHOLITH: Quartz monzonite, minor granodiorite and diorite; locally foliated or megacrystic near contact; abundant metasedimentary inclusions near Eagle River; age uncertain;
Kqmi: Kqmg in part dioritic

HOMESTAKE MINING (CANADA) LIMITED

KUTCHO PROPERTY
REGIONAL GEOLOGY

DRAWN	DATE	NTS	FIG. 2.1
	02/90	104I/1	

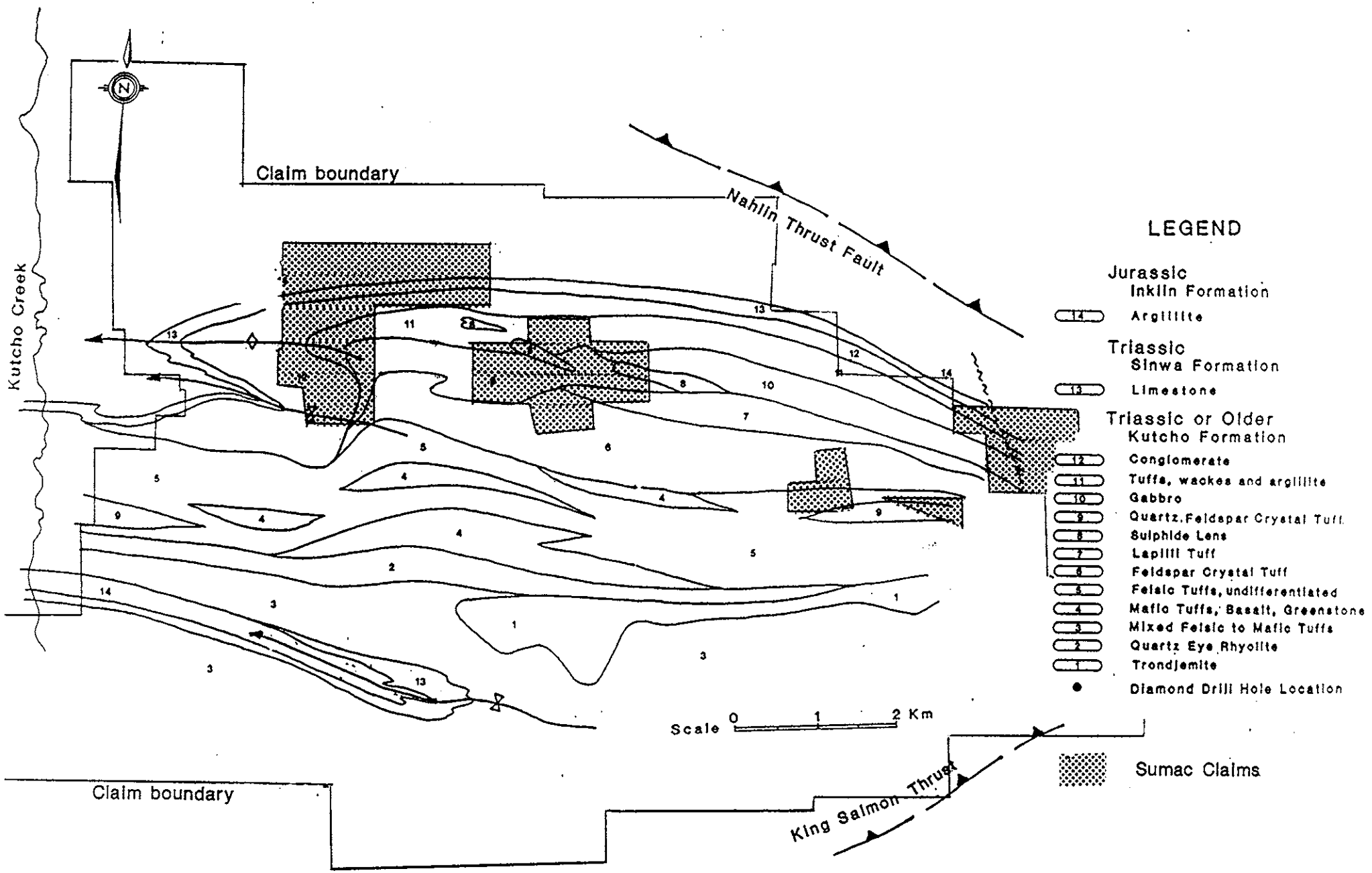
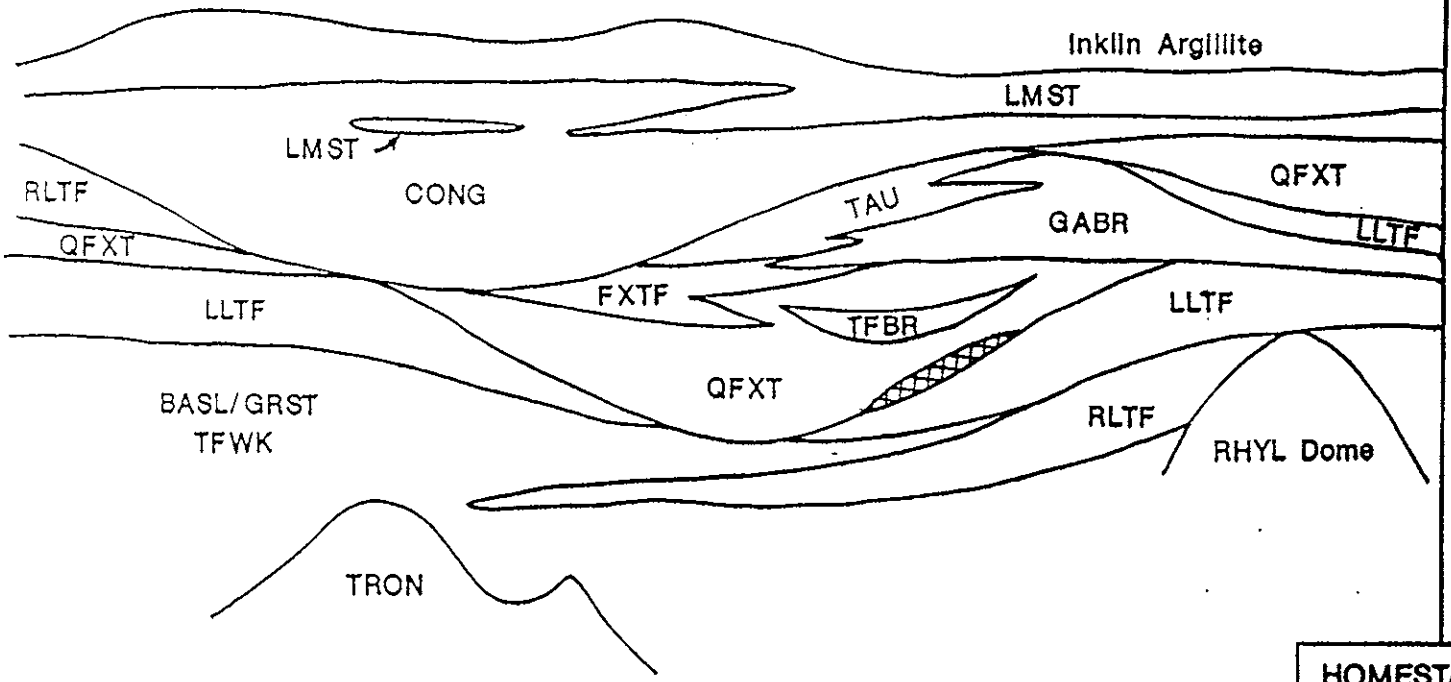


Figure 2.2 Generalized Geology of the Kutcho Creek Deposit Area.

2.2 Property Geology

Stratigraphy of the property has been described by Bridge et. al. (1984) and Thorstad and Wheeler (1986) and will only be briefly reviewed here. The stratigraphy is best understood in the vicinity of the known sulphide deposits where relatively good bedrock exposure is supplemented by a large amount of drill core. In the southern part of the property, stratigraphy is largely inferred as outcrop exposure is insufficient to interpret fold geometry. A generalized plan of the property geology is shown in Figure 2.2 and a stratigraphic interpretation in Figure 2.3.

The lowest rocks exposed in the stratigraphic sequence are thinly interlayered (bedded?) basalts, basaltic tuffs and wackes, and rhyolitic ash tuff to lapilli tuff (units 4 and 5 on Fig. 2.2) Thickness of this sequence is unknown but is likely in the order of 1,000m. The above sequence is overlain by feldspar crystal tuffs (FXTF) which are thickest in the vicintiy of the deposit area and pinch out both to the east and west. The feldspar crystal tuffs are overlain by the "mine sequence" which consists of footwall lapilli (LLTF) and lapilli-crystal tuffs (LLXT), pyritic ash tuffs (PYAT) which enclose the massive sulphides (MSSF), and hanging wall quartz crystal tuffs (QFXT). The quartz crystal tuffs appear to be truncated to the east by a mafic unit (MTGB, GABR) that appears to be a thin intrusive-extrusive complex, which may have been emplaced along thrust faults . To the west of the known deposits the mine sequence is overlain by the tuff-argillite unit (TAU) which is composed of interbedded mafic tuffs, wackes and argillaceous sediments. The Kutcho Formation is capped by a conglomerate, consisting entirely of volcanic fragments, and the Sinwa Limestone.



INKLIN FORMATION:

Inklin Argillite

SINWA FORMATION:

LMST Sinwa Limestone

KUTCHO FORMATION: Sedimentary rocks and Metagabbro

CONG Volcanic Conglomerate

TAU Tuff Argillite Unit

KUTCHO FORMATION: Volcanic Rocks

TFBR Tuff Breccia

QFXT Quartz Feldspar Crystal Tuff } ORE SEQUENCE

LLTF Felsic Lapilli Tuff } ORE SEQUENCE

FXTF Feldspar Crystal Tuff

RHYL Massive Rhyolite and Rhyolite Breccia

RLTF Mixed Felsic Rocks: Tuffs, Flows and derived sediments

TFWK Mafic Tuff Wacke

GRST Mafic Volcanic Rocks (undifferentiated)

BASL Mafic Flows

Intrusive Rocks:

TRON Trondhjemite

GABR Gabbro

Sulphide Deposit

VERTICAL EXAGGERATION 10X

HOMESTAKE MINING (CANADA) LIMITED

KUTCHO PROPERTY

SCHEMATIC SECTION SHOWING INTERPRETED KUTCHO FORMATION STRATIGRAPHY

DRAWN	DATE	NTS	
MDM	03/90	104I/1W	FIG. 2.3
Revised			

Rocks in the southern property area appear to be finer grained equivalents of the "mine sequence" and adjacent units. Compilation of geology, geochemistry and geophysics demonstrates that most of favourable target areas lie along four linear trends, including the most northerly one which hosts the known sulphide deposits. Structural interpretation suggests that the four trends are structural repetitions of a single mineralized horizon.

2.3 Surficial Geology

Depth and type of overburden is extremely variable on the property. Thick till deposits, kame terraces and eskers are common in the valleys or at lower elevations. In the south-eastern half of the property bedrock exposure is restricted to stream beds and narrow ridges. Topography of the bedrock surface is difficult to predict. In general overburden depths varied between 2 and 20m, however, in a few drill holes the depth of overburden was in excess of 60m, possibly caused by overburden filled stream channels.

Soil development is generally poor, consisting of 10 to 40cm of organic-rich material overlying clay-rich boulder till. The water table is at or near surface in most areas.

3.0 DIAMOND DRILL PROGRAM

3.1 Methods

The diamond drill program was conducted during the period of July 20 to September 16, 1990. Two drills were used; a modifed JKS 300 and a Crealius 260. The drill contractor was Van Alphen Diamond Drilling Ltd. based in Smithers, B.C. Drills were mobilized from the Sturdee airstrip in the Toodoggone River area using Trans Provincial Airway's Bristol Freighter. Drill moves were accomplished with a Bell 206A helicopter under contract from Frontier Helicopters of Abbotsford, B.C. Drill pads were constructed manually using milled lumber. Drill hole locations are shown on Figure 3.1 and specifications are listed in Table 3.1.

Drill core was logged on site using the GEOLOG system marketed by Lynx Geosystems of Vancouver. Core is stored in racks located at UTM coordinates of 6453500N and 534660E. Drill logs are coded for computer manipulation with printed output located in Appendix V. Explanation of codes is given in the GEOCODER located in Appendix VI.

3.2 Lithogeochemistry

Evaluation of the drilled stratigraphy to host volcanogenic massive sulphide deposits is primarily achieved through geological and geochemical interpretation of drill core (see Section 1.4). Lithogeochemical samples are composites derived by taking a 2cm piece of core every 75cm along the sample interval. Sample intervals are typically 10m in length but may be shorter or longer depending upon lithological contacts and degree of homogeneity of the

TABLE 3.1 DIAMOND DRILL HOLE SPECIFICATIONS

90/12/01 DRILLHOLE/TRAVERSE DATABASE CONTENTS SUMMARY PAGE: 1

DH Name	Length	Northing	Easting	Elevation	COMMENTS
DDH90K01	382.50	50905.00	34940.00	1549.00	
DDH90K02	55.20	46905.00	44750.00	1185.00	Abandoned in OB
DDH90K03	310.60	46845.00	44675.00	1158.00	
DDH90K04	127.70	47627.00	32350.00	1570.00	
DDH90K05	170.40	47415.00	38405.00	1457.00	
DDH90K06	361.20	47415.00	38405.00	1457.00	
DDH90K07	402.00	48055.00	31130.00	1457.00	
DDH90K08	173.40	47570.00	39195.00	1422.00	
DDH90K09	392.90	48000.00	30280.00	1346.00	
DDH90K10	304.50	47353.00	37533.00	1502.00	
DDH90K11	477.70	47675.00	32473.00	1549.00	
DDH90K12	66.80	47810.00	37795.00	1524.00	Abanodoned in OB
DDH90K13	173.40	47585.00	31350.00	1500.00	
DDH90K14	319.70	47259.00	39170.00	1390.00	
DDH90K15	252.40	48270.00	31920.00	1514.00	
DDH90K16	304.50	46615.00	41252.00	1376.00	
DDH90K17	228.30	45552.00	37210.00	1530.00	
DDH90K18	115.70	45330.00	35460.00	1700.00	
DDH90K19	314.20	48695.00	31350.00	1447.00	
DDH90K20	88.70	47610.00	41545.00	1325.00	Rods sheared in OB
DDH90K21	458.80	51875.00	37915.00	1610.00	
DDH90K22	225.20	50732.00	41400.00	1632.00	
DDH90K23	277.10	51915.00	37980.00	1590.00	
DDH90K24	94.20	50075.00	41720.00	1645.00	
DDH90K25	243.50	51525.00	39495.00	1660.00	
DDH90K26	264.90	50480.00	38850.00	1727.00	
DDH90K27	299.00	51715.00	39115.00	1575.00	
DDH90K28	146.00	51480.00	38450.00	1621.00	

alteration.

Chemical analyses were performed by International Plasma Labs of Vancouver. Samples are crushed to -10 mesh and a 250g subsample is pulverised to -150 mesh. The subsample is homogenised and a 1.0g sample digested in nitric-perchloric-hydrofluoric acid (HNO3-HClO4-HF) and taken to dryness. The residue is disolved in 5% HCl and analysed using Induction Coupled Plasma (ICP) methods for 17 elements. A secondary 1.0g subsample was digested using hot HCl and Ca, Fe, Mg, Mn and Sr were analysed by ICP methods. Gold was analyzed by fire assay preconcentration and atomic absorbtion techniques. Fluorine analyses were performed by specific ion electrode methods. Analytical results are contained in Appendix IV. In the case where significant base metals were intersected, Cu, Zn and Pb were assayed and Ag and Au were fire assayed.

3.3 Description of Results

The diamond drill program was designed to evaluate the potential of selected intervals of stratigraphy to host volcanogenic massive sulphide deposits. The tested intervals were selected on the basis of interpreted geology, and previous and current geochemical and geophysical surveys.

A majority of the drilled target areas that were based largely on EM condutors (DDH90K01, 04, 16, 17, 18) contained graphitic argillite. Commonly the argillaceous intervals are located within visually and chemically identifiable alteration zones and typically contain significant amounts of pyrite or pyrrhotite. Based on both geological and geochemical interpretation, in most cases the argillaceous rocks appear to be distal facies equivalents of exhalative sulphides.

In the southwestern property area five drill holes (DDH90K03, K07, K09, K11 and K13) intersected a bed or layer(s) of fine-grained pyrite. The pyrite occurs over a 3.5km strike length and, on the eastern end, is overlain by nearly 30m of what is interpreted to be silica exhalite. Textural and geochemical data from the five drill holes indicate that the most probable origin for the pyrite is distal deposition of volcanic associated exhalative sulphides. Agillaceous material is commonly associated with the pyrite layer, particularly within the interpreted footwall.

Four holes (DDH90K06, 08, 10 and 14) drilled along Josh Creek in the south-central property area intersected a thick sequence of intensly altered rocks which locally contained narrow zones of semi-massive to massive pyrite. Geochemical enrichment of copper and zinc within the pyritic zones suggest an affinity with an exhalative-hydrothermal system. EM conductors along the south side of Josh Creek are well correlated with intersections of argillaceous material.

Two holes (DDH90K021 and 23) were drilled through the Kutcho sulphide deposit to test for a precious metal enriched stockwork or "feeder" zone and for additional footwall deposits. These holes returned the only economically significant assays of the program from the Kutcho sulphide lens. Classical stringer or "feeder" type mineralization was not observed in core from these holes although narrow, foliation parallel, bands of semi-massive pyrite characterize the rock for a 200m distance into the footwall. Footwall alteration extends for 300m below the base of the Kutcho lens. A geochemically weak gold enrichment (20-100ppb Au) occurs within the first 100m of the footwall.

Drill holes located on a linear trend to the east of the known sulphide deposits (DDH90K22, 24, 25, 27 and 28) confirm the presence of two parallel altered sequences. Significant, but sub-economic, copper mineralization in the central hole (25) suggests potential for sulphide deposits at depth.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The 1990 diamond drill program on the Kutcho claim groups was designed to evaluate the potential for selected stratigraphic intervals to host volcanogenic massive sulphide deposits. Twelve target areas representing approximately 32 kilometres of strike length of favourable stratigrpahy were tested by 7,130m of diamond drilling in 28 holes. No drill intersections containing potentially economic concentrations of base metal sulphides (outside of known zones) were obtained by the program. However, almost all of the targets tested display textures, mineralogy and lithogeochemistry consistant with modifications by volcanogenic hydrothermal-exhalative processes.

Further evaluation of lithogeochemistry, geology and down-hole geophysical surveys is required before the best targets for deep drilling can be identified.

APPENDIX I CLAIM DATA

CLAIM	REC No.	RECORD DATE	EXPIRY DATE	HECTR	UN	GROUP NUMBER
JESS 1	7902	Oct 08,1990	Oct 08,1991	200.	8	
JESS 2	7903	Oct 09,1990	Oct 09,1991	100.	4	
TAIL	3168	Aug 14,1984	Aug 14,1993	500.	20	
CGL 1	560	Jun 26,1978	Jun 26,1995	300.	12	Kutcho90 North
ANDREA	444	Jul 27,1977	Jul 27,1995	350.	14	Kutcho90 North
SVEA	445	Jul 27,1977	Jul 27,1995	150.	6	Kutcho90 North
JEFF 064 FR.	1975	Aug 04,1981	Aug 04,1995	12.5	1	Kcho90 FarEast
JEFF 113 FR.	1973	Aug 04,1981	Aug 04,1995	12.5	1	Kcho90 FarEast
JEFF 114 FR.	1974	Aug 04,1981	Aug 04,1995	12.5	1	Kcho90 FarEast
POND 001	3169	Aug 14,1984	Aug 14,1995	350.	14	Kutcho90 North
POND 002	3170	Aug 14,1984	Aug 14,1995	100.	4	Kutcho90 North
JEFF 137	71972	Aug 20,1974	Aug 20,1995	21.	1	Kcho90 FarEast
JEFF 138	71973	Aug 20,1974	Aug 20,1995	21.	1	Kcho90 FarEast
JEFF 002	70302	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 004	70304	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 005	70305	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 006	70306	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 007	70307	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 009	70308	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 01	70301	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 013	70309	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 014	70310	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 015	70311	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 016	70312	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 017	70313	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 018	70314	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 019	70315	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 020	70316	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 021	70317	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 022	70318	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 024	70319	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 025	70320	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 026	70321	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 027	70322	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 028	70323	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 029	70324	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 03	70303	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 030	70325	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 031	70326	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 032	70327	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 033	70328	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 034	70329	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 035	70330	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 036	70331	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 037	70332	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 038	70333	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 039	70334	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 040	70335	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 053	70348	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West
JEFF 054	70349	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West
JEFF 055	70350	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West
JEFF 056	70351	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West
JEFF 057	70352	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 058	70353	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North
JEFF 065	70360	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North

CLAIM	REC No.	RECORD DATE	EXPIRY DATE	HECTR	UN	GROUP NUMBER	GROUP DATE
JEFF 066	70361	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990
JEFF 079	70374	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 080	70375	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 081	70376	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 082	70377	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 083	70378	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 084	70379	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 085	70380	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 086	70381	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 087	70382	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 088	70383	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 089	70384	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990
JEFF 090	70385	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990
JEFF 091	70386	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990
JEFF 092	70387	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990
JEFF 093	70388	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 094	70389	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990
JEFF 095	70390	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 096	70391	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 097	70392	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 098	70393	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 099	70394	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 100	70395	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
REX 1 FR.	72033	Aug 24,1984	Aug 27,1995	10.5	1	Kutcho90 North	Oct 19,1990
REX 2 FR.	72034	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990
REX 3 FR.	72035	Aug 27,1974	Aug 27,1995	10.5	1	Kutcho90 North	Oct 19,1990
REX 4 FR.	72036	Aug 27,1974	Aug 27,1995	10.5	1	Kutcho90 North	Oct 19,1990
JEFF 057 FR.	1574	Sep 05,1980	Sep 05,1995	12.5	1	Kutcho90 North	Oct 19,1990
JEFF 101	70496	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 102	70497	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 103	70498	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 104	70499	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 105	70500	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 106	70501	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 107	70502	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 108	70503	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 109	70504	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 110	70505	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 111	70506	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 112	70507	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JENN 001	70508	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JENN 002	70509	Sep 07,1973	Sep 07,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 113	70856	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 114	70857	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 115	70858	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 116	70859	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast	Oct 19,1990
JEFF 117	70860	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 118	70861	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 119	70862	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 120	70863	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 121	70864	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 122	70865	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 131	70874	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 132	70875	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 133	70876	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990
JEFF 134	70877	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990

CLAIM	REC No.	RECORD DATE	EXPIRY DATE	HECTR	UN	GROUP NUMBER
JENN 003	71048	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast
JENN 004	71049	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast
JENN 005	71050	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast
JENN 006	71051	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast
JENN 007	71052	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast
JENN 008	71053	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast
JENN 009	71054	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarEast
JEFF 135	71970	Aug 20,1974	Aug 20,1996	21.	1	Kutcho90East
JEFF 136	71971	Aug 20,1974	Aug 20,1996	21.	1	Kutcho90East
JEFF 041	70336	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 042	70337	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 043	70338	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 044	70339	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 045	70340	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 046	70341	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 047	70342	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 048	70343	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 049	70344	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 050	70345	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 051	70346	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 052	70347	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 059	70354	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 060	70355	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 061	70356	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 062	70357	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 063	70358	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 064	70359	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 067	70362	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 068	70363	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 069	70364	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 070	70365	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 071	70366	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 072	70367	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 073	70368	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 074	70369	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 075	70370	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 076	70371	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 077	70372	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 078	70373	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90East
JEFF 123	70866	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90East
JEFF 124	70867	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90East
JEFF 125	70868	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90East
JEFF 126	70869	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90East
JEFF 127	70870	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90East
JEFF 128	70871	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90East
JEFF 129	70872	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90East
JEFF 130	70873	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90East

CLAIM	REC No.	RECORD DATE	EXPIRY DATE	HECTR	UN	GROUP NUMBER
KRIS 012	70479	Sep 07,1973	Sep 07,1991	21.	1	Kcho90 FarWest
KRIS 014	70481	Sep 07,1973	Sep 07,1991	21.	1	Kcho90 FarWest
Py 71	7869	Sep 14,1990	Sep 14,1991	225.	9	
KRIS 001	70468	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 002	70469	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 003	70470	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 004	70471	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 005	70472	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 006	70473	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 007	70474	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 008	70475	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 009	70476	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 011	70478	Sep 07,1973	Sep 07,1993	25.	1	Kcho90 FarWest
KRIS 013	70480	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 015	70482	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
KRIS 016	70483	Sep 07,1973	Sep 07,1993	21.	1	Kcho90 FarWest
ZIGGY	6650	Feb 03,1990	Feb 03,1995	450.	18	Kutcho90 South
DANGEROUS	3498	Feb 07,1986	Feb 07,1995	400.	16	Kutcho90 South
JOSH 6	3494	Feb 07,1986	Feb 07,1995	500.	20	Kcho90 FarEast
JOSH 7	3495	Feb 07,1986	Feb 07,1995	500.	20	Kcho90 FarEast
MONEY PENNY	3497	Feb 07,1986	Feb 07,1995	300.	12	Kutcho90 West
PINK ONE	3499	Feb 07,1986	Feb 07,1995	500.	20	Kcho90 FarWest
PINK TWO	3500	Feb 07,1986	Feb 07,1995	500.	20	Kutcho90 West
POTASH	3502	Feb 07,1986	Feb 07,1995	400.	16	Kutcho90 South
T.R.C.	3496	Feb 07,1986	Feb 07,1995	375.	15	Kcho90 FarWest
MOE 1	00007	May 12,1975	May 12,1995	150.	6	Kcho90 FarEast
PY 66	1909	May 15,1981	May 15,1995	300.	12	Kutcho90 West
PY 67	2812	Jun 21,1983	Jun 21,1995	150.	6	Kcho90 FarWest
PY 68	2813	Jun 21,1983	Jun 21,1995	350.	14	Kcho90 FarWest
PY 69	2814	Jun 21,1983	Jun 21,1995	225.	9	Kcho90 FarWest
CGL 2	561	Jun 26,1978	Jun 26,1995	200.	8	Kcho90 FarWest
JOSH 8	3567	Jul 07,1986	Jul 07,1995	50.	2	Kcho90 FarEast
PHIL 1	3564	Jul 07,1986	Jul 07,1995	50.	2	Kutcho90 South
PHIL 2	3565	Jul 07,1986	Jul 07,1995	300.	12	Kutcho90 West
PHIL 3	3566	Jul 07,1986	Jul 07,1995	100.	4	Kutcho90 West
JOSH 2	3359	Jul 17,1985	Jul 17,1995	450.	18	Kutcho90 South
STU	443	Jul 27,1977	Jul 27,1995	150.	6	Kcho90 FarWest
JOSH 5	3371	Aug 19,1985	Aug 19,1995	500.	20	Kutcho90 South
LIN 001 FR.	929	Aug 20,1979	Aug 20,1995	10.5	1	Kcho90 FarWest
CGL No. 1 Fr.	1088	Oct 20,1979	Oct 20,1995	12.5	1	Kcho90 FarWest
LIN 011	70884	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarWest
LIN 039	70912	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarWest
LIN 040	70913	Nov 13,1973	Nov 13,1995	21.	1	Kcho90 FarWest
TBWBT	6649	Feb 03,1990	Feb 03,1996	150.	6	Kutcho90East
JOSH 3	3360	Jul 17,1985	Jul 17,1996	450.	18	Kutcho90East
JOSH 4	3361	Jul 17,1985	Jul 17,1996	450.	18	Kutcho90East
JOSH 1	3185	Sep 07,1984	Sep 07,1996	400.	16	Kutcho90East

APPENDIX II STATEMENT OF COSTS

STATEMENT OF COSTS

1.0 Salaries and Wages:

- R. Britten (Regional geo.) 2.5 days @ $400/day		$ 1,000
- P. Holbek (Project geo.) 55 days @ $250/day		$ 13,750
- M. McPherson (geologist) 52.5 days @ $180/day		$ 9,450
- J. Smith (geologist) 49 days @ $180/day		$ 8,820
- H. Oiye (geologist) 41.5 days @ $180/day		$ 7,470
- G. Miller (camp manager) 57.5 days @ $130/day		$ 7,475
- G. Bickerton (assistant) 9 days @ $130/day		$ 1,170
- D. Holbek (assistant) 9 days @ $75/day		$ 675
- D. McKay (assistant) 13 days @ $100/day		$ 1,300
- K. Mager (cook/first-aid) 50 days @ $250/day		$ 12,500
- J. Lund (relief cook) 7 days @ $200/day		$ 1,400
	sub-total	$ 65,010

2.0 Logistics:

- Food and Accomodation:		
- 485 person days @ $26/day		$ 12,610
- Airfare:		
- Vancouver-Smithers return (Canadian Airlines) 8 @ $460		$ 3,680
- Smithers-Dease Lake return (Central Mountain Air) 8 @ $180		$ 1,440
- Camp support (Dean River Air)		$ 17,276
- Mobilization (Trans-provincial Airlines)		$ 20,000
- Communications:		
-radio rental, phone, courier		$ 1,000
	sub-total	$ 56,014

3.0 Surface Work:

- Diamond Drilling (Van Alphen Diamond Drilling)	
- 7,031.1m diamond drilling @ $54/m	$379,679
- Drill materials, drill pad building	$ 61,092
- Helicopter Support (Frontier Helicopters Ltd.)	$192,427
- 285.5 hours @ $674/hour (including fuel, oil)	
- Analyses (International Plasma Labs.)	$ 19,520
- 730 core samples @ $26.75/sample (including freight)	

- Fuel transport (Dean River Air) - 17,034 liters @ $.37/liter		$ 6,255
- Field supplies - sample bags, pad building materials, etc.		$ 2,000
	sub-total	$660,973
4.0 Report Preparation:		$ 2,500
	TOTAL	$784,497
	10% DSS	$ 78,450
	TOTAL	**$862,947**

APPENDIX III STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Peter Holbek, DO HEREBY CERTIFY THAT:

1) I am a project geologist presently employed by Homestake Mining (Canada) Limited, located at 1000-700 West Pender Street, Vancouver, BC V6C 1G8.

2) I graduated from the University of British Columbia with a B.Sc. (Hons.) in geology in 1980 and an M.Sc. in geology in 1988.

3) I have actively practiced my profession in North America since 1975.

4) The work described herein was done by me or under my direct supervision.

DATED THIS 3rd DAY OF Dec., 199_ AT VANCOUVER, B.C.

Peter Holbek

STATEMENT OF QUALIFICATION

I, Jennifer M. Smith, of #106 - 237 East 12th Street, North Vancouver, B.C., do hereby certify that:

1. I am a graduate of Lakehead University, Thunder Bay, Ontario where I obtained an Honours Bachelor of Science degree (Geology, Energy and Fuel Science) in 1985.

2. I am a graduate of the University of Alberta, Edmonton, Alberta, where I obtained a Master of Science degree (Geology) in 1988.

3. I have practiced my profession in Canada and Australia continuously since 1988.

4. I have been employed by Homestake Mining Canada Ltd. since May 22nd, 1990.

5. This report is based on a work program in which I participated.

6. I have no direct or indirect interest in the securities of Homestake Mining Canada Ltd.

Vancouver, British Columbia
November 29, 1990

Jennifer M. Smith

8.0 STATEMENT OF QUALIFICATIONS

I, Margaret D. McPherson, DO HEREBY CERTIFY THAT:

1. I am a geologist presently employed by Homestake Mineral Development Company, located at #1000-700 West Pender Street, Vancouver, B.C., V6C 1G8.

2. I graduated from the University of British Columbia in 1987, with a Bachelor of Science degree in Geology.

3. I have been employed in the mineral exploration industry since 1985.

4. The work described in this report was done with my participation.

Margaret McPherson

November 15, 1990

STATEMENT OF QUALIFICATIONS

I, Heather Oiye, hereby certify that:

1) I am currently employed by Homestake Mining (Canada) Ltd., 1000-700 W. Pender Street, Vancouver, B.C., V6C 1G8.

2) I am a graduate of the Univeristy of Toronto (BSc, Honours Geology, 1979)

3) I have practised within the geological profession since 1979.

4) The opinions, conclusions and recommendations contained herein are based on fieldwork conducted by me from 23 July to 17 September 1990, on the Kutcho Property.

5) I do not own direct, indirect, or contingent interests or shares, or securities of Homestake Mining (Canada) Limited, Sumac Mines Ltd., American Reserve Mining Corporation, or associated companies.

Heather Oiye, BSc

Vancouver, B.C.
December 1990

APPENDIX IV ANALYTICAL DATA

Description of Sample Numbering System

Sample numbers are located on the left hand side of the analytical results sheets. Sample numbers contain both drill hole and location identifers. The first 2 digits indicate the year the hole was drilled. The next 3 digits are the hole number. The following 6 to 8 digits are the meterage (footage) of the sample within the drill hole, without decimals. Meterage numbers contain a single decimal place. The last 2 digits indicate the sample's position within all the samples from a particular hole. For example the sample number 90K03 34453460-46 is the forty-sixth sample taken from hole K03 (drilled in 1990), between 344.5 and 346.0 metres.

Report: 9000737 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 2 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
Blank	Pulp	<5	<10	0.1	<0.01	<5	<0.01	<0.01	<1	<1	<0.01	<0.01	0.01	<0.01	<0.01	<1
90K03 1712 1739-25	Split Core	5	250	<0.1	>5.00	<5	4.19	2.92	58	99	>5.00	4.19	0.19	2.26	1.16	624
90K03 1739 1758-26	Split Core	<5	300	0.3	3.89	<5	4.54	4.38	13	52	>5.00	3.54	0.25	1.11	0.43	448
90K03 1758 1866-27	Split Core	<5	100	<0.1	4.87	<5	5.93	3.96	55	45	>5.00	1.48	0.01	3.78	1.19	866
90K03 1866 2039-28	Split Core	<5	100	<0.1	>5.00	<5	2.98	1.40	26	29	3.77	1.73	0.20	1.97	1.04	694
90K03 2039 2100-29	Split Core	5	110	<0.1	4.88	<5	7.48	5.76	48	42	>5.00	1.44	0.03	3.17	1.03	890
90K03 2100 2200-30	Split Core	<5	180	<0.1	>5.00	<5	4.93	3.29	56	73	>5.00	1.59	0.17	2.68	1.10	679
90K03 2200 2270-31	Split Core	<5	200	<0.1	>5.00	<5	6.88	5.54	59	57	>5.00	1.36	0.14	3.08	0.97	896
90K03 2270 2328-32	Split Core	<5	185	<0.1	>5.00	<5	5.22	4.43	37	30	4.14	1.26	0.19	1.77	0.77	700
90K03 2328 2410-33	Split Core	<5	95	<0.1	>5.00	<5	3.80	1.95	20	7	3.65	1.58	0.43	1.59	0.88	778
90K03 2410 2495-34	Split Core	<5	70	<0.1	>5.00	<5	3.04	1.54	16	11	3.51	1.37	0.74	1.13	0.69	645
90K03 2495 2510-35	Split Core	5	180	<0.1	>5.00	<5	5.83	4.97	69	70	>5.00	1.02	0.26	2.96	1.07	798
90K03 2524 2584-37	Split Core	<5	35	<0.1	>5.00	<5	0.67	0.59	3	2	1.63	1.31	0.23	0.44	0.40	185
90K03 2584 2684-38	Split Core	5	230	<0.1	>5.00	<5	5.63	4.18	44	44	>5.00	2.48	0.23	3.25	1.40	957
90K05 44 144-01	Split Core	<5	120	<0.1	>5.00	<5	>10.00	7.11	46	70	>5.00	1.01	0.06	3.01	0.68	902
90K05 144 244-02	Split Core	<5	125	<0.1	>5.00	<5	9.53	6.58	52	70	>5.00	1.26	0.10	3.34	0.85	912
90K05 244 343-03	Split Core	<5	140	<0.1	>5.00	<5	8.47	5.31	46	48	4.94	1.30	0.04	3.00	0.92	839
90K05 358 397-05	Split Core	<5	230	<0.1	>5.00	<5	8.43	7.04	43	56	4.35	1.21	0.28	2.65	0.70	716
90K05 397 434-06	Split Core	<5	80	<0.1	>5.00	<5	1.37	1.30	2	6	2.33	1.95	0.10	0.62	0.52	442
90K05 434 491-07	Split Core	<5	265	<0.1	>5.00	<5	9.13	6.78	39	103	3.66	1.12	0.19	1.94	0.79	755
90K05 491 548-08	Split Core	<5	310	<0.1	>5.00	<5	5.50	3.33	40	58	>5.00	1.55	0.44	2.47	1.19	654
90K05 548 618-09	Split Core	5	145	10.4	>5.00	<5	7.06	5.46	41	60	4.72	1.54	0.09	2.25	0.98	837
90K05 618 632-10	Split Core	5	80	<0.1	1.82	<5	>10.00	9.62	13	4	1.42	0.51	0.12	0.62	0.20	713
90K05 632 732-11	Split Core	10	300	<0.1	>5.00	<5	4.94	3.02	52	54	>5.00	1.52	0.25	2.05	1.02	618
90K05 732 804-12	Split Core	5	215	<0.1	>5.00	<5	6.19	4.08	49	54	>5.00	1.59	0.03	3.26	1.17	934
90K05 804 837-13	Split Core	5	110	<0.1	>5.00	<5	3.68	2.13	12	2	3.28	1.48	1.18	1.05	0.60	1034
90K05 837 937-14	Split Core	10	250	<0.1	>5.00	<5	2.61	1.57	59	52	>5.00	1.63	0.09	2.76	1.45	566
90K05 937 1015-15	Split Core	10	300	<0.1	>5.00	<5	3.40	1.52	60	63	>5.00	1.27	0.44	2.36	1.05	540
90K05 1015 1035-16	Split Core	10	180	<0.1	>5.00	<5	1.04	1.00	11	14	2.94	2.11	0.20	0.84	0.64	556
90K05 1035 1135-17	Split Core	5	430	<0.1	>5.00	<5	2.95	1.70	63	56	>5.00	1.15	1.15	1.72	0.64	349
90K05 1135 1145-18	Split Core	<5	430	<0.1	>5.00	<5	3.87	3.95	11	1	2.94	2.40	2.14	0.79	0.64	968
90K05 1145 1156-19	Split Core	5	55	0.3	>5.00	<5	0.63	0.61	8	39	4.42	1.52	0.04	0.46	0.33	269
90K05 1156 1251-20	Split Core	5	160	<0.1	>5.00	<5	5.85	2.80	49	44	>5.00	2.36	0.05	2.96	1.08	1165
90K05 1251 1265-21	Split Core	5	250	<0.1	>5.00	<5	2.75	2.99	60	51	>5.00	2.43	0.89	1.96	1.19	387
90K06 2403 2557-22	Split Core	5	200	0.4	>5.00	<5	0.39	0.32	3	36	1.87	0.34	0.33	0.82	0.40	102
90K06 2557 2601-23	Split Core	5	220	<0.1	>5.00	<5	1.21	1.13	4	131	1.62	0.60	0.40	0.66	0.65	197
90K06 2601 2651-24	Split Core	<5	170	0.2	>5.00	5	0.78	0.69	2	21	1.62	0.36	0.28	0.46	0.48	186
90K06 2655 2677-25	Split Core	5	380	0.2	>5.00	<5	1.66	1.60	7	25	2.48	1.64	0.45	0.99	0.99	517
90K06 2677 2777-26	Split Core	10	243	0.3	>5.00	<5	2.23	2.33	4	34	3.12	1.81	0.61	1.31	1.50	870
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ICP INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000737 R Homestake Mining (Canada) Ltd. Project: 3174 Page 2 of 2 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K06 2777 2823-27	Split Core	10	180	0.4	>5.00	<5	1.67	1.59	5	18	3.44	1.20	0.28	0.95	1.01	511
90K06 2823 2869-28	Split Core	5	340	0.3	>5.00	<5	4.09	4.10	32	335	>5.00	2.81	0.70	2.89	3.10	1920
90K06 2869 2920-29	Split Core	15	290	0.5	>5.00	<5	5.24	4.72	39	315	>5.00	0.95	0.50	2.02	0.89	1471
90K06 2920 3000-30	Split Core	30	210	0.2	>5.00	<5	2.58	2.43	5	119	1.42	0.70	0.48	0.45	0.42	226
90K06 3000 3077-31	Split Core	5	170	<0.1	>5.00	<5	2.16	2.18	3	242	1.30	0.74	0.64	0.38	0.40	184
90K06 3077 3119-32	Split Core	5	385	0.1	>5.00	<5	0.56	0.54	8	315	2.84	2.69	1.79	0.78	0.82	167
90K06 2651 2655-33	Split Core	5	430	0.1	>5.00	<5	1.52	1.62	9	325	>5.00	0.77	1.26	1.01	1.09	244
90K06 3119 3145-34	Split Core	<5	215	<0.1	1.92	<5	>10.00	>10.00	7	32	1.08	0.37	0.67	>10.00	6.53	282
90K06 3145 3200-35	Split Core	10	395	0.1	>5.00	<5	3.72	3.77	9	757	2.83	0.97	1.39	1.25	1.29	453
90K06 3200 3258-36	Split Core	10	305	0.5	>5.00	<5	3.34	3.25	10	1504	2.51	0.34	0.89	0.33	0.29	73
90K06 3358 3290-37	Split Core	5	210	0.1	>5.00	<5	1.26	1.22	12	722	3.21	0.23	1.49	0.20	0.15	66
90K06 3290 3326-38	Split Core	5	155	0.1	>5.00	<5	3.55	3.65	8	170	2.63	0.95	1.42	0.97	0.99	272
90K06 3326 3396-39	Split Core	<5	160	<0.1	>5.00	<5	>10.00	>10.00	10	38	2.33	1.26	1.76	4.08	3.83	446
90K06 3396 3459-40	Split Core	5	115	<0.1	>5.00	<5	2.62	2.40	5	16	1.94	1.21	0.65	0.54	0.50	550
90K07 46 78-01	Split Core	10	110	<0.1	>5.00	<5	9.20	8.78	31	58	>5.00	3.76	0.26	2.41	2.27	1648
90K07 78 107-02	Split Core	25	170	0.2	>5.00	<5	7.12	7.04	27	89	>5.00	2.05	0.14	1.63	1.12	1057
90K07 107 114-03	Split Core	35	130	1.8	>5.00	<5	9.74	9.81	25	125	>5.00	0.77	0.05	1.90	0.74	1599
90K07 114 138-04	Split Core	5	180	0.1	>5.00	<5	3.18	2.89	10	11	3.02	1.83	0.59	1.27	0.94	883
90K07 138 222-05	Split Core	5	210	<0.1	>5.00	<5	6.57	6.75	33	63	>5.00	1.77	0.20	2.65	1.06	1255
90K07 227 327-07	Split Core	5	135	<0.1	>5.00	<5	8.00	4.65	55	42	>5.00	1.60	0.04	3.23	1.07	1295
90K07 531 540-08	Split Core	10	175	0.2	>5.00	<5	6.58	6.01	49	37	>5.00	1.74	0.04	2.75	0.91	1121
R90KJ-03	Split Core	<5	560	0.1	>5.00	<5	1.81	0.42	13	80	>5.00	2.56	0.58	2.58	1.11	1339
R90KJ-04	Split Core	<5	90	0.1	0.74	5	0.29	0.06	9	67	3.56	2.43	0.02	0.45	0.34	306
Standard	Pulp	205	295	1.7	>5.00	25	0.30	0.21	17	350	>5.00	>5.00	3.89	1.05	0.63	210
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000737 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
Blank	<1	<1	0.01	2	<1	<1	1
90K03 1712 1739-25	336	5	3.71	15	106	32	107
90K03 1739 1758-26	329	34	1.78	21	77	51	280
90K03 1758 1866-27	317	3	1.29	<2	113	62	62
90K03 1866 2039-28	402	3	4.49	2	179	40	58
90K03 2039 2100-29	382	6	1.38	<2	164	82	88
90K03 2100 2200-30	317	2	2.54	<2	125	46	64
90K03 2200 2270-31	469	6	3.04	2	149	74	65
90K03 2270 2328-32	476	2	3.98	<2	128	63	70
90K03 2328 2410-33	469	2	3.90	<2	290	54	48
90K03 2410 2495-34	378	3	4.65	<2	277	34	45
90K03 2495 2510-35	448	3	3.55	<2	149	51	79
90K03 2524 2584-37	173	3	4.39	<2	36	22	78
90K03 2584 2684-38	538	3	2.72	<2	115	77	82
90K05 44 144-01	424	3	2.19	<2	227	46	56
90K05 144 244-02	424	3	2.36	2	185	48	63
90K05 244 343-03	399	3	3.02	<2	168	32	61
90K05 358 397-05	402	3	3.53	<2	139	64	69
90K05 397 434-06	385	2	>5.00	2	55	16	183
90K05 434 491-07	492	2	3.88	<2	180	48	67
90K05 491 548-08	344	3	3.53	<2	113	26	68
90K05 548 618-09	476	3	3.86	<2	111	47	76
90K05 618 632-10	571	4	0.36	<2	167	138	36
90K05 632 732-11	346	2	4.59	<2	99	27	71
90K05 732 804-12	448	3	2.99	<2	124	42	78
90K05 804 837-13	575	2	3.53	<2	229	34	62
90K05 837 937-14	292	3	3.88	<2	68	14	94
90K05 937 1015-15	252	3	4.43	<2	78	12	80
90K05 1015 1035-16	478	1	>5.00	2	66	15	118
90K05 1035 1135-17	174	19	4.10	2	139	21	82
90K05 1135 1145-18	987	3	2.67	3	618	263	64
90K05 1145 1156-19	208	4	>5.00	4	42	14	75
90K05 1156 1251-20	524	2	3.02	<2	151	42	71
90K05 1251 1265-21	292	7	4.27	<2	101	57	33
90K06 2403 2557-22	65	4	4.11	<2	41	6	23
90K06 2557 2601-23	199	14	4.40	<2	66	16	23
90K06 2601 2651-24	190	14	4.68	<2	41	9	28
90K06 2655 2677-25	518	6	3.44	3	263	67	50
90K06 2677 2777-26	950	2	3.65	<2	166	57	185
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHC1	ICP	ICP	ICP	ICP	ICPHC1	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K06 2777 2823-27	519	2	3.90	<2	121	51	142
90K06 2823 2869-28	1910	4	1.33	3	187	119	305
90K06 2869 2920-29	925	8	2.59	4	234	159	808
90K06 2920 3000-30	215	17	3.65	2	164	78	65
90K06 3000 3077-31	193	11	3.69	2	174	96	169
90K06 3077 3119-32	174	7	2.96	<2	131	22	81
90K06 2651 2655-33	265	9	1.97	2	55	25	48
90K06 3119 3145-34	163	6	0.36	5	834	537	23
90K06 3145 3200-35	463	52	1.75	2	262	166	68
90K06 3200 3258-36	73	37	2.44	2	273	170	22
90K06 3358 3290-37	64	16	1.96	3	446	132	9
90K06 3290 3326-38	284	12	3.73	3	192	105	26
90K06 3326 3396-39	385	7	0.31	6	516	418	64
90K06 3396 3459-40	519	2	4.68	2	238	81	36
90K07 46 78-01	1504	3	2.01	2	253	78	149
90K07 78 107-02	974	3	2.17	3	204	75	234
90K07 107 114-03	1447	25	2.96	7	172	122	414
90K07 114 138-04	779	3	3.87	3	184	37	171
90K07 138 222-05	1085	3	2.23	2	172	96	216
90K07 227 327-07	584	2	2.29	<2	214	34	91
90K07 531 540-08	641	4	2.90	2	98	54	90
R90KJ-03	484	75	0.31	3	97	6	131
R90KJ-04	202	36	<0.01	2	21	2	17
Standard	161	45	0.46	14	130	15	64
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000741 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
Blank	Pulp	<5	<10	<0.1	<0.01	<5	<0.01	<0.01	<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<1
90K01 300 400-01	Split Core	<5	105	0.2	>5.00	<5	0.86	0.70	14	<1	>5.00	2.92	1.23	1.50	0.87	689
90K01 400 499-02	Split Core	<5	70	0.3	>5.00	<5	1.54	1.45	10	<1	4.19	2.61	0.92	1.53	1.01	840
90K01 499 534-03	Split Core	5	135	0.6	>5.00	<5	1.56	1.45	10	15	4.27	3.56	0.97	2.09	1.92	1163
90K01 534 634-04	Split Core	5	95	0.4	>5.00	<5	0.84	0.79	10	<1	4.22	2.64	1.17	1.64	1.05	932
90K01 634 732-05	Split Core	<5	140	0.3	>5.00	<5	1.42	1.38	9	<1	3.86	2.47	0.88	1.66	1.15	959
90K01 732 790-06	Split Core	<5	120	0.2	>5.00	<5	1.44	1.34	9	<1	3.45	3.01	0.97	1.20	1.19	843
90K01 790 848-07	Split Core	5	150	0.6	>5.00	<5	1.46	1.43	14	10	4.36	4.15	0.54	2.10	2.21	901
90K01 848 910-08	Split Core	15	120	<0.1	>5.00	<5	3.72	4.22	52	31	>5.00	2.49	0.19	3.38	1.95	1281
90K01 910 960-09	Split Core	15	155	<0.1	>5.00	<5	3.33	1.00	53	7	>5.00	2.06	0.06	3.60	1.55	1149
90K01 960 980-10	Split Core	10	120	<0.1	>5.00	<5	3.59	3.38	51	21	>5.00	1.55	0.08	4.46	1.36	1999
90K01 980 1055-11	Split Core	5	360	<0.1	>5.00	<5	6.20	1.91	45	2	>5.00	1.77	0.08	2.77	1.65	2062
90K01 1055 1127-12	Split Core	<5	395	<0.1	>5.00	<5	4.79	1.99	44	37	>5.00	1.66	0.09	3.39	1.58	2020
90K01 1127 1130-13	Split Core	25	225	0.7	4.84	<5	6.71	5.61	51	70	>5.00	1.95	0.05	2.79	0.94	1811
90K01 1130 1143-14	Split Core	5	275	<0.1	>5.00	<5	4.47	1.79	41	79	>5.00	2.50	0.09	3.73	2.08	2137
90K01 1143 1225-15	Split Core	15	80	0.3	>5.00	<5	2.92	1.57	20	5	3.54	1.12	0.21	1.91	0.89	883
90K01 1225 1260-16	Split Core	10	410	0.4	>5.00	<5	4.10	3.00	55	484	>5.00	1.66	0.50	3.54	1.58	2120
90K01 1260 1282-17	Split Core	10	150	0.1	>5.00	<5	9.29	9.61	16	<1	2.91	0.55	0.41	1.74	0.39	2517
90K01 1282 1343-18	Split Core	10	115	<0.1	>5.00	<5	5.00	4.23	23	<1	4.13	1.33	1.02	2.41	1.11	1580
90K01 1343 1344-19	Split Core	75	270	1.3	3.24	5	5.73	5.36	55	517	>5.00	1.34	0.03	2.40	0.85	1594
90K01 1344 1394-20	Split Core	10	230	0.6	>5.00	<5	2.59	1.59	25	293	4.80	1.72	0.11	2.50	1.00	1470
90K01 1394 1467-21	Split Core	15	350	<0.1	>5.00	<5	5.49	5.32	57	100	>5.00	1.88	1.41	3.55	1.14	1810
90K01 1467 1565-22	Split Core	10	310	<0.1	>5.00	<5	5.98	1.49	45	123	>5.00	1.42	0.08	3.47	1.43	1502
90K01 1565 1650-23	Split Core	<5	135	<0.1	>5.00	<5	7.09	1.31	47	22	>5.00	1.21	0.06	3.58	1.35	2035
90K01 1650 1700-24	Split Core	10	220	<0.1	>5.00	<5	6.99	2.98	49	33	4.91	1.00	0.06	3.51	1.15	1984
90K01 1700 1750-25	Split Core	<5	210	<0.1	>5.00	<5	4.63	0.41	65	27	>5.00	1.40	0.06	4.19	1.62	1858
90K01 2853 2990-26	Split Core	<5	170	0.4	>5.00	<5	0.32	0.29	3	2	1.60	1.09	1.72	0.76	0.43	481
90K01 2990 3040-27	Split Core	<5	200	0.4	>5.00	<5	0.53	0.48	3	4	1.65	1.01	2.16	0.73	0.35	644
90K01 3040 3051-28	Split Core	<5	330	<0.1	4.77	<5	0.54	0.49	3	13	1.58	0.95	1.73	0.71	0.36	480
90K01 3051 3139-29	Split Core	<5	115	0.5	>5.00	<5	0.53	0.49	3	11	1.92	1.16	1.27	0.59	0.39	560
90K01 3139 3240-30	Split Core	<5	1145	0.8	>5.00	<5	0.32	0.30	3	6	2.00	1.35	3.41	1.60	0.90	419
90K01 3240 3340-31	Split Core	<5	1055	0.5	>5.00	<5	0.43	0.40	2	6	1.98	1.35	2.69	1.44	0.89	428
90K01 3340 3460-32	Split Core	<5	1515	1.0	>5.00	<5	0.21	0.18	3	5	1.98	1.45	2.67	2.09	1.64	278
90K01 3460 3563-33	Split Core	5	335	0.5	>5.00	<5	0.31	0.27	3	5	1.91	1.16	2.20	1.60	1.23	389
90K01 3563 3580-34	Split Core	5	1490	0.6	>5.00	<5	0.69	0.63	5	4	1.97	1.37	3.50	2.10	1.51	636
90K01 3580 3605-35	Split Core	5	1085	0.9	>5.00	<5	0.38	0.32	3	3	2.08	1.22	2.40	1.66	1.25	317
90K01 3605 3622-36	Split Core	10	995	<0.1	>5.00	<5	3.31	3.07	4	58	3.26	1.69	1.89	2.82	2.64	1285
90K01 3622 3646-37	Split Core	15	1300	<0.1	>5.00	8	1.13	1.02	7	111	3.79	1.42	2.11	1.61	1.31	405
90K01 3646 3677-38	Split Core	5	545	0.8	>5.00	<5	0.56	0.49	9	75	3.00	2.04	1.63	1.28	1.06	390
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000741 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K03 40 82-01	Split Core	<5	210	<0.1	>5.00	<5	3.03	1.08	20	25	4.05	1.35	0.18	1.82	0.75	621
90K03 82 110-02	Split Core	<5	145	<0.1	>5.00	<5	>10.00	6.69	53	72	4.23	0.88	0.20	1.99	0.56	846
90K03 110 136-03	Split Core	<5	245	<0.1	>5.00	<5	3.58	2.87	35	46	>5.00	1.60	1.44	3.02	0.92	880
90K03 136 179-04	Split Core	5	105	<0.1	>5.00	<5	9.33	4.72	44	52	4.07	0.76	0.25	2.03	0.75	692
90K03 179 240-05	Split Core	<5	85	<0.1	>5.00	<5	8.91	5.23	46	50	>5.00	1.06	0.13	2.38	0.73	872
90K03 576 632-06	Split Core	5	235	<0.1	>5.00	<5	5.22	2.23	59	52	>5.00	1.80	0.08	2.49	1.13	864
90K03 632 691-07	Split Core	<5	360	<0.1	>5.00	<5	2.41	0.90	66	62	>5.00	1.94	0.11	2.62	1.68	636
90K03 691 750-08	Split Core	5	390	<0.1	>5.00	<5	3.61	1.82	61	79	>5.00	1.56	0.65	2.18	1.19	464
90K03 750 790-09	Split Core	5	460	<0.1	>5.00	<5	2.08	0.73	63	73	>5.00	1.69	0.18	2.48	1.31	498
90K03 790 840-10	Split Core	<5	360	<0.1	>5.00	<5	3.88	2.04	53	62	>5.00	1.43	0.15	2.54	1.03	567
90K03 840 898-11	Split Core	<5	280	<0.1	>5.00	<5	3.03	1.19	56	63	>5.00	1.60	0.06	2.55	1.23	495
90K03 898 937-12	Split Core	<5	285	<0.1	>5.00	<5	4.24	2.59	53	43	>5.00	2.05	0.08	2.62	1.09	779
90K03 937 990-13	Split Core	10	175	<0.1	>5.00	<5	5.14	4.50	50	41	>5.00	1.64	0.50	1.86	0.57	676
90K03 990 1027-14	Split Core	10	395	<0.1	>5.00	<5	3.96	3.62	35	29	>5.00	0.84	0.57	0.67	0.33	327
90K03 1027 1122-15	Split Core	<5	270	<0.1	>5.00	<5	3.49	2.58	60	33	>5.00	3.05	0.61	1.80	0.75	696
90K03 1122 1212-16	Split Core	<5	105	<0.1	>5.00	<5	1.06	0.87	12	15	>5.00	1.23	0.85	0.57	0.29	287
90K03 1212 1292-17	Split Core	5	75	<0.1	>5.00	<5	7.56	4.31	46	83	>5.00	1.22	0.23	3.14	1.07	944
90K03 1292 1306-18	Split Core	15	65	<0.1	>5.00	<5	1.06	0.84	9	6	>5.00	1.27	0.05	0.86	0.52	251
90K03 1306 1360-19	Split Core	5	125	<0.1	>5.00	<5	4.63	1.49	58	60	>5.00	2.20	0.09	3.55	1.33	1120
90K03 1360 1430-20	Split Core	5	240	<0.1	>5.00	<5	3.87	1.85	63	65	>5.00	1.26	0.46	2.39	0.99	551
90K03 1430 1520-21	Split Core	5	215	<0.1	>5.00	<5	3.61	1.14	64	66	>5.00	1.23	0.79	2.27	0.97	464
90K03 1520 1610-22	Split Core	10	55	<0.1	>5.00	<5	2.90	1.62	61	68	>5.00	1.64	0.39	2.22	1.09	513
90K03 1610 1665-23	Split Core	5	210	<0.1	>5.00	<5	5.05	2.41	60	68	>5.00	1.47	0.52	2.47	0.99	707
90K03 1665 1712-24	Split Core	5	330	<0.1	>5.00	<5	3.46	1.01	69	76	>5.00	1.24	1.28	2.04	0.71	454
90K04 979 1079-01	Split Core	10	65	<0.1	>5.00	<5	3.54	0.60	61	73	>5.00	1.41	0.46	4.70	1.57	1273
90K04 1079 1112-02	Split Core	<5	165	<0.1	>5.00	<5	9.59	8.65	50	59	4.59	0.98	0.73	1.50	0.71	672
90K04 1112 1136-03	Split Core	15	450	<0.1	2.71	11	4.41	4.35	13	81	3.90	0.86	0.60	0.99	0.98	408
90K04 1136 1139-08	Split Core	5	210	0.1	>5.00	<5	>10.00	>10.00	32	31	>5.00	1.21	0.90	2.46	2.25	893
90K04 1139 1162-04	Split Core	5	170	<0.1	>5.00	<5	>10.00	>10.00	48	57	4.30	0.69	0.33	1.63	0.25	741
90K04 1162 1211-05	Split Core	<5	200	<0.1	>5.00	<5	7.32	6.18	51	58	>5.00	1.40	0.26	2.74	1.00	835
90K04 1211 1249-06	Split Core	5	530	<0.1	>5.00	<5	3.80	2.83	37	20	>5.00	3.58	0.54	1.46	0.58	768
90K04 1249 1277-07	Split Core	5	45	<0.1	>5.00	<5	4.27	1.03	61	57	>5.00	1.70	0.67	2.58	1.35	996
90K06 862 960-01	Split Core	<5	345	1.0	>5.00	<5	0.60	0.45	2	5	2.35	0.63	1.41	2.08	0.74	487
90K06 960 1045-02	Split Core	<5	295	0.5	>5.00	<5	0.77	0.58	3	7	2.41	0.55	1.17	2.36	0.77	569
90K06 1045 1075-03	Split Core	<5	170	<0.1	>5.00	<5	4.88	5.20	56	65	>5.00	1.49	0.30	3.68	1.39	2936
90K06 1075 1180-04	Split Core	<5	515	0.6	>5.00	<5	0.96	0.82	12	55	3.49	0.67	0.89	2.43	0.78	506
90K06 1180 1282-05	Split Core	5	260	<0.1	>5.00	<5	1.21	0.93	12	4	3.21	1.09	0.23	1.60	0.93	361
90K06 1282 1371-06	Split Core	<5	230	0.6	>5.00	<5	1.89	1.48	13	5	3.23	1.38	0.27	1.52	1.21	475
90K06 1371 1474-07	Split Core	<5	290	0.6	>5.00	<5	2.87	2.27	17	13	3.13	1.07	0.34	1.92	1.48	600
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

