GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL REPORT

KC 1 and 2 CLAIMS

Latitude 56°30'North Longitude 126°05.5 West

FILMED

OMINECA MINING DIVISION BRITISH COLUMBIA

GEOLOGICAL BRANCH ANS SABABLENT REPORT

14,416

for Owner/Operator: SUNCOR INC. RESOURCES GROUP P.O. Box 38, 500 - 4 Ave. S.W. Calgory, Alberta CALGARY, ALBERTA T2P 2V5

Golden Rule Resourcer Ltd. 150-1300 - Bth St. S.W. TZR 132

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by Donald B. Cross, B.Sc.

December, 1985

TABLE OF CONTENTS

	Page No.
Summary	1
Location and Access	2
Property and Ownership	3
Physiography and Glaciation	4
Previous Work	5
1985 Exploration Program	7
Summary of Expenditures	8
Geology	9
Economic Geology	
Geochemistry	11
Geophysics	13
Conclusions	15
Recommendations	16
References	17
Author's Qualifications	18
Analytical Results	19
Analytical Procedures	20
Rock Sample Descriptions	21
Maps	

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SUMMARY

Between June 26 and August 10, 1985 a 7 man crew spent 40 man-days in assessing the KC claims.

The KC l and 2 claims were optioned from Golden Rule Resources Ltd. by Suncor Inc., in June, 1985.

The work carried out on these claims was included as part of a larger regional exploration program of Golden Rule and Suncor lands.

Grid extensions, soil and rock sampling, VLF and magnetic surveys were completed on the claims during this period.

Anomalous values in Au, Ag, As and Cu were encountered. Maximum values returned are as follows:

Au(oz/ton)	Ag(oz/ton)	As(ppm)	Cu(ppm)
0.210	1.08 (approx)	2,000	2,600

Three weak VLF anomalies were recorded which are related to local structure rather than bedrock conductors.

Magnetic surveying confirms this interpretation. Numerous pods of magnetic material were outlined by the survey. Geological mapping indicates these bodies to be stratabound magnetite horizons.

LOCATION AND ACCESS

The KC 1 and 2 claims are located in the Omineca Mining Division, 215 km NNE of Smithers and 360 km NW of Prince George, B.C. at the headwaters of Kliyul Creek. The approximate geographic co-ordinates of the claim group are 56°30'N latitude and 126°05'W The claims are well located with respect to local longitude. infrastructure. The Omineca Development Road, which will be upgraded to provide road access to the Serem property in the Toodoggone Valley, lies 8 km north of the claims. A rough airstrip located 12 km to the northwest at Johanson Lake is suitable for small, wheel-equipped aircraft. Northern Mountain Helicopters maintains a summer base at Johanson Lake.

- 2 -

PROPERTY AND OWNERSHIP

The claims are jointly owned by Golden Rule Resources Ltd. and Suncor Inc.

		RECORD	
CLAIM	UNITS	NUMBER	DATE OF RECORD
KC l	20	2694	April 8, 1980
KC 2	20	2694	April 8, 1980

Suncor Inc. is in the process of earning a 55% undivided interest in the claims.

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PHYSIOGRAPHY AND GLACIATION

The claims lie within the Omineca Mountains physiographic subdivision of the Interior Plateau. The entire region has been subjected to glaciation and is characterized by wide U-shaped drift-filled valleys and deeply cut V-shaped upland valleys. Mountain peaks average 2000 metres above sea level and rise abruptly from the major valleys.

PREVIOUS WORK (After Wilson, 1984)

The claims encompass the 'Banjo' and 'Independence' occurrences, first worked in the late 1940's. Early work consisted of a series of trenches and open cuts along quartz vein systems in tuff, breccia, and hornblende porphyry flows of the Takla Group volcanics.

Subsequent work carried out in the area (KLI claims) by Kennco Exploration and Sumac Mines Ltd. during 1970-1974 included detailed stream silt and soil sampling, induced polarization and ground magnetic surveying and drilling. Most of the work was done outside the current area of interest.

