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PART I OF II

**GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL AND
TRENCHING REPORT ON THE KENA PROPERTY**

NELSON MINING DIVISION, B.C.
MAPSHEETS: 082F.034/044

LATITUDE 49°26'N LONGITUDE 117°17'E

for

SULTAN MINERALS INC.
1400 - 570 GRANVILLE STREET
VANCOUVER, BC
V6C 3P1

by

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Consulting Geologist

February 2001

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

26,503

SUMMARY

The Kena Property, containing several gold and gold-copper prospects, is located near the town of Nelson in southeastern British Columbia. The property lies predominantly within lower Jurassic Elise Formation (Rossland Group) mafic volcanics and associated mid Jurassic Silver King Porphyry intrusive rocks.

The Kena Property to the south and Shaft Property to the north have historically been worked as two individual properties from 1974 to 1991. No work has been done on the properties since that time, until Sultan Minerals acquired the amalgamated property under the name Kena Property, in late 1999. Previous work on the properties include geology, geochemistry, geophysics, trenching and drilling. Drilling concentrated on the Kena Gold Zone, with smaller programs carried out on the Kena Copper Zone, the Dighem Zone and the Shaft showing.

Prior to optioning the property, the author undertook a property examination which included checking much of the historic drill core stored on site. While doing the property examination it became apparent that much of the previously drilled core (most notably from 1986 and 1987) was never sampled although it appeared to be well mineralized. Sultan reached an agreement with the property owners and undertook a core sampling program in late fall 1999. This program found that gold and copper mineralization in drill core is more extensive than previously believed.

This report presents the results of the 2000 exploration program consisting of continued sampling of existing diamond drill core, geological and structural mapping, geochemical and geophysical surveys and excavator trenching.

During the 2000 work program, samples were taken from diamond drill core from 1985 - 1988 and 1991. The core was re-logged, with special emphasis on alteration assemblages, structural data and sulphide mineralogy, prior to being sent to the lab for analyses. Results from the core sampling program led to confirmation of a large width of gold grades similar to those found historically (i.e. 0.3 to 2.0 g/t gold). Of more importance, is the recognition of the mineralizing structural control to this zone, which consists of east-west trending silicified fracture sets. Previous geological interpretations led to drill programs which were based on the assumption that the gold mineralization follows the regional foliation direction of 040°. Therefore, all of the prior drilling was oriented to best test this regional trend.

Also during the 2000 work program, soil geochemical, magnetometer and induced polarization geophysical surveys and trenching was done over the Silver King Porphyry unit north of Gold Creek, in an area termed Gold Mountain Zone. Soil geochemistry identified a 2100 x 600 metre zone containing high gold values. The geophysical surveys picked up anomalies trending roughly parallel to the gold soil anomalies. Late season trenching near the centre of the Gold Mountain Zone, in the vicinity of surface rock samples which ran up to 2.7 g/t gold, returned very encouraging results. Six trenches covering an area of about 120 x 95 metres averaged 1.43 g/t gold over their entire 182

metres combined length. Assays ranged up to 11.38 g/t gold over a 3 metre chip sample. This represents a significant new style of gold porphyry mineralization within the Silver King Porphyry rock unit.

For 2001, the recommended work program consists of trenching, detailed geological mapping, including structural, alteration and mineralization studies, followed by 3000 metres of diamond drilling in the Gold Mountain Zone. Also recommended is a regional program of prospecting, geological mapping and soil geochemistry along the entire trend of the favourable Silver King Porphyry unit. This program is budgeted at \$285,000.00.

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1) INTRODUCTION

The Kena Property is a conformable gold-copper (porphyry-style?) prospect located seven kilometres southwest of Nelson in southeastern British Columbia. The property was acquired by Sultan Minerals Inc. from vendors Otto and Otakar Janout and Robert Bourdon in October 1999.

Sultan Minerals Inc. optioned this property after examination of diamond drill core and logs from previous exploration programs, and noting that in many instances well mineralized sections had never been assayed. Once the property was under agreement, Sultan conducted a core sampling program with the intent of expanding previously reported mineralized intercepts. Also, the Shaft, Cat and Main trenches underwent confirmation chip sampling where bedrock was exposed. The results of this program, compiled with data from pre-existing operators indicated the high potential of this property.

2) LOCATION AND ACCESS

The Kena Property is located on the northeast slope of Toad Mountain, seven kilometres south of Nelson in the Nelson Mining Division of southeastern British Columbia (Figure 1). The claims cover an area of approximately 3500 hectares and are centred at latitude 49°26'N and longitude 117°17'E within mapsheets 82F.034, 044, 035, 045.

Access to the Kena Property is via Highway 6A, south from Nelson for 7 kilometres then west and south along the Giveout and Gold Creek Forest Service Roads. The Giveout and Gold Creek Roads and a number of 4x4 roads run through the claims.

The Highway 6A corridor, which is located along the eastern margin of the claim block, also carries power lines, gas lines and rail bed. Cominco Ltd.'s Trail Smelter facility is located about 45 minutes drive to the south of the property.

3) PHYSIOGRAPHY

The Kena Property is located in an area of rugged terrain. Topography on the property is steep with elevations ranging from 895 metres at Cottonwood Lake to 1,795 metres on the southwestern portion of the claim area. Outcrop is limited in the central portion of the property, generally confined to creek gullies and road cuts, but is more prevalent on the steep slopes along the eastern edge of the claims. The mineralized zones on the Kena Property lie at an elevation of about 1400 metres, along a relatively flat bench area above the steep topography leading to the Cottonwood valley.

Several portions of the claim area have been recently logged, with the remainder being covered with first and second growth forest consisting of balsam, fir, spruce, hemlock, cedar and occasional white pine. Thick growths of alder and devil's club are found along creek gullies.

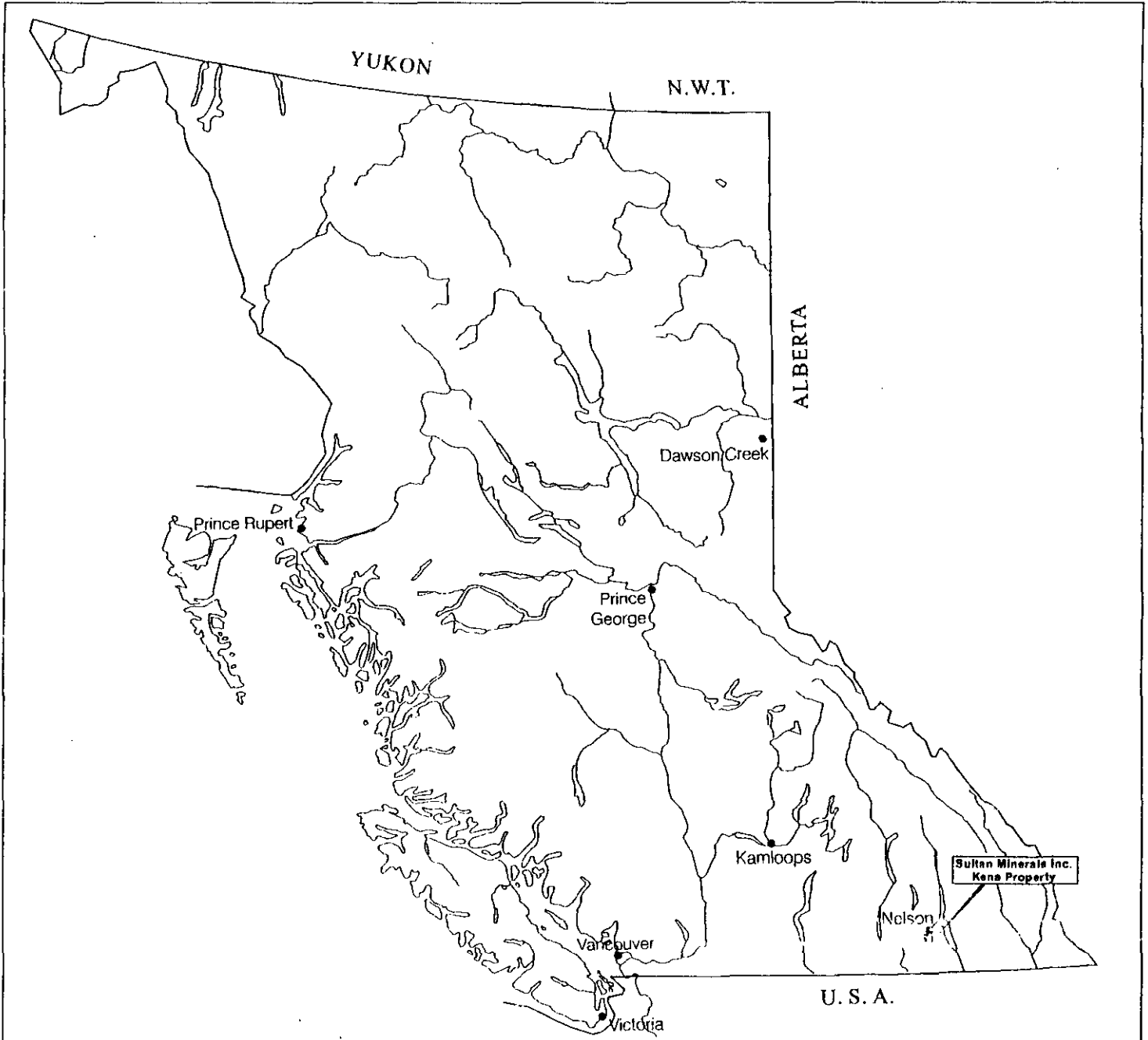


FIGURE 1

**SULTAN MINERALS INC.
PROPERTY LOCATION MAP**

KENA PROPERTY

NELSON M.D. NTS. 82F034 & 82F044

4) HISTORY

The Kena Property was first described in a report by G.M. Dawson, contained within the Geological Survey of Canada Summary Report for 1888-1889, on the Cottonwood Mine. Dawson stated that gold mineralization is located within a “.....quantity of pyritized material which.....appears to be practically unlimited.....”

No further information on exploration appears in either the Geological Survey of Canada records or the Provincial Government records within the Ministry of Mines, thus little is known about exploration on the claim area prior to 1973. Post 1973 exploration, however, has identified numerous old prospect pits and trenches, as well as several old adits indicating periods of high exploration activity in the early part of the century.

KENA CLAIMS

Otto Janout staked the original Kena claims in 1973 with exploration work having been carried out by various companies as follows:

1974 DUCANEX RESOURCES LTD.

The company collected soil samples and drilled four percussion holes within a gold prospect (Kena Gold Zone). Sampling of the Main Trench in 1973 yielded 2.38 g/t gold over 9.85 metres. The soil samples were analyzed for gold, copper, silver and arsenic, with the analytical results described as “erratic and inconclusive”. However, copper and gold values were high, ranging up to 1,100 ppm copper and 4,600 ppb gold, with background gold values around 350 ppb.

The company drilled four percussion holes aggregating 250 metres on the gold prospect. The results of the drilling suggested the presence of a mineralized zone from 6 to 12 metres thick of about 1.36 to 1.70 g/t gold. The zone strikes at about 290°, dips 60° to the southwest, and has a projected strike length of 230 metres.

Prospecting also resulted in the discovery of a large zone of copper mineralization in the southeastern section of the claims.

1975- LACANEX MINING COMPANY LTD.

A program of geological mapping and geochemical sampling was carried out over widespaced (120 to 250 metre) grid lines. This work resulted in identifying a series of large linear copper anomalies in the southeastern portion of the claim block, which follow the regional foliation. 27 chip samples were taken at 3 metre intervals along the entire 82 metres of an old adit located within the Kena Copper Zone (Noramco grid coordinates 93+34N, 1+60W), with the samples averaging 0.16% copper over the entire length. This adit was probably driven to intersect a two foot wide

quartz vein at depth. A grab sample from the quartz vein assayed 1.1% copper and 2.6 g/t gold.

1976-77

QUINTANA MINERALS CORP.

The program consisted of geological and geochemical surveys based on the hypothesis that visible sulphide mineralization within the Kena Copper Zone represented the upward extent of a porphyry copper sulphide system. In 1977 the Company carried out a wide spaced I.P. survey along lines 240 metres apart with a dipole spacing of 100 metres. The work resulted in a chargeability anomaly parallel to the strike of the volcanics and approximately coincident with the copper geochemical anomaly. Lithochemical sampling ranged as high as 21 metres of 0.53% copper cut along an outcrop of sericite schist.

1981-82

KERR ADDISON MINES LTD.

Kerr Addison's exploration program consisted of both geological and geochemical surveys conducted over the entire property followed by six diamond drill holes. Three drill holes aggregating 528.5 metres were completed on the Kena Gold Zone. The best intercept from this work was 2.18 g/t gold over 15 metres in hole 81-KK-2.

Three widespaced holes aggregating 635.2 metres were completed in the Copper Zone. The top 51 metres of drill hole 88-KK-4 assayed 0.27% copper. Samples representing 63 metres of the underlying 85 metres (with three to four metre staggered intervals totaling 22 metres not assayed) average 0.16% copper. Gold content in the hole locally ranged up to 0.3 g/t.

Sampled intervals in drill hole 81-KK-6, near the previously sampled adit, yielded 0.18% copper over a 45 metre section. Gold content ranged up to 0.3 g/t locally as in hole 81-KK-4. Where assayed sections of hole 81-KK-5 yielded from 0.10% to 0.22% copper over various section widths.