Report: 9000741 R Homestake Mining (Canada) Ltd. Project: 3174 Page 3 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K06 1474 1500-08	Split Core	5	365	<0.1	>5.00	<5	4.09	3.36	31	<1	>5.00	4.41	0.14	3.68	2.59	1142
90K06 1500 1600-09	Split Core	10	325	0.1	>5.00	<5	3.10	2.36	26	31	4.99	3.37	0.27	3.35	2.65	781
90K06 1600 1692-10	Split Core	5	420	0.5	>5.00	<5	0.93	0.70	2	4	0.99	0.63	0.32	0.49	0.43	134
90K06 1692 1750-11	Split Core	5	350	<0.1	>5.00	<5	1.37	1.01	7	35	3.24	2.14	0.93	1.83	1.51	226
90K06 1750 1800-12	Split Core	5	665	0.5	>5.00	<5	0.59	0.45	5	11	3.31	1.07	3.30	1.06	0.74	139
90K06 1800 1893-13	Split Core	<5	565	0.5	>5.00	<5	1.52	1.19	2	43	2.38	0.80	1.96	1.15	0.89	422
90K06 1893 1911-14	Split Core	<5	380	0.6	>5.00	<5	4.50	3.28	22	24	>5.00	4.00	3.59	1.66	1.37	1312
90K06 1911 1988-15	Split Core	10	275	0.8	>5.00	<5	0.83	0.62	3	20	3.22	1.02	1.03	1.14	0.92	222
90K06 1988 2080-16	Split Core	5	280	1.4	>5.00	<5	0.88	0.67	7	27	3.27	0.83	0.74	1.76	0.96	338
90K06 2080 2180-17	Split Core	<5	205	1.0	>5.00	<5	0.71	0.52	4	7	1.92	0.53	0.26	1.87	0.72	398
90K06 2180 2267-18	Split Core	5	220	0.5	>5.00	<5	0.77	0.56	3	4	1.95	0.69	0.40	1.70	0.80	357
90K06 2267 2299-19	Split Core	10	150	0.6	>5.00	<5	0.68	0.49	4	8	1.41	0.62	0.28	0.74	0.54	318
90K06 2299 2376-20	Split Core	10	250	0.6	>5.00	<5	0.62	0.45	5	31	2.77	0.93	0.53	2.15	0.97	533
90K06 2376 2403-21	Split Core	20	240	0.3	>5.00	<5	0.84	0.60	8	33	4.02	0.98	0.75	1.86	1.05	437
Standard	Pulp	190	290	1.7	>5.00	25	0.30	0.20	17	352	>5.00	>5.00	3.91	1.08	0.62	210
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000741 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
Blank	<1	<1	<0.01	2	<1	<1	1
90K01 300 400-01	464	4	2.57	<2	60	14	38
90K01 400 499-02	698	3	3.16	<2	74	37	35
90K01 499 534-03	1126	10	2.27	<2	63	20	41
90K01 534 634-04	735	3	2.96	<2	48	18	48
90K01 634 732-05	896	4	3.25	<2	55	25	34
90K01 732 790-06	871	2	3.46	<2	54	20	28
90K01 790 848-07	963	6	3.00	<2	101	23	79
90K01 848 910-08	1056	4	2.35	<2	80	76	119
90K01 910 960-09	414	3	2.17	<2	119	16	64
90K01 960 980-10	701	4	1.22	<2	69	41	136
90K01 980 1055-11	816	3	1.26	<2	220	20	116
90K01 1055 1127-12	806	4	1.49	<2	132	18	134
90K01 1127 1130-13	1045	27	0.08	<2	117	41	65
90K01 1130 1143-14	861	4	0.34	<2	170	34	129
90K01 1143 1225-15	463	9	4.03	<2	85	14	66
90K01 1225 1260-16	969	12	1.66	<2	92	22	252
90K01 1260 1282-17	2013	5	3.91	<2	95	87	151
90K01 1282 1343-18	1087	3	2.78	<2	118	32	102
90K01 1343 1344-19	1061	59	0.08	<2	96	36	73
90K01 1344 1394-20	746	4	3.22	<2	70	15	122
90K01 1394 1467-21	1058	14	0.65	<2	82	66	142
90K01 1467 1565-22	543	2	1.84	<2	168	13	95
90K01 1565 1650-23	600	4	1.74	<2	208	12	63
90K01 1650 1700-24	844	3	2.55	<2	150	22	59
90K01 1700 1750-25	546	4	2.66	<2	121	6	96
90K01 2853 2990-26	426	2	3.55	<2	23	6	77
90K01 2990 3040-27	580	2	3.22	<2	26	9	41
90K01 3040 3051-28	423	8	1.21	7	27	11	254
90K01 3051 3139-29	555	13	3.71	18	35	11	246
90K01 3139 3240-30	384	8	2.13	<2	22	8	89
90K01 3240 3340-31	411	4	2.43	<2	26	12	67
90K01 3340 3460-32	271	2	2.12	<2	25	7	72
90K01 3460 3563-33	368	3	2.88	<2	26	7	90
90K01 3563 3580-34	620	2	1.39	<2	34	16	86
90K01 3580 3605-35	296	5	1.90	<2	25	8	63
90K01 3605 3622-36	1279	25	0.33	<2	125	63	235
90K01 3622 3646-37	393	34	2.02	<2	47	22	198
90K01 3646 3677-38	378	12	2.57	<2	30	9	121
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K03 40 82-01	273	5	4.11	<2	183	15	80
90K03 82 110-02	434	5	4.27	<2	222	64	69
90K03 110 136-03	365	6	1.48	<2	57	23	114
90K03 136 179-04	305	4	2.17	<2	188	43	41
90K03 179 240-05	398	3	2.31	<2	238	34	57
90K03 576 632-06	389	3	3.87	<2	158	16	90
90K03 632 691-07	309	3	3.76	<2	78	9	112
90K03 691 750-08	231	3	4.14	<2	129	26	102
90K03 750 790-09	213	2	4.61	<2	98	12	102
90K03 790 840-10	253	3	>5.00	<2	122	25	86
90K03 840 898-11	213	3	4.05	<2	91	14	84
90K03 898 937-12	362	3	3.29	<2	126	33	91
90K03 937 990-13	407	5	4.55	<2	136	63	82
90K03 990 1027-14	263	17	4.53	<2	125	46	138
90K03 1027 1122-15	412	5	4.37	<2	124	43	106
90K03 1122 1212-16	209	5	4.68	<2	55	16	107
90K03 1212 1292-17	371	4	2.44	<2	190	41	65
90K03 1292 1306-18	171	6	>5.00	<2	58	22	50
90K03 1306 1360-19	398	4	2.81	<2	215	23	84
90K03 1360 1430-20	252	5	4.09	<2	140	25	85
90K03 1430 1520-21	189	3	3.85	<2	126	18	90
90K03 1520 1610-22	252	5	4.67	<2	109	30	83
90K03 1610 1665-23	324	3	3.21	<2	194	36	98
90K03 1665 1712-24	168	3	4.38	<2	161	19	100
90K04 979 1079-01	321	3	3.30	<2	179	8	86
90K04 1079 1112-02	605	4	2.87	<2	250	94	53
90K04 1112 1136-03	426	62	0.13	<2	137	81	337
90K04 1136 1139-08	877	16	1.26	<2	246	205	87
90K04 1139 1162-04	573	3	2.03	<2	267	164	59
90K04 1162 1211-05	493	4	2.43	<2	212	94	72
90K04 1211 1249-06	415	4	3.98	<2	137	39	149
90K04 1249 1277-07	370	3	3.18	<2	234	12	126
90K06 862 960-01	312	2	1.98	<2	33	8	83
90K06 960 1045-02	317	4	2.41	<2	32	8	60
90K06 1045 1075-03	2172	9	2.12	<2	44	40	626
90K06 1075 1180-04	295	4	2.99	<2	57	11	196
90K06 1180 1282-05	274	4	>5.00	<2	47	8	31
90K06 1282 1371-06	408	6	4.69	<2	64	14	28
90K06 1371 1474-07	522	7	>5.00	<2	69	18	87
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K06 1474 1500-08	859	6	4.03	<2	66	28	75
90K06 1500 1600-09	636	6	4.44	<2	102	25	61
90K06 1600 1692-10	113	2	>5.00	<2	51	8	13
90K06 1692 1750-11	190	5	>5.00	<2	66	12	65
90K06 1750 1800-12	120	10	2.87	<2	97	14	68
90K06 1800 1893-13	368	3	2.57	<2	84	18	414
90K06 1893 1911-14	1167	5	2.98	<2	659	179	103
90K06 1911 1988-15	181	3	3.92	<2	51	14	55
90K06 1988 2080-16	250	4	4.34	<2	42	7	59
90K06 2080 2180-17	264	3	>5.00	<2	32	4	38
90K06 2180 2267-18	230	3	>5.00	<2	40	7	40
90K06 2267 2299-19	267	4	>5.00	<2	42	7	29
90K06 2299 2376-20	291	5	4.32	<2	41	7	127
90K06 2376 2403-21	293	4	4.26	<2	54	8	89
Standard	164	43	0.45	14	130	18	64
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000785 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
Blank	Pulp	<5	<10	0.1	<0.01	<5	<0.01	<0.01	1	<1	<0.01	<0.01	0.02	<0.01	<0.01	1
90K03 2510 2524-36	Split Core	5	50	0.4	2.49	39	2.47	2.15	16	25	>5.00	1.15	<0.01	1.05	0.70	393
90K05 343 358-04	Split Core	40	115	1.3	>5.00	<5	5.50	4.76	38	88	>5.00	1.62	0.10	2.71	0.87	777
90K05 1278 1280-22	Split Core	10	550	0.3	4.74	40	5.61	5.60	16	102	>5.00	2.54	0.16	1.67	1.65	592
90K05 1281 1377-23	Split Core	<5	120	0.5	>5.00	<5	6.37	4.41	49	41	>5.00	2.14	0.04	3.73	1.21	1087
90K05 1377 1390-24	Split Core	<5	160	0.5	>5.00	<5	5.30	5.31	48	53	>5.00	3.11	0.02	3.37	1.16	1101
90K05 1390 1490-25	Split Core	5	140	0.6	>5.00	<5	5.70	4.54	47	43	>5.00	1.95	0.01	5.32	1.28	980
90K05 1490 1560-26	Split Core	<5	125	0.5	>5.00	<5	4.39	2.57	55	63	>5.00	2.52	0.03	4.99	2.14	862
90K05 1560 1630-27	Split Core	<5	120	0.6	>5.00	<5	6.70	5.18	50	59	>5.00	2.13	0.04	5.11	1.58	950
90K05 1630 1704-28	Split Core	<5	105	0.5	>5.00	<5	8.58	7.19	44	52	>5.00	1.54	0.03	3.39	1.09	935
90K07 222 227-06	Split Core	20	200	2.5	>5.00	<5	7.57	7.79	37	7696	>5.00	1.59	0.14	2.38	0.90	1529
90K07 540 640-09	Split Core	10	130	0.5	>5.00	<5	6.73	5.50	48	49	>5.00	1.95	0.03	2.52	0.79	1320
90K07 640 740-10	Split Core	<5	150	0.6	>5.00	<5	4.34	3.39	41	24	>5.00	2.26	0.05	2.36	0.88	1464
90K07 740 830-11	Split Core	60	230	0.6	>5.00	<5	3.26	2.47	35	1	>5.00	2.56	0.23	2.17	1.11	1375
90K07 830 854-12	Split Core	15	210	1.0	>5.00	<5	2.97	2.56	25	15	>5.00	3.66	0.09	1.56	1.22	1274
90K07 854 954-13	Split Core	10	190	0.7	>5.00	<5	3.44	3.16	29	22	>5.00	3.11	0.24	2.14	1.23	1380
90K07 1061 1148-14	Split Core	20	120	0.9	>5.00	<5	0.79	0.76	38	493	>5.00	1.34	0.01	4.05	1.86	1507
90K07 1148 1240-15	Split Core	<5	180	0.4	>5.00	<5	2.19	2.27	39	69	>5.00	2.13	0.23	3.98	2.01	1799
90K07 1240 1349-16	Split Core	5	85	0.4	>5.00	<5	3.23	1.94	47	136	>5.00	2.12	0.14	3.90	1.77	1737
90K07 1349 1356-17	Split Core	<5	105	<0.1	>5.00	<5	0.56	0.59	10	23	2.08	1.05	0.49	2.13	1.35	357
90K07 1356 1386-18	Split Core	15	150	1.1	>5.00	16	0.56	0.62	92	2276	>5.00	1.65	0.09	7.36	2.36	2150
90K07 1386 1435-19	Split Core	5	135	0.2	>5.00	<5	2.24	2.79	46	162	>5.00	1.52	0.03	5.96	2.21	1859
90K07 1435 1509-20	Split Core	5	110	0.3	>5.00	<5	2.95	3.84	50	100	>5.00	2.24	0.11	4.64	2.81	1106
90K07 1509 1517-21	Split Core	5	180	0.7	>5.00	<5	0.78	0.81	19	657	>5.00	1.38	0.13	3.28	1.82	1412
90K07 1517 1542-22	Split Core	20	135	1.0	>5.00	10	0.82	0.89	44	561	>5.00	1.63	0.18	6.34	2.81	6026
90K07 1542 1626-23	Split Core	5	150	0.7	>5.00	<5	0.93	1.35	47	57	>5.00	2.13	0.13	4.40	2.63	1102
90K07 1626 1653-24	Split Core	5	150	0.2	>5.00	<5	2.02	2.26	24	88	4.42	2.90	0.46	2.64	2.43	876
90K07 1680 1790-25	Split Core	5	105	0.5	>5.00	<5	2.42	2.26	52	35	>5.00	2.55	0.12	3.90	2.15	996
90K07 2217 2286-26	Split Core	<5	75	<0.1	>5.00	<5	1.27	1.10	4	2	2.38	1.88	0.19	0.71	0.66	457
90K07 2286 2412-27	Split Core	5	125	0.4	>5.00	<5	6.69	6.51	48	49	>5.00	2.33	0.32	2.08	0.78	940
90K07 2422 2452-29	Split Core	5	145	0.4	>5.00	<5	7.74	6.14	44	45	>5.00	1.44	0.43	2.22	0.73	892
90K07 2466 2566-31	Split Core	10	130	0.5	>5.00	<5	8.60	6.89	50	59	>5.00	1.65	0.15	3.34	0.99	1214
90K07 2980 3022-32	Split Core	5	130	0.6	>5.00	<5	4.79	2.99	57	64	>5.00	0.97	0.70	3.24	1.46	524
90K07 3022 3122-33	Split Core	5	145	0.4	>5.00	<5	7.13	3.15	49	68	>5.00	1.24	0.31	4.02	1.42	746
90K07 3709 3757-34	Split Core	10	150	0.5	>5.00	<5	3.81	2.01	59	41	>5.00	2.70	0.28	3.25	1.45	967
90K07 3765 3865-36	Split Core	5	145	0.5	>5.00	<5	6.09	3.63	57	73	>5.00	4.06	0.05	3.25	1.32	961
90K07 3865 3921-37	Split Core	10	150	0.4	>5.00	<5	8.31	4.20	51	16	>5.00	3.20	0.03	2.58	1.08	1252
90K08 180 280-01	Split Core	10	180	<0.1	>5.00	<5	0.41	0.33	10	3	2.47	1.92	0.29	1.12	1.08	226
90K08 280 380-02	Split Core	5	150	<0.1	>5.00	<5	0.30	0.24	10	11	2.50	1.06	0.28	0.98	1.00	138
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000785 R Homestake Mining (Canada) Ltd. Project: 3174 Page 2 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K08 380 403-03	Split Core	5	210	<0.1	>5.00	<5	0.40	0.37	8	2	2.74	1.48	0.79	1.69	1.60	216
90K08 403 422-04	Split Core	5	435	0.4	>5.00	<5	1.26	1.34	92	411	>5.00	4.06	0.55	4.13	2.89	1081
90K08 422 452-05	Split Core	5	235	<0.1	>5.00	<5	0.33	0.29	17	9	3.58	2.20	0.42	1.32	1.38	299
90K08 452 500-06	Split Core	5	185	<0.1	>5.00	<5	0.19	0.15	12	5	3.22	2.00	0.56	1.32	1.49	213
90K08 500 594-07	Split Core	5	290	<0.1	>5.00	<5	0.73	0.69	8	3	2.81	1.72	0.79	1.75	1.73	354
90K08 594 650-08	Split Core	5	465	<0.1	>5.00	<5	0.58	0.56	5	17	3.48	2.08	1.64	2.41	2.43	639
90K08 673 773-09	Split Core	15	190	0.3	>5.00	<5	0.94	0.90	7	57	2.44	1.15	0.53	1.13	1.10	523
90K08 773 835-10	Split Core	10	210	<0.1	>5.00	<5	1.81	1.86	11	7	2.57	0.71	0.86	1.55	1.59	264
90K08 835 918-11	Split Core	10	825	<0.1	>5.00	<5	1.58	1.60	10	3	3.26	0.76	0.87	1.71	1.72	224
90K08 918 998-12	Split Core	5	625	<0.1	>5.00	<5	1.68	1.59	12	7	3.49	1.02	0.55	2.13	2.12	343
90K08 998 1047-13	Split Core	15	560	0.2	>5.00	<5	1.82	1.74	21	9	4.63	3.16	0.54	1.91	1.90	532
90K08 1047 1111-14	Split Core	10	315	<0.1	>5.00	<5	2.62	2.61	15	20	3.94	2.97	0.39	1.82	1.71	779
90K08 1111 1161-15	Split Core	<5	260	0.1	>5.00	<5	1.61	1.60	10	11	3.02	1.73	0.44	1.56	1.49	504
90K08 1161 1229-16	Split Core	<5	540	0.2	>5.00	<5	1.26	1.25	11	11	4.93	2.22	0.60	2.13	2.11	416
90K08 1229 1236-17	Split Core	10	455	0.3	4.03	<5	1.18	1.13	3	7	>5.00	1.91	0.57	2.24	2.19	436
90K08 1239 1256-18	Split Core	5	745	0.2	>5.00	<5	1.46	1.46	9	13	>5.00	2.35	1.11	2.91	2.88	444
90K08 1256 1356-19	Split Core	<5	365	0.1	>5.00	<5	0.64	0.64	8	18	3.23	0.85	0.97	2.97	1.27	722
90K08 1356 1445-20	Split Core	5	240	<0.1	>5.00	<5	1.05	1.04	5	7	1.99	0.79	1.02	1.68	1.38	454
90K09 388 443-01	Split Core	5	155	0.1	>5.00	<5	2.13	2.06	13	11	3.34	2.54	0.50	1.07	0.86	946
90K09 443 508-02	Split Core	5	155	0.5	>5.00	<5	7.39	4.95	52	57	>5.00	1.19	0.32	1.70	0.72	801
90K09 508 557-03	Split Core	5	100	0.5	>5.00	<5	6.85	4.22	37	30	>5.00	1.76	0.21	2.93	0.91	1524
90K09 557 637-04	Split Core	5	175	0.4	>5.00	<5	7.32	6.98	52	116	>5.00	1.97	0.47	2.19	0.79	1586
90K09 637 717-05	Split Core	<5	195	0.3	>5.00	<5	7.15	7.01	55	59	>5.00	2.49	0.67	1.83	0.72	729
90K09 717 787-06	Split Core	<5	110	0.6	>5.00	<5	6.81	4.82	49	43	>5.00	2.88	0.04	3.08	1.19	1087
90K09 1033 1068-07	Split Core	<5	100	<0.1	>5.00	<5	2.00	1.98	8	25	1.87	1.65	0.49	0.83	0.83	435
90K09 1068 1168-08	Split Core	<5	200	0.6	>5.00	<5	4.47	2.85	47	65	>5.00	2.27	0.18	3.68	1.97	744
90K09 1704 1723-09	Split Core	5	120	0.3	>5.00	<5	7.52	5.64	48	51	>5.00	1.85	0.03	2.95	1.24	934
90K09 1723 1804-10	Split Core	<5	50	0.4	>5.00	<5	8.61	4.09	45	60	>5.00	1.30	0.05	3.08	1.07	807
90K09 1804 1841-11	Split Core	<5	55	0.3	>5.00	<5	7.46	3.62	46	47	>5.00	1.22	0.17	2.73	1.11	750
90K09 1841 1914-12	Split Core	<5	45	0.3	>5.00	<5	6.24	1.28	48	36	>5.00	1.55	0.06	3.98	1.21	1066
90K09 1914 1972-13	Split Core	<5	70	0.4	>5.00	<5	7.49	3.91	46	35	>5.00	1.91	0.12	2.80	1.32	1108
90K09 1972 2001-14	Split Core	10	55	0.2	>5.00	<5	5.92	5.06	39	78	>5.00	1.85	0.04	3.05	1.29	1044
90K10 677 777-01	Split Core	<5	275	<0.1	>5.00	<5	0.63	0.61	5	16	2.70	0.91	0.99	1.59	1.30	537
90K10 777 849-02	Split Core	<5	310	0.1	>5.00	<5	0.71	0.75	10	9	3.07	1.10	0.64	1.62	1.09	426
90K10 849 946-03	Split Core	<5	400	0.5	>5.00	<5	1.67	1.65	19	25	4.37	2.35	0.18	2.27	2.05	814
90K10 946 998-04	Split Core	<5	225	0.3	>5.00	<5	4.81	4.66	27	24	4.04	2.33	0.89	2.14	2.04	1126
90K10 998 1098-05	Split Core	<5	135	<0.1	>5.00	<5	0.70	0.66	2	6	0.66	0.28	0.50	0.30	0.29	111
90K10 1098 1198-06	Split Core	5	235	<0.1	>5.00	<5	0.73	0.65	3	3	1.54	0.35	0.93	0.36	0.32	127
90K10 1198 1274-07	Split Core	<5	115	<0.1	>5.00	<5	0.63	0.54	1	4	0.76	0.23	0.56	0.26	0.23	117
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000785 R Homestake Mining (Canada) Ltd. Project: 3174 Page 3 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K10 1412 1485-08	Split Core	10	250	0.1	>5.00	<5	1.39	1.23	2	8	2.52	1.16	0.78	1.32	1.20	506
90K10 1485 1547-09	Split Core	10	215	0.5	>5.00	<5	0.72	0.61	5	7	4.05	1.19	0.73	2.05	1.05	504
90K10 1547 1612-10	Split Core	<5	110	0.1	>5.00	<5	1.83	1.63	4	3	1.84	0.97	0.50	1.09	1.00	295
90K10 1644 1744-11	Split Core	<5	65	<0.1	>5.00	<5	0.88	0.79	3	4	2.43	1.06	0.42	1.39	0.94	434
90K10 1744 1844-12	Split Core	5	70	0.1	>5.00	<5	1.12	1.00	3	133	2.49	1.33	1.00	1.20	1.06	706
90K10 1844 1944-13	Split Core	5	200	<0.1	>5.00	<5	3.43	3.16	3	9	1.74	1.22	0.65	1.37	1.35	608
90K10 1944 2008-14	Split Core	5	120	0.1	>5.00	<5	1.28	1.18	3	33	1.51	0.72	0.33	0.56	0.55	303
90K10 2068 2138-15	Split Core	15	105	0.2	>5.00	<5	1.01	0.95	1	37	2.27	0.85	0.58	0.60	0.60	164
90K10 2138 2208-16	Split Core	10	60	0.1	>5.00	<5	1.14	0.99	1	45	1.90	0.79	0.20	0.84	0.82	308
90K10 2208 2278-17	Split Core	10	85	<0.1	>5.00	<5	2.77	2.46	2	56	2.00	1.47	0.25	1.14	1.12	771
90K10 2278 2374-18	Split Core	15	20	0.2	>5.00	<5	2.54	2.19	7	797	3.14	1.23	0.36	0.73	0.69	408
90K10 2374 2474-19	Split Core	5	175	0.1	>5.00	<5	2.72	2.71	7	114	2.72	0.90	0.32	1.17	1.15	335
90K10 2474 2574-20	Split Core	<5	175	0.1	>5.00	<5	1.75	1.61	11	152	3.57	1.63	0.55	1.26	1.25	773
90K10 2574 2674-21	Split Core	5	140	0.4	>5.00	<5	3.60	3.26	17	101	4.85	1.21	0.65	2.11	2.13	834
90K10 2674 2726-22	Split Core	5	210	0.7	>5.00	<5	4.11	3.98	31	151	>5.00	1.08	0.87	1.88	1.47	656
90K10 2726 2779-23	Split Core	<5	75	0.1	>5.00	<5	2.89	2.59	3	66	0.97	0.48	0.27	0.47	0.44	389
90K10 2779 2879-24	Split Core	5	70	<0.1	>5.00	<5	2.81	2.00	7	18	2.51	1.29	0.36	0.70	0.47	670
90K10 2879 2979-25	Split Core	<5	60	<0.1	>5.00	<5	4.05	1.13	8	58	2.59	0.74	0.23	0.79	0.44	745
90K10 2979 3045-26	Split Core	5	40	<0.1	>5.00	<5	3.61	0.82	8	35	2.50	0.64	0.18	0.73	0.42	771
R90KJ-05	Rock	40	15	0.9	0.12	30	0.02	0.01	46	88	>5.00	>5.00	<0.01	<0.01	<0.01	34
R90KJ-06	Rock	5	235	0.6	>5.00	<5	1.31	0.07	20	2	>5.00	2.02	0.09	3.35	0.99	633
Standard	Pulp	185	180	1.6	>5.00	24	0.29	0.20	16	350	>5.00	>5.00	3.78	1.06	0.63	201
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000785 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
Blank	<1	1	0.01	2	<1	1	<1
90K03 2510 2524-36	281	5	0.53	4	60	22	28
90K05 343 358-04	422	9	2.87	20	109	46	54
90K05 1278 1280-22	580	35	1.54	12	105	81	22
90K05 1281 1377-23	469	3	2.59	2	110	44	83
90K05 1377 1390-24	578	11	2.70	11	91	67	158
90K05 1390 1490-25	398	8	1.69	35	98	63	126
90K05 1490 1560-26	394	1	2.38	8	68	30	71
90K05 1560 1630-27	419	6	1.72	7	108	58	79
90K05 1630 1704-28	497	2	2.46	2	178	83	69
90K07 222 227-06	1290	2	1.85	3	129	73	1591
90K07 540 640-09	756	2	2.76	3	183	67	104
90K07 640 740-10	830	2	3.40	3	158	49	112
90K07 740 830-11	858	1	3.94	2	122	37	101
90K07 830 854-12	1064	10	2.49	17	68	30	115
90K07 854 954-13	1026	2	3.29	4	125	49	127
90K07 1061 1148-14	706	8	2.58	7	36	9	372
90K07 1148 1240-15	887	2	1.62	<2	119	36	166
90K07 1240 1349-16	791	2	1.80	7	147	29	191
90K07 1349 1356-17	335	<1	2.31	2	25	9	67
90K07 1356 1386-18	1018	34	0.98	4	15	9	5780
90K07 1386 1435-19	1113	2	0.81	5	40	41	577
90K07 1435 1509-20	893	1	2.02	3	58	58	164
90K07 1509 1517-21	885	17	2.77	4	23	9	550
90K07 1517 1542-22	2937	35	2.72	14	25	13	11113
90K07 1542 1626-23	621	11	2.83	7	29	19	136
90K07 1626 1653-24	893	10	4.07	4	89	62	567
90K07 1680 1790-25	593	3	2.66	2	84	64	102
90K07 2217 2286-26	423	1	4.77	2	82	30	52
90K07 2286 2412-27	652	3	3.81	2	142	70	101
90K07 2422 2452-29	532	3	3.51	3	163	54	63
90K07 2466 2566-31	599	4	2.32	2	178	78	80
90K07 2980 3022-32	277	3	3.18	3	121	32	62
90K07 3022 3122-33	313	4	2.30	3	289	25	62
90K07 3709 3757-34	439	5	2.92	<2	76	22	97
90K07 3765 3865-36	487	5	3.17	2	111	34	71
90K07 3865 3921-37	596	1	2.48	<2	344	41	100
90K08 180 280-01	213	3	4.44	2	57	11	17
90K08 280 380-02	127	5	>5.00	<2	47	5	15
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K08 380 403-03	211	4	2.96	<2	44	7	17
90K08 403 422-04	798	9	2.06	2	32	12	57
90K08 422 452-05	296	6	3.75	2	34	4	20
90K08 452 500-06	227	5	3.52	4	37	5	14
90K08 500 594-07	354	3	3.15	2	40	7	47
90K08 594 650-08	637	3	1.68	5	67	18	90
90K08 673 773-09	520	1	3.19	3	66	13	38
90K08 773 835-10	278	4	2.61	4	82	20	20
90K08 835 918-11	225	1	2.96	2	70	18	16
90K08 918 998-12	343	4	2.84	3	69	14	35
90K08 998 1047-13	528	1	3.22	12	70	12	37
90K08 1047 1111-14	762	3	2.61	4	82	25	62
90K08 1111 1161-15	503	3	2.83	2	61	14	47
90K08 1161 1229-16	419	4	2.58	2	70	16	71
90K08 1229 1236-17	421	22	0.41	5	48	26	115
90K08 1239 1256-18	439	6	0.99	3	91	32	109
90K08 1256 1356-19	391	8	2.04	5	46	8	339
90K08 1356 1445-20	392	2	2.47	2	61	12	89
90K09 388 443-01	866	1	3.57	2	66	33	168
90K09 443 508-02	469	3	3.45	3	249	47	81
90K09 508 557-03	681	2	2.43	2	173	34	125
90K09 557 637-04	1061	6	2.84	3	186	74	627
90K09 637 717-05	522	3	3.91	3	167	76	80
90K09 717 787-06	547	3	2.80	13	163	51	92
90K09 1033 1068-07	429	1	>5.00	4	101	35	56
90K09 1068 1168-08	398	2	2.83	<2	267	43	76
90K09 1704 1723-09	511	5	2.43	4	229	46	72
90K09 1723 1804-10	340	2	2.42	2	236	35	68
90K09 1804 1841-11	350	2	2.95	2	276	33	53
90K09 1841 1914-12	329	2	2.58	<2	195	22	72
90K09 1914 1972-13	538	3	3.02	<2	241	57	86
90K09 1972 2001-14	627	3	3.39	2	116	53	82
90K10 677 777-01	482	3	2.52	4	42	11	139
90K10 777 849-02	345	4	2.90	3	43	7	42
90K10 849 946-03	817	2	2.23	5	34	25	105
90K10 946 998-04	1120	8	3.25	3	119	51	48
90K10 998 1098-05	110	3	3.78	2	43	7	10
90K10 1098 1198-06	112	3	4.65	<2	30	4	14
90K10 1198 1274-07	109	1	4.26	2	23	4	13
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

IPL
INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K10 1412 1485-08	445	3	2.98	2	44	13	90
90K10 1485 1547-09	315	10	2.69	3	29	5	69
90K10 1547 1612-10	262	3	3.01	<2	33	9	32
90K10 1644 1744-11	336	3	3.22	<2	26	6	47
90K10 1744 1844-12	615	4	1.81	3	53	12	1151
90K10 1844 1944-13	569	3	2.92	3	92	27	209
90K10 1944 2008-14	287	3	3.85	2	87	16	683
90K10 2068 2138-15	162	4	3.11	<2	71	20	66
90K10 2138 2208-16	282	5	4.44	2	60	14	64
90K10 2208 2278-17	716	4	4.37	2	81	25	90
90K10 2278 2374-18	364	1	4.08	2	168	28	47
90K10 2374 2474-19	324	10	3.47	2	105	23	54
90K10 2474 2574-20	729	9	2.77	3	58	16	140
90K10 2574 2674-21	775	6	3.02	2	131	34	143
90K10 2674 2726-22	569	11	1.71	3	145	58	76
90K10 2726 2779-23	357	8	3.25	3	170	77	149
90K10 2779 2879-24	480	2	4.08	5	336	66	60
90K10 2879 2979-25	269	9	3.50	<2	443	34	62
90K10 2979 3045-26	264	7	3.40	<2	405	27	47
R90KJ-05	20	20	<0.01	4	1	<1	16
R90KJ-06	147	4	2.04	2	77	2	37
Standard	160	44	0.50	13	130	18	64
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000817 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
Blank	Pulp	<5	10	0.1	<0.01	<5	0.01	<0.01	<1	1	<0.01	<0.01	0.01	<0.01	<0.01	1
90K07 2452 2466-30	Split Core	45	50	0.6	>5.00	<5	8.47	7.24	56	120	>5.00	1.95	0.16	2.62	0.47	1115
90K07 3421 3959-38	Split Core	5	50	0.5	>5.00	<5	6.55	4.94	47	56	>5.00	2.42	0.18	4.60	0.99	897
90K07 3757 3765-35	Split Core	10	690	0.8	2.38	47	5.39	5.47	15	60	>5.00	2.73	0.74	0.41	0.15	369
90K07 3959 4020-39	Split Core	5	95	0.4	>5.00	<5	9.17	7.41	52	50	>5.00	1.05	0.01	5.13	0.77	983
90K09 2001 2106-15	Split Core	<5	50	0.5	>5.00	<5	5.15	1.79	53	53	>5.00	1.91	0.10	3.15	1.29	788
90K09 2106 2170-16	Split Core	<5	45	0.4	>5.00	<5	5.23	0.66	41	42	>5.00	1.81	0.02	3.76	1.36	694
90K09 2170 2235-17	Split Core	<5	60	0.4	>5.00	<5	3.49	2.07	46	54	>5.00	1.65	0.40	2.81	1.19	491
90K09 2235 2300-18	Split Core	5	45	0.4	>5.00	<5	6.12	3.09	52	43	>5.00	1.43	0.56	2.07	0.94	659
90K09 2300 2400-19	Split Core	5	55	0.4	>5.00	<5	5.42	2.61	45	39	>5.00	1.52	0.15	2.93	1.10	817
90K09 2400 2497-20	Split Core	<5	100	0.4	>5.00	<5	8.99	6.49	47	46	>5.00	1.23	0.03	2.48	0.79	919
90K09 2512 2562-22	Split Core	<5	60	0.4	>5.00	<5	6.54	3.65	50	17	>5.00	2.85	0.02	2.60	0.84	1166
90K09 2562 2612-23	Split Core	<5	50	0.3	>5.00	<5	5.10	2.15	60	46	>5.00	3.47	0.24	5.50	1.15	1025
90K09 2612 2712-24	Split Core	<5	60	0.2	>5.00	<5	8.61	6.16	50	62	>5.00	1.24	0.16	4.00	1.02	877
90K09 2712 2771-25	Split Core	<5	85	0.3	>5.00	<5	>10.00	8.19	45	54	4.72	0.59	0.25	3.09	0.61	900
90K09 2771 2874-26	Split Core	<5	45	0.4	>5.00	<5	5.35	1.68	62	35	>5.00	1.17	0.06	9.32	1.53	1105
90K09 2874 2974-27	Split Core	<5	40	0.3	>5.00	<5	8.75	6.52	51	56	>5.00	1.07	0.36	2.90	0.80	937
90K09 2974 3074-28	Split Core	<5	25	0.2	>5.00	<5	8.76	5.79	44	58	>5.00	1.44	0.05	3.72	1.05	932
90K09 3074 3117-29	Split Core	<5	65	0.4	>5.00	<5	6.97	5.41	50	45	>5.00	2.33	0.02	3.11	1.28	923
90K09 3117 3155-30	Split Core	<5	65	0.3	>5.00	<5	8.32	7.33	47	36	>5.00	2.01	0.02	2.61	0.81	1131
90K09 3589 3689-31	Split Core	<5	85	0.2	>5.00	<5	6.11	2.37	47	54	>5.00	2.22	0.06	4.18	1.30	1095
90K09 3689 3713-32	Split Core	<5	80	0.5	>5.00	<5	8.68	7.11	40	92	>5.00	2.45	0.03	3.15	0.77	1119
90K09 3713 3770-33	Split Core	<5	75	0.4	>5.00	<5	6.60	2.31	50	50	>5.00	2.16	0.02	4.10	0.99	1039
90K09 3770 3870-34	Split Core	<5	50	0.3	>5.00	<5	6.54	2.58	47	57	>5.00	3.21	0.06	3.84	0.91	1068
90K09 3870 3929-35	Split Core	<5	70	0.3	>5.00	<5	5.79	1.73	46	56	>5.00	2.79	0.02	4.66	1.17	1058
90K11 439 447-01	Split Core	5	30	0.4	>5.00	<5	0.97	0.84	27	187	2.12	0.87	0.08	0.37	0.37	312
90K11 1721 1771-03	Split Core	<5	65	0.2	>5.00	<5	3.70	2.09	55	67	>5.00	1.65	0.46	2.85	1.41	506
90K11 1771 1821-04	Split Core	<5	90	0.2	>5.00	<5	3.00	1.36	61	40	>5.00	2.37	0.82	2.78	1.26	671
90K11 1821 1871-05	Split Core	<5	75	0.2	>5.00	<5	2.91	0.30	60	78	>5.00	1.35	0.68	2.14	0.96	419
90K11 1871 1921-06	Split Core	5	75	0.4	>5.00	<5	3.57	1.32	65	68	>5.00	1.81	0.38	2.91	1.33	637
90K11 1921 1971-07	Split Core	5	205	0.4	>5.00	<5	3.50	1.55	51	58	>5.00	1.49	0.03	2.85	1.27	592
90K11 2016 2069-08	Split Core	5	30	0.4	>5.00	<5	2.56	0.65	65	64	>5.00	1.67	0.31	2.97	1.22	773
90K11 2096 2413-09	Split Core	10	30	0.3	>5.00	<5	3.23	1.64	52	43	>5.00	1.92	0.04	2.94	1.30	774
90K11 2604 2617-10	Split Core	10	35	0.5	>5.00	<5	2.96	1.28	60	44	>5.00	2.58	1.05	2.00	0.63	474
90K11 3036 3086-12	Split Core	5	30	0.3	>5.00	<5	6.46	4.65	58	61	>5.00	2.01	0.10	4.76	1.18	1039
90K11 3086 3136-13	Split Core	10	170	0.3	>5.00	<5	6.45	4.44	58	58	>5.00	2.19	0.16	3.85	1.09	945
90K11 3136 3186-14	Split Core	5	85	0.3	>5.00	<5	8.55	7.80	49	58	>5.00	1.44	0.03	3.40	0.99	1142
90K11 3186 3216-15	Split Core	5	155	0.3	>5.00	<5	8.79	6.74	51	62	>5.00	0.99	0.04	3.67	0.81	1025
90K11 3347 3366-16	Split Core	5	40	0.3	>5.00	<5	3.10	1.72	71	64	>5.00	1.40	0.33	2.84	1.36	680
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000817 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
Blank	<1	1	0.01	2	<1	<1	<1
90K07 2452 2466-30	611	5	2.48	4	152	62	87
90K07 3421 3959-38	374	8	1.49	6	115	46	134
90K07 3757 3765-35	354	45	0.21	25	62	48	221
90K07 3959 4020-39	427	2	2.23	<2	149	87	67
90K09 2001 2106-15	345	1	3.13	<2	193	21	101
90K09 2106 2170-16	248	2	3.19	3	287	12	69
90K09 2170 2235-17	256	2	4.27	<2	112	25	82
90K09 2235 2300-18	340	3	3.87	<2	270	35	79
90K09 2300 2400-19	355	2	3.88	<2	214	35	72
90K09 2400 2497-20	496	5	3.15	<2	176	37	65
90K09 2512 2562-22	536	3	3.11	<2	121	25	94
90K09 2562 2612-23	335	3	2.09	2	69	16	81
90K09 2612 2712-24	430	2	2.65	<2	166	56	70
90K09 2712 2771-25	536	2	3.17	2	198	88	54
90K09 2771 2874-26	264	2	1.46	<2	76	16	66
90K09 2874 2974-27	509	7	2.69	<2	138	44	67
90K09 2974 3074-28	549	2	1.85	2	133	43	60
90K09 3074 3117-29	593	6	2.69	2	129	42	89
90K09 3117 3155-30	832	2	2.90	2	129	63	78
90K09 3589 3689-31	419	2	2.73	5	112	21	69
90K09 3689 3713-32	499	5	1.60	3	124	77	92
90K09 3713 3770-33	348	3	2.77	2	118	18	77
90K09 3770 3870-34	364	5	2.58	3	124	20	80
90K09 3870 3929-35	359	4	2.01	2	87	12	93
90K11 439 447-01	319	2	4.43	2	44	15	24
90K11 1721 1771-03	270	2	4.39	2	119	22	94
90K11 1771 1821-04	340	1	3.91	2	106	18	125
90K11 1821 1871-05	166	3	4.69	<2	166	9	106
90K11 1871 1921-06	298	2	3.98	34	146	19	97
90K11 1921 1971-07	276	4	4.17	<2	104	15	83
90K11 2016 2069-08	309	3	3.96	2	181	14	135
90K11 2096 2413-09	354	3	3.92	<2	153	30	112
90K11 2604 2617-10	209	8	3.57	2	98	13	69
90K11 3036 3086-12	434	2	2.25	<2	158	56	77
90K11 3086 3136-13	434	3	2.58	<2	176	51	88
90K11 3136 3186-14	693	5	2.77	<2	137	73	117
90K11 3186 3216-15	553	2	2.95	<2	227	74	95
90K11 3347 3366-16	359	2	3.99	<2	131	22	87
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

Report: 9000817 R Homestake Mining (Canada) Ltd. Project: 3174 Page 2 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K11 3379 3446-17	Split Core	5	100	0.4	>5.00	<5	6.36	4.53	60	69	>5.00	1.06	0.31	2.41	1.07	763
90K11 3446 3492-18	Split Core	<5	60	0.3	>5.00	<5	0.72	0.65	2	<1	1.56	1.37	0.11	0.37	0.35	181
90K14 88 271-01	Split Core	10	90	0.4	>5.00	<5	0.55	0.50	3	17	3.09	1.08	0.48	0.77	0.79	473
90K14 271 367-02	Split Core	15	50	0.8	>5.00	<5	3.90	3.05	24	181	4.43	1.30	0.67	1.99	1.01	2154
90K14 422 511-05	Split Core	<5	110	0.6	>5.00	<5	1.74	1.39	19	234	3.65	0.27	0.88	1.80	0.47	485
90K14 511 552-06	Split Core	5	65	0.4	>5.00	<5	0.93	0.91	15	120	3.99	0.34	1.26	1.00	0.38	287
90K14 552 575-07	Split Core	10	60	0.3	>5.00	<5	3.59	2.55	13	30	3.40	2.78	2.29	0.78	0.78	1309
90K14 575 668-08	Split Core	5	40	0.4	>5.00	<5	0.69	0.47	29	399	5.00	0.98	0.90	1.57	0.57	342
90K14 668 722-09	Split Core	5	90	0.4	>5.00	<5	1.72	1.70	4	135	1.87	1.19	0.54	0.63	0.69	477
90K14 722 846-10	Split Core	<5	75	0.4	>5.00	<5	0.23	0.22	10	159	3.55	0.30	1.72	0.80	0.25	84
90K14 846 879-11	Split Core	<5	90	0.3	>5.00	<5	3.51	2.55	13	6	3.59	2.76	2.55	0.85	0.91	1109
90K14 879 933-12	Split Core	5	210	0.7	>5.00	<5	1.07	1.07	12	246	3.69	0.41	1.41	0.63	0.57	128
90K14 933 977-13	Split Core	<5	410	0.5	>5.00	<5	4.13	4.18	14	189	3.14	1.38	2.67	2.16	2.02	308
90K14 977 1077-14	Split Core	<5	195	0.4	>5.00	<5	5.59	5.60	17	74	3.77	3.23	1.80	2.99	2.81	615
90K14 1217 1273-15	Split Core	5	65	0.4	>5.00	<5	3.14	3.22	26	45	4.24	3.34	0.28	2.19	2.49	1198
90K14 1273 1290-16	Split Core	<5	115	0.3	>5.00	<5	3.73	2.88	16	13	3.99	3.56	2.33	1.27	1.37	1125
90K14 1290 1390-17	Split Core	<5	125	0.4	>5.00	<5	4.72	1.21	52	120	>5.00	2.13	0.03	4.92	1.77	2510
90K14 1390 1490-18	Split Core	5	150	0.3	>5.00	<5	4.32	1.50	47	46	>5.00	1.76	0.03	4.54	1.50	1649
90K14 2056 2156-19	Split Core	5	85	0.3	>5.00	<5	8.38	6.83	40	41	>5.00	1.66	0.14	2.73	1.07	1019
90K14 2156 2256-20	Split Core	10	75	0.3	>5.00	<5	6.95	5.53	47	48	>5.00	1.63	0.10	3.58	1.21	856
90K14 2256 2328-21	Split Core	5	130	0.3	>5.00	<5	7.83	5.96	52	49	>5.00	1.57	0.04	3.44	1.01	940
90K14 2328 2356-22	Split Core	5	40	0.3	>5.00	<5	5.88	3.31	43	36	>5.00	1.84	0.05	3.03	1.05	983
90K14 2356 2416-23	Split Core	<5	210	0.2	>5.00	<5	4.77	4.31	45	13	>5.00	2.37	0.42	2.18	0.84	960
90K14 2416 2476-24	Split Core	<5	90	0.3	>5.00	<5	8.57	7.21	53	40	>5.00	1.80	0.03	2.97	0.73	1052
90K14 2476 2513-25	Split Core	5	145	0.2	>5.00	<5	8.10	8.40	41	31	>5.00	3.41	0.06	2.23	1.41	1084
90K14 2513 2613-26	Split Core	5	100	0.3	>5.00	<5	6.52	4.29	50	45	>5.00	1.79	0.10	3.86	1.18	1088
90K14 2613 2718-27	Split Core	<5	100	0.4	>5.00	<5	7.05	3.91	44	37	>5.00	1.74	0.05	4.07	1.13	1033
90K14 2736 2820-29	Split Core	5	100	0.3	>5.00	<5	8.83	7.11	45	38	>5.00	1.49	0.05	3.08	0.91	1048
90K14 2820 2905-30	Split Core	5	110	0.3	>5.00	<5	8.70	6.44	51	46	>5.00	1.48	0.06	3.26	0.97	1095
90K14 2922 2966-32	Split Core	<5	95	0.3	>5.00	<5	6.56	6.17	32	31	4.57	2.14	0.44	2.52	1.34	1017
90K14 2966 3066-33	Split Core	<5	60	0.3	>5.00	<5	5.32	3.22	46	18	>5.00	2.26	0.08	3.34	0.92	1153
90K14 3066 3163-34	Split Core	<5	130	0.2	>5.00	<5	5.90	2.01	50	35	>5.00	1.94	0.38	4.76	1.00	1005
90K14 3163 3197-35	Split Core	10	190	0.7	>5.00	<5	4.06	1.27	34	61	>5.00	2.57	0.27	3.29	0.89	698
90K16 423 493-01	Split Core	5	210	0.5	>5.00	<5	2.49	2.38	15	8	3.23	1.73	1.18	2.15	1.68	980
90K16 493 556-02	Split Core	<5	170	0.3	>5.00	<5	4.38	4.23	11	26	3.23	2.37	0.26	1.95	2.05	1019
90K16 585 648-03	Split Core	<5	260	0.2	>5.00	<5	3.85	3.90	12	5	3.09	2.81	0.57	1.50	1.62	1059
17 30 91-01	Split Core	<5	105	0.2	>5.00	<5	0.40	0.38	23	14	4.42	1.69	0.25	2.53	0.95	468
17 91 191-02	Split Core	10	215	0.3	>5.00	<5	0.43	0.38	10	11	2.17	0.55	0.55	1.56	0.71	235
17 191 291-03	Split Core	5	125	0.4	>5.00	<5	0.33	0.31	13	2	3.48	0.36	1.13	0.72	0.36	130
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K11 3379 3446-17	465	3	3.53	2	201	42	73
90K11 3446 3492-18	183	1	4.28	3	46	29	69
90K14 88 271-01	490	3	3.70	2	51	7	174
90K14 271 367-02	1576	3	3.34	2	132	25	912
90K14 422 511-05	266	2	3.17	<2	121	14	74
90K14 511 552-06	245	5	1.80	<2	184	16	52
90K14 552 575-07	1485	2	2.75	4	723	87	84
90K14 575 668-08	196	26	2.01	<2	161	13	36
90K14 668 722-09	521	3	3.45	<2	122	18	139
90K14 722 846-10	57	14	1.79	<2	115	9	47
90K14 846 879-11	1248	2	2.86	3	694	132	73
90K14 879 933-12	139	4	1.86	<2	199	34	67
90K14 933 977-13	333	5	0.59	4	160	112	52
90K14 977 1077-14	639	2	0.73	5	434	238	79
90K14 1217 1273-15	1347	2	3.56	2	290	53	129
90K14 1273 1290-16	1249	3	2.81	3	866	225	80
90K14 1290 1390-17	830	3	1.37	<2	211	30	308
90K14 1390 1490-18	569	3	2.02	2	199	33	173
90K14 2056 2156-19	714	4	2.61	<2	206	90	67
90K14 2156 2256-20	494	2	2.40	<2	151	67	68
90K14 2256 2328-21	516	2	2.61	<2	130	49	74
90K14 2328 2356-22	441	2	3.13	<2	171	54	69
90K14 2356 2416-23	559	5	3.05	<2	142	81	110
90K14 2416 2476-24	622	3	2.36	<2	151	81	76
90K14 2476 2513-25	975	2	2.72	<2	166	151	74
90K14 2513 2613-26	503	3	2.54	<2	151	55	83
90K14 2613 2718-27	467	3	2.31	<2	133	32	72
90K14 2736 2820-29	654	2	2.59	<2	165	64	64
90K14 2820 2905-30	650	2	2.44	<2	167	55	73
90K14 2922 2966-32	896	3	2.89	<2	144	77	60
90K14 2966 3066-33	534	2	2.89	<2	123	46	91
90K14 3066 3163-34	310	2	2.18	<2	124	22	82
90K14 3163 3197-35	247	12	2.31	9	92	16	106
90K16 423 493-01	929	2	2.31	7	83	33	71
90K16 493 556-02	1053	10	3.02	2	121	26	69
90K16 585 648-03	1131	3	3.79	2	68	47	99
17 30 91-01	236	9	3.00	<2	48	12	35
17 91 191-02	162	6	4.38	<2	48	7	32
17 191 291-03	107	6	3.71	<2	44	7	14
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000817 R Homestake Mining (Canada) Ltd. Project: 3174 Page 3 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
17 291 361-04	Split Core	<5	130	0.3	>5.00	<5	0.18	0.16	9	3	2.67	0.45	1.20	0.97	0.43	227
17 361 469-05	Split Core	<5	500	0.4	>5.00	<5	0.31	0.24	1	2	1.21	0.36	1.18	1.12	0.43	195
17 469 529-06	Split Core	5	140	0.2	>5.00	<5	2.08	1.39	20	<1	4.58	1.34	0.63	1.90	0.69	806
17 529 582-07	Split Core	5	115	0.2	>5.00	<5	2.31	1.52	17	<1	4.59	1.57	0.75	1.96	0.69	855
17 604 704-08	Split Core	<5	250	0.4	>5.00	<5	0.43	0.43	15	23	4.12	0.28	1.56	1.36	0.45	229
17 704 804-09	Split Core	5	300	0.3	>5.00	<5	0.06	0.07	25	553	>5.00	0.94	1.99	1.94	1.17	513
17 804 864-10	Split Core	<5	245	0.3	>5.00	<5	0.14	0.13	20	357	>5.00	0.95	1.82	2.59	1.30	889
17 864 926-11	Split Core	<5	135	0.3	>5.00	<5	0.57	0.56	25	370	>5.00	0.37	1.13	2.00	1.22	368
17 926 969-12	Split Core	<5	480	0.3	>5.00	<5	4.67	4.60	22	44	4.50	0.66	0.44	1.75	1.84	728
17 969 1000-13	Split Core	<5	310	0.3	>5.00	<5	3.98	3.83	21	12	>5.00	>5.00	0.49	1.69	1.74	1517
17 1000 1091-14	Split Core	5	160	0.4	>5.00	<5	3.45	3.32	27	46	3.31	1.10	0.60	0.65	0.64	409
119 40 140-01	Split Core	<5	165	0.4	>5.00	<5	0.31	0.27	2	1	1.21	0.90	0.74	0.42	0.31	339
119 140 240-02	Split Core	<5	125	0.3	>5.00	<5	0.19	0.16	1	5	1.19	0.91	0.61	0.39	0.33	263
119 240 340-03	Split Core	<5	100	0.3	>5.00	<5	0.11	0.08	1	<1	1.16	1.04	0.50	0.53	0.49	295
119 340 440-04	Split Core	<5	160	0.3	>5.00	<5	0.24	0.21	2	<1	1.23	0.94	0.75	0.59	0.48	231
119 440 540-05	Split Core	<5	140	0.4	>5.00	<5	0.18	0.15	2	2	1.27	0.86	0.80	0.73	0.55	227
119 540 640-06	Split Core	<5	95	0.3	>5.00	<5	0.28	0.23	2	<1	1.15	0.86	0.55	0.57	0.46	329
119 640 740-07	Split Core	5	155	0.3	>5.00	<5	0.40	0.36	2	2	1.22	0.91	0.92	0.62	0.53	370
119 740 808-08	Split Core	<5	145	0.3	>5.00	<5	0.37	0.33	1	4	1.23	0.97	0.79	0.60	0.52	234
119 808 844-09	Split Core	<5	75	0.4	>5.00	<5	0.95	0.89	8	3	2.85	2.73	0.30	1.50	1.58	1010
119 844 944-10	Split Core	5	130	0.2	>5.00	<5	0.40	0.37	8	7	3.41	2.54	0.21	1.95	1.56	1176
119 944 1006-11	Split Core	<5	155	0.3	>5.00	<5	0.31	0.27	7	1	2.98	1.80	0.06	1.63	0.97	975
119 1006 1018-12	Split Core	5	300	0.3	>5.00	<5	0.37	0.33	7	<1	3.47	3.23	0.03	2.62	2.57	1137
119 1018 1118-13	Split Core	<5	215	<0.1	>5.00	<5	0.27	0.24	5	2	3.40	2.26	0.45	1.98	1.36	929
119 1338 1438-14	Split Core	5	410	0.1	>5.00	<5	0.31	0.27	4	5	2.01	0.17	1.26	1.76	0.46	258
119 1438 1538-15	Split Core	5	240	0.1	>5.00	<5	0.86	0.85	12	20	3.13	0.19	0.86	1.53	0.65	286
119 1538 1605-16	Split Core	<5	1090	0.1	>5.00	<5	0.17	0.17	20	77	4.57	0.50	1.62	2.04	0.59	510
119 2249 2312-17	Split Core	5	335	0.1	>5.00	<5	1.48	1.41	16	18	3.62	2.85	0.50	1.79	1.87	536
90K07 2412 2422-28	Split Core	10	310	0.7	>5.00	<5	3.72	3.90	36	44	>5.00	2.26	0.40	1.82	0.63	725
90K09 2497 2512-21	Split Core	50	355	0.1	0.51	68	1.38	1.61	10	<1	>5.00	0.87	0.04	0.10	0.10	205
90K14 367 397-03	Split Core	15	340	1.6	>5.00	<5	4.42	2.73	44	305	>5.00	0.73	0.24	3.24	0.88	2377
90K14 397 422-04	Split Core	15	120	2.2	>5.00	<5	2.23	1.28	52	762	>5.00	0.58	0.56	3.36	0.86	1535
Standard	Pulp	200	295	1.7	>5.00	22	0.30	0.20	17	347	>5.00	>5.00	3.91	1.06	0.62	215
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000817 R Homestake Mining (Canada) Ltd. Project: 3174 Page 3 of 3 Section 2 of 2

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
17 291 361-04	140	6	2.95	<2	36	5	31
17 361 469-05	117	2	3.57	<2	39	5	55
17 469 529-06	453	1	2.64	2	124	13	57
17 529 582-07	437	1	2.78	<2	130	15	63
17 604 704-08	168	7	1.25	2	54	4	46
17 704 804-09	353	9	0.47	<2	15	1	45
17 804 864-10	499	4	0.52	<2	16	1	75
17 864 926-11	243	4	1.28	2	50	6	66
17 926 969-12	765	4	1.49	4	76	23	74
17 969 1000-13	1540	3	0.67	3	82	49	124
17 1000 1091-14	427	2	2.71	4	96	37	66
119 40 140-01	329	1	3.50	<2	36	4	53
119 140 240-02	257	2	4.27	<2	37	2	35
119 240 340-03	298	<1	4.53	<2	22	1	29
119 340 440-04	224	1	4.05	2	34	6	34
119 440 540-05	203	<1	4.13	<2	32	6	40
119 540 640-06	296	3	4.44	<2	32	5	31
119 640 740-07	373	1	3.70	<2	41	7	31
119 740 808-08	243	<1	3.87	<2	44	7	41
119 808 844-09	1094	1	4.04	2	80	15	134
119 844 944-10	1003	2	3.88	<2	66	7	108
119 944 1006-11	631	1	4.68	<2	43	5	52
119 1006 1018-12	1109	1	4.11	<2	47	6	78
119 1018 1118-13	665	2	3.78	<2	39	5	54
119 1338 1438-14	177	2	2.59	3	32	4	57
119 1438 1538-15	265	3	1.86	3	63	6	61
119 1538 1605-16	211	9	0.99	2	42	18	96
119 2249 2312-17	565	2	2.50	2	119	26	64
90K07 2412 2422-28	551	14	2.98	20	94	58	112
90K09 2497 2512-21	196	18	0.16	3	22	22	26
90K14 367 397-03	1226	5	2.90	4	152	20	1773
90K14 397 422-04	621	8	3.51	2	82	9	5796
Standard	165	45	0.42	12	128	19	90
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000842 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 1 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
Blank	Pulp	<5	10	<0.1	<0.01	<5	<0.01	<0.01	<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<1
90K13 250 260-02	Split Core	20	110	0.2	>5.00	<5	4.97	2.01	33	43	>5.00	2.43	0.02	2.84	0.95	622
90K13 260 360-03	Split Core	5	65	<0.1	>5.00	<5	7.56	4.02	47	54	>5.00	1.83	0.04	3.94	1.03	960
90K13 360 460-04	Split Core	5	60	<0.1	>5.00	<5	7.45	3.15	49	44	>5.00	1.90	0.02	3.95	1.05	966
90K13 460 480-05	Split Core	10	50	<0.1	>5.00	<5	6.69	4.21	38	54	>5.00	2.63	0.01	3.34	1.14	931
90K13 480 521-06	Split Core	<5	20	<0.1	>5.00	<5	>10.00	5.44	40	43	4.55	1.15	0.01	3.31	0.90	882
90K13 525 626-08	Split Core	10	50	<0.1	>5.00	<5	6.33	3.56	45	42	>5.00	2.94	0.09	3.21	0.98	992
90K13 626 726-09	Split Core	5	50	0.2	>5.00	<5	6.07	2.14	50	61	>5.00	2.84	0.02	3.73	1.21	992
90K13 726 826-10	Split Core	10	50	0.1	>5.00	<5	6.93	5.10	43	39	>5.00	1.57	0.06	3.55	0.99	1064
90K13 825 925-11	Split Core	5	110	0.1	>5.00	<5	5.81	3.06	41	52	>5.00	2.72	0.01	3.54	1.08	966
90K13 925 1025-12	Split Core	5	35	<0.1	>5.00	<5	6.51	2.65	50	32	>5.00	2.20	0.02	3.76	0.95	1161
90K13 1025 1125-13	Split Core	<5	55	<0.1	>5.00	<5	5.70	2.36	45	55	>5.00	2.26	0.04	3.73	1.12	946
90K13 1125 1225-14	Split Core	<5	75	<0.1	>5.00	<5	5.70	2.38	52	29	>5.00	2.84	0.02	3.29	1.03	1184
90K13 1225 1332-15	Split Core	<5	90	<0.1	>5.00	<5	6.30	2.68	48	53	>5.00	2.30	0.02	3.99	1.31	992
90K13 1332 1340-16	Split Core	<5	165	0.3	>5.00	<5	3.39	2.72	16	42	>5.00	4.71	0.61	2.42	0.82	576
90K13 1340 1440-17	Split Core	<5	35	0.1	>5.00	<5	5.76	0.65	57	41	>5.00	1.77	0.09	5.86	1.62	1145
90K13 1440 1539-18	Split Core	<5	40	<0.1	>5.00	<5	6.43	1.92	47	54	>5.00	2.11	0.03	3.72	1.10	1141
90K13 1539 1640-19	Split Core	5	75	<0.1	>5.00	<5	6.10	3.30	48	27	>5.00	2.65	0.06	2.33	0.89	1139
90K14 2718 2738-28	Split Core	5	160	0.4	>5.00	<5	5.71	3.68	48	262	>5.00	1.49	0.30	3.28	1.17	879
90K14 2905 2922-31	Split Core	<5	140	0.1	>5.00	<5	6.37	5.36	53	45	>5.00	3.04	0.53	2.61	0.72	878
90K16 1784 1880-04	Split Core	<5	185	<0.1	>5.00	<5	6.15	6.17	38	39	>5.00	2.99	0.62	1.43	1.31	556
90K16 1960 1984-05	Split Core	<5	130	0.2	>5.00	<5	2.99	3.05	50	32	>5.00	3.80	0.88	1.25	0.62	442
90K16 2011 2067-06	Split Core	<5	50	<0.1	>5.00	<5	7.31	7.27	45	59	4.38	1.49	0.20	2.46	0.85	713
90K17 182 203-01	Split Core	10	355	0.3	>5.00	<5	6.09	6.03	45	67	>5.00	1.55	0.01	2.60	0.98	939
90K17 974 1046-03	Split Core	<5	280	0.1	>5.00	<5	3.90	1.13	59	35	>5.00	2.07	0.36	1.94	0.98	792
90K17 1508 1532-04	Split Core	<5	145	0.1	>5.00	<5	3.97	1.95	36	56	>5.00	3.02	0.33	3.43	1.36	704
90K17 1623 1632-05	Split Core	<5	340	0.3	>5.00	<5	3.23	3.22	14	48	>5.00	4.09	0.65	1.09	0.56	655
21 52 152-01	Split Core	<5	125	<0.1	>5.00	<5	1.05	0.97	10	18	2.73	0.44	0.56	1.44	0.51	330
21 152 252-02	Split Core	<5	560	0.1	>5.00	<5	0.87	0.83	11	33	2.97	0.26	0.65	1.16	0.33	193
21 252 341-03	Split Core	<5	920	<0.1	>5.00	<5	0.48	0.47	11	39	3.01	0.22	0.93	0.94	0.25	146
21 448 527-04	Split Core	<5	630	0.2	>5.00	<5	0.03	0.02	28	880	>5.00	0.31	1.74	1.62	0.41	384
21 527 597-05	Split Core	<5	670	0.3	>5.00	<5	0.06	0.04	23	2351	>5.00	0.36	1.55	1.85	0.53	486
21 597 634-06	Split Core	<5	200	0.2	>5.00	<5	2.96	2.32	28	30	3.37	0.37	0.90	0.84	0.30	309
21 823 876-07	Split Core	<5	380	0.1	>5.00	<5	1.09	0.42	24	26	3.79	0.28	0.90	0.96	0.28	333
21 876 988-08	Split Core	<5	325	<0.1	>5.00	<5	2.53	0.63	19	38	3.83	1.01	0.59	1.70	0.81	1246
21 988 1088-09	Split Core	<5	295	0.1	>5.00	<5	0.69	0.26	19	35	3.74	0.50	0.82	1.87	0.63	733
Standard	Pulp	185	310	1.5	>5.00	25	0.28	0.22	15	352	>5.00	>5.00	3.82	1.04	0.62	202
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000842 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
Blank	<1	<1	<0.01	<2	<1	<1	<1
90K13 250 260-02	259	26	1.33	5	67	16	65
90K13 260 360-03	389	3	1.98	<2	105	25	71
90K13 360 460-04	369	3	2.40	<2	137	20	76
90K13 460 480-05	459	4	1.45	<2	125	26	75
90K13 480 521-06	389	3	1.61	<2	163	48	46
90K13 525 626-08	451	3	2.09	<2	102	29	90
90K13 626 726-09	397	5	2.17	<2	131	13	88
90K13 726 826-10	513	3	2.76	<2	94	35	65
90K13 825 925-11	428	4	2.52	<2	92	21	70
90K13 925 1025-12	420	2	2.37	<2	94	14	78
90K13 1025 1125-13	359	8	2.20	<2	85	13	75
90K13 1125 1225-14	459	5	2.58	<2	109	14	96
90K13 1225 1332-15	396	3	2.25	<2	95	20	76
90K13 1332 1340-16	306	20	2.71	<2	57	25	174
90K13 1340 1440-17	296	2	1.52	<2	35	6	66
90K13 1440 1539-18	384	2	2.58	<2	98	12	73
90K13 1539 1640-19	512	3	3.46	<2	192	36	89
90K14 2718 2738-28	434	3	2.58	<2	104	30	76
90K14 2905 2922-31	534	4	2.47	<2	96	32	65
90K16 1784 1880-04	543	4	1.97	<2	173	83	84
90K16 1960 1984-05	260	4	1.73	<2	92	47	116
90K16 2011 2067-06	515	2	2.86	<2	227	110	60
90K17 182 203-01	617	7	2.47	<2	133	54	70
90K17 974 1046-03	368	2	3.36	<2	104	8	77
90K17 1508 1532-04	310	12	2.30	3	90	29	133
90K17 1623 1632-05	450	20	2.18	6	69	33	281
21 52 152-01	248	3	2.63	2	69	8	41
21 152 252-02	145	7	2.42	3	57	6	50
21 252 341-03	95	8	1.43	2	67	8	27
21 448 527-04	111	7	0.80	2	36	14	73
21 527 597-05	157	5	0.87	4	32	8	159
21 597 634-06	240	3	2.44	5	119	12	90
21 823 876-07	124	3	1.63	4	77	8	60
21 876 988-08	500	4	2.52	<2	106	11	99
21 988 1088-09	259	4	1.39	5	49	6	79
Standard	165	46	0.42	12	125	19	65
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

INTERNATIONAL PLASMA LABORATORY LTD.