Work carried out by MP Minerals on the BAP claims (1974-76) consisted of soil sampling, detailed mapping, ground magnetic and electromagnetic surveying, and trenching over a small grid to evaluate a strongly sheared zone hosting a number of narrow quartz-chalcopyrite stringers. This grid was located within the current KC claim group but some distance from the Au/Ag quartz veins discovered by Golden Rule in 1981.

Work carried out in 1981 consisted of helicopter-supported reconnaissance geological mapping, prospecting, rock and stream silt geochemical sampling. The objectives were to locate and evaluate several known previous metal occurrences located within the claim group and to provide a preliminary assessment of the precious metals potential as a whole.

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The stream silt sampling outlined a 600 metre long Au-in-silt anomalous zone along Kliyul Creek. Potentially economic values, up to 36,400 ppb Au (1.062 oz/ton), were obtained from samples collected from the prominent quartz vein system transecting the central region of the KC 1 claim.

In 1984, Golden Rule carried out helicopter-supported reconnaissance rock and stream silt geochemical sampling, prospecting, geological mapping, and ground magnetometer surveying with a four-man crew.

Follow-up work on the KC l claim included the establishment of a 2.5 line-km grid on which ground magnetic surveying and restricted geological mapping was carried out.

A total of 25 stream silt samples was collected at 100 metre intervals along previously unsampled creeks. Twenty seven (27) rock samples were collected from stream locations where anomalous Au/Ag-in-silt anomalies were known to exist.

The 'Banjo' and 'Independence' Cu/Au/Ag occurrences were re-examined by mapping and sampling. Six (6) rock samples were collected in the vicinity of these occurrences.

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- 6 -

1985 EXPLORATION PROGRAM

The current program focussed on detailed examination of the KC2 claim in its extreme southeastern corner.

Grid rehabilitation and extension, geological mapping, soil and rock sampling and VLF and magnetic surveys were carried out by the field crew.

A Summary of Expenditures relating to this work follows.

Sufficient work was accomplished to advance the renewal dates of the claims by 3 years to 1989.

1985 EXPENDITURES

PERSONNEL

c.	Hartley	geologist		5	day	х	135.50 \$	677.50
Α.	Smith	geologist		7	day	х	135.50	948.50
W.	Fisher	prospector		8	day	х	123.72	989.76
I.	Simpson	geological	assistant	3	day	x	72.49	217.47
s.	Scott	geological	assistant	5	day	х	71.49	357.45
Μ.	McDonagh	cook		8	day	x	109.80	878.40
в.	Dale	Geological	assistant	4	day	х	60.88	243.52

TRANSPORTATION

Fixed wing support mob-demob prorated	1,554.39
Fixed wing support direct costs	323.95
Helicopter - (Northern Mountain) 19.2 hrs @ \$475/hr	9,020.00
Travel expenses prorated	709.10

CAMP SUPPORT

36 man-days @ \$50/day 1,8	00,00
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GEOCHEMICAL ANALYSIS

152	soil	samples	for Au,	Ag, As,	Cu, Pb,	Zn@15.15/ea	2,302.00
76	rock	samples	for Au,	Ag, As @	\$15.10/	'ea	1,147.60
17	rock	samples	(fire a	ssay) Au,	Ag @ \$]	1.30/ea	192.10
3	rock	samples	for Cu,	Pb, Zn @	\$6.30/e	a	18.90

POST FIELD

Data plotting & report writing	6 days @ \$186/day	1,116.00
Drafting 45 hrs x \$25/hour		1,125.00
Reproduction		80.00
Secretarial 2 days x \$150/hour		300.00
		24,001.64

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GEOLOGY

The KC 1 and 2 claims are underlain by intercalated andesite tuffs, greywacke and calcareous argillite beds of the Takla Group rocks of Upper Triassic age. These rocks are intruded by Cretaceous age Omineca intrusions of hornblende feldspar porphyry.