1985

LACANA MINING CORPORATION

Lacana Mining Corporation carried out a program of backhoe trenching and drilled 13 holes aggregating 1,315.8 metres. Twelve of the holes were in the Kena Gold Zone with one hole, LK85-12, drilled approximately 175 metres south of the Kerr Addison hole 81-KK-4, at the northern end of the Kena Copper Zone. However this hole (LK85-12) was not analyzed for copper and no further work was carried out by Lacana on the Kena Copper Zone.

The best drill intercept, located beneath the Kena Gold Zone Main Trench, yielded 6.05 g/t gold over 4.8 metres in hole LK85-7. While a step-out hole LK85-18 drilled about 100 metres southeast of LK85-7, yielded 1.86 metres grading 6.32 g/t gold.

Other work carried out in this period included an airborne geophysical survey that measured magnetics, resistivity, electromagnetics and VLF-EM.

1986

LACANA MINING CORPORATION

Lacana's program consisted of an extensive grid covering an area about 1.70 kilometres by 0.70 kilometres northwest of the Kena Copper Zone. A total of 22.6 line kilometres, mainly at 50 metre spacing, were picketed at 25 metre centres. The company carried out geological and geochemical surveys as well as magnetic and VLF-Em surveys. The soil samples were run for gold, with select lines analyzed for 30 elements by ICP. The company drilled 22 holes in the area of the Kena Gold Zone and its postulated extension. Hole LK86-20 yielded 9.03 metres grading 4.76 g/t gold.

Numerous intersections of auriferous and barren silicified and pyritized fracture zones were identified in the drilling. Many of these zones tend to be aligned along a broad northwest trend. Most of the individual higher grade zones were narrow with sub-economic grade, and the general conclusion was that their spotty and discontinuous characteristics made them difficult targets to chase to depth.

1987

TOURNIGAN MINING EXPLORATION LTD.

Tournigan drilled six holes aggregating 918.93 metres. All the core from this program was selectively split with only 89 samples aggregating 134.61 metres analyzed for gold, silver and copper.

Drill hole TK-87-42 was collared between previous holes KK-81-4 and LK85-12, within the Kena Copper Zone, in order to test anomalous gold and copper soil geochemistry and where there appeared to be a gap in previous drill coverage. Hole TK-87-42 was selectively sampled with 25 samples taken of which the best copper intersection was 0.175% copper over 9.72 metres from 85.04 to 94.76 metres.

Drill hole TK-87-43 was drilled to test Lacana's geological interpretation of section 48+50N as seen in their report dated November 1985. The best intersections were as follows:

From	To	Length (m)	Au (g/t)
18.93	20.43	1.5	1.30
20.43	21.93	1.5	1.45
102.52	104.02	1.5	1.75
117.20	119.20	2.0	1.70
125.96	127.46	1.5	1.50

These grades were taken to suggest a continuation in depth of narrow zones intercepted in hole LK85-14 on Section 48+50N. It is important to note that only 43.50 metres of this 139.60 metre deep hole was sampled, and that the current infill sampling program has extended the widths of some of these reported "narrow" zones. In three of the above reported gold intercepts samples were not collected from the adjacent core segments.

The last four holes TK-87-44 to TK-87-47 were located in order to intersect the possible southern extension of a mineralized fracture zone approximately 500 metres north of the property, known as the Shaft showing. However, no structure or mineralized zone was recognized which could be interpreted as the southern extension of the Shaft mineralization. This conclusion is based on incomplete diamond drill core sampling. It is important to note that Sultan Minerals' 1999 infill sampling program obtained results up to 50.8 g/t gold over 1.0 metre in hole TK-87-46 within a 60 metre segment of drill core that had never been sampled.

1989 GOLDEN LAKE RESOURCES LTD.

Golden Lake Resources Ltd. optioned the property from the Janouts in late August 1989, following a property examination and review of data from previous work conducted in mid-July 1989.

Personnel for Noramco Explorations Inc., operator for Golden Lake Resources Ltd., spent several days at the Kena property in October 1989. A preliminary work program was undertaken to locate and tie in claim posts and several old grids over which much of the previous work had been completed. The results of this work were used to compile technical data with the objective of formulating a detailed exploration plan for the property.

Noramco Mining Corporation optioned the property from Golden Lake in June 1990 and assumed the option agreement obligations to the prospector vendors.

1990-91 NORAMCO MINING CORPORATION

The exploration program from July to September 1990 consisted of geological mapping, soil sampling and geophysical surveys. Work was restricted to the Kena Copper Zone in the southern portion of the property and to an area encompassing Gold Creek north of the old Lacana grid. No work was carried out in the Kena Gold Zone; however the "old Lacana" base line covering this zone was "tied in" with chain and compass to the Gold Creek area and Kena Copper grids.

In October of 1990, four NQ diamond drill holes totaling 1,055 metres were completed on the property. Two of the holes were in the Gold Creek area (at the very south edge of what is now known as the Gold Mountain Zone) and the other two were within the Kena Copper Zone. One of the holes into the south end of the Gold Mountain Zone returned 0.4 g/t gold over its entire 235.5 metre length, including 24 metres of 1.1 g/t gold and 9 metres of 2.3 g/t gold.

In 1991, additional geochemical, geological and geophysical surveys plus diamond drilling were carried out on the property. Work concentrated on the Kena Gold Zone in the north section of the property and in the Kena Copper Zone in the southeast section of the property. Three diamond drill holes aggregating 1,074 metres were completed. Holes NK91-1 and 2 were drilled in the south and north ends of the Kena Copper Zone respectively, and NK91-3 was drilled into the Kena Gold Zone.

The most significant results of this final historic exploration program was returned from NK91-3 which was the deepest hole ever drilled into the Kena Gold Zone. This hole returned values at depth (from 212 to 352 metres) of >0.5 g/t gold over 140 metres width, including 10 metres of >1.5 g/t gold. Earlier diamond drill holes in this area averaged 100 to 150 metres depth.

SHAFT CLAIMS

- 1984 LACANA MINING CORPORATION
Lacana completed geochemical surveys, some trenching and sampling and an airborne magnetic-electromagnetic survey.
- 1987-88 SOUTH PACIFIC GOLD
South Pacific Gold carried out a program of line cutting, geological mapping, geochemical soil sampling, magnetic and induced polarization surveys, and six NQ diamond drill holes aggregating 762 metres. Drilling was confined to a copper gold occurrence referred to as the Shaft showing.
- 1989 GOLDEN NEWS RESOURCES INC./NORAMCO EXPLORATIONS
Golden News Resources Inc. optioned the property in 1989. Noramco Explorations, on behalf of Golden News Resources, completed a program including linecutting (14.7 kilometres), magnetic – VLF-Em surveying (14.2 and 21.05 kilometres respectively), induced polarization geophysical surveying (3.3 line kilometres), geochemical sampling (589 soil and 173 rock samples analyzed for 30 element ICP and Au FA/AA) and detailed geological mapping during the period September – October, 1989.

Results of this work, combined with those of previous exploration companies indicated three drill targets were present; the Dighem, Princess and Silver King Porphyry Contact (now called Gold Mountain) Zones.

1990 NORAMCO MINING CORPORATION

Noramco optioned the property from Golden News in June 1990 and drilled four holes across the Dighem geochemical and geophysical anomaly. No results of any significance were obtained from this zone. Two additional holes were drilled, one at the Princess showing and one to the west of the Dighem anomaly over a second geochemical and geophysical target.

After 1991, no further work was done on either the Kena or Shaft Properties until 1999 when Sultan Minerals Inc. optioned the now amalgamated Kena Property. Upon reaching an agreement with the property owners, Sultan Minerals conducted a small exploration program consisting of confirmation trench chip sampling and infill diamond drill core assaying. A total of 20 chip samples were collected from the Cat, Shaft and Main trenches and 209 diamond drill core samples were taken from previously unsampled core segments.

5) WORK DONE BY SULTAN MINERALS INC. IN 2000

In 2000, Sultan Minerals concentrated its work program in two areas: the Kena Gold Zone and the Gold Mountain Zone. Also small programs were carried out in the Kena Copper Zone, Shaft/Cat Zone and over a strong airborne geophysical conductor called the Noman Conductor. Field work was carried out from August to November 2000 by a five person crew working out of the town of Salmo. Field work was supervised by the author.

KENA GOLD ZONE

Work in 2000 over the Kena Gold Zone concentrated primarily on re-logging and assaying of previously drilled but unsampled diamond drill core. Re-logging of core included close examination of structural features, alterations and mineral assemblages in order to better define mineralization controls. In the field, three sections across the Kena Gold Zone were mapped in detail with special emphasis on structures and mineralization.

GOLD MOUNTAIN ZONE

Previous work in the Gold Mountain Zone consisted of soil geochemical and geophysical surveys over the Shaft/Cat Zone which ended to the west near the contact with the Silver King Porphyry unit. Notably high gold values in soil samples and high chargeabilities at the ends of the previous grid lines caused Sultan to extend these grid lines for 900 metres to the southwest over the Silver King Porphyry unit. Also, in 1990, two diamond drill holes were put in on the south end of the Gold Mountain Zone, just north of Gold Creek, with encouraging results.

In 2000, work by Sultan in the Gold Mountain Zone consisted of grid work over an area of 2100 metres by 900 metres. Soil sampling, magnetometer surveying and geological

mapping were conducted over this grid. Rock grab and chip samples collected during the mapping program identified an area with gold values of >1 g/t from rock samples. An excavator trenching program, centred on this area with anomalous gold values in rock samples, was undertaken late in the season. The trenches outlined an area of 120 metres by 90 metres, centred on L11+00N, 3+00E, that averages 1.43 g/t gold from chip samples. Disseminated and fracture controlled pyrite mineralization seen in the trenches, indicated a good target for definition by induced polarization geophysical surveying which was then done over much of the grid area.

SHAFT/CAT ZONE

In 2000 work at the Cat showing was confined to re-opening of the original Cat trench to determine the structural controls for the mineralization. For the Shaft area, four diamond drill holes from 1988 were re-logged and assayed where previously unsampled. This work confirmed the known mineralization style and grades at these showings.

Of significance, during the 1999 and 2000 work programs by Sultan was the southern extension of the Shaft/Cat geological trend for an additional 700 metres. This extension was recognized during re-examination of 1987 diamond drill core from holes located just south of Gold Creek. Also, detailed geological mapping of two section lines located north and south of Gold Creek was completed.

KENA COPPER ZONE

Limited exploration work was done in the Kena Copper Zone in 2000. New logging access roads allowed for easy prospecting and rock sampling at the south and central portion of the Kena Copper Zone which confirmed the presence of disseminated copper mineralization coincident with low to moderate gold values.

NOMAN CONDUCTOR

A very strong EM conductor, located on the western side of the property, was identified during a 1984 airborne geophysical survey. Historically, no follow up work was done on this conductor due to its remote location and poor access, however a new network of logging roads now gives access into the Noman Creek area.

Initial prospecting of the Noman area showed that this very strong conductor lies within the Elise volcanic rocks, and some old workings consisting of quartz veins/sweats containing gold and silver bearing sphalerite, galena and chalcopyrite were sampled. A ground EM (Genie) survey was done to locate the Noman Conductor on the ground. Soil sampling and more detailed prospecting was done along the geophysical survey grid lines.

THREE FRIENDS, EUPHRATES AND GOLD CUP

Due to the success of the trenching program in the Silver King Porphyry unit, additional ground was acquired by staking to the south of the originally optioned Kena Property, along the trace of this rock unit. During staking, three historic workings from the early 1900s were discovered. A preliminary prospecting and rock sampling program (in the snow) returned some very encouraging gold, silver and copper results.

6) CLAIM INFORMATION

The Kena Property is located within the Nelson Mining Division and consists of three modified grid and 84 two post claims and fractional claims to total 144 units (Figure 2). Claim information is listed in Table I.