2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000843 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Type	SpGrav	Cu %	Pb %	Zn %	Ag oz/st	Au oz/st
90K11 1415 1421-02	Split Core	2.90	0.01	0.01	0.01	0.01	<0.002
90K11 2687 2693-11	Split Core	2.82	0.01	0.02	0.02	<0.01	<0.002
90K11 3839 3844-19	Split Core	2.86	0.01	<0.01	0.05	0.03	<0.002
90K11 4051 4055-20	Split Core	2.90	0.01	0.01	0.05	0.02	<0.002
90K17 583 591-02	Split Core	2.81	0.04	0.02	0.05	0.02	<0.002
90K17 521 525-07	Split Core	2.86	0.08	<0.01	<0.01	<0.01	<0.002
Minimum Detection			0.01	0.01	0.01	0.01	0.002
Maximum Detection			100.00	100.00	100.00	1000.00	1000.000
Method			Assay	Assay	Assay	FAGrav	FAGrav

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

Report: 9000844 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 1 Section 1 of 1

Sample Name	Type	LOI %	Al2O3 %	BaO %	CaO %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	Total %
90K13 150 250-01	Split Core	6.81	14.42	<0.01	10.83	10.55	0.10	7.23	0.13	2.79	0.06	45.09	1.33	99.34
Minimum Detection		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	101.00
Method		GeoSp	WRock	WRock	WRock	WRock	WRock	WRock	WRock	WRock	WRock	WRock	WRock	WRock

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000872 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
Blank	Pulp	<5	<10	<0.1	<0.01	<5	<0.01	<0.01	<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<1
90K19 649 733-01	Split Core	<5	375	<0.1	>5.00	<5	0.63	0.62	12	7	>5.00	3.28	0.75	2.06	2.04	788
90K19 786 875-02	Split Core	<5	145	<0.1	>5.00	<5	0.59	0.60	13	15	4.87	2.22	1.68	2.10	2.11	701
90K19 923 1023-03	Split Core	<5	170	<0.1	>5.00	<5	1.15	1.16	15	25	3.04	2.54	0.54	0.95	0.97	452
90K19 1023 1122-04	Split Core	<5	195	<0.1	>5.00	<5	1.48	1.49	12	<1	2.77	2.70	0.48	1.15	1.15	580
90K19 1552 1582-05	Split Core	<5	180	<0.1	>5.00	<5	0.71	0.68	9	3	2.74	1.12	1.17	1.17	1.04	404
90K19 1582 1642-06	Split Core	<5	75	<0.1	>5.00	<5	0.63	0.59	7	<1	2.27	1.33	0.36	1.07	0.81	463
90K19 1642 1701-07	Split Core	<5	135	<0.1	>5.00	<5	0.72	0.71	8	51	2.79	1.65	0.14	1.25	0.86	661
90K19 1701 1771-08	Split Core	<5	185	<0.1	>5.00	<5	0.39	0.39	3	1	1.90	0.73	0.67	0.86	0.87	306
90K19 1771 1847-09	Split Core	<5	175	<0.1	>5.00	<5	0.14	0.12	2	1	1.56	0.44	0.60	1.49	0.65	311
90K19 1926 1997-10	Split Core	<5	165	<0.1	>5.00	<5	1.37	1.38	4	14	1.06	0.81	0.54	0.93	0.72	355
90K19 2233 2275-11	Split Core	<5	120	<0.1	>5.00	<5	1.05	1.05	7	9	1.73	1.17	0.08	0.90	0.58	238
90K19 2275 2328-12	Split Core	<5	75	<0.1	>5.00	<5	0.87	0.87	4	4	1.80	0.76	0.38	0.63	0.62	127
90K19 2328 2378-13	Split Core	<5	65	<0.1	>5.00	<5	1.31	1.30	5	2	1.77	0.53	0.34	0.75	0.74	136
90K19 2378 2428-14	Split Core	<5	90	<0.1	>5.00	<5	0.73	0.74	3	<1	1.62	0.40	0.40	0.50	0.51	120
90K19 2428 2466-15	Split Core	<5	60	<0.1	>5.00	<5	1.70	1.70	3	1	1.57	0.45	0.17	0.81	0.80	245
90K19 2466 2516-16	Split Core	<5	215	<0.1	>5.00	<5	0.33	0.35	3	16	2.13	0.55	1.28	1.92	0.63	125
90K19 2516 2576-17	Split Core	<5	190	<0.1	>5.00	<5	0.79	0.80	3	8	1.70	0.22	1.62	2.28	0.62	199
90K19 2576 2626-18	Split Core	<5	100	<0.1	>5.00	<5	0.56	0.53	2	6	1.90	0.27	0.42	0.49	0.49	93
90K19 2626 2676-19	Split Core	<5	195	<0.1	>5.00	<5	1.24	1.25	3	8	1.52	0.64	0.47	0.97	0.98	166
90K19 2676 2726-20	Split Core	<5	85	0.1	>5.00	<5	0.58	0.57	1	6	1.12	0.48	0.13	0.66	0.66	110
90K19 2726 2790-21	Split Core	<5	140	<0.1	>5.00	<5	0.93	0.92	2	3	1.50	0.51	0.42	0.64	0.61	139
90K19 2790 2819-22	Split Core	<5	70	0.1	>5.00	<5	0.76	0.72	2	<1	2.27	2.36	0.13	1.33	1.32	157
90K19 2819 2919-23	Split Core	<5	100	0.1	>5.00	<5	0.32	0.30	2	<1	2.61	1.71	0.20	1.39	0.91	157
90K19 2961 3011-24	Split Core	<5	195	<0.1	>5.00	<5	0.33	0.31	5	<1	2.97	2.78	0.41	1.51	1.52	172
90K19 3011 3061-25	Split Core	<5	135	0.1	>5.00	<5	0.30	0.28	2	<1	2.08	1.93	0.40	1.17	1.18	208
90K19 3061 3100-26	Split Core	<5	100	0.1	>5.00	<5	0.23	0.20	1	<1	2.52	2.23	0.55	1.41	1.44	150
90K20 842 887-01	Split Core	<5	100	0.1	>5.00	<5	1.44	1.37	4	1	1.27	0.60	0.34	0.45	0.34	162
90K22 910 1017-01	Split Core	<5	100	0.1	>5.00	<5	0.32	0.31	17	12	4.52	0.53	1.48	1.43	0.51	290
90K22 1044 1110-02	Split Core	<5	265	0.1	>5.00	<5	0.25	0.23	4	4	1.77	0.42	0.91	1.03	0.43	324
90K22 1110 1175-03	Split Core	<5	230	<0.1	>5.00	<5	0.16	0.13	2	4	1.52	0.30	1.06	1.40	0.36	350
90K22 1175 1275-04	Split Core	<5	280	<0.1	>5.00	<5	2.49	2.45	10	13	3.14	0.22	0.50	1.15	0.27	164
90K22 1275 1375-05	Split Core	<5	260	<0.1	>5.00	<5	0.60	0.65	13	15	3.85	0.19	0.69	0.91	0.09	31
90K22 1375 1443-06	Split Core	<5	430	<0.1	>5.00	<5	0.50	0.48	15	26	3.68	0.10	0.57	0.76	0.08	22
90K22 1443 1543-07	Split Core	<5	150	<0.1	>5.00	<5	3.72	3.76	15	30	3.63	0.43	0.23	3.91	0.64	764
90K22 1543 1614-08	Split Core	<5	80	<0.1	>5.00	<5	3.86	3.71	17	17	3.21	0.90	0.67	1.88	0.63	697
90K22 1614 1686-09	Split Core	<5	280	0.1	>5.00	<5	3.11	3.17	21	41	3.94	0.38	0.59	1.11	0.46	601
91 657 757-01	Split Core	10	630	0.5	>5.00	<5	0.47	0.46	15	264	>5.00	1.21	3.64	2.15	1.54	1569
91 757 864-02	Split Core	20	190	3.0	>5.00	<5	0.04	0.05	3	1355	>5.00	0.49	2.55	0.77	0.46	348
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

Report: 9000872 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 2 Section 2 of 2

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
Blank	<1	<1	<0.01	<2	<1	<1	<1
90K19 649 733-01	760	7	1.85	<2	36	7	92
90K19 786 875-02	705	4	2.08	<2	26	5	96
90K19 923 1023-03	461	10	1.74	<2	44	13	32
90K19 1023 1122-04	583	4	2.71	<2	61	16	32
90K19 1552 1582-05	401	8	3.94	<2	40	8	39
90K19 1582 1642-06	382	2	3.87	<2	62	7	33
90K19 1642 1701-07	503	2	4.42	<2	53	8	49
90K19 1701 1771-08	318	2	3.00	<2	28	6	33
90K19 1771 1847-09	162	3	3.53	<2	23	4	37
90K19 1926 1997-10	365	9	4.25	<2	42	12	38
90K19 2233 2275-11	237	2	3.56	<2	27	9	23
90K19 2275 2328-12	129	4	3.51	<2	40	9	17
90K19 2328 2378-13	131	3	3.67	2	37	14	12
90K19 2378 2428-14	121	<1	3.86	<2	37	7	6
90K19 2428 2466-15	240	2	4.02	<2	41	12	6
90K19 2466 2516-16	78	2	2.50	<2	32	6	66
90K19 2516 2576-17	155	4	1.34	<2	36	9	45
90K19 2576 2626-18	99	2	3.80	<2	36	6	13
90K19 2626 2676-19	162	4	3.74	<2	47	11	15
90K19 2676 2726-20	111	1	4.34	<2	26	5	15
90K19 2726 2790-21	136	1	3.86	<2	39	7	11
90K19 2790 2819-22	154	2	4.34	<2	36	7	17
90K19 2819 2919-23	126	2	4.11	<2	22	4	16
90K19 2961 3011-24	170	2	4.22	<2	28	6	23
90K19 3011 3061-25	201	2	3.46	<2	23	5	22
90K19 3061 3100-26	159	3	3.63	<2	25	5	16
90K20 842 887-01	165	1	2.87	<2	53	12	9
90K22 910 1017-01	142	5	2.23	<2	50	12	351
90K22 1044 1110-02	257	3	3.46	<2	42	12	49
90K22 1110 1175-03	204	5	3.33	<2	28	4	106
90K22 1175 1275-04	112	2	1.54	<2	110	68	34
90K22 1275 1375-05	21	3	1.44	<2	54	15	12
90K22 1375 1443-06	9	5	1.63	<2	61	13	16
90K22 1443 1543-07	581	4	0.97	2	75	30	118
90K22 1543 1614-08	590	2	2.17	2	105	35	40
90K22 1614 1686-09	550	3	2.01	4	108	28	187
91 657 757-01	1511	6	0.21	17	46	27	1113
91 757 864-02	357	11	0.17	174	26	6	1954
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000872 R Homestake Mining (Canada) Ltd. Project: 3174 Page 2 of 2 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
91 893 1006-03	Split Core	5	280	0.9	>5.00	<5	0.11	0.10	3	894	3.77	0.16	2.52	0.23	0.04	86
91 1006 1106-04	Split Core	<5	180	<0.1	>5.00	<5	0.06	0.06	3	86	2.64	1.55	2.30	1.57	1.27	1893
91 1106 1206-05	Split Core	5	340	0.1	>5.00	<5	0.10	0.09	3	87	3.04	0.43	2.05	1.56	0.61	1084
91 1206 1281-06	Split Core	<5	85	<0.1	>5.00	<5	0.12	0.11	3	135	1.16	0.35	1.07	0.41	0.31	297
91 1281 1356-07	Split Core	<5	80	0.1	>5.00	<5	0.24	0.23	3	224	1.10	0.53	0.89	0.44	0.42	320
91 1405 1472-08	Split Core	<5	95	0.2	>5.00	<5	0.13	0.13	3	213	1.94	0.73	1.33	1.00	0.96	398
91 1472 1548-09	Split Core	<5	140	0.1	>5.00	<5	0.12	0.11	3	77	1.63	0.64	1.12	0.89	0.59	397
22 277 377-01	Split Core	<5	350	<0.1	>5.00	<5	0.81	0.61	11	106	2.45	0.40	0.73	1.27	0.21	341
22 377 469-02	Split Core	<5	155	<0.1	>5.00	<5	0.21	0.21	15	53	3.47	0.27	1.55	1.53	0.27	349
22 469 585-03	Split Core	<5	490	<0.1	>5.00	<5	0.02	0.02	22	1814	>5.00	0.64	1.59	2.54	0.61	1036
22 585 695-04	Split Core	<5	630	0.1	>5.00	<5	0.02	0.02	34	1802	>5.00	0.31	1.63	2.35	0.40	796
22 695 731-05	Split Core	<5	95	<0.1	>5.00	<5	0.13	0.11	23	84	>5.00	0.19	1.05	0.93	0.11	167
22 731 780-06	Split Core	<5	75	<0.1	>5.00	<5	3.27	2.78	34	34	3.97	0.28	1.01	0.49	0.13	353
22 990 1090-07	Split Core	<5	170	<0.1	>5.00	<5	1.42	0.20	24	37	4.12	0.44	1.35	1.60	0.41	959
Standard	Pulp	180	280	1.7	>5.00	23	0.30	0.21	16	337	>5.00	>5.00	3.95	1.05	0.62	208
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
91 893 1006-03	71	4	0.25	15	29	5	226
91 1006 1106-04	1853	2	0.91	11	27	5	1175
91 1106 1206-05	1068	4	0.79	14	20	4	1532
91 1206 1281-06	224	4	3.00	<2	25	4	227
91 1281 1356-07	327	1	4.11	<2	36	6	108
91 1405 1472-08	390	1	2.38	<2	25	6	249
91 1472 1548-09	402	3	2.46	<2	21	4	349
22 277 377-01	212	14	2.34	2	70	6	78
22 377 469-02	115	4	1.05	<2	37	4	52
22 469 585-03	271	5	0.45	<2	16	4	115
22 585 695-04	159	14	0.45	3	14	1	107
22 695 731-05	48	3	1.42	6	41	2	83
22 731 780-06	309	3	2.34	7	122	16	51
22 990 1090-07	235	4	2.01	3	67	4	93
Standard	161	45	0.42	14	129	18	63
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

INTERNATIONAL PLASMA LABORATORY LTD.

2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000884 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Type	SpGrav	Cu %	Pb %	Zn %	Ag oz/st	Au oz/st
90K21 1056 1064-09	Split Core	2.96	1.05	0.05	1.23	0.40	0.004
90K21 1064 1074-10	Split Core	4.00	1.26	0.02	1.40	0.39	0.007
90K21 1074 1085-11	Split Core	3.02	0.04	<0.01	0.13	<0.01	0.002
90K21 1085 1096-12	Split Core	2.93	0.03	<0.01	0.11	0.02	<0.002
90K21 1096 1107-13	Split Core	3.05	1.17	0.01	0.37	0.13	<0.002
90K21 1107 1117-14	Split Core	4.52	3.70	0.72	0.85	1.08	0.049
90K21 1117 1127-15	Split Core	4.48	1.88	0.14	3.90	0.97	0.017
90K21 1127 1137-16	Split Core	4.52	4.03	0.02	1.36	0.47	0.031
90K21 1137 1147-17	Split Core	4.60	1.26	0.05	6.46	0.46	0.008
90K21 1147 1155-18	Split Core	4.59	1.74	0.04	6.30	0.04	0.009
90K21 1155 1165-19	Split Core	3.99	2.04	0.05	8.01	0.02	0.006
90K21 1165 1175-20	Split Core	4.38	1.89	0.03	2.38	0.17	0.007
90K21 1175 1185-21	Split Core	4.23	1.86	0.07	1.19	<0.01	0.005
90K21 1185 1196-22	Split Core	4.18	2.69	0.19	2.86	<0.01	0.013
90K21 1196 1206-23	Split Core	3.70	0.46	0.03	0.06	0.07	0.002
90K21 1206 1216-24	Split Core	3.23	0.37	0.22	0.25	0.02	0.002
90K21 1216 1226-25	Split Core	3.26	1.16	0.03	0.09	0.41	0.007
90K21 1226 1235-26	Split Core	3.62	1.69	0.02	0.22	0.35	0.009
90K21 1235 1247-27	Split Core	2.94	0.08	0.01	1.21	0.02	0.004
Minimum Detection		0.01	0.01	0.01	0.01	0.01	0.002
Maximum Detection		100.00	100.00	100.00	100.00	1000.00	1000.000
Method		Assay	Assay	Assay	Assay	FAGrav	FAGrav

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

Report: 9000885 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 2 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
Blank	Pulp	<5	10	<0.1	<0.01	<5	<0.01	<0.01	<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<1
90K15 132 147-01	Core	<5	250	0.5	>5.00	<5	2.27	1.54	47	3794	>5.00	2.11	0.02	5.77	1.07	4146
90K15 147 170-02	Core	5	265	<0.1	>5.00	<5	2.05	1.73	58	74	>5.00	1.72	0.04	3.61	1.13	2384
90K15 170 226-03	Core	<5	250	0.1	>5.00	<5	0.21	0.17	3	81	1.67	0.77	1.22	0.85	0.65	368
90K15 244 284-05	Core	<5	220	0.2	>5.00	<5	0.21	0.15	3	115	2.11	0.74	0.93	0.92	0.87	377
90K15 284 323-06	Core	<5	150	0.1	>5.00	<5	0.43	0.34	3	105	2.48	0.73	0.25	0.86	0.83	422
90K15 323 332-07	Core	<5	250	0.1	>5.00	15	2.76	2.65	12	220	3.97	2.71	0.31	3.33	3.06	1970
90K15 332 380-08	Core	<5	160	<0.1	>5.00	<5	2.53	2.34	33	271	>5.00	3.79	0.05	4.29	3.56	2538
90K15 380 428-09	Core	<5	190	<0.1	>5.00	<5	4.27	3.99	35	61	>5.00	3.78	0.03	5.76	4.34	3601
90K15 428 510-10	Core	<5	170	<0.1	>5.00	<5	0.40	0.34	11	19	4.08	2.11	0.04	1.94	1.65	706
90K15 510 535-11	Core	<5	340	0.2	>5.00	<5	1.94	1.86	29	852	>5.00	3.63	0.16	4.57	3.84	2472
90K15 535 580-12	Core	<5	205	<0.1	>5.00	<5	2.45	2.41	2	33	2.42	2.00	0.14	2.45	2.33	2032
90K15 580 641-13	Core	<5	175	<0.1	>5.00	<5	0.66	0.67	2	13	2.30	1.35	0.03	2.06	1.07	1609
90K15 641 720-14	Core	<5	155	<0.1	>5.00	<5	3.25	2.08	42	33	>5.00	1.32	0.01	5.72	1.19	2044
90K15 720 793-15	Core	<5	245	<0.1	>5.00	<5	3.28	2.75	42	51	>5.00	1.36	0.02	6.24	1.33	2871
90K15 809 855-17	Core	<5	560	<0.1	>5.00	<5	1.81	1.79	19	28	3.21	2.38	0.94	2.95	2.70	785
90K15 875 900-19	Core	5	1245	<0.1	>5.00	<5	0.34	0.32	2	11	0.71	0.54	1.72	0.69	0.50	91
90K15 900 947-20	Core	5	580	<0.1	>5.00	<5	2.66	2.67	35	89	>5.00	2.41	0.08	3.80	1.47	881
90K15 983 1061-21	Core	10	345	<0.1	>5.00	<5	2.68	2.65	31	204	>5.00	3.43	0.44	3.04	1.41	1196
90K15 1061 1144-22	Core	5	295	<0.1	>5.00	<5	1.12	1.10	3	8	1.04	0.48	0.77	0.69	0.69	137
90K15 1144 1252-23	Core	<5	365	0.1	>5.00	<5	1.64	1.55	6	46	3.19	1.09	1.04	1.81	1.32	224
90K15 1252 1293-24	Core	5	140	<0.1	>5.00	<5	1.62	1.56	4	9	1.58	1.12	0.30	1.21	1.21	224
90K15 1293 1393-25	Core	10	210	<0.1	>5.00	<5	0.75	0.71	3	10	1.82	1.12	0.53	0.94	0.91	145
90K15 1393 1493-26	Core	5	180	<0.1	>5.00	<5	0.85	0.89	2	7	1.68	0.41	0.30	0.51	0.51	93
90K15 1493 1564-27	Core	5	180	<0.1	>5.00	<5	1.15	1.12	1	8	1.87	0.49	0.29	0.80	0.81	148
90K15 1574 1591-29	Core	5	305	<0.1	>5.00	<5	0.29	0.30	2	11	2.58	0.26	1.30	0.27	0.22	68
90K15 1591 1651-30	Core	5	320	0.1	>5.00	<5	0.55	0.55	1	9	2.25	0.95	1.07	0.82	0.84	183
90K15 1651 1715-31	Core	5	200	0.1	>5.00	<5	0.65	0.67	1	9	2.18	0.67	0.75	0.48	0.50	96
90K15 1715 1764-32	Core	5	260	<0.1	>5.00	<5	0.71	0.71	1	8	1.74	0.89	0.70	0.60	0.61	108
90K15 1764 1834-33	Core	<5	170	<0.1	>5.00	<5	0.74	0.70	2	6	2.27	0.57	0.27	0.59	0.59	91
90K15 1834 1899-34	Core	5	300	0.2	>5.00	<5	1.15	1.16	3	8	3.11	2.18	0.38	1.44	1.45	130
90K15 1899 1962-35	Core	5	145	<0.1	>5.00	<5	1.03	1.04	1	10	2.69	1.86	0.28	1.41	1.42	158
90K15 1962 2045-36	Core	<5	150	0.1	>5.00	<5	0.98	0.95	2	7	2.12	2.18	0.11	1.02	1.01	138
90K15 2045 2145-37	Core	5	255	<0.1	>5.00	<5	0.81	0.79	3	10	2.56	1.54	0.15	1.53	0.89	140
90K15 2145 2220-38	Core	<5	270	<0.1	>5.00	<5	0.76	0.75	3	3	1.83	1.51	0.14	1.29	1.10	114
90K15 2220 2324-39	Core	<5	145	<0.1	>5.00	<5	0.57	0.54	5	12	2.44	1.05	0.35	1.06	1.08	89
90K15 2324 2379-40	Core	<5	215	<0.1	>5.00	<5	0.42	0.37	2	7	3.70	2.81	0.40	1.65	1.60	101
90K15 2379 2451-41	Core	5	270	<0.1	>5.00	<5	0.49	0.48	2	3	2.73	2.71	0.46	1.80	1.79	135
90K15 2451 2424-42	Core	<5	340	<0.1	>5.00	<5	0.35	0.34	3	11	1.94	1.75	0.41	1.23	1.23	106
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000885 R Homestake Mining (Canada) Ltd. Project: 3174 Page 2 of 2 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K21 977 1021-05	Core	<5	930	0.1	>5.00	<5	1.09	1.06	2	6	2.34	1.61	1.32	2.74	2.44	789
90K24 801 861-01	Core	5	205	<0.1	>5.00	<5	1.82	1.78	12	29	3.50	2.61	0.45	2.06	2.01	691
90K24 861 942-02	Core	<5	390	0.1	>5.00	<5	2.48	2.38	19	167	>5.00	4.02	0.46	3.24	2.82	1493

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000885 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 2 Section 2 of 2

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
Blank	<1	<1	<0.01	<2	<1	<1	<1
90K15 132 147-01	933	3	0.83	<2	66	14	313
90K15 147 170-02	721	11	2.98	5	40	13	203
90K15 170 226-03	293	3	2.54	<2	30	5	64
90K15 244 284-05	331	4	3.11	<2	37	7	73
90K15 284 323-06	380	3	3.91	<2	43	11	67
90K15 323 332-07	1674	13	1.67	2	171	57	11548
90K15 332 380-08	1926	4	2.23	<2	194	35	2170
90K15 380 428-09	2401	4	2.00	2	82	32	936
90K15 428 510-10	554	2	3.05	<2	34	4	212
90K15 510 535-11	1928	17	1.51	16	90	18	3710
90K15 535 580-12	1860	1	3.02	8	49	20	307
90K15 580 641-13	940	1	3.39	<2	35	9	180
90K15 641 720-14	602	2	2.66	2	104	28	310
90K15 720 793-15	825	4	2.17	11	92	42	799
90K15 809 855-17	692	6	2.44	<2	111	16	101
90K15 875 900-19	86	11	2.69	<2	51	7	34
90K15 900 947-20	530	5	3.85	<2	73	53	80
90K15 983 1061-21	886	7	2.86	<2	69	49	148
90K15 1061 1144-22	135	2	3.44	<2	53	12	18
90K15 1144 1252-23	196	3	1.74	<2	44	15	27
90K15 1252 1293-24	222	3	3.27	<2	39	14	97
90K15 1293 1393-25	143	2	3.45	<2	36	9	42
90K15 1393 1493-26	94	1	3.35	<2	37	11	19
90K15 1493 1564-27	142	1	3.57	<2	34	11	12
90K15 1574 1591-29	63	6	2.93	<2	60	7	12
90K15 1591 1651-30	188	1	2.47	<2	28	7	20
90K15 1651 1715-31	104	2	3.01	<2	28	7	18
90K15 1715 1764-32	110	1	2.50	<2	41	9	17
90K15 1764 1834-33	89	1	3.63	<2	41	7	18
90K15 1834 1899-34	129	1	2.11	<2	44	8	25
90K15 1899 1962-35	159	2	3.33	<2	35	7	32
90K15 1962 2045-36	134	3	3.65	<2	32	6	14
90K15 2045 2145-37	112	1	3.63	<2	26	6	23
90K15 2145 2220-38	100	1	3.80	<2	33	6	14
90K15 2220 2324-39	85	2	3.29	<2	46	6	17
90K15 2324 2379-40	97	3	3.90	<2	33	5	18
90K15 2379 2451-41	126	1	3.10	<2	23	5	14
90K15 2451 2424-42	98	1	3.71	<2	22	5	19
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K21 977 1021-05	735	2	1.13	2	51	13	380
90K24 801 861-01	641	3	2.48	<2	74	29	52
90K24 861 942-02	1192	21	0.87	<2	90	42	123
90K25 908 934-01	257	8	2.42	2	40	15	65
90K25 934 956-02	64	8	0.12	3	19	7	31
90K25 956 1017-03	111	9	0.11	6	15	5	512
90K25 1017 1031-04	985	3	0.12	<2	18	14	734
90K25 1031 1043-05	172	6	2.41	2	32	5	80
90K25 1043 1143-06	99	4	0.41	<2	23	4	43
90K25 1143 1239-07	256	3	0.21	<2	35	5	103
90K25 1239 1353-08	328	7	0.16	<2	20	9	68
Standard	156	45	0.54	16	129	18	64
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

INTERNATIONAL PLASMA LABORATORY LTD.

2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000886 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Type	SpGrav	Cu %	Pb %	Zn %	Ag oz/st	Au oz/st
90K21 937 947-01	Core	2.97	0.21	0.11	0.11	<0.01	0.007
90K21 947 957-02	Core	2.84	0.61	0.01	1.35	0.07	0.003
90K21 957 967-03	Core	2.84	0.24	<0.01	1.24	<0.01	0.002
90K21 967 977-04	Core	2.75	<0.01	0.02	0.38	0.05	<0.002
90K21 1021 1033-06	Core	2.71	0.21	0.01	0.06	<0.01	<0.002
90K21 1033 1045-07	Core	2.92	4.46	0.05	2.07	1.15	0.007
90K21 1045 1056-08	Core	3.58	3.82	0.07	2.61	0.43	0.010
90K21 1247 1257-28	Core	3.22	0.26	<0.01	0.76	<0.01	0.002
90K21 1257 1267-29	Core	3.13	0.13	<0.01	0.04	<0.01	<0.002
90K21 1267 1277-30	Core	3.19	0.15	<0.01	0.03	0.04	0.002
90K21 1277 1284-31	Core	3.23	0.18	0.01	0.02	<0.01	0.002
90K21 1284 1297-32	Core	3.00	<0.01	<0.01	0.02	<0.01	<0.002
90K21 1297 1307-33	Core	3.09	0.12	<0.01	0.02	<0.01	<0.002
90K21 1307 1317-34	Core	2.84	<0.01	<0.01	<0.01	<0.01	<0.002
90K21 1317 1327-35	Core	2.89	<0.01	<0.01	<0.01	<0.01	<0.002
90K21 1327 1337-36	Core	3.08	<0.01	<0.01	<0.01	<0.01	<0.002
90K21 1337 1347-37	Core	3.08	<0.01	<0.01	0.09	<0.01	<0.002
90K21 1347 1357-38	Core	2.99	<0.01	<0.01	<0.01	<0.01	<0.002
90K21 1357 1367-39	Core	2.81	<0.01	<0.01	<0.01	<0.01	<0.002
90K21 1484 1492-41	Core	2.82	0.28	<0.01	0.01	<0.01	0.002
90K21 3869 3879-79	Core	2.77	0.23	<0.01	0.01	<0.01	<0.002
90K21 3879 3889-80	Core	2.74	<0.01	<0.01	0.01	<0.01	0.002
90K21 3889 3899-81	Core	2.83	0.28	<0.01	0.01	<0.01	<0.002
90K23 2424 2432-55	Core	3.17	<0.01	<0.01	0.08	<0.01	0.002
Minimum Detection		0.01	0.01	0.01	0.01	0.01	0.002
Maximum Detection		100.00	100.00	100.00	100.00	1000.00	1000.000
Method		Assay	Assay	Assay	Assay	FAGrav	FAGrav

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

Report: 9000887 R Homestake Mining (Canada) Ltd. Project: 3174 Page 1 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
Blank	Pulp	<5	10	<0.1	<0.01	<5	<0.01	<0.01	<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<1
90K18 981 1033-01	Core	10	345	0.3	>5.00	<5	4.74	4.10	37	42	>5.00	3.30	0.61	2.28	0.92	1102
90K18 1033 1082-02	Core	5	240	<0.1	>5.00	<5	6.97	5.80	44	26	>5.00	3.40	0.21	2.49	0.71	1135
90K18 1082 1136-03	Core	<5	340	<0.1	>5.00	<5	6.23	3.08	49	13	>5.00	2.99	0.05	3.63	1.11	1942
90K18 1136 1151-04	Core	5	290	<0.1	>5.00	<5	6.22	4.77	35	27	>5.00	3.94	0.43	2.57	0.68	1322
90K21 1367 1413-40	Core	10	410	<0.1	>5.00	<5	0.46	0.46	11	37	4.85	0.34	1.80	1.58	0.99	244
90K21 1492 1579-42	Core	10	695	0.2	>5.00	<5	0.68	0.69	14	259	4.21	0.62	1.00	5.21	2.09	545
90K21 1612 1690-43	Core	20	380	0.5	>5.00	<5	0.18	0.18	33	30	>5.00	0.45	2.22	0.89	0.80	195
90K21 1746 1778-44	Core	20	335	<0.1	>5.00	<5	0.12	0.13	53	17	>5.00	0.15	2.03	0.26	0.16	56
90K21 1899 1948-45	Core	5	320	<0.1	>5.00	<5	0.27	0.26	9	32	3.80	1.40	1.55	2.57	2.56	400
90K21 1948 2021-46	Core	10	255	<0.1	>5.00	<5	0.13	0.13	13	17	>5.00	0.17	2.04	0.21	0.11	29
90K21 2021 2098-47	Core	15	290	<0.1	>5.00	<5	0.15	0.16	27	11	>5.00	0.51	1.85	0.63	0.63	103
90K21 2198 2279-58	Core	15	345	0.8	>5.00	<5	0.06	0.06	4	23	3.54	0.17	1.95	0.46	0.34	52
90K21 2344 2444-59	Core	10	445	0.1	>5.00	<5	0.13	0.14	98	49	>5.00	1.87	0.59	4.56	2.21	934
90K21 2618 2656-60	Core	60	230	0.3	4.50	<5	0.76	0.76	71	40	>5.00	0.53	1.20	0.85	0.54	146
90K21 2656 2726-61	Core	20	220	<0.1	>5.00	<5	0.26	0.30	23	2	>5.00	0.55	1.94	0.92	0.56	169
90K21 2726 2768-62	Core	15	260	0.1	>5.00	<5	0.47	0.45	57	24	>5.00	1.49	1.52	3.31	1.48	754
90K21 2915 2955-63	Core	5	235	<0.1	>5.00	<5	0.09	0.09	5	526	4.08	1.17	1.83	1.96	0.95	257
90K21 2960 2977-65	Core	10	180	<0.1	>5.00	<5	0.42	0.41	3	652	3.92	1.04	1.50	2.20	1.02	320
90K21 2977 2994-66	Core	10	250	<0.1	>5.00	<5	0.53	0.51	4	764	>5.00	1.51	1.81	2.12	1.27	548
90K21 3303 3403-72	Core	5	290	<0.1	>5.00	<5	0.06	0.07	3	228	2.37	0.58	1.94	2.76	1.93	357
90K21 3503 3371-73	Core	10	230	0.2	>5.00	<5	0.05	0.06	7	572	4.71	1.09	1.39	2.84	2.86	376
90K21 3571 3621-74	Core	<5	280	<0.1	>5.00	<5	0.04	0.05	10	8	3.30	1.27	1.78	2.86	2.90	327
90K21 3621 3671-75	Core	10	290	0.1	>5.00	<5	0.09	0.09	28	129	>5.00	0.97	1.83	2.50	2.50	233
90K21 3671 3746-76	Core	5	280	<0.1	>5.00	<5	0.04	0.05	20	13	>5.00	0.93	1.68	1.75	1.73	202
90K21 3746 3846-77	Core	5	270	<0.1	>5.00	<5	0.05	0.05	26	16	>5.00	0.72	1.64	1.66	1.67	248
90K21 3846 3869-78	Core	<5	350	<0.1	>5.00	<5	0.12	0.12	2	107	2.41	1.41	0.94	4.66	2.91	1086
90K21 3899 3949-82	Core	<5	215	<0.1	>5.00	<5	0.10	0.09	3	8	2.06	0.63	1.36	2.47	1.10	524
90K23 870 970-01	Core	<5	265	<0.1	>5.00	<5	5.35	5.35	4	7	1.56	0.98	1.49	0.38	0.32	1066
90K23 970 1070-02	Core	<5	360	<0.1	>5.00	<5	2.89	2.79	3	3	1.40	0.86	1.37	0.34	0.28	491
90K23 1070 1114-03	Core	<5	810	<0.1	>5.00	<5	2.42	2.41	4	11	1.42	1.07	1.82	1.17	1.14	527
90K23 1635 1685-36	Core	15	195	0.6	>5.00	<5	1.08	1.02	14	110	>5.00	0.48	1.83	1.63	1.55	469
90K23 1685 1735-37	Core	30	185	1.0	>5.00	<5	0.15	0.17	27	70	>5.00	0.12	2.02	0.18	0.07	50
90K23 1735 1785-38	Core	5	190	<0.1	4.44	<5	0.29	0.29	36	3	>5.00	0.17	1.52	0.27	0.19	213
90K23 1785 1835-39	Core	5	280	<0.1	>5.00	<5	0.60	0.61	39	17	>5.00	0.30	1.66	0.65	0.64	248
90K23 1835 1885-40	Core	<5	220	<0.1	>5.00	<5	0.66	0.64	25	7	>5.00	0.23	2.03	0.59	0.48	233
90K23 1885 1911-41	Core	<5	270	<0.1	>5.00	<5	2.50	2.45	22	22	4.54	0.63	1.49	2.41	2.07	892
90K23 1911 1983-43	Core	<5	320	<0.1	>5.00	<5	0.92	0.93	22	5	4.09	0.91	1.01	3.88	1.99	671
90K23 1983 2024-44	Core	<5	265	<0.1	>5.00	<5	1.39	1.36	33	21	>5.00	0.69	1.62	1.39	1.37	643
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K23 2039 2089-47	Core	5	235	<0.1	>5.00	<5	1.35	1.34	17	8	>5.00	0.88	1.79	1.66	1.64	763
90K23 2089 2139-48	Core	30	230	0.2	>5.00	<5	0.60	0.60	25	274	>5.00	1.14	2.09	1.77	1.70	669
90K23 2139 2189-49	Core	20	190	0.2	>5.00	<5	0.03	0.03	32	77	>5.00	0.12	1.63	0.13	0.04	22
90K23 2189 2239-50	Core	40	190	0.5	3.97	13	0.06	0.07	35	311	>5.00	0.14	1.30	0.11	0.04	20
90K23 2239 2289-51	Core	20	255	<0.1	>5.00	<5	0.06	0.07	16	53	>5.00	0.12	2.06	0.20	0.07	58
90K23 2289 2339-52	Core	30	200	0.1	4.62	<5	0.06	0.07	32	32	>5.00	0.19	1.62	0.21	0.13	110
90K23 2339 2388-53	Core	65	205	0.2	4.09	13	0.09	0.09	40	81	>5.00	0.15	1.29	0.13	0.07	22
90K23 2388 2424-54	Core	65	210	0.3	4.57	7	0.10	0.10	33	47	>5.00	0.13	1.42	0.13	0.05	14
90K23 2432 2494-56	Core	35	335	0.5	>5.00	<5	0.12	0.12	36	45	>5.00	0.12	1.97	0.17	0.06	22
90K23 2494 2596-57	Core	20	300	0.9	>5.00	<5	0.12	0.12	20	30	4.40	0.40	2.22	0.67	0.53	83
90K23 2596 2631-58	Core	20	215	0.7	>5.00	<5	0.09	0.09	46	229	>5.00	0.17	1.60	0.23	0.13	31
90K23 2631 2689-59	Core	5	360	0.1	>5.00	<5	0.15	0.16	9	32	4.55	0.84	1.81	2.79	1.18	409
90K23 2689 2771-60	Core	40	290	0.9	>5.00	8	0.15	0.15	32	58	>5.00	0.20	1.61	0.25	0.19	44
90K27 2346 2396-01	Core	10	240	0.1	>5.00	<5	0.15	0.16	15	626	>5.00	1.07	1.15	3.12	2.33	696
90K27 2396 2446-02	Core	10	215	<0.1	>5.00	<5	0.19	0.20	8	216	>5.00	1.50	1.13	3.96	3.89	1226
90K27 2446 2496-03	Core	15	220	<0.1	>5.00	<5	0.39	0.40	12	149	>5.00	1.04	1.12	2.53	2.54	464
90K27 2496 2546-04	Core	20	260	<0.1	>5.00	<5	0.18	0.20	9	216	4.13	1.13	1.11	2.46	2.43	370
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ipl
INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000887 R Homestake Mining (Canada) Ltd. Project: 3174 Page 3 of 3 Section 1 of 2

Sample Name	Type	Au ppb	F ppm	Ag ppm	Al %	As ppm	Ca %	Ca %	Co ppm	Cu ppm	Fe %	Fe %	K %	Mg %	Mg %	Mn ppm
90K27 2546 2610-05	Core	10	175	0.1	>5.00	<5	0.15	0.15	8	15	2.47	0.99	1.13	3.53	3.22	331
90K27 2610 2660-06	Core	5	210	<0.1	>5.00	<5	0.66	0.66	4	13	1.77	1.09	1.01	3.71	3.70	248
90K27 2660 2710-07	Core	5	240	<0.1	>5.00	<5	0.67	0.67	4	11	2.30	1.40	0.95	3.29	3.10	607
90K27 2710 2760-08	Core	5	250	0.2	>5.00	<5	0.28	0.29	11	42	>5.00	0.63	1.99	1.53	1.52	169
90K27 2760 2810-09	Core	5	225	0.1	>5.00	<5	0.15	0.15	11	14	2.88	0.56	1.79	1.89	1.90	153
90K27 2810 2860-10	Core	<5	245	0.1	>5.00	<5	0.10	0.09	13	11	3.41	1.02	1.81	2.33	2.29	303
90K27 2860 2910-11	Core	5	255	<0.1	>5.00	<5	0.18	0.18	4	8	2.22	0.78	1.52	2.45	2.46	223
90K27 2910 2960-12	Core	<5	230	<0.1	>5.00	<5	0.05	0.06	15	16	>5.00	0.90	1.75	1.80	1.81	159
90K27 2960 2990-13	Core	<5	210	<0.1	>5.00	<5	0.09	0.08	4	6	2.37	0.84	1.47	1.86	1.86	118
Standard	Pulp	175	290	1.6	>5.00	24	0.31	0.20	17	356	>5.00	>5.00	4.01	1.08	0.63	217
Minimum Detection		5	10	0.1	0.01	5	0.01	0.01	1	1	0.01	0.01	0.01	0.01	0.01	1
Maximum Detection		10000	10000	100.0	5.00	10000	10.00	10.00	10000	20000	5.00	5.00	10.00	10.00	10.00	10000
Method		GeoSp	GeoSp	ICP	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICP	ICPHCl	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000887 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
Blank	<1	<1	<0.01	<2	<1	<1	<1
90K18 981 1033-01	672	12	1.50	8	143	62	111
90K18 1033 1082-02	655	6	2.70	2	181	86	90
90K18 1082 1136-03	823	5	1.95	<2	210	44	89
90K18 1136 1151-04	736	11	2.25	3	173	85	130
90K21 1367 1413-40	246	6	0.39	<2	20	6	67
90K21 1492 1579-42	447	17	0.31	2	15	6	89
90K21 1612 1690-43	194	16	0.52	2	22	3	96
90K21 1746 1778-44	53	15	0.45	2	17	2	16
90K21 1899 1948-45	403	2	0.65	<2	22	3	150
90K21 1948 2021-46	24	8	0.40	<2	16	2	19
90K21 2021 2098-47	107	10	0.39	<2	18	2	55
90K21 2198 2279-58	53	7	0.53	4	28	3	37
90K21 2344 2444-59	805	20	0.17	4	10	2	82
90K21 2618 2656-60	144	14	0.33	2	12	3	99
90K21 2656 2726-61	159	5	0.54	<2	19	3	24
90K21 2726 2768-62	608	10	0.40	2	15	3	283
90K21 2915 2955-63	139	2	0.54	<2	22	3	34
90K21 2960 2977-65	180	3	0.82	<2	33	8	39
90K21 2977 2994-66	469	3	0.69	<2	39	28	42
90K21 3303 3403-72	289	7	0.33	<2	12	3	70
90K21 3503 3371-73	381	7	0.27	2	9	2	61
90K21 3571 3621-74	339	8	0.29	2	12	2	57
90K21 3621 3671-75	237	13	0.30	<2	11	2	40
90K21 3671 3746-76	205	14	0.23	<2	11	2	32
90K21 3746 3846-77	253	12	0.27	3	15	2	31
90K21 3846 3869-78	728	2	0.68	2	10	1	132
90K21 3899 3949-82	285	13	1.51	2	17	2	69
90K23 870 970-01	1014	2	2.26	5	206	161	33
90K23 970 1070-02	489	1	2.64	6	123	61	35
90K23 1070 1114-03	523	2	1.03	7	81	25	205
90K23 1635 1685-36	447	9	0.39	4	31	11	570
90K23 1685 1735-37	53	25	0.42	9	20	2	107
90K23 1735 1785-38	219	7	0.25	<2	14	3	20
90K23 1785 1835-39	239	13	0.34	2	19	6	39
90K23 1835 1885-40	225	16	0.47	2	25	6	19
90K23 1885 1911-41	876	13	0.50	<2	36	16	41
90K23 1911 1983-43	627	5	0.39	<2	19	6	77
90K23 1983 2024-44	627	30	0.48	<2	26	9	127
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

ICP
INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

INTERNATIONAL PLASMA LABORATORY LTD.
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000887 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K23 2039 2089-47	755	16	0.52	<2	26	9	112
90K23 2089 2139-48	651	10	0.56	2	22	5	190
90K23 2139 2189-49	24	42	0.35	2	14	1	55
90K23 2189 2239-50	23	32	0.24	2	14	2	1285
90K23 2239 2289-51	61	17	0.34	<2	14	1	158
90K23 2289 2339-52	113	19	0.23	2	11	1	92
90K23 2339 2388-53	28	25	0.24	<2	15	1	317
90K23 2388 2424-54	16	38	0.30	2	17	1	56
90K23 2432 2494-56	21	37	0.42	2	22	2	50
90K23 2494 2596-57	82	15	0.57	2	28	2	82
90K23 2596 2631-58	33	54	0.38	2	30	3	267
90K23 2631 2689-59	358	12	0.50	<2	26	2	163
90K23 2689 2771-60	46	37	0.41	13	27	3	66
90K27 2346 2396-01	666	4	0.63	<2	17	2	194
90K27 2396 2446-02	1062	5	0.60	<2	48	3	95
90K27 2446 2496-03	450	5	0.63	<2	52	3	72
90K27 2496 2546-04	355	3	0.65	2	23	2	66
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

Sample Name	Mn ppm	Mo ppm	Na %	Pb ppm	Sr ppm	Sr ppm	Zn ppm
90K27 2546 2610-05	287	2	0.99	2	30	2	51
90K27 2610 2660-06	230	2	0.64	2	26	3	64
90K27 2660 2710-07	561	8	0.47	2	26	7	87
90K27 2710 2760-08	177	12	0.46	3	19	2	210
90K27 2760 2810-09	153	5	0.59	3	25	2	296
90K27 2810 2860-10	287	6	0.56	2	18	1	325
90K27 2860 2910-11	220	4	0.88	2	26	3	197
90K27 2910 2960-12	169	15	0.52	2	18	2	173
90K27 2960 2990-13	114	4	0.91	2	24	2	245
Standard	159	45	0.46	12	130	18	67
Minimum Detection	1	1	0.01	2	1	1	1
Maximum Detection	10000	1000	5.00	20000	10000	10000	20000
Method	ICPHCl	ICP	ICP	ICP	ICP	ICPHCl	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

IPL
INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

INTERNATIONAL PLASMA LABORATORY LTD

2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000905 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Type	SpGrav	Cu %	Pb %	Zn %	Ag g/mt	Au g/mt
90K15 226 224-04	Split Core	2.71	0.08	0.47	0.02	<0.3	<0.05
90K15 793 809-16	Split Core	2.69	0.02	0.01	0.02	<0.3	<0.05
90K15 855 875-18	Split Core	2.67	0.01	<0.01	0.02	<0.3	<0.05
90K15 1564 1574-28	Split Core	2.70	0.14	<0.01	0.01	<0.3	<0.05
90K21 2098 2108-48	Split Core	2.93	0.01	<0.01	0.01	<0.3	<0.05
90K21 2108 2128-49	Split Core	2.85	0.01	0.01	0.01	<0.3	<0.05
90K21 2128 2138-51	Split Core	2.86	<0.01	<0.01	0.01	<0.3	<0.05
90K21 2138 2148-52	Split Core	2.87	0.01	<0.01	0.01	<0.3	<0.05
90K21 2148 2158-53	Split Core	2.78	0.01	<0.01	0.01	<0.3	<0.05
90K21 2158 2168-54	Split Core	2.81	0.01	<0.01	0.01	<0.3	<0.05
90K21 2168 2178-55	Split Core	2.81	0.01	<0.01	0.02	<0.3	<0.05
90K21 2178 2188-56	Split Core	2.89	0.02	<0.01	0.01	<0.3	<0.05
90K21 2188 2198-57	Split Core	2.89	0.01	<0.01	0.01	<0.3	<0.05
90K21 2955 2960-64	Split Core	2.69	0.06	<0.01	0.01	<0.3	<0.05
90K21 2994 3004-67	Split Core	2.87	0.15	<0.01	0.01	<0.3	<0.05
90K21 3004 3014-68	Split Core	2.80	0.18	<0.01	0.02	<0.3	<0.05
90K21 3273 3283-69	Split Core	2.72	0.10	<0.01	0.02	<0.3	<0.05
90K21 3283 3293-70	Split Core	2.75	0.11	<0.01	0.02	<0.3	<0.05
90K21 3293 3303-71	Split Core	2.72	0.03	<0.01	0.01	<0.3	<0.05
90K23 1114 1124-04	Split Core	2.78	0.10	<0.01	0.16	5.1	<0.05
90K23 1124 1130-05	Split Core	3.05	0.33	4.90	10.70	111.8	0.45
90K23 1130 1167-06	Split Core	2.71	0.01	<0.01	0.05	<0.3	<0.05
90K23 1167 1183-07	Split Core	2.79	0.06	0.03	0.18	4.5	<0.05
90K23 1186 1210-08	Split Core	2.72	0.07	0.01	0.31	2.7	<0.05
90K23 1210 1221-09	Split Core	2.83	0.12	0.27	1.35	2.7	<0.05
90K23 1221 1232-10	Split Core	3.19	0.74	0.03	0.35	19.9	0.14
90K23 1232 1242-11	Split Core	3.54	3.00	0.01	0.26	46.6	0.27
90K23 1242 1258-12	Split Core	2.99	3.60	0.02	0.19	79.9	0.31
90K23 1258 1273-13	Split Core	3.26	3.40	0.04	3.55	98.4	0.96
90K23 1273 1283-14	Split Core	2.99	3.20	0.02	2.45	91.5	1.17
90K23 1283 1293-15	Split Core	3.03	0.85	0.01	0.62	14.4	0.27
90K23 1293 1308-16	Split Core	3.54	3.60	0.01	0.65	62.4	0.75
90K23 1308 1323-17	Split Core	3.15	0.70	<0.01	3.12	2.7	0.07
90K23 1323 1334-18	Split Core	3.06	0.56	<0.01	1.24	2.1	<0.05
90K23 1334 1350-19	Split Core	2.88	0.09	<0.01	0.59	<0.3	<0.05
90K23 1350 1365-20	Split Core	2.88	0.10	<0.01	0.01	<0.3	0.07
90K23 1365 1385-21	Split Core	2.83	0.05	<0.01	0.01	0.3	<0.05
90K23 1385 1405-22	Split Core	2.94	0.04	<0.01	<0.01	0.3	0.07
90K23 1405 1415-23	Split Core	3.28	0.33	<0.01	0.01	0.3	1.65
Minimum Detection		0.01	0.01	0.01	0.01	0.3	0.05
Maximum Detection		100.00	100.00	100.00	100.00	1000.0	1000.00
Method		Assay	Assay	Assay	Assay	FAGrav	FAGrav

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

INTERNATIONAL PLASMA LABORATORY LTD.

2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Report: 9000905 R Homestake Mining (Canada) Ltd. Project: 3174

Sample Name	Type	SpGrav	Cu %	Pb %	Zn %	Ag g/mt	Au g/mt
90K23 1415 1428-24	Split Core	4.11	0.15	<0.01	0.01	<0.3	0.07
90K23 1428 1447-25	Split Core	2.87	0.01	<0.01	0.02	<0.3	<0.05
90K23 1447 1470-26	Split Core	2.85	0.01	0.01	0.04	<0.3	<0.05
90K23 1470 1490-27	Split Core	3.00	0.01	<0.01	0.01	0.7	0.07
90K23 1490 1510-28	Split Core	3.17	0.01	<0.01	0.01	0.3	<0.05
90K23 1510 1530-29	Split Core	3.14	0.01	<0.01	0.02	<0.3	<0.05
90K23 1530 1545-30	Split Core	3.18	0.02	<0.01	0.05	<0.3	<0.05
90K23 1545 1568-31	Split Core	2.85	<0.01	<0.01	0.08	<0.3	<0.05
90K23 1568 1583-32	Split Core	3.43	0.02	0.02	0.05	1.4	<0.05
90K23 1583 1598-33	Split Core	3.23	0.03	0.03	0.09	0.3	<0.05
90K23 1598 1613-34	Split Core	3.17	0.02	0.01	0.13	<0.3	<0.05
90K23 1613 1628-35	Split Core	3.54	0.03	0.01	0.05	0.3	<0.05
90K23 1628 1635-42	Split Core	3.71	0.02	0.03	0.04	<0.3	<0.05
90K23 2024 2033-45	Split Core	3.05	0.01	<0.01	0.20	<0.3	<0.05
90K23 2033 2039-46	Split Core	3.03	<0.01	<0.01	0.02	<0.3	<0.05
90K28 98 178-01	Split Core	2.69	<0.01	<0.01	0.03	<0.3	<0.05
90K28 178 259-02	Split Core	2.70	<0.01	<0.01	0.03	<0.3	<0.05
90K28 259 359-03	Split Core	2.72	<0.01	<0.01	0.05	0.3	<0.05
90K28 359 449-04	Split Core	2.72	0.01	<0.01	0.02	<0.3	<0.05
90K28 449 549-05	Split Core	2.74	0.01	0.01	0.06	<0.3	<0.05
90K28 549 636-06	Split Core	2.75	0.06	0.01	0.10	<0.3	<0.05
90K28 636 745-07	Split Core	2.78	0.05	<0.01	0.05	<0.3	<0.05
90K28 745 805-08	Split Core	2.82	0.01	<0.01	0.01	<0.3	<0.05
90K28 805 843-09	Split Core	2.73	<0.01	0.01	0.01	<0.3	0.38
90K28 843 938-10	Split Core	2.77	0.04	<0.01	0.01	<0.3	<0.05
90K28 938 1010-11	Split Core	2.73	0.01	0.01	0.02	<0.3	<0.05
90K28 1010 1110-12	Split Core	2.72	<0.01	0.01	0.03	<0.3	<0.05
90K28 1110 1193-13	Split Core	2.70	<0.01	0.01	0.02	<0.3	<0.05
90K28 1193 1293-14	Split Core	2.70	<0.01	0.01	0.01	<0.3	<0.05
90K28 1293 1388-15	Split Core	3.30	<0.01	0.01	0.02	<0.3	<0.05
Minimum Detection		0.01	0.01	0.01	0.01	0.3	0.05
Maximum Detection		100.00	100.00	100.00	100.00	1000.0	1000.00
Method		Assay	Assay	Assay	Assay	FAGrav	FAGrav

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

APPENDIX V DRILL LOGS

Identification of Core Loggers

The identity of the person who logged the core is given by their initials in the top right hand corner of the listed drill logs. Initials correspond to the following:

H.O. - Heather Oiye
M.D.M. - Margret McPherson
J.M.S. - Jennifer Smith
P.M.H. - Peter Holbek

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K01

PROJECT IDEN : KUTCHO | START DATE : 90/ 8/ 6 | COMPLETION DATE : 90/ 8/11 | GEOLOGGED BY : MDM +
COLLAR NORTHING: 50905.00 | COLLAR EASTING : 34940.00 | COLLAR ELEVATION: 1549.00 | GRID AZIMUTH :
TOTAL LENGTH : 382.50 | CORE/HOLE SIZE :

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		177.00	-44.00		
001	164.30		184.00	-39.00		
002	266.70		191.00	-36.00		
003	350.20		194.00	-34.00		

K E Y	F L A G	- INTERVAL - FROM	- TO (UNITS = FT)	CORE RECOV- ERY (%)	% M ROCK I X	TYPI- FYING TM 1	TM 2	QAL MIN MAT QM1	TEX- TURES TX 1	TX 2	GRAIN CHARACS F	C	% M	FRAC- TURE P	# TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	H A XX	ORE-TYPE MINS H A MIN PY	H A CP	H A GL	H A YY	SUMMARY
K E Y	F L G			ROCK QUAL DESIG	FOR MEN AGE	EN V	RT Q	TM LC- COL	QM2 3	TX 3	TX 4	S R	R D	O N P	H / C	DIP SML	F I	T 2	ID	STK AZM STRUCTUR-2	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
P		0.00	6.20					CASE								P													
P		6.20	23.70	100.0		XATF	CL	QX1	PP	FO	4	5	2	R		P		FO	65				CB						
L				95.0		IN	3G	FX1	TF		M	F			3			FT	80		P+	$*	H(| H)						
R		6.20	23.70	Dark green QZ-FS crystal ash tuff. Intermediate to mafic. No																										
R		6.20	23.70	definite lapilli. Fx partially replaced by carbonate and red																										
R		6.20	23.70	hematite? Fine sheeted? EP/CL stringers. Fault at																										
R		6.20	23.70	18.9-19.1m. Rare calcite replaced fragements, <5%. Several																										
R		6.20	23.70	gouge filled fractures to 2cm in top 15m ie: 12.3m, 13.0m,																										
R		6.20	23.70	14.4m, 15.2m.																										
N		18.90	19.10	95.0		X	FLTZ		SH							N														
L				.0																										
P		23.70	29.50	.0				MISN								P														
L				.0																										
R		23.70	29.50	Core box flipped out of core carrier on flight to camp.																										
P		29.50	49.90	100.0		XLAT	CL	CA	LF1	PP	FR	5	6	1	M	P		FO	75	$?			CB					CY	
L				50.0		IN	3G	FX	QX1	FO	TF	M		F	4					$?	P+	$*	F1					(*	
R		29.50	49.90	Basically the same as 6.2-23.7m but increase in 5mm flattened																										
R		29.50	49.90	carbonate replaced? lapilli. Rare true lithic fragments. 2cm																										
R		29.50	49.90	FLTZ at 32.7m. 3% rusty blebs replace mafics? Increase in																										
R		29.50	49.90	pale beige ankerite(?) (or SE?) sheeting from 47.0m to 10%.																										
R		29.50	49.90	Faint light and dark green banding may represent lapillis.																										
N		47.00	49.90				X	XLAT	CL	CA	LF1	PP	FR	5	6	1	M	D		FO	75	$1			CB					CY	
L								IN	3G	FX	QX1	FO	$T	M		F	4				$?	P+	$*	F1					(*	
P		49.90	53.40	100.0		XLAT	LF	QX	MU3	$T	BL					P		FO	80	$?		Q=		CA	D)				
L				65.0		FS	7T		DO=	FO										P3			F=							
R		49.90	53.40	Pale beige felsic interval? Looks more like pervasive to																										
R		49.90	53.40	sheeted muscovite with patchy dolomite and possible ankerite																										

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K01 (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      ( % )     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  SUMMARY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -   - -- --- --- -- -- -- -- ---- -- -- -- --  - - - -
K F                       ROCK   POR 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      49.90      53.40          sheeting.  Same textures as above interval.  Grades in and out
R      49.90      53.40          of darker green XLAT.

P      53.40      73.20                 XLAT CL MU LF1 PP ST 5 6 1 M       P    FO      75    $?            D*
L                                            3G FX QX= FO FR M   F       6                    $1 P+    B(
R      53.40      73.20          Same dark green QZ-FS crystal ash tuff with calcite replaced
R      53.40      73.20          fragments.  Increase in muscovite-ankerite sheeting.

P      73.20      84.80     100.0       XLAT AK PY QZ3 BL ST               P    ST      80 P3 $1          MU =+
L                            90.0          FS TA    MU3 QF               4                   P2          $=
R      73.20      84.80          Silicified, bleached XLAT with pervasive to sheeted muscovite.
R      73.20      84.80          Fine beige sheeted ankerite?  P.blastic pyrite.  Bottom 3 feet
R      73.20      84.80          is convoluted but not strongly faulted.  Soft sed. deformation?
R      83.80      84.80          Mylonitic? convoluted soft sediment deformation or shearing?
R      83.80      84.80          Minor QC veins to 3cm.
N      83.80      84.80     100.0    X FLTZ         SH GG              N             <(           CY
L                              .0                   IR                                           G+

P      84.80      91.00     100.0       XLAT CL CA QX= PP FR               P    FO      70 <-         CA =+
L                            90.0            3G    LF2 GC FO             3                 P= 0) +. F2
R      84.80      91.00          Increase in carbonate altered lapilli.  Decrease in muscovite
R      84.80      91.00          sheeting.  Gradational increase in large EP altered fragments
R      84.80      91.00          to 5% at approx. 89.0m.  2cm QZVN at 88.4m carries fine HE and
R      84.80      91.00          yellow PY?

P      91.00      96.00     100.0       XLTF    EP LF3 FR PP 5 6 3 M       P    VC      60            CA =*
L                            80.0            5G CA FX=      W   M        4                 P= F1    F=
R      91.00      96.00          Transitional unit between fragment poor XLAT and fragment rich
R      91.00      96.00          unit below.  2cm FLTZ at VC.  Loss of well defined foliation.
R      91.00      96.00          Loss of Qx.

P      96.00      98.00      98.0       FLTZ CA    CY1 SH GG               P    SH      65 V+         CA          CY
L                            40.0            3G    CL2                   7   2 QV      60      P2      V)          G1
R      96.00      98.00          Strong shearing and chloritic clay gouge.  Abundant coarse,
R      96.00      98.00          white QZ-CA vein fragments.

P      98.00     114.30                 MLLT CL CA EP2 FR IR 4 6 3 N       P  1 BD      80            CA L*
L                                         IN 5G    LF3 IB   W   M        3      BD      70      P= F2 <( <)
R      98.00     114.30          Distinctive green lapilli tuff dominated by paler green
R      98.00     114.30          epidotized fragments, and locally interbedded with dark green
R      98.00     114.30          ash tuff.  EP also replaces mafic? or FS? phenos.  Rare
R      98.00     114.30          disseminated to laminated PY ie: 101.7m, 103.4m and 112.7m.
N     109.70     110.60             X FLTZ PY    CY1 SH GG              N                             CY L(
L                                            5G    CL2                                     P2      G1
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K01 (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 STR DIP  A  A  A  A  A MIN A  A  A MIN
Y  G   F R O M  -  T O     ( % )    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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
K  F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F   T ID STK DIP XF 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      112.70    113.00        Laminated pyrite in dark green ash tuff with concordant QZCB
R      112.70    113.00        stringers and layers, and thin 1cm argillite layers.
N      112.70    113.00             6 SMPY QZ CL PY3 LM                 N    LM      75                     D3
L                                          5G    CA1                                                                D?

P      114.30    122.50    100.0       LLTF MF    LF3 FR IB 4 7 3 N       P    FO      70 F2            CA
L                           96.0        FS 5G     EP1 FO    W   F       2                        P= F1 () (*
R      114.30    122.50        A distinctive lapilli tuff comprised of elongated siliceous
R      114.30    122.50        (feisic) lapilli and epidotized fragments.  Local 2mm green
R      114.30    122.50        fiamme in siliceous lapilli.  EP also replaces phenocrysts - MF
R      114.30    122.50        or FX?  Sharp contacts.

P      122.50    126.00    100.0       XLAT CL    LF1 FO FR                 P    BD      70               CA L(
L                           95.0           3G     FX1                            FO      80      P+ H=    F1
R      122.50    126.00        Interbed of fine grained dark green XLAT similar to top of
R      122.50    126.00        hole.  1cm PY band at 123.2m.

P      126.00    128.20    100.0       CQBX CL    CA3 BX VN                 P  4 CV      75 #4            CA
L                           98.0           GO     QZ4                   2                        P2       #3
R      126.00    128.20        Coarse white calcite and quartz breccia-vein with chloritic
R      126.00    128.20        stringers.  In LLTF (?).

P      128.20    139.40    100.0       LLTF MF CL LF4 FR FO 4 7 4 N       P                 F3                 =*
L                           90.0           AG     EP1 FT    W   F       3                        P+ F1 D.           D?
R      128.20    139.40        Similar to 114.3-122.5m.  Strong flattening/foliation, and
R      128.20    139.40        increase in siliceous fragments.  8cm section of laminated PY
R      128.20    139.40        with CB+QZ+ARG?  Layers at 134.3m.