The volcanic units contain stratiform deposits of magnetite which are well expressed on the regional aeromagnetic map and the magnetic survey carried out on the grid. A large regional magnetic high extends to the southeast away from the KC claims themselves as shown on Geophysical Map 5271G (1972). Regional mapping by other companies in the past has outlined large stratiform bodies of magnetite associated with anomalous values in copper.

The overall setting of the host volcanics is one of an exhalitive environment under submarine to subaerial conditions. Sedimentary rocks on the claim group contain appreciable amounts of carbonate in the matrix.

In addition to carbonate alteration the host rocks have been locally subjected to propylitic and phyllic alteration characterized by the presence of chlorite, epidote, silica, sericite and clay.

	<u>Au(ppm)</u>	<u>Au(oz/t)</u>	<u>Ag(ppm)</u>	<u>Ag(oz/t)</u>	<u>As(ppm)</u>	Cu(ppm)
KC-2136	2228	0.119	6.6			
KC-2151	5484	0.210	14.5	0.37	100	
KC-2161	1714	0.050	5.6	0.10	100	
KC - 2161		0.003	1.2		800	2600
KC-2163		0.003	4.0		2000	943
KC-2180	1885	0.071	2.2	0.04	100	
KC-2186	2057	0.064	3.1	0.05	100	

These results represent maximum values obtained for the respective elements. In each case mineralization is associated with quartzcarbonate alteration in volcanics or their locally derived metasedimentary equivalents.

Anomalous values are associated with sulphides, particularly pyrite, in the various forms of cubic crystals, disseminations, veinlets and stringers of semi-massive pyrite.

Quartz-carbonate mineral assemblages have invaded shear zones (sample 2135), fractured magnetite iron formation (sample 2141), fine grained intrusives (sample 2137) and porous volcanogenic limestone (sample 2161). The majority of anomalous samples are hosted by sheared andesite tuff and related basic volcanics (samples 2136, 2143, 2145, 2146, 2148.).

Shear zones and gossans are found to trend in two basic directions 145° and 080° which coincide with the structural grain of the general area. The 145° direction is related to the general strike of the enclosing rocks whereas the 080° direction is indicative of cross-fractures.

The areal extent of the geological mapping was limited by the persistence late into the summer of a heavy snow pack. Snowcovered areas are marked on the geological map.

- 10 -

GEOCHEMISTRY

A total of 149 soil samples, from the KC2 grid, was taken and submitted to Apex Laboratories in Calgary for analysis. Detailed descriptions of analytical procedures for each element are described in the Appendix. Semi-quantitative analyses were carried out for As to determine levels above 100 ppm. No result is reported if As values fall below this level.

Sampling was carried out on the extended grid in an attempt to tie together the anomalous values from rock sampling. Where possible a sample was taken below the leached soil level on lines 100 metres apart. Sample intervals were maintained at 50 metres where a suitable location was found.

On the KC 2 grid no strong linear Cu soil anomalies are readily apparent. Isolated high values do occur but are spread in a seemingly random fashion on the grid probably reflecting the "pod" like nature of the mineralization.

Consistent, high Cu values are recorded in the "break in slope" soil sampling traverse immediately south of the KC 2 grid. This is likely due to hydromorphic transport from the anomalous areas located topographically above this soil line. Further to the west along this soil sample line the Cu values decrease probably because these locations are further removed from the mineralized area on the grid.

Pb shows no real increase over large areas of the grid, the maximum value attained being 41 ppm on the "break in slope" soil traverse.

- 11 -

Zn attains a maximum value of 200 ppm on the grid at L0+00 station 1+00N. Because of the relatively high mobility of Zn in the surface environment this anomaly is likely not located near its bedrock source.

Au values are generally elevated throughout the entire survey area. No readily distinguishable linear patterns emerge from the data. It is interesting to note that the anomalous Au values persist over the entire length of the westerly flowing stream whereas the anomalous Cu values terminate or become more scattered at the western end of the grid sampling. This tends to support the interpretation that an easterly striking fault underlies the creek bed in the grid area. The Au values are likely associated with the fault whereas the Cu values are attributed to localized pods of sulphide.