**TABLE I
CLAIM INFORMATION**

<u>Claim Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Anniversary (Expiry) Date</u>
GOLD MTN 2	1	232761	May 3 (2004)
GOLD MTN 9FR	1	232763	May 22 (2004)
MAC 1	20	232794	September 18 (2006)
COT	1	233177	September 13 (2004)
ROAD SIDE FR	1	233178	September 13 (2004)
COT FR	1	233179	September 13 (2004)
MAS FR	1	233180	September 1 (2004)
TEE FR	1	233181	September 13 (2004)
FLAT FR	1	233182	September 13 (2004)
AU 2	1	233231	June 5 (2004)
AU 4	1	233232	June 5 (2004)
LINDE 2	1	233261	September 7 (2004)
LINDE 1	1	233262	September 7 (2004)
KENA FR	1	233294	February 7 (2004)
MAGPIE	1	233606	July 20 (2004)
ELDORADO	1	233607	July 20 (2005)
PACTOLUS FR	1	233608	July 20 (2005)
SHAFT FR	1	233609	July 20 (2005)
DEER FR	1	233610	July 20 (2004)
MIDNITE FR	1	233611	July 20 (2004)
KENA 18	1	235349	November 5 (2004)
KENA 19	1	235350	November 5 (2004)
KENA 20	1	235351	November 5 (2004)
KENA 21	1	235352	November 5 (2004)
KENA 22	1	235353	November 5 (2004)
KENA 23	1	235354	November 5 (2004)
KENA 24	1	235355	November 5 (2004)
KENA 25	1	235356	November 5 (2004)
SHAFT W1	1	362976	May 24 (2004)
SHAFT W2	1	362977	May 24 (2004)
CAT 1	1	372729	October 24 (2004)
CAT 2	1	372730	October 24 (2004)
CAT 3	1	372731	October 24 (2004)
CAT 4	1	372732	October 24 (2004)
CAT 5	1	373750	December 3 (2004)

TABLE I
CLAIM INFORMATION

<u>Claim Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Anniversary (Expiry) Date</u>
CAT 6	1	373751	December 3 (2004)
CAT 7	1	373752	December 3 (2004)
CAT 8	1	373753	December 4 (2004)
CAT 9	1	373754	December 3 (2004)
CAT 10	1	373755	December 3 (2004)
CAT 11	1	373756	December 3 (2004)
CAT 12	1	373757	December 3 (2004)
CAT 13	1	373758	December 4 (2004)
CAT 14	1	373759	December 4 (2004)
CAT 15	1	373760	December 4 (2004)
CAT 16	1	373761	December 4 (2004)
CAT 17	1	373762	December 4 (2004)
CAT 18	1	373763	December 4 (2004)
CAT 19	1	373764	December 5 (2004)
CAT 20	1	373765	December 4 (2004)
CAT 21	1	373766	December 5 (2004)
CAT 22	1	373767	December 5 (2004)
CAT 23	1	374197	January 10 (2004)
CAT 24	1	374198	January 10 (2004)
CAT 25	1	374199	January 10 (2004)
CAT 26	1	374200	January 10 (2004)
CAT 27	1	374201	January 10 (2004)
CAT 28	1	374202	January 10 (2004)
CAT 29	1	374203	January 10 (2004)
CAT 30	1	374204	January 10 (2004)
CAT 31	1	374205	January 10 (2004)
CAT 32	1	374206	January 10 (2004)
CAT 33	1	374207	January 11 (2004)
CAT 34	1	374208	January 11 (2004)
CAT 35	1	374209	January 11 (2004)
CAT 36	1	374210	January 11 (2004)
CAT 37	1	380091	September 3 (2004)
CAT 38	1	380092	September 3 (2004)
CAT 39	1	380093	September 3 (2004)
CAT 40	1	380707	September 21 (2004)
CAT 41	1	380708	September 21 (2004)
CAT 42	1	380709	September 21 (2004)
CAT 43	1	380710	September 21 (2004)
CAT 44	1	380711	September 21 (2004)
CAT 45	1	380712	September 21 (2004)
CAT 46	1	382323	November 10 (2001)
CAT 47	1	382324	November 10 (2001)

TABLE I
CLAIM INFORMATION

<u>Claim Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Anniversary (Expiry) Date</u>
STAR 1	1	374211	January 12 (2006)
STAR 2	1	374212	January 12 (2006)
NOMAN	20	378493	July 1 (2005)
SAKE	1	379797	August 15 (2005)
SK 1	20	382325	November 12 (2001)
SK 2	1	382326	November 11 (2001)
SK 3	1	382327	November 12 (2001)
SK 4	1	382328	November 12 (2001)
SK 5	1	382329	November 12 (2001)
SK 6	1	382330	November 12 (2001)

7) GEOLOGY

Geology and mineralization of the Kena Property is well described by Lisle (1991).

REGIONAL GEOLOGY

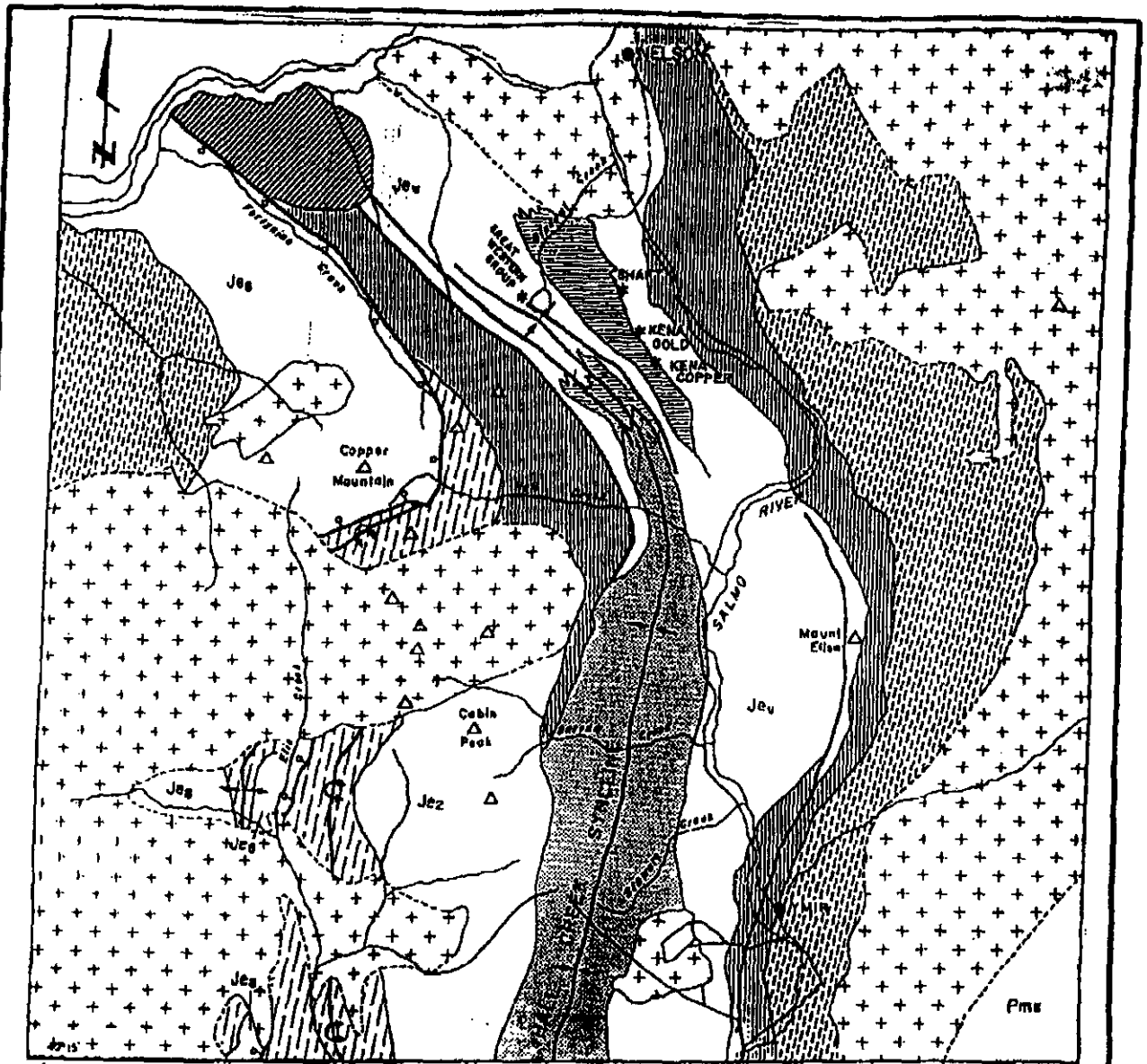
The Kena Property lies on the eastern limb of the Hall Creek Syncline, a south plunging fold associated with intense shearing that dominates the structure of the Nelson map area. The syncline incorporates mainly volcanic and sedimentary rocks of the lower Jurassic Rossland Group, intruded by stocks of granodiorite related to the middle Jurassic Nelson Batholith.

The Rossland Group comprises a basal assemblage of fine-grained clastic rocks of the Archibald Formation, volcanic rocks of the Elise Formation, and clastic rocks of the overlying Hall Formation.

The Kena Property is underlain by members of the upper Elise Formation, an intermediate to basic assemblage including augite porphyry basaltic flows, and part of a cyclical sequence of pyroclastic rocks that grade upward from coarse lapilli tuff through crystal and fine-grained bedded tuff.

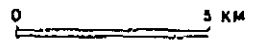
The upper Elise Formation is intruded by a number of synvolcanic plagioclase porphyries including the Silver King Porphyry. It is also intruded by fine to medium-grained 'dioritic' sill-like complexes. On the property, one of these units is described as being up to 50 metres in width and 5000 metres in length. This unit is significant in that it hosts the Shaft and Cat prospects.

In the vicinity of the Kena Property, the Hall Creek syncline trends northwest. A regional foliation related to this trend dips southwest.



After Hoy and Andrew, 1989

LEGEND	
MIDDLE JURASSIC	
	NELSON intrusions
LOWER OR MIDDLE JURASSIC (?)	
	slatite (?)
LOWER JURASSIC ROSSLAND GROUP	
	SILVER KING intrusions
	HALL FORMATION
ELISE FORMATION upper Elise	
	intermediate to mafic crystal and fine tuff
	intermediate lapilli and crystal tuff lower Elise
	mafic pyroclastic breccia
	mafic flow breccia, flows
	ARCHIBALD FORMATION / YMR GROUP
PALEOZOIC	
	metasedimentary rocks
	MOUNTAIN TOP
	ANTICLINE
	SYNCLINE
	FAULT
	FAULT
	HIGHWAY



SULTAN MINERALS INC.

KENA PROPERTY

REGIONAL GEOLOGY MAP

NELSON MD. NTS 82F/6W

BY: LD. FIGURE 3

DATE MARCH 2000

The regional setting of the Shaft ("Kena") Property has been described by Andrew and Hoy (1988) in *Exploration in British Columbia 1988*, a publication of the BC Ministry of Mines.

PROPERTY GEOLOGY

The Kena Property is underlain by intermediate to basic volcanic rocks of the upper Elise Formation that includes pyroclastic and epiclastic members. The Elise volcanics are intruded by a synvolcanic monzodiorite complex, and by the younger(?) Silver King Porphyry, a coarse-grained plagioclase porphyry stock with related dykes and sills.

Tuff Assemblage

The Elise volcanic rocks include dark grey to green, fine to medium grained andesitic to basaltic tuff, plagioclase +/- augite crystal tuff, mafic fine tuff, lapilli tuff and felsic tuff. The assemblage is foliated and locally highly sheared along the northwest striking, southwest dipping foliation related to the Hall Creek Syncline. Augite-rich basalt flows are evident to the north of Gold Creek.

Lapilli tuff underlies and appears to form a relatively continuous unit along the northeast flank of the map area. In the southern section, clasts of fine-grained mafic tuff and fine-grained intrusive occur in plagioclase-rich crystal tuff highly altered by epidote and chlorite. Areas mapped as felsic tuff are commonly pale grey, fine-grained and pyritic. A suggestion that these rocks may be highly altered mafic to intermediate fine-grained tuff, or fine-grained intrusive rocks indicates a need for further investigation.

The assemblage is commonly highly altered. In areas of intense shearing, chlorite-rich phyllite and schists are developed in the mafic units and sericite schists in the felsic units. Epidote is locally conspicuous, and carbonate in fractures or disseminations is widespread. Concentrations of 1% to 5% or more disseminated pyrite with minor chalcopyrite are common, and finely disseminated magnetite is evident in many areas.

Andesite Porphyry

Andesite porphyry, locally up to 150 metres wide, occurs in disjointed but persistent dyke like masses intercalated along the regional trend within the tuff-monzodiorite-Silver King Porphyry complexes.

The rock is grey to greenish grey and contains 1% to >10% coarse plagioclase crystals up to 1.0 centimetre long; and up to 10%, 1 to 3 millimetre black augite crystals set in a fine-grained groundmass. The rock is locally well altered by chlorite and epidote, and in places contains up to 2% fine pyrite.

Sections of the porphyry with significant plagioclase crystal development resemble Silver King Porphyry, but differ in colour, grain size and texture. Sections of the porphyry with limited plagioclase development resemble dioritic rocks particularly when the unit has been sheared.

Monzodiorite Complex

A mafic intrusive complex in the area of the property was recognized in 1988 by geologists working with the Provincial Ministry of Energy, Mines and Petroleum Resources. The complex was described as being tabular, up to 50 metres in width and five kilometres in strike length, fine to medium grained and often porphyritic, and ranging in composition from monzodiorite to quartz diorite and locally diorite. Recent mapping and compilation of geological data indicate the following:

The monzodiorite complex is present throughout the length of the Kena Property, a distance of about 5.0 kilometres.

The complex commonly follows the regional foliation but appears to change from about 330° in the south to about 310° in the north.

In the northwesterly two thirds of the property, the complex occurs as a number of narrow layers a few, to a few tens of metres wide. The geology in this area, particularly around and near Gold Creek, is highly disrupted. This has resulted in an uneven and locally discontinuous trace to the individual dykes and sills.

The monzodiorite in the south third of the property (Kena copper area) thickens to an irregular belt reaching 500 metres in width. Outcrop distribution and old drill hole records indicate that tuffaceous rocks separate a number of intrusive layers within the belt.