P      139.40    146.70    100.0       XLAT CA PY LF= FG FO 4 5 = L       P    FO      85               CA =(
L                           95.0           3G     CL1       S   F       2                        P1    D. P=
R      139.40    146.70        Fragment poor.  Several dark green 1cm argillaceous layers in
R      139.40    146.70        lower 70cm.

P      146.70    231.20    100.0       MLLT XF CB LF2 FR IB 5 6 2 O       P    BD      60 ((            CB =+ +?
L                           95.0           5G CL EP2 IR PS W   M       2   3 VN      20      P= F2    F=
R      146.70    231.20        Mixed mafic lapilli tuff to lapilli ash tuff.  Variably
R      146.70    231.20        interbedded and interfingered.  Dominated by olive green EP+CA
R      146.70    231.20        altered fragments of variable size and shape.  EP also replaces
R      146.70    231.20        unidentified phenocrysts (scattered).  Porphyroblastic to
R      146.70    231.20        laminated PY.  Bedding locally distorted around fragments.
R      146.70    231.20        Scattered QC veins to 15cm occasionally associated with
R      146.70    231.20        grren-black chloritic argillite lenses to 10cm. ie: 171.0m,
R      146.70    231.20        177.8m, 190.7m, 222.5m.  Strong fault 151.9-152.3m.  Increase
R      146.70    231.20        in PY over previous intervals?  Trace CP in QCVN at 167.0m?
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K01 (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     ( % )     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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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        146.70     231.20      2cm gouge at 149.3m and 150.8m.
N        151.90     152.30   95.0     X FLTZ      CL1 SH GG              N    SH      35                CY
L                              .0          5G     CY1                                         P1        G1
R        177.50     177.80      20cm argillite lens with 5cm calcite and gypsum?  Vein at LC.
K        177.50     177.80  100.0     6 ARGL GP   CL1 FG VN              N  4 VN      40                GP          CB
L                              .0          9G     CA2 BD                   ? BD      40       P1        <?          V2
R        222.30     222.80      Low angle coarse white calcite and quartz vein associated with
R        222.30     222.80      brecciated chloritic argillite.  Minor yellow-green tinged PY?
R        222.30     222.80      One large porphyroblast at 222.4m.
N        222.30     222.80           9 CQVN CL    CA4 VN BX              N  5 VN      20 V4             CA D)
L                                          WG     QZ4                                         F1        V4
N        224.20     224.50           X FLTZ          SH GG               N                                 D)

P        231.20     251.30  100.0       MXLT EP   XF1 FG GC 4 5 1 K      P    BD      60                CB
L                            80.0         MF 5G   CL= IR    W          3                      P= F=     ()
R        231.20     251.30      Mafic crystal lapilli tuff.  Looks transitional between upper
R        231.20     251.30      epidote-rich MLLT and lower thinly bedded MATF.  Crystals
R        231.20     251.30      probably QZ.  Decrease in epidote downhole.  Loss of large
R        231.20     251.30      CB-EP altered fragments.

P        251.30     285.30  100.0       MLAT EP   LF= IB FG 4 6 = M      P    BD      80                CA L+
L                            85.0          5G     CL+ TF    M   M      5                      P+ 3+     <*
R        251.30     285.30      Thinly bedded.  Mafic ash tuff to mafic lapilli.  Ash tuff.
R        251.30     285.30      Locally grades into less bedded sections similar to
R        251.30     285.30      231.2-251.3m ie: 256.2-265.7m.  Increased PY in laminations
R        251.30     285.30      from 264m.  Fragment borders indistinct.
R        254.00     256.20      Coarse white QZ + calcite veining with associated dark green
R        254.00     256.20      chloritic ash tuff fragments.  Within MLAT.
N        254.00     256.20  100.0     X QCSW CL   QZ4 SW                 N  5 QV      70 K4             CA L*
L                            65.0          GW     CA2                                         P1        K2
N        267.40     267.60   95.0     6 FLTZ      CL1 SH GG              N    FT      85                CY D-
L                              .0          7G     CY1                                         P1        G1
K        282.10     282.30   95.0     X FLTZ      CL2 SH GG              N    FT      90                CY D)
L                              .0          9G     CY2                                         P2        G2
R        282.30     285.30      Similar to main interval but increase in pervasive grey-brown
R        282.30     285.30      silica, and laminated PY.  2cm CYGG at 283.8m.  LC is
R        282.30     285.30      gradational over 2-5cm (ie: fairly sharp!)
N        282.30     285.30            X MLAT                             N              P+              CA L=
L                                                                                                       ()

P        285.30     299.00  100.0       XLTF FX AK QX= FR $T 4 6 3 N     P    FO      80 P1 $+             L)       PR
L                            98.0         FS 7A   LF3 BN PP M   F      2      $T      80    $+ Q)                   L*
R        285.30     299.00      Felsic feldspar-QZ crystal lapilli tuff.  Banded texture of
R        285.30     299.00      pale grey felsic lapilli that are extremely silicified.
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
FUTCHO

DRILLHOLE/TRAVERSE : DDH90R01 (CONTINUED)

```
  P  - 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       ( % )    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  SUMMARY
- --- -----.--  -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- - -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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 E / 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      285.30     299.00        Discontinuous PY laminations - sharp V/C.  Faint pale beige
R      285.30     299.00        ankerite + musc. sheeting.  Fine pyrrhotite lenses <2mm.

P      299.00     304.00   100.0      XLTF FX AK QX= FR ST 4 6 3 N       F    BL       80 P1 $+           CY L)         PR
L                           90.0        FS 3A    LF3 IB PP M   F       2       ST       80    $+ Q)       G*            L*
R      299.00     304.00        Same crystal lapilli tuff as above, but interbedded with very
R      299.00     304.00        dark grey fine grained mafic ash tuff or argillite?  Dark grey
R      299.00     304.00        material increases downhole.  2cm fault at V/C.

P      304.00     305.10    95.0      MATF GR        FG IB 4 5 1          P
L                            .0         MF 1A        TF GC
R      304.00     305.10        Fine grained black/dark grey mafic ash tuff or argillite?
R      304.00     305.10        Interbedded with 0-10% XLTF.  True argillite approx. 30cm.

P      305.10     313.90   100.0      XLTF FX AK QX1 FR ST 4 6 3 N       F    LM       70 P1 $+              L)         PR
L                           95.0        FS 7A    LF3 BD GC M   F       2       ST       85    $+                         L*
R      305.10     313.90        Same as 285.3-299.0m.  VC gradational over 20cm.

P      313.90     334.00   100.0      XLTF LF AK QX1 FR ST 4 6 3 N       P    LM       70 P1 $=              L*         PR
L                           95.0        FS 7Y    FX1 BD GC M   F       2       ST       85    $=                         L+
R      313.90     334.00        Increase in QZ crystals (1mm).  Increase in MUSC+AK sheeting -
R      313.90     334.00        pale beige.  Increase in abundance and size of flattened
R      313.90     334.00        pyrrhotite lenses.  Parallel to sheeting.  May contain PY
R      313.90     334.00        porphyroblasts.  Small crenulation fold at 332.2m.

P      334.00     356.30              XLTF FX AK LF3 FO ST 4 6 2 N       P    FO       85    $=    Q+       =+
L                                            7A MS QX1 BN    M   F       4                      $=
R      334.00     356.30        Similar to previous intervals.  QZ-FS phyric, with abundant
R      334.00     356.30        felsic lapilli.  Increase in sheeting and thinner
R      334.00     356.30        foliation/banding than previously seen.  Occasional 5-10cm
R      334.00     356.30        bands of grey SEXL? - fine grained and silicified.  Patchy buff
R      334.00     356.30        dolomite?  Loss of PR.
N      334.00     334.40    90.0    X FLTZ     CY2 SH GG               N                              CY
L                            .0             9T     MS1                                     P1         G2
R      344.20     345.20        Same sutff, but with 20% interbedded black argillite or mafic
R      344.20     345.20        tuff.  5cm CYGG/FLTZ at LC.
N      344.20     345.20          X XLTF GR AK LF3 FO ST 4 6 2 N       D    LC       90    $=    Q+    CY =+
L                                            3A MS QX1 BN IB M   F       4    BD       80    $=          G)
R      351.00     356.30        Rock is approx. 75% silicified material.  SEXL?  Lenses and
R      351.00     356.30        siliceous lapilli.
N      351.00     356.30          X XLTF FX AK QZ1 FO ST 4 6 2 N       D    FO       85 P1 $=    Q+       =+
L                                            7A MS QX1 BN    M   F       4                      $=

P      356.30     358.00   100.0      ARGL CY GR LF2 IB LB 4 6 2 M       P    BD       85 L1 $)          GR L)         CY
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K01 (CONTINUED)

KEY	PL	FROM	TO	CORE RECOVERY (%)	%M	ROCK TYPE	TYPIFYING MINERALS 1	2	QUALIFYING MINERALS	TEXTURES 1	2	GRAIN CHARACTERS F	C	% M	FRACTURE #	TK	STRUCTURE-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS H A XX	ORE-TYPE H A PY	H A CP	H A GL	MINS H A YY	SUMMARY
K	PL			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC- 3 COL	QM2 3	TX 4	TX 0	S R D	R S N P	S O H C	DIP / SML	F I	STRUCTURE-2 T	ID	STK AZM	DIP RT	KF	MU	CL H A	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A	
L				20.0				3A	QZ	QX=	$T	SH	W		F		7				$)	P=				L+			G)	
R		356.30	358.00	Interbedded black weakly graphitic to chloritic? Argillite and																											
R		356.30	358.00	felsic QZ-FS crystal lapilli tuff. Minor 5cm clay gouge																											
R		356.30	358.00	sections. Minor sheeted muscovite? + ankerite?. LC is 10cm																											
R		356.30	358.00	FLTZ. 5% dark grey siliceous lenses to 10cm - SEXL?																											
P		358.00	360.50					XLTF	MS		LF3	FO	4	5	3	L		P	FO	60				Q+			L*			
L								5A	QX=				M		F		4				$+									
R		358.00	360.50	Strongly and finely foliated. Smaller, flattened lapilli.																											
R		358.00	360.50	Foliation often crenulated. Fine ARGL laminations to 15%.																											
P	FT?	360.50	362.20					ARGL	CL	MS	GR1	FG	SH				P			V2						GR	L+		CY	
L				.0				1A	QZ2	VN							9				$1	P1				P1			G=	
R		360.50	362.20	Highly graphitic and chloritic? argillite. Very friable.																											
R		360.50	362.20	Overprinted by coarse white QZVN. Sheared? Silver-grey MS?																											
R		360.50	362.20	and graphite sheets.																											
N		360.50	362.20					6	FLTZ			SH					N													
P		362.20	364.60					XATF	QX	CL	MS2	IB	SH				P		FO	80	V+					GR	L)		CY	
L								7G	GR=								9				$2	P=				L=			G=	
R		362.20	364.60	Interbedded. 65% QZ crystal ash tuff with 10% faint lapilli																											
R		362.20	364.60	and 35% graphitic argillite. XATF is very strongly sericite																											
R		362.20	364.60	altered. Interval is sheared and broken, especially																											
R		362.20	364.60	363.3-363.8m. 5% laminated PY 364.3-364.6m.																											
N		362.20	364.00					6	FLTZ			SH					N													
P		364.60	367.70					XLTF	AK		MS=	IB	SH				P		$T	80	V+			CY		$=	L)		CY	
L								7A	GR*		FO	$T					9				$=	P=				G+			G=	
R		364.60	367.70	Similar to above, but decrease in MS sheeting. Argillite only																											
R		364.60	367.70	10%. Increase in ankerite? sheeting. Broken core - FLTZ?																											
R		364.60	367.70	366.9-367.5m.																											
R		364.60	365.30	Coarse white QZVN with dolomite fragments.																											
N		364.60	365.30					8	QZVN			QZ6					N	5	QV	40	V6	F1								
L									WW			DO1																		
N		366.90	367.50					X	FLTZ			CY=	SH	GG			N		FT	50				CY						
L																										G=				
P		367.70	382.50	100.0				ASHT			XF1	FG	LM	4	5	1	P		LM	80	Q+			CB			L)		
L				95.0				5G														P)				‹)				
R		367.70	382.50	Fine grained mafic? ash tuff. Locally tuff-wacke. Patchy pale																											
R		367.70	382.50	grey siliceous bands - more felsic interval? Very weak																											
R		367.70	382.50	muscovite sheeting dies out at 369.0m. Faint crystal ghosts																											
R		367.70	382.50	could be QZ crystals.																											
R		374.00	376.70	Medium grey QZ flooding to faint banding. Pervasive silica?																											

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K01 (CONTINUED)

R E Y	F L A G	- I N T E R V A L - (UNITS = FT) FROM	TO	CORE RECOV-ERY (%)	% M I X	ROCK TYPE	TYPI-FYING MIN TM 1	TM 2	QAL MIN MAT QM1	TEX-TURES TX 1	TX 2	GRAIN CHARACS F	C	%	M	FRAC-TURE P	#	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	H A ANY MIN XX	ORE-TYPE H A PY	H A CP	H A GL	H A ANY MIN YY	SUMMARY
R E Y	F L G	ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	LC-COL	TM 3	QM2 3	TX 3	TX 4	S O R	R N D	H P C	/	DIP SML	F I	T 2	ID	STK AZM	DIP RT	KF	MU	CL H A	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A		
R		374.00	376.70	or?? Doesn't look like SEXL.																												
N		374.00	376.70	100.0	X	ASHT		QZ1	QF	FG	4	5	1			D	BN		65	P1					CB	D*						
L				99.0		3A			BN														P)				(}					
R		379.30	379.60	Competent FLTN. Almost all thick CY gouge.																												
N		379.30	379.60	100.0	X	FLTZ		CY6	GG	SH						N	FT		70			CY										
L				50.0		7G		CL1															P1				G6					

S U M M A R Y R E M A R K S

HOMESTAKE MINERAL DEVELOPMENT COMPANY
RUTCHO

DRILLHOLE/TRAVERSE : RDH90R02

PROJECT IDEN : RUTCHO
COLLAR NORTHING: 46905.00
START DATE : 90/ 7/27
COLLAR EASTING : 44750.00
TOTAL LENGTH : 55.00
COMPLETION DATE : 90/ 7/29
COLLAR ELEVATION: 1185.00
CORE/HOLE SIZE : BQ
GEOLOGGED BY : -
GRID AZIMUTH : 180.00

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		180.00	-50.00		

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K03

```
PROJECT IDEN    : KUTCHO      START DATE     : 90/ 7/31     COMPLETION DATE : 90/ 8/ 4     GEOLOGGED BY : PMH +
COLLAR NORTHING: 46845.00     COLLAR EASTING : 44675.00     COLLAR ELEVATION: 1158.00      GRID AZIMUTH : 0.00
                              TOTAL LENGTH   : 310.60       CORE/HOLE SIZE : BDGM
```

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		194.00	-45.00		
001	203.90		203.00	-44.00		
002	297.20		206.00	-39.00		

```
  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     ( % )    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  SUMMARY
- --- -----.--   -----.--  -----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
K  F                       ROCK   FOR EN RT    TM QM2 TX TX S R S G 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       4.00              OVER                             P

P        4.00      13.60   100.0      LLAT PY EP QZ3 FG LB 4 7 3 N       P   FO      65 L2            CA D+
L                           40.0     VD FE 3G LF CL2           E O     6     BN      70    L= L1 Q1    Q) D)
R        4.00      13.60       Thinly laminated to lensoid banded.  Siliceous lenticular
R        4.00      13.60       fragments and grey siliceous layers with disseminated PY and
R        4.00      13.60       PO, SEXL(?).
R        8.20      11.00       Pale green ASHT, possibly some form of slump Bx as "rounded
R        8.20      11.00       cobbles" are outlined by thin seams of calcite.
N        8.20      11.00            X ASHT CA FX EP2 FG                  N
L                                          1G MS CL2

P       13.60      63.00   100.0      MTFW CA    CL3 FG GC 3 4 0         P   FO      65               CA D*        PY
L                           80.0     EV MF 3G    EP2 BN LM                   BD      68    L)    P2   L=           L(
R       13.60      63.00       A texturally heterogeneous unit, but all fine grained, banded
R       13.60      63.00       to laminated chloritic ash.  Minor layers of epidote porphyries
R       13.60      63.00       and thin seams of dark, pyritic sediments.  Rock would be a
R       13.60      63.00       chlorite-epidote schist in the field.

P ALT   63.00      79.00    98.0      XLAT QX PY QZ1 FG LB 3 4 0         P   FO      70 L1        Q)   MS D+ D.     PY
L                           65.0     VD FE 5A    MS1                         BD      68    $= L= O+    P=           L(
R       63.00      79.00       Grey felsic tuff to wacke.  Very fine grained with some
R       63.00      79.00       crystals and lithic fragments.  Possibly some argillaceous
R       63.00      79.00       material.  Weak to moderate MS-Carb(?) alteration.  20cm fault
R       63.00      79.00       zone at 69.9m.

P ALT   79.00      89.60   100.0      XLAT QX PY QZ1 FG LB 3 4 0         P   FO      74 L1        Q)   MS 1= D.
L                           70.0     VD FE 5A    MS1                         BD      68    $= L= O+    P=
R       79.00      89.60       Like the above interval.  Slightly more chlorite and pyrite.
R       79.00      89.60       N.B.  Copper coat rod thread grease may contaminate geochem.
R       79.00      89.60       samples.

P       89.60      93.60   100.0      MTFW CB MS CL2 FG BN 3 4 0         P   FO      74           P+   CA 1+        PY
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY

KUTCHO

DRILLHOLE/TRAVERSE : DDH90K03 (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       ( % )     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  SUMMARY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -

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                          75.0    VD MF 5G PY EP2 ST                         BN      68   $= P2 32    (+          Y.

P       93.60     99.10   100.0     ASHT MS CL QZ2 FG WD             P    FO      80 P2              CA D+
L                          60.0    VD FE AT PY CA1                        BN      70   P= 3=         31 D.
R       93.60     99.10        A very fine grained siliceous, welded (?) ash tuff.  Abundant
R       93.60     99.10        calcite and black chlorite along fractures and foliations.

P SMS   99.10    102.70   100.0     ARGL CA QZ PY3 LM FG             P    LM      65 L1              CA L3
L                          35.0    VE    NN MS GR1 SL                     FO      65   P=            31
R       99.10    102.70        Very fine grained pyrite and graphite.  Finely laminated with
R       99.10    102.70        slump folds.  Calcite occurs as laminae, spots and patches.
N       99.10    102.70          3 SMPY                              N

P      102.70    103.90         XATF CL CA MS4 PP FG             P    FO      75                 CA D)
L                                  7G   PX2                                        P4 P=         3=
R      102.70    103.90        Pale green rock with porphyritic crystal aggregates, probably
R      102.70    103.90        feldspars.  Intensely MS altered.

P      103.90    112.20   100.0     GRWK PY PO MS1 FG BN             P    FO      77 L+              CA L1
L                          65.0    EV    5A CA CL1 BD LM                           $1            31 D+
R      103.90    112.20        Fine grained, laminated ash and/or sediment.  Pyrite is mostly
R      103.90    112.20        laminated whereas PO is disseminated.

P SEX  112.20    121.20   100.0     SEXL MS    QZ8 AP LM             P    BD      65 P8              CA L1
L                          70.0    EX    7A    PY1                                                   3+
R      112.20    121.20        A thick section of laminated grey-green silica exhalite (or
R      112.20    121.20        chert).  About 10% pyrite laminae to 1cm thickness.

P      121.20    136.00   100.0     XATF CA MS CL2 PP FE             P    FO      60                 CA    D.
L                          91.0    VD IN 5G QX PX2                        LM      60   $1 P2 Q+      O= L)
R      121.20    136.00        A "fuzzy" porphyry of white crystals or grains set in a green
R      121.20    136.00        matrix.  Muscovite sheeting is common.  A few chalcopyrite
R      121.20    136.00        specks with thin seams of PO.  A one metre section above the
R      121.20    136.00        nested SEXL is very fine green ash.
R      129.20    130.60        Banded, fine pyrite aggregates within siliceous (SEXL) ash.
R      129.20    130.60        Black chlorite sheets and specks.
N SEX  129.20    130.60   100.0   X SEXL CL MS QZ6 BN LM             N    BD                            L3
L                          56.0    EX    AG    PY3                                 P) $=

P      136.00    171.20   100.0     PYAT CL CA PY1 FG LM             P    PO      80                 FM L1 D.
L                          76.0    VD FE 5A PO MS1                        BN      70 3= P1 P1        $. D+    D.
R      136.00    171.20        Grey, pyritic siliceous ash tuff with minor interbeds of fine
R      136.00    171.20        green ash or wacke.  Laminated pyrite occurs in proximity to
R      136.00    171.20        disseminated PO.  Pyrite bands stand out due to associated
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K03 (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      TN 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      ( % )    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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- - - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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   MEN  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      136.00     171.20       calcite and black chlorite.
N      136.00     171.20            2 XATF CA MS CL2                  N
L                                    VD IN 5G    FX1

P      171.20     173.70  100.0       ASHT CL DO MS2 FG LM            P    FO       65         P1    FM D+
L                          74.0     VD FE AG    PO1                        LM       65 $+ P2         D* 11
R      171.20     173.70       Strongly muscovite altered ash tuff.  PO is laminated and PY is
R      171.20     173.70       disseminated. Fine grained dolomite is difficult to distinguish
R      171.20     173.70       but likely abundant (powdered rock fizzes in HCl).

P      173.70     175.90  100.0       ARGL GR MS PY1 LM FB            P    FO       65                  11
L                          46.0           NN CA PO1 FG                     LM       65 L  L1            11
R      173.70     175.90       Flow banded to crumpled sulphide and muscovite rich argillite.
R      173.70     175.90       Pyrite and PO are in contact.  Calcite could be a later
R      173.70     175.90       mineral.

P      175.90     186.60              XATF MS QX FX2 FG PP            P    FO       65         P1       D+
L                                         7G CB CL1                        BD       65 3+ P2 P1
R      175.90     186.60       Pale to medium green.  Crystals, predominantly feldspar, have
R      175.90     186.60       fuzzy edges and look like white smears.  Rare thin beds (<1cm)
R      175.90     186.60       of argillite.

P      186.60     203.90  100.0       QFXT MF CL FX3 PP IB 4 5   L        P
L                          80.0     VP IN 5G    QX1                                     P=             D)
R      186.60     203.90       Not the classic QFXT unit but close; relative abundances of Fx
R      186.60     203.90       and Qx are reversed and some beds contain hornblende(?) phenos.
R      186.60     203.90       Both Fx and Qx are coarse grained, particularly for this part
R      186.60     203.90       of the porperty.  Unit is interbedded with a crystal ash tuff
R      186.60     203.90       where Qx >> Fx.
N      187.60     195.00            X XATF QX FX MS2 PO FG            N
L                                    VD    3G    CL1                                    P2 P1
N      198.00     201.80            X DYKE       PX1 PP               N
L                                         1A     CA=

P      203.90     232.50  100.0       PYAT PY PO MU2 FG LM            P    FO       65         Q+ L) FM 1= D.    PY
L                          60.0     VD FE AG CA CL1 IB                     LM       70 L= P2 P1 Q+    D. D+       Y.
R      203.90     232.50       A mix of grey and green ash.  Minor ARGL + PO bands in the
R      203.90     232.50       upper portion of the interval.  Local areas of abundant
R      203.90     232.50       dolomite, muscovite and fluoromica.  A highly siliceous
R      203.90     232.50       (silicified or SEXL?) zone from 226.8 to 229.3m.
N      226.80     229.30            5 SEXL                            N
L                                         5G

P      232.50     249.50  100.0       QFXT EP CL FX3 PP VN 4 5   L        P             V1                 D)
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K03 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% ROCK MIX TYPE	TYPIFYING MINERALS TM1	TM2	QUALIFYING MINERALS MAT1	TEXTURES TX1	TX2	GRAIN CHARACS F	C	% M	P	#	FRACTURE TX	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ANY MIN	ORE-TYPE MINS H A XX	H A PY	H A CP	H A GL	ANY MIN YY	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC-COL	QM2 3	TX3	TX4	S O R D	R N P	S H C	O /	DIP SML	F I	T	ID	STK AZM	DIP RT	KF H	MU H	CL H	EP H	HE H	HA A	PR A	MO A	SL A	HA A	
E	L																	2															
Y	G																			STRUCTUR-2												
L				80.0	VP	5G	MU	QX1														P=	P1	H1									
R		232.50	249.50	Most of feldspar crystals are epidotized. The abundance of Qx																													
R		232.50	249.50	increases down the interval.																													
P		249.50	252.40	100.0	PYAT	CB	FM	MS2	FG	LM							P		FO	65			L1		FM	L1						
L				40.0	VD	5A		PY1	IB										BD	65	P2				$+								
R		249.50	252.40	Pyritic ash with intense muscovite alteration and abundant																													
R		249.50	252.40	conspicuous bright green fluoro mica. Two, 30-40cm layers of																													
R		249.50	252.40	very fine grained massive pyrite in the middle of the interval.																													
N		251.00	252.00		9 MSPY			PY9									N															
L								CA=																									
P		252.40	258.40	100.0	XATF	MS	QX	QZ3	FG	ST							P		FO	68	P3										D*	
L				70.0	VD	FE	3G	CL1														$1											
R		252.40	258.40	Siliceous Qz crystal ash tuff or mixed ash and silica exhalite.																													
R		252.40	258.40	Only very minor pyrite.																													
P		258.40	310.60	100.0	ASHT	BP	MS	CL2	FG	IB							P		FO	70	L=										1)	
L				65.0	VD	IN	5G	SP	CA1	LM									LM	80	L1	P=	P2	P+								
R		258.40	310.60	Upper part of interval is very chloritic and calcite rich.																													
R		258.40	310.60	Thin interveds of SEXL and XATF in upper part of interval.																													
R		258.40	310.60	Thin (4-15cm) beds of pyritic (or PO) ARGL or greywacke in																													
R		258.40	310.60	lower portion of interval.																													
N		272.80	310.60		= ARGL	GR		PY=									N															
L						3A		PO=																									

S U M M A R Y R E M A R K S

Hole contains a prospective suite of distal volcanics and exhalative material. Most rocks are various types of ash tuffs and volcanic sediments. Only one bed(s) of xtal tuff in the lower part of the hole has medium to coarse grains.
Three exhalative/mineralized horizons are present: the 1st extends from 99-121m and consists of pyritic argillite and SEXL within altered pyritic ash tuffs; the 2nd, from 171.2-175.9m consists of sulphide rich ash tuff and argillite; the 3rd horizon consists of pyritic ash tuff and 1m of massive pyrite which lies immediately below the QFXT unit.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K04

PROJECT IDEN : KUTCHO | START DATE : 90/ 7/29 | COMPLETION DATE : 90/ 7/31 | GEOLOGGED BY : JMS +
COLLAR NORTHING: 47627.00 | COLLAR EASTING : 32350.00 | COLLAR ELEVATION: 1570.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 127.70 | CORE/HOLE SIZE : BQTW

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		180.00	-80.00		
001	15.20		198.00	-80.00		
002	119.20		183.00	-69.00		

K	F L A G	- INTERVAL - (UNITS = FT) FROM - TO	CORE RECOVERY (%)	% M I X	ROCK TYPE	TYPIFYING TM 1	TYPIFYING TM 2	QAL MIN MAT QM1	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	% M	FRACTURE #	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	H ANY A MIN XX	ORE-TYPE MINS H A PY	H A CP	H ANY A MIN GL YY	SUMMARY
P		0.00 7.50			CASE									P															
P		7.50 8.50			OVER									P															
P		8.50 27.50	95.0		MTFW	QZ	FS	CL2	FO	LM				P	0	FO		50			L=		D)					
L			15.0			AG	CB	EP1	FG		7				1	LM		50		P2	L1	F)						
R		8.50 27.50	Bedded(?) Locally epidote and chlorite layers alternate. Local																										
R		8.50 27.50	variations in composition ie: some areas more siliceous, some																										
R		8.50 27.50	areas more chloritic. Locally oxidized.																										
P		27.50 41.00	100.0		QXAT	EP	MS	QX2	PP	FG				P	0	UC		50										
L			15.0			AG		CL2	WF		6				0	FO		50	P=	P2	O+							
R		27.50 41.00	Minor gouge at UC. Quartz vein at 34-34.2m. Quartz crystals																										
R		27.50 41.00	in fine grained chloritic matrix. Locally crystals are sparse																										
R		27.50 41.00	and rock is essentially a chlorite schist (ASH?)																										
P		41.00 107.90	100.0		MTFW	CB	QZ	CL4	FO	LM				P	0	FO		50	V)		Q+		EP	D.			CB	
L			50.0			5G		EP2	FG	IB	5				1	LM		50		P4	L1		O=				L)	
R		41.00 107.90	Interbed of QXAT at approx. 43-44.5m. Intense epidote spotting																										
R		41.00 107.90	and epidote alteration along fractures at 63.9-65.0m and																										
R		41.00 107.90	66.6-66.9m. Local increase in silica toward bottom of																										
R		41.00 107.90	interval. CB + EP lenses become more frequent toward bottom.																										
R		41.00 107.90	Foliation varies 50 degrees (top) to 60 degrees (bottom).																										
R		80.70 82.10	No foliation, no lamination. Core is unfractured. Epidote																										
R		80.70 82.10	alteration is pervasive and gives core a speckled appearance.																										
R		80.70 82.10	Fine disseminated magnetite. May represent a CL + EP altered																										
R		80.70 82.10	dyke.																										
N		80.70 82.10	??	X	DYKE	QZ	MG	CL2	MS	ST				N														MG	
L						5G		EP1													P2	P1						D)	
P		107.90 111.20	100.0		QMCS	PY	QZ	MS2	WF	LM				P	0	UC		60			P2		D=				FM	
L			90.0			AT		CB2			3				0	FO				P2							D.	

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K04 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MINERAL X	ROCK TYPE	TYPIFYING MINERAL TM 1	TM 2	QAL MAT QM1	TEXTURES TX 1	TX 2	GRAIN CHARACS F	C	% M	FRACTURE C	P	# TR	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS ANY MIN	ORE-TYPE H A XX	H A PY	H A CP	H A GL	MINS ANY MIN	SUMMARY
KEY	FLAG			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	LC-COL	TM 3	QM2	TX 3	TX 4	S O R N D	R H P	S / C	O SML	DIP I	F	T 2	ID	STK AZM	DIP RT	STRUCTUR-2	KF	MU	CL H	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A	
R		107.90	111.20		Discontinuous pyrite laminations. Argillaceous bands at																													
R		107.90	111.20		109.6-109.9m.																													
P		111.20	113.60	100.0		ARGL	PY		GR8	FG	LM					P	0	FO		65					L=		CB	D=				
L				40.0			NN		CB1							5														O=			
R		111.20	113.60		Contorted laminations locally. Minor shear motion on foliation																													
R		111.20	113.60		plane locally. Carbonate occurs as spots (tiny lenses),																													
R		111.20	113.60		laminations and in narrow foliation-cutting veins.																													
P		113.60	116.20	100.0		QMCS	QZ	PY	CB2	WF	LM					P	0	FO		70				P2		PY	D)					
L				60.0			AT	CL	MS2							4							L2			L+							
R		113.60	116.20		Approx. 10% pyrite in top 30cm, only approx. 2% disseminated PY																													
R		113.60	116.20		in rest of interval. Becomes chloritic (less altered) toward																													
R		113.60	116.20		bottom of interval.																													
P		116.20	121.10	100.0		MTFW	QZ	EP	CL4	FO	LM					P	0	FO		65					L=		CB	D)				
L				60.0			5G		CB=	FG						4	0	LM		65			P4	P=		V)						
R		116.20	121.10		Foliation varies 60-65 degrees.																													
P		121.10	124.90	100.0		ARGL	CL	EP	GR4	FO	LM					P	0	FO		70					L=		CB	L)				FM
L				30.0			NN	PY	CB=	FG	VN					4	1	VN		50			P2	L+		V)						D.
R		121.10	124.90		Epidote and chlorite increase toward bottom. % comp. difficult																													
R		121.10	124.90		to estimate. Narrow carbonate veins at 30 degrees and at 50																													
R		121.10	124.90		degrees.																													
P		124.90	127.70	100.0		MTFW	CB		CL5	FO	LM					P	0	FO		70					L+							
L				50.0			5G		EP1	FG						5	0	LM		70			P5	L1								

SUMMARY REMARKS

The hole was drilled to test the E-W trending conductor on K-grid. Mafic tuff/wacke makes up most of the hanging wall rock. Strong muscovite-carbonate alteration occurs adjacent to an argillite band at 111.2-113.6m. A second argillaceous-chloritic band occurs at 121.1-124.9m but there is no alteration of adjacent mafic tuff. The conductor likely correlates to the argillite band at 111.2-113.6m.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K05

PROJECT IDEN : KUTCHO | START DATE : 90/ 8/ 4 | COMPLETION DATE : 90/ 8/ 6 | GEOLOGGED BY : JMS +
COLLAR NORTHING: 47415.00 | COLLAR EASTING : 38405.00 | COLLAR ELEVATION: 1457.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 170.40 | CORE/HOLE SIZE : BQTW

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		190.00	-45.00		
001	103.30		193.00	-42.00		

K	F L A G	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOV-ERY (%)	% M I X	ROCK TYPE	TYPI-FYING TM 1	TYPI-FYING TM 2	QAL MIN MAT QM1	TEX-TURES TX 1	TEX-TURES TX 2	GRAIN CHARACS F	C	% M	# TK	FRAC-TURE	STRUCTUR-1 T	ID	STK DIP AZM	RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ANY MIN	ORE-TYPE MINS H A XX	H A PY	H A CP	H A GL	ANY MIN YY	SUMMARY
P		0.00	4.40			CASE									P																	
P		4.40	34.30	100.0		MTFW	EP		CL3	FO	ST				P	0	FO		65					CB	D)						
L				90.0		AG			CB3	GC				3						L2		P3	Q1		P1							
R		4.40	34.30			Essentially a chlorite-carbonate-epidote schist. Locally																											
R		4.40	34.30			spotted with chlorite grains which are elongated along																											
R		4.40	34.30			foliation. Local remnant gabbroic texture (approximately																											
R		4.40	34.30			25.0-26.0m). Foliation 65-70 degrees.																											
R		16.10	16.30			Broken core, calcite veining and rusty gouge.																											
N		16.10	16.30			X	FLTZ		GG3	GG	VN				N																
L							OU		CB4												V4										
P		34.30	35.80	100.0		MTFW	CB	EP	PY1	LM	FO				P	0	FO		80					PY	L1 D.						
L				50.0		AG			CL3	GC				4						L2		P3	Q=		D)							
R		34.30	35.80			Essentially same as above, except with pyrite laminations,																											
R		34.30	35.80			stronger compostional segregation therefore rock is laminated.																											
R		34.30	35.80			Massive pyrite 35.2-35.3m.																											
P		35.80	39.70	100.0		MTFW	EP	MS	CL3	FO					P	0	FO		75					CB	D(						
L				80.0		AG			CB3					4						L2	P=	P3	P1		P1							
R		35.80	39.70			As above interval 4.4-34.3m. Broken core at lower contact.																											
R		35.80	39.70			Sericitic toward lower contact.																											
P		39.70	43.40	100.0		SEXL	CB		QZ7	LM					P	0	LM		75	P7					D)						
L				50.0		5A			CL=					4						L+		P=										
R		39.70	43.40			Local feldspar (?) crystals. ASH(?) layer from 40.8-41.1m.																											
R		39.70	43.40			Light to dark grey highly siliceous rock with minor white																											
R		39.70	43.40			(quartz) lens-shaped laminations.																											
P		43.40	54.80	100.0	IN	ASTF	EP		CL3	WF	GC				P	0	FO		85					CB	D(						
L				90.0		AG			CB2					3						L2		P3	P2		Q1							
R		43.40	54.80			Again a chlorite-carbonate-epidote rock, mottled texture - weak																											
R		43.40	54.80			foliation. Lighter in colour than above therefore																											

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

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K05 (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      ( % )     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  SUMMARY
- --- ------.--  -----.--    ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
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       43.40      54.80         intermediate? to mafic.  Could be called MTFW.  Gradational LC.

P       54.80      80.40   100.0       MTFW EP    CL3 FO                P  0 FO      75                CB D)       PY
L                           70.0            AG    CB2                  3                 L=    P3 P1    O=          L)
R       54.80      80.40         Chlorite-carbonate-epidote schist, moderate foliation, locally
R       54.80      80.40         laminated.  Pyrite occurs as disseminations and also as
R       54.80      80.40         infrequent, narrow (<5mm) laminations, particularly below
R       54.80      80.40         63.2m.
R       60.00      60.30         Carbonate (calcite) vein, irregular contacts, minor chlorite in
R       60.00      60.30         vein.  Not included in geochem sample 54.8-61.8m.
N       60.00      60.30              X CBVN CL    CB9 MX                N
L                                      WW                                    V9
R       61.80      63.20         Local chloritic breccia fragments, + quartz as breccia
R       61.80      63.20         fragments.  Epidote alteration of adjacent wallrock.
N       61.80      63.20              X CQVN CL EP CB8 MX BX             N
L                                      WW    QZ1                             V8

P       80.40      83.70   100.0       FQXT CL EP QX+ WF ST                P  0 FO      70                CL D(
L                           90.0            AG CB FX=                    4                 P1    P4 O1    O+
R       80.40      83.70         Chlorite schist with few qtz crystals and epidotized feldspar
R       80.40      83.70         crystals.  Spotted.  Otherwise very similar to MTFW.  Rare
R       80.40      83.70         disseminated PY.  One PY fragment approx. 8mm across.

P       83.70      101.50  100.0       QCSH CL MS QZ2 FO VN                P  0 FO      70                CB L+       PY
L                           75.0            5A PY CB1 LM                 4                 P1 P1 P=       V)       D( D+
R       83.70      101.50        Rock is more siliceous, less chloritic (therefore grey in
R       83.70      101.50        colour and harder) than MTFW.  Similar to MTFW.  Essentially a
R       83.70      101.50        qtz-carb-sericite-chlor. schist with local variations in
R       83.70      101.50        composition - particularly local sericitic intervals (ie:
R       83.70      101.50        86.6-86.8m, 99.0-99.4m).  Pyrite laminations common.  PYAT?

P       101.50     103.50  100.0  FS   ASHT CB CL QZ5 FO FG                P  0 FO      80                   L)
L                           20.0            7A PY     LM                 7                 L=    L=
R       101.50     103.50        Light coloured, fine grained siliceous rock - ASHT?

P       103.50     113.50  100.0       PYAT CB CL PY1 FO LM                P  0 FO      75                   L= D.    PY
L                           40.0            5A MS QZ3                    5                 P1 P= P1                D( D=
R       103.50     113.50        Virtually identical to QCSH above, but there is more pyrite in
R       103.50     113.50        this interval.  Frequent PY (+ minor assoc. CP+SL) laminations.
R       113.10     113.50        As described at 101.5-103.5m.
N       113.10     113.50          FS X ASHT CB CL QZ5 FO LM                N                      L(
L                                      7A PY     FG                              L+    L=

P       113.50     114.50  100.0       DYKE FX    HB1 PP FG                P  0 UC      60
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K05 (CONTINUED)

K	F L A G	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% ROCK TYPE	TYPIFYING MINERALS 1	2	QAL MIN MAT QM1	TEXTURES 1	TX	2	GRAIN CHARACS F	C	% M	FRACTURE P	# TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ANY MIN	ORE-TYPE MINS H A XX	H A PY	ANY MIN	SUMMARY
R		113.50	114.50																										
						Hornblende (?) phenos - pervasive carbonate alt.																									
P		114.50	115.60	100.0	FS	ASHT		PY1	BX	FG				P		1	LM		75					L=		PY		
L				90.0				7A	QZ7					3												D=		
R		114.50	115.60																										
R		114.50	115.60			Could be termed PYAT, but this interval looks more like rock																								
R		114.50	115.60			termed ASHT in this hole. Autobrecciated. Flecked with tiny																								
R		114.50	115.60			slivers of PY (+ black sulphides?) parallel to foliation.																								
R		114.50	115.60			Pyrite laminations increase downward. Extremely siliceous.																								
P		115.60	125.10	100.0		MTFW	FX	CL3	MX	ST				P										CB		D.		
L				70.0				AG	CB1					3							P1		P3	V)				
R		115.60	125.10			Massive/non-fol. Locally spotted with chloritic spots -																								
R		115.60	125.10			overall a matte texture. May have once been a fine grained																								
R		115.60	125.10			GABR (??).																							
P		125.10	128.10	95.0		QCSH	PY	CB2	FO	FG				P		0	FO		75					CB	L=			
L				80.0				AT	MU2					3		0	LC		20	P2	P2			L+				
R		125.10	128.10			Much more carbonate and sericite than QCSH described earlier.																								
R		125.10	128.10			Flecked with PY slivers which parallel fol. FTBX from																								
R		125.10	128.10			126.5-127.6m. 10% laminated and disseminated PY at																								
R		125.10	128.10			127.8-128.0m.																							
R		126.50	127.60			Clast-supported breccia of QCSH.																								
N		126.50	127.60	90.0		X	FTBX	PY	CB2	BX				N														
L				.0				AT	MU2					8														
P		128.10	137.70	100.0		MTFW	QZ	PY	CL4	FO	LM			P		0	FO		75					CB	D)			
L				50.0				AG	CB2					5		0	FO		60	P2		P4		V(				
R		128.10	137.70			Locally foliated and laminated, locally massive with matte																								
R		128.10	137.70			texture. Essentially a chlorite-carbonate schist																								
R		128.10	137.70			+ sericite?). Foliation varies from 75 degrees at top to 60																								
R		128.10	137.70			degrees at bottom.																							
P		137.70	139.00	100.0		QCSH	QZ	PY	MU2	FO	FG			P		0	FO								D)			
L				80.0				AT	CL	CB1				3							P1	P2	P=					
R		137.70	139.00			Pyrite slivers. Local black argillaceous bands and associated																								
R		137.70	139.00			increased %PY at 138.3m and 138.4-138.5m.																								
P		139.00	170.40	100.0		MTFW	MU	PY	CL4	FO	LM			P		0	FO				V)			GR	D)		PY	
L				45.0				AG	GR	CB2				4							P2	P1	P4	L)			L)	
R		139.00	170.40			Varies from well foliated/laminated to massive with a "matte"																								
R		139.00	170.40			texture. Pyrite is associated with local argillaceous bands																								
R		139.00	170.40			(ie: at 142.4-142.5m; 154.3-154.4m; 155.0-155.1m;																								
R		139.00	170.40			162.55-162.60m). Local compositional variation. Local zones																								

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K05 (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      ( % )      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  SUMMARY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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      139.00    170.40        of fault gouge (ie: 144.9-145.1m; 145.3-145.4m; at 159.9 +
R      139.00    170.40        166.3m).
R      144.90    145.10        Zone of gouge and sheared rock.
N      144.90    145.10           X FLTZ         GG                  N
L                                       AG
```

S U M M A R Y   R E M A R K S

This drill hole intersected a series of rock including mafic tuff/wacke, siliceous exhalative(?), (crystal) ash tuff and qtz-carb-sericite schist. Several minor fault zones were intersected. No obvious strong conductor, however disseminated PY and PY lamininations are common. Massive PY was noted only at 35.2-35.3m in MTFW. A pyritic ash tuff (10% PY) occurs at 103.5-113.5m. <10cm black argillaceous bands are associated with increased PY and occur locally below 138m.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K06

```
PROJECT IDEN   : KUTCHO       START DATE     : 90/ 7/ 1      COMPLETION DATE : 90/ 8/ 8     GEOLOGGED BY : MDM +
COLLAR NORTHING: 47415.00     COLLAR EASTING : 38405.00      COLLAR ELEVATION: 1457.00      GRID AZIMUTH : 0.00
                              TOTAL LENGTH   : 361.20        CORE/HOLE SIZE : BQTW
```

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		180.00	-45.00		
001	184.70		184.00	-44.00		
002	328.90		176.00	-37.00		

```
  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     ( % )    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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- -- -- -- -- -- -- -- -- -- -- --  - - - -
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      9.10              CASE                              P

P       9.10     12.60    100.0       DYKE CY    FX1 PP   4 5 2 K      P                                CY
L                          98.0             RP    MP=      S           2                                H=
R       9.10     12.60         Uncrowded HBL-FS porphyry.  FS as laths.  Almost all Fx
R       9.10     12.60         replaced by pale green clay.

P      12.60     23.60    100.0       MATF CB    CL1 FG LM 4 5 1 L     P                                CB D)
L                          80.0             3G    EP1      M           4                     P1 B1      Q)
R      12.60     23.60         Poorly defined bedding on smooth side, stonger schistosity on
R      12.60     23.60         split side.  EP blebs common but random.  Increase in
R      12.60     23.60         silicification and banding at 20.5m HW to FLTZ.  Small fault
R      12.60     23.60         12.9-14.4m.
N.     12.90     14.40    100.0    X FLTZ        CY1 GG                N                                CY
L                            .0                                        7                                G1
R      20.50     23.60         HW alteration to FLTZ.  Banded pale grey siliceous lapilli? and
R      20.50     23.60         dark green ASHT.  Increase in sheeted sericite closer to fault.
N      20.50     23.60    100.0    X MATF MS     CL1 BN FG             N   BN      75 L2                CY D+
L                          95.0             7G    QZ2                      $T      75    $2 P1          G)

P      23.60     29.70     50.0       FLTZ CL    MS3 SH GG             P                L1              CY D+
L                            .0             AG    CY1                                      #3 P1        G1
R      23.60     29.70         Strongly sheared.  Lots of thin muscovite sheets.  Poor
R      23.60     29.70         recovery - 15% siliceous bands or flattened lapilli.

P      29.70     49.40    100.0       MATF CB    CL1 FG IR 4 S 1 L     P                                CB 1)
L                          98.0             3G    EP) LM   M           3                     P1 B1      Q)
R      29.70     49.40         Same as 12.6-23.6m.  Fine grained chloritic ash tuff with
R      29.70     49.40         random blebby to patchy epidote.  Foliation visible on split
R      29.70     49.40         side.

P      49.40     53.60    100.0       DYKE CY    FX1 BN FG 4 S 1 L     P   BN      50                   CY
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K06 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% ROCK MIX TYPE	TYPIFYING MINERALS TM 1	TM 2	QAL MIN MAT QM1	TEXTURES TX 1	TX 2	GRAIN CHARACS F	C	% M	P	# TK	FRACTURE	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ORE-TYPE MINS H A XX	H A PY	H A CP	H A GL	H A YY	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC- COL	QM2 3	TX 3	TX 4	S O R	R N D	S H P	O / C	DIP SML	F I	T 2	ID STRUCTUR-2	STK AZM	DIP RT	KF H A	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	
L				100.0	MF	3A		MF=			S					1															H=	
R		49.40	53.60	Uncrowded FS porphyritic andesite? or basalt. FS laths and																												
R		49.40	53.60	rare "flowers" replaced by pale green clay. 5-10% mafics.																												
R		49.40	53.60	Faint flow banding? illustrated by dark stringers. Could be a																												
R		49.40	53.60	FS-phyric ash tuff.																												
P		53.60	60.70			MATF	CB		CL1	FG	LM	4	5	1	L		P		FT	75									CB	1+
L							3G		EP1	SH						4						P1	B1							Q+	
R		53.60	60.70	Same chloritic ash tuff seen above. 10cm fault at VC, sharp																												
R		53.60	60.70	LC. No change.																												
P		60.70	86.20	100.0		DYKE	CY		MF2	PP	FG	4	5	2	L		P		LC	40									CY	
L				98.0			3A		FX=	AM		S				2							H+							H=	
R		60.70	86.20	Andesitic to basaltic FS-HBL phyric dyke. HBL laths replaced																												
R		60.70	86.20	by pale green CY + EP? to 67.0m. Some sections have less Fx.																												
R		60.70	86.20	5% amygdoules infilled with pale grey green clay form 70-77m,																												
R		60.70	86.20	see 5% lithic fragments of variable size, shape and lithology -																												
R		60.70	86.20	caught up along margins?																												
P		86.20	104.50	100.0		QXAT	LF		MS2	$T	PP	5	6	=	N		P		$T	60	L1								CB	1)
L				50.0			7G		QX2	FO		S		F		4			UC	40		$2							$=	
R		86.20	104.50	Quartz crystal ash tuff with 5% felsic lapilli - poorly																												
R		86.20	104.50	defined. Strong SE + CB? sheeting. SIliceous (QZ) bands to																												
R		86.20	104.50	15cm; also QZ crystalline.																												
P		104.50	107.50	100.0		MATF	PY		CL=	LM	FG	4					P		LM	50									CB	L+
L				30.0			MF	3G	CB1			S				7			UC	50		P=							L1	
P		107.50	128.20			QXAT	QZ		MS=	FG	FO	4	5	1	K		P		$T	65	Q1								1+	
L							5A		QX1	PP	$T	M				7						$=	P+								
R		107.50	128.20	Quartz crystal ash tuff. Varies from medium green to light																												
R		107.50	128.20	grey. Paler colour usually more siliceous. Was probably a																												
R		107.50	128.20	mixed felsic + int. crystal ash tuff. Locally strongly																												
R		107.50	128.20	sheared and broken. Less altered than 86.2-104.5m. Primary																												
R		107.50	128.20	textures indistinct.																												
N		120.20	121.20	95.0		X	FLTZ				SH					N													CY	
L				.0												X													G+	
P		128.20	137.10	90.0			FLTZ	QZ	MS1	SH	GG					P		$T	50	Q1									CY	1+
L				.0			7A		CY1							X		FT	50		$1								G1	
R		128.20	137.10	Very strong shearing, broken rock. Host same as 107.5-128.2m,																												
R		128.20	137.10	but with increase in muscovite sheeting.																												
N		128.20	137.10				X	QXAT	QX1							N															
P		137.10	160.00	100.0		QXAT	CL		QX2	IB	FO	4	5	2	K		P		LM	65	L1								CY	L+

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K06 (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    ( % )    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  SUMMARY
 - --- -----.--   -----.--  ----.-- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
 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                          55.0          7A    MS= $T    M          5      $T       45    $=           ()
 R       137.10    160.00       Same intermixed mafic ash tuff and felsic QXAT.  Felsic
 R       137.10    160.00       sections have much stronger MUSC $T and siliceous banding.
 R       137.10    160.00       Dark green mafic sections are relatively unaltered.  Banded
 R       137.10    160.00       silica probably primary.  Locally sheared/shattered.
 N       146.60    147.40  100.0     X ASHT      QZ3 QF FG 4            N    LM       55 P3 $*               L)
 L                          75.0         FS 9A   MS+ LM                                    $+
 N       148.60    150.00            X MATF      CL1 FG LM 4            N    LM       55                  CB L*
 L                                        3G     CB1                                            P1        L1
 N       150.90    151.40            X FLTZ      CY1 SH GG              N    SH       55                  CY
 L                                        7A                                                              G1
 N       155.50    158.50            8 MATF      CL1 FG LM              N    LM       65                  CB L*
 L                                        5G     CB1                                            P1        L1

 P SEX   160.00    169.20  100.0       SEXL      MS2 $T FG 3 4 =        P    $T       35 P5               CB 1+
 L                          20.0          9A     PY+ AP              6       $T       65    $2            $?
 R       160.00    169.20       Very pale, aphanitic SEXL? or intensely QZ flooded felsic ash
 R       160.00    169.20       tuff.  MS sheeting gives weak foliation.  Probably contains 5%
 R       160.00    169.20       AK sheeting.  MS sheeting occasionally contorted by small scale
 R       160.00    169.20       folds.

 P       169.20    198.80  100.0       QMSH DO   MS4 $T PF 4            P    $T       45 P4        Q)        1)
 L                          20.0          YA     QZ4                 6       $T       80    $4
 R       169.20    198.80       QZ-musc. schist.  Originally felsic ash tuff?  Almost
 R       169.20    198.80       completely sericite and QZ replaced.  Intense sheeting with
 R       169.20    198.80       abundant crenulations.  No definite primary textures.  Cut by
 R       169.20    198.80       several HBL-FS mafic? dykes.  Angle to core typically 65
 R       169.20    198.80       degrees.
 N       175.50    177.60            8 FLTZ      MS4 SH GG              N    SH       60 P4               CY
 L                                        9A     CY2                                       $4             G2
 R       177.60    178.50       HBL=FS phyric mafic? dyke.  MF replaced by CY + MS?  Uncrowded.
 R       177.60    178.50       5% amygdoules infilled with pale grey clay?
 N       177.60    178.50            X DYKE      MF2 PP FG 4 5 2 J      N    LC       70                  CY
 L                                        3U     FX=      S                                               H1
 N       182.10    182.60            X DYKE      MF2 PP FG 4 5 2 K      N    UC       75                  CY
 L                                        3U     FX=      S                                               H1
 N       188.70    189.30            X FLTZ      CY+ SH GG              N                                 CY
 L                                                                   X                                    G+
 N       189.30    191.10            X DYKE      MF2 PP FG 4 5 2 L      N    LC       80                  CY
 L                                        3U     FX=      S                                               H=

 P       198.80    226.70   95.0       ASHT CL   MS= $T FG              P    $T       60 P4                  1*
 L                          50.0          7A     QZ4 WF              5       FO       60    $= ()
 R       198.80    226.70       Highly siliceous (felsic?) ash tuff with weak musc. sheeting
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K06 (CONTINUED)

KEY	FLAG	FROM	TO	CORE RECOVERY (%)	% ROCK MINX	TYPE	TYPIFYING MIN 1	TYPIFYING MIN 2	QAL MAT QN1	TEXTURES 1 TX	TEXTURES 2 TX	GRAIN CHARACS F	C	% M	FRACTURE P	# TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ANY MIN H A XX	ORE-TYPE MINS H A PY	H A CP	ANY MIN A GL YY	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC- COL	QM2 3	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	CL H A	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A	
R		198.80	226.70		decreasing to 2-3% at 205.0m. Unaltered patches are medium																										
R		198.80	226.70		green. Faint primary? banding visible locally. Occasional																										
R		198.80	226.70		broken sections with poor recovery.																										
P		226.70	229.90	100.0		QXTF	QZ		QX2	PP	FG	4	5	2	L		P		ST		65	P2					1*		
L				85.0		FS	9A		MS+	$T		S				3							$+							
R		226.70	229.90		QZ eye rhyolite porphyry or QZ crystal tuff. Weak musc.																										
R		226.70	229.90		sheeting. Sharp contacts.																										
P		229.90	240.30	90.0		ASHT	CB		MS=	$T	FO	4					P		ST		65	P1				CB	1*		CY	
L				20.0			AG		QZ1	SH						7			BN		80		$=	P+		$+			G*	
R		229.90	240.30		Mixed intermediate green ash tuff and more siliceous, grey ash																										
R		229.90	240.30		tuff. No definite fragments or crystals. Faint banding.																										
R		237.60	239.30		Same unit, but with increase in musc. sheeting. Very pale																										
R		237.60	239.30		grey. Possibly sheeted carbonate too. Locally very																										
R		237.60	239.30		convoluted.																										
N		237.60	239.30	100.0	X	ASHT	CB		MS3	$T	FO	4					D		ST		60	P2				CB	1*		CY	
L				.0			7A		QZ2	SH						7			BN		80		$3			$+			G*	
P	FTZ	240.30	255.70	80.0		FLTZ	MS		CY1	SH	GG	4					P		ST		55	P4				CY	1+			
L				.0			5A		QZ4	FG	$T					X							$2	+=		G1					
R		240.30	255.70		Intensely sheared and ground up silica exhalite with clay gouge																										
R		240.30	255.70		and muscovite sheeting on some fractures. In places see weak																										
R		240.30	255.70		banding - may have minor silicified ash tuff. Textures																										
R		240.30	255.70		difficult to distinguish.																										
N		240.30	255.70			X	SEXL										N														
P		255.70	260.10	95.0		QXAT	QZ		QX2	PP	FG	4	5	2	L		P		ST		65	P2				CB	1+		CY	
L				15.0			5A		MS1	$T	SH	M											$1			$?			G)	
R		255.70	260.10		Coarse quartz crystals in a moderately siliceous (felsic?) ash																										
R		255.70	260.10		tuff with minor muscovite sheeting. Sheared from 257.8-258.7m.																										
P		260.10	267.70	95.0		SEXL	CY		QZ4	SH	FG	4					P		ST		60	P4				CY	1+		FM	
L				20.0			7A		MS1	$T						8							$1			G2			B.	
R		260.10	267.70		Aphanitic, weakly banded silica exhalite in strong fault zone.																										
R		260.10	267.70		Clay gouge up to 60cm! Trace green mica at 263.7m. Rare fine																										
R		260.10	267.70		grained laminated PY ie: at 264.0m and 265.1-265.5m.																										
R		263.10	264.10		Green gouge contains 20% round white QZ balls 1-2mm!																										
N		263.10	264.10			9	GOUG		CY9	GG	SH						N										CY			
L							7G		CL1															P1		G9				
R		265.10	265.50		10% finely laminated PY.																										
N		265.10	265.50			X	SEXL	CY	QZ4	SH	FG	4					D		ST		60	P4				CY	<1		FM	
L							7A		PY1	LM						8							$1			G2			B.	
N		265.50	266.30			X	GOUG		CY9	GG	SH						N										CY			

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K06 (CONTINUED)

REY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% ROCK TYPE	TYPIFYING MINERALS TM 1	TM 2	QAL MAT QM1	TEXTURES TX 1	TX 2	GRAIN CHARACS F	C	% M	FRACTURE #	TK	STRUCTUR-1 T	ID	STR AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ORE-TYPE MINS H ANY MIN A XX	H A PY	H A CP	H A GL	H ANY MIN A YY	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC- 3 COL	QM2	TX 3	TX 4	S O R	R N D	H P	/ C	DIP SML	F I	T 2	ID	STR AZM	DIP RT	KF	MU	CL H A	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A	
L								7G	CL=															P=		G9						
P		267.70	277.70	95.0				QXAT	MS	CY	QX2	PP	TF	5	6	=	M		P		$T		40	F=		Q*		CY	1+		
L				70.0				7A	LF=	$T	WF	S		F		6			FO		55		$1				‹+		L.		
R		267.70	277.70	Crowded quartz crystals and possibly 1cm siliceous fragments.																												
R		267.70	277.70	Strong white SE + CB? sheeting. Moderately sheared to 272.5m																												
R		267.70	277.70	Also looks like white clay on fractures. Possible patchy																												
R		267.70	277.70	dolomite. Trace sphalerite??																												
R		269.40	270.40	Sheared brown andesitic dyke. Pale grey amygdoules - clay																												
R		269.40	270.40	filled? up to 10%.																												
N		269.40	270.40		X	DYKE			CY3	AM	FG	4	5	1	M		N											CY			
L								3U			SH		W															P3			
N		270.40	271.00		X	FLTZ			CY3	SH	GG						N											CY			
L																												G3			
P	SEX	277.70	282.30			ASHT			QZ3	$T	IB	4					P		$T		65	‹3						CB	1+		
L								5A	MS1	SH						7							$1					$?			
R		277.70	282.30	Thinly bedded/laminated silicified felsic ash tuff and SEXL?																												
R		277.70	282.30	Approx. 40% of interval is SEXL. Broken and sheared																												
R		277.70	282.30	throughout.																												
N		280.60	282.30		X	FLTZ			CY2	SH	GG						N											CY			
L								5A																				G2			
P		282.30	292.00			QXLT			AR	PY	QX2	LM	$T	5	6	1	L		P		$T		60	P=				L=		
L								7U		LF1	IR	PP	W			2			LM		70		$)	P1	Q)	B?			B?		
R		282.30	292.00	Unusual interval. Very finely laminated quartz-crystal ash																												
R		282.30	292.00	tuff - locally with crowded phenos, and minor lithics.																												
R		282.30	292.00	Distinct pale brown ankeritic? alteration, gradually decreasing																												
R		282.30	292.00	to green chlorite near bottom of interval. Distinct red-brown																												
R		282.30	292.00	blebs with red streak - cinnabar? sphalerite? to 10%. Lots of																												
R		282.30	292.00	soft sediment deformation features.																												
R		284.20	285.00	Contains 10cm pyritic FLT GG at UC with 30% fine PY.																												
N		284.20	285.00		X	FLTZ			PY1	SH	GG						N											CY	D1		
L								9U		CY1																		G1			
P		292.00	311.90			QXLT			MS		QX1	IB	FR	5	6	1	L		P		$T		60	Q1	Q*			1*	B.	
L								7A		LF1	PP		W		F	3									$+		B?			B.	
R		292.00	311.90	Interbedded quartz crystal bearing felsic lapilli tuff with																												
R		292.00	311.90	bands of SEXL to 15cm. Occasional patchy dolomite. Local																												
R		292.00	311.90	shearing. Rare red-brown blebs as seen in 282.3-292.0m. Trace																												
R		292.00	311.90	CP at 304.4m.																												
N		301.30	311.90		6	FLTZ			CY1	SH	GG						N											CY			
L								7A		MS2																$2		G1			
R		307.70	309.70	Finely laminated ASHT with 1% coarse porphyroblastic pyrite.																												

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K06 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM	TO	CORE RECOVERY (%)	%MIX TYPE	TYPIFYING MIN 1	TYPIFYING MIN 2	QUAL MAT QM1	TEXTURES 1 TX	TEXTURES 2 TX	GRAIN CHARACS F	C	% M	FRACTURE P	# TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS ANY MIN	ORE-TYPE H A XX	H A PY	H A CP	MINS ANY MIN GL	YY	SUMMARY
KEY	FLAG			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC-COL 3	QM2 TX 3	TX 4	S R	R N D	S H P	O / C	DIP SML	F I	T 2	ID	STK AZM	DIP RT	KF H A	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		
R		307.70	309.70		Very dark grey laminations. Could be ARGL.																											
N		307.70	309.70		X	ASHT	PY	AK+	LM	FG	4			N			LM			$+						Y*					
L							5A	MS1													$1	P+										
P		311.90	314.50			BRXX		QZ2	BX	FG	4			P			P2									L*					
L							1A	CA2									#2															
R		311.90	314.50		Tectonic argillite BRXX. Siliceous argillite cemented by white																											
R		311.90	314.50		carbonate. 10cm fault at UC.																											
P		314.50	332.60			LLTF	MS	PY	LF1	SH	TF	4	6	1 N		P		L2	$?						L+	D.					
L						FS	7A	QX	QZ1	$T	IB								$=													
R		314.50	332.60		Felsic lapilli tuff to felsic ash tuff. No definite crystal																											
R		314.50	332.60		fragments. Approx. 15% interbedded SEXL. Trace CP at 323.3m?																											
R		314.50	332.60		Intensely gouged 325.8-329.0m. Approx. 15% QX from																											
R		314.50	332.60		329.0-332.6m.																											
R		325.80	329.00		Intensely sheared. Approx. 75% gouge.																											
N		325.80	329.00		X	FLTZ		CY6	SH	GG				N													CY				
L																											G6				
P		332.60	339.60			ARGL	GR	PY=	FG	SH	4			P			‹+									D=					
L							NN						7				‹)														
R		332.60	339.60		Highly graphitic. Minor white QZ-calcite veining. Moderately																											
R		332.60	339.60		sheared.																											
P		339.60	345.90			QFXT	MS	PY	QX2	PP	TF	4	5	3 K		P	$T	75	$?						CY	Y*					
L							7A	HB	FX1	$T	SH								$2		B}	G=										
R		339.60	345.90		Strongly foliated QZ-FS crystal tuff. 1% porphyroblastic PY.																											
R		339.60	345.90		Sheeted muscovite and ankerite? Muscovite sheeting decreases																											
R		339.60	345.90		downhole.																											
P		345.90	361.20			QXLT	QX	CB	CL2	TF	FO	5	6	2 L		P	FO									CB	D*				
L							5G	MS1	GC		M		F	2					$1	$2		L{	B1								
R		345.90	361.20		Quartz crystal lapilli tuff. Strong CL-musc. schist now.																											
R		345.90	361.20		Mottled green/grey colour. Abundant weakly banded carbonate.																											
R		345.90	361.20		Felsic lapilli. Purple tinge (hematite) in lower 3m.																											