Ag values reach a maximum value of 1.2 ppm on the soil traverse line south of the grid between lines 0+00 and 1+00W.

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- 13 -

GEOPHYSICS

On the KC-2 grid 9.0 line kilometers of magnetic and VLF surveys was completed.

The magnetic survey was carried out with a Scintrex MP-2 proton procession magnetometer.

Initially, the base line is read at each cross line and all values corrected for diurnal variation. When each successive grid line is read a correction to each line's readings is made at the baseline. This procedure is carried out until the entire grid has been read in this fashion.

A northwesterly trending magnetic horizon with peak values of 800 gammas was identified by the magnetic survey. This trend reflects the presence of a stratiform horizon of exhalitive magnetite iron formation lying at or near the surface. This horizon is characterized in bedrock either as conformable pods or structurally disrupted magnetite blocks. The prevailing direction of cross-faulting in the magnetite horizon is approximately 090°.

The eastern portion of the KC 2 grid is characterized by rocks of much lower magnetic susceptibility in the 0 to 100 gamma range (above a base of 58,000 gammas total field).

The VLF-EM survey was carried out with a Geonics EM-16 unit. This instrument measures the distortion of electromagnetic waves in the vicinity of conductive bodies, rock contacts and sometimes local topography.

Very weak cross-overs were recorded on the KC-2 grid survey. One readily definable weak cross-over of 5% occurs beginning at L4+00W, 1+00N and trending in an easterly direction to L2+00W, 3+00N. This anomaly is related to a structural feature which occupies the creek valley on the KC-2 grid. Its location is also confirmed by the magnetic survey where a definite east-west disruption in the contours occurs between L4+00W, 1+00N and L1+00W, 3+00N.

A weaker anomaly trends southeast, with the regional strike of the rocks, from L11+00W, 2+00S to L8+00W, 2+50S. This anomaly may simply reflect a lithology change between the magnetite iron formation and the enclosing rocks.

CONCLUSIONS

Anomalous values in Cu and Au were recorded in rocks and soils taken from the KC-2 grid. With the limited amount of work carried out to date it appears that these values are related to sulphide mineralization whose location is structurally controlled. Anomalous values are found in all rock types in quartz-carbonate alteration zones associated with late stage development of shearing both along and across strike.

Testing of the continuity of mineralization is required and would best be accomplished using a small portable drill.

RECOMMENDATIONS

1. Geochemical and geological coverage of the entire grid should be accomplished. Expansion of the grid to cover a larger area should be considered when the first phase of work has been completed.

2. Detailed follow-up of local stream sediment sampling should be carried out to identify and additional mineralized areas.

3. Magnetic coverage of any expanded grid would be useful in outlining extensions of existing known structures and for detailing the magnetite horizon.

4. Trench sampling and/or diamond drilling of selected bedrock locations should be carried out to test for continuity and grade of mineralization contained in late stage shear zones.

- 17 -

REFERENCES

WILSON, G.L. (1984) Golden Rule Resources Ltd., Report by Taiga Consultants Limited, KC 1 and Mineral Claims, Geological, Geochemical and Geophysical Report.

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AUTHOR'S QUALIFICATIONS

I, Donald Cross, of the City of Calgary, Alberta do hereby certify that;

- I hold a (Honours) Bachelor of Science Degree, 1974, Brock University.
- 2. I have practised my profession for more than 11 years.
- 3. I personally supervised the field crew carrying out mineral exploration work detailed in the attached report.
- 4. I am employed by Suncor Inc. as a Minerals Geologist.

Dated at Calgary, Alberta this 16th day of December, 1985.