The character of the monzodiorite changes markedly throughout the complex, and at many sites due to alteration and shearing, is difficult to distinguish from other units. Highly altered mafic crystal tuff for example resembles altered diorite, and fine-grained non-mafic intrusive rocks, highly sheared and sericitized, are difficult to distinguish from similarly altered felsic tuffs. Sections of the complex are well mineralized with up to 5% pyrite, minor chalcopyrite and magnetite.

A preliminary petrographic examination by provincial geologists indicates the following composition: 30-45% anhedral to subhedral calcic plagioclase, 5-10% orthoclase, rare microcline, 2-3% quartz, 10-25% biotite (pseudomorphic after hornblende? augite?) and minor epidote and chlorite. Fine-grained euhedral to subhedral chalcopyrite, pyrite and magnetite grains occur disseminated throughout the rock.

Along the southeast trace of the monzodiorite complex, a distinctive alteration phase or separate intrusion is present and is tentatively identified as a felsic unit on the geological plan of the area. A typical specimen may be buff to slightly pink in colour, fine-grained, locally porphyritic and rarely brecciated. The rock contains up to 5% altered fine biotite and augite(?) and in places is mineralized with disseminated pyrite, chalcopyrite and magnetite. Sections of this unit have been silicified by abundant quartz veinlets containing pyrite and chalcopyrite.

Much of the previously investigated copper-gold mineralization in the south part of the property occurs within or close to this unit.

Silver King Porphyry

The Silver King Porphyry stock is seen as a series of elongate masses, up to 2 kilometres wide, trending northwest along the northeast flank of the Hall Creek Syncline for over 15 kilometres. Southerly sections of the stock are incorporated into the core of the syncline. A large number of mineral occurrences including the Kena, Shaft, and Silver King Mine are spatially related to the stock.

On the Kena Property, the Silver King unit is a coarse to medium-grained plagioclase-hornblende porphyry. The unit is locally siliceous and in places weakly to strongly flooded with secondary potash feldspar. The plagioclase is weak to moderately sericitized, and hornblende is weak to locally highly chloritized. Epidote alteration is evident in many areas. The porphyry is locally mineralized with 1 to 5% disseminated pyrite, traces of chalcopyrite and malachite, and stringers and disseminations of magnetite and specular hematite.

The Silver King Porphyry outcrops along much of the western margin of the property as a topographically significant ridge. The eastern margin of this large body of Silver King Porphyry is in contact with the adjacent Elise Volcanics on a relatively flat plateau area at about 1400 metres elevation, where poor outcrop exposure occurs. During 2000, mapping of the Silver King Porphyry unit was generally confined to the area surrounding and to the north of Gold Creek (Figure 4).

A number of dyke and sill-like masses of Silver King Porphyry, roughly parallel to the contact, occur in a belt running from just north of Gold Creek for a distance of about one kilometre to the southeast, where they locally interfinger with volcanic rocks in the vicinity of the Kena Gold Zone. These masses are commonly less than 50 metres in width, and in places are highly sheared along the regional trend.

MINERALIZATION

Kena Gold Zone

The Kena Gold Zone occurs in a highly disrupted area along the flank of the Silver King Porphyry stock. The section includes a number of dyke and sill-like masses of monzodiorite, andesite porphyry and Silver King Porphyry. Gold mineralization occurs in silicified and pyritized crackle brecciated zones related to sub-concordant dioritic intrusions. Previous property owners believed gold to be associated with a fine-grained yellow remobilized pyrite that varies from 1% to 90% in content over short widths and which is distinct from the pale brassy pyrite commonly found in adjacent volcanic rocks.

Broad zones of potassic alteration and silicification occur at the margins of the intrusions, and the best widths of mineralization occur where silicification intersects strong fracture systems. The most significant and dense fracture system is sub-vertical and trends at 090°.

Base metals are not common in the mineralized zone. Chalcopyrite, sphalerite and galena occur as disseminations in quartz veins, or as massive sulphide veins adjacent to the dioritic rocks. These occurrences carry low gold concentrations, normally less than 3 g/t.

Not all of the silicified zones are gold bearing. Some of the quartz occurs as vuggy crystalline veins of the type commonly found around epithermal deposits. If the gold is associated with this particular phase, the mineralized configuration would partly relate to the availability of open fracture systems during the mineralizing episode. The tuff assemblage has been highly sheared along the regional trend and shearing may have dislocated existing mineralization. The sheared tuff unit however may simply have been unsuitable to sustain the type of fracturing found within and near the more brittle intrusive rocks.

Although mineralizing structures trending 090° had been identified by earlier property owners, all of the historic drilling on the Kena Gold Zone has been conducted to cross the regional geology and foliation direction of 130°. Appendix II contains reports by structural geologist David Rhys, written after his property visit during the 2000 field season. He writes, ".....gold mineralization grading >2 g/t Au most consistently, although not exclusively, occurs in sets of east-west striking, steeply south dipping pyrite-quartz veins with pale grey K-feldspar-sericite-quartz-calcite alteration. If continuous veins or vein systems of this type are developed, they could form higher grade vein targets within the broad area of low grade mineralization present in that area.....Re-evaluation of trends in soil sample anomalies and any previous geophysical surveys with consideration of potential east-west trends to vein systems is recommended in this area to identify further targets, or to trace the extent of known vein systems.....optimum drilling direction is north-south." A complete re-interpretation and new modeling of this zone is required prior to additional work being undertaken.

Kena Copper Zone

In the Kena Copper Zone, alkalic porphyry style copper-gold mineralization occurs in the southeast section of the property. It is spatially related to the large monzodiorite complex, and to the borders of the complex.

Chalcopyrite and pyrite occur as disseminations, fracture fillings and in quartz veinlets in the intrusive rocks, and as weaker disseminations and fracture fillings in tuffaceous rocks. The copper mineralization commonly includes malachite. The area is marked by sericitic and limonitic shear zones parallel to foliation, and by zones of moderate to intense fracturing that are variably altered by propylitic assemblages of chlorite, epidote and carbonate. Magnetite occurs as disseminations and fracture fillings, and biotite is locally conspicuous and may be part of a broader zone of potassic alteration centred on the complex.

The area has been variably silicified by quartz veins that both cross and follow the foliation. They vary from weak to strong and occur as narrow fracture fillings, weak stockworks or rarely thick veins up to 0.5 metres wide. Some of the veins are coarse

grained and appear barren of sulphide. Others are vuggy and crystalline, contain calcite, and are mineralized with pyrite and chalcopyrite. The nature of the veining combined with results from analytic data appear to reflect more than one period of emplacement.

Sections of the mineralized area have been examined by short underground workings and a few drill holes. This work has resulted in a number of wide intercepts of low-grade copper mineralization with low gold content. Typical examples include an 82.0 metre adit that grades 0.16% copper and a nearby drill hole that yielded 0.18% copper over 45 metres. Another drill hole about one kilometre to the northwest yielded 0.27% copper over 51 metres, and a nearby 21 metre trench sample yielded 0.53% copper. Rock samples collected from the mineralized area also included up to 2.87 g/t gold. Exploration work has not been sufficiently detailed or comprehensive to either delimit the area of interest, or to determine whether significant ore-grade sections may be present.

Shaft and Cat Zones

Mineralization is widespread within this area and is comprised of chalcopyrite, pyrite and magnetite as disseminations and fracture fillings in brecciated and altered andesite and sub-volcanic diorite sills in a northwest trending zone of shearing adjacent to the contact of the Silver King Porphyry. Two showings are exposed in trenches, the Shaft and the Cat, and if mineralization is continuous between these two, the implied strike length of the zone is in excess of 800 metres.

Significant gold and copper values have been obtained from surface sampling and diamond drilling by previous exploration companies. Surface grades have ranged up to 6.2 g/t gold and to 1.86% copper over 4 to 5 metre widths of shearing. Diamond drilling, confined to a 100 metre strike length in the Shaft showing area and comprising 5 short holes returned values up to 9.0 g/t gold and 1.13% copper over 4.1 metres of apparent thickness.

In 1999, trench confirmation sampling by Sultan Minerals confirmed earlier results with 1.14 g/t gold and 0.66% copper over 10.25 metres in the Cat trench, and 5.6 g/t gold and 0.95% copper over 12 metres in the Shaft trench.

The most significant results by Sultan for the Shaft/Cat zone were found during the 2000 core re-logging and sampling program, where this dioritic unit was found to continue an additional 700 metres to the south (giving this zone 1500 metres in strike length) and is found in historic drill hole TK87-46. This hole was originally thought to be part of the Gold Mountain Zone, but is now known to be geologically similar to the Shaft/Cat. Assay results from this hole indicate 11.67 metres of 4.72 g/t gold, including a one metre visible gold bearing interval which ran 50.8 g/t gold.

Gold Mountain Zone

The Gold Mountain Zone lies within the Silver King Porphyry intrusive, along the contact and to the west of the Elise Volcanics on the north side of Gold Creek. Mineralization in this zone appears to be associated with classic porphyry style alterations, disseminated sulphides and fracture coating sulphide and oxide

mineralization. In the area of the “discovery” trenches, the feldspar porphyry is highly sheared, fractured and altered. Sulphide mineralization consists of 1 to 5% (locally up to 20%) disseminated and fracture coating pyrite and minor chalcopyrite (with accompanying malachite). Throughout the Silver King Porphyry unit, although not abundant in the trench area, is disseminated and fracture filling magnetite and specular hematite up to 10% locally. Heavy limonite and/or goethite and occasional pyrolusite occur on many of the fractures in the “discovery” area.

Figure 4 shows the geology of the Gold Mountain Zone and surrounding area. More detailed descriptions of the trench area geology, alterations and structures can be found in Section 10 Trenching.

ROCK SAMPLING TECHNIQUES

Chip samples were taken as continuous samples collected perpendicular to bedding or mineralizing structures wherever identifiable and consist of numerous 2 to 3 centimetre rock chips to total about 10 kilograms. Grab samples consist of 2 or 3 fist size pieces of rock representing a certain rock or mineralization type. All sample sites were marked with fluorescent flagging marked with the sample number.

Samples were placed in poly bags labelled with the corresponding sample number and were shipped to ACME Labs Ltd. in Vancouver for analyses. In the laboratory, samples were crushed to minus 200 mesh and fire assayed for gold, plus geochemically analyzed for 30 additional elements by the ICP method. 8 samples were selected to be analyzed for gold using a metallics assay.

ROCK SAMPLE RESULTS

Certificates of Analysis can be found in Appendix I. Table II summarizes significant results from the surface rock grab and chip sampling program.

TABLE II
SIGNIFICANT ROCK SAMPLE RESULTS

SAMPLE #	LOCATION	DESCRIPTION	Au (g/t)	Cu (%)	Ag (g/t)
EH-1	Euphrates	dump grab	1.50	0.01	0.7
EH-3	Euphrates	dump grab	0.74	0.01	7.7
EH-4	Euphrates	dump grab	0.76	0.01	4.8
EH-5	Euphrates	dump grab	9.82	0.45	78.7
GC-1	Gold Cup	dump grab	5.54	0.18	14.6
GC-3	Gold Cup	dump grab	16.72	0.21	84.0
SK3-1	Three Friends	dump grab	0.74	0.01	1.0
00K-JB-16	Gold Creek	25cm chip	0.54	0.01	1.2
00K-JB-25	Shaft	grab	0.88	0.20	2.0
00K-JB-27	Gold Mtn	10cm chip	5.48	1.08	23.9
00K-JB-29	Gold Mtn	grab	0.49	0.01	0.3
00K-JB-38	Gold Mtn	grab	1.52	0.04	1.7

00K-PG-2 Gold Mtn 5m chip 0.54 0.01 0.3

TABLE II
SIGNIFICANT ROCK SAMPLE RESULTS

SAMPLE #	LOCATION	DESCRIPTION	Au (g/t)	Cu (%)	Ag (g/t)
00K-PG-6	Gold Mtn	2m chip	0.59	0.01	0.3
00K-PG-7	Neil showing	50cm chip	43.22	0.01	11.1
00K-PG-8	Neil showing	5m chip	0.44	0.01	0.4
92+30N;2+05W	Kena Cu	grab	2.87	3.99	11.0
L88N;5+70W	Kena Cu	grab	0.47	0.02	0.5
L13+00N;0+50E	Gold Mtn	3m chip	0.53	0.01	0.5
L11N;3+65E	Gold Mtn	2m chip	2.71	0.01	0.3
17+25N;0+25W	Gold Mtn	1m chip	1.13	0.17	3.3
00LD-03	Gold Mtn	5m chip	0.65		
00LD-04	Gold Mtn	5m chip	1.19		
00LD-06	Gold Mtn	2.5m chip	0.52		
Noman A	Noman	grab	0.82	2.51	22.6
Noman B	Noman	grab	24.66	0.09	115.8
Noman B-2	Noman	grab	0.21	0.34	39.3
Tcat 2-4	Cat showing	2m chip	1.12	0.41	1.9
Tcat 4-6	Cat showing	2m chip	0.74	0.37	1.6
Tcat 6-8	Cat showing	2m chip	0.49	0.25	0.9
Tcat 8-10	Cat showing	2m chip	1.40	0.62	2.9
Tcat 10-12	Cat showing	2m chip	0.56	0.23	1.9

Several surface grab and chip samples collected from the Silver King Porphyry unit in the Gold Mountain Zone returned significant gold assays, up to 5.48 g/t. Sample locations can be seen on Figure 4. Samples collected throughout the Silver King Porphyry unit confirm the consistency of gold mineralization and the homogeneous nature of the intrusive in the Gold Mountain Zone.