S U M M A R Y R E M A R K S

Hole was collared approx on L16+50E to intersect 2 fixed source GENIE conductors approx. 70m below surface. Stratigraphy appears to be upside down. Hole intersects green, mafic ash at approx. 86m, cuts a QZ xtal tuff with interbedded SEXL (to 10m) and mod-strong CB-MS sheeting. Intense alteration throughout hole. Strong fault zone 130-140m corresponds with

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K06 (CONTINUED)

S U M M A R Y R E M A R K S

gravity low and Josh Ck. Bottom of hole intersects a Q2 xtal-line CL-HE schist which resembles HW rocks of the Kutcho Lens. No explanation for N.conductor. S.conductor is a 5m graphitic arg. at 332m. All units cut by HBL-FS porphyry dykes.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K07

```
PROJECT IDEN    : KUTCHO      START DATE      : 90/ 8/ 6     COMPLETION DATE : 80/ 8/11     GEOLOGGED BY : MDM +
COLLAR NORTHING: 48055.00     COLLAR EASTING : 31130.00      COLLAR ELEVATION: 1457.00      GRID AZIMUTH : 0.00
                              TOTAL LENGTH   : 402.00        CORE/HOLE SIZE : BQTW
```

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		190.00	-45.00		
001	228.30		203.00	-35.00		
002	395.90			*******		

```
  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      ( % )     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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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      4.60       .0       CASE                          P
L                           .0

P      4.60     13.80     100.0      QXAT CA PY QX1 FG FO 4 5 1 K      P    $T      65 Q=                CY 1+
L                          95.0           7A    MS= $T    M           2     LM      60 Q1 $1 P+          G*
R      4.60     13.80        QZ crystal ash tuff to ash tuff.  Moderate MUSC + CARB
R      4.60     13.80        alteration and occasional laminated PY up to 15% ie: 7.8-8.1m,
R      4.60     13.80        10.8-11.4m.  Varies from green weakly altered, to pale beige
R      4.60     13.80        moderately altered.  FW alteration to something higher up?
N      4.70      5.10               X FLTZ      CY4 GG                 N                                 CY
L                                         9A    MS3                   X                  P3              G4
N      7.80      8.10               X QXAT CA PY PY= FG FO 4 5 1 K      D    $T      65 Q=                CY L=
L                                         7A    MS= $T LM M           2     LM      60 Q1 $1 P+          G*
N     10.80     11.40               X QXAT CA PY PY1 FG FO 4 5 1 K      D    LM      55 Q=                CY L1
L                                         7A    MS= $T LM M           2     LM      60 Q1 $) P+          G*

P     13.80     22.20     100.0      MATF CL    CA1 LM FG 4            P    LM      50    $(                  1(
L                          75.0           5G              S           3                 L1 $* P
R     13.80     22.20        Dark green thinly laminated mafic? ash tuff with 10% carbonate
R     13.80     22.20        bands from 2-10mm wide.

P     22.20     22.70     100.0      FLTZ       CY= SH GG              P  4 VN      70                    CY +1 +1
L                           .0            3G    CP                    X                                  G=
R     22.20     22.70        Fault contact between MATF and MLLT.  Fault zone includes 8cm
R     22.20     22.70        QCVN-BRXX at 22.5m with 15% CP, 10% PY.

P     22.70     53.10                MLLT CB CL LF1 LM FR 4 6 1 N      P    LM      60                      Y(
L                                         5G    EP1       W  M        3                 Q=    P2 31
R     22.70     53.10        Strange.  Fine grained weakly laminated green chloritic ash
R     22.70     53.10        tuff with 10-15% EP replaced fragments; 0.5-2.0cm.
R     22.70     53.10        Epidote-knot basalt?? EP also occurs as blebs anbd laminations.
R     22.70     53.10        Weak CB banding and rare p.blastic PY.  LC is 10cm FT.
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K07 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM	TO	CORE RECOVERY (%)	%ROCK TYPE	TYPIFYING MINERALS TM1	TM2	QAL TEXTURES QM1	TX1	TX2	GRAIN CHARACS F	C	%	M	FRACTURE #	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ANY MIN A XX	ORE-TYPE MINS H A PY	H A CP	H A GL	ANY MIN A YY	SUMMARY
KEY	FLAG			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC-COL 3	QM2	TX3	TX4	S O R	R N D	S H P	O / C	DIP SML	F I	T 2	ID	STK AZM	DIP RT	KF H A	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	
P		53.10	96.80			MATF	EP	CL1	FG	LM	4	5	)	M		P		LM		75									L+	
L							3G	CB1			S				2						P1		P1	B*							
R		53.10	96.80	Fine grained thinly laminated mafic ash tuff. Similar to above																												
R		53.10	96.80	unit. Back lacks strong EP alteration. <5% 0.5-1.0cm. EP +																												
R		53.10	96.80	carb. blebs. 10% laminated PY 53.4-54.0m. Moderate pervasive																												
R		53.10	96.80	carbonate alteration. EP blebs disappear by 55.8m.																												
N		53.40	54.00			X MATF	EP	PY1	FG	LM	4	5	)	M		D		LM		75									L1	
L							3G	CB1			S				2						P1		P1	B*							
R		74.40	75.20	?? Coarse grained QZ-FS porphyry dyke? Sharp contacts.																												
R		74.40	75.20	Crowded. EP + carb. replacing some feldspars. Crystal tuff??																												
N		74.40	75.20			X MXTF	EP CA	QX3	CP	CG	4	6	6	L		N		LC		65									D(	
L							3A	FX2			7				2						H=				H+						
R		83.00	85.40	Same fine grained mafic ash tuff, but with finely laminated																												
R		83.00	85.40	pyrite in sections up to 10cm wide.																												
N		83.00	85.40			3 SMPY		PY1	FG	LM	4					N		LM		60									L1	
L							5G																								
R		85.50	87.00	Quartz crystal bearing interval; gradational contacts. Finer																												
R		85.50	87.00	grained than 74.4-75.2m. Looks like a bed.																												
N		85.50	87.00			X MXTF		QX3	CR	FG	4	5	3	K		N					P1										
L							5G		LM		S														B+						
R		89.60	90.70	Crowded QZ-FS crystal tuff. QZ eyes are large (typically).																												
N		89.60	90.70			X MXTF	CB EP	QX3	CR	CG	5	6	2	L		N		LC		55	P=								Y(	
L							5G	FX1			S				2										B)						
P		96.80	106.10			QFXT	MS CB	QX2	CG	FO	5	6	1	M		P		FO		60									Y(	
L							5A CL	FX2	PP		M				3						P+	$1	P1	B=							
R		96.80	106.10	Coarse 5-10mm QZ eyes in finer grained QZ+FS? crystal tuff.																												
R		96.80	106.10	Bimodal QZ size.																												
P		106.10	113.80			PYAT		PY1	FG	LM	4					P		LM		65									L1	B-
L							3A	CL=															P=							
R		106.10	113.80	Fine grained pyritic ash tuff. Pyrite as 3mm porphyroblasts or																												
R		106.10	113.80	thin 2-3mm laminations. Trace CP.																												
P		113.80	115.60			QFXT	EP CB	QX2	PP	CG	5	6	1	M		P		FO		65									Y*	
L							AG	FX2	FO		S				3						H+	$=	P1	B=							
R		113.80	115.60	Coarse QZ-FS crystal tuff. 1% coarse p.blastic PY. EP+CB																												
R		113.80	115.60	replacing some Fx.																												
P		115.60	134.90			MATF		CL1	FG	LM	4					P		LM		70									1(	
L							3G	CA=			S				5							P1		B+							
R		115.60	134.90	Dark grey-green mafic? ash tuff with rare laminated to coarse																												
R		115.60	134.90	porphyroblastic PY and semi-laminated carbonate (CA?)																												

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K07 (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      ( % )     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  SUMMARY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- - -  - -- --- -- -- -- -- -- -- -- -- -- -- --  - - - -
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       115.60    134.90      alteration.  Relatively fresh.
N       117.60    119.20          X FLTZ      CY1 SH GG 4           D    LM      70               CY 1(
L                                       3G    CA=       S           9                   P1    B+    G1
R       122.80    125.60      Coarse QZ-FS crystal tuff. QZ eyes to 1cm.  Rare 1cm pyrite
R       122.80    125.60      cubes (porphyroblasts).
N       122.80    125.60          X QFXT EP CA QX2 PP CG 5 6 1 M       N    FO      65                  Y(
L                                       AG    FX2 FO    S           2              H+ $+ P1 H=

P SEX   134.90    136.40             SEXL MS    QZ4 $T BN 4           P    $T      60 P4                L(
L                          20.0         FS 7G    CL1                 7                  $= $=
R       134.90    136.40      Strongly banded SEXL caused by dark green CL+SE sheeting.

P SEX   136.40    165.10             MATF MS    QZ4 $T BN 4           P    $T      60 P4 $*             (+ B.     FM
L                                      FS 7G    CL1 $T               7    $T      75    $+ $=                    :.
R       136.40    165.10      Similar to previous interval, but with increase in alteration.
R       136.40    165.10      Weak MS banding and 3-5% pyrite.  Green ASHT interbedded with
R       136.40    165.10      very dark green-black ASHT of possibly tuff-argillite?  CA as
R       136.40    165.10      bands of preferential alteration.  Possible green F-mica in QC
R       136.40    165.10      vein at 141.2m.
R       136.40    138.60      Increase in PY in mod. fault zone.  PY locally 10%.  CP blebs
R       136.40    138.60      associated with PY at 138.4m in 2cm QCVN.
N       136.40    138.60          X FLTZ CY     CL2 SH GG             N              <(          P2 CY L= B.
L                                       3G    PY=                   7              <(             G=
R       144.00    145.00      Bimodal crystals.  Crowded 1-2mm Qz crystals with approx. 5-10%
R       144.00    145.00      8-10mm QZ eyes.  Weak muscovite sheeting.  Sharp contacts.
N       144.00    145.00          X QXTF CL     QX5 PP CP 5 6 1 M       N    FO      60                  D-
L                                       3A    MS= FO    S    C                     3= $= $=
N       150.90    151.60          X SEXL MS     QZ6 $T                 N    $T      60 P6                Y1 B.
L                                       9G    PY1                                     $=
N SEX   151.60    154.20          X MATF MS     PY1 $T BN 4           D    $T      60 P4 $*             L1 B.     FM
L                                      FS 3A    CL1 $T               7    $T      75    $+ $=                    :.
R       162.60    165.10      Gradational contacts over 10cm.  Musc. sheeted, AK or DO?
R       162.60    165.10      Altered SEXL within MATF.
N SEX   162.60    165.10          6 SEXL PY CB QZ5 $T GC 4           D    $T      60 P5 $+    Q?       Y= B-     FM
L                                      FS 7T    MS1 IB    S           1    $T      75    $1 $=                    :.

P       165.10    165.30             LAHR       LF2 PS IR 4 6 2 N       P    UC      40
L                                       7T       FG    W    O
R       165.10    165.30      Very poorly sorted uncrowded beige ash tuff with 15-20% angular
R       165.10    165.30      fragments - dominantly silicified ASHT.  Could be a FTBX?

P       165.30    168.00             DYKE CB CY MF2 PP FG 5 6 1 N       P    LC      40               CY
L                                       5A CL FX= AM BL M           1              A=    H=       H1
R       165.30    168.00      HBL +/- FS? phyric amygdoloidal basalt.  Mafics altered to CY +
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K07 (CONTINUED)

KEY	FLAG	FROM	TO	CORE RECOVERY (%)	%MIX	ROCK TYPE	TYPIFYING MINERALS	QUALITY TEXTURES	GRAIN CHARACS	FRACTURE	STRUCTURE-1	ALTERATION MINS	ORE-TYPE MINS	SUMMARY
		(UNITS = FT)					TM TM MAT TX TX F C % M	1 2 QM1 1 2 F F C P # TK			T ID STK DIP	H H H H H ANY	H H H ANY	
							1 2				1 AZM RT	A A A A A MIN	A A A MIN	
KEY	FLAG			ROCK QUAL DESIG	FOR MEM AGE	RN V Q	TM QM2 TX TX S R S O DIP F 3 3 4 O N H / SML I LC- R D P C				T ID STK DIP 2 AZM RT STRUCTUR-2	KF MU CL EP HE HA PR MO SL HA H H H H H H H H H A A A A A A A A		
R		165.30	166.00				CL. Amygdoules are CARB+CY? filled, and up to 2cm.							
P		168.00	211.40			MATF	CA	CL1 FG LM 4		P	LM 60		1)	
L							3G	MS) BN	5		L1 $) P1			
R		168.00	211.40				Fine grained green mafic ash tuff. Weakly to moderately							
R		168.00	211.40				laminated to banded. Pervasive carbonate alteration in 2-4mm							
R		168.00	211.40				bands. PY typically 1-2%, but locally 5-10% ie: 178.2-178.9m.							
R		168.00	211.40				Relatively fresh.							
N		177.40	177.70			X DYKE	CB CY MF2 PP FG 5 6 1 L			N	UC 65	CY		
L							AT CL FX= BL	M	1			H=	H=	
N		178.20	178.90			X MATF	CA	CL1 FG LM 4		D	LM 60		L1	
L							3G	PY1 BN	5		L1 $) P1			
N		193.90	194.30	100.0		X ASHT		QZ2 QF FG 4		N	P2		D(	
L				100.0			7G							
R		194.30	197.90				Mixed tuffaceous argillite. Fine grained but not quite							
R		194.30	197.90				aphanitic. Black to dark grey. Not graphitic. HBL porphyry							
R		194.30	197.90				dyke at 196.3-196.5m with strong fault 196.4-196.5m.							
N		194.30	197.90	100.0		7 ARGL		FG LM 4		N	LM 65		1(	PO
L							1A	GC	1		Q+			L-
N		206.30	208.00	100.0		X DYKE	CL CB MF2 AM PP 4 5 3 M			N	LC 45	CY		
L				95.0			7U	CY= BL S	2		A+ H+	H=		
P		211.40	221.70	100.0		MATF	CA	CL1 FG LM 4		P	LM 60		1)	
L				90.0			3G MS	EP1 BN	5		L1 $) P1 31			
N		216.90	220.40	100.0		8 QCSW	CL	QZ4 SW		N	R4		Y)	
L				60.0			GW	CA1			R1 +=			
P		221.70	228.60	100.0		LLTF	MS	QZ2 BN FG 4 6 2 N		P	BN 55	P2	L)	
L				80.0			GA	LF2 QF $T S F	3		$T 60	$1		
R		221.70	228.60				Silicified interned? lapilli tuff. 15% grey amorphous SEXL.							
R		221.70	228.60				Lapilli tuff is mottled green + grey; grey where stronger QZ-MS							
R		221.70	228.60				alteration encountered.							
P		228.60	246.60	100.0		ASHT	EP	CA2 FG FO 4 5 = K		P	FO 55	(*	1)	PO
L				96.0			FS TA	PO= S	2		P2 P= P+			L=
R		228.60	246.60				Pale beige, fine grained. Rare QZ crystals. Abundant 1-2m PO							
R		228.60	246.60				blebs stretched along foliation, locally POPS 10%. Gradational							
R		228.60	246.60				PO decrease at approx. 243.5m. Semi MSV PY + PO 241.2-242.2m;							
R		228.60	246.60				and 245.2-245.6m; 267.2-267.3m.							
R		241.20	242.20				Semi-massive laminated PY + PO in ash tuff. Pervasive							
R		241.20	242.20				carbonate alteration - calcite?							
N		241.20	242.20	100.0		7 SMSF	CA	PY2 LM FG 4		N	LM 65		L2	PO
L				96.0			AU	PO3			P1			L3
N		245.20	245.60	100.0		X ASHT	EP	PO1 FG FO 4 5 = K		D	FO 55	(*	L1	PO

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K07 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM	TO	CORE RECOVERY (%)	%ROCK TYPE	TYPING 1	TYPING 2	QAL MIN MAT QM1	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	%	M	FRACTURE #	TR	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H QZ	H BI	H CY	H CB	H MG	MINS H XX	ANY PY	ORE-TYPE H CP	H GL	MINS H YY	ANY SUMMARY
L				100.0	FS	AU	PY1		S		2										P2	P=		P+						L1
P		246.60	289.60	100.0	MATF	PO	EP	CL1	FG	LM	4			P		LM		70								1)			PO
L				95.0		5G		CA1													P1		P1	Q+						L)
R		246.60	289.60	Medium green to grey-green ash tuff. Carbonate alteration in																										
R		246.60	289.60	2-4cm laminations. Decrease to 2% PO + 2% PY. Gradual																										
R		246.60	289.60	increase in foliation angle to core to 85 degrees at 280																										
R		246.60	289.60	degrees, and increase in foliation intensity downhole																										
R		246.60	289.60	277.0-289.6m.																										
N		289.30	289.60	95.0	X	PLTZ	CA		CL2	SH	GG	4		N											CY				
L				.0		3G		CY1													P1		P2		G1				
P		289.60	392.10	100.0		MATF		EP	EP1	FG	LM	4		P		FO		80								1*			PO
L				80.0		5G		CA1													P1		P1	31						B-
R		289.60	392.10	Increase in epidote alteration as blebs and patches. Decrease																										
R		289.60	392.10	in foliation intensity. 10cm of 20% lam. PY + PO at 377.7m,																										
R		289.60	392.10	380.0-380.3m. 20cm laminated PY (25%) 354.8-355.0m.																										
R		298.00	302.20	Darker grey-brown pyritic ash tuff. 5-10% laminated PY and																										
R		298.00	302.20	3-5% pyrrhotite. VC is 2cm CYGG.																										
N		298.00	302.20	100.0	X	PYAT	PO		PY1	LM	FG	4		N		UC		80							CY	L1			PO
L				30.0		AU		CY)	FO							FO		80	P1		P1		G)						L+
N		370.90	375.70	100.0	X	MATF		EP	PY=	LM	LM	4		D		LM		85								L=			PO
L				30.0		5G		CA1													P1		P1	31						B-
R		375.70	376.50	Semi - MSV laminated PY + PO.																										
N		375.70	376.50	9	SMPY		PY4	LM						N		LM		65								L4			PO
L						AU		PO2																						L2
P		392.10	395.90	100.0		MATF	CL	PO	MS1	FO	ST	4		P		LM		65							CB				PO
L				95.0		TG		CB1														$1	P1	P=	$1				L+
R		392.10	395.90	Increase in bleaching (pervasive to sheeted MS + CB																										
R		392.10	395.90	alteration). Occasional black argillite bands to 5cm, carrying																										
R		392.10	395.90	3-5% coarse PY + 2% PO blebs (<5% argl).																										
P		395.90	402.00	100.0		MATF	EP		CL1	FG	LM	4		P		LM		72				$+				1)			PO
L				95.0		5G		CA=	WF			3									L=	$+	P1	3+						1)
R		395.90	402.00	More typical medium green mafic? ash tuff. Weak CB + MS																										
R		395.90	402.00	sheeting.																										

S U M M A R Y R E M A R K S

Almost entire hole is mafic ash tuff to lapilli ash tuff with mod. CB+CL alt'n and a well developed foliation. Several sections of pyritic ash tuff with up to 10% PY+PO. A section of felsic ash tuff with mod. CB-MS sheeting intersected at

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K07 (CONTINUED)

S U M M A R Y R E M A R K S

228-247m, carries 1m of semi-massive PY near its base. A 2nd SMPY (60% PY + PO) interval, intersected at 375.7m, is probably the conductor detected at 1+00N. 1 significant bed of arg. encountered at 194-198m is not graphitic but may be conductive. Minor scattered SEXL (to 2m) is inconsistent and may not be significant.

LYNX Geosystems Inc

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K08

PROJECT IDEN : KUTCHO START DATE : 90/ 8/ 8 COMPLETION DATE : 90/ 8/10 GEOLOGGED BY : HO +
COLLAR NORTHING: 47570.00 COLLAR EASTING : 39195.00 COLLAR ELEVATION: 1422.00 GRID AZIMUTH :
TOTAL LENGTH : 173.40 CORE/HOLE SIZE :

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.0		180.00	-45.00		
001	164.3		191.00	-40.00		

```
  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      ( % )     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  SUMMARY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
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      0.0      15.5                  CASE                            P

.     15.5      18.0                  OVER                            P

P     18.0      40.3       95.0       LLTF QZ AK PY) FO $T 2 M 2 0    P    FO      40 P2 <+            <)          2  1
L                               KL     FS AT LL MS)                  9                 $)                               X
R     18.0      40.3          Core shattered locally.  Upper and lower contacts obscured by
R     18.0      40.3          broken core, minor local soft sediment deformation - small
R     18.0      40.3          scale folding.  Foliation moderately well developed.
R     28.0      28.6          Contacts obscured by broken core, strongly altered, crackle
R     28.0      28.6          brecciated, phenocrysts altered amphibole?/feldspars?
N     28.0      28.6              1 DYKE C/       PP MX               N
L                                        5U                          2                      H=

P     40.3      42.2      100.0       MATF CL CB      BD $T 3 5 2 5   P    BD      60    $?        CB <=             2
L                          40.0              5G MS      GC           7    FO      60    $+        3=                   X

P     42.2      99.8       90.0       LLXT QZ DO FS= IB FO 2 M 1 M    P    FO      55    $?   Q1   CB <=       PY
L                               KL     FS 7T      $T                 8                 $=      O+ 3=         U+
R     42.2      99.8          Unit is interbedded with minor ash beds 2-4cm wide (5%), local
R     42.2      99.8          soft sediment deformation - folding especially between
R     42.2      99.8          82.0-85.0m.  Crenulation folding, possible fluoromuscovite at
R     42.2      99.8          83.5m, hematite present at bottom of interval.
R     50.0      54.8          Narrow (5 to 20cm) intervals siliceous/cherty exhalative.
R     50.0      54.8          Crackle brecciated.
N     50.0      54.8              1 SEXL QZ                           N    CN      60    $?        CB D+
                                KE       8A                                             $+        21
.     65.0      67.3          Same composition as dyke at 28.0-28.6m.  Strongly altered,
R     65.0      67.3          alteration not as strong at contacts, crackle brecciated.
N     65.0      67.3              1 DYKE C/       PP MX               N    CN      55
L                                        5U                                                 H
R     70.0      89.0          Possible fluoro-muscovite at 83.5m - sheeting.
N     70.0      89.0              1 SEXL QZ       GC                  N                $?        CB U+
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K08 (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      ( % )     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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - - -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -

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                               KE       8A                                              $=          3=             M
R      91.7       92.9          Strongly altered hornblende lath-uile crystals 2-5mm length
R      91.7       92.9          altered to pale green clay.
N      91.7       92.9              1 DYKE AX    HB= MX PP              N    CN      60
L                                     BS 5U    FS+                                           H=

P      99.8      111.1     100.0      LLXT CB MS QX) MS $T 2 4 1 L      P    FO      60 P2 $?    P=    CB D=           2
L                               KL      FS AT QZ HE) GC       E       4                  $=       O) $=             M
R      99.8      111.1          Probable ankerite sheeting dominates upper 10m of interval,
R      99.8      111.1          pervasive dolomite alteration in lower portion of interval,
R      99.8      111.1          hematite patchy - resembles rounded fragments/replaced
R      99.8      111.1          phenocrysts?, possible jasper (bright red spots 2-5mm) in upper
R      99.8      111.1          metre (<1%), local soft sediment deformation - folding.
R     107.1      110.1          Interval cut by seven narrow shears at 50 degrees to core axis,
      107.1      110.1          2-5% white sericite - clay gouge, broken core.
      107.1      110.1              1 LLXT CB MS QX) SH $T 2 4 1 L      D    FO      60 P2 $?    P=    CB D=           2
L                               KL      FS AT QZ HE) GC       E       4                  $=       O) $=             M

P     111.1      123.9                LLTF QZ CB     $T FO 3 N 1 N      P    FO      50 )= $?          CB D=       PY
L                               KE      FS 7T MS     FD       E                          $=          $=          L)
R     111.1      123.9          Interval cut by gougy slips.
R     111.1      113.5          Crackle breccia throughout, units are 45 to 55cm wide.
N     111.1      113.5              1 SEXL QZ                           N    FO      45 P7 $?          CB <+
L                               KE      FS 6A                                            $=          $=
R     122.1      123.9          Interbedded with silica exhalative (15-20%), broken core, 5-8%
R     122.1      123.9          white sericite gouge, silica exhalative present as discreet
R     122.1      123.9          bands/layers in lower portion of interval.
N     122.1      123.9              2 SMPY PY QZ     IB                 N    FO      50 L3 $?          CB L3           8
L                               KE       4A                           7                  $=          $=             B

P     123.9      125.6                FLTZ QZ MS LF4 SH                 P    SH      40                  D)        PY
L                                                                            SH      50                            *)
R     123.9      125.6          Well developed cataclasite, fragments 40-50%, white sericite
R     123.9      125.6          gouge throughout interval, mafic fragments appear at bottom of
R     123.9      125.6          interval.

P     125.6      132.5     100.0      LLXT CB MS QX) FD FO 3 N 2 O      P    FO      40 P2 $?          CB L)       PY  2   1
L                          95.0 KX      IN 7G QZ     $T               6      CN      60    $=          $=          U)      S
R     125.6      132.5          Local crenulation folding - small scale, moderate alteration.
      125.6      132.5          Crackle brecciated two silica exhalative intervals about 1m in
      125.6      132.5          length, moderate to strong alteration.
N     125.6      132.5              1 SEXL QZ        FO $T              N    FO      40    $?          CB L=
L                                        8A                                              $)          $)

P     132.5      173.4     100.0      MFTW CL EP QZ1      3 4 = 4      P    FO      55 Q1 $?          CB D=       PY
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K08 (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      ( % )     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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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 / SKL 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	ENTRY
L			95.0 BS 4G 3 $) $) U)
R	153.5	154.0	Strongly altered, hornblende laths altered to pale green clay.
N	153.5	154.0	= DYKE HB1 PP MX N CN 40
L			MF 3A
R	160.4	161.7	Same as above.
N	160.4	161.7	= DYKE HB1 PP MX N CN 45
L			MF 3A

S U M M A R Y R E M A R K S

This hole was drilled 775m east of DDH90-K06, to test two geophysical conductors. Felsic lapilli tuffs and felsic crystal lapilli tuffs interbedded with silica exhalatives were intersected. Pyrite is ubiquitous averaging between 3-8%. A narrow interval of semi-massive pyrite was intersected between 122.1 to 123.9m and may be the source of the weak conductor although the zone is quite narrow. All units are crosscut by narrow hornblende porphyritic dykes.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K09

PROJECT IDEN : KUTCHO START DATE : 90/ 8/12 COMPLETION DATE : 90/ 8/16 GEOLOGGED BY : +
COLLAR NORTHING: 48000.00 COLLAR EASTING : 30280.00 COLLAR ELEVATION: 1346.00 GRID AZIMUTH :
TOTAL LENGTH : 392.90 CORE/HOLE SIZE :

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.0		185.00	-45.00		
001	198.1		187.00	-36.00		
002	392.8		192.00	-25.00		

KEY	F L A G	- INTERVAL - (UNITS = FT) FROM - TO	CORE RECOVERY (%)	% M I X	ROCK TYPE	TYPIFYING TM 1	TYPIFYING TM 2	QAL MIN MAT QM1	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	%	PRACTURE M	#	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	H A XX	ANY MIN H A PY	H A CP	H A GL	H A YY	ANY MIN	ORE-TYPE MINS SUMMARY
R	P		ROCK QUAL	FOR MEM	EN V	RT Q	QM2 TX 3	TX 3	TX 4	S O	R N	S H	O /	DIP SML	F I		T 2	ID	STK AZM	DIP RT	KF H	MU H	CL H	EP H	HE H	HA H	PR H	MO H	SL H	HA H		
E	L																															
Y	G		DESIG	AGE	COL						R	D	P	C			STRUCTUR-2				A	A	A	A	A	A	A	A				
		0.0 9.1			CASE										P																	
P		9.1 38.8	100.0		ASHT	CB	CL	QX2	FO	FG	4	5	2	K	P		FO		65	Q)	$?				Y)						
L			50.0		IN	7G		MS1	$T		M			5						P+	$1	P=	H+									
R		9.1 38.8	Pale green moderately foliated. Approx. 40% QZ crystal ash																													
R		9.1 38.8	tuff, 60% ASHT. QZ crystals often have associated chlorite																													
R		9.1 38.8	fiamme? to 2mm. 10-20% MS sheeting. Crystal tuff sections are																													
R		9.1 38.8	coarser grained, and carry 20% EP+CB? blebs which could be																													
R		9.1 38.8	replacing Fx ie: 21.2-25.9m, 28.8-30.9m.																													
R		21.2 25.1	Coarser grained QZ+FS? crystal tuff. FX? replaced by EP+CB.																													
R		21.2 25.1	Locally crystals form "trains" parallel to foliation.																													
M		21.2 25.1		X	XATF	CB	CL	QX2	PP	MT	4	5	3	L	D		FO		65	Q)	$?				Y)						
L					IN	5G		EP1	$T		S			5						H+	H)	P=	H1									
M		33.7 38.2		X	XATF	CB	CL	QX2	PP	MT	4	5	3	L	D		FO		70	Q)	$?				Y)						
L					IN	5G		EP)	$T		S			5						H+	H)	P=	H1									
P		38.8 44.3	100.0		ASHT	CL		QZ2	$T	BL	4				P		$T		55	P2					GR	1*					
L			20.0			GT		MS1	GC					7			$T		75		$1	P1		Q*	(*						
R		38.8 44.3	Dark green, very siliceous ash tuff or cherty-tuff with pale																													
R		38.8 44.3	beige muscovite sheeting. Bleached, siliceous envelopes to																													
R		38.8 44.3	sheeting. Approx. 60% bleached. Dark green-black fractures may																													
R		38.8 44.3	be chlorite, but is weakly graphitic. Broken and sheared																													
R		38.8 44.3	40.0-43.8m.																													
P		44.3 50.8	100.0		PYAT	FM	QZ	PY1	LM	FG	4				P		LM		70	Q=					PY	L1				FM	
			75.0			AU	QX	CB=		M				4						P=						Y)					L(	
*		44.3 50.8	Fine grained ash tuff with 10% laminated PY and rare PY																													
R		44.3 50.8	porphyroblasts. Up to 20% laminated PY 48.5-49.0m. Pale green																													
R		44.3 50.8	FL-mica? from 48.3m. Patchy to pervasive silicification and																													
R		44.3 50.8	carbonate (CA) alteration. 10cm pyritic gouge 48.6m. Can																													
R		44.3 50.8	occasionally see 1mm remnant QZ crystals to 15%.																													
P		50.8 55.7	100.0		XATF	CB		QX2	FG	WF	4	5	2	J	P		LM								1*					PO	

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K09 (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      ( % )    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  SUMMARY
- --- -----.--  -----.--  ----.-- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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                         95.0       IN 7G   CL= LM   S                              L=    P=                   1*
R      50.8      55.7          Pale green, QZ crystal ash tuff.  Black argillaceous -
R      50.8      55.7          graphitic fractures (partings?).

P      55.7      71.7     100.0      PYAT FM   PY= FG LM 4          P    LM     70                      FM 1=       PO
L                         75.0          TA     PO=                 4                 L)    P)       L*            1=
R      55.7      71.7          Fine grained grey-brown ash tuff loss of QZ crystals.  Increase
R      55.7      71.7          in PO + PY.  5% black argillaceous fracture fill/partings.  1%
R      55.7      71.7          pale green clay? or Fl-mica?(laminated).  PY locally to 20%
R      55.7      71.7          over 30cm.  Gradational LC.

P      71.7     100.4     100.0      MATF CA   CL1 FG LM 4          P    LM     60 L+                      1*       PO
L                         95.0          5G     PO* WF                                  P1 Q)                    L*
R      71.7     100.4          Medium green, fine grained.  Possibly QZ bearing (Qx), but
       71.7     100.4          can't be sure.  Decrease in PY + PO.
       79.8      80.6          Strange pale brown pervasive alteration.  Strong QZ-FS porphyry
R      79.8      80.6          texture in lower 30cm - this is usually masked by chlorite.
N      79.8      80.6              X MATF CA   CL1 FG LM 4          D    LM     60 L+                      1*       PO
L                                       7U     SE2 WF                              (+ P2 P1 Q)                    L*
R      99.2     100.4          Moderate fault zone, broken core, rock pervasively altered to
R      99.2     100.4          pale brown and has 5% bright green laminated Fl-mica blebs.
R      99.2     100.4          Still MATF??
N      99.2     100.4              X FLTZ MS   FM= SH BL            N                             CY            FM
L                                       7U     CY= GC                                     P=          G=            L=

P     100.4     103.3              DYKE CY MS MF1 CR AM 4 5 3 L     P                             CY
L                                       5U     FX2      5          1                 B) H) H+     H=
R     100.4     103.3          Hornblende + FS porphyritic dyke.  HBL laths replaced by clay +
R     100.4     103.3          CL + SE?  Fx CY + SE altered.  Amygdoloidal?

P     103.3     106.8              QFXT CL QZ FX1 CR PP             P    FO     60 P2 Q(               1*
L                                    FS 7A MS QX3 CG FO                                 $+ H*
R     103.3     106.8          Coarse QZ eyes in a finer QZ-FS porphyry??  Crowded, very
R     103.3     106.8          siliceous - almost cherty but can see crystals.  Strong
R     103.3     106.8          foliation.  20cm FT at 106.2m.  Some Qx pale green from
R     103.3     106.8          chlorite.
N     106.2     106.4     95.0    X FLTZ       CY2 SH GG            N                             CY
L                           .0                                                                    G2

      106.8     249.7     100.0      MATF CA   CL1 LM WK 4          P    LM     70                      1)          PO
                          85.0          5G     EP1 FG   S                            (=    P1 Q1                    L(
R     106.8     249.7          Fine grained thinly laminated mafic ash tuff.  Moderate to
R     106.8     249.7          strong pervasive CL+EP alteration.  Calcite stringers parallel
R     106.8     249.7          to foliation.  Local porphyritic sections 15cm to 1m; 30% EP
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K09 (CONTINUED)

KEY	FLAG	INTERVAL (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MINI X	ROCK TYPE	TYPIFYING MINERALS TM 1	TM 2	QAL MAT QM1	TEXTURES TX 1	TX 2	GRAIN CHARACS F	C	%	M	FRACTURE #	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H QZ	H BI	H CY	H CB	H MG	MINS A ANY MIN	ORE-TYPE H PY	H CP	H GL	MINS A ANY MIN	SUMMARY
R		106.8	249.7																													replaced Fx and 15% QZ crystals. 5cm pale brown CYGG at 193.7m
R		106.8	249.7																													has patchy HE in HW + FW. I think the porphyritic sections are
R		106.8	249.7																													actually QZ+HBL? rather than FS+QZ. Could be QZ-BT porphyry??
R		106.8	249.7																													or QZ-MG???
R		145.9	148.9																													Same rock, but with vuggy fractures infilled by druzy QZ+CA
R		145.9	148.9																													crystals, and locally with epidote in vugs.
M		145.9	148.9		X	MATF	CA		QZ=	VG	DZ	4				D		LM		70	A=				1)		PO
L							5G		CA+	FG		S									A+	P1	Q1						L(
R		166.1	169.6																													Crowded QZ+FS crystal tuff. Fx replaced by pale grey-green
R		166.1	169.6																													epidote. LC shows 2cm fresh margin with 25% fresh amphibole
R		166.1	169.6																													crystals?
M		166.1	169.6		X	QFXT			QX1	PP	CR	4	6	4	L		N		LC		65						D(			
L						IN			FX3			S			2								H1								
R		170.4	172.3																													Same rock but with 10% finely laminated PY+PO. 10cm broken
R		170.4	172.3																													core at LC. Sulphides associated with pervasive but patchy
R		170.4	172.3																													carbonate alteration.
M		170.4	172.3		X	MATF	CA	EP	PY=	LM							N										L=			PO
L							5A		PO=												Q1	P1	Q1							L=
R		180.4	184.1																													Green mafic ash tuff with dark grey silicified pyritic bands.
R		180.4	184.1																													Does not look bedded; rather it looks like fragments of
R		180.4	184.1																													siliceous material streched out along foliation. Mix of very
R		180.4	184.1																													fine PY+PO in these dark patches.
M		180.4	184.1		X	MATF	PO		QZ1	BN	IR	4				D		BN		70	B1					D+			PO
L							AG		PY+	FG		S									<=	P1	Q1							D+
M		190.1	191.4		8	QZVN	EP		QZ7	VN						N		UC		45	V7								
L							WW		CL1												<+	+1	+*							
R		197.2	200.1																													Mafic ash tuff with 15% laminated PY + PO. Sulphides
R		197.2	200.1																													associated with patchy pervasive carbonate, and strong chlorite
R		197.2	200.1																													alteration.
M	PY	197.2	200.1		X	MATF	CL	CA	PO=	LM	FG	4				D		LM		50						L1			PO
L							3G		PY1	FG		S									P1	P1	Q1							L=
R		208.3	210.6																													Atypical. Scattered 5mm QZ eyes replaced by EP? Rare CP
R		208.3	210.6																													p.blasts! Convoluted, "swirled" textures. Some crystals
R		208.3	210.6																													flattened.
M		208.3	210.6		8	MATF	CP		QX1	LM	WK	4				D		LM		70						<+	Y.		PO
L							5G		EP+	FG		S									<=	P1	H+							L(
R		217.0	230.0																													Darker grey-green laminated MATF and pyritic ash tuff with
R		217.0	230.0																													5-10% laminated and rarely P.blastic PY. Foliation parallel to
R		217.0	230.0																													CAVN's to 1cm; or pervasive CA "bands"? Some bands are harder
R		217.0	230.0																													than others - silicified? Rare 1-2mm QZ eyes.
M		217.0	230.0	100.0	8	PYAT	CA	CL	PY=	LM	FO	4				N		LM		60	Q)				PY	L=			PO
L							AG		PO)	FG		S									L1	P+				Y*				L)
M		238.2	239.0	95.0	X	FLTZ			CL2	SH	GG					N										CY				
L				.0			5G		CY=						X							P2				G=				

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K09 (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       ( % )     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  SUMMARY
- --- -----.--   -----.--    ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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       240.3      249.7          20% laminated PY at 247.1-247.4m.  Overall increase in
R       240.3      249.7          pervasive CA alteration towards MSV PY at 249.7m.
N       240.3      249.7              X MATF      CA1                     N                           L+        PO
L                                            7G                                       P1                        L*

P MPY   249.7      251.2     100.0       MSPY QZ SL PY9 MS WF 4           P    FO      40 Q)                 M9        PO      P
L                             70.0            5U PO CA= FG            3                  (=                    +? L)  C
R       249.7      251.2          MSV fine grained pyrite with minor CA veinlets.  1-5cm Qz band
R       249.7      251.2          with very fine sphalerite??(dark brown).

P       251.2      315.5     100.0       MATF EP    CA1 FG LM 4           P    LM      60                    L)        PO
L                             80.0            5G    CL1               3        LM      75 P1 $) P1 Q=                  1*
R       251.2      315.5          Same fine grained green ash tuff as above, but perhaps with an
R       251.2      315.5          increase in pervasive carbonate as 1mm to 1cm pervasive CA
°       251.2      315.5          bands parallel to foliation.  Local 10 to 50cm bands of semi-MS
.       251.2      315.5          PY + PO ie: 252.2-252.6m; 257.7-258.6m.  Lamination 75 degrees
R       251.2      315.5          to core at 273.0m.  5-20% EP "knots" or patches.  Could be
R       251.2      315.5          replacing fragments.  Very strong chlorite 277.1-287.4m.
N       252.2      252.6     100.0    8 MSSF CA     PO7 MS FO 4           N    FO      70                    M7        PO
L                             50.0            3U    PY7 FG                1               P=                           M2
N       257.7      258.0     100.0    X MSPY CA     PY8 MS FG 4           N    LC      70                    M8        PO
L                            100.0            3U    PO1                                   P=                           M1
N       277.1      287.4              X MATF CA     MS= FG SH 4           D    FO      80                 CY L)        PO
L                                             3G    CL3 FO $T             3    LM      75 P* $= P3 Q=     G+           1*
R       287.7      288.4          Same rock with 7-10% fine laminated PY.  5cm gouge at VC.
R       287.7      288.4          Wispy green F.mica? parallel to foliation and moderate MS
R       287.7      288.4          sheeting.  Unspectacular.
N       287.7      288.4              X PYAT MS     PY= FG LM 4           N    FO      75                 FM L=
L                                             AU    FM-                                     $=            L-
R       300.6      303.2          Mottled light and dark green mafic crystal tuff.  Looks like a
R       300.6      303.2          very crowded HBL or pyroxene porphyry, with mafics completely
R       300.6      303.2          chloritized, and matrix altered by CB+EP.  Contacts gradational
R       300.6      303.2          over 30cm.  Foliated in lower 30cm.
N       300.6      303.2              X MAXT CB EP CL2 PP CR 4 5 4 L      N                              Y(
L                                             5G    MF3 WF    S           2                   P=    H2 P+
N       310.9      311.7     100.0    X PYAT        PY1 LM                N    LM                        L1
L                             95.0            3A    CA=                                   L= $)

P       315.5      351.7                 MLAT EP CB LP1 FR FO 4 6 1 M     P    LM      80                    Y*
                                              5G MS CL2 LM    M           3                   L1 $= F2 F1
A       315.5      351.7          Similar to previous rock, but now see more definite fragments
R       315.5      351.7          flattened parallel to foliation and strongly EP+CB altered.
R       315.5      351.7          Locally still just an ash tuff and change is gradational.  20%
R       315.5      351.7          very fine chloritic fiamme to 3mm long.
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K09 (CONTINUED)

K E Y	F L A G	FROM	TO	CORE RECOV-ERY (%) / ROCK QUAL DESIG	% M I X / FOR MEM AGE	ROCK TYPE / EN V	TYPI-FYING TM 1, TM 2 / RT Q, LC-COL, TM 3	QAL MIN MAT QM1 / QM2	TEX-TURES TX 1, TX 2 / TX 3, TX 4	GRAIN CHARACS F F, C P, % / S O, R N, S H, Q R D P C	FRAC-TURE M # TK / DIP F SHL I	STRUCTUR-1 T 1, ID, STK AZM, DIP RT / STRUCTUR-2 T 2, ID, STK AZM, DIP RT	ALTERATION MINS HA QZ, BI, CY, CB, MG, XX ANY MIN / KF, MU, CL HA, EP HA, HE HA	ORE-TYPE MINS HA PY, CP, GL, YY ANY MIN / HA HA, PR HA, MO HA, SL HA, HA HA	SUMMARY
P		351.7	392.9	100.0		MATF	CA	CL2	LM FG	4	P	LM 75		Y*	
L				95.0			5G	EP1	$T			L1	P2 31		
R		351.7	392.9	Green fine grained laminated mafic ash tuff. EP as patches and											
R		351.7	392.9	blebs. Thinly banded pervasive carbonate. Loss of large											
R		351.7	392.9	EP-replaced fragments and flattened chloritic fragments.											
R		351.7	392.9	Weaker foliation. Occasional SEXL intervals to 40cm ie:											
R		351.7	392.9	377-377.4m; 390.3-390.4m; 386.8-386.9m.											
R		368.9	370.0	Coarse white calcite/chlorite/QZ BRXX. PO blebs and stringers											
R		368.9	370.0	at CA-CL boundaries.											
N		368.9	370.0	100.0	6	BRXX	QZ PO	CA2	BX VN		N	LC 40 #1			PO
L				96.0			5G	CL2			1	#2	#2		B+
R		377.0	377.4	Dark grey SEXL - weakly banded. Contains laminated Pyrrohotite											
R		377.0	377.4	and minor PY.											
·		377.0	377.4	100.0	X	SEXL	PY	QZ5	LM		N	LM 75 P5		L)	PO
··				50.0			3A	PO1							L1

S U M M A R Y   R E M A R K S

Hole intersected mainly mafic ash to lapilli tuffs throughout hole. Dark grey SEXL bands to 15cm only 1% of rock. Several sections of pyritic ash tuff carrying up to 10% fine pyrite. A very good intersection of essentially MSV pyrite at 249.7-251.2m is the only definite conductor seen in the hole. Hole shallows to 25% at bottom!!

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K10

PROJECT IDEN : KUTCHO	START DATE : 90/ 8/11	COMPLETION DATE : 90/ 8/15	GEOLOGGED BY : +
COLLAR NORTHING: 47353.00	COLLAR EASTING : 37533.00	COLLAR ELEVATION: 1502.00	GRID AZIMUTH :
	TOTAL LENGTH : 304.50	CORE/HOLE SIZE :	

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.0		180.00	-45.00		
001	121.6		174.00	-45.00		
002	213.1		181.00	-44.00		

K E Y	F L A G	INTERVAL (UNITS = FT) FROM - TO	CORE RECOVERY (%)	% M I X	ROCK TYPE	TYPIFYING MINERALS TM 1	TM 2	QUALIFYING MINERALS QM1	TEXTURES TX 1	TX 2	GRAIN CHARACTERS F	C	%	M	FRACTURE #	TX	STRUCTURE-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	H A ANY	ORE-TYPE MINS H A PY	H A CP	H A GL	H A YY	H A ANY	SUMMARY
K E Y	F L G		ROCK QUAL DESIG	FOR MEN AGE	EN V	RT Q	LC- COL	TM 3	QM2	TX 3	TX 4	S O N R	R S H D	S O P C	DIP / SML	F I	STRUCTURE-2 T 2	ID	STK AZM	DIP RT	KF	MU H	CL H	EP H	HE H	HA H	PR H	MO H	SL H	HA H	
		0.0 9.8					CASE									P															
P		9.8 14.4	90.0				LLXT	CL	MU	LL1	FR	PP	5	6	1	N	P	0	FO	70					D)					
L			5.0				5A			FX1	FO		S		E	O	7				P1	P1								
R		9.8 14.4	Felsic lapilli are flattened and elliptical.																												
P		14.4 31.5	100.0				MATF	EP		CL3	FO	LM					P	0	FO	70					CB	D)				
L			40.0				4G			CB2						5					L1		P3	P1		Q1				
R		14.4 31.5	Essentially a chlorite-EP-carb schist derived from mafic																												
R		14.4 31.5	volcanics. Fault zone (broken core, calcite veining, and																												
R		14.4 31.5	gouge) at 24.7-25.5m. Minor gouge also at 30.5m.																												
R		24.7 25.5	Gouge, broken core and calcite veining through this zone.																												
M		24.7 25.5		X			FLTZ	GG		CV=	FO	GG					M	0	FO	65						D)				
L								4G		CL3						8					V=		P3							
P		31.5 34.8	100.0				DYKE	CV		FX1	PP	FG					P	1	VN	20										
L			95.0				5A			EP+	MX					2		0	UC	70	V)		H+							
R		31.5 34.8	Upper and lower contacts are marked by 5-10cm of gouge and																												
R		31.5 34.8	sericitized MATF. Feldspar laths are epidotized.																												
P		34.8 51.0	100.0				MATF	EP		CL3	FO	LM					P	0	FO	70					CB	D)				
L			50.0				4G			CB2						5					L1		P3	P=		Q1				
R		34.8 51.0	Rare quartz-carb-chlor veins. Local siliceous grey laminated																												
R		34.8 51.0	layers (CHTF) ie: form 46.5-47.0m and from 47.8-48.5m.																												
R		47.8 48.5	Siliceous grey cherty bands with chlorite+carb+EP laminations.																												
		47.8 48.5	100.0		X		CHTF	CL	EP	QZ4	FO	LM					M	1	LM	70	L4					D)				
L			15.0				5A			CB1						4					L1		L1	Q=						
P		51.0 54.3	100.0				LLTF	CL	CB	QZ4	FO	LB					P	1	FO	70	L4					D)		PY		
L			5.0				AG		PY	MU=	FG					6					P=		$=	$1						
R		51.0 54.3	Similar to above CHTF except that siliceous laminations are																												
R		51.0 54.3	lenticular - possibly felsic lapilli fragments? 5cm gouge at																												

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K10 (CONTINUED)

REY	FLAG FROM	- TO (UNITS = FT)	CORE RECOVERY (%)	% MIX	ROCK TYPE	TYPIFYING MINERALS 1	2	QUAL MINERALS 1	TEXTURES TX 1	TX 2	GRAIN CHARACS F	C	%	M	FRACTURE P	#	TK	STRUCTURE-1 T	ID	STK AZM	DIP RT	ALTERATION H QZ	H BI	H CY	H CB	H MG	MINS H ANY XX	ORE-TYPE H PY	H CP	H GL	MINS H ANY YY	SUMMARY
R		51.0	54.3			UC. Minor gouge at lower contact.																										
P		54.3	58.9	100.0		MATF EP		CL4 WF							P	0	FO	65						CB	D)						
L				40.0		AG		CB2			5										L=		P4	O=	P1							
R		54.3	58.9			As before, chlor-carb-EP rock. Weak foliation, local banding																										
R		54.3	58.9			and overall more massive. Rare qtz-carb veins.																										
P		58.9	60.5	100.0		LLTF CL	CB	QZ3 FO LB							P	1	FO	70	L3							D+					
L				15.0		AG	PY	MU1 FG			6										P=	$1	$1								
R		58.9	60.5			As described above. Lenticular banding not as well developed.																										
R		58.9	60.5			Fol. varies 65-70 degrees.																										
P		60.5	64.0	100.0		MATF CB		QX+ FO							P	1	FO	65						CB	D)						
L				35.0		4G		CL4			5										L=		P4	O(	P1							
		60.5	64.0			As before, except with 2-3% blue grey qtz crystals (1-2mm in																										
		60.5	64.0			size).																										
P		64.0	67.7	90.0		FTBX QZ	GG	QX+ BX							P										D)					
L				.0		AG		CL2			X										P+		P2								
R		64.0	67.7			Broken core, brecciated rock and fault gouge occurs across the																										
R		64.0	67.7			contact of the MATF and the FTBX.																										
N		64.0	66.8			X MATF									N																
N		66.8	67.7			X LLTF									N																
P		67.7	84.9	100.0		LLTF QZ	PY	LF2 FO LB							P	1	FO	65						D+		PY					
L				10.0		8A	CB	MU2			5										P+	$2								L)	
R		67.7	84.9			Siliceous lapilli are lenticular in shape - drawn out coplanar																										
R		67.7	84.9			to the foliation surface. Local folding (small scale) of																										
R		67.7	84.9			foliation surface. Py disseminated throughout, locally coarse																										
R		67.7	84.9			dissem. form concentrated bands.																										
P		84.9	94.6	100.0		MLTF QZ		CL4 FO LM							P	0	FO	60						CB	D)						
L				15.0		5G		CB2			5										L1		P4		P1							
R		84.9	94.6			Similar to MATF (chlor+carb schist) but with local siliceous																										
R		84.9	94.6			lenses (felsic lapilli?). Siliceous pyritic interval																										
R		84.9	94.6			93.2-93.5m. Gradational lower contact.																										
P		94.6	99.8	100.0		QMCS CB	PY	MU2 FO LM							P	1	LM		L3					CB	L)		PY			
L				15.0		AT		QZ3 FG			5										P1	$2			L1					D)	
		94.6	99.8			Contorted foliation, minor brecciation at contacts with dyke.																										
		94.6	99.8			Pyrite in dissem (2%) and in narrow discontinuous laminations.																										
R		94.6	99.8			May have been an ASHT. Narrow breccia band at 99.6-99.65m.																										
R		97.2	99.2			Epidotized feldspar phenos (1mm).																										
N		97.2	99.2	100.0		X DYKE		FX1 PP FG							N	0	UC	40													

REY	ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC- 3 COL	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	CL H A	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A	SUMMARY
R																	STRUCTUR-2												

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K10 (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     ( % )     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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- - -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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   MEN  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                          100.0            5A    EP+ MX              0     0 LC      60          H+

P       99.8      127.4     95.0       SEXL FM CB QZ7 FO BN              P  0 FO      70 P7                   D)
L                            2.0            WW    MU2                 8     0 FO      50 Q= $2
R       99.8      127.4         Locally, rock is blue-grey in colour. Very siliceous with fine
R       99.8      127.4         laminations of sericite (sheeting).  Local intervals of massive
R       99.8      127.4         silica (106.0-113.6m and 120.9-127.4m) and local interval of
R       99.8      127.4         increased PY% (117.7-118.4m).  Foliation varies from 50-70
R       99.8      127.4         degrees.  Gouge at 101.2m.
R      106.0      113.6         Virtually 100% silica, minor sericite.  Fractured, but
R      106.0      113.6         otherwise massive.  Contacts gradational.
N SEX  106.0      113.6    100.0    X SEXL FM    QZ9 MX                 N             P9                   D.
L                            2.0            WW    MU1                 8                $1
R      117.4      118.4         PYAT used for lack of a better rock name.  Laminated and
`      117.4      118.4         pyritic unit within SEXL.  Black laminations (fine sulphides?)
x      117.4      118.4         and rare green laminations chlorite(?).
N      117.4      118.4    100.0    X PYAT MU CB PY1 FO LM               N  0 LM         P                    D=       PY
L                           15.0            5A    QZ4                 6              L1 $1                             L+
R      120.9      127.4         A second zone of virtually massive silica, very little
R      120.9      127.4         sericite.
N SEX  120.9      127.4     80.0    X SEXL       QZ9 MX                 N             P9                   D)
L                            5.0            WW    MU=                 8                $=

P      127.4      141.2    100.0       MATF EP    CL4 WF                P  0 FO      65                 CB D(
L                           70.0            4G    CB2                 4              L1    P4 01 0) P1
R      127.4      141.2         A chlor-carb-EP schist.  Gouge (5cm) at upper contact and also
R      127.4      141.2         near lower contact (140.3-141.0m).  Local hematite spots
R      127.4      141.2         particularly assoc. with a fault zone at 135.4-137.2m.
R      127.4      141.2         Foliation varies 60-70 degrees.  Epidote in spots and patches.
R      135.4      137.2         Rock is pale - no longer green.  Hematite stained gouge and
R      135.4      137.2         hematite spots.  Carbonate more abundant.
N      135.4      137.2             X FLTZ CB CL GG1 GG BX              N
L                              .0           AT    HE+                 X                             0+
N      140.3      141.0             X FLTZ CL EP GG1 GG BX              N
L                              .0           4G                        X

P      141.2      161.2    100.0       QCMS CB CL QZ6 FO LM              P  0 FO      60 P6                   D+       PY
L                           20.0            8A    MU1                 6              O= $1 $+                          L)
R      141.2      161.2         15-20cm of brecciated rock at contacts with dyke.  Becomes very
       141.2      161.2         siliceous at 147.1-148.5m (bands of SEXL).  Rock is more
x      141.2      161.2         chloritic, sea green in colour 148.5-154.7m.   PY 5%
R      141.2      161.2         149.6-150.0m.
N      142.8      146.1    100.0    X DYKE       FX1 PP FG              N
L                          100.0            5A    EP+ MX BC           3                        H+
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90R10 (CONTINUED)

K	F L	- I N T E R V A L - (UNITS = FT)		CORE RECOV- ERY	% M ROCK I	TYPI- FYING TM	TM	QAL MIN MAT QM1	TEX- TURES TX	TX	GRAIN CHARACS F	C	% M	FRAC- TURE P	#	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A	H A	H A	H A	H A	MINS ANY MIN	ORE-TYPE H A	H A	H A	MINS ANY MIN	
E	A																														
Y	G	F R O M	T O	(%)	X	TYPE	1	2	QM1	1	2	F	P	C	P	#	TK	1		AZM	RT	QZ	BI	CY	CB	MG	XX	PY	CP	GL	YY	SUMMARY
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		148.5	154.7			Sea green, more chloritic than above QCMS.																											
N		148.5	154.7	100.0		X QCMS	CB	MU	QZ4	FO	LM						N	0	FO		60	P4							D+		PY
L				20.0			6G	PY	CL2								6					Q1	$=	P2							L)
R		154.7	161.2			Texturally distinct. Contorted and folded siliceous bands.																											
R		154.7	161.2			Local planar foliation.																											
N		154.7	161.2	100.0		X QCMS	CB		QZ6	FO	LM						N	0	FO		60	P6						CB	D+		PY
L				20.0			WW	PY	MU1	FD												Q=	$1					L=			L)
P		161.2	164.4	100.0		MATF	QZ	PY	CL3	FO							P	0	FO		60								D+		
L				5.0			4G		CB=								7					L=		P3							
R		161.2	164.4			More siliceous than typical MATF. Narrow breccia band at																											
R		161.2	164.4			163.7m.																											
P		164.4	227.8	100.0		QCMS	CB	CL	QZ4	FO	LM						P	0	FO		50	P4						CB	D)	D.	
				30.0			WW		MU2	FD	LB						5	0	FO		70	P1	#2	P+				L1			
R		164.4	227.8			Very similar to the interval 141.2-161.2m. Rock varies in																											
R		164.4	227.8			composition and texture. Sea-green chloritic QCMS at top (to																												
R		164.4	227.8			approx. 172m) below this, porphyritic dykes intrude banded																												
R		164.4	227.8			QCMS. Local contorted siliceous layers, local lensoid banding																												
R		164.4	227.8			(LLTF?), grades into SEXL approx. 213.0-216.0m.																												
R		172.5	173.3			Very broken core and gouge in QCMS at upper and lower contacts.																												
N		172.5	173.3	100.0		X DYKE			FX=	PP	FG						N	0	UC		50											
L				90.0			5U		HB1	MX							3															
R		183.2	183.9			Gouge in QCMS at upper contact.																												
N		183.2	183.9	100.0		X DYKE			FX1	PP	FG						N															
L				90.0			6A		EP+	MX							3									H+						
R		200.8	202.6			Very unusual rock - clay altered to a pale tan, very soft with																												
R		200.8	202.6			hematite spots and patches. Similar to FLTZ at 135.4-137.2m.																												
N		200.8	202.6	95.0		? MATF	CB	MU	HE+	FO							N				65							CY				
L				.0			AT		CY4								6					P1	$1			O+	P4					
R		202.6	203.1			Very pale and bleached, clay altered. Phenocrysts barely																												
R		202.6	203.1			visible - completely altered to green clay. May have been																												
R		202.6	203.1			feldspars(?) or hornblende(?).																												
N		202.6	203.1	100.0		X DYKE	FX		CY3	PP	FG						N											CY	D)			
L				100.0			9A			MX							3											P3				
N		202.6	203.1	100.0		X DYKE	FX		CY3	PP	FG						N											CY	D)			
L				100.0			9A			MX							3											P3				
R		203.1	206.8			Breccia fragments are mostly QCMS, rare exotics; variable in																												
R		203.1	206.8			size from 2mm-10cm, carbonate matrix supported; vuggy with																												
		203.1	206.8			carbonate crystals lining the cavities.																												
N		203.1	206.8	100.0		X BRXX	QZ	CY	MU3	BX	VG						N					P3							D)			
L				80.0			BP		CB3								4					P3	$3									
P		227.8	237.4	100.0		QCMS	CB	HE	QZ5	FO	ST						P	0	FO		60	P5						CB	D)	D.	