Donald B. Cross

ANALYTICAL RESULTS

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7	50	04485	KC6196	29	1.4	100	486	
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	50	04485	KC6205	49	n_1	100	118	
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- 50	0448	5	KC8	03	8	7	33	
50	D448	5	KC8	03	9	6	38	
50	0449	5	KCB	04!	5	6	45	
50	0448	5	KC8	040	5	7	132	
50	0445	5	KC8	04	7	6	45	• •
50	0 6 4 4 8	5	KC8	041	8	13	55	
50	0448	5	KC8	04	9	8	71	
50	0448	5	KC8	051	כ	5	95	
50	0448	5	KC8	05:	1	5	55	
50	0448	5	KC8	05;	2	8	50	
50	0448	5	KC8	05	3	12	28	
- 50	0448	5	KC8	054	4	8	71	
- 50	0448	5	KC8	059	5	4	54	
50	0448	5	KC8	05(5	5	38	
50	0448	5	KC8	05	7	4	54	
50	0448	5	KC8	054	8	7	76	
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- 50	0448	5	KC8	061	D	8	66	
- 50	0448	5	KC8	D6	1	6	70	
- 50	0448	5	KCB	06;	2	6	60	
- 50	0448	5	KC8	063	3	3	102	
50	0448	5	KC8	06/	4	3	54	
50	0448	5	KC8	06!	5	5	37	
- 50	0449	5	KC8	060	5	4	50	
50	0448	5	KC8	06	7	10	91	
- 50	0448	5	KC8	061	8	6	151	
50	0448	5	KC8	06'	9	20	52	
50	0 44#	5	KC8	070	D	17	65	
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ANALYTICAL PROCEDURES

APEX ANALYTICAL LABORATORIES, CALGARY

SAMPLE PREPARATION

ROCKS AND DIAMOND DRILL CORE:

These samples are crushed by a primary jaw crusher then through a secondary cone crusher to a particle size of 1/4 inch. The sample is now riffled and a 200 gram portion is kept and pulverized in a temer mill to -200 mesh fraction. The remainder of the sample is kept as a reject. The pulverized sample is rolled to make sure it is well mixed and is then weighed and analyzed.

SOILS

Soil samples are dried and then screened through a 80 mesh stainless steel screen. The -80 mesh sample fraction is then weighed and analyzed. If a soil sample contains an excess of pebbles <u>or</u> is too small, then the entire sample must be pulverized to -200 mesh. This is the only way in which enough material may be found for analysis.

GEOCHEMICAL ANALYSIS - AQUA REGIA DIGESTION

- Place 18 x 150 mm test tubes in aluminum digestion blocks.
- 2) Weigh 0.5 g of sample into test tubes.
- Intersperse samples with blanks, checks and certified reference materials.
- 4) If samples are highly organic, dry ash in aluminum blocks on hot plates with hot plates set at 6-7 for 2-3 hours. Cool.
- 5) Add 2 ml conc. HNO₃ and heat 40-45 minutes with hot plates set a 5. Cool.
- 6) Transfer to wire racks but leave aluminum blocks on hot plates.
- 7) Add 3 ml conc. HCl. Let sit 15-25 minutes.
- 8) Add 2 ml H_2O to the blanks.
- 9) Place test tubes back in aluminum blocks, one row at a time watching for any samples that might have too violent a reaction.

If samples start to overflow, cool test tubes in a beaker of cold water and then place back in aluminum blocks.

- 10) Digest samples for 2 hours.
- 11) Add 1.0 ml of ammonium acetate solution to each tube and leave on a hot plate a further 15 minutes.
- 12) Remove samples from aluminum blocks, transfer to wire racks and let cool.
- 13) Dilute to 10 ml with 1 N HNO3: vortex and allow to stand for 3 hours.
- 14) Read on A.A. against similarly prepared standards.

NOTE: Arsenic analysis by semi quantitative method, is run from the above solutions using a varian AA-5 spec. and recorder (if necessary to graph results.

FIRE ASSAYING

The following is a brief outline of the mechanics of fire assaying for gold and silver.