During 2000, the initial trench at the Cat showing was re-excavated in order to better evaluate the style and controls of mineralization. This trench was chip sampled at 2 metre intervals (samples Tcat 2-4 through Tcat 10-12) and gave an average value of 0.86 g/t gold, 0.38% copper and 1.8 g/t silver over a 10 metre true width. It was determined that no additional work would be done on the Cat showing at this time.

Two samples collected from the Neil showing (in the Kena Gold Zone) returned gold values of 43.22 g/t and 0.44 g/t Au. The high grade gold mineralization was found in a 50 centimetre wide ferrocrete layer which overlies portions of the Kena Gold Zone, and the 0.44 g/t gold value comes from a 5 metre chip sample collected across the Neil showing. The high grade ferrocrete layer has undergone limited historical production (as evidenced by several old pits, trenches and caved adits), but no documented historical results have been found.

The 2000 exploration program concentrated on the Kena Gold and Gold Mountain Zones with only limited prospecting and sampling conducted for confirmation at the Kena Copper Zone. Of significance, the rock grab sample collected from an old shaft at grid coordinates 92+30N, 2+05W assayed 2.87 g/t gold along with 3.99% copper. The highest previous gold value obtained from surface sampling in this zone is 2.6 g/t gold and 1.1% copper.

A 1984 airborne geophysical survey, contracted by Lacana, identified a band of extremely conductive material along the eastern edge of the survey area. Reconnaissance mapping during 2000 in this area deemed the conductor (termed the Noman Conductor) to occur in volcanic rocks, above the Hall Sediment package that is exposed in Noman Creek. Grab samples labelled Noman A and Noman B were collected from caved workings found in the Noman Creek valley. Noman A is a quartz vein or sweat containing abundant chalcopyrite and Noman B is from a series of old poorly exposed trenches containing siliceous rock with galena, sphalerite and chalcopyrite. The mineralization observed in the field, although high grade, does not appear to be widespread. A ground EM survey was completed over the Noman conductor to locate its ground position, followed by more detailed mapping and geochemistry. Narrow bands of graphitic argillite, interlayered with the volcanics, were found to correlate with (and therefore explain the presence of) the conductor.

Late in 2000, new ground to the south of the initial claim holdings was acquired by staking. During the course of the staking program, three historic showings were discovered. These appear in BC government Minfile descriptions and are labelled the Three Friends, Euphrates and Gold Cup. The Three Friends and Gold Cup lie within the Silver King Porphyry unit and consist of sheared, altered and mineralized porphyry with quartz-sulphide veining. The Euphrates occurs along a shear structure in the Elise Volcanic package adjacent to the Silver King Porphyry unit, and consists of shear and vein style sulphide mineralization. Grab samples collected from the workings returned values up to 0.74 g/t gold from the Three Friends. The Gold Cup gave gold values of 5.54 g/t and 16.72 g/t with significant copper (up to 0.21%) and silver (up to 84 g/t). The Euphrates returned gold values up to 9.82 g/t, and also had sub-economic but elevated zinc, silver and arsenic values.

8) SOIL GEOCHEMISTRY

During the 2000 exploration program, a total of 1209 soil samples were collected. The majority of samples were taken from the Gold Mountain Grid, where lines were put in at 100 metre spacings and samples collected at 25 metre intervals along the lines. Some lines were also put in to extend the Kena Grid to the west over the contact with the Silver King porphyry on the south side of Gold Creek, using the same spacings as on the Gold Mountain Grid. In the Noman Creek area, 4 lines were put in at 500 metre spacings, and samples were collected at 50 or 25 metre intervals along these lines.

Samples were taken from the 'B' soil horizon whenever possible, and were collected using a mattock or shovel. Samples site were labelled with fluorescent flagging with the

station number recorded on it, and soil was placed in correspondingly labelled Kraft soil bags. All soil samples were shipped to ACME Labs Ltd. in Vancouver for analyses. In the laboratory, samples were dried, sieved to -80 mesh and the fine fraction analyzed for gold by the wet geochemistry method and for 30 elements by the ICP method.

ACME Labs Ltd. Certificates of Analyses can be seen in Appendix III. Figure 2 shows the location of the various grids, Figure 5 shows the gold geochemistry for the entire property, Figure 6 shows the gold geochemistry over the Gold Mountain Grid, and Figure 7 shows selected geochemical results for the Noman Grid.

High gold soil geochemical values trend for over 5 kilometres along the length of the Kena Property (Figure 5). These samples have been compiled from sampling programs conducted by various property owners over the past 25 years. Gold values are contoured at 50 ppb increments. The southern one third of the soil grid shows a wide area of elevated gold values with a higher grade core trending from L87N to L93N, centering on 4+00W. Much of this southern grid area is underlain by volcanic and sub-volcanic diorite intrusives. The area of the better gold values lies along the contact between the volcanic rocks and the Silver King Porphyry intrusive. The central portion of the soil grid shows a high gold in soils area coincident with the Kena Gold Zone, and a second zone of high gold in soil in the upper Gold Creek area. The upper Gold Creek soil anomaly is predominantly within Silver King Porphyry rocks, while the Kena Gold Zone lies within volcanics, sub-volcanic intrusives and dykes of Silver King Porphyry.

The northern portion of the Kena Property (about the top third of the property geochemistry map) is loosely termed the Gold Mountain Grid, and is shown on Figure 6. The eastern portion of Figure 6 has 50 metre spaced soil lines which were run in 1990 by Noramco, and the western portion of the grid has 100 metre spaced soil lines run in 2000 by Sultan Minerals. The Elise Volcanic – Silver King Porphyry contact runs roughly perpendicular to the grid lines at approximately 4+00E. It can be readily seen that the gold in soil values over the Silver King Porphyry and contact area are considerably higher than those within the adjacent volcanics. A 600 metre wide band of gold soil values greater than 50 ppb can be seen trending at 130° for the length of the Gold Mountain Grid (over 2 kilometres). The centre of this 600 metre wide anomalous gold zone runs from L0N, 5+00E to L21N, 5+00W. Within this anomalous area, many of the soil samples returned gold values in the 100 to 200 ppb range. Values of greater than 1000 ppb gold were obtained from stations 1+50N, 2+25E; 1+50N, 2+75E; 3+00N, 0+25E; 3+00N, 1+75E; 6+00N, 4+75W; 10+50N, 3+50E; 17+00N, 1+50E; 18+00N, 3+25W; 19+00N, 1+00E.

On the Noman Grid (Figure 7) soil samples were collected at 25 or 50 metre intervals along lines spaced 500 metres apart. Soil sampling was done over this grid to determine if base/precious metal values accompany the very strong geophysical conductive signature indicating the potential for volcanic hosted massive sulphide mineralization. Spotty elevated soil values for gold, arsenic, copper, lead and zinc were obtained throughout the grid area. None of these soil results were “high grade” and although interesting are not deemed to be significant at this time.

9) GEOPHYSICS

MAGNETOMETER SURVEY

During the course of the soil sampling program on the Gold Mountain Grid, magnetometer readings were taken at each station using a Geometrics G816 Proton Magnetometer. Base station readings were collected at several times during the day to allow for diurnal corrections to the magnetometer data, however diurnal fluctuations were minimal therefore uncorrected data has been plotted. The G816 Proton Magnetometer measures the total intensity of the earth's magnetic field with a sensitivity up to +/-1 nanoteslas (nt) through the use of proton precession. By measuring the total field intensity orientation errors are minimised.

The results of the magnetometer survey are shown on Figure 8. In general, a wide belt of lower magnetic readings parallels the zone of high gold soil geochemistry in the Gold Mountain Zone. The higher magnetic responses seen in the northeast and southeast corners of the grid correlate to volcanic rocks. At this time the magnetometer survey results remain inconclusive, however as additional work is done over the mineralized portion of the Gold Mountain Grid, associations between magnetic signature and alteration assemblages may become important.

Additional geophysical surveys conducted during 2000 on the Kena Property include Induced Polarization over the Gold Mountain Grid and Electromagnetic surveys on the Kena Gold Zone, Noman Conductor and along cross lines on the Gold Mountain Grid. These surveys were conducted by Peter E. Walcott and Associates geophysical contractors and the results are compiled in his report found in Appendix IV with accompanying maps and pseudo-sections in Appendix V. For survey methods and instrumentation descriptions please see the Appendices. A brief summary of the results and conclusions are given here.

INDUCED POLARIZATION SURVEY

The Induced Polarization (IP) survey was conducted over L4N to L19N on the Gold Mountain Grid using the pole-dipole technique with a 25 metre dipole to measure apparent chargeabilities and resistivities. The purpose of the IP survey was to ascertain the IP response of the gold bearing sulphide mineralization in the Silver King Porphyry and to use this response in an effort to outline this mineralization and other similar occurrences.

A strong chargeability response was obtained over the observed sulphides in the "discovery" trench area on L11N circa 3+00E as clearly shown on the stacked pseudo-section plots of apparent chargeability (see Appendix V). This shows good correlation with the elevated gold soil results as shown on Figure 6. A complex zone of high chargeability can be seen trending across the lines surveyed on Figures W-525-3 and 4 which are the contoured plans of the first and third separations respectively. The response is stronger at depth on the northern lines as can be seen from the same maps. The causative source(s) exhibit depth extent as shown by the stronger responses on the deeper separations as illustrated on the pseudo-sections.

The area surveyed exhibited high overall resistivity – low conductivity – as shown on the pseudo-sections and contour plans of the first and third separation resistivity measurements – Figures W 525-5 and 6. Lower resistivities are associated with the core of the chargeability response between 5+50N and 11+00N. A narrow resistivity low feature is discernible trending northward across the grid between 7+00N and 15+00N. This is associated with lower chargeability readings and would appear to break the IP responses into two zones.

Smooth model inversion was carried out on the results from all the traverses. The results are shown for each line with the apparent chargeability, the synthetic chargeability, the smooth inversion model of chargeability, the calculated resistivity, and the synthetic resistivity featured along the filter profiles of the respective chargeabilities and resistivities. These models show the unlimited depth extent of the sulphide mineralization – the interpreted causative source of the chargeability response – in the context of the survey investigation depth. The model response at 50 metre depth of burial is shown on Figure W-525-7. The north trending break is clearly discernible with the stronger response of the southern body. The models suggest that trenching and excavation work would be satisfactory as an initial investigation tool for the causative source of the southern body, but that borehole investigation is necessary for the northern body.

In conclusion, the chargeability results showed a large complex zone of strongly anomalous readings trending northwest across the area surveyed and open at both its southern and northern extremities. Its causative source is thought to be attributable to sulphide mineralization in the underlying intrusive rocks. The mineralization appears to be shallow in the south but deeper going north. Smooth inversion modeling suggests that the mineralization extends to the maximum investigative depth of the survey, circa 80 metres. The writer (Peter E. Walcott) concludes that there is reasonable probability for the existence of large low good porphyry style gold mineralization in the underlying intrusive, and recommends that the IP – gold soil coincidences be investigated by trenching and diamond drilling.

ELECTROMAGNETIC SURVEYS

During the fall of 2000, Peter E. Walcott and Associates undertook limited electromagnetic surveying over parts of the Kena Property. The surveying consisted of 7 lines of electromagnetic traversing using a SE 88 electromagnetic Genie system and 4 lines of “very low frequency” (VLF) electromagnetic traversing using an Omni VLF unit.

Four of the traverses with the Genie unit were conducted on widely spaced lines east of Noman Creek to pinpoint the ground location of a Dighem airborne conductor thought to occur in the underlying volcanics. The horizontal loop electromagnetic survey outlined the presence of two conductive bands of moderate conductivity trending across the 500 metre spaced lines – Figure W-525-8. As soil values obtained on the follow-up geochemical survey were insignificant, the causative sources of the conductors is thought to be graphitic horizons in underlying Hall Group Sediments.

The other three lines traversed with the Genie unit were conducted on lines parallel to the main strike direction of the Kena Gold Zone in an effort to explore for higher grade sulphide occurrences in cross cutting structures. No electromagnetic responses were obtained over the three lines traversed as clearly discernible from the profiles of Figure W-525-9.

The VLF electromagnetic traverses were undertaken on lines trending 150° around the area of the “discovery” trenches on the Gold Mountain Zone to search for cross cutting features as suggested by northeasterly trending offsets in the airborne magnetic coverage. One conductor open to the west was noted on four lines traversed here. Its axis probably swings to the south to cross L3+00E. Its causative source is presumed to be a shear related structure.

10) TRENCHING

During the 2000 exploration program, 15 trenches were excavated in the Gold Mountain Zone of the Kena Property. Trenches were put in using a Hitachi EX100 excavator to an average depth of 2 to 3 metres. Trenches were mapped and chip sampled along continuous 3 metre intervals for the length of each trench.

Chip samples were collected by hammer and chisel, and are a continuous sample of golf ball size rock chips. The 3 metre samples each represent about 10 kilograms of material. The chip samples were placed in poly bags labeled with the trench number and sample interval, and were shipped to ACME Labs Ltd. in Vancouver for analyses. In the laboratory the samples were screened to -200 mesh, the coarse fraction examined for metallics, and the fine fraction analyzed for gold by fire assay. All samples were also analyzed for 30 additional elements by the ICP method.