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K10 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MINI X	ROCK TYPE	TYPIFYING MINERALS 1	TYPIFYING MINERALS 2	QAL MINERALS QM1	TEXTURES 1	TEXTURES 2	GRAIN CHARACS F	C	% M	FRACTURE P	#	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	A A CB	A A MG	MINS H A XX	ORE-TYPE H A PY	H A CP	H A GL	MINS H A YY	SUMMARY
KEY	FLAG			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	LC- COL	TM 3	QM2	TX 3	TX 4	S O R D	R H P	S / C	DIP SML	F I	T 2	ID	STK AZM	DIP RT	KF H A	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	
L				5.0				9A	CL	MU1	FD	LB					6		0	FO		70	P1	$1	P=		0+	L1				
R		227.8	237.4	Green in colour and chloritic at top. Foliation varies 50-60																												
R		227.8	237.4	degrees. Locally folded. Distinctive hematite spots. Local																												
R		227.8	237.4	fluoromusc.																												
R		235.8	237.4	Fault zone in QCMS.																												
N		235.8	237.4	90.0		X	FLTZ	CB	QZ	CY2	BX	GG					N		0	FR		20						CY		D)	
L				.0				WW		MU2							X						P2	P2				P2			
P		237.4	272.6	100.0			QCMS	CB	CL	QZ6	FO	ST					P		0	FO		60	P6						D+		PY
L				10.0				WW		MU2	FD						6						$=	$2	P=						L(
R		237.4	272.6	As in interval to 227.8m, although there is more dissem. PY																												
R		237.4	272.6	here. Local folding. Locally green and chloritic. Spotted																												
R		237.4	272.6	with PY. Fault zone (gouge and clay altered rock) at																												
R		237.4	272.6	240-240.5m and 268.1-268.7m and at lower contact. Increased																												
		237.4	272.6	PY% at 261.4-261.9m and 269.2-270.9m (tan coloured rock).																												
		252.7	254.4	Feldspar crystals 2-5mm, mafic phenos (HB?) approx. 0.05mm.																												
N		252.7	254.4	100.0		X	DYKE	HB		FX1	PP	FG					N		0	LC		60									
L				95.0				7U		EP)	MX						2										H)				
N		272.3	272.6	100.0		X	FLTZ			CY2	GG	BX					N														
L				.0				6T									X														
P		272.6	277.9	100.0			SEXL	CB		QZ8	MX						P												D(		
L				90.0				9A		MU1							3						Q=	<1		0.					
R		272.6	277.9	Massive competent grey-white SEXL grades into more																												
R		272.6	277.9	sericitically altered incompetent rock approx. 275.3m. Locally																												
R		272.6	277.9	chloritic. Local gouge zones (276.0-276.4m, 277.7-277.9m).																												
R		272.6	277.9	Local hematite spots.																												
R		275.3	277.9	Varies from a strong sericitic SEXL to QCMS and chloritic QCMS.																												
N		275.3	277.9	100.0		X	QCMS	CL	CB	MU2	FO	BX					N						P5						D)		
L				.0				9A		FM	QZ5	GG					8						Q=	$2	$1	0.					
P		277.9	304.5	100.0			QFXT	CB	EP	QX1	PP	FR					P		0	FO		65							D.		
L				60.0				AG	MU	FX2	FO						4						V)	$=		H=	T)				
R		277.9	304.5	Rock varies from strongly foliated to massive at EOH. Local																												
R		277.9	304.5	strong sericite alteration. Local hematite staining. Chlorite																												
R		277.9	304.5	alteration of matrix. Foliation varies 65-70 degrees. Broken																												
R		277.9	304.5	core common, minor local gouge to 285.0m.																												
R		277.9	278.5	Shattered core.																												
N		277.9	278.5	90.0		X	FLTZ			HE+							N														
				.0						MU2							X							$2		>+					

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K10 (CONTINUED)

S U M M A R Y R E M A R K S

Interbedded MATF and LLXT/LLTF were intersected in the upper part of the hole. SEXL occurs at 99.8-127.4m. A narrow pyritic interval within this zone may correspond to the moderate conductor at surface. Below the SEXL, QCMS dominates the stratigraphy. MATF layers are rare. Feldspar porphyritic dykes occur throughout the drill hole. The hole ends in QFXT. The weak conductor may correspond to a vuggy (water-bearing?) breccia at 203.1-206.8m.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K11

PROJECT IDEN : KUTCHO	START DATE : 90/ 8/16	COMPLETION DATE : 90/ 8/23	GEOLOGGED BY : HO + 900
COLLAR NORTHING: 47675.00	COLLAR EASTING : 32473.00	COLLAR ELEVATION: 1549.00	GRID AZIMUTH : 0.00
	TOTAL LENGTH : 477.70	CORE/HOLE SIZE : BQTW	

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		190.00	-50.00		
001	9.14		196.00	-46.00		
002	216.00		202.00	-37.00		
003	372.00		208.00	-29.00		
004	459.90		208.00	-26.00		

```
  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      ( % )     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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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      1.50                CASE                          P

P      1.50     17.10                OVER                          P

P     17.10     92.60      100.0     MATF EP CL    FO FG           P   FO      60                  CA (+       EP
L                           95.0       BS 5G       BD    2 4 1         BD      60          H=      2=          P=
R     17.10     92.60          Surface weathering (limonite stained fracture surfaces) extend
R     17.10     92.60          down to 45.4m, foliation becomes more pronounced as move
R     17.10     92.60          downhole.
R     23.20     24.60          Silicified interval - looks cherty, crackle brecciated.
N     23.20     24.60              = MATF QZ CL FS= LM PP          D   FO      60 P=               CA D+       EP
L                                      BS 6G       BD    2 4 1         BD      60          H=      2=          P=
N     43.90     44.70              = SEXL QZ    FS= LM             N   FO      70 P2 (+            CB U+
L                                         TA    QX+                                   P+           Q=
N     79.70     90.00              X MATF EP CL    FG MG           D   FO      75                  CA L+       EP
L                                      BS 5G       BD    2 4 1         BD      60    $+ $= P1      2=          P=

P     92.60    100.80      100.0     QXTF QX HE QX= MG FO          P   FO      70                  HE U+
L                           90.0  RX   IN 6G       GC                                      H+ (= P+
R     92.60    100.80          Pyrite crystals 4-8mm.
R     99.50    100.30          Upper contact sharp, lower contact gradational, moderate
R     99.50    100.30          alteration.
N     99.50    100.30              2 QXTF                          N              (=               CB
L                           60.0                                                                   P2

P    100.80    117.50      100.0     LLXT       LL2 MS GC          P   FO      60                  CA J=
L                           90.0          6G    FS=                                       J+       2=
R    100.80    117.50          Fragments epidote and possibly dolomite/ankerite altered.
R    100.80    117.50          Feldspars altered, in both fragments and matrix homolithic
R    100.80    117.50          fragments (epidote altered feldspar porphyritic), 1-2%
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K11 (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       ( % )     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  SUMMARY
- --- -----.--   -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -   - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -

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       100.80     117.50        agglomerate fragments - same composition.

P       117.50     154.30   100.0      MATF      LL+ FG MG 3 4 2 5       P    FO       65                   CA U+
L                            95.0       IN 6G       FO IB                     BD       65            P=     2=
R       117.50     154.30       Fine cherty-tuff (10-15%) interbedded with a coarse tuff.
R       136.90     143.00       Epidote replaces fragments (2-5%).
N       136.90     143.00          5 CHTF QZ        BD    2 3 2 4       N    BD       70                      (+
L                                        5G
R       140.50     142.10       Pyrite-bearing cherty tuff - sampled for assay.
N       140.50     142.10          F CHTF PY CB     BD    2 3 1 3       N    BD       70    $?    J?     CB U1       CA
L                                        YA                                                         $2          J+

P       154.30     158.10            LLXT      FS= MS FO                 P    FO       60 2=                CA J
L                                              LL1         E                                   J+ P1     J=
R       154.30     158.10       Similar to lithic lapilli unit described earlier, however,
R       154.30     158.10       fragments not as strongly epidote altered.  Some agglomerate
R       154.30     158.10       fragments (<2%), fragments of pyrite-bearing black chert (1%)
R       154.30     158.10       also observed.  Minor heterolithic component to fragments (2-4%
R       154.30     158.10       chert fragments).

P       158.10     172.10   100.0      LLTF      LL2 MG MS 3 7 2 0       P    FO       60 J+                CA (+
L                           100.0            5G       FO GC     A                                           J1

P       172.10     197.10   100.0      PYAT PY      BD FG                P    BD       60    $?             CA (=       CB
L                            90.0       DA 5A       MG IB                     BD       70    $= $+             (+       $=
R       172.10     197.10       Tuff with very few mafics.  Interbedded with minor chert
R       172.10     197.10       (1-2%).  Chert is massive, possible silica exhalative.  Chert
R       172.10     197.10       contains minor laminations of fine grained pyrite (1-2%),
R       172.10     197.10       possible ankerite sheeting (minor).  Fine grained pyrite occurs
R       172.10     197.10       as narrow seams between beds - subparallelling foliation,
R       172.10     197.10       carbonate (ankerite?) as fine grained interstitial material
R       172.10     197.10       between beds - pyrite usually associated with carbonate,
R       172.10     197.10       possible lapilli fragments present (2%).

P       197.10     216.10   100.0      QFXT QX FX FX1 IB GC 3 K 2 L        P
L                                        6G    QX+ MG MS                                       H+ H+        ()
R       197.10     216.10       Crystal tuff massive, becomes finer grained at upper and lower
R       197.10     216.10       contacts, unit interbedded with pyrite ash tuff.  Crystal tuff
R       197.10     216.10       varies in width 2.5-3.5m.
R       201.60     216.10       Possible flouromuscovite present (<1%), lapilli fragments
R       201.60     216.10       carbonate altered and stretched in direction of
R       201.60     216.10       bedding/foliation.  Feldspar crystals (1%) observed, pyrite ash
R       201.60     216.10       tuff unit varies in width 4.5-5.0m.
N       201.60     216.10          5 PYAT PY    LL= IB BD 2 5 = N       N  2 BD       70            Q?     CB (=       PY  2   4
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K11 (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-    N 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       ( % )     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  SUMMARY
- --- -----.--  -----.--   ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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                                         DA TA       GC                                    $+          Q=          W)  W

P      216.10     218.80   100.0       MATF HB CL     FG MG 3 J = J      P    CN      80
L                           60.0         BS 6G                                                 H=
R      216.10     218.80       Fine grained equivalent of QFXT, looks like, but contact sharp.

P      218.80     260.40   100.0       QFXT FX QX HB+ MS MG 4 L 2 L      P  7                                 U)
L                           90.0       KX MA TA       GC                                       H= H= H+
R      218.80     260.40       Unit contains minor fine grained phases (5%) up to 25cm wide,
R      218.80     260.40       also hornblende-feldspar crystal phase (2-4%), all exhibit
R      218.80     260.40       gradational conatacts.  Epidote alteration of feldspars
R      218.80     260.40       stronger, more pronounced as move downhole.  Hematite altered
R      218.80     260.40       feldspars appear at 250-251m.
R      258.80     260.40       Carbonate alteration strongest in lower 50cm of interval, unit
R      258.80     260.40       becomes finer grained as move downhole.
N      258.80     260.40   100.0     1 MATF CB        BD FG 3 5 2 5      N    FO      75  Q?    Q?    CA ()       CB
L                           30.0         BS 7A        GC                   2 BD      75              2+          Q=

P      260.40     261.70   100.0       PYAT PY        BD    2 3 1 3      P  1 BD      75              CA 31       PO  2
L                           90.0         DA 5A                               CN      80  $) $)       2=          J=  W
R      260.40     261.70       Possible fluoro muscovite (<1%) observed, pyrrhotite present
R      260.40     261.70       in lower 50cm of interval.

P      261.70     268.70   100.0       MATF        FX= MG FG             P                   O=    Q=       (+
L                          100.0       KX    TA    QX+ PP
R      261.70     268.70       Interval contains quartz-feldspar crystal tuff (40%) grading
R      261.70     268.70       into mafic tuff (50%), grading into altered (carbonate) mafic
R      261.70     268.70       tuff (20%).  Pyrite most abundant in dolomite/ankerite altered
R      261.70     268.70       tuff between 272.0-272.5m.
R      263.20     265.20       Interval cut by 5 white veins 'bull' quartz, veinlet fluoro
R      263.20     265.20       muscovite? (<0.5%).  No sulphides observed.  Ankerite? in
R      263.20     265.20       country rock.
N      263.20     265.20         2 MATF        QV3 MG FG             D    CN      50  O+    Q=       (+
L                                KX    TA    QX+ PP
R      266.10     266.30       Unaltered.
N      266.10     266.30   100.0     X DYKE MF     QX) MX                N    CN      20
L                          100.0         BS 4G     FX)

P      268.70     269.30   100.0       ARGL GR        FG LM 2 3 4 3      P  O LM      85  P?    P?    CB L+       PO  1
L                           80.0           TA         IB FD                                          P1          J=  M
R      268.70     269.30       Argillaceous tuff, dark-grey-black graphitic argillite
R      268.70     269.30       interbedded with fine grained tuff, graphite present as
R      268.70     269.30       fracture coating (1-3%).  Pyrrhotite magnetic, pyrrhotite
R      268.70     269.30       always within argillite, pyrite not necessarily so.  PO also
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K11 (CONTINUED)

```
   F  - I N T E R V A L -  CORE      %      TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
R  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     ( % )    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  SUMMARY
- --- ---------- ---------- ------ - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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       268.70     269.30        crosscuts bedding, soft sediment deformation - folds, slump
R       268.70     269.30        features.

P       269.30     280.90  100.0       MATF MF CL     FG MG 3 5 = 5       P                          CA
L                           80.0         BS 6G         MX                                  B)       2+
R       276.50     277.00        Folded discontinuous unit, pyrite only, no pyrrhotite, shear
R       276.50     277.00        through middle of interval, 5-8% white sericite gouge.
N       276.50     277.00  100.0     6 ARGL GR        FD SH 2 3 4 3       N                             D)
L                           80.0
R       277.00     280.90        Numerous (8-10) narrow shears between 277-278m, 5-8% white
R       277.00     280.90        sericite gouge in shears, strongly developed foliation.
N       277.00     280.90  100.0     X MATF CL MS     FO SH 3 5 = 5       D    FO      70             CA
L                                     BS 6G         MX                        SH          $= B)       2+

P       280.90     283.40  100.0       DYKE HB    HP= PP MX               P    CN      60 B)
L                           100.0         BS          FG
R       280.90     283.40        Phenocrysts, hornblende absent in area of upper and lower
R       280.90     283.40        contacts, quartz blebs resemble amygdules.  Dyke is cut by a
R       280.90     283.40        narrow (1-1.5cm) dyke - medium grained mafic dyke.

P       283.40     302.40  100.0       MATF CL CB     FO GC 2 4 2 4       P    FO      70    Q?    Q?    CB L+       PO
L                           95.0           7G         IB MG                  1 BD      85      $=      Q=          L+
R       283.40     302.40        Mafic tuff interbedded with pyrite - $ pyrrhotite-bearing
R       283.40     302.40        argillaceous tuff (5%), argillite interbeds 2-4cm wide,
R       283.40     302.40        pyrrhotite is more dominant mineral.
N       288.50     290.60             5 MATF CL CB     FO GC 2 4 2 4       D    VN      65    P?    P2    CA D)       PO 2  3
L                                       7G         IB MG                  1 BD      85      $=      21          L+ M

P       302.40     321.60  100.0       LLTF CB LL     FO BD 3 N = O       P    FO      85    Q?    Q?    CB L+       PO 2  3
L                           40.0 KL      DA TA PY                         3 BD      85      $=      Q1          L+ W
R       302.40     321.60        Resembles pyrite ash tuff but pyrite content very low.

P       321.60     337.90  100.0       QFXT QX FX QX= MX    4 L 2 L        P    CN      60 2+
L                           95.0 KX      BS 6G EP FX1                        VN      80          H1      D+
R       321.60     337.90        Epidote alteration of feldspars moderate to strong.
R       334.70     336.60        Fluoro muscovite?/fuschite as wisps (1%).
N       334.70     336.60             1 PYAT PY CB     BD    3 4 = 4       N  1 BD      70    Q?    Q?    CB L=          2
L                                       TA                                    CN      60    $+          Q=             W

P       337.90     346.60  100.0       PYAT PY CB     BD    3 4 = 4       P  1 BD      75    Q?    Q?    CB L=          2
L                           70.0           TA                                          $+          Q=             W
R       337.90     346.60        Fluoro muscovite?/fuchsite as wisps(2%).

P       346.60     352.20             MATF CL QZ FX+ SH FG 3 4 1 5       P  1 BD      80 P=       Q2
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K11 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% ROCK TYPE	TYPIFYING MIN TM	TM	QAL MIN MAT QM1	TEXTURES TX 1	TX 2	GRAIN CHARACS F	C	% M	C	P	#	TK	FRACTURE T	STRUCTUR-1 ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ORE-TYPE MINS ANY MIN H A XX	H A PY	H A CP	H A GL	ANY MIN HA YY	SUMMARY
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						BS	5G																		C+		$+						
R		346.60	352.20	Broken/shattered core, 5-8% green chlorite-sericite gouge																														
R		346.60	352.20	associated with sheared and broken rock.																														
P		352.20	355.40					MLXT	FX	QZ	FX=	GC	FO						P		FO		80	P1	Q?	$+	Q?		CB	D)			2	3
L						BS	4G	CB																					Q2				M	
R		352.20	355.40	Lower 70cm crackle brecciated, resembles silica exhalative.																														
P		355.40	385.80					MATF	MF		MS+	MG	FG	3	5	2	5		P		FO		70	2)					CA	D+			2	
L						BS	6G					FO	IB					3	BD										2)					
R		355.40	385.80	Interbedded with minor cherty tuff beds (2-5%) 1-3cm wide,																														
R		355.40	385.80	interbedded with argillite 1-50cm width, fine grained, dark																														
R		355.40	385.80	gray to black, usually containing 5-10% combined pyrite and																														
R		355.40	385.80	pyrrhotite laminations, bedding is 75 degrees to core axis.																														
R		383.90	384.40	Longest continuous argillite in section - sawed, contains most																														
R		383.90	384.40	sulphides/pyrrhotite, soft sediment deformation features.																														
N		383.90	384.40			X	ARGL	PY	PO		LM	FD							N	0	LM		75						PO	L=		PY		
L							2A	GR													CN		80						L=			U+		P
P		385.80	433.10					MATF	MF			FG	MG	3	5	1	5		P		FO		75	2+	Q?		Q?		CA			CB		
L							6G					IB	GC																2+			Q+		
R		385.80	433.10	Generally massive tuff interbedded with thinly bedded cherty																														
R		385.80	433.10	tuff/fine grained tuff(<5%), 1-4cm wide. Also interbedded with																														
R		385.80	433.10	2-5% argillite intervals 0.5-40.0cm wide, contain 10-20%																														
R		385.80	433.10	sulphides (pyrrhotite mainly + pyrite) as laminations.																														
N		397.80	403.80			X	MATF	FX	CL	FX1	CG	MX	4	5	2	5		N		FO		65						CA	U)			2	
L							6G				GC															H1			H1			W	
R		405.10	405.50	Contacts top and bottom 70 degrees with respect to core axis,																														
R		405.10	405.50	5-8% dark grey graphitic gouge associated with shear, small																														
R		405.10	405.50	scale folding and slump features present, pyrrhotite forms fine																														
R		405.10	405.50	grained layers/laminations.																														
N		405.10	405.50			X	ARGL	PY	PO	GR+	FD	SH							N	0	LM		70	21					PY	L=		PO		
L				30.0			3A														SH		70						U=			L=		
P		433.10	434.10	100.0			DYKE	CB	FX	FX1	MX								P		CN		75		P?		P?		FC		CB		2	
L				100.0			6T														CN		60						H)		P4		I	
R		433.10	434.10	Lower contact marked by change from massive to strongly																														
R		433.10	434.10	foliated rock.																														
P		434.10	442.00	100.0			LLTF	CA		LL2	GC	EL	3	K	2	M		P		FO		70												
L				90.0			BS	5G				E									SH		65		$=	$+								
R		434.10	442.00	Lapilli tuff? Lapilli of calcite (elliptical fragments or																														
R		434.10	442.00	boudined veins?) Fragments vary from 1-12mm, most abundant in																														
R		434.10	442.00	middle of interval.																														

HOMESTAKE MINERAL DEVELOPMENT COMPANY
HUTCHC

DRILLHOLE/TRAVERSE : DDH90K11 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MIX	ROCK TYPE	TYPIFYING MINERALS TM1	TM2	QAL MAT QM1	TEXTURES TX1	TX2	GRAIN CHARACS F	C	% M	P	# TK	FRACTURE T	STRUCTUR-1 ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS H ANY XX	ORE-TYPE H A PY	H A CP	H A GL	MINS H ANY YY	SUMMARY
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		442.00	445.60	100.0		GABR	HB	CL		GC	CG							P									HB				CB
L				95.0			6G			MX														H1			F1				P+
R		442.00	445.60	Coarse-grained mafic flow? Finer grained at top and bottom.																												
P		445.60	454.60	100.0		MATF	MF			GC	FG							P	8	FO		75			P)		CA	D)			
L				90.0			BS			MG										VN		75					(=				
P		454.60	459.10	100.0		GABR	HB		PP2	GC	CG							P									HB				CB
L				100.0			6G			MX														H1			F1				P+
R		454.60	459.10	Resembles a coarse mafic flow.																												
P		459.10	490.40	100.0		MATF	EP		CL=	FG	LM	4						P		LM		75							1(		
L				95.0			MF	3G	CA=	WF						4							P=		P=	P)						
R		459.10	490.40	Typical dark green chloritic mafic tuff. 451.9-461.1m has																												
R		459.10	490.40	strange speckled texture - EP? and weakly porphyritic texture.																												
R		459.10	490.40	Pale green EP-rich(?) SEXL(?) or siliceous ash tuff																												
R		459.10	490.40	461.4-461.7m.																												
N		459.10	461.10		X	MATF	CY		CL1	ST	FG	4	5	2	J			D		LM		75	((					CY	D*		
L							MF	3G	EP1	FO		M				4							(>	O+	P1	O)		O+				
N		477.50	477.70		X	SEXL			Q27									N					P7						L+		
L								7A	PY+																							

S U M M A R Y R E M A R K S

This hole was drilled to intersect geophysical conductor 'C'. Mafic tuffs and lapilli tuffs were the dominant lithologies along with lesser amounts of quartz crystal tuff lower in the hole. Pyrite ash tuff occurs as interbeds in intervals from 5-16m in width, pyrite varies 3-15%. Argillite was intersected between 268.7-269.3m, 276.5-277.0m, 383.9-384.4m and 405.1-405.5m and is the probable source of the anomaly.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K12

PROJECT IDEN : KUTCHO	START DATE : 90/ 8/15	COMPLETION DATE : 90/ 8/16	GEOLOGGED BY : +
COLLAR NORTHING: 47810.00	COLLAR EASTING : 37795.00	COLLAR ELEVATION: 1524.00	GRID AZIMUTH : 180.00
	TOTAL LENGTH : 66.80	CORE/HOLE SIZE :	

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		180.00	-45.00		

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K13

PROJECT IDEN : KUTCHO
COLLAR NORTHING: 47585.00
START DATE : 90/12/ 4
COLLAR EASTING : 31350.00
TOTAL LENGTH : 173.40
COMPLETION DATE : 90/ 8/25
COLLAR ELEVATION: 1500.00
CORE/HOLE SIZE : BQTW
GEOLOGGED BY : MDM +
GRID AZIMUTH : 0.00

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		190.00	-45.00		
001	61.00		191.00	-44.00		
002	158.20		195.00	-40.00		

```
  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     ( % )     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  SUMMARY

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      3.10                CASE                              P

P      3.10    133.20   100.0       MATF      CL= FG WF 4              P    PO     60                      1*       PO
L                        98.0          MF 5G    CA=       5            2                P=    P1 3=                 L(
R      3.10    133.20        Weakly foliated green ash tuff.  Relatively featureless.
R      3.10    133.20        Occasional pyrrhotite stringers.  Several small PY/PO rich
R      3.10    133.20        sections (see below).  5cm fault at 78.5m.  2% p.blastic PY
R      3.10    133.20        from 78.5-78.7m.  Occasionally QZ crystal bearing (1-2mm) ie:
R      3.10    133.20        82.6m.  Extremely intricately 'swirled'.  Laminated CL+PO at
R      3.10    133.20        128.7-128.8m (sawn).
R     25.70     26.00        Thinly laminated SEXL + ash tuff + pyrite.
N     25.70     26.00              9 SEXL CA    QZ4 LM                 N    LM     60                   PO L2     PY
L                                        3A     PY2                                     3=    L=        1+        Y)
N     47.40     47.80              X MATF       CL3 LM WF 4            D    LM     60                      1*       PO
L                                          MF 3G    PO=       S            2                P=    P3 3=                 L=
R     52.10     52.50        Dark grey-green chloritic SEXL with 10% laminated PO and trace
R     52.10     52.50        CP with PO.
N     52.10     52.50              X SEXL PO CA CL2 LM FG 4            N    LM     45 P4                       B.    PO
L                                        3G     QZ5       S                             3+    P2                    L1
R     57.20     57.90        Bleaching to pale green, increase in laminated PO.  57.7-57.9m
R     57.20     57.90        is semi-MSV PO (30%) associated with a 10cm QCVN.
N     57.20     57.90              X MATF       CL= FG LM 4            D    LM     55 ()                   Y)       PO
L                                          MF 7G    CA= PO    5            2                P=    P1 3=                 L1
R     62.60     63.90        Same mafic ash tuff, but interspersed with 5-30cm bands of
R     62.60     63.90        darker green chloritic MATF with 10-15% PO, + 3% p.blastic
R     62.60     63.90        PY.
N     62.60     63.90              4 MATF PY    CL2 FG LM 4            D    LM     70                      Y+       PO
L                                          MF 3G    PO1       S            2                P=    P2 3=                 L1
N     82.50     83.60              X MXAT       QX1 FO FG 4 5 1 J      D    FO     75                      1*       PO
L                                          MF 5G    CA= PP    S            2                P=    P1 3=                 L(
R     83.60     85.10        S.O.S. with 10-20% finely laminated PY 83.9-84.4m and
R     83.60     85.10        84.9-85.1m.
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K13 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MIX	ROCK TYPE	TYPIFYING MIN 1	TYPIFYING MIN 2	QAL MAT QM1	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	% M	P	FRACTURE #	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS ANY XX	ORE-TYPE H A PY	H A CP	H A GL	MINS ANY YY	SUMMARY
N		83.60	85.10		5	MATF	MS		PO1	FO	LM	4					D		LM		75						1+			PO	
L						MF	5G		CL2		5					2						P=	$1	P2	3=						L1	
N		88.60	88.80		X	SEXL			QZ7								N		LM		75	P7					1+			PO	
L							3A																							1)	
N		103.00	103.20		8	SEXL			QZ6	LM							N					P6					1*			PO	
L							1A																	L1						L*	
R		105.40	105.90		Strange dark grey interval - looks like mixed SEXL + MATF but																											
R		105.40	105.90		isn't siliceous. 15% thinly laminated PY + PO.																											
N		105.40	105.90		X	MATF	PY	PO	MS=	LM		4					N		LM		68	Q+					1=			PO	
L							3A		CL=														P=	P=							L1	
P		133.20	134.00	100.0		ASHT	CL	MS	PO1	FG	IB	4					P		FO		75	P2					L)			PO	
L				100.0			7A		QZ2	FO						2						<)	$1	$1							L1	
R		133.20	134.00		Interbedded. 40% pale grey SEXL, 40% pale green CL-SE altered																											
R		133.20	134.00		ash tuff. Approx. 15-20% green-black chlorite laminations or																											
R		133.20	134.00		argillaceous tuff, and 15% laminated PO. Corresponds fairly																											
R		133.20	134.00		well with surface P.E.M. conductor.																											
P		134.00	153.90	100.0		CSAT			CL3	FO	PP	4	5	3	L		P		FO		70						1*			PO	
L						AN	7G			FG	GC	S				2						P+	P+	H3	P=						1*	
R		134.00	153.90		Chlorite-spotted ash tuff. Pale green fine grained matrix with																											
R		134.00	153.90		35% dark green chloritic spots - locally flattened parallel to																											
R		134.00	153.90		foliation. Probably arg replaced mafic phenocrysts -																											
R		134.00	153.90		pyroxenes? Could be a PX-porphyry flow (andesitic?).																											
R		134.00	153.90		Metagabbro?? Decrease in PP texture from 150.2-153.9m.																											
R		134.00	153.90		Rare bedding textures, so probably an XT not a flow.																											
P		153.90	173.40	100.0		MATF	EP		CL1	FG	FO	4					P		FO		75						1*			PO	
L				95.0			5G		CB=													3=		P1	P+						(*	

S U M M A R Y R E M A R K S

Hole was drilled to intersect a surface PEM conductor located at approx. 60m depth at L12+00W, 1+25S on the 'C' target. Hole collared in mafic, chloritic ash tuff with occasional interbeds of silica exhalative up to 60cm wide. Several 15-30cm bands carry up to 20% lam. PY+PO. A 1.2m band of semi-MSV pyrrhotite (20%) at 135m likely corresponds to the surface and airborne conductor, and is the most significant min'n encountered. Hole intersects an unusual CL-spotted unit that may have been a HBL or PYX-phyric flow, from 135-155m, then gradationally crosses back into mafic ash tuff to EOH.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K14

PROJECT IDEN : KUTCHO | START DATE : 90/ 8/17 | COMPLETION DATE : 90/ 8/21 | GEOLOGGED BY : MDM +
COLLAR NORTHING: 47259.00 | COLLAR EASTING : 39170.00 | COLLAR ELEVATION: 1390.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 319.70 | CORE/HOLE SIZE : BQTW

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		180.00	-45.00		
001	76.20		192.00	-44.00		
002	207.00		195.00	-43.00		
003	319.60			-41.00		

K	F L A G	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOV-ERY (%)	% ROCK TYPE	TYPI-FYING TM 1	TM 2	QAL MIN MAT QM1	TEX-TURES TX 1	TX 2	GRAIN CHARACS F	C	% M	P	#	TX	FRAC-TURE	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ANY MIN A XX	ORE-TYPE MINS H A PY	H A CP	H A GL	ANY MIN YY	SUMMARY
P		0.00	5.70	.0				CASE										P													
L				.0																											
P		5.70	8.80	5.0				OVER										P													
L				.0																											
P		8.80	27.10	40.0				SEXL QX	CB	QZ5	$T	FG	4	5	=	L		P	$T	60	P5				$=		1+			
L				10.0				7A	PY	MS1	BN		M				7		BN	65	$1									
R		8.80	27.10	Banded silica exhalative with muscovite and carbonate sheeting.																											
R		8.80	27.10	15% interbedded felsic QZ crystal tuff. Shattered core to																											
R		8.80	27.10	18.5m with poor recovery.																											
P		27.10	36.70	100.0				QXTF	CB	EP	QX3	PP	TF	4	5	3	L		P	FO	50				$?		1+			
L				20.0				5A		MS1	$T	FO	S				5		FO	65	$1	$1	P=	B+	B)					
R		27.10	36.70	Crowded QZ crystal tuff or QZ porphyry, with minor intervals of																											
R		27.10	36.70	chloritic ash tuff. Strong foliation developed. QZ crystals																											
R		27.10	36.70	2-3mm and 5-8mm. EP could be replacing feldspars. Py locally																											
R		27.10	36.70	to 7% ie: 34.9-35.1m. Moderate to strong CB-MS sheeting.																											
P		36.70	42.20	75.0				FLTZ	CB	CL	CY=	GG	SH					P	FO	65				Q*		CY	L2	B-		
L				10.0				3A	CP	PY2	PP						8				$1	$=	P1	B+		G=					
R		36.70	42.20	75% pyritic gouge + broken core. Rock is still QZ crystal tuff																											
R		36.70	42.20	with 15% chloritic ash tuff. Open spaces parallel to																											
R		36.70	42.20	foliation; probably dissolved carbonate or gypsum. Trace CP at																											
R		36.70	42.20	40.0-40.1m. Textures locally masked by strong CL-CB																											
R		36.70	42.20	alteration.																											
N		36.70	42.20			X	QXTF						4	5	3	L		N												
L													S																		
P		42.20	51.10	100.0				QXTF	CB		QX3	$T	PP	4	5	3	L		P	FO	50						CY	1+	B.		
L				20.0			FS	7A		MS2	CR	FO	S				7				$2	$2		B)	<)						

HOMESTAKE MINERAL DEVELOPMENT COMPANY
LUTCHO

DRILLHOLE/TRAVERSE : DDH90K14 (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        ( % )    X TYPE  1  2 QM1  1  2 F F C P  # TR    1    AZM  RT QZ BI CY CB MG XX PY CP GL YY  SUMMARY
- --- ------.--  ------.--  -----.- -- - ---- -- -- --- -- -- - - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
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       42.20      51.10        Same bimodal-sized QZ crystal tuff. Variable weak to moderate
R       42.20      51.10        CB-MS sheeting. HE replaces QZ locally? Fleck CP at 47.8m.
R       49.60      51.10        Loss of textures via pervasive pale brown CL-EP? alteration +
R       49.60      51.10        fine grained pyrite. Probably a more tuffaceous lens.
N       49.60      51.10  100.0     X QXTF EP CB PY1 FG FO 4 5 2 L       N    FO      60          B1       L1
L                            .0           5T CL QX2       S                              $= $= P1 B+

P       51.10      66.80   70.0       QXTF MS CB QX3 SH GG 4 5 3 L       P    FO      65    $1          CY 1+
L                            .0           3A    CY2 PP    S          X                    $2 $=    B+ G2
R       51.10      66.80        Same QZ crystal tuff or porphyry, but stongly sheared and
R       51.10      66.80        faulted throughout. Cut by several mafic, MG-bearing dykes!
R       51.10      66.80        Pyrite locally 5-7% (laminated) ie: 60.3-61.9m.
R       55.20      57.50        Fine grained mafic dyke. 15% pale green laths could be altered
R       55.20      57.50        HBL phenocrysts or feldspars. Magnetic (mod). Contacts at
R       55.20      57.50        broken core.
N       55.20      57.50   95.0     X DYKE MG    MF2 FG PP 4 5 2 K       N                          CY          MG
L                            .0           1U    CY=       S          5                H(    )=      H=          D?
R       61.90      63.70        Shattered mafic dyke. Fresh enough to see 25% dark green mafic
R       61.90      63.70        phenos. Replaced by MG? Strongly magnetic. Primary?
N       61.90      63.70             X DYKE CL    MF2 FG PP 4 5 2 L       N                          MG
L                                        1G    MG1 SH    S          X                    P1      H1

P SEX   66.80      72.20   60.0       SEXL CL CB QZ3 $T FO 4             P    $T      75 P4 $?    Q*   CY 1)
L                            .0           9A CY MS2 SH GG           X                    $2 $+       G=
R       66.80      72.20        Shattered, faulted SEXL with 10% fine ash layers. Strong MS-CL
R       66.80      72.20        sheeting, and possibly 5% carb. sheeting.

P       72.20      93.30   55.0       QXAT MS    QX2 TF SH 4 5 2 K       P    $T      65    $=          CY 1+
L                            .0           9A    CY1 GG $T S          X                    $3 $)       G1
R       72.20      93.30        Finer grained tuffaceous rock. Qz crystals now quite fine
R       72.20      93.30        (1-3mm). Very strongly sheared and sheeted; approaching
R       72.20      93.30        schistose.
R       84.60      87.90        Non-magnetic mafic dyke. Laths (MF phenos) replaced by
R       84.60      87.90        CL-CY-CB. Contacts in broken core.
N       84.60      87.90   85.0     X DYKE       MF2 FG PP 4 5 2 K       N                          CY
L                            80.0         3U    CL1       S          3                H*    )=      H+
N       87.90      93.30   50.0     X FLTZ PY    CY5 SH GG                 N                       CY 1+
L                            .0           1A    MS3                  X                    $3          G5

P       93.30      97.70  100.0       QXAT MS    QX2 TF FO 4 5 2 K       P    FO      70 L+ $=          CY 1)
L                            80.0         5A    MS1    $T S          X                    $1 $+       G)
R       93.30      97.70        Decrease in shearing and MS sheeting. Rock is more competent.
R       93.30      97.70        10% siliceous bands in lower 1.5m could be SEXL.

P       97.70     121.60   99.0       ARGL QZ    GR= FG FO 4             P    FO      65 ()             GR D*
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K14 (CONTINUED)

KEY	FL AG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MIX	ROCK TYPE	TYPIFYING MINERALS TM 1	TM 2	QAL MIN MAT QM1	TEXTURES TX 1	TX 2	GRAIN CHARACS F	C	% M	FRACTURE P	#	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	H A ANY MIN	ORE-TYPE H A XX	H A PY	H A CP	H A GL	H A ANY MIN YY	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEN AGE	EN V	RT Q	TM LC- COL	QM2 3	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 H A	MU H A	CL H A	EP H A	HE H A	HA H A	PR H A	MG H A	SL H A	HA H A	STRUCTUR-2
L				15.0				1A	CA=								6					(=					P=					
R		97.70	121.60	Graphitic argillite and tuffaceous argillite. Approx. 5-10%																													
R		97.70	121.60	ash-tuff lenses. Rock is cut by numerous QC stringers that																													
R		97.70	121.60	parallel foliation.																													
R		100.00	101.40	Fine grained porphyritic dyke. Laths are replaced by clay and																													
R		100.00	101.40	chlorite. Non-magnetic. 5% calcite-filled flattened																													
R		100.00	101.40	amygdoules.																													
N		100.00	101.40	100.0		X	DYKE	CL	CB	MF2	FG	PP	4	5	3	L		N										CY				
L				100.0			MF	7U		CY+			5				1					A=		H=			H+					
P		121.60	127.30	100.0			QXTF			QX3	PP	$T	4	5	3	K		P		FO		70										
L				90.0				7A		MS=	FO		S				2						$=		B)								
R		121.60	127.30	Pale grey QZ crystal tuff. Relatively unaltered at top and																													
R		121.60	127.30	bottom except for minor MS sheeting. Central section finer																													
R		121.60	127.30	grained. Ash tuff with multicoloured pervasive alteration -																													
R		121.60	127.30	mainly chlorite and hematite.																													
R		123.30	126.70	2% brown-red soft blebs 5-20mm, probably HE. Follow foliation.																													
R		123.30	126.70	Patchy pruple + green HE+CL alteration.																													
N		123.30	126.70			X	QXAT	CL	MS	QX=	$T	FO	4	5	=	K		D		FO		70						CY	D(			
L								GP		HE=	IR		M				1					$=	$1	P1		Q=	P+					
P		127.30	129.00	100.0			DYKE	CL	MG	MF2	FG	PP	4	5	2	L		P										CY				MG
L				98.0				AU		CY=			S				1					A+		H=			H=					D+
R		127.30	129.00	Weakly magnetic porphyritic dyke. Mafic laths replaced by																													
R		127.30	129.00	CY+CL. <5% calcite amygdoules.																													
P		129.00	235.60	100.0			MLXT	CA	QX	EP1	TF	IB	5	6	1	N		P		FO		70						CA	1+			PY
L				25.0				5G		CL2	IR	WF	W				5					P+		P2	P1		<+					Y*
R		129.00	235.60	A real mess of a unit. Chloritic (mafic?) crystal lapilli tuff																													
R		129.00	235.60	to ash tuff. Crystalline sections carry 10-20% QZ eyes to 4mm.																													
R		129.00	235.60	Fragments are assorted shapes and sizes and consist of EP+CB -																													
R		129.00	235.60	did they replace something? Everything is interbedded, and																													
R		129.00	235.60	mod-strongly CL+EP+/-CA altered. Weakly foliated. 5cm CYGG at																													
R		129.00	235.60	160.5m. Coarse QXTF 161.9-162.3m.																													
R		152.70	153.20	Brecciated QZVN and moderate shear zone.																													
N		152.70	153.20			X	QZVN			QZ8	BX							N		VN		75	V8					CY	D*			
L								NW		CY1	SH																	G1					
R		158.50	159.50	Coarse QZ crystal tuff with moderate to strong chlorite and																													
R		158.50	159.50	hematite alteration, as sheeting.																													
N		158.50	159.50	100.0		X	QXTF	CL	CA	QX3	PP	CG	4	5	3	K		N		FO		55							Y*			
L				.0				GP		HE1	FO		S				5					(}		$1		P1						
R		166.10	166.70	Siliceous ash tuff or cherty ash tuff.																													
N		166.10	166.70	100.0		X	ASHT			QZ3	LM	FG	4					N		LM		70	P3									
L								3A									2								B)							

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K14 (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      ( % )    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  SUMMARY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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       180.70    181.60        Mafic dyke.  Mafic phenos altered to clay and chlorite.  Weak
R       180.70    181.60        to moderate magnetism - primary?  Faulted contacts.
N       180.70    181.60            X DYKE CY CL MF2 PP AM 4 5 2 K       N                        CY          MG
L                                          7A    MG= FG   S          1              A+    H=      H+          B=
R       193.00    193.50        Dark grey siliceous ash tuff with 3% laminated PY; 0.5%
R       193.00    193.50        p.blastic PY.
N       193.00    193.50            X ASHT      QZ2 FG LM 4              N    LM      75 P2              L+       PY
L                                          3A    PY+                                                              Y(
R       205.70    206.70        Strong pervasive clay and moderate shearing.  Host is a
R       205.70    206.70        hematitically altered coarse QZ crystal tuff.
N       205.70    206.70            7 FLTZ QX    CY2 SH GG               N    SH      70                CY
L                                          PP    HE1                                 (+            Q1 G2
R       211.10    212.10        Coarse grained QZ-FS crystal tuff.  Moderately well foliated.
R       211.10    212.10        Fresher than normal - can see white feldspar.  EP starting to
R       211.10    212.10        'rim' QZ + FS crystals.
N       211.10    212.10            X QFXT EP CL QX2 CR CG               N    FO      70                   Y*
L                                          5G    FX2 FO              1                    P1 R=
R       232.80    234.00        Very strong pervasive chlorite alteration, with p.blastic
R       232.80    234.00        pyrite.  LC sharp with CL-EP altered QFXT?
N       232.80    234.00            X MATF CA    CL3 FG LM               N  3 CV      55                   Y+
L                                          1G    PY+                                ()    P3 3+
R       234.00    235.60        Coarse, crowded QZ-FS crystal tuff.  Still with very strong CL
R       234.00    235.60        alteration, and now strong EP as blebs - replacing something?
R       234.00    235.60        Rock is weakly BRXX'd or crackled with chlorite and or white
R       234.00    235.60        calcite fracture fill.  At 235.0m alteration decreases; rock is
R       234.00    235.60        fresher.  CL-BRXX pipe??
N       234.00    235.60            X QFXT EP CL QX2 PP CR 4 5 4 L       N    LC      50                CL Y*
L                                          5G CA FX2 BX    S         1              #=    P2 B1   #=

P       235.60    247.60              PYAT CL PO PY= FG LM 4             P    LM      72                CY L=       PO
L                                          AU    HE+ FO              3              ()    P+    P+ Q)             L+
R       235.60    247.60        Pyrite + pyrrhotite laminated within a grey to faintly purple
R       235.60    247.60        ash tuff.  Up to 10% sulphides.  Patches/bands to 2m of more
R       235.60    247.60        typical green chloritic ash tuff.  Beige tinge may be due in
R       235.60    247.60        part to pervasive clay.  2cm ARGL at 245.5m.

P       247.60    251.30  100.0       ASHT FM CL CY= FG LM 4             P    LM              (*       Q*   CY 1)        FM
L                          80.0            5U    HE+ FO              3              ()    P+    P+ P=             L(
R       247.60    251.30        Similar to above, but less sulphides.  Strong pale beige tinge
R       247.60    251.30        from pervasive CY+HE?  Laminated bright green F-mica?  or CL?
R       247.60    251.30        at 249.6m.

P       251.30    290.50  100.0       MATF EP    CL1 FG LM 4             P    LM      65                   1)       PO
L                          90.0            AG    CA= WF    S         3              P= $) P1 3+                   L*
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K14 (CONTINUED)

K	F L A G	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOV- ERY (%)	% M I X	ROCK TYPE	TYPI- FYING TM 1	TM 2	QAL MIN MAT QM1	TEX- TURES TX 1	TX 2	GRAIN CHARACS F C P	% M #	FRAC- TURE TK	STRUCTUR-1 T 1	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS ANY XX	ORE-TYPE H A PY	H A CP	H A GL	MINS ANY YY	SUMMARY
R	F L G			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC- COL	QM2 3	TX 3	TX 4	S R O N R D	R S H P C	O DIP / SML	F I	T 2	ID	STK AZM	DIP RT	KF H A	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	
R		251.30	290.50																										Fine grained, thinly laminated grey-green mafic? ash tuff.
R		251.30	290.50																										Local coarse crowded QFXT sections to 30cm; ie: 258.7-258.8m;
R		251.30	290.50																										279.6-279.9m. Pale grey carbonate alteration (banded). Minor
R		251.30	290.50																										PY+PO. Relatively uniform.
R		271.80	273.60																										Thinly laminated grey-green ash tuff with 7% laminated pyrite.
R		271.80	273.60																										Slight increase in MS-CB-CL alteration. 2cm CAVN at 272.1m
R		271.80	273.60																										carries CP and SL?
N		271.80	273.60	100.0		X	PYAT	PY	EP	CL1	FG	$T	4		N		LM	70						CA	L=	:-		
L				95.0				7G	CA	MS1	LM			2					(*	$1	P1	3=			P1		:.		
P	ALT	290.50	292.25	100.0			ASHT	CY	CL	PO1	$T	LM	4		P		LM	70	Q)		$=			FM	1+		PO	
L				90.0			FS	7G	CB	MS2	FO			2					$2	$=				L*			L1	
R		290.50	292.25																										Strongly foliated felsic ash tuff with 10% laminated
R		290.50	292.25																										pyrrhotite. Strong pale grey-green alteration is mix of soft
R		290.50	292.25																										green clay, dolomite? and muscovite. Trace fluoro-mica.
P		292.25	316.30	100.0			MATF		CL2	FG	WF	4			P		FO	65							1*			
L								3G	CB=											P=		P2							
R		292.25	316.30																										Dark green chloritic mafic ash tuff. Lacks strong
R		292.25	316.30																										foliation/laminated texture seen previously. Most textures
R		292.25	316.30																										obliterated by pervasive CL. Coarse QFXT section 294.0-296.6m.
R		292.25	316.30																										Increase in carbonate (calcite alteration) down hole. Several
R		292.25	316.30																										5cm bands with 50% argillite ie: 310.8m, 313.2m.
R		294.00	296.60																										Coarse grained, crowded QZFS porphyry. Weakly foliated + MS
R		294.00	296.60																										sheeted. Pale grey and QZ flooded 294.9-295.8m.
N		294.00	296.60	100.0		X	QFXT	MS	CL	QX3	PP	FO	5	6 = L	N		FO	70	Q+									
L				85.0				5A		FX1	$T	CR	S		2					$+	P=								
P		316.30	316.90	100.0			ARGL	PY		GR)	FG	LM			P		UC	65						GR	L+		PO	
L				.0				NN		PO=															P+			L=	
R		316.30	316.90																										Moderately graphitic argillite with laminated PO+PY to 5-7%.
P		316.90	319.70	100.0			MATF		CL1	FG	LM	4			P		LM	62							1*			
L								5G	CA=	IB		S								P=		P1							
R		316.90	319.70																										Intermixed ARGL + mafic, chloritic ash tuff. Approx. 10-15%
R		316.90	319.70																										argillite.

S U M M A R Y R E M A R K S

HOMESTAKE MINERAL DEVELOPMENT COMPANY
RUTCHO

DRILLHOLE/TRAVERSE : DDH90R15

PROJECT IDEN : RUTCHO | START DATE : 90/12/ 4 | COMPLETION DATE : | GEOLOGGED BY : PNH +
COLLAR NORTHING: 48270.00 | COLLAR EASTING : 31920.00 | COLLAR ELEVATION: 1514.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 252.40 | CORE/HOLE SIZE : BDGM

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		200.00	-55.00		
001	176.50		197.00	-51.00		
002	243.50		198.00	-45.00		

K	F L A G	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOV-ERY (%)	% M I X	ROCK TYPE	TYPI-FYING TM 1	TM 2	QAL MIN MAT QM1	TEX-TURES TX 1	TX 2	GRAIN CHARACS F	C	% M	P	#	TK	FRAC-TURE	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	H A XX	ANY MIN A PY	H A CP	H A GL	ANY MIN A YY	ORE-TYPE MINS SUMMARY
P		0.00	9.80			CASE												P														
P		9.80	17.00	100.0		MATF	CA	CP	CL4	FG	FO							P		FO		50									D1	B*
L				35.0		??	MF	1G	EP	PY1							6					31		P4	Q+							
R		9.80	17.00			Dark green fine grained, chloritic rock with disseminated to																												
R		9.80	17.00			laminated PY and blebs of chalcopyrite. EP is just coming in																												
R		9.80	17.00			or going out. The intense chloritization may have more to do																												
R		9.80	17.00			with alteration rather than the original composition.																												
P		17.00	24.40	100.0		LLTF	LF	PY	QZ5	LB	$T	3	6	2	N			P		FO		43	P3		Q=		D=	D(				
L				45.0		VP	FE	7A		MS1				E			5						$1					D.				
R		17.00	24.40			Pale greenish grey. Possibly a LLTF as suggested by darker																												
R		17.00	24.40			grey, siliceous elipses bounded by MS sheets. Sulphides are																												
R		17.00	24.40			both disseminated and concentrated into narrow (<1cm) bands.																												
P		24.40	32.30	100.0		SEXL	MS		QZ8	$T	VN							P		$T		50	P6				D=					
L				50.0		EX		7A		PY=	LB						5						$1									
R		24.40	32.30			An extremely siliceous unit with disseminated to banded pyrite																												
R		24.40	32.30			and muscovite sheeting. Not laminated QZ like more typical																												
R		24.40	32.30			SEXL units.																												
P		32.30	42.80	98.0		QCEX	FM	SP	QZ5	SW	$T							P		FO		50	P4		Q2		FM	D+	D.			
L				50.0		EX		5T	PY	DO2							5						$1		O*	D+			D)			
R		32.30	42.80			A most unusual unit. Creamy buff with black, pink and green																												
R		32.30	42.80			spots. Upper part appears to be a silicified carbonate																												
R		32.30	42.80			(exhalite?) horizon. Lower part may be a silicified ash with																												
R		32.30	42.80			abundant green (fluoromica?) flecks. Patches and spots of																												
R		32.30	42.80			hematite.																												
N		32.30	33.20			5	FLTZ		GG3									N															
P		42.80	64.10	100.0		CHTF	PY	QX	QZ4	$T	FG	2	5	+	5			P		FO		50	P3				D1	D(				
L				90.0		EX	FE	5Y		MS1	PP	GC					1						$1						D(			

K	F L G	- INTERVAL - (UNITS = FT) FROM	TO	ROCK QUAL DESIG	FOR MEM AGE	EN	V	RT Q	LC- COL	TM 3	QM2	TX 3	TX 4	S	R	S	O	DIP	F I	T 2	STRUCTUR-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
K	F	- INTERVAL - (UNITS = FT) FROM	TO	ROCK QUAL DESIG	FOR MEM AGE	EN	V	RT Q	LC- COL	TM 3	QM2	TX 3	TX 4	S	R	S	O	DIP	F I	T 2	STRUCTUR-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
E	L													O	N	H	/	SML														
Y	G													R	D	P	C															

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K15 (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      ( % )    X TYPE  1  2 QM1  1  2 F F C P  # TX   1    AZM  RT QZ BI CY CB MG XX PY CP GL YY  SUMMARY
- --- ------.--  ------.--  -----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- --  - - - -
R  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       42.80      64.10        Green to cream coloured, very fine grained siliceous rock with
R       42.80      64.10        sparse QZ phenos (?). Sulphides are more abundant within the
R       42.80      64.10        central cream portion rather than the green part at the top and
R       42.80      64.10        bottom of the interval.
R       51.00      53.50        Fault/SHZN from 52.8-53.5m.
N       51.00      53.50            X PYAT QZ DO MS2 LM FG              N    LM      50 L2       L+    CY 11 D.
L                                     FE 5A    PY1 TB SH                   FO      50    $2          G=       D*

P       64.10      79.30   100.0      MATF EP XF CL2 WF FG 4 5 3 M       P    FO      50                CY 1+       PO
L                          95.0     ?? MF 3G    CB1       M          2                 31    P2 31     <*          1(
R       64.10      79.30        Fine grained mafic ash tuff with mod. pervasive chlorite +
R       64.10      79.30        20-30% EP and CB "spots" - could be replacing phenocrysts:
R       64.10      79.30        Faint reuct biotites? 5%.

P       79.30      85.50    95.0      LLTF MS AK LF3 FO $T 4 6 3 O       P    FO      45 F2 $1            1) L(
L                           80.0        FS 5A    QZ2 FG    S   F      3                    $2 P+    B*
R       79.30      85.50        Grey-green to beige felsic lapilli tuff to lapilli ash tuff.
R       79.30      85.50        Upper 3m is lapilli tuff with siliceous lensoid/flattened
R       79.30      85.50        fragments. Five 5cm long weak MS-CB sheeting and trace CP
R       79.30      85.50        parallel to weak foliation. Lower 3m sees decrease in
R       79.30      85.50        fragments to 10% + increase in MS-AK sheeting. Rock turns to
R       79.30      85.50        honey brown colour. LC in 40cm broken core. Crackle BRXX
R       79.30      85.50        81.2-82.0m. CP concentrated in 1cm band at 80.8m.
R       81.20      82.00        Dark grey crackle BRXX. Abundant black stringers could carry
R       81.20      82.00        fine sulphides. Well cemented; very little CYGG.
N       81.20      82.00   100.0    X BRXX       GM1 BX                N    UC      35 P3             GM D)          3
L                          60.0          5A    QZ3                                    $=           #1

P SEX   85.50      90.00   100.0      CHTF MS CB QX1 PP $T 4 5 1 K       P    $T      60 P3       Q+      1* <(
L                          75.0          9A    QZ4       S          2                 $= $1 +)
R       85.50      90.00        Intensely siliceous, QZ-crystal bearing cherty-tuff. Weak
R       85.50      90.00        sheeting. 1cm band of SM PY+CP at 87.4m

P       90.00     106.10   100.0      MATF       CL2 FG WF 4            P    FO      50                1*
L                          98.0        MF 3G    CB1       S          2                 <1    P2 <)
R       90.00     106.10        Chloritic mafic? ash tuff. 10% foliation parallel calcite
R       90.00     106.10        stringers. Influx of approx. 20% SEXL at 101.6m.
R       94.70      98.30        Grey-brown amygdoloidal dyke. Amygdoules are either silica or
R       94.70      98.30        calcite; white blebs 3mm-1.5cm diam. Also pale green CL-CY?
R       94.70      98.30        blebs - looks like they replaced mafic phenocrysts (BT or HBL
R       94.70      98.30        laths). Upper 20cm is tumultuous BRXX - 70% fragments. LC is
R       94.70      98.30        similar, but looks more like a very crowded QZ-crystal lapilli
R       94.70      98.30        tuff; 75% XF+LF. Cuts mafic tuff foliation at an angle.
N       94.70      98.30   100.0    X DYKE       CB2 AM                N    LC      55 A=             CY D*
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K15 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOV-ERY (%)	% MIX	ROCK TYPE	TYPIFYING MINERALS 1	TYPIFYING MINERALS 2	QAL MIN MAT QM1	TEXTURES 1	TEXTURES 2	GRAIN CHARACS F	C	% M	FRACTURE P	# TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS H A XX	ORE-TYPE H A PY	H A CP	MINS H A GL	H A YY	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC-COL 3	QM2	TX 3	TX 4	S O R	R N D	H P C	DIP / SML	F I	T 2	ID	STK AZM	DIP RT	KF	MU	CL	EP	HE	HA	PR	MO	SL	HA	
E	L																STRUCTUR-2				H A	H A	H A	H A	H A	H A	H A	H A	H A	
Y	G																													
L				100.0				5U	QZ=							1				A2		H=			H+					
R		101.60	106.10	20% SEXL interbedded with MATF. Increase in MS-AK sheeting.																										
N		101.60	106.10		2	SEXL			QZ4	IB						N				P4	$1		Q+						
L								5A	DO+												$=									
P	SEX	106.10	114.40	100.0		SEXL	DO		QZ6	$T						P		$T		50 P6			Q1		1)					
L				50.0				9A	MS2							5					$2	$*								
R		106.10	114.40	Typical silica exhalative with muscovite sheeting and patchy																										
R		106.10	114.40	dolomite ("blebs"). Gradational LC into LLTF/SEXL mix.																										
P		114.40	129.30	98.0		LLTF	MS	CB	QZ3	$T	FR	4	6	2	N	P		$T		42 P3	$1				1+					
L				80.0				GA	LF2	FO		M				4					$2	P+								
R		114.40	129.30	Very siliceous felsic lapilli tuff to ash tuff. Flattened																										
R		114.40	129.30	siliceous fragments 5-25%. Strong MS-AK? sheeting. PY varies																										
R		114.40	129.30	3-6%.																										
N		125.20	129.30	95.0	9	SEXL			QX7	$T						N		$T		45 P7					D*					
L				25.0				9A	MS2												$2									
P		129.30	159.10			LLTF	MS	CB	QZ5	$T	FR	4	6	2	N	P		$T		60 P5	$1		Q=		PO 1+		PY			
L								7A	LF2			M				4					$2				D*		Y*			
R		129.30	159.10	Similar to previous 'PGI', but with increase in interbedded																										
R		129.30	159.10	SEXL to 25%. Very siliceous, pale grey. Lapilli indistinct.																										
R		129.30	159.10	Occasional opaque white patches could be dolomite. 5-10mm																										
R		129.30	159.10	p.blastic PY from 139.3m. 1cm band of PY+CP at 156.5m.																										
R		129.30	159.10	Silicification decreases downhole (increase in % SEXL?).																										
N		129.30	156.40		3	SEXL										N														
R		156.40	156.80	Same rock, but contains two 1cm bands (laminations) carrying																										
R		156.40	156.80	PY, CP + SL?? No noticeable change in alteration.																										
N		156.40	156.80		X	LLTF	MS	CB	QZ5	$T	FR	4	6	2	N	D		$T		60 P5	$1		Q=		PO L=	B*	PY			
L								7A	LF2			M				4					$2				D*		B? Y*			
N		156.80	159.10		3	SEXL										N														
P		159.10	183.90	100.0		LLTF	CB		QZ5	$T	FR	4	6	2	N	P		$T		45 P5	$1		Q=		1+					
L				85.0				7A	MS3	FO		M									$3									
R		159.10	183.90	Felsic lapilli tuff to ash tuff. Intensely silicified;																										
R		159.10	183.90	fragments locally indistinct. Increase in MS+CB sheeting from																										
R		159.10	183.90	last PGI. 20% SEXL bands. % patchy dolomite varies 3-5%, 10%																										
R		159.10	183.90	locally. Increase in PY to 5-7% 176.4-183.9m.																										
N		165.10	171.50		X	FLTZ			CY3	GG						N									CY					
L																X									G3					
N		176.40	183.90		X	LLTF	CB	PY	QZ5	$T	FR	4	6	2	N	D		$T		45 P5	$1		Q=		L=					
L								7A	MS3	FO		M									$3									
P		183.90	196.20	95.0		LLTF	MS	CB	LF3	$T	FR	4	6	3	N	P		$T		45 P4	$=		Q+		1+					

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K15 (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     ( % )    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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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                         40.0          7A   QZ4 FO    M                               $2      Q+
R       183.90    196.20      Felsic lapilli tuff to ash tuff.  Still intensely silicified,
R       183.90    196.20      but lacks pure SEXL bands and some sections have a purple tinge
R       183.90    196.20      (HE?).  MS+CB sheeting varies 15-30%.  Broken core - fault?
R       183.90    196.20      187.7-189.0m.  FTGG at 190.9-191.0m + 189.8-189.9m.
N       187.70    189.00            X FLTZ      CY1 SH GG            N                             CY
L                                                                                                  G1

P SEX   196.20    204.50   100.0       CHTF CB   QZ5 $T GC 4 6 1 N       P    $T       55 P5 $=    Q=       1*
L                          60.0         YA    MS2      M          5                        $2 Q+    Q)
R       196.20    204.50      Mixed interval of silica exhalite and purple to green lapilli
R       196.20    204.50      tuff (intermediate).  Contacts are gradational.  Unit is
R       196.20    204.50      approximately 75% cream coloured SEXL.

P       204.50    222.00   100.0       LLTF CL MS LF2 $T FR 4 6 2 N       P    $T       60 P3
L                          80.0       IN 5G    QZ3 FO    M                              B) $1 P3
R       204.50    222.00      Intermediate(?) lapilli tuff to ash tuff.  Unit is strongly
R       204.50    222.00      silicified, medium green.  Grey-green siliceous lapilli are
R       204.50    222.00      flattened.  Could be chloritic alteration of a felsic lapilli
R       204.50    222.00      tuff.  Locally bleached and silicified to cream coloured ash
R       204.50    222.00      tuff-like unit.

P       222.00    232.40   100.0       CHTF MS   QZ6 $T    4 S = K       P    $T       65 P6 $)             1)
L                          85.0         9A    QX=       S                                  $1 (*    Q)
R       222.00    232.40      Impure silica exhalite; mixed with approx. 15% ash tuff.  Local
R       222.00    232.40      sections show reuct QZ crystals to 15%.  Highly siliceous.
R       222.00   -232.40      Laminated PY locally to 10% in 15cm segments.  CYGG + 10% PY
R       222.00    232.40      227.4-227.5m.  Local purple (HE) tinge.

P       232.40    237.90   100.0       QCEX MS   QZ5 BN $T               P    BN       60 P5       B1       1)
L                          85.0         5A    DO1                                          $2
R       232.40    237.90      Banded grey silica exhaltive + cream coloured dolomite? or
R       232.40    237.90      carbonate exhalite? or aggregates of sheeted muscovite? MS
R       232.40    237.90      probably best guess.

P OXF   237.90    252.40   100.0       LATF HE MS LF1 $T FR               P    FO       62 P3 $+          HE 1(
L                          85.0         PA    QZ3 FO                                       $2 Q=     P1 D)
R       237.90    252.40      Siliceous felsic ash tuff, locally can see flattened 1-3cm
R       237.90    252.40      lapilli, but usually indistinct.  In places looks like SEXL.
R       237.90    252.40      Approx. 70% of rock has a purple tinge from hematite:  Loss of
R       237.90    252.40      PY + increase in black disseminated hematite.  Lower 2m has
R       237.90    252.40      green chloritic tinge.
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K15 (CONTINUED)

S U M M A R Y R E M A R K S

Hole was drilled to intersect a favourable felsic volcanic package of rocks seen in the Ck just E and S of the drill hole. No geophysical anomalies in the area. Hole collared in mafic ash tuff carrying 15% CP blebs! to 17.0m, then crosses into felsic to int. interbedded lapilli tuffs and silica exhalite. Typically moderate musc. + ank. sheeting 15-25%. Min'n consists of tr. amounts of CP with 3-7% laminated PY from 32.3-64.1m, 85.5-90.0m and 156.4-156.8m. Alteration changes slightly at 237.9-EOH, with increase in pervasive CL+HE. HE also as black disseminated crystals to 2%. Oxide facies?

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K16

PROJECT IDEN : KUTCHO
COLLAR NORTHING: 46615.00
START DATE : 90/12/ 4
COLLAR EASTING : 41252.00
TOTAL LENGTH : 304.50
COMPLETION DATE : 90/ 8/23
COLLAR ELEVATION: 1376.00
CORE/HOLE SIZE : BQTW
GEOLOGGED BY : JMS +
GRID AZIMUTH : 0.00

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
001	0.00		160.00	-45.00		
002	80.60		171.00	-44.00		
003	152.20		176.50	-45.00		

K F - I N T E R V A L - CORE % TYPI- QAL TEX- GRAIN FRAC- STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS
E L (UNITS = FT) RECOV- M ROCK FYING MIN TURES CHARACS TURE H H H H H ANY H H H ANY
Y 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
G F R O M - T O (%) 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 SUMMARY

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 7.60 CASE P

P 7.60 42.30 100.0 MATF CB QV CL4 FO LM P 0 FO 70 V) CB D(
L 50.0 4G EP2 5 1 LM 70 O+ P4 P2 +. L+
R 7.60 42.30 Foliated and locally laminated chlor-ep-carb schist. Epidote
R 7.60 42.30 is in patches, spots and laminations. Hematite stained,
R 7.60 42.30 (surface oxidation) to 10.3m.
R 8.70 9.70 Gouge and broken core, sericite alteration, brecciation in
R 8.70 9.70 oxidized core.
N 8.70 9.70 X FLTZ MU2 GG BX N 0 FO 70
L 7R HE) FO

P 42.30 55.60 100.0 ASHT QZ PY MU3 FO LM P 0 FO 70 D)
L 20.0 8A CB1 FG 6 L1 $3 $= 0.
R 42.30 55.60 Pale grey to cream coloured sericite-carb schist with local
R 42.30 55.60 chloritic intervals and local SEXL interbeds which are massive,
R 42.30 55.60 but fractured and locally auto brecciated. Rock is more
R 42.30 55.60 pyritic in and around SEXL beds. Local hematite spots.
R 42.30 55.60 Gradational lower contacts.

P 55.60 58.50 100.0 MATF CB QV CL4 FO LM P 0 FO 70 <(D(
L 60.0 4G EP2 GC 5 L+ P4 P2 +.
R 55.60 58.50 As above. Narrow (2mm) qtz veins. Gradational, hematitic
R 55.60 58.50 upper and lower contacts.

P 58.50 64.80 100.0 ASHT CB MU2 FO LM P 0 FO 55 <) CB D(
L 15.0 8A QZ3 BD GC 7 1 BD 65 <) $2 $+ L(P+
R 58.50 64.80 More quartz-rich than previous interval. Broken core, minor
R 58.50 64.80 gouge at 62.4-62.7m. Rock is very finely laminated -
R 58.50 64.80 hematitic, chloritic + sericitic laminae (bedding? 65 degrees)
R 58.50 64.80 from 63.0-63.8m. Foliation varies 50-60 degrees.

P 64.80 132.70 100.0 MATF CB CV CL4 FO LM P 0 FO 70

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K16 (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      ( % )     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  SUMMARY
- --- ---------  ---------  ----------- -- - ---- -- -- --- -- -- - - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
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                           65.0           AG QZ EP2 FG              4    2 LM      70 L1    P4 P2
R       64.80      132.70       Slightly different from above in that laminations are more
R       64.80      132.70       defined.  Narrow gouge intervals every 20cm between 87.8-88.6m.
R       64.80      132.70       Gouge also at 90.5m, 109.0m.  Epidote in spots, patches,
R       64.80      132.70       "knots" and laminations.  Foliation varies from 60 degrees
R       64.80      132.70       (top) to 80 degrees (bottom).

P       132.70     134.20  100.0       DYKE       QX= PP MX              P  0 UC      50
L                           90.0           7T     FX+                 3    0 LC      50
R       132.70     134.20       Rhyolitic dyke with quartz (2mm) and feldspar (1mm) phenos.
R       132.70     134.20       Minor mafic (<or=1mm) phenos.

P       134.20     136.70  100.0       BRXX CB    CL4 BX                 P  0 LC      10
L                           80.0           4G     EP2                 4               L1    P4 Q2
R       134.20     136.70       Brecciated MATF - matrix supported.

P       136.70     150.00  100.0       MATF CB CV CL4 FO LM              P  0 FO      75                CB
L                           80.0           4G     EP2 FD              4               L=    P4 P2     V(
R       136.70     150.00       As before - very boring.  Grades into hematitic MATF below.
R       136.70     150.00       Local approx. 5cm breccia zones as above at 141.2m and 145.0m.
R       136.70     150.00       Minor gouge at 142.9m and 146.4m.  Foliation varies from 70-80
R       136.70     150.00       degrees.  Locally folded.

P       150.00     156.40  100.0       MATF HE CV CL4 FO LM              P  0 FO      75                CB
L                           15.0           RP     CB= FD              6               L=    P4 P2 P+  <(
R       150.00     156.40       Similar to above, but hematitic and purple-maroon in colour.
R       150.00     156.40       Epidote not abundant.  Foliation 75-80 degrees.
R       153.60     153.80       Gouge and brecciated calcite vein.
N       153.60     153.80           X FLTZ     CY3 GG BX              N  0 UC      40                CY
L                                  RP     CB=                       0 LC      35 *=             P3

P       156.40     178.40  100.0       MATF CB CV CL4 FO LM              P  0 FO      75 V*             CB
L                           85.0           4G QV EP2 FD GC           3               L1    P4 P2     V*
R       156.40     178.40       Foliation highly variable depending on folding, normally 70-80
R       156.40     178.40       degrees.  Grades into tan-coloured sericitized rock below.
R       156.40     178.40       Epidote decreases toward bottom of interval.

P       178.40     184.70  100.0       QMCS PY QV MU3 FO LM              P  0 FO      80 V)                  D+       PY
L                           40.0           7T CV CB2 IB FD           5               L2 P3 L+                  L)
R       178.40     184.70       Could be termed PYAT.  Appears to be a carbonate-sericite
R       178.40     184.70       altered, pyritic version of the overlying tuffs.  Interbedded
R       178.40     184.70       with infrequent 2-5cm bands of brecciated argillite.
R       178.40     184.70       Brecciated qtz vein minor gouge at 180.1-180.2m, also gouge at
R       178.40     184.70       184.0m.  Foliation varies 60-80 degrees.
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K16 (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      ( % )    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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -

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     184.70     186.60   100.0  FS   DYKE FS QZ QX= FG PP             P                          CY
L                         100.0           9A                         2               P=           P=
R     184.70     186.60       Top 35cm of interval, dyke is clay altered (gouge) and
R     184.70     186.60       brecciated - fault?  Rest is competent rock.
R     185.10     185.50       As described at 178.4-184.7m.
N     185.10     185.50   100.0     X QMCS                             N
L                            .0           AT                         6
R     186.20     186.60       Quartzose fragments and fragments of foliated rock in a fine
R     186.20     186.60       grained argillaceous matrix.  Py in fragments and disseminated
R     186.20     186.60       in matrix.
N     186.20     186.60   100.0     X ARGL QZ LF GR5 BX                N                                 D+
L                          75.0           NN                         3

P     186.60     188.00   100.0        QCMS PY    CB3 FG FO            P  0 FO      50    P3             D+
L                          75.0           O$        LM               4
R     186.60     188.00       Rock grades from white to buff coloured to pale green away from
R     186.60     188.00       the contact with the argillite.  Intense carbonate alteration
R     186.60     188.00       decreases away from contact.  Grades into chlorite-epidote
R     186.60     188.00       schist below.  Dark green spots (p.blasts?) toward bottom of
R     186.60     188.00       interval.

P     188.00     196.00   100.0        MATF CB    CL4 FO LM            P  0 LC      60                CB D)
L                          70.0           4G    EP1 FD GC            4               L=    P4 P1    O+
R     188.00     196.00       Foliation variable  due to folding - 60 degrees at lower
R     188.00     196.00       contact.  Mottled 193.8-194.2m.  Unusual pale, pinkish altered
R     188.00     196.00       rock 194.2-194.7m.  Argillaceous bands toward bottom.  Pyrite
R     188.00     196.00       euhedra. and coarse dissem.

P     196.00     198.40   100.0        QMCS CL QZ MU3 FO LM            P  0 FO      50    $+          CB D*          PY
L                          75.0           5T    CB1 FD               4               L1 $3 P=       (+             L*
R     196.00     198.40       Essentially a sericite-altered MATF.  Gouge and broken core
R     196.00     198.40       mark lower contact.

P     198.40     201.10   100.0        ARGL CL MU GR5 FO LM            P  0 FO      60                CB L)
L                          50.0           NN PY CB1 FD               5               (+ $+ L=       L1
R     198.40     201.10       Core is broken at both upper and lower contacts.  Brecciated at
R     198.40     201.10       lower contact.

P     201.10     206.70   100.0        QMCS QV CL MU3 FO BN            P  0 FO      80 L=             CB D)          PY
L                          30.0           AT EP CB2                  5               P1 P3 L+ P=    L=             L*
R     201.10     206.70       As before, altered rock adjacent to ARGL horizon is carbonate-
R     201.10     206.70       sericite altered and grades into MATF.  10-20cm milky white qtz
R     201.10     206.70       veins common.  Laminated to lenticular banded.  Gouge broken
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K16 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM	TO	CORE RECOVERY (%)	%M I	ROCK TYPE	TYPIFYING TM 1	TYPIFYING TM 2	QAL MIN MAT QM1	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	% M	P	#	FRACTURE TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS H A XX	ORE-TYPE H A PY	H A CP	H A GL	MINS H A YY	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC- COL	QM2 3	TX 3	TX 4	S O R D	R N P C	H	DIP / SML	F I		T 2	ID	STK AZM STRUCTUR-2	DIP RT	KF	MU	CL H A	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A	
R		201.10	206.70	core + CV (5 degrees) at 204.4-204.6m.																												
P		206.70	298.40	100.0		MATF	EP	CV	CL4	FO	LM			P	0	FO	80												CB	D*	
L				20.0			6G	QV	CB2	ST				6							O=		P4	Q1	L.	L2					
R		206.70	298.40	Essentially a chlorite-carb + minor ep schist. Unusual																												
R		206.70	298.40	pink-tan alteration assoc. with intense carbonate veining or																												
R		206.70	298.40	with brecciation and fault gouge - clay alt? at 215.3-216.1m.																												
R		206.70	298.40	and at 217.5-219.9m. Qtz-carb-chlor veins common. Gouge at																												
R		206.70	298.40	233.3m. Foliation varies 80 degrees (top) - 60 degrees.																												
R		217.50	219.90	As described above - pinkish-tan clay? alteration. Rock is																												
R		217.50	219.90	very pale, locally brecciated and altered to clay gouge.																												
R		217.50	219.90	Hematite spots and laminations mark both the upper and lower																												
R		217.50	219.90	contact.																												
N		217.50	219.90			X	FLTZ	HE		CY2	GG	BX			N														CY		
L				.0			8T							X											L*					
R		256.30	257.80	Feldspar phenos are clay altered and very soft.																												
N		256.30	257.80	100.0		X	DYKE	CY		FX1	FG	PP			N														CY		
L				100.0			4A		CB	MX				1							P=								H=		
R		292.00	292.80	Hematitic and more siliceous than principal interval.																												
N		292.00	292.80			X	MATF	HE	QZ	CL1	FO	LM			N							L2									
L							RA	MU	CB1													P1	$=	P1		L(					

S U M M A R Y R E M A R K S

Drilled west of KI grid. Intersected endless MATF. Weak airborne anomaly represented by pyritic ASHT (QCMS) with local SEXL interbeds at 42.3-55.6m. Otherwise the only carb-musc altered rock intersected occurs adjacent to argillite beds at 186.2-186.6m and at 198.4-201.1m. These argillite horizons probably correspond to the strong airborne anomaly.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K17

PROJECT IDEN : KUTCHO | START DATE : 90/ 8/26 | COMPLETION DATE : 90/ 8/26 | GEOLOGGED BY : JMS +
COLLAR NORTHING: 45552.00 | COLLAR EASTING : 37210.00 | COLLAR ELEVATION: 1530.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 228.30 | CORE/HOLE SIZE : BQTW

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
001	0.00		180.00	-45.00		
002	54.70		178.00	-43.00		
003	168.90		175.00	-42.00		

KEY	FLAG	INTERVAL FROM	INTERVAL TO	CORE RECOVERY (%)	% MINERAL	ROCK TYPE	TYPIFYING MINERAL	QUAL MAT	TEXTURES 1	TEXTURES 2	QM1	QM2	GRAIN CHARACS F	GRAIN CHARACS C	FRACTURE %	FRACTURE M	FRACTURE P	FRACTURE #	FRACTURE TK	STRUCTUR-1 T	STRUCTUR-1 ID	STRUCTUR-1 STK AZM	STRUCTUR-1 DIP RT	ALTERATION KF	ALTERATION MU	ALTERATION CL	ALTERATION EP	ALTERATION HE	ALTERATION HA	MINS ANY	ORE-TYPE PR	ORE-TYPE MO	ORE-TYPE SL	MINS ANY	SUMMARY
P		0.00	11.90			CASE												P																	
P		11.90	24.40	90.0		MATF	QV	EP	CL4	FO	LM			P	0	FO		65	V)										D(			PY		
L				25.0			AG		CB2	FD			5										P2		P4	O=						L)		
R		11.90	24.40			At top core is broken with frequent narrow rusty gouge																														
R		11.90	24.40			intervals - surf. weathering. Increased amount of PY																														
R		11.90	24.40			laminations 18.2-20.3m. Rock becomes light grey, less																														
R		11.90	24.40			chloritic (intermediate?) below FLTZ - gradational change.																														
R		18.20	20.30			Not really any different from the above - nested due to																														
R		18.20	20.30			increased PY lam. Py assoc. with 5-15cm intervals of more																														
R		18.20	20.30			siliceous, less chloritic rock, that make up 20-25% of this																														
R		18.20	20.30			interval.																														
N		18.20	20.30	100.0		X	PYAT	CL	CB	QZ=	FO	LM			N	0	FO		65	L=									D(			PY		
L				60.0			AG	EP	PY+				4										P2		P4	O+						L+		
R		22.10	23.00			Broken core, gouge and brecciated rock. Qtz-carb veining.																														
R		22.10	23.00			Flouromusc. on frac. surf. Fault zone involves light grey,																														
R		22.10	23.00			less chloritic rock (intermediate? tuff).																														
N		22.10	23.00	50.0		X	FLTZ	FM		CY=	GG	BX			N														CY			FM		
L				.0			7A						X																P=			$.		
P		24.40	51.90	100.0			QFXT	QV	MU	QX+	WF	PP			P	0	FO		65										D*					
L				50.0			6A		FX1	IB			4										P)	$=	Q)									
R		24.40	51.90			Frequent minor gouge intervals to 29.0m. Extremely rusty zone																														
R		24.40	51.90			with sharp contacts 28.3-28.9m. % crystals and ratio of fd:qtz																														
R		24.40	51.90			varies considerably. Interbedded with MATF (at 39.8-40.3m and																														
R		24.40	51.90			46.4-47.7m). Foliation 60-70 degrees.																														
R		46.40	47.70			As described above.																														
N		46.40	47.70				X	MATF							N	0	FO		65																
P		51.90	58.30	100.0			MATF	EP		CL4	FO	LM			P	0	FO		70										L*					
L				60.0			5G		CB2				4										P2		P4	O)								
R		51.90	58.30			Lam. PY assoc. with siliceous layer at 55.4-55.45m.																														

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K17 (CONTINUED)

KEY	FROM	TO	CORE RECOVERY (%)	ROCK TYPE	TYPIFYING MINERAL	QUALIFYING MINERALS	TEXTURES	GRAIN CHARACTERISTICS	FRACTURE	STRUCTURE-1	ALTERATION MINS	ORE-TYPE MINS	SUMMARY
P	58.30	59.10	100.0	ARGL	QZ CB GR5 FO LM			P 0 FO	65	P=	GR L+		
L			90.0		NN PR PY+ FD PF		4			L)	P5 L+		
R	58.30	59.10	Py and Pr in laminations and folded.										
P	59.10	118.00	100.0	MATF	GR EP CL4 FO LM			P 0 FO	65		L(		
L			70.0		5G CB2 IB		4		P2	P4 O=	L(		
R	59.10	118.00	Interbedded with 1mm-20cm ARGL beds (1.5%) as described above										
R	59.10	118.00	to 81.5m. Interbedded with QFXT (as in 24.4-51.9m) below 90m.										
R	59.10	118.00	(90.4-90.7m; 91.55-91.60m; 95.9-96.8m) Fol. 60-70 degrees. Py										
R	59.10	118.00	+ Pr assoc. with ARGL beds.										
N	95.90	96.80	100.0	X QFXT				N					
L			100.0										
R	97.40	104.60	Essentially the same as MATF except that this interval is										
R	97.40	104.60	significantly more pyritic. Minor gouge at lower contact.										
N	97.40	104.60	100.0	X PYAT	PY MU CL3 FO LM			N 0 FO	70		L+		PY
L			90.0		AG CB1		3		P1	$= P3			D+
P	118.00	120.80	100.0		FQXT EP CL QX) PP MX			P 0 LC	70				
L			95.0		4A FX2 IB		2			H) P*			
R	118.00	120.80	Interbed of MATF at 120.3-120.4m. Rare qtz crystals. Fresh										
R	118.00	120.80	and massive - could be intrusive?? chloritized mafics. Minor										
R	118.00	120.80	epidote alt of fd x H + matrix last 40cm. Fd phenos 2-5mm.										
P	120.80	143.30	100.0	MATF	CV CL4 FO LM			P 0 FO	65		CB L(		
L			95.0		AG CB2		3		P2	P4	V(L(		
R	120.80	143.30	Minor narrow intervals (<10cm) of laminated sulphide (py+pr)										
R	120.80	143.30	+/- very minor argillaceous bands. 2cm pyrrhotite at approx.										
R	120.80	143.30	124.2m. Increased carbonate alt 141.0-142.1m. Qtz vein										
R	120.80	143.30	142.2-142.7m.										
P	143.30	144.20	95.0	ARGL	PY GR4 BX LM			P	V+		L(		PY
L			10.0		NN QZ+		9						D(
R	143.30	144.20	Brecciated rock, very broken core and graphitic gouge to										
R	143.30	144.20	144.0m. Last 20cm is competant laminated ARGL. Qtz vein and										
R	143.30	144.20	breccia frags are assoc. Very little Py.										
P	144.20	228.30	100.0	MATF	EP GR CL4 FO LM			P 0 FO	70		L(		
L			90.0		AG CB2 IB		3		P2	P4 Q=	L(		
R	144.20	228.30	Interbedded with ARGL + py + pr layers 1mm up to 25cm in										
R	144.20	228.30	thickness, to 163.20m depth. Below this no ARGL. ARGL is 6%										
R	144.20	228.30	of rock from 144.2-163.2m. ARGL at 150.9-151.1m;										
R	144.20	228.30	152.9-153.15m; 162.25-162.45m for example. Epidote alteration										
R	144.20	228.30	increases below approx. 185m to approx. 10%. Foliation 70-80										

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K17 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM - TO	CORE RECOVERY (%)	% MIX	ROCK TYPE	TYPIFYING TM 1	TYPIFYING TM 2	QAL MIN MAT QM1	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	% M	FRACTURE P	# TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	A MG	MINS A ANY MIN XX	ORE-TYPE H A PY	H A CP	A GL	MINS A ANY MIN YY	SUMMARY
KEY	FLAG		ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	LC-COL	TM 3	QM2	TX 3	TX 4	S O R D	R N P	S H C	O /	DIP SML	F I	T 2	ID	STK AZM	DIP RT	STRUCTUR-2	KF H A	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
R		144.20 228.30	degrees.																										

S U M M A R Y R E M A R K S

Drilled to test geophysical anomaly 'G'. Intersected a thick sequence of MATF with interbedded QFXT or FQXT followed by interbedded ARGL. This sequence is repetitive (ie: MATF+QFXT, MATF+ARGL, MATF+QFXT, MATF+ARGL, MATF). Sulphides (py+pr) are typically assoc. with ARGL beds. Strong and weak conductors correspond to upper and lower argillaceous horizons respectively. Note that dip of conductive horizons is shallower than most, approx. 45 degrees.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K18