The ore is mixed with litharge (PBO) and various fluxed and a reducing agent or oxidizing agent is added, (flour or niter) to form a lead button which weighs between 25 and 35 grams. The whole mix is melted in a fire clay crucible at around 1000°c for 30-40 minutes. The lead collects all the gold, silver and precious metals. The molten assay is taken from the furnace and poured into cone shaped iron molds and due to the differences in the specific gravity of the lead and the slag, the lead collects in the bottom of the mold. When cooled the lead button is separated from the slag and hammered into a cube for ease of handling. The button is then placed in a pre-heated cupel in a furnace with the temperature set at around 900°c. A current of air passes over the top of the cupel containing the lead. The lead is converted back to litharge and is absorbed by the cupel.

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Gold and silver are not affected and so remain in the cupel as a small bead. After cupellation is complete (about 60 minutes), the cupel is removed from the furnace. The small bead is then cleaned, flattened with a hammer and transferred to a parting cup. This flattened bead consists of a mixture of gold and silver.

The bead is weighed on a gold balance or micro balance. The bead is parted by placing it in hot, dilute nitric acid which dissolves all the silver but leaves the gold intact. The gold is washed free of silver nitrate by decantations with water and dilute ammonium hydroxide and then annealed at red heat and weighed as pure gold. The difference between the two weighings is the weight of silver.

The bead is weighed in milligrams and the results expressed in ounces per ton in the original sample. METHOD FOR THE DETERMINATON OF GOLD BY FIRE ASSAY

PRECONCENTRATON AND ATOMIC ABSORPTION ANALYSES

- 1. A l assay ton (29.166g) sample is weighed into a 30 g crucible, 1 mg of Ag is added as a collected agent.
- 2. Enough flux reducing or oxidizing reagent is added to produce a lead button.
- 3. The sample is transferred into an assay furnace and heated to 2000°F for 40-45 minutes.
- 4. The fusion is poured into a iron mould.

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- 5. The slag is separated from the lead button in which Au and Ag has been alloyed.
- 6. The lead button is again transferred to a cupel in the assay furnace.
- 7. By heating slightly below melting point of Ag, Lead is eliminated either by vaporizing or absorbing into the cupel in about 40 minutes.
- 8. A bead which contains all the Au in the 1 assay ton sample is recovered on the cupel.
- 9. The bead is transferred to a 16 x 150 mm test tube, 1 ml of concentrated HNO₃, and 4 ml of 1:1 HCl are added to the tube.
- 10. The tube is heated on the hot plate for approximately 1 hour, or until all the residue is dissolved in the tubes.

- 11. The volume is adjusted to 10 ml with 1:1 HCl and the samples are mixed.
- 12. Samples are read on a Varian AA5 Atomic absorption spectrophotometer.

ROCK SAMPLE DESCRIPTIONS

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SAMPLE NO.	ROCK DESCRIPTION
(Field No.)	
2135	- 0.5 meter wide shear zone hosted in silicified
(KC-AS-25)	intermediate volcanic rock
	- contains disseminated pyrite, aggregates and blebs
	of fine grained pyrite and trace chalcopyrite
2136	- narrow quartz vein hosted in andesitic tuff
(KC-AS-21)	- weak epidote alteration
	- Pyrite, chalcopyrite and minor malachite in both
	host rock and quartz vein material.
2137	 sheared, silicified fine-grained intrusive
(KC-AS-36)	- very abundant disseminated pyrite up to 3% as fine
	grains
	- rock possibly hypabyssal in orgin
2138	- silicified, mineralized shear zone
(KC-AS-35)	- chlorite and sericite schist - host units
	- fine grained disseminated pyrite is present
2140	- small pod - 15 meters by 8 meters of massive
(KC-AS-1)	magnetite
	- minor iron carbonate in fractures, locally calcite
	stringers
	- malachite, azurite staining in fractures
2141	- chip sample across massive magnetite pod
(KC-CH-1)	- mineralization - massive fine-grained magnetite,
	minor malachite and azurite staining