The trenching program in the Gold Mountain Zone was done in three phases. Trenches TR-1 to TR-3 were initially excavated, then follow up was done with trenches TR-1 and TR-2 being extended and trenches TR-4, TR-5, and TR-6 also excavated. These six trenches define the “discovery” area of the Gold Mountain porphyry mineralization. They are centred on L11N, 3+00E and cover an area of approximately 120 metres by 95 metres which gave a combined assay value of 1.43 g/t gold over the entire 187.2 metre trenched length.

A third phase of trenching was undertaken with step out trenches to the south on L10N, L9N, L8N which all intersected fairly rapidly flowing groundwater at relatively shallow depths, and do not represent a good sampling medium. In fact, on L9N the attempted trenches did not uncover any bedrock. Trenches were also dug on L12N and L13N with limited success.

See Figures 12 to 26 for individual trench geology maps. Trenches TR-1 to TR-14 uncovered predominantly mid Jurassic Silver King Porphyry. Trenches TR-2, TR-5 and TR-8 crossed the contact and extended up to 6 metres into the lower Jurassic Elise

Volcanics. Sulphide content and gold mineralization does not differ substantially between the volcanics and the porphyry intrusive in these trenches.

Sulphide mineralization found in TR-1 to TR-14 consists of disseminated blebs and fracture fillings of pyrite with occasional weak chalcopyrite. The fracture filling pyrite is often accompanied by (or entirely replaced with) limonite and/or goethite. The disseminated pyrite is very shiny and fresh appearing, with the irregular shaped blebs tending to be coarser in the fresher appearing (less altered) Silver King Porphyry. Total sulphide content varies from 1 to 5%, with local narrow widths of up to 20%. Gold content does not always vary with sulphide content.

Table III below shows the results of all chip samples collected during the trenching program. The gold results shown represent assays done by metallics screening, and in parentheses gold results by standard fire assay. Results are reported in grams per tonne. ACME Labs Ltd. Certificates of Analyses can be found in Appendix VI.

**TABLE III
TRENCH SAMPLE RESULTS**

TRENCH	FROM-TO (m)	WIDTH (m)	Au (g/t) Met (FA)	TRENCH	FROM-TO (m)	WIDTH (m)	Au (g/t) Met (FA)
TR-1	0-3	3	0.84	TR-9	0-3	3	0.30(0.28)
TR-1	3-6	3	1.18	TR-9	3-6	3	0.31(0.56)
TR-1	6-9	3	1.73	TR-9	6-9	3	0.08(0.06)
TR-1	9-12	3	3.38	TR-9	9-12	3	0.16(0.11)
TR-1	12-15	3	1.69	TR-9	12-15	3	0.11(0.07)
TR-1	15-18	3	6.26	TR-9	15-18	3	0.09(0.10)
TR-1	18-21	3	0.77	TR-9	18-21	3	0.09(0.07)
TR-1	21-24	3	0.43	TR-9	21-24	3	0.08(0.08)
TR-1	24-27	3	0.35	TR-9	24-27	3	0.14(0.10)
TR-1	27-29	2	1.42	TR-9	27-30	3	0.06(0.04)
TR-1	29-32	3	0.60	TR-9	30-33	3	0.12(0.05)
TR-1	32-35	3	0.72	TR-9	33-36	3	0.14(0.13)
TR-1	35-38	3	0.57	TR-9	36-39	3	0.12(0.15)
TR-1	38-41	3	1.15	TR-9	39-42	3	0.20(0.31)
TR-1	41-44	3	1.67	TR-9	42-45	3	0.05(0.08)
TR-1	44-47	3	3.14	TR-9	45-48	3	0.33(0.32)
TR-1	47-49	2	0.56	TR-9	48-51	3	0.08(0.11)
				TR-9	51-54	3	0.14(0.11)
TR-2	0-3	3	1.78	TR-9	54-57	3	0.14(0.14)
TR-2	3-6	3	0.27	TR-9	57-60	3	0.93(0.54)
TR-2	6-9	3	0.14	TR-9	60-62	2	0.14(0.14)
TR-2	9-12	3	1.65				
TR-2	12-15	3	0.39	TR-10	0-3	3	0.15(0.15)
TR-2	15-18	3	1.25	TR-10	3-6	3	0.14(0.18)
TR-2	18-21	3	1.54	TR-10	6-9	3	0.21(0.20)
TR-2	21-24	3	1.90	TR-10	9-12	3	0.11(0.13)
TR-2	24-25	1	no sample	TR-10	12-15	3	0.09(0.08)
TR-2	25-28	3	3.16	TR-10	15-18	3	0.08(0.07)
TR-2	28-31	3	0.46(0.55)	TR-10	18-21	3	0.17(0.50)

**TABLE III
TRENCH SAMPLE RESULTS**

TRENCH	FROM-TO (m)	WIDTH (m)	Au (g/t) Met (FA)	TRENCH	FROM-TO (m)	WIDTH (m)	Au (g/t) Met (FA)
TR-2	31-34	3	2.73(2.50)	TR-10	21-24	3	0.08(0.34)
TR-2	34-37	3	0.63(0.49)	TR-10	24-27	3	0.04(0.04)
TR-2	37-40	3	2.11(3.54)	TR-10	27-30	3	0.04(0.06)
TR-2	40-43	3	0.50(0.57)	TR-10	30-33	3	0.05(0.06)
TR-2	43-46	3	0.52(0.50)	TR-10	33-36	3	0.04(0.06)
TR-2	46-49	3	1.05(1.09)				
TR-2	49-52	3	2.63(3.86)	TR-11	0-3	3	0.26(0.13)
TR-2	52-55	3	0.77(0.65)	TR-11	3-6	3	0.17(0.23)
				TR-11	6-9	3	0.24(0.29)
TR-3	0-3	3	0.17	TR-11	9-12	3	0.25(0.27)
TR-3	3-6	3	0.31	TR-11	12-15	3	0.23(0.26)
TR-3	6-9	3	11.38	TR-11	15-18	3	0.20(0.26)
TR-3	9-12	3	0.35	TR-11	18-21	3	0.31(0.24)
TR-3	12-15	3	0.56	TR-11	21-24	3	0.22(0.22)
TR-3	15-18	3	1.17				
TR-3	18-21	3	2.32	TR-12	0-3	3	0.45(0.32)
TR-3	21-22.2	1.2	1.95	TR-12	3-6	3	0.57(0.57)
				TR-12	6-9	3	0.29(0.28)
TR-4	0-3	3	2.75	TR-12	9-12	3	0.39(0.38)
TR-4	3-6	3	4.92	TR-12	12-15	3	0.29(0.36)
TR-4	6-9	3	1.39	TR-12	15-18	3	0.09(0.10)
TR-4	9-12	3	0.47	TR-12	18-21	3	0.59(0.57)
TR-4	12-15	3	0.13	TR-12	21-24	3	0.23(0.20)
TR-4	15-18	3	0.07	TR-12	24-27	3	0.19(0.12)
TR-4	18-20.5	2.5	0.06	TR-12	27-30	3	0.17(0.19)
				TR-12	30-33	3	0.15(0.12)
TR-5	0-3	3	1.30	TR-12	33-36	3	0.19(0.19)
TR-5	3-6	3	1.43	TR-12	36-39	3	0.14(0.12)
TR-5	6-9	3	0.26(0.22)	TR-12	39-45	6	No sample
TR-5	9-12	3	0.34(0.37)	TR-12	45-48	3	0.80(0.90)
TR-5	12-15	3	0.57	TR-12	48-51	3	0.17(0.13)
TR-5	15-18	3	1.07	TR-12	51-54	3	0.07(0.04)
TR-5	18-21	3	0.69	TR-12	54-57	3	0.08(0.04)
TR-5	21-24	3	0.36	TR-12	57-60	3	0.06(0.03)
TR-5	24-27	3	1.51	TR-12	60-63	3	0.10(0.11)
				TR-12	63-66	3	0.42(0.29)
TR-6	0-3	3	0.28(0.21)				
TR-6	3-6	3	0.14(0.15)	TR-13	0-3	3	0.05(0.05)
TR-6	6-9	3	0.14(0.16)	TR-13	3-6	3	0.06(0.05)
				TR-13	6-9	3	0.33(0.39)
TR-7	0-2	2	0.16(0.21)	TR-13	9-12	3	0.06(0.10)
TR-7	2-4	2	1.29(1.09)	TR-13	12-15	3	0.02(0.02)
TR-7	4-6	2	0.23(0.17)	TR-13	15-18	3	0.02(0.02)
				TR-13	18-21	3	0.02(0.02)
TR-8	0-3	3	0.94(0.88)	TR-13	21-24	3	0.05(0.05)
TR-8	3-6	3	0.73(0.59)				
TR-8	6-9	3	1.61(1.47)	TR-14	0-3	3	0.30(0.25)
TR-8	9-12	3	0.61(0.43)	TR-14	3-6	3	0.20(0.19)
TR-8	12-15	3	1.01(0.92)	TR-14	6-9	3	0.92(0.86)
TR-8	15-16	1	0.39(0.35)	TR-14	9-12	3	0.40(0.38)
TR-8	16-17	1	no sample	TR-14	12-15	3	0.32(0.29)
TR-8	17-20	3	0.17(0.40)	TR-14	15-18	3	0.41(0.35)
TR-8	20-21	1	0.32(0.34)	TR-14	18-21	3	0.41(0.17)
				TR-14	21-24	3	1.12(1.05)

TABLE III
TRENCH SAMPLE RESULTS

TRENCH	FROM-TO (m)	WIDTH (m)	Au (g/t) Met (FA)	TRENCH	FROM-TO (m)	WIDTH (m)	Au (g/t) Met (FA)
TR-8	21-24	3	1.19(0.63)	TR-15	0-3	3	(0.14)
TR-8	24-27	3	0.85(0.81)	TR-15	3-6	3	(0.03)
TR-8	27-30	3	0.49(0.64)	TR-15	6-9	3	(0.02)
TR-8	30-31	1	no sample	TR-15	9-12	3	(0.03)
TR-8	31-33	2	0.27(0.36)	TR-15	12-15	3	(0.05)
TR-8	33-36	3	0.36(0.50)	TR-15	15-18	3	(0.11)
TR-8	36-39	3	0.42(0.60)	TR-15	18-21	3	(0.58)
				TR-15	21-24	3	(0.09)
				TR-15	24-26	2	(0.07)

Figure 9 shows the location of the trenches in relation to the Gold Mountain Grid. Figure 10 shows the structures apparent from trench mapping and Appendix VIII gives a rose diagram and stereonet plot of fractures systems with and without sulphide mineralization. The stereonet plot clearly shows a wide dispersal of fracture orientations measured in the trenches, with rough clusters of pyrite coated fractures oriented 138/46NE (striking parallel to the regional foliation but dipping in the opposite direction) and 104/62S (paralleling the east-west, south dipping trend for mineralization control seen at the Kena Gold Zone). The rose diagram indicates that pyrite coated fractures have two prominent strike directions of approximately 165° and 105°. Structural geologist David Rhys examined outcrops from the Gold Mountain Zone prior to trenching and he concluded "An equal area projection of sulphide veinlets, Fe-oxide coated joints and non oxide-bearing joints measured in the Silver King Porphyry shows a wide range of orientations, although three general clusters (steep northwest trending, moderate northwest dipping and steep northwest dipping) are apparent" (see Appendix II).

Figure 11 is an assay plan of the trenches. Trenches TR-1 through TR-8 plus TR-14 give an average gold grade over their combined length of 250.7 metres of 1.22 g/t. This represents a potential dimension of 300 metres (from TR-7 on L8N to TR-3 on L11N) by 160 metres (from TR-2 on L11N, 4+00E to TR-14 on L11N, 2+40E). The anomalous gold mineralization uncovered by the trenching program remains open on surface to the south, east and west, and at depth (as shown by the IP survey results) to the north. Trench results indicate that gold mineralization in the Silver King Porphyry unit is very extensive and appears to be reasonably homogenous over wide widths.

Trench TR-11, located on L10N uncovered only sub-crop and boulders (of bedrock?) and quickly filled with water, therefore the samples collected do not represent "good" bedrock. Trenches TR-9, TR-10, TR-12 and TR-13 are located northwest of the "discovery" area. Trenches TR-9 to TR-13 returned elevated, but sub-economic gold values. The Induced Polarization survey interpretation indicated that the sulphide mineralization in this area is located up to 50 metres below surface and therefore would not be encountered during the trenching program. Rock uncovered in these trenches was visibly less mineralized and more competent than that from the "discovery" area.

TR-15 is located entirely within the Elise Volcanics in a high chargeability area as defined by the IP survey. This trench exposed strongly sericitic and chloritic altered andesites which are well foliated. Massive limonite and goethite mineralization occurs roughly parallel to the foliation planes, indicating the former presence of heavy (massive?) sulphide mineralization. Anomalous, gold, silver, lead, zinc and copper values were obtained from chip samples collected across the oxide bands.