```
PROJECT IDEN    : KUTCHO      START DATE     : 90/ 8/26     COMPLETION DATE : 90/ 8/28    GEOLOGGED BY : HO +
COLLAR NORTHING: 45330.00     COLLAR EASTING : 35460.00     COLLAR ELEVATION: 1700.00     GRID AZIMUTH : 0.00
                              TOTAL LENGTH   : 115.70       CORE/HOLE SIZE : BQTW
```

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		180.00	-45.00		
001	106.40		163.00	-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                  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     ( % )     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  SUMMARY
- --- -----.--   -----.-- ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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      7.50                 CASE                             P

P      7.50     19.30     95.0       MATF EP       MX IB 3 5 1 5       P   BD       70 2+               CA
L                          70.0    VD BS 5G                                                   (= Q2 C+ (+
R      7.50     19.30        Interbedded with minor fine grained bedded? tuff (<5%) -
R      7.50     19.30        basaltic compostion, epidote alteration moderated, limonite
R      7.50     19.30        weathering extends down to 27.3m.  Broken core for upper 50cm
R      7.50     19.30        of interval.

P     19.30     97.80    100.0       MATF EP    LL+ FO IB 3 5 1 N      P   FO       80 2+               CA C)        PY
L                          90.0    VD BS 5G                                                   (= Q1 C) (+          U+
R     19.30     97.80        Interbedded with fine grained tuff 5-8%.
N     66.40     67.20              X MATF QZ    MS=                    N   FO       80 P1                  D)
L                                               LL+                                           $=    J+
R     82.90     97.80        Weak epidote, weak calcite/carbonate alteration.
N     82.90     97.80              X MATF CA EP LL+ FG FO 3 5 1 N      D   FO       85 2+               CA D)        CA
L                                  VD BS 5G                                         $)        (= Q= C) P+          $1
R     93.00     94.20        Broken core.
N     93.00     94.20     90.0     X MATF EP    LL+ FO IB 3 5 1 N      D   FO       80 2+               CA C)        PY
L                           .0     VD BS 5G                                                   (= Q1 C) (+          U+
R     97.20     97.80        Broken core.
N     97.20     97.80              X MATF EP    LL+ FO IB 3 5 1 N      D   FO       80 2+               CA C)        PY
L                                  VD BS 5G                                                   (= Q1 C) (+          U+

P     97.80    103.30     95.0       ARGL GR PY    IB FD               P  O BD      80                  PO L=        CA
L                           5.0  TA        2A PO                                                        L+           (+
R     97.80    103.30        Note:  box dropped.  Argillite beds vary from 1 to 40cm wide,
R     97.80    103.30        soft sediment deformation present within argillites, 30%
R     97.80    103.30        argillite.

P    103.30    115.70    100.0       MATF          IB    3 4 2 4       P   BD       80                  CA L+        GR
L                          25.0            7G                                                           Q1           C)
R    103.30    115.70        Interbedded with pyrrhotite bearing sections.
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K18 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM - TO	CORE RECOVERY (%)	% IN ROCK TYPE	TYPIFYING MINERAL TM 1	TYPIFYING MINERAL TM 2	QAL MAT QM1	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	% M	FRACTURE P	# TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS ANY MIN XX	ORE-TYPE H A PY	H A CP	H A GL	MINS ANY MIN YY	SUMMARY
KEY	FLAG		ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM QM2 LC-COL 3	TX 3	TX 4	S R O R	N D	H P	S O / C	DIP SML	F I	T 2	ID	STK AZM	DIP RT	KF H A	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	
R		103.30																											
R		103.30																											Pyrrhotite bearing intervals - slightly altered - more interstitial calcite.
N		103.30			5	MATF		LM	IB				N											PO	L+		PO	
L							YA																	L=			B+	
N		113.60	100.0		8	MATF		LM	FG				N											PO	L=		PO	
L			10.0				YA		IB															L=			B+	

S U M M A R Y R E M A R K S

Purpose - to intersect geophysical target 'E'. Mafic tuff with weak carbonate alteration patches. Pyrrhotite-bearing argillite intersected between 97.8-103.3m, pyrite-bearing as well. 3-10% combined sulphides, probable source of anomaly.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K19

PROJECT IDEN : KUTCHO	START DATE : 90/ 8/28	COMPLETION DATE : 90/ 9/ 1	GEOLOGGED BY : HO + 900
COLLAR NORTHING: 48695.00	COLLAR EASTING : 31350.00	COLLAR ELEVATION: 1447.00	GRID AZIMUTH : 0.00
	TOTAL LENGTH : 314.20	CORE/HOLE SIZE : BQTW	

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		190.00	-45.00		
001	153.80		200.00	-38.00		
002	314.20		199.00	-25.00		

```
  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      ( % )    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  SUMMARY
- --- -----.--   -----.-- ----.- -- - ---- -- -- --- -- -- - - - - - -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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     7.60                CASE                         P

P      7.60    12.00      95.0      OVER                         P
L                         10.0

P     12.00    64.90     100.0      MATF      QX+ BD    3 5 1 5      P    BD      60 2=       Q=    CA D=       CA
L                         85.0    VD BS 5G                                                             2=          0=
R     12.00    64.90         Calcite spots form layers about 0.5-2cm wide, pyrite also
R     12.00    64.90         present as fine grained laminations, most prevalent in vicinity
R     12.00    64.90         of strong carbonate alteration or quartz veins.
R     34.00    54.00         Narrow fault zone/shear at 53.5m.
N     34.00    54.00             = MATF CB PY QX+ BD    3 5 1 5      D    VN      50 2+ $?    Q?    CB L=       PY
L                                 VD BS 5G                                     .     $+          Q=          D+

P     64.90    87.50     100.0      SEXL QZ CB    IB FO              P    FO      55 P6 $1    Q= $=    L1
L                         70.0  KE  VD   TA       FG             5
R     64.90    87.50         Narrow fault between 67.05-67.15m, banded silica exhalative
R     64.90    87.50         interbedded with minor mafic tuff, SEXL fractured with 1-2%
R     64.90    87.50         sericite gouge.  Crackle brecciated.
R     73.30    78.60         Interbedded with 0.5-2cm wide tuffaceous chert beds.
N     73.30    78.60             X MATF CB       FG IB 2 3 1 3      N    FO      55    $=             D=
L                                 VD BS 6G

P     87.50    92.50     100.0      MATF CA PY    FG MG 3 4 2 5      P    FO      55 2+             CA U=
L                                 VD BS 5G       FO              4                       P1    *) 2+

P     92.50   112.20     100.0      SEXL QZ       MX FO              P    FO      60    $=   Q=       D=
L                         95.0  KE  VD   TA                      5                           Q+
R     92.50   112.20         Shear zone between 98.5-101.0m.

P    112.20   155.20      95.0      MATF EP CL PY= MX MG 3 5 1 5     P                                  EP U=
L                         95.0    VD BS 5G       GC CG                                   H1 J2 +) H+
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K19 (CONTINUED)

KEY	FL AG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOV-ERY (%)	% M ROCK I X	TYPI-FYING TM	QAL MIN MAT TM	TEX-TURES TX 1	TX 2	GRAIN CHARACS F	C	% M	FRAC-TURE P	#	TX	STRUCTUR-1 T	ID	STR AZM	DIP RT	ALTERATION H A	H A	H A	H A	H A	MINS ANY MIN	ORE-TYPE H A	H A	H A	MINS ANY MIN	SUMMARY
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		112.20	115.20																														
R		112.20	115.20																														
R		112.20	115.20																														
R		118.00	119.00																														
N		118.00	119.00		X	MATF	CB										N								P4			D+				
L							7T																										
P		155.20	170.10	100.0		CHTF	QX	QZ		FG	GC	3	4	=	4		P		FO		60	P2	$=		Q=			D=				
L				80.0		VD	MF	7G								4							$+										
P		170.10	184.70	100.0		SEXL	QZ	MS	FX=	FG	FO						P		FO		50	P6						D=				
L				95.0	KE	VD		7A		QX+									CN		75		$=										
R		170.10	184.70																														
R		170.10	184.70																														
P		184.70	192.60				MATF	CL	EP		MG	FO	4	5	1	5		P		FO		65	2=					CA	D+				
L							VD	BS	5G																C+	H=		Q1					
P		192.60	199.70	100.0		SEXL	QZ	CL		MX							P		CN		85							CB	D)		CL	
L				90.0	KE	VD		8A															$+	$=				$=			Q1	
R		192.60	199.70																														
P		199.70	210.00	100.0		MXTF	QZ		QX=	GC		3	4	=	5		P		FO		70	P1			Q+			CB	U+			
L				95.0		VD	BS	7G															$=	H=				$+					
P		210.00	223.30	100.0		MXTF	QX	CL	QX1	IB	GC	3	4	1	5		P					P1	$=					D=				
L				80.0		VD	BS	5G		FG													$=	P1									
R		210.00	223.30																														
R		210.00	223.30																														
R		210.00	223.30																														
R		210.00	223.30																														
P		223.30	227.50	100.0		CHTF			FX)	FG	FO	3	4	1	4		P		FO		65	Q=						CB	L+			
L				60.0	KE	VD	MF	6G		GC													$=	(=				$=					
R		223.30	227.50																														
P		227.50	246.60	100.0		SEXL	QZ	MS		MX							P		FO		65							CB	L=			
L				95.0	KE	VD		8A															$1					$=					
R		227.50	246.60																														
P		246.60	257.60	100.0		CHTF	QZ	MS	FX=	IB		2	3	1	3		P		FO		70		$+						L=			
L				80.0		VD		8G															$1	$)									
P		257.60	279.00	95.0		SEXL	QZ	MS	PY=	GC							P						$+					D=			PY		

R 112.20 115.20 Pyrite most abundant in two areas, between 145.1 to 145.7m and
R 112.20 115.20 154.4 to 155.2m, roughly layered, pyrite up to 12%. Crystals
R 112.20 115.20 large - up to 7mm and euhedral.
R 118.00 119.00 Broken core.

R 192.60 199.70 Crackle brecciated. Probably silica exhalative.

R 199.70 210.00 Quartz crystals rounded, up to 7mm, in a cherty basalt tuff
R 210.00 223.30 (80%) interbedded with a fine grained basalt tuff (not
R 210.00 223.30 silicified). Quartz veining occasionally vuggy, lower 1m of
R 210.00 223.30 intervals exhibits moderate ankerite alteration (sheetings).

R 223.30 227.50 Interval silicified? Stretched quartz clasts? present (5-7%).

R 227.50 246.60 Crackle brecciated.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K19 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MINERAL IX	ROCK TYPE	TYPIFYING MINERALS TM1	TM2	QAL TEXTURES QM1	TX1	TX2	GRAIN CHARACS F	C	% M	C	P	FRACTURE #	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS H ANY XX	ORE-TYPE H A PY	H A CP	H A GL	MINS H ANY YY	SUMMARY
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				50.0	KE	VD		YA		FX)																						L)	
R		257.60	279.00		Crackle brecciated, fluoro muscovite associated with muscovite																													
R		257.60	279.00		(occurs as sheets), core is broken.																													
R		263.00	266.00		Broken core, 5-8% white muscovite - sericite gouge, possible																													
R		263.00	266.00		fault between 246.0-266.0m.																													
N		263.00	266.00			6	SEXL	QZ	MS	PY=	GC						D												D=		PY	
L					KE	VD		YA		FX)																						L)	
P		279.00	281.90	100.0			CHTF	QZ	MS	HE=	IB	2	3	=	3		P		FO		70	P6						U)				
L				40.0	KE	VD	FS	7Y																$=		$=							
R		279.00	281.90		Interbedded with 25cm mafic tuff/chert, resembles silica																													
R		279.00	281.90		exhalative, crackle brecciated.																													
P		281.90	296.10	100.0			CHTF	CL	CB		GC	2	3	1	3		P		FO		60						CB					6
L				95.0				5G											FO		70		$=		$+	$=						
P		296.10	314.20				CHTF	QZ	MS	CB	IB	FO					P		FO		70						CB					
L					KE	VD	FS	7Y			GC								FO		75		$1		$=							
R		296.10	314.20		Fluoro muscovite? Ghost-like quartz fragments? (<5%) <1cm																													
R		296.10	314.20		interbedded with medium gray chert, crackle brecciated.																													
R		296.10	314.20		Resembles silica exhalative however appears to be siliceous																													
R		296.10	314.20		fragments, also interbedded with minor mafic tuff (2%).																													
R		303.00	304.30		Cave material at 303.6m.																													
N		303.00	304.30			3	CHTF	QZ	MS	CB	BX	FO					D		FO		70						CB					
L					KE	VD	FS	7Y			GC								FO		75		$1		$=							

S U M M A R Y R E M A R K S

This hole was drilled to test the western strike extension of silica exhalative, pyrite ash tuff intersected in DDH90-K15. Mafic tuff silica exhalite and tuffaceous chert were intersected. Pyrite bearing silica exhalite intersected between 64.9-87.5m; 92.5-112.2m; 170.1-184.1m; 192.6-199.7m.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K20

PROJECT IDEN : KUTCHO | START DATE : 90/ 8/29 | COMPLETION DATE : 90/10/ 3 | GEOLOGGED BY : JMS +
COLLAR NORTHING: 47610.00 | COLLAR EASTING : 41545.00 | COLLAR ELEVATION: 1325.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 88.70 | CORE/HOLE SIZE : BQTW

	SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
	001	0.00		180.00	-45.00		

F	- I N T E R V A L -	CORE %	TYPI-	QAL	TEX-	GRAIN	FRAC-	STRUCTUR-1	ALTERATION MINS	ORE-TYPE MINS

K E Y	L A G	(UNITS = FT) FROM - TO	RECOVERY (%)	M I X	ROCK TYPE	FYING TM 1	FYING TM 2	MIN MAT QM1	TURES TX 1	TURES TX 2	CHARACS F	CHARACS C	CHARACS % M	CHARACS P	CHARACS # TK	TURE T 1	ID	STK AZM	DIP RT	H ANY QZ	H A BI	H A CY	H A CB	H A MG	H ANY MIN XX	H A PY	H A CP	H A GL	H ANY MIN YY	SUMMARY
K E Y	F L G	ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	LC- COL	TM 3	QM2 3	TX 3	TX 4	S O R	R N D	H P C	/	DIP SML	F I	T 2	ID STK AZM	DIP RT STRUCTUR-2	KF H A	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	
P		0.00	10.70			CASE										P														
P		10.70	57.60	25.0		OVER										P														
L				.0																										
R		10.70	57.60			Mud, crud and exotic boulders! Dark brown-green + black to																									
R		10.70	57.60			approx. 37m, rusty red + oxidized below.																									
P		57.60	88.70	95.0		QXTF	HE	CB	QX1	FO	PP	6	1	L		P	0	FO	55										
L				10.0		7R	QZ	MU1				E		7					P+ $1										T=
R		57.60	88.70			Core is broken and locally shattered. Surface oxidation to																									
R		57.60	88.70			84.2m. Qtz crystals up to 7-8mm are elliptical, flattened in																									
R		57.60	88.70			plane of foliation. Rock is very siliceous, this is most																									
R		57.60	88.70			evident where it is unaltered/weathtered. Local dissem. black																									
R		57.60	88.70			sulphide. Cave in approx. 10cm at 78.9m.																									
R		84.20	88.70			Blue-green unweathered siliceous QXTF. Blue-grey qtz crystals																									
R		84.20	88.70			are difficult to see against the blue-green siliceous matrix.																									
R		84.20	88.70			Very broken core last 2m.																									
N		84.20	88.70			X	QXTF	MU	CB	QX1						N														
L							8G	QZ3						8					P+ $1										

S U M M A R Y R E M A R K S

Drilled to test target 'J'. Hoe encountered very thick overburden before finally intersecting QXTF at 56.6m. Rods were cut off in fresh, slightly altered, QXTF. Target was not intersected. Overburden will likely be a problem in any nearby holes. Pad building in this area is labour intensive. As of Sept 4/90 no new hole to test this anomaly has been planned or drilled.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K21

PROJECT IDEN : KUTCHO START DATE : 90/10/ 1 COMPLETION DATE : GEOLOGGED BY : HO +
COLLAR NORTHING: 51875.00 COLLAR EASTING : 37915.00 COLLAR ELEVATION: 1610.00 GRID AZIMUTH : 0.00
TOTAL LENGTH : 458.80 CORE/HOLE SIZE : BQTW

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		180.00	-67.00		
001	79.70		200.00	-63.00		
002	184.60		182.00	-55.00		
003	255.10		185.50	-53.00		
004	458.70		192.00	-44.00		

```
  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       ( % )    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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - --- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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      1.50                CASE                              P

P      1.50     91.20      95.0      QFXT QX FX QX2 FO CH 4 M = 0      P  9 FO      45               CB D)        HM  3   1
L                          85.0  KX     IN AG    FX=                   3                     J+       Q= J+          O)  M
R      1.50     91.20         Strong limonite alteration as patches between 1.5 to 51.5m
R      1.50     91.20         (30%).  Becomes weaker and restricted to fracture faces between
R      1.50     91.20         51.5 to 78.0m.  Unit bleached in upper 30m becomes a
R      1.50     91.20         medium-light green as move downhole.  Quartz knots up to 7mm
R      1.50     91.20         size, no lithic lapilli.
R     70.00     84.50         Bleached looking.
N     70.00     84.50              X QFXT QX FX QX3 FO CH 4 M = 0      D  9 FO      45  .         J+ CB D)        HM  3   1
L                                KX     IN 8A    FX1                   3                     J+       Q= J+          O)  M
R     85.00     89.20         Minor fluoromuscovite.
N     85.00     89.20              X QFXT QX FX LF+ FO CH 4 M = 0      D  9 FO      60  $=           LI F=        HM  3   1
L                               KX     IN AG    FX=                    3                     $1       Q= H=          O)  M

P     91.20     93.70      95.0      LLTF LL CB     GC    3 N 1 0      P    FO      80  $1             D+               2   1
L                          20.0  KL     FS AT                                           $=                               M

P     93.70     97.70      100.0     LLXT PY    FX+ GC    4 N 1 N      P    FO      75  $=           PY L= D+           3   1
L                          90.0  KL     FS 7A                              4            $1           D+

P     97.70    102.10      100.0     LLTF CB MS     GC IB 4 L 1 0      P    FO      75  $1             B+               2   2
L                          100.0 KL     FS 7T                                           $2        J+                     I
R     97.70    102.10         Interbedded with narrow (0.5 to 2cm) tuffaceous chert
R     97.70    102.10         interbeds, strongly foliated borderline schist.

P    102.10    104.50      95.0      SMBC                              P               22 $=             L3 J1          3   1
L                          10.0  KO                                                     $1        J)                    -M   F
R    102.10    104.50         Flouromuscovite within siliceous/muscovite fragments (2-3%),
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K21 (CONTINUED)

KEY	FLAG	FROM	TO	CORE RECOVERY (%)	% ROCK MIX	TYPE	TYPIFYING MIN 1	TYPIFYING MIN 2	QAL MIN MAT	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	%	M	FRACTURE *	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS ANY XX	ORE-TYPE H A PY	H A CP	H A GL	MINS ANY YY	SUMMARY
R	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM QM2 LC- 3 COL	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	CL H A	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A			
R		102.10	104.50					pink carbonate (rhodocrosite?) <1% within quartz-carbonate vein																										
R		102.10	104.50					contorted bedding, folded, local small scale faulting, 5-8%																										
R		102.10	104.50					white sericite gouge present, numerous slips throughout																										
R		102.10	104.50					interval, quartz veins fragmented, CPY and PY occur together,																										
R		102.10	104.50					CPY resembles paint splatters, core is broken deep purple-red																										
R		102.10	104.50					metallic mineral (5% as blebs) sphalerite? bornite?																										
N		104.40	104.50				9 GOUG	PY	MS								N											U1				
L								7A														$6										
P		104.50	107.40	100.0			MSSC	PY	CP	QZ=	IB					P		FO		50	*=	$1					M2	J1		BO		
L				95.0	KO	VP			SL														$=							M3	B+		P
R		104.50	107.40					Sulphides occur as two massive intervals between 104.5-105.6m																										
R		104.50	107.40					and 106.4-107.4m, interbedded with a felsic lapilli tuff. Tuff																										
R		104.50	107.40					contains 10% ankerite as sheetings, chalcopyrite most abundant																										
R		104.50	107.40					in upper sulphide interval, appears to be spatially associated																										
R		104.50	107.40					with quartz fragments.																										
P		107.40	110.70	100.0			CHTF	PY								P		FO		70	$2					PY	L=	L+				
L								5A																				D=				P
R		107.40	110.70					Quartz looks framboidal (cauliflower-like). Pyrite and																										
R		107.40	110.70					chalcopyrite associated with this style of quartz-carbonate																										
R		107.40	110.70					material. Chalcopyrite increase as move downhole.																										
P		110.70	119.60	100.0			MSPC	PY	CP		FG	FM	3	I	3	L	P		FO		60	J2					PY	M7	B=				
L				90.0	KO	VP					FO	VG							CH		55							L1			()	H	P
R		110.70	119.60					Interbedded with narrow beds medium to dark grey																										
R		110.70	119.60					chert?/tuffaceous chert (<5%), chalcopyrite most abundant																										
R		110.70	119.60					between 115.5 to 116.2m. This section semi-massive with minor																										
R		110.70	119.60					sphalerite.																										
P		119.60	128.40	100.0			SMPY	PY	QZ		MG	VG					P		FO		65						PY=	L4	J)				
L				80.0	KO	VP		8A																								B	P
R		119.60	128.40					Protolith siliceous lapilli tuff, lapilli fragments look																										
R		119.60	128.40					siliceous.																										
P		128.40	141.30	100.0			LLTF	QZ	PY	FX+	SZ	VG	3	N	1	O	P		FO		70	$+					PY	L1			1	2	
L				95.0	KO	VP	FS	7A			GC											$+						U=				A	P	
R		128.40	141.30					Extremely siliceous, upper and lower contacts gradational.																										
P		141.30	157.90	100.0			LLTF	QZ	LL1	IB	4	N	1	O			P		FO		60	*1	$=					L=	B)			2	
L				60.0				IN	7G														$+									2	
R		141.30	157.90					Clasts white siliceous, some carbonate altered (ankerite?).																										
R		148.40	149.20					Interval intersects 3 narrow zones 6-11cm wide of fine grained																										
R		148.40	149.20					sphalerite, pyrite with minor blobs of chalcopyrite.																										

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K21 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MINERAL	ROCK TYPE	TYPIFYING MINERAL 1	TYPIFYING MINERAL 2	QAL MAT QM1	TEXTURES 1	TEXTURES 2	GRAIN CHARACS F	C	% M	P	# TK	FRACTURE	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	A A CB	A A MG	MINS A ANY XX	ORE-TYPE H A PY	H A CP	MINS A ANY GL	A ANY YY	SUMMARY
K	F			ROCK QUAL	FOR MEM	EN V	RT Q	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			DESIG	AGE		LC- 3		3	4	O	N	H	/	SML	I	2		AZM	RT			H	H	H	H	H	H	H	H	
Y	G						COL					R	D	P	C				STRUCTUR-2				A	A	A	A	A	A	A	A	
N		148.40	149.20	100.0	4	LLTF	CP SL	LL1	IB	FG	4	N	1	O		D		BD	60	*1	$=					L=	B)		2	
L				10.0		IN	7G PY		LM												$+							L2		2	
P		157.90	234.40	100.0		LLTF	QZ MS	CB=	GC		3	N	=	O		P		FO	70	63	$=					L=			1	3
L				60.0			YA														$=								M	
R		157.90	234.40		1-2% wisps fluoro muscovite, lapilli look like stretched quartz																											
R		157.90	234.40		knots, silicified.																											
R		158.10	161.20		20% white sericite gouge, broken core, strong-intense																											
R		158.10	161.20		foliation.																											
N		158.10	161.20	95.0		X FLTZ	MS PY		SH	FO						N		FO	70							L=				
L				90.0																		$2									
R		161.20	169.00		Resembles pyrite ash tuff.																											
N		161.20	169.00	100.0		X LLTF	PY QZ	CB=	SZ		3	N	=	O		D		FO	70	63	$=				PY	L2			1	3
L				85.0			YA														$=				U+				M	
R		174.60	177.80		Resembles pyrite ash tuff.																											
N		174.60	177.80	100.0		X LLTF	PY QZ	CB=	SZ		3	N	=	O		D		FO	70	63	$=					L1			1	3
L				25.0			YA														$1								M	
R		181.50	189.90		Same lithology as 157.9-234.4m but is not altered.																											
N		181.50	189.90	100.0		X LLTF	CB LL	LL1	GC	FO	4	M	1	N		N		FO	70		$1					D+			2	1
L				75.0			7G														$+								W	
R		194.80	202.10		White sericite gouge 5-8%, possible fault zone.																											
N		194.80	202.10	60.0		X LLTF	QC SH	CB=	FS	FO	3	N	=	O		D		FO	70	63	$=					D=			1	3
L				.0			YA		SH												$=								I	
R		209.80	219.80		Silicified pyrite occurs in patches and layers 0.5-4cm wide.																											
N		209.80	219.80	100.0		X CHTF	QZ PY									N		FO	75	65					PY	L1				
L				15.0			5A																		U=					
P		234.40	257.00	100.0		MLLT	FX PY	LL+	FO	FG	3	M	=	N		P		FO	60						CB	L1		PY		
L				85.0	KX	BS		PX=	PX	GC													$+		$+			U+			
R		234.40	257.00		Euhedral crystals 0.5-1.5cm size, carbonate replaced -																											
R		234.40	257.00		feldspar? Square cross section, about 4-6%. Pyrite occurs as																											
R		234.40	257.00		fine grained masses forming rough layers, porphyroblastic.																											
N		237.40	238.30			X MLLT	FX PY	LL+	FO	FG	3	M	=	N		D		FO	60						CB	U3		PY		
L					KX	BS		PX=	PX	GC													$+		$+			U+			
P		257.00	265.60	100.0		LLXT	FX	FX=	FO	VG	4	N	1	O		P		FO	60		$+				PY	L=			1	1
L				60.0		IN	7G		GC												$+				U)				W	
R		257.00	265.60		Lapilli fragments stretched, silicified.																											
N		261.80	265.60			8 LLXT	FX	FX=	VG	VG	4	N	1	O		D		FO	60		$+				PY	L2			1	1
L						IN	7G		GC												$+				U)				W	
P		265.60	272.60	100.0		CHTF	QZ PY		FG	VG	3	4	=	4		P		FO	55	64	$=					L1				
L				30.0			MF 6G														$+									

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90X21 (CONTINUED)

KEY	FLAG	FROM	TO	CORE RECOVERY (%)	% MINERAL	ROCK TYPE	TYPIFYING MINERALS	QUALIFYING MINERALS	TEXTURES	GRAIN CHARACTERISTICS	FRACTURE	STRUCTURE-1	ALTERATION MINERALS	ORE-TYPE MINERALS	SUMMARY
R		265.60	272.60												
							Ghost like fragments (possible feldspar phenocrysts) 2-3%.								
P		272.60	278.30	100.0		MLXT	PY CL	PX=		3 J = M	P	3		U1	6
L				25.0			5G	FX+					$=		
R		272.60	278.30												
							Coarse pyrite present as masses and poorly defined layers.								
P		278.30	297.70			MLLT			FO VG	3 N 1 O	P	FO 70	$=	L= (}	1 1
L							5G						$=		W
R		278.30	297.70												
							Fragments silicified, fine grained chalcopyrite occurs as								
R		278.30	297.70				microveinlets 1-3mm wide and blebs between 295.6 to 295.8m.								
P		297.70	313.60	100.0		MLLT	CL MS	LL1	PB GC	3 N 2 O	P	3 FO 70	*= $=	CB L= B)	2 1
L				75.0	KL		6G	PX=					$1 $=	H=	W
R		297.70	313.60												
							Porphyroblasts - 0.5-1cm size become less abundant as move								
R		297.70	313.60				downhole, intensity of foliation and development of muscovite								
R		297.70	313.60				increases downhole.								
P		313.60	350.50	100.0		LLTF	MS	LL1	FO EL	4 N 1 N	P	FO 70	*= $=	PY L=	3 1
L				85.0	KL		IN 8G		GC				$1	U+	W
R		313.60	350.50												
							Local small-scale folding, particularly in vicinity of sulphide								
R		313.60	350.50				mineralization, fluoro muscovite as wisps and sheets (2-4%).								
P		350.50	384.60	100.0		LLTF	QZ MS	LL2	EL FO	3 N 2 O	P	3 FO 65	83 $1	PY L1 (}	3 1
L				90.0	KL		FS 8A CB		GC FG				$1	U=	M
R		350.50	384.60												
							Pyrite as layers 1-15cm wide, also interstitially between								
R		350.50	384.60				siliceous lapilli, local small-scale folding, foliation								
R		350.50	384.60				moderate. Chalcopyrite in a vein 7mm wide at 381.6m.								
P		384.60	449.00	100.0		MLLT	CB MS	LL=	FO FG		P	4 FO 65	*+ $=	L+ <)	2 1
L				80.0	KL		IN 7G	FX)	IN GC				$=		W
R		384.60	449.00												
							Interbedded with fine grained mafic tuff.								
R		386.90	389.90												
							Chalcopyrite as fine grained masses forming layers subparallel								
R		386.90	389.90				to foliation.								
M		386.90	389.90		8	MLLT	QZ CP	LL=	FO FG		D	4 FO 65	*+ $1	PY L= <=	2 1
L					KL		IN 7A	FX)	IN GC				$1	U)	M
M		437.30	439.80		X	MLLT	CB MS	QX+	FO FG		D	4 FO 65	*+ $=	L+ <)	2 1
L					KL		IN 7G	FX)	IN GC				$=		W
P		449.00	451.20	100.0		CHTF	QZ CB		GC		P	84	$1	L=	
L				95.0			IN 6G								
P		451.20	452.50	100.0		MATF			FG GC	4 J = J	P	FO 75	$2		
L				95.0											
P		452.50	457.50	100.0		QFXT	QX FX	QX=	MX	3 I = I	P		$+		

KEY	FLAG	FROM	TO	FOR MEM AGE	BN V	RT Q	TM QM2 LC-3 COL	TX TX 3 4	S R O N R D	S O H / P C	DIP F SML I	T 1	STRUCTUR-2	ALTERATION MINERALS	ORE-TYPE MINERALS
				ROCK QUAL DESIG									ID STK DIP AZM RT	KF MU CL EP HE HA PR MO SL HA H H H H H H H H A A A A A A A A	

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K21 (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      ( % )    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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
K F                       ROCK   FOR EN RT    TM QM2 TX TX S R S O DIP F    T ID STK DIP XF 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                          95.0  KX     MF 7G    FX1
R       452.50    454.60      Silicified - carbonate alteration.
N       452.50    454.60           X QFXT QZ FX QX= GC    3 I = I       D                88 $1    Q1       ()
L                                KX     MF WW    FX1
```

S U M M A R Y   R E M A R K S

This hole was drilled to intersect the main Kuthco lens and test for the presence of a stacked lens beneath the Kutcho lens. The Kutcho lens was intersected between 102.1-128.4m. It consisted of pyrite, chalcopyrite, bornite, sphalerite grading downwards to massive pyrite and sphalerite and finally into a pyrite stringer zone. Siliceous lapilli tuffs with pyrite laminations and crystals 10-20%. Blebs of chalcopyrite throughout (<2%). Hole ends in quartz crystal tuff. No stacked lens, downhole geophysical probe does not indicate presence of another lens.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K22

PROJECT IDEN : KUTCHO | START DATE : 90/10/ 2 | COMPLETION DATE : 90/10/ 3 | GEOLOGGED BY : JMS +
COLLAR NORTHING: 50732.00 | COLLAR EASTING : 41400.00 | COLLAR ELEVATION: 1632.00 | GRID AZIMUTH : 20.00
TOTAL LENGTH : 225.20 | CORE/HOLE SIZE : BQTW

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
001	0.00		200.00	-50.00		
002	53.20		206.00	-47.00		
003	165.80		203.00	-47.00		

K E Y	F L A G	- INTERVAL - FROM	TO	CORE RECOVERY (%)	% M I X	ROCK TYPE	TYPIFYING MIN TM	QAL MIN TM	MAT QM1	TEXTURES TX 1	TX 2	GRAIN CHARACS F	C	% M	FRACTURE P	#	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	ANY A XX	ORE-TYPE MINS H A PY	H A CP	H A GL	ANY A YY	SUMMARY
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	NO	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	10.70					CASE										P														
P		10.70	31.80	100.0				MATF	CB		CL3	MT	WF				P	0	FO		70											
L				80.0					4G		EP1	IB				5						P2	P3	P1									
R		10.70	31.80	Very weak foliation. Epidote "knots" or patches are																														
R		10.70	31.80	distinctive. Carb. assoc. with epidote. Broken core, gouge																														
R		10.70	31.80	(FLTZ) at 22.2-22.5m. Interbedded with																														
R		25.60	28.40	Rock is dark in colour (mafic) but quite siliceous (cherty																														
R		25.60	28.40	tuff?). Py as dissem. and locally in laminations. Lam. 45-55																														
R		25.60	28.40	degrees.																														
N		25.60	28.40	100.0		X	CHTF	PY		CL2	LM						N	1	LM		50	P4						D*			PY	
L				90.0					4A		QZ4					4							P2									L*	
P		31.80	75.00	100.0			MXTF	CL	PY	QZ4	LM		5	=	L		P	0	LM		70	P4						D*				
L				90.0					AG	QV	QX=			R		3						0)	P2	L.									
R		31.80	75.00	Exactly as nested interval above, except with qtz crystals																														
R		31.80	75.00	(cherty qtz-xtl tuff). Local laminations. Competant rock.																														
R		31.80	75.00	Grain size specs refer to qtz xtls. Qtz xtls typically have																														
R		31.80	75.00	diffuse grain boundaries. Carbonate spots toward lower contact																														
R		31.80	75.00	- see 70.6-71.5m.																														
P		75.00	101.70	100.0			MLXT	LL	CL	QZ4	LM		5	)	L		P	0	LM		70	P4						D*				
L				40.0					5A	MU	QX)			R		6						0)	$1	P1	O*								
R		75.00	101.70	Lapilli tuff interbedded with chert-cherty tuff, crystal tuff																														
R		75.00	101.70	and rare MATF, gradational contacts. Rock is dark in colour																														
R		75.00	101.70	but very siliceous. Grain size refers to qtz xtls. Lapilli																														
R		75.00	101.70	fragments form lenticular bands. Py increases toward bottom.																														
N		77.50	79.30				F	CHTF										N															
N		80.20	81.60				X	CHTF										N															
N		88.70	90.20				X	MATF										N															
R		91.00	101.70	Rare lenticular bands - lapilli(?), fine laminations, laminated																														
R		91.00	101.70	and dissem PY define this sub-interval. Minor gouge, broken																														

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K22 (CONTINUED)

```
   F  - I N T E R V A L -  CORE     %      TYPI- QAL  TEX-  GRAIN FRAC-      STRUCTUR-1 ALTERATION MINS  ORE-TYPE MINS
R  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      ( % )     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  SUMMARY
- --- ------.--  ------.--  ----.- -- - ---- -- -- --- -- -- - - - - - -- - - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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      91.00     101.70        core at lower contact.  Fol. 65-70 degrees.  Gouge at 98.4m.
N      91.00     101.70             X CHTF MU CL QZ3 LM                N  1 LM      70 P                L)       PY
L                                       4A   PY+                                    P+ $1 P+                    D*

P      101.70    104.40   100.0       DYKE      FX1 PP FG               P  0 UC      60                CY
L                         60.0            5U       MX                 4  0 LC      70                H=
R      101.70    104.40        Phenos are white and very soft-clay altered feldspar?  Gouge,
R      101.70    104.40        broken core + breccia at lower contact.  Rare xenoliths.
R      101.70    104.40        Bleached to tan colour at contacts.

P      104.40    117.50    95.0       CHTF PY CL QZ4 FG FO               P  0 FO      70 P4               L)       PY
L                         60.0            8A   MU2 GC                 5                    $2 P=                    D)
R      104.40    117.50        Lighter coloured than above - pale green-grey.  Gouge and
R      104.40    117.50        breccia <5cm at 106.1m.  Py laminations confined to top 3m of
R      104.40    117.50        interval.  Very siliceous rock, in places resembles SEXL.  Py
R      104.40    117.50        disseminated locally up to 2%.
R      105.60    106.40        Mislatch at 106.4m.  Run between 103.3 and 106.4m is missing
R      105.60    106.40        26% of the core.
N      105.60    106.40      .0     X MISN                             N

P      117.50    144.30   100.0       QXTF PY    QX2 PP FO   6 2 M      P  0 FO      70                L)       PY
L                         90.0            6A    MU2 GC       E      3                    $2 $=                    D+
R      117.50    144.30        Grain size specs refer to qtz xtls.  <5cm gouge at 127.8m and
R      117.50    144.30        at 143.2m.  Grades into a strongly carb-ser altered rock.
R      117.50    144.30        % Qtz crystals decreases over lower gradational contact.
R      118.50    119.20        Siliceous lenticular banding (lapilli?) - no crystals,
R      118.50    119.20        laminated.
N      118.50    119.20             X LLTF CL    LL1 LB LM               N  1 LM      75                D*
L                                       AG    MU2                                    $2 $2

P      144.30    154.30   100.0       MATF CL PY CB2 FO LM   5 * L      P  0 FO      70                CB L)
L                         60.0            7A QX MU2          E      4                 P1 $2 $2          L1
R      144.30    154.30        This is a strongly altered crystal-poor interval within a thick
R      144.30    154.30        QXTF sequence.  Coarse dissem. Py assoc. with carbonate bands,
R      144.30    154.30        forms discontinuous lam.

P      154.30    202.40   100.0  MF   QXTF MU CB QX1 PP FO   6 1 M      P  0 FO      70                L)       PY
L                         95.0            5A EP CL3 LM ST    E      3                 O= $2 P3 O=                D*
R      154.30    202.40        Dark-coloured qtz xtl tuff.  Light coloured, sericitic from
R      154.30    202.40        157.4-159.0m.  Qtz xtls are augen-shaped.  Rock is flecked with
R      154.30    202.40        carbonate and epidote(?) grains.  Relatively high % py in upper
R      154.30    202.40        part of interval.  Gradational lower contact.

P      202.40    226.80   100.0       MATF EP QX CL4 WF      6 ( L      P  0 FO      70
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K22 (CONTINUED)

KEY	FLAG	- INTERVAL - (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% MIX	ROCK TYPE	TYPIFYING MIN TM 1	TYPIFYING MIN TM 2	QAL MIN MAT QM1	TEXTURES TX 1	TEXTURES TX 2	GRAIN CHARACS F	C	% M	C	P	#	FRACTURE TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	MINS H A MG	MINS ANY XX	ORE-TYPE H A PY	H A CP	MINS H A GL	MINS ANY YY	SUMMARY
KEY	FLAG			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	LC-COL	TM QM2 3	TX 3	TX 4	S O R	R N D	S H P	O / C	DIP SML	F I	TK	T 2	ID	STK AZM	DIP RT	KF H A	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	
L				95.0				4G	CB=			R				2							Q=		P4	Q=							
R		202.40	226.80	Contact is somewhat arbitrary as rock grades into a more																													
R		202.40	226.80	typical MATF with very rare qtz xtls from the overlying mafic																													
R		202.40	226.80	QXTF.																													

S U M M A R Y R E M A R K S

Hole intersects a sequence of mafic qtz-xtl tuffs with interbedded cherty tuff horizons and local lapilli-crystal tuff horizons. An increase in the % py occurs in sericite altered qtz-xtl tuff at 117.5-144.3m. In general there is a relatively high % of laminated Py between 91.0-180.0m compared to other drill holes. The conductor, identified by geophysics, is not evident, but the geology looks promising. Down hole geophysics to follow.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K23

PROJECT IDEN : KUTCHO | START DATE : 90/12/ 4 | COMPLETION DATE : 90/ 9/ 9 | GEOLOGGED BY : PMH +
COLLAR NORTHING: 51915.00 | COLLAR EASTING : 37980.00 | COLLAR ELEVATION: 1590.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 277.10 | CORE/HOLE SIZE : BDGM

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		180.00	-67.00		
001	146.70		183.00	-62.00		
002	261.80		189.50	-57.00		

K E Y	F L A G	- INTERVAL - FROM - TO (UNITS = FT)	CORE RECOV-ERY (%)	% M I X	ROCK TYPE	TYPI-FYING TM 1	TM 2	QAL MIN MAT QM1	TEX-TURES TX 1	TX 2	GRAIN CHARACS F	C	% M	FRAC-TURE P	#	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A QZ	H A BI	H A CY	H A CB	H A MG	H A ANY MIN XX	ORE-TYPE MINS H A PY	H A CP	H A GL	H A ANY MIN YY	SUMMARY
K E Y	F L G		ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	LC-COL	TM 3	QM2 3	TX 3	TX 4	S R O R	R S H P	O / C	DIP SML	F I	T 2	ID	STK AZM	DIP RT	KF H A	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	
P		0.00 4.40						CASE								P															
P		4.40 8.80	100.0					QFXT	FX	MS	QX3	PP	FR	4	6	1	N	P	FO	45				O+						
L			80.0		PC	FE	5A		BI1					0		2					P=									
R		4.40 8.80	Fragmental form of QFXT. Somewhat unusual due to 10% dissem.																												
R		4.40 8.80	BI.																												
P		8.80 39.30	100.0					QFXT	MS	CL	QX3	PP	FR	5	6	1	P	P	FO	45				O+		D.				
L			96.0		PC	FE	5G		EP1					0		1			BD	40	P=	P+	H1							
R		8.80 39.30	Med. to dark green. Subtle fragmental texture, but not many																												
R		8.80 39.30	fragments.																												
P		39.30 95.20	100.0					QFXT	MS	CL	QX3	PP	FR	5	6	1	P	P	BD	45	V)			O+		D.				
L			94.0		PC	FE	AG		EP1	GC				0		1			FO	45	P1	O)	H1							
R		39.30 95.20	As above, but silvery green in colour. Difficult to discern																												
R		39.30 95.20	fragments from thin beds. Qx to 1cm. MS increases with depth.																												
R		39.30 95.20	Thin ash seams occur in the lower 4m.																												
P		95.20 107.00	100.0					QFXT	CB	PY	QX3	PP	$T	5	6	=	N	P	FO	50				U1	P=	MG	D+		PY	
L			73.0		PC	FE	7A		MS3	FR	GC			E	0	3					P3				D)				Y(	
R		95.20 107.00	In reality a QXLT with about 5% eliptical siliceous lapilli																												
R		95.20 107.00	from 0.1-2.5cm in size. Very fine dissem. magnetite. Intense																												
R		95.20 107.00	muscovite alteration and minor carbonate spotting.																												
R		99.30 102.30	Fractured and oxidized (rusty).																												
M		99.30 102.30		X	QFXT	HE	PY	QX3	SH	$T	5	6	=	N		D	FO	50				U1	P=	MG	D+		PY	
L					PC	FE	7A		MS3	FR				E	0	6					P3				D)				Y(	
P		107.00 111.50	93.0					QXAT	QX	PY	MS4	$T	PP	4	5		P	FO	60				O2	P=		Y)		FM	
L			39.0		PC	FE	9G	FM	CB2					6							$4								$+	
R		107.00 111.50	A Qx-sericite schist with abundant cream coloured carb. spots.																												
R		107.00 111.50	Minor porphyroblastic Py and fluoro muscovite.																												
P		111.50 117.30	90.0					LLAT	QZ	CL	MS4	$T	LB	4	6	1	N	P	FO	65	V=		O=	$2	P=		Y)		FM	

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K23 (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      ( % )    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  SUMMARY
- --- ------.--  -----.--   ----.- -- - ---- -- -- --- -- -- - - - - - - -- - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
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      PC FE AG PY DO2 FR SH     E O     X                  $4 $=                  $+
R       111.50    117.30       A mixed bag, both texturally and compositionally - likely due
R       111.50    117.30       hydrothermal processes rather than deposition.  Given the
R       111.50    117.30       composition of surrounding rocks, chlorite is probably an
R       111.50    117.30       alteration product.  Gouge zones at 111.5-112m, and
R       111.50    117.30       113.8-114.0m.
R       112.40    113.10       Very unusual.  Vuggy QZ with approx. 40% grey sulphides:
R       112.40    113.10       sphalerite + chalcocite (steel blue, sectile, soft, cleavage).
N       112.40    113.10            X SMSF QZ CP SP2 VU                N             V3              D) D)    CC
L                                       3A PY CC2                                                      D2 D2

P       117.30    117.70              SEXL      QZ6 LM                 P
L                                       7A    PY1

P       117.70    133.40    93.0      PYAT CB CP PY2 $T LM             P    LM      65 L1      P2 O1    L2 D+    CC
L                           30.0           5A BO MS3                 7                 P3               B+ D+
R       117.70    133.40       Rock is grey laminated to mottled sericite, carbonate and SEXL
R       117.70    133.40       with narrow zones of massive to semimassive pyrite, which
R       117.70    133.40       commonly hosts interstitial CP, BN and rare CC.  Both BO and CP
R       117.70    133.40       are smattered (disseminated) throughout the interval but are
R       117.70    133.40       more abundant from 122.0-129.3m.
R       118.60    120.00       Broken - shattered with minor ash and sulphides.
N       118.60    120.00            X QZVN      QZ7                  N
L                                       MW    SX+
R       122.00    130.80       Massive/laminated Py, fine to coarse grained with interstitial
R       122.00    130.80       to blebby BO+CP; in sections approx. 30-50cm wide.
R       122.00    130.80       127.3-127.7m looks like possibly a silicified dolomite or CBEX,
R       122.00    130.80       as see reuct rhombohedral xtals in siliceous matrix.
N MSF   122.00    130.80            2 MSSF BO SP PY7                  N                          L7 B+    CC
L                                       5A CC CP+                                                    J= L) B?

P       133.40    147.00   100.0      LLTF QZ    LP4 FR FO 4 6 4 N      P    LM      55 P4              L1 L)
L                           95.0        FS 5A    PY1 LM    S          3                 $1
R       133.40    147.00       Siliceous felsic lapilli tuff with 5-10% fine grained laminated
R       133.40    147.00       Py.  Minor laminated to blebby CP with pyrite.  Mod. clay-SE
R       133.40    147.00       shearing at top of interval.  Strange vuggy interval with 80%
R       133.40    147.00       coarse Py 140.9-
N       133.80    135.00   100.0     9 SHZN      CY3 SH GG              N    SH      50             CY
L                           65.0           9A    MS2                                    $2         G3
R       140.90    142.80       Massive, coarse grained pyrite.  Vuggy; due to dissolved
R       140.90    142.80       carbonate?
N       140.90    142.80   100.0     X MSPY QZ    PY8 MX VG 5 6 6 L      N    LM      55 J1              M8
L                           96.0                MS1 CG    M                                 $1
R       144.70    147.00       Intense shearing and platey cleavage.  Lots of pyritic clay-MS
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K23 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM	TO	CORE RECOVERY (%)	% ROCK TYPE	TYPIFYING MINERALS TM1	TM2	QAL MAT QM1	TEXTURES TX1	TX2	GRAIN CHARACS F	C	%	M	FRACTURE #	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION H A QZ	H A BI	H A CY	H A CB	H A MG	MINS H ANY A MIN XX	ORE-TYPE H A PY	H A CP	MINS H ANY A MIN GL	YY	SUMMARY
R	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC-COL 3	QM2	TX3	TX4	S O R	R N D	S H P	O / C	DIP SML	F I	T 2	ID	STK AZM	DIP RT	KF	MU	CL H A	EP H	HE H	HA H A	PR H	MO H	SL H	HA H A	
R		144.70	147.00		gouge.																										
N		144.70	147.00	80.0	X	FLTZ	MS	CY3	SH	GG					N											CY	D2			
L				.0			GA	PY2							X							P2				G3				
P		147.00	163.50	100.0		SMPY	QZ	MS	PY2	FR	LM	5	6	2	N		P		LM		65	P2					L2			
L				90.0			AU	LF2	$T		S				3							$2								
R		147.00	163.50		Semi-massive, laminated pyrite in siliceous felsic lapilli																										
R		147.00	163.50		tuff.Similar to 133.4-147.0m. but with more pyrite. Top 2m																										
R		147.00	163.50		broken up. Py is typically fine but approx. 20% of total Py is																										
R		147.00	163.50		4-8mm.																										
R		154.50	156.80		Very pale felsic siliceous lapilli tuff with strong musc.																										
R		154.50	156.80		sheeting + <3% Py. Similar host to main PGI.																										
N		154.50	156.80	100.0	X	LLTF	PY	LF3	FR	FO	4	6	3	N	N		$T			65	P3		$+			L1			
L				98.0			9A	MS3	$T		S											$3								
P		163.50	191.10	100.0		LLTF	MS	QZ	LF3	FR	FO	5	6	3	N		P		LM		P3					L1			
L				95.0			7A	PY1	$T	LM	S				2							$2								
R		163.50	191.10		Similar to 133.4-147.0m. Flattened siliceous lapilli tuff with																										
R		163.50	191.10		mod. MS sheeting and approx. 10% fine to medium grained																										
R		163.50	191.10		laminated pyrite. Pyrite laminations parallel foliation of																										
R		163.50	191.10		flattened lapilli. Never really looks like a true stringer																										
R		163.50	191.10		zone.																										
N		163.50	191.10		5	SMPY		PY2	LM						N												L2			
P		191.10	198.30	100.0		LLTF	QZ	MS	LF2	FR	FO	4	6	2	N		P		$T		60	P3		O+			1+			
L				96.0		IN	5G	CL2	$T		S				2							$2	P2								
R		191.10	198.30		Green, chloritic - siliceous lapilli tuff. Flattened siliceous																										
R		191.10	198.30		lapilli in a green chlorite-musc Mx. Minor dolomite "blebs"																										
R		191.10	198.30		to 1cm.																										
P		198.30	213.90	95.0		LLTF	PY	MS	LF3	$T	FR	5	6	3	N		P		$T		55	P3				CY	L=		FM	
L				30.0		FS	7A	QZ3	FO		S				5							$3				G*			L?	
R		198.30	213.90		Back into pale grey pyritic lapilli tuff. Siliceous flattened																										
R		198.30	213.90		fragments. Increase in MS sheeting. Py typically fine grained																										
R		198.30	213.90		and 3-7%, but local sections to 30cm have SMPY to 60%; ie:																										
R		198.30	213.90		202.3-203.7m. Trace F.mica? at 209.7m.																										
R		203.30	203.90		Moderate shear 203.3-203.5m and 203.8-203.9m. Separated by																										
R		203.30	203.90		20cm of MSPY (70%).																										
N		203.30	203.90		3	SHZN	MS		CY1	SH					N			SH		55						CY	M6			
L									PY6													$3				G1				
P		213.90	249.40	100.0		PYAT	PY		MS2	BN	FO	5	6	1	N		P		LM		60	F1	$1	L?			L1			
L				35.0			5A		CB1	$T		S			5							$2								
R		213.90	249.40		Light-dark grey banded pyritic ash tuff. 5-10% flattened																										

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K23 (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       ( % )    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  SUMMARY
- --- -----.--  -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -   - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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       213.90    249.40       siliceous lapilli.  Otherwise, unit is not silicified.  Could
R       213.90    249.40       be banded CBEX??  Py very fine to coarse (1-2mm or 5-10mm) +
R       213.90    249.40       laminated.  Bands are 2 to 20mm thick.  Small 10cm GG - shears
R       213.90    249.40       at 245.8m; 249.2m.
N       239.60    242.00   95.0    8 FLTZ       CY2 SH GG            N                              CY
L                           .0           7A     MS3                                       $3        G2
N       242.40    243.20           X SMPY       PY5 LM               N    LM      55 P3                 L5
L                                               QZ3

P       249.40    259.60  100.0      CBEX       DO3 BN LM 4          P    LM      65 F= $1    L3 U=     L=
L                          50.0          7A     PY= $T           5                        $1
R       249.40    259.60       Pale to medium grey banded carb. exhalite?  Texturally it looks
R       249.40    259.60       like it could be a silicoues ash tuff or cherty tuff, but rock
R       249.40    259.60       is soft.  Pale bands especially look like MSV dolomite.  Still
R       249.40    259.60       carries 5% laminated Py.  Also 5% dense white crystals
R       249.40    259.60       (rhombohedral) that could be reuct dolomite?  Alternative is a
R       249.40    259.60       carb. altered ash tuff.
N       253.00    253.30           X FLTZ       CY3 GG SH            N    SH      65                    CY L2
L                                               PY2                                                     G3

P       259.60    277.10  100.0      PYAT CL    PY1 LM BN            P    LM      65 P1 $+    L2        L1
L                          75.0          5A     CB2              3                        $1 P+
R       259.60    277.10       Similar to previous PYAT, but slightly more siliceous.  Pale
R       259.60    277.10       grey + dark grey banded (2-20mm).  Pale grey bands look
R       259.60    277.10       dolomitic.  Central section is more chloritic and less pyritic
R       259.60    277.10       (2% Py).
R       263.10    268.90       Medium green, chloritic section.  Decrease in pyrite.  5% white
R       263.10    268.90       dolomite(?) spots 8-15mm.
N       263.10    268.90  100.0    X ASHT       CL2                  N                        O=        L)
L                          80.0          5G     DO=                                       $1 P2
```