SAMPLE NO.	ROCK DESCRIPTION
(Field No.)	
2142	 mineralization near sedimentary/volcanic rock
(KC-AS-3)	contact
	 near massive magnetite with aggregates and
	stringers of fine-grained pyrite and trace
	chalcopyrite
	- epidotized in fractures
2143	- silicified shear zone in chaloritized mafic
(KC-AS-4)	volcanic rocks
	- sample from six meter long gossan zone
	- mineralization consists of veins and stringers of
	fine grained to medium grained pyrite and
	chalcopyrite
	- quartz present in veins to 2 cm wide
2144	- chloritized shear zone in mafic volcanics
(KC-AS-7)	- quartz and epidote-bearing near massive pyrite
	veins in fractures and joints
	- series of sub-parallel veins
2145	- sheared, silicified volcanic rock containing
(KC-AS-8)	stringer mineralization to 3mm wide
	- disseminated pyrite, chalcopyrite and epidote
	present
2146	- gossan within shear zone in silicified volcanics
(KC-AS-11)	- mineralization includes stringers, disseminations
	and fracture coatings of pyrite & epidote
	 minor fine-grained chalcopyrite present

SAMPLE NO.	ROCK DESCRIPTION
(Field No.) 2147 (KC-AS-15)	 major gossan development in shear zone massive sulphide veins to 2 cm in width, consisting of medium-grained pyrite and pyrrhotite and fine-grained magnetite
2148 (KC-SS-3)	 gossan zone within silicified, chloritized volcanic rock mineralization consists of fine grained to medium grained pyrite both in stringers and disseminated rock is weakly magnetic
2149 (KC-WF-1)	 quartz vein containing white to grey-black quartz mineralization - stringers and aggregates of fine grained to medium grained pyrite and chalcopyrite malachite and azurite staining present
2150 (KC-WF-2)	 wall rock hosting previous quartz vein sample chloritized and silicified mafic volcanic medium grained to fine grained pyrite, some as fractured cubes and some in stringers trace fine-grained pyrite
2151 (KC-WF-5)	 calcite/dolomite vein at margin of magnetite pod fine grained to medium grained chalcopyrite in stringers and disseminated some medium-grained pyrite cubes fine grained magnetite in lenses and disseminated some malachite staining

	SAMPLE	NO.	ROCK	DESCRIPTION
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(Field No.)

- 2152 gossan zone in chloritized mafic volcanics,
 (KC-WF-6) dominated by fine grained magnetite (20%) with medium grained pyrite cubes and fine grained pyrite stringers, minor malachite/azurite staining in fractures.
 - Calcite in fractures
- 2153 silicified gossan zone in chloritized mafic (KC-WF-7) volcanic, medium grained pyrite in aggregates; fine grained pyrite in stringers and disseminated, minor silicification and epidotization related to shearing.
- 2154 silicified vein? in chloritic mafic volcanic, (KC-WF-8) mineralized zone 3 cm wide, fine grained magnetite 5-10%, epidote 20-25%, pyrite 15-20%, quartz 40-45%.
- 2155 shear zone gossan, silicified in chloritic (KC-WF-9) volcanics, stringers of pyrite and quartz and fine grained magnetite in stockwork system, trace epidote.
- 2156 Extensively altered host rock (intrusive?),
 (KC-WF-10) epidotized, chloritized mafics, mineralization consists of fine grained pyrite disseminated and in stringers, epidote also occurs in stringers.

SAMPLE NO.	ROCK DESCRIPTION
(Field No.)	
2157	- silicified mafic volcanic, shear zone with up to
(KC-CH-11)	3% pyrite disseminated, fracture fillings and stringers present, trace chalcopyrite, epidote present.
2158	- Shear zone cutting both fine grain diorite and
(KC-CH-13)	mafic volcanic, up to 1% fine grain disseminated pyrite with few small fracture, fillings, epidote and pyrite in stringers.
2159	- Shear zone in volcanics, alteration includes
(KC-CH-14)	silicification and epidotization, fine grain
	disseminated pyrite to 3%, locally concentrated along joint surfaces.
2160	- Outrin up in sheared chloritized volcanic rocks

- 2160 Quartz vein in sheared chloritized volcanic rocks,
 (KC-AS-17) vuggy white quartz with hematized fractures and limonite stain, fine to medium grained disseminated pyrite present.
- 2161 Sediment wedge in volcanics consisting of
 (KC-AS-20) limestone with calcite stringers, mineralization includes aggregates and stringers of medium grained chalcopyrite with minor malachite and pyrite.