11) DRILL CORE SAMPLING

During the 1999 exploration program by Sultan Minerals, it was determined that much of the diamond drill core from the 1980s had never been sampled although in many instances it appeared to be well mineralized. Sultan undertook a successful preliminary core sampling program in 1999 and made the decision to conduct a major sampling program during the 2000 field season in order to assess the potential for large tonnage (bulk mineable) gold mineralization in the Kena Gold Zone.

Five cross-sections, three in the Kena Gold Zone, one just south of Gold Creek and one across the Shaft showing were selected as they each contained three or more previously drilled holes. On L45N at the south end of the Kena Gold Zone lies holes LK86-26, 31 and 32. L47N which crosses the Neil showing of the Kena Gold Zone contains holes LK86-20, 21, 24 and 28. Section 48+50N in the vicinity of the Main trench of the Kena Gold Zone contains drill holes LK85-7, 8, 13, 14, TK87-43 and NK91-3. On the south side of Gold Creek L54N contains drill holes TK87-45, 46 and 47 and on the north side of Gold Creek, crossing the Shaft showing, L6+50N contains holes SP88-1 to 4.

These 20 selected diamond drill holes were re-logged prior to the core being split for sampling purposes. Re-logging consisted of detailed examinations of core segments previously logged based entirely on geological unit descriptions. During 2000, the selected core was examined for its alteration assemblages noting visible amounts and strengths of potassic, silicic, sericitic, chloritic, biotitic, epidotic and hematitic alterations. Sulphide mineral content and style were also examined. Special emphasis was put on identification of fractures, veins and foliations which are important for structural interpretations. Also, magnetic susceptibility readings were taken at every metre along the length of the drill holes.

Diamond drill core samples were taken by splitting one half of the core from previously unsampled intervals in each drill hole. Core samples were placed in poly bags marked with the hole number and sample interval and the remaining core was returned to the original core box. Drill core is stored on the property.

Diamond drill core samples were shipped to ACME Labs Ltd. in Vancouver for analyses. In the laboratory samples were crushed to -200 mesh and assayed for gold by fire assay, plus 30 additional elements by the ICP process. Certificates of Analyses can be found in Appendix IX for the 2000 infill drill core sampling done by Sultan Minerals. For comparison Appendix X includes a complete table of drill sample results collected to date

by all property owners. Table IV summarizes significant results of the infill core sampling program and includes some historic results for comparison.

TABLE IV
2000 DRILL CORE SAMPLING
SIGNIFICANT RESULTS

HOLE #	YEAR SAMPLED	FROM (m)	TO (m)	WIDTH (m)	AU g/t (CU ppm)
LK85-13	2000	3.96	4.87	0.91	3.46*
	2000	4.87	6.73	1.86	0.38
	2000	6.73	8.95	2.22	0.49
	2000	8.95	10.52	1.57	0.39
	2000	10.52	11.99	1.47	0.62
	2000	11.99	13.87	1.88	0.75
	2000	13.87	15.23	1.36	0.37
	2000	19.32	20.76	1.44	0.16
	2000	20.76	21.78	1.02	2.26*
	2000	21.78	23.47	1.69	0.22
	2000	23.47	25.54	2.07	0.49
	1985	25.54	27.50	1.96	0.18
	1985	67.50	69.13	1.63	0.40
	2000	69.13	71.11	1.98	0.63
	1985	71.11	71.63	0.52	0.59
1985	76.05	77.90	1.85	0.30	
2000	77.90	78.63	0.73	0.46	
1985	78.63	80.62	1.99	0.24	
LK85-15	1985	13.35	14.40	1.05	0.15
	2000	14.40	14.91	0.51	0.52
	1985	14.91	17.00	2.09	0.26
	1985	19.29	21.50	2.21	0.15
	2000	21.50	23.46	1.96	0.54
	2000	23.46	25.50	2.04	0.24
	1985	41.00	43.00	2.00	0.26
	2000	43.00	44.50	1.50	1.05*
	2000	44.50	46.16	1.66	0.43
	2000	47.41	49.00	1.59	0.52
1985	49.00	51.03	2.03	0.37	
LK85-17	2000	27.81	29.26	1.45	0.21
	2000	29.26	30.00	0.74	1.48*
	1985	30.00	32.00	2.00	0.15
LK85-19	2000	107.36	108.51	1.15	0.39
	2000	108.51	109.87	1.36	0.52
	2000	109.87	112.00	2.13	0.31
LK86-20	2000	48.31	49.99	1.68	0.24
	2000	49.99	51.00	1.01	0.47
	1986	51.00	53.03	2.03	0.84
	2000	126.96	129.24	2.28	0.23
	2000	129.24	131.00	1.76	0.58
	1986	131.00	132.53	1.53	0.09

TABLE IV
2000 DRILL CORE SAMPLING
SIGNIFICANT RESULTS

HOLE #	YEAR SAMPLED	FROM (m)	TO (m)	WIDTH (m)	AU g/t (CU ppm)	
LK86-21	2000	60.20	62.65	2.45	0.11	
	2000	62.65	64.54	1.89	0.72	
	2000	64.54	66.00	1.46	0.19	
LK86-24	1986	13.00	14.95	1.95	0.48	
	2000	14.95	15.53	0.58	0.45	
	2000	15.53	17.07	1.54	0.12	
	2000	119.57	121.84	2.27	0.15	
	2000	121.84	123.91	2.07	0.77	
	2000	123.91	125.49	1.58	0.48	
	2000	125.49	126.49	1.00	0.15	
	2000	126.50	129.23	2.73	0.09 (982)	
LK86-26	2000	129.23	131.37	2.14	0.10 (1232)	
	2000	131.37	133.02	1.65	0.08 (825)	
	2000	133.02	136.00	2.98	0.12 (1233)	
	1986	136.00	137.50	1.50	0.11	
	2000	137.50	139.85	2.35	0.52	
	2000	139.85	141.88	1.93	0.08	
	LK86-28	1986	192.86	193.51	0.65	0.09
		2000	193.51	194.38	0.87	0.99
1986		194.38	194.90	0.52	0.08	
TK87-43	2000	66.67	68.20	1.53	0.19	
	2000	68.20	70.68	2.48	0.75	
	2000	70.68	73.54	2.86	0.32	
	2000	92.25	94.77	2.52	0.40	
	2000	94.77	96.01	1.24	0.59	
	1987	96.01	97.51	1.50	0.38	
TK87-45	2000	30.51	33.53	3.02	0.08 (195)	
	2000	33.53	36.58	3.05	0.09 (1238)	
	2000	36.58	38.60	2.02	0.06 (1275)	
	2000	38.60	39.63	1.03	0.09 (559)	
	TK87-46	2000	84.64	86.56	1.92	0.09
TK87-46	2000	86.56	88.67	2.11	0.47	
	2000	88.67	90.02	1.35	0.05	
	1987	101.44	102.94	1.50	0.08 (33)	
	2000	102.94	104.54	1.60	0.44 (2159*)	
	1999	104.54	105.84	1.30	0.36	

					(3021)
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TABLE IV
2000 DRILL CORE SAMPLING
SIGNIFICANT RESULTS

HOLE #	YEAR SAMPLED	FROM (m)	TO (m)	WIDTH (m)	AU g/t (CU ppm)
TK87-46	1987	105.84	107.34	1.50	1.05 (90)
	2000	107.34	109.30	1.96	0.16 (515)
	2000	109.30	111.30	2.00	0.29 (1695)
	2000	111.30	113.75	2.45	0.21 (914)
	2000	115.45	116.90	1.45	0.16 (562)
	2000	116.90	118.04	1.14	0.37 (1471)
	2000	118.04	120.09	2.05	0.11 (122)
	2000	120.09	121.50	1.41	0.28 (1086)
	2000	121.50	123.13	1.63	0.12 (574)
	TK87-47	2000	74.37	77.42	3.05
2000		77.42	80.53	3.11	0.56
2000		80.53	83.51	2.98	0.25
2000		153.03	156.21	3.18	0.29
2000		156.21	158.41	2.20	0.58
1987		158.41	159.91	1.50	0.56
SP88-1	1988	10.67	12.19	1.52	0.07 (342)
	2000	12.19	14.02	1.83	0.06 (1602)
	1988	14.02	15.54	1.52	0.07 (3640)
	1988	27.86	29.26	1.40	0.58 (1397)
	2000	29.26	32.07	2.81	0.07 (1228)
	2000	32.07	35.05	2.98	0.02 (120)
	SP88-2	2000	10.97	14.29	3.32
2000		14.29	17.22	2.93	0.07 (2141*)
1988		17.22	18.59	1.37	0.10 (2230)

TABLE IV
2000 DRILL CORE SAMPLING
SIGNIFICANT RESULTS

HOLE #	YEAR SAMPLED	FROM (m)	TO (m)	WIDTH (m)	AU g/t (CU ppm)
SP88-3	1988	18.59	19.66	1.07	0.10 (851)
	2000	19.66	21.64	1.98	0.09 (1090)
	2000	21.64	24.00	2.36	0.10 (614)
SP88-4	1988	76.81	78.33	1.52	0.07 (1056)
	2000	78.33	79.61	1.28	0.11 (1066)
	2000	79.61	80.89	1.28	0.56 (892)
	2000	80.89	83.81	2.92	0.02 (99)
NK91-3	2000	72.00	73.50	1.50	0.08
	2000	73.50	75.00	1.50	0.91
	1991	75.00	76.50	1.50	0.12
	1991	197.50	199.00	1.50	0.65
	2000	199.00	200.50	1.50	3.53*
	1991	200.50	202.00	1.50	0.40
	1991	205.00	206.50	1.50	0.61
	2000	206.50	208.00	1.50	0.55
1991	208.00	209.50	1.50	0.63	

* = new important results from 2000

Compilation work consisting of merging Sultan's 1999 and 2000 drill core assay results with those obtained previously has indicated that many of the drill holes in the Kena Gold Zone contain wider mineralized segments than previously believed. The narrow zones described by prior property owners in several instances were limited by the amount of sampling undertaken.

Overall, the sampling program found elevated but "low grade" gold mineralization throughout the Kena Gold Zone. Average grades for all drilling done in this zone indicate a large tonnage area grading 0.3 to 0.5 g/t gold, as determined by previous property owners. Sultan's core sampling program did not significantly change the overall grade of this area, and did not clearly define a higher grade (>2 g/t gold) core to the zone.

Appendix XI shows charted results of alteration studies, and gold value histograms for comparison, for the above mentioned diamond drill holes. The detailed alteration assemblage studies done in order to find the alteration signature of the higher grade gold mineralization proved to be somewhat inconsistent. However, the generalized signature for gold associated alterations is: good correlation with potassic and silicic alterations, inconclusive correlation with sericitic and chloritic alterations, negative correlation with

magnetics and epidote alteration. Gold content often, but not always, increases with sulphide content.

Structural analyses (veins, fractures and foliations) from drill core re-examination and from field observations by structural geologist David Rhys indicate that drilling and data compilation done to date on the Kena Gold Zone does not utilize the most likely mineralizing direction. Remodeling, utilizing an east-west bias to determine the dimensions of the higher grade (>2 g/t gold) core, is required prior to additional work being carried out on this zone.

12) CONCLUSIONS

The Kena Property lies on the eastern limb of the Hall Creek Syncline, a south plunging fold associated with intense shearing that dominates the structure of the Nelson map area. The syncline incorporates volcanic and lesser sedimentary rocks of the lower Jurassic Rossland Group and is intruded by stocks of granodiorite (most notably the Silver King Porphyry) related to the middle Jurassic Nelson Batholith.

The Kena mineralization was first mentioned by G.M. Dawson in 1888-89. Very little was known about the property until systematic exploration began on it in 1974. Numerous exploration companies carried out geological, geochemical, geophysical surveys, trenching and drilling on the property from 1974 until 1991. These companies, exploring for gold and copper mineralization, discovered the Kena Gold Zone, Kena Copper Zone, and Shaft/Cat Zone. The Kena Gold Zone underwent the most thorough exploration with the Kena Copper and Shaft/Cat Zones only being tested minimally. No additional work was done on the property until 1999 when Sultan Minerals Inc. optioned the property.

Work done by Sultan Minerals Inc. in 2000 has led to the following conclusions and recommendations:

KENA GOLD ZONE

Lying within the Elise Volcanic package, with interfingering sub-volcanic diorite and Silver King Porphyry, this altered pyritic zone represents a huge area of "low grade" gold mineralization containing pockets of higher gold grade values. Structural work done on this zone indicate that the best gold grades are associated with east-west structures that have not previously been examined in any detail. Remodeling of existing data, using an east-west bias, is recommended before any additional work is undertaken on this zone.

KENA COPPER ZONE

Wide-spread disseminated pyrite and chalcopyrite occur in volcanic and sub-volcanic intrusive rocks associated with moderate to strong chlorite and sericite alterations. A large tonnage of rock with grades averaging approximately 0.2% copper have been defined by wide spaced drilling and surface sampling by previous property owners. Spotty gold values are found associated with the copper mineralization. No systematic

exploration work has been done on this zone by Sultan, and none is recommended at this time.

SOUTH GOLD ZONE

Immediately west of the Kena Copper Zone, along the contact between the volcanics and the Silver King Porphyry unit lies a 700 metre long gold soil geochemical anomaly called the South Gold Zone. A single prior (1990) drill hole in this zone intersected a wide width of 0.4 g/t gold and several shorter intersections of better grade. No work has been done on this zone by Sultan Minerals to date, but geological mapping and rock sampling is recommended throughout the Silver King Porphyry unit in this area.