S U M M A R Y R E M A R K S

Hole collared in variably altered QFXT to 107.0m, then crosses through a Qz xtal ash tuff (Qz-musc) schist to 111.5m and an unusual - possibly hydrothermally altered - lapilli ash tuff to 117.3m. A thin band of silica exhalative to 117.7m marks increase in alteration. Pyritic ash tuff encountered to 133.4m, and then variably altered (musc. sheeting) felsic lapilli tuff and pyritic ash tuff to EOH. Scattered chalcopyrite, sphalerite + chalcocite? 112.4-133.4m, but main mineralization is strange banded grey unit 249.4-259.6m. May be carb. exhalite - pale bands look like DO, and rock is soft.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K24

PROJECT IDEN : KUTCHO | START DATE : 90/10/ 4 | COMPLETION DATE : 90/10/ 5 | GEOLOGGED BY : JMS +
COLLAR NORTHING: 50075.00 | COLLAR EASTING : 41720.00 | COLLAR ELEVATION: 1645.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 94.20 | CORE/HOLE SIZE : BQTW

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
001	0.00		180.00	-50.00		
002	47.10		187.00	-50.00		

K	F L A G	- INTERVAL - (UNITS = FT) FROM - TO	CORE RECOV-ERY (%)	% M I X	ROCK TYPE	TYPI-FYING TM 1	TM 2	QAL MIN MAT QM1	TEX-TURES TX 1	TX 2	GRAIN CHARACS F	C	%	FRAC-TURE N	#	TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS H A	H A	H A	H A	H A	ANY MIN	ORE-TYPE MINS H A	H A	H A	H A	ANY MIN	SUMMARY
K	F L A G	ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	QM2 LC-COL	3	3	TX 3	TX 4	S R D	R S P	O N C	DIP / SML	F I		T 2	ID	STK AZM STRUCTUR-2	DIP RT	KF A	MU A	CL A	EP A	HE A	HA A	PR A	MO A	SL A	HA A		
P	0.00	5.80				CASE									P																	
P	5.80	56.20	100.0			QFXT	EP	HE	QX=	PP	WF	6	=	M	P	0	FO	65													
L			70.0			MF	4G	CB	CL3	ST		R		4							P+	O=	O=									
R	5.80	56.20	Mafic tuff with 3-7% qtz xtls, 3-7% epidotized feldspar xtls																													
R	5.80	56.20	and locally 3-7% hematite spots (may be replaced feldspars?).																													
R	5.80	56.20	Epidote and hematite spots do not coexist. Surface oxidation																													
R	5.80	56.20	to 9m. Rusty weathering at 17.5-17.8m. Bleached and ser.																													
R	5.80	56.20	altered 28.4-29.7m.																													
R	28.40	29.70	Pale green to buff coloured rock. Approx. 10% HE spots and																													
R	28.40	29.70	rusty stained on fractures. Matrix is bleached and sericite																													
R	28.40	29.70	altered.																													
M	28.40	29.70	X	QFXT	CL	HE	QX=	PP	WF					N															HE			
L					8G		MU1	ST														$1	P1		O1	<*						
P	56.20	80.10	100.0			MATF	CB		CL4	WF	ST				P	0	FO	65													
L			85.0				4G		EP1					3							P1		P4	Q1								
R	56.20	80.10	Gradational contacts - qtz xtls disappear. Typical MATF																													
R	56.20	80.10	speckled with carbonate and epidote alteration. Fol. 60-70																													
R	56.20	80.10	degrees.																													
P	80.10	86.10	100.0			CHTF	QZ	PY	MU2	FG	FO				P	0	FO	65												D]		PY
L			15.0				9T		CB+	LM				6		0	LM	65	P+	$2											L*
R	80.10	86.10	Essentially a qtz-musc-carb rock. Pyrite noteable. Qtz and																													
R	80.10	86.10	carb stringers and veinlets near lower contact. 1-15cm																													
R	80.10	86.10	interbeds of SEXL below 85.0m. Trace qtz xtls.																													
P	86.10	87.00	100.0			ARGL	CB		GR6	LM	FD				P			<=												D[		
L			.0				NN		QZ1					9				<=														
R	86.10	87.00	Minor gouge at upper contact. Contorted bedding emphasized by																													
R	86.10	87.00	white qtz and carb discontinuous layers. Qtz-carb stringers +																													
R	86.10	87.00	veinlets.																													
P	87.00	89.30	100.0			CHTF	QZ	PY	MU2	FG	FO				P	0	FO	55												D*		

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K24 (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-    N 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      ( % )     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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- -- -  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -

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                          5.0          9T    CB+ LM                 8                  P+ $2
R       87.00      89.30       Gouge at lower contact (<5cm).  Local dissem. Py euhedra
R       87.00      89.30       (2-3mm).  Similar to above - a qtz-musc + minor carbonate rock.
R       87.00      89.30       Fol. 50-60 degrees.

P       89.30      89.90  100.0      ARGL CB    GR7 LM FD              P                (=                  D(
L                          40.0         NN    QZ=                    5                  (=
R       89.30      89.90       Gouge at upper contact.  Laminated and locally contorted.
R       89.30      89.90       Minor qtz+fd stringers.  Remarkably low % Py.

P       89.90      94.20  100.0      CHTF QV CL QZ4 BN PF              P    BN      60 V)                   D*
L                          50.0         AG    MU= WF                 5                    $= P=
R       89.90      94.20       A very unusual interval of rock - varies in colour (white-grey-
R       89.90      94.20       green) and also in composition - cherty tuff-tuff-chert (or
R       89.90      94.20       SEXL?).  Locally banded, locally contorted, locally massive
R       89.90      94.20       silica.  Strongly inhomogeneous!  Trace carbonate.
```

S U M M A R Y   R E M A R K S

Hole intersects mafic quartz feldspar crystal tuff which grades in mafic tuff at 56.2m. Cherty-tuff occurs from 80.1m to the end of hole. Two narrow (0.9m and 0.6m) argillite horizons occur within the cherty tuff. These correspond with the geophysical anomaly at surface. Disappointing.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K27

PROJECT IDEN : KUTCHO | START DATE : 90/ 9/ 9 | COMPLETION DATE : 90/ 9/12 | GEOLOGGED BY : HO + CLH
COLLAR NORTHING: 51715.00 | COLLAR EASTING : 39115.00 | COLLAR ELEVATION: 1575.00 | GRID AZIMUTH : 0.00
TOTAL LENGTH : 299.00 | CORE/HOLE SIZE : BDGM

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000	0.00		200.00	-55.00		
001	197.80		208.00	-54.00		
002	258.80		196.00	-51.00		

K	F L A G	- INTERVAL - FROM	TO	CORE RECOVERY (%)	% ROCK TYPE	TYPIFYING MINERALS 1	2	QUALITY MINERALS 1	TEXTURES 1	2	GRAIN CHARACS F C % M P #	FRACTURE TK	STRUCTUR-1 T	ID	STK AZM	DIP RT	ALTERATION MINS A QZ	A BI	A CY	A CB	A MG	ANY XX	ORE-TYPE MINS A PY	A CP	A GL	ANY YY	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM QM2 LC-3 COL	TX 3	TX 4	S R S O N H / SML R D P C	DIP F I	STRUCTUR-2 T	ID	STK AZM	DIP RT	KF	MU	CL	EP H	HE H	HA A	PR H	MO H	SL H	HA A	
P		0.00	13.50		CASE							P															
P		13.50	160.50	100.0	GABR	CL	EP	MX	GG			P	FO		55										U)	
L				80.0	MG		5G		GC									H1	J=							
R		13.50	160.50		Metagabbro - massive and equicrystalline below 44.0m, foliated																						
R		13.50	160.50		and finer grained uphole. Epidote not present above 44.0m.																						
R		13.50	160.50		Limonite weathering from surface to 33.5m. More chloritic than																						
R		13.50	160.50		coarse grained gabbro.																						
R		141.80	142.70		Interval includes two white 'bull' quartz veins 20 and 40cm																						
R		141.80	142.70		wide. Sulphides not observed.																						
N		141.80	142.70	100.0	8 QZVN							N	CN		60												
L				100.0			WW																				
P		160.50	166.20	100.0		MLXT	CL		FX1	SH	FO 3 J 1 J	P	FO		70	$=								L=		
L				80.0			5G		GC		B N		BN		70	$+											
R		161.50	164.00		Broken core, sheared, 2-5% light green sericitic gouge.																						
N		161.50	164.00		X	MLXT	MS		FX1	SH	FO 3 J 1 J	D	FO		70	$=								L=		
L							8G		GC		B N		BN		70	$1											
P		166.20	182.60	100.0		MATF	CB	CL		FG	MX 3 J 1 K	P	FO		65								CB	U+		
L				90.0		BS	5G			GC						$=		C)	01							
R		166.20	182.60		Carbonate spots resemble feldspar crystals in outline, more																						
R		166.20	182.60		usually are elliptical - stretched by foliation.																						
R		177.70	182.60		Alteration zone - moderate, pervasive, fluoro muscovite																						
R		177.70	182.60		(fuchsite) wisps 1-2% throughout interval, same protolith as																						
R		177.70	182.60		principle unit.																						
		177.70	182.60		X	MATF	CB					N	VQ		75	)= $1		P1						D)		
L							9G						FO		70	$=											
P		182.60	184.50	100.0		MATF	AK	CL		IB	GC	P				$?		$?		CB	L=			CB		
L				100.0			6G									$=		O=						$=		
R		182.60	184.50		Tuff interbedded with buff ankerite/dolomite layers 0.25-2cm																						

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K27 (CONTINUED)

KEY	FLAG	-INTERVAL- (UNITS = FT) FROM	TO	CORE RECOVERY (%)	%M ROCK TYPE	TYPIFYING 1	TYPIFYING 2	QAL MIN MAT QM1	TEXTURES 1	TEXTURES 2	GRAIN CHARACS F	GRAIN CHARACS C	GRAIN CHARACS % M	GRAIN CHARACS P	FRACTURE # TK	STRUCTUR-1 T	STRUCTUR-1 ID	STRUCTUR-1 STK AZM	STRUCTUR-1 DIP RT	ALTERATION H A QZ	ALTERATION H A BI	ALTERATION H A CY	ALTERATION H A CB	ALTERATION H A MG	ALTERATION H A ANY MIN	ORE-TYPE H A PY	ORE-TYPE H A CP	ORE-TYPE H A GL	ORE-TYPE H A ANY MIN	SUMMARY
K	F			ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM QM2 LC-3 COL	TX 3	TX 4	S O N R D	R S H P C	O /	DIP SML	F I	T 2	ID	STK AZM STRUCTUR-2	DIP RT	KF	MU	CL H A	EP H A	HE H A	HA H A	PR H A	MO H A	SL H A	HA H A	
R		182.60	184.50		wide.																									
P		184.50	218.70	100.0		ASHT	CB	PX= PB GC 2 I = J					1	P	1	BD		80	$=		P3		CA	L+					
L				50.0			6A																				O+			
R		184.50	218.70		Crenulated.																									
R		185.30	185.60		30% white sericite gouge.																									
N		185.30	185.60			8	FLTZ			SH					N															
L							WW													$1										
R		186.10	186.70		Interval intersected by 3 fault/shear zones 1-15cm wide, 20%																									
R		186.10	186.70		white sericite gouge.																									
N		186.10	186.70			4	FLTZ			SH					N															
L							WW													$1										
R		202.80	203.10		Crenulated, 30% white sericite gouge, local folding.																									
N		202.80	203.10			8	ASHT			SH					N															
-																				$2										
R		207.30	215.20		Moderate-strong carbonate alteration, broken core ('potato																									
R		207.30	215.20		chips'!) between 209.6-209.7m and 210.4-210.7m.																									
N		207.30	215.20	100.0		X	ASHT	CB AK PX= PB							N		FO	75	$1		P3			D+					
L				10.0			YA												$2											
P		218.70	227.20	100.0			LLTF	QZ CB PX= FD FO 3 M 1 N						P	2	FO		80	+=	$1					L+					
L				20.0	KL		FS	7A LL1								CN		35	$=											
R		218.70	227.20		Lower contact sharp, narrow shear/fault precedes contact.																									
P		227.20	239.60	100.0			LLTF	PX= PB GC 4 N 1 O						P		FO		75	$=						L=					
L				75.0	KL		IN	7G LL1											$=											
R		227.20	239.60		Weak crenulations developed, possible chalcopyrite or very																									
R		227.20	239.60		yellow pyrite (<1%), fine grained pyrite as loosely formed																									
R		227.20	239.60		layers.																									
P		239.60	261.00	100.0			LLXT	CB MS PX= FD FO 3 M 1 N						P		FO		65	$1		P3			L=					
L				75.0	KX		FS	7A PY PX+ GC											$1											
R		239.60	261.00		Porphyroblasts vary from 1mm to 1.5cm, elliptical knots of																									
R		239.60	261.00		dolomite? Fold noses and crenulations present.																									
P		261.00	299.00	95.0			ASHT	CB MS PX= LM KB 2 M = N						P	2	FO		70	>+	$=		P?		CB	L=					
L				15.0			7A	PX= GC												$2				P2						
R		261.00	299.00		Crenulated, almost a pyrite ash tuff, pyrite 2-4%, fault																									
R		261.00	299.00		between 272.50-273.7m (shear zone).																									

S U M M A R Y R E M A R K S

This hole was planned to intersect two geophysical targets. Massive gabbro, mafic tuff and carbonate altered fine grained

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K27 (CONTINUED)

S U M M A R Y R E M A R K S

tuff and lapilli tuff, fine grained laminations of pyrite occur between 227m and end of hole, pyrite 5%. Conductors were not intersected.

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K28

```
PROJECT IDEN   : KUTCHO       START DATE     : 90/ 9/11      COMPLETION DATE : 90/ 9/12     GEOLOGGED BY : MDK +
COLLAR NORTHING:              COLLAR EASTING :               COLLAR ELEVATION:              GRID AZIMUTH : 0.00
                              TOTAL LENGTH   : 0.00          CORE/HOLE SIZE : BQTW


  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       ( % )    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  SUMMARY
- --- -----.--   -----.--  ----.- -- - ---- -- -- --- -- -- - - - - -- --  - -- --- --- -- -- -- -- -- -- -- -- -- --  - - - -
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       9.80              CASE                            P

P       9.80      17.80    100.0      LLTF MS QZ LF3 FR $T 4 6 3 N       P    $T       55 Q1 $1    0+       1*
L                           75.0         FS 5G CB CL1 FO    S            3                 $2 P1
R       9.80      17.80        Green, chloritic, lapilli tuff.  Felsic; siliceous, flattened
R       9.80      17.80        lapilli 5mm to 2cm, in chloritic-MS sheeted matrix.  Matrix
R       9.80      17.80        patchily silicified.  2-3% dolomite? spots approx. 1cm.
R       9.80      17.80        Chlorite possibly secondary.

P      17.80      25.90    100.0      LLTF MS CB LF3 $T FR 4 6 3 N       P    $T       55 P3 $1    0+       1)
L                           80.0         FS 9A    QZ3 FO    S            4                 $3
R      17.80      25.90        Similar to above, but bleached pale grey - loss of CL, +
R      17.80      25.90        increase in muscovite.  Strong pervasive silicification.
R      17.80      25.90        Textures indistinct.
M      18.90      19.10    100.0    X FLTZ        CY5 GG SH              M                            CY
L                          100.0            7A    MS3                                      $3         G5

P      25.90      44.90    100.0      LLTF MS QZ LF3 FR $T 4 6 3 N       P    $T       60 Q1 $=    0+       1*
L                           80.0         FS 5G DO CL1 FO    S            4              B+ $1 P1
R      25.90      44.90        Same as 9.8-17.8m.  Green chloritic, with silicified, flattened
R      25.90      44.90        lapilli and dolomite spots.  20% green mafic ash tuff (MATF)
R      25.90      44.90        intervals from 39.9m.

P      44.90      63.60    100.0      LLTF CB    LF2 FR $T 4 6 2 N       P    $T       70 Q= $1    0*       1+ B-
L                           20.0         FS 9A    MS3 GC    S            5                 $3                  B-
R      44.90      63.60        Similar to 17.8-25.9m.  Pale grey felsic lapilli tuff.
R      44.90      63.60        Fragments <20%.  Strong MS sheeting.  Lapilli are siliceous.
R      44.90      63.60        Dolomite spots now rare.  Rare blebs of CP+SL with pyrite ie:
R      44.90      63.60        at 56.0m.  Gradational contacts.

P      63.60      74.50    100.0      ASHT       MS3 $T FG 4 6 = N       P    $T       70    $=    $=       1+       GS
L                           25.0         FS 9A    CB1 GC    S            7                 $3                       1-
R      63.60      74.50        Felsic ash tuff to lapilli ash tuff (5-10% flattened, siliceous
R      63.60      74.50        fragments).  Strong MS-CB sheeting.  Gradational contacts.

P      74.50      80.50    100.0      PYAT       MS3 $T FG 4 6 = N       P    $T       65 Q1 $1             11 B-
L                           20.0         FS 7A    PY1 GC LM S            6                 $3
R      74.50      80.50        Felsic ash tuff with approx. 10% laminated pyrite - very fine
R      74.50      80.50        grained.  Several 30cm sections carry 50% Py.  Trace CP blebs
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90K28 (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      ( % )    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  SUMMARY
- --- ------.--  -----.--    ----.- -- - ---- -- -- --- -- -- - - - - -- -- - - -- --- --- -- -- -- -- -- -- -- -- -- -- - - - -
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       74.50      80.50        at 80.4m, + 78.2m.

P       80.50      93.80  100.0      LLTF QZ    LF3 FR FO 4 6 3 N       P    $T      70 Q2 $+    Q=       1) B-
L                         85.0        FS 7A    MS2 $T    S          3                  $2       Q=
R       80.50      93.80        Felsic lapilli tuff. Strong MS +/- AK sheeting. Trace CP
R       80.50      93.80        blebs with Py. Pervasive PPL-HE tinge 80.7-84.3m. Fragments
R       80.50      93.80        are flattened and siliceous.
N       80.70      84.30            X LLTF QZ    LF3 FR FO 4 6 3 N       D    $T      70 Q2 $+    Q=       1) B-
L                                     FS 7A    HE1 $T    S          3                  $2       P1
N       85.30      87.10            X LLTF QZ    PY1 LM FO 4 6 3 N       D    $T      70 Q2 $+    Q=       L1 B-
L                                     FS 7A    MS2 $T    S          3                  $2       Q=

P       93.80      101.00             QXAT       QX2 FG PP 4 5 2 K       P    $T      65   $=             1)
L                                        5A      MS1       S          2                  $1 Q+
R       93.80      101.00       Qz crystal ash tuff. Weak MS-CB sheeting. Looks silicified,
R       93.80      101.00       but is soft, sharp contacts.

P       101.00     119.30 100.0       LLTF MS    LF2 IB QF 4 6 2 N       P    $T      65 Q3 $+             1*
L                         95.0          7A      QZ3 $T    S          2                  $2
R       101.00     119.30       Interbedded felsic? lapilli tuff and ash tuff. Patchy
R       101.00     119.30       silicification, mod. MS sheeting. Locally can see green cores
R       101.00     119.30       to ash tuff layers indicating that the pale grey colour now, is
R       101.00     119.30       a product of QZ flooding and bleaching. Fragment boundaries
R       101.00     119.30       typically indistinct, and may be created by criss-cross
R       101.00     119.30       sheeting pattern. Unmineralized. Approximately 25% of
R       101.00     119.30       interval is silicified ash tuff.

P       119.30     138.80             LLTF MS    QZ3 IB QF 4 6 2 N       P    $T      65 P3 $+             1*
L                                        PA      HE1 $T    S          2                  $2       P1
R       119.30     138.80       As above, but with increase in pervasive PPL hematite -
R       119.30     138.80       typically gives sheeting a purple tinge. Increase in pervasive
R       119.30     138.80       silicification.
R       136.70     138.80       Darker colour, decrease in pervasive silica marks transition to
R       136.70     138.80       mafic crystal tuff at 138.8m. Influx of 10-20% Qz crystals in
R       136.70     138.80       lower 0.5m.
N       136.70     138.80           X LLTF CL    QX= GC                  N    $T      65 P=                1*
L                                        AU      HE1                                    $= Q+    P=

P       138.80     146.00 100.0       QFXT CL CA QX1 PP FG 4 5 3 K       P    FO      60                   1(
L                                        3G      FX2 WF    S          2                  H1    P3 <= <+
R       138.80     146.00       Mafic? QZ-FS crystal tuff. Feldspars replaced by calcite.
R       138.80     146.00       Fine grained. Strong pervasive chlorite.
```

HOMESTAKE MINERAL DEVELOPMENT COMPANY
KUTCHO

DRILLHOLE/TRAVERSE : DDH90R28 (CONTINUED)

S U M M A R Y R E M A R K S

Hole was drilled to intersect LZ2 as seen on surface approx. 100m in front of drill hole. Hole collared in a green, chloritic lapilli tuff to 44.9m, then crosses into a more siliceous pale grey, musc. sheeted lapilli tuff. Fragments typical flattened + siliceous. Trace CP+SL with pyrite at 56.0m. Hole remains in LLTF throughout hole until 138.8m where it changes gradationally to a chloritic QFXT. A pyritic ash tuff interval at 74.5-80.5m carries trace amounts of CP. Hole is silicified + MS-CB sheeted to 138.8m; good geology and alteration, but very little sulphides.

APPENDIX VI GEOCODER

```
TABLE,FLAG
  CODE                  MEANING
 'ALT                    ,'TOP OAF ALTERATION
 'ANH                   0,'ANHYDRITE
 'CEX                    ,'CARBONATE EXHALITE
 'CQE                   0,'CARBONATE, QUARTZ EXHALITE
 'D01                   0,'ASSAY DATA 01
 'F?                    0,'POSSIBLE FAULT
 'FLT                   0,'FAULT
 'FTZ                   0,'FAULT ZONE
 'H01                   0,'ASSAY HEADER 01
 'HED                   0,'HEADER REMARK
 'MSF                   0,'MASSIVE SULPHIDE
 'MTF                   0,'MAFIC TUFF HORIZON
 'OXF                   0,'OXIDE FACIES
 'PSN                    ,'POLISHED THIN SECTION
 'QCE                   0,'QUARTZ, CARBONATE EXHALITE
 'QCT                   0,'TOP OF QZ-FX CRYSTAL TUFF
 'QEX                    ,'QUARTZ EXHALITE
 'REF                   0,'REDUCED FACIES
 'SER                    ,'TOP OF SERICITIZATION
 'SEX                   0,'SILICA EXHALITE
 'SMS                   0,'SEMI MASSIVE SULPHIDE
 'TSN                    ,'THIN SECTION

TABLE,ROCK
  CODE            SYMBOL#,ROCK TYPE

 'ANDS             275,'ANDESITE FLOW
 'ARGL            3036,'ARGILLITE
 'ASHT            3032,'ASH TUFF (UNSPECIFIED)
 'ASTF            3032,'ASH TUFF
 'CARB             370,'CARBONATE LAYER
 'CBBX            1084,'CARBONATE BRECCIA
 'CBEX             375,'CARBONATE EXHALITE
 'CBSF            3034,'CARBONITE SULFIDE
 'CHRT            3038,'CHERT
 'CHTF            3080,'TUFFACEOUS CHERT
 'CQEX            3030,'CARBONATE QUARTZ EXHALITE
 'FLTZ            3035,'FAULT ZONE
 'FQXT             721,'FELDSPAR QUARTZ CRYSTAL TUFF
 'FXTF            3045,'FELDSPAR CRYSTAL TUFF
 'FXXT            3045,'FELDSPAR CRYSTAL TUFF
 'GABR             618,'GABBRO
 'GBBR             618,'GABBRO
 'GOUG            3035,'FAULT GOUGE
 'GRWK            3037,'GREYWACKE/EPIVOLCANICLASTICS
 'LAHR            3031,'LAHAR
 'LATF            2055,'LITHIC ASH TUFF
 'LLAT            2057,'LAPILLI ASH TUFF
 'LLTF            1214,'LAPILLI TUFF
 'LLXT            1403,'LAPILLI-CRYSTAL TUFF
 'LXAT            1386,'LITHIC CRYSTAL ASH TUFF
 'LXTF            1386,'LITHIC CRYSTAL TUFF
 'MATF            3033,'MAFIC ASH TUFF
 'MISN               0,'MISSING CORE
 'MLAT            2056,'MAFIC LITHIC ASH TUFF
 'MLLT             631,'MAFIC LITHIC LAPILLI TUFF
 'MLTF             631,'MAFIC LITHIC TUFF
 'MLXT             631,'MAFIC LITHIC CRYSTAL TUFF
```

```
TABLE,ROCK
  CODE            SYMBOL#,ROCK TYPE
 'MSBX              3060,'MASSIVE SULPHIDE BRECCIA
 'MSPC              3064,'MASSIVE PYRITE+CHALCOPYRITE
 'MSPS              3066,'MASSIVE SPHALERITE+PYRITE
 'MSPY              3062,'MASSIVE PYRITE
 'MSSC              3070,'MASSIVE PY,SP AND CP.
 'MSSF              1405,'MASSIVE SULPHIDE
 'MSSL              3068,'MASSIVE SPHALERITE
 'MTFW               631,'MAFIC TUFF/WACKE
 'MTGB               618,'METAGABBRO
 'MXLT              2056,'MAFIC CRYSTAL LITHIC TUFF
 'MXTF              1381,'MAFIC CRYSTAL TUFF
 'NXTF              1381,'MAFIC CRYSTAL TUFF
 'OVER              1452,'OVERBURDEN
 'QCEX              3029,'QUARTZ CARB. EXHALITE
 'QCMS              1325,'QTZ-CARB-MUSC SCHIST
 'QCSH              1325,'QTZ CARBONATE SERICITE SCHIST
 'QFXT               721,'QUARTZ FELDSPAR CRYSTAL TUFF
 'QMCS              1325,'QTZ-MUSC-CARB SCHIST
 'QXAT              3040,'QUARTZ CRYSTAL ASH TUFF
 'QXLT              1386,'QUARTZ CRYSTAL LITHIC TUFF
 'QXTB              3039,'QTZ CRYSTAL TUFF - BRECCIA PHA
 'QXTF              3044,'QUARTZ CRYSTAL TUFF
 'QZVN              1486,'QUARTZ VEIN
 'RHYL              3082,'RHYOLITE
 'SEXL              1349,'SILICA EXHALITE
 'SMBC              3072,'SEMI-MASSIVE BO,CP AND PY
 'SMCS              3070,'SEMI-MASSIVE CP,SL AND PY
 'SMPB              3072,'SEMI-MASSIVE PY+BO
 'SMPY              3062,'SEMI-MASSIVE PYRITE
 'SMSC              3070,'SEMI-MASSIVE SL,CP AND PY
 'SMSF              1404,'SEMI-MASSIVE SULPHIDE
 'TFBR              3031,'TUFF BRECCIA
 'TFWK              3084,'TUFF WACKE
 'UNKN              2032,'UNKNOWN
 'VEIN              1486,'VEIN
 'XATF               898,'CRYSTAL-ASH TUFF
 'XLAT               909,'CRYSTAL-LITHIC ASH TUFF
 'XLTF               917,'CRYSTAL-LITHIC TUFF

TABLE,MINERAL
 'AH          ,'ANHYDRITE
 'AK          ,'ANKERITE
 'AX          ,'AMPHIBOLE CRYSTALS
 'BI          ,'BIOTITE
 'BO          ,'BORNITE
 'C          0,'0
 'C/         0,'CHLORITE, NO MUSC.
 'C<         0,'CHLORITE < MUSC.
 'C>         0,'CHLORITE >> MUSC.
 'CA          ,'CALCITE
 'CB         0,'CARBONATES, GENERAL
 'CC          ,'CALCOCITE
 'CL         0,'CHLORITE
 'CP         0,'CHALCOPYRITE
 'DO          ,'DOLOMITE
 'EP         0,'EPIDOTE
 'FC          ,'FUSCHITE
```

```
TABLE,MINERAL
 'FL          ,'FLUORITE
 'FS        0,'FELDSPAR, GENERAL
 'FU        0,'FUCHSITE
 'FX        0,'FELDSPARS, GENERAL
 'GR         ,'GRAPHITE
 'GY         ,'GYPSUM
 'HB         ,'HORNBLENDE
 'HE         ,'HEMATITE
 'LF        0,'LITHIC FRAGMENT
 'LI         ,'LIMONITE
 'LL         ,'LITHIC LAPILLI
 'M         0,'0
 'M/        0,'MUSC., NO CHLORITE
 'M<        0,'CHLORITE > MUSC.
 'MC         ,'MALACHITE
 'MF        0,'MAFICS, GENERAL
 'MG         ,'MAGNETITE
 'MH         ,'MAGHEMETITE
 'MN         ,'MANGANSE
 'MS         ,'MUSCOVITE
 'MU        0,'MUSCOVITE
 'PF        0,'PUMICE FRAGMENT
 'PO         ,'PYHRROTITE
 'PX        0,'PORPHYROBLAST(IC)
 'PY        0,'PYRITE
 'QX         ,'QUARTZ CRYSTALS
 'QZ        0,'QUARTZ, GENERAL
 'RC         ,'RHODOCROSITE
 'RY        0,'RHYOLIT(IC)
 'SF         ,'SULPHIDE
 'SL         ,'SPHALERITE
 'VF        0,'VOLCANIC FRAGMENT
 'XF        0,'CRYSTAL FRAGMENT
 'ZO         ,'ZOISITE

TABLE,TEXTURE
 '$T                  0,'SHEETED
 'AF                   ,'ANGULAR FRAGMENTS
 'AH                  0,'APHANITIC
 'AL                  0,'ALIGNED PHENOCRYSTS
 'AP                   ,'APHANITIC
 'BD                  0,'BEDDED
 'BL                  0,'BLADED
 'BN                  0,'BANDED
 'BR                   ,'BRECCIATED
 'BX                  0,'BRECCIATED
 'CG                   ,'COARSE GRAINED
 'CL                   ,'CLASTIC
 'CO                  0,'COLLOFORM BANDED
 'CR                   ,'CROWDED PHENOCRYSTS
 'DC                   ,'DENSELY PACKED XTAL FRAGM
 'EL                   ,'ELIPTICAL
 'EU                   ,'EUHEDRAL
 'F$                  0,'FISSILE
 'FB                  0,'FLOW BANDED
 'FD                   ,'FOLDED
 'FE                  0,'FELTED
 'FG                  0,'FINE GRAINED
```

```
TABLE,TEXTURE
 'FI                    ,'FISSILE
 'FM                   0,'FRAMBOIDAL
 'FO                   0,'FOLIATED
 'FR                   0,'FRAGMENTAL
 'FT                   0,'FLATTENED
 'GB                   0,'GRADED BEDDING
 'GC                    ,'GRADATIONAL CONTACT
 'GR                    ,'GRANULAR
 'HG                   0,'HYPIDIO. GRANULAR
 'IB                   0,'INTERBEDDED
 'IN                    ,'INTERGROWN
 'IR                   0,'IRREGULAR
 'KB                   0,'KINK BANDED
 'LB                   0,'LENSOID BANDED
 'LE                   0,'LENTICULAR
 'LM                   0,'LAMINATED
 'LN                    ,'LENTICULAR
 'MS                   0,'MATRIX SUPPORTED
 'MT                   0,'MOTTLED
 'MX                   0,'MASSIVE
 'PA                   0,'PATCHY
 'PB                   0,'PORPHYROBLASTIC
 'PF                   0,'PTYGMATIC FOLDED
 'PG                    ,'POLYGGONIZED
 'PM                   0,'POLYMICTIC
 'PO                   0,'PORCELANEOUS
 'PP                   0,'PORPHYRITIC
 'PS                   0,'POORLY SORTED
 'RG                   0,'RAGGED
 'RO                   0,'ROUNDED
 'RT                   0,'RETICULATE
 'RX                   0,'RECRYSTALIZED
 'SA                   0,'SUB-APHANITIC
 'SE                   0,'SERIATE
 'SG                   0,'SUGARY
 'SH                   0,'SHEARED
 'SL                    ,'SLUMP FOLDED
 'ST                   0,'SPOTTED
 'SU                    ,'SUBHEDRAL
 'SZ                   0,'STRINGER ZONE
 'TB                    ,'TABULAR
 'TF                   0,'TUFFACEOUS
 'UA                    ,'SUBANGULAR
 'US                   0,'UNSORTED
 'VG                   0,'VUGGY
 'VN                   0,'VEINED
 'WB                   0,'WEAKLY BEDDED
 'WD                    ,'WELDED
 'WF                   0,'WEAKLY FOLIATED
 'WL                   0,'WELDED
 'WS                   0,'WISPY
```

```
TABLE,FORMATION
 'KB                    ,'KUTCHO FM:BRECCIA PHASE
 'KE                    ,'KUTCHO FM:EXHALITIVE HORI
 'KL                    ,'KUTCHO FM:LAPILLI TUFFS
 'KO                    ,'KUTCHO FM:ORE HORIZON
 'KX                    ,'KUTCHO FM:CRYSTAL TUFFS
 'MG                    ,'METAGABBRO UNIT
 'TA                   0,'TUFF ARGILLITE UNIT

TABLE,QMIN        DOMINANT ROCK FORMING MINERALS
 CODE             VALUE       SYMBOL MINERAL NAME

 'AK              0.0000,            ,'ANKERITE
 'BI              0.0000,            ,'BIOTITE
 'CA              0.0000,            ,'CALCITE
 'CB              0.0000,            ,'CARBONATE
 'CC              6.7000,            ,'CALCOCITE
 'CF              0.0000,            ,'CARBONATE FRAGMENTS
 'CL              0.0000,           0,'CHLORITE
 'CP              6.7000,            ,'CALCOPYRITE
 'DO              0.0000,           0,'DOLOMITE
 'EP              0.0000,           0,'EPIDOTE
 'FL              0.0000,            ,'FLUORITE
 'FS              0.0000,           0,'FELDSPAR, GENERAL
 'FX              0.0000,           0,'FELDSPAR CRYSTALS
 'HB              0.0000,            ,'HORNBLENDE
 'HE              0.0000,            ,'HEMATITE
 'LF              0.0000,           0,'LITHIC FRAGMENT
 'LI              0.0000,            ,'LIMONITE
 'LL              0.0000,            ,'LITHIC LAPILLI
 'MF              0.0000,           0,'MAFICS, GENERAL
 'MN              0.0000,            ,'MANGENESE
 'MS              0.0000,            ,' MUSCOVITE/SERICITE
 'PF              0.0000,           0,'PUMICE FRAGMENT
 'PX              0.0000,           0,'PORPHYROBLAST(IC)
 'PY              0.0000,           0,'PYRITE
 'QI              0.0000,            ,'QUARTZ EYES
 'QV              0.0000,           0,'QUARTZ VEIN
 'QX              0.0000,           0,'QUARTZ CRYSTALS
 'QZ              0.0000,           0,'QUARTZ, GENERAL
 'SF              0.0000,            ,'SULPHIDE
 'SL              0.0000,            ,'SPHALERITE
 'SX              0.0000,            ,'SILICA EXHALITE
 'VF              0.0000,           0,'VOLCANIC FRAGMENT
 'XF              0.0000,           0,'CRYSTAL FRAGMENT
```

```
TABLE,HOW-SCALE   "H" = HABIT OF ALTERATION MINERALS
    '=              0.0000,      3116,'MS/CY REPLACES FX
    '!              0.0000,           ,'OVERGROWTHS
    '#              0.0000,        37,'BRECCIA FILLINGS
    '$              0.0000,      3102,'SHEETING
    ')              0.0000,        41,'CL/MG REPLACES MF
    '*              0.0000,        38,'CLASTS
    '+              0.0000,         0,'WITHIN QUARTZ VEIN
    '0              0.0000,        27,'FRESH, PRIMARY ROCK
    '1              0.0000,        28,'A, MINOR > AND/OR SCAT. C
    '2              0.0000,        29,'MACROVEINS AND VEINS
    '3              0.0000,      3120,'VEINS, SPOTS OR PATCHES
    '4              0.0000,         0,'VEINS, AND/OR OCCAS. ENV.
    '5              0.0000,        32,'VEINS, AND/OR ABUNDANT EN
    '6              0.0000,         0,'P OR D LESS THAN V,<,S &
    '7              0.0000,         0,'P OR D EQUAL TO V,<,S & E
    '8              0.0000,        35,'P OR D GREATER THAN < & S
    '9              0.0000,        36,'P OR D, V, <, S & E
    '<              0.0000,        49,'MICROVEINS, FRACTURE FILL
    '>              0.0000,        48,'MACROVEINS
    'A              0.0000,         1,'A, CAVITY FILLINGS
    'B              0.0000,         2,'BLEBS
    'C              0.0000,         3,'COATINGS & ENCRUSTATIONS
    'D              0.0000,      3108,'DISS., SCAT. CRYSTALS
    'E              0.0000,         5,'ENVELOPES
    'F              0.0000,         6,'FRAMEWORK CRYSTALS
    'G              0.0000,         7,'GANGUE
    'H              0.0000,      3116,'REPLACED PHENOCRYSTS
    'I              0.0000,      3118,'EYES, AUGEN
    'J              0.0000,        10,'INTERSTITIAL
    'K              0.0000,        11,'STOCKWORK
    'L              0.0000,      3102,'LAMINATIONS/BEDDED
    'M              0.0000,        13,'MASSIVE
    'N              0.0000,        14,'NODULES
    'O              0.0000,      3110,'SPOTS
    'P              0.0000,      3122,'PERVASIVE
    'Q              0.0000,      3124,'PATCHES, AS IN QUILTS
    'R              0.0000,        18,'RIMMING
    'S              0.0000,        19,'SELVAGES
    'T              0.0000,        20,'STAININGS, AS IN TARNISH
    'U              0.0000,      3118,'EU-HEDRAL CRYSTALS
    'V              0.0000,        22,'VEINS
    'W              0.0000,        23,'BOXWORK
    'X              0.0000,        24,'K AND/OR $, M AND/OR L
    'Z              0.0000,           ,'LMNTD-MSSVE FRAM/CLSTS
```

```
TABLE,SIZE-SCALE
 '0              0.0030,        27,'          < .004 MM
 '1              0.0080,        28,'.004   TO   .016 MM
 '2              0.0320,        29,'.016   TO    .06 MM
 '3              0.1280,        30,' .06   TO    .25 MM
 '4              0.5120,        31,' .25   TO      1 MM
 '5              2.0000,        32,'   1   TO      4 MM
 '6              8.0000,        33,'   4   TO     16 MM
 '7             32.0000,        34,'  16   TO     64 MM
 '8            128.0000,        35,'  64   TO    256 MM
 '9            512.0000,        36,' 256   TO      1 M
 'A              0.0030,         1,'          < .004 MM
 'B              0.0060,         2,'.004   TO   .008 MM
 'C              0.0110,         3,'.008   TO   .016 MM
 'D              0.0220,         4,'.016   TO    .03 MM
 'E              0.0440,         5,'.032   TO    .06 MM
 'F              0.0880,         6,' .06   TO    .12 MM
 'G              0.1770,         7,'.128   TO    .25 MM
 'H              0.3540,         8,' .25   TO     .5 MM
 'I              0.7070,         9,'  .5   TO      1 MM
 'J              1.4100,        10,'   1   TO      2 MM
 'K              2.8300,        11,'   2   TO      4 MM
 'L              5.6600,        12,'   4   TO      8 MM
 'M             11.3000,        13,'   8   TO     16 MM
 'N             22.6000,        14,'  16   TO     32 MM
 'O             45.1000,        15,'  32   TO     64 MM
 'P             90.5000,        16,'  64   TO    128 MM
 'Q            181.0000,        17,' 128   TO    256 MM
 'R            362.0000,        18,' 256   TO     .5 M
 'S            724.0000,        19,'  .5   TO      1 M
 'T           1450.0001,        20,'   1   TO      2 M
 'U           2900.0002,        21,'   2   TO      4 M
 'X           2000.0001,        24,'   1   TO      4 M

TABLE,G-SCALE  "A" AMOUNT IN ALTERATION MINERALS
 '              5.0000,      2040,'   3 TO < 7
 '(             0.1000,      2036,' .05 TO <.2
 ')             1.0000,      2038,'  .5 TO < 2
 '*             0.3000,      2037,'  .2 TO <.5
 '+             2.5000,      2039,'   2 TO < 3
 '-             0.0300,      2035,' .02 TO <.05
 '.             0.0100,      2033,'TRACE = <.02
 '/             0.0000,      2032,'PRESENT/NOT EST.
 '0             0.0000,      2031,'NIL, ABSENT
 '1            10.0000,      2041,'   7 TO <15
 '2            20.0000,      2042,'  15 TO <25
 '3            30.0000,      2043,'  25 TO <35
 '4            40.0000,      2044,'  35 TO <45
 '5            50.0000,      2045,'  45 TO <55
 '6            60.0000,      2046,'  55 TO <65
 '7            70.0000,      2047,'  65 TO <75
 '8            80.0000,      2048,'  75 TO <85
 '9            90.0000,      2049,'  85 TO  99
 '?             0.0000,      2032,'POSS. PRESENT
 'F             0.0700,      2032,'EST. IMPOSSIBLE
 'X           100.0000,      2050,'ESSENTIALLY 100%
```

```
TABLE,N003-SC   SUMMARY OF ALTERATION OR MINERALIZATION FACIES
 '1              0.0000,          0,'ANKERITE
 '2              0.0000,          0,'ANKERITE > DOLOMITE
 '3              0.0000,          0,'DOLOMITE > ANKERITE
 '4              0.0000,          0,'DOLOMITE
 '5              0.0000,          0,'DOLOMITE + CALCITE
 '6              0.0000,          0,'ANKERITE + CALCITE
 '7              0.0000,          0,'CALCITE
 '8              0.0000,          0,'METAMORPHIC
 '9              0.0000,          0,'LATE VEINS
 'A              0.0000,          0,'10 TO 20 % DISS PY
 'B              0.0000,          0,'20 TO 50 % PY
 'C              0.0000,          0,'>50 % PY
 'D              0.0000,          0,'SP > CU SULPHIDES
 'E              0.0000,          0,'CP +-SL, <.1% BO+CC
 'F              0.0000,          0,'CP + BO (+-CC,SL)
 'G              0.0000,          0,'BO + CC > CP
 'H              0.0000,          0,'MASSIVE PYRITE, MINOR CP,
 'I              5.0000,       3025,'INTENSE
 'M              3.0000,       3015,'MODERATE
 'W              1.0000,       3005,'WEAK
 'X              0.0000,          0,'NOT DISTINGUISHABLE

TABLE,N004-SC   FRACTURES
 '0              0.0000,         27,'  0   UNFRACTURED
 '1              1.0000,         28,'  1   SLIGHTLY FRACTURED
 '2              3.0000,         29,'  3   VERY LIGHTLY FRACTURED
 '3              6.0000,         30,'  6   LIGHTLY FRACTURED
 '4             10.0000,         31,' 10   FAIRLY LIGHTLY FRACTURE
 '5             15.0000,         32,' 15   MODERATELY FRACTURED
 '6             21.0000,         33,' 21   FAIRLY WELL FRACTURED
 '7             28.0000,         34,' 28   WELL FRACTURED
 '8             36.0000,         35,' 36   VERY WELL FRACTURED
 '9             45.0000,         36,' 45   EXTR. WELL FRACTURED
 'X             55.0000,         24,' 55+  SHATTERED

TABLE,ENVIRON   EN
 'EP             0.0000,          0,' EPICLASTIC
 'EV             0.0000,          0,' EPIVOLCANICLASTIC
 'PC             0.0000,          0,' PYROCLASTIC
 'VD             0.0000,          0,' VOLCANIC-DISTAL
 'VP             0.0000,          0,' VOLCANIC-PROXIMAL

TABLE,ROCKQUA   ROCK (COMPOSITION) QUALIFER
 'AN             0.0000,          0,' ANDESITIC
 'BS             0.0000,          0,' BASALTIC
 'DA             0.0000,          0,' DACI-ANDESITE
 'DC             0.0000,          0,' DACITIC
 'FS             0.0000,          0,' FELSIC
 'IN             0.0000,          0,' INTERMEDIATE
 'MF             0.0000,          0,' MAFIC
 'RD             0.0000,          0,' RHYODACITE
 'RY             0.0000,          0,' RHYOLITIC

TABLE,SHAPE-SCALE   GRAIN CHARACS
 'C              0.0000,          0,'COARSE
 'F              0.0000,          0,'FINE
 'M              0.0000,          0,'MEDIUM
```

```
TABLE,T-SCALE     THICKNESS OF BEDDING
 '0                0.0010,          27,'      < 2  MM  THINLY LAMINAR
 '1                0.0035,          28,' 2 TO < 5  MM  LAMINATED
 '2                0.0100,          29,'.5 TO < 2  CM  VERY THIN
 '3                0.0350,          30,' 2 TO < 5  CM  THIN BEDDED
 '4                0.1200,          31,' 5 TO < 20 CM  MEDIUM-THIN BED
 '5                0.3500,          32,'20 TO < 50 CM  MEDIUM BEDDED
 '6                1.2000,          33,'.5 TO < 2  M   MEDIUM THICK BE
 '7                3.5000,          34,' 2 TO < 5  M   THICK BEDDED
 '8               12.0000,          35,' 5 TO < 20 M   VERY THICK BEDD
 '9               30.0000,          36,'      > 20Mm   EXTR. THICK BED

TABLE,TRTYPE
 'DH               1.0000,           ,'DRILLHOLE
 'TR               0.0000,         0,'TRAVERSE

TABLE,LC-SCALE    LIGHTNESS AND COLOUR CODES
 '1A               0.0000,         0,'DARKEST GREY
 '1B               0.0000,         0,'DARKEST BLUE
 '1G               0.0000,         0,'DARKEST GREEN
 '1O               0.0000,         0,'DARKEST ORANGE
 '1R               0.0000,         0,'DARKEST RED
 '1T               0.0000,         0,'DARKEST TAN
 '1U               0.0000,         0,'DARKEST BROWN
 '2A               0.0000,         0,'VERY DARK GREY
 '2B               0.0000,         0,'VERY DARK BLUE
 '2G               0.0000,         0,'VERY DARK GREEN
 '2O               0.0000,         0,'VERY DARK ORANG
 '2R               0.0000,         0,'VERY DARK RED
 '2T               0.0000,         0,'VERY DARK TAN
 '2U               0.0000,         0,'VERY DARK BROWN
 '2Y               0.0000,         0,'VERY DARK YELLO
 '3A               0.0000,         0,'DARKER GREY
 '3B               0.0000,         0,'DARKER BLUE
 '3G               0.0000,         0,'DARKER GREEN
 '3O               0.0000,         0,'DARKER ORANGE
 '3R               0.0000,         0,'DARKER RED
 '3T               0.0000,         0,'DARKER TAN
 '3U               0.0000,         0,'DARKER BROWN
 '3Y               0.0000,         0,'DARKER YELLOW
 '4A               0.0000,         0,'DARK GREY
 '4B               0.0000,         0,'DARK BLUE
 '4G               0.0000,         0,'DARK GREEN
 '4O               0.0000,         0,'DARK ORANGE
 '4R               0.0000,         0,'DARK RED
 '4T               0.0000,         0,'DARK TAN
 '4U               0.0000,         0,'DARK BROWN
 '4Y               0.0000,         0,'DARK YELLOW
 '5A               0.0000,         0,'MEDIUM GREY
 '5B               0.0000,         0,'MEDIUM BLUE
 '5G               0.0000,         0,'MEDIUM GREEN
 '5O               0.0000,         0,'MEDIUM ORANGE
 '5R               0.0000,         0,'MEDIUM RED
 '5T               0.0000,         0,'MEDIUM TAN
 '5U               0.0000,         0,'MEDIUM BROWN
 '5Y               0.0000,         0,'MEDIUM YELLOW
 '6A               0.0000,         0,'LIGHTER GREY
 '6B               0.0000,         0,'LIGHTER BLUE
 '6G               0.0000,         0,'LIGHTER GREEN
```

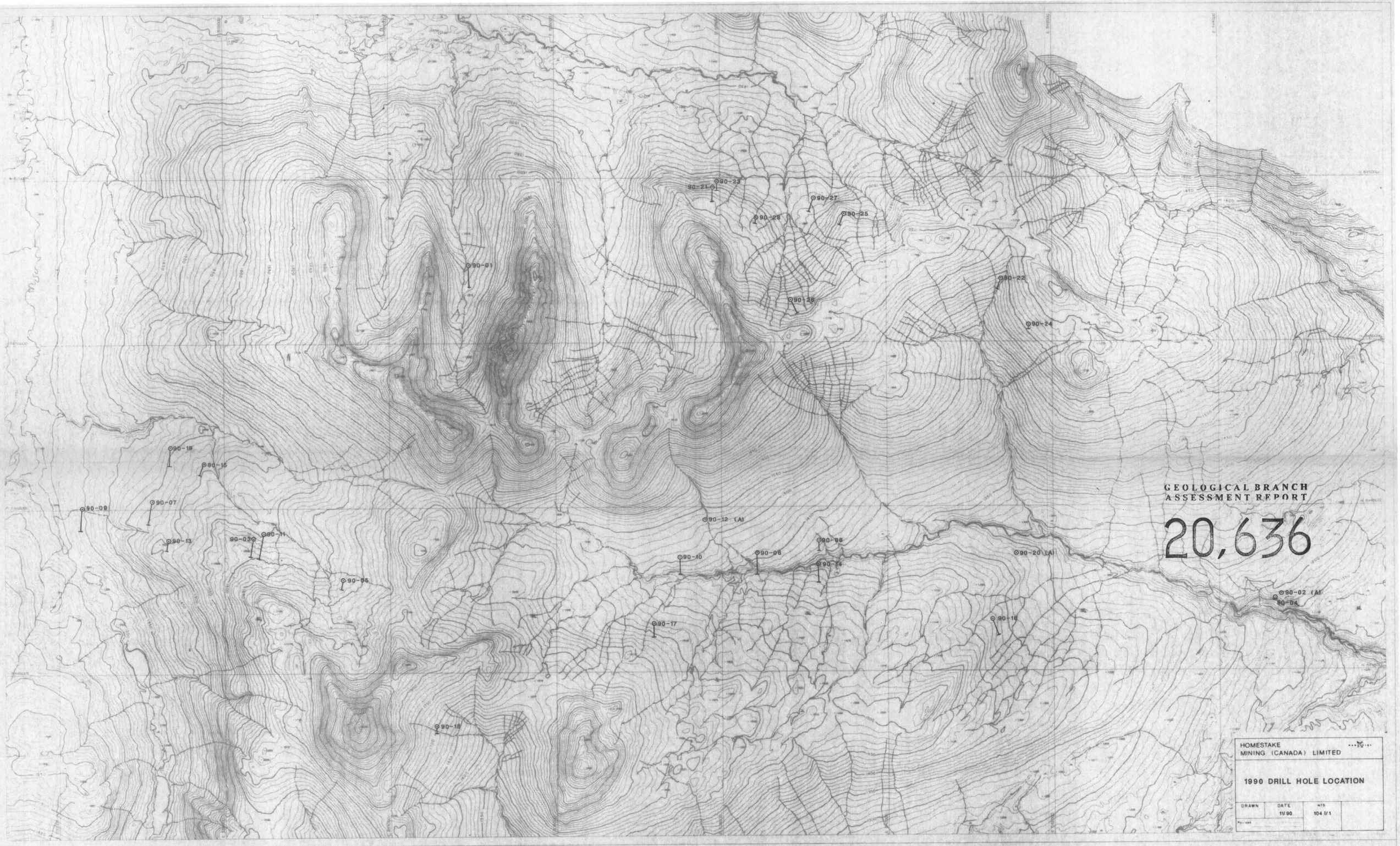
```
TABLE,LC-SCALE     LIGHTNESS AND COLOUR CODES
 '6T               0.0000,          0,'LIGHTER TAN
 '6U               0.0000,          0,'LIGHTER BROWN
 '6Y               0.0000,          0,'LIGHTER YELLOW
 '7A               0.0000,          0,'LIGHT GREY
 '7B               0.0000,          0,'LIGHT BLUE
 '7G               0.0000,          0,'LIGHT GREEN
 '7O               0.0000,          0,'LIGHT ORANGE
 '7R               0.0000,          0,'LIGHT RED
 '7T               0.0000,          0,'LIGHT TAN
 '7U               0.0000,          0,'LIGHT BROWN
 '7Y               0.0000,          0,'LIGHT YELLOW
 '8A               0.0000,          0,'PALE GREY
 '8B               0.0000,          0,'PALE BLUE
 '8G               0.0000,          0,'PALE GREEN
 '8L               0.0000,          0,'PALE LIME
 '8O               0.0000,          0,'PALE ORANGE
 '8R               0.0000,          0,'PALE RED
 '8T               0.0000,          0,'PALE TAN
 '8U               0.0000,          0,'PALE BROWN
 '8Y               0.0000,          0,'PALE YELLOW
 '9A               0.0000,          0,'PALEST GREY
 '9B               0.0000,          0,'PALEST BLUE
 '9G               0.0000,          0,'PALEST GREEN
 '9O               0.0000,          0,'PALEST ORANGE
 '9R               0.0000,          0,'PALEST RED
 '9T               0.0000,          0,'PALEST TAN
 '9U               0.0000,          0,'PALEST BROWN
 '9Y               0.0000,          0,'PALEST YELLOW
 'AG               0.0000,          0,'GREY GREEN
 'AT               0.0000,          0,'GREY TAN
 'NN               0.0000,          0,'BLACK
 'O$               0.0000,          0,'ORANGE TINTED
 'OA               0.0000,           ,'ORANGE-GREY
 'OU               0.0000,           ,'ORANGE-BROWN
 'RP               0.0000,           ,'MAROON
 'TA               0.0000,           ,'TANNED-GREY
 'WW               0.0000,          0,'WHITE
 'YA               0.0000,           ,'YELLOW-GREY

TABLE,M1-SCALE     ALTERATION SUMMARY  (COLUMN 78)
 '1                0.0000,          0,'CARBONATE (ONLY)
 '2                0.0000,          0,'CARBONATE > MUSCOVITE
 '3                0.0000,          0,'MUSCOVITE > CARBONATE
 '4                0.0000,          0,'MUSCOVITE (ONLY)
 '5                5.0000,          0,'MUSCOVITE> CHLORITE> CARB
 '6                6.0000,          0,'CHLORITE> MUSCOVITE
 '7                7.0000,          0,'CHLORITE (ONLY)
 '8                8.0000,          0,'SEXEL
 '9                9.0000,          0,'CBEX
 'X                0.0000,          0,'+/-CB +/-MS +/-CL +/-SEXL

TABLE,M2-SCALE     ALTERATION FACIES
 'A                0.0000,          0,'SULPHATE FACIES
 'C                0.0000,          0,'DOLOMITE FACIES
 'P                0.0000,          0,'PYRITE/SULPHIDES
 'S                0.0000,       3001,'SEXL FACIES
 'X                0.0000,          0,'NOT APPLICABLE
```

```
TABLE,M4-SCALE    ALTERATION SUMMARY
 'I                   5.0000,       3023,'INTENSE
 'M                   3.0000,       3013,'MODERATE
 'W                   1.0000,       3003,'WEAK

TABLE,SID      STRUCTURE CODE
 'BD                  0.0000,          0,'BEDDING
 'BN                  0.0000,           ,'BANDING
 'CN                  0.0000,           ,'CONTACT
 'FO                  0.0000,          0,'FOLIATION
 'FR                  0.0000,           ,'FRACTURE
 'LM                  0.0000,           ,'LAMINATED
 'PG                  0.0000,           ,'POLYGONIZED
 'VN                  0.0000,          0,'VEIN, GEN
 'VQ                  0.0000,          0,'QUARTZ VEIN
```



GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,636

HOMESTAKE MINING (CANADA) LIMITED

1990 DRILL HOLE LOCATION

DRAWN	DATE	NTS	
	11/90	104 I/1	

COMPILED BY:
NADIR MAPPING CORPORATION
REF. NO. 90-966

SCALE 1:20 000
CONTOUR INTERVAL 10 metres
0 0.5 1 2 km

A-Hole abandoned in overburden