SAMPLE	NO.	ROCK	DESCRIPTION

(Field No.)

- 2162 Gossan zone in limestone, sample along strike
 (KC-AS-23) length of gossan, mineralization both massive and stringers and includes chalcopyrite, pyrite, pyrrhotite, and magnetite.
- 2163 Sample from centre of massive sulphide lens,
 (KC-AS-24) mineralization dominated by pyrite, chalcopyrite and bornite with copper minerals concentrated in fractures.
- 2164 Shear zone in altered volcanic rock, epidotization
 (KC-AS-27) and silicification in vicinity, mineralization
 consists of disseminated fine grained pyrite with
 trace chalcopyrite.
- 2165 Gossan zones in chloritized, silicified volcanic
 (KC-AS-28) rocks, mineralization consists of medium grained
 pyrite in aggregates and stringers, with small
 massive pyrite zones, locally magnetite rich host
 rock.
- 2176 2-3 cm wide quartz vein containing medium to
 (KC-WF-24) coarse grained chalcopyrite, medium grained galena and sphalerite, chalcopyrite up to 25% of quartz vein.

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SAMPLE NO. ROCK DESCRIPTION

(Field No.)

- 2178 Float, highly altered fine grained intrusive with
 (KC-WF-26) small lenses and pods of near massive sulphide,
 mineralization includes abundant pyrite with some chalcopyrite, malachite and azurite.
- 2179 Epidotized, chloritized volcanic host rock with
 (KC-WF-30) abundant fine to medium grained pyrite (to 20%) and fine grain magnetite (to 10%), trace chalcopyrite.
- 2180 25-30 cm wide quartz vein, iron stained fractures,
 (KC-WF-31) mineralization, pyrite medium grained, fractured cubes to fine grains; typically as aggregates.
- 2181 Silicified diorite, disseminated pyrite with trace
 (CK-CH-18) chalcopyrite, form shear zone, epidotization and sericitization.
- 2182 Extremely siliceous, mafic to intermediate
 (KC-CH-19) volcanic, 1-3% pyrite disseminated and in fracture fillings, sericite alteration extensive.
- 2183 Extremely siliceous mafic to intermediate
 (KC-CH-20) volcanic, 1-3% pyrite disseminated and in fracture fillings, sericite alteration and some epidote.

2184 - as 2183 and with weak carbonatization in fractures (KC-CH-21)

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SAMPLE NO.	ROCK DESCRIPTION
(Field No.)	
2185	- Mafic volcanic intensely sheared, trace to 1%
(KC-CH-22)	disseminated and fracture filled pyrite,
	alteration sericitization.
2186 (KC-WF-32)	- Sheared, iron stained quartz from a 25-30 cm wide quartz vein exposed for 6 m, no visible mineral- ization.
2198 (KC-WF-47)	 Quartz vein 2-5 cm wide, carbonate in fractures, medium grained chalcopyrite in vugs, minor malachite staining.





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KEY MAP

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Small outcrop

silicification

sercitization

chlorite

epidote

pyrite

pyrrhotite

magnetite

chalcopyrite

Outcrop area

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5 Bedding (vertical, inclined) Jointing (vertical, inclined) SCALE IN METERS Shearing (vertical, inclined) **G** /////// Gossan (point, area) 0 50 100 200 300 400 carbonatization COAL ANI DEPAF **OMINECA OPTIO** KC CLAIM 2 GEOLOGY DATE SCALE N.T.S. DEC/85 1:5000 94D/8E,9**E** KC008

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DRAWING No.	

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