SHAFT/CAT ZONE

North of Gold Creek, the Shaft and Cat showings (located at 6+50N and 14+00N respectively) occur along a strongly magnetic, brecciated and altered dioritic sill. Both showings contain 2-5% finely disseminated pyrite-chalcopyrite mineralization with associated significant gold values.

During 2000, Sultan Minerals examined existing drill core from a section taken along L54N (which is 700 metres south of the Shaft showing and 1450 metres south of the Cat showing). This drill core exhibited alterations and mineralogy that is very similar to that of the Shaft showing, thereby leading to the conclusion that the mineralized unit containing the Cat and Shaft showings has double the strike length than previously believed. Mineralization at the Cat averages 1.14 g/t gold and 0.66% copper over 10.25 metres, at the Shaft averages 5.6 g/t gold and 0.95% copper over 12.0 metres and in drill hole TK87-46 averages 4.72 g/t gold over 11.67 metres.

The host diorite sill lies within the volcanics, but runs parallel and adjacent to the contact with the mineralized Silver King Porphyry unit in the Gold Mountain Zone. Recommended work on the Shaft/Cat trend is contingent upon following the trace of mineralization in the Gold Mountain Zone.

GOLD MOUNTAIN ZONE

Work done by Sultan Minerals in 2000 defined a large area of gold porphyry mineralization within the Silver King Porphyry unit in the Gold Mountain Zone. Geology, gold soil geochemistry, surface and trench rock chip sampling and induced polarization geophysical surveying all indicate the presence of a zone, some 2100 x 600 metres in dimension, favourable for hosting significant gold mineralization. Trench assays of 1.22 g/t gold over combined trench lengths of 250.7 metres in an area measuring 300 x 160 metres has been found to date. The best 3 metre chip sample assayed 11.38 g/t gold. Due to the uniqueness of this gold porphyry system, and the size potential as inferred from geology, geochemistry and geophysics, additional work is warranted. Geological mapping, trenching and 3000 metres of diamond drilling is recommended for the Gold Mountain Zone.

NOMAN CONDUCTOR

The Noman conductor was identified by airborne geophysics and appeared to be a very strongly conductive band located with the Elise volcanic package, and therefore a potential volcanogenic massive sulphide target. High grade gold, copper, lead and zinc values were obtained from old workings in the vicinity of the conductive band. Upon follow up it was determined that the extent of mineralization in the old workings was limited, and that the ground position of the Noman conductor was farther west than shown on the airborne survey maps, therefore placing it along graphitic argillite beds within the Hall Sediment package. No additional work is recommended for the Noman area at this time.

NEW SHOWINGS

In late 2000, after the discovery of significant gold mineralization within the Silver King Porphyry rocks of the Gold Mountain Zone, Sultan Minerals researched the regional geological setting of this unit. Additional ground was obtained by staking to the south of the original claim block to cover extensions of the favourable Silver King Porphyry unit. During the course of the staking program, three historic workings (the Three Friends, Euphrates and Gold Cup) were discovered and sampled. Grab samples assayed up to 0.74 g/t gold from the Three Friends workings, up to 9.82 g/t gold from the Euphrates workings and up to 16.72 g/t gold from the Gold Cup workings. These workings are located 6.5 kilometres, 8.1 kilometres and 12.6 kilometres respectively southeast of the "discovery" trenches of the Gold Mountain Zone, in or adjacent to the same rock unit.

The encouraging assays from these new workings indicate the enormous size potential for Silver King Porphyry hosted gold mineralization. It is recommended that the length of the favourable Silver King Porphyry unit be prospected, mapped and soil sampled as a key part of the next phase of exploration work on the Kena Property.

RECOMMENDED WORK PROGRAM

For 2001, an exploration program of detailed geological mapping (with emphases on structures and alteration assemblages), trenching and 3000 metres of diamond drilling is planned for the Gold Mountain Zone. Also preliminary prospecting, geological mapping and soil sampling along the trend of the Silver King Porphyry unit is recommended. This exploration program is budgeted at \$285,000.00.

Respectfully submitted,

Linda Dandy, P.Geo.

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COST STATEMENT - 31 December 2000**GENERAL COST**

FOOD & ACCOMMODATION:		\$ 8,453.38
SUPPLIES:		4,475.65
FUEL:		1,674.48
SHIPMENTS:		471.56
FIELD OFFICE:		963.00
RENTALS:		
4wd Trucks: 193 days @ \$56.37	\$ 10,880.00	
ATV: 2 days	150.00	
Radios: 6 weeks @ \$20	120.00	
GPS: 3 weeks @ \$10	30.00	
Power Saws: 2 days	70.00	11,250.00
REPORT PREPARATION:		2,625.00
TOTAL GENERAL COST:		\$ 29,913.07

GEOLOGY

SALARIES & WAGES: 45.5 mdays @ \$336.26		\$ 15,300.00
BENEFITS: @ 20%		3,060.00
PANTERRA STRUCTURAL GEOLOGY STUDY		2,663.60
ASSAYS & ANALYSES: Acme Labs		
140 rocks for Au & 30 element ICP @ \$18.65	\$ 2,611.00	
8 rocks for metallics @ \$29.46	235.68	
4 rocks for Pt, Pd @ \$18.35	73.40	2,920.08
VANCOUVER PETROGRAPHICS		196.61
GENERAL COST APPORTIONED: (45.5/335.5 X \$29,913.07)		4,056.77
TOTAL GEOLOGICAL MAPPING COST:		\$ 28,197.06

GEOCHEMISTRY

SALARIES & WAGES: 51.5 mdays @ \$213.83		\$ 11,012.50
BENEFITS @ 20%		2,202.50
ASSAYS & ANALYSES: Acme Labs		
1209 Soils for Au & 32 element ICP @ \$11.92	\$ 14,411.06	
3 Silts for Au & 32 element ICP @ \$11.92	35.76	14,446.82
GENERAL COST APPORTIONED: (51.5/335.5 X \$29,913.07)		4,591.72
TOTAL GEOCHEMISTRY COST:		\$ 32,253.54

GEOPHYSICS

SALARIES & WAGES: 61.5 mdays @ \$226.83		\$ 13,950.00
BENEFITS @ 20%		2,790.00
MINCONSULT EXPLORATION SERVICES (Linecutting)		6,230.00
P.E.WALCOTT & ASSOC.: I.P., Em, Susceptibility, Maps		28,591.86
GENERAL COST APPORTIONED: (61.5/335.5 X \$29,913.07)		5,483.32
TOTAL GEOPHYSICS COST:		\$ 57,045.18

TRENCHING

SALARIES AND WAGES: 40 mdays @ \$350.00		\$ 14,000.00
BENEFITS: @ 20%		2,800.00
CRITCHLOW EXCAVATING, Ex 100		4,258.04
ASSAYS AND ANALYSES: Acme Labs		
177 rocks for Au & 30 element ICP @ \$23.46	\$ 4,152.22	
135 rocks for metallics @ \$27.68	<u>3,737.19</u>	7,889.41
K-SPAR KIT		521.95
GENERAL COST APPORTIONED: (40/335.5 X \$29,913.07)		<u>3,566.39</u>
TOTAL TRENCH SAMPLING COST:		\$ 33,035.79

DIAMOND DRILL CORE STUDY AND ANALYSES

SALARIES & WAGES: 127.5 mdays @ \$256.76		\$ 32,737.50
BENEFITS: @ 20%		6,547.50
K-SPAR KIT		521.95
ASSAYS & ANALYSES: Acme Labs		
684 Core for Au & 30 element ICP @ \$18.86	\$12,898.82	
4 Core for metallics @ \$29.47	<u>117.88</u>	13,016.70
GENERAL COST APPORTIONED: (127.5/335.5 X \$29,913.07)		<u>11,367.86</u>
TOTAL CORE STUDY AND ANALYSES COST:		\$ 64,191.51

RECLAMATION

SALARIES & WAGES: 2.5 mdays @ 350.00		\$ 875.00
BENEFITS @ 20%		175.00
CRITCHLOW EXCAVATING – Ex 100		1,500.00
SEED		130.10
GENERAL COST APPORTIONED: (2.5/335.5 X \$29,913.07)		<u>222.90</u>
TOTAL RECLAMATION COST:		\$ 2,903.00

STAKING

SALARIES & WAGES: 7 mdays @ \$221.43		\$ 1,550.00
BENEFITS @ 20%		310.00
FEES:		460.00
GENERAL COST APPORTIONED: (7/335.5 X \$29,913.07)		<u>624.12</u>
TOTAL STAKING COST:		\$ 2,944.12

SUMMARY

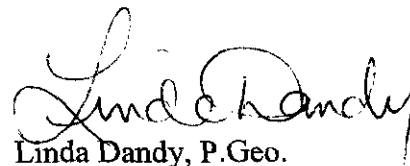
GEOLOGY	\$ 28,197.06
GEOCHEMISTRY	32,253.54
GEOPHYSICS	57,045.18
TRENCHING	33,035.79
CORE STUDY AND ANAYSES	64,191.51
RECLAMATION	2,903.00
STAKING	<u>2,944.12</u>
TOTAL COSTS:	\$ 220,570.20

QUALIFICATIONS

I, Linda Dandy, hereby certify that:

1. I am an independent Consulting Geologist with P&L Geological Services having an office at 3728 Ridgemont Road, Lac Le Jeune, British Columbia, V1S 1Y8.
2. I am a graduate of the University of British Columbia with the degree of Bachelor of Science in Geology (1981).
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (Registration No. 19236) and a Fellow of the Geological Association of Canada (Membership No. F5201).
4. I have practiced my profession in North America since 1981, having worked as an employee and consultant for Major Mining Corporations and Junior Resource Companies.
5. This report is based upon a personal examination of all available company and government reports pertinent to the subject property, and upon field work undertaken on the property between August 1 and November 20, 2000.

February 3, 2001
Lac Le Jeune, B.C.


Linda Dandy, P. Geo.
Consulting Geologist

APPENDICES

APPENDIX I – ROCK CHIP SAMPLE RESULTS – CERTIFICATES OF ANALYSES

**APPENDIX II – STRUCTURAL GEOLOGICAL REPORTS BY DAVID RHYS,
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**APPENDIX IV – A GEOPHYSICAL REPORT ON ELECTROMAGNETIC AND
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GRAPHS**

APPENDIX I

ROCK CHIP SAMPLE RESULTS - CERTIFICATES OF ANALYSES



SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** gm/mt
JOK-JB-34	2	35	3	17	<.3	6	4	355	1.15	<2	<8	<2	3	9	.2	<3	<3	3	.14	.061	15	5	.08	60	<.01	<3	.52	.04	.30	<2	.01
JOK-JB-35	11	126	52	296	.6	58	40	3284	8.79	18	<8	<2	2	11	1.5	<3	<3	207	.28	.127	8	248	5.31	133	.04	<3	4.74	.02	.37	<2	.09
JOK-JB-36	3	415	31	330	.5	70	40	2394	7.65	10	<8	<2	2	25	2.2	3	<3	197	.40	.109	9	201	4.19	243	.12	<3	3.79	.03	.93	<2	.07
JOK-JB-37	4	15	4	39	<.3	4	5	592	2.61	2	<8	<2	2	77	.3	<3	<3	25	1.47	.097	9	10	.39	116	.06	3	.92	.07	.48	<2	.14
JOK-JB-38	6	442	<3	14	1.7	5	3	234	3.02	<2	<8	<2	2	20	.2	<3	<3	9	.13	.064	6	6	.10	95	.01	5	.44	.08	.22	<2	1.52
JOK-JB-39	6	106	<3	15	.7	3	3	185	2.37	<2	<8	<2	2	14	<.2	<3	<3	16	.15	.065	6	7	.29	43	.02	<3	.57	.06	.23	<2	.30
JOK-JB-40	2	49	3	19	<.3	4	6	428	1.63	<2	<8	<2	2	28	.2	<3	<3	13	.41	.080	9	6	.27	66	.06	<3	.64	.05	.37	<2	.05
JOK-JB-41	1	22	5	29	<.3	3	7	531	1.72	<2	<8	<2	2	73	.3	<3	<3	8	2.11	.094	12	6	.11	233	.01	3	.65	.03	.43	<2	.04
JOK-PG-1	1	21	5	19	<.3	2	5	188	2.41	2	<8	<2	2	14	.2	<3	<3	13	.12	.058	6	8	.21	39	.01	3	.43	.06	.16	<2	.26
JOK-PG-2	1	38	3	19	<.3	2	3	217	2.34	6	<8	<2	2	31	.3	<3	<3	12	.16	.060	7	8	.21	59	.03	<3	.51	.08	.21	<2	.54
RE DOK-PG-2	1	39	<3	20	<.3	2	3	221	2.38	7	<8	<2	2	32	<.2	<3	<3	13	.16	.061	7	8	.21	60	.03	<3	.51	.08	.21	<2	.36
JOK-PG-3	1	162	19	51	.6	29	23	660	4.29	48	<8	<2	<2	73	.9	<3	7	96	1.01	.155	2	65	1.62	104	.20	9	1.95	.05	.37	5	.17
JOK-PG-4	1	5	6	9	<.3	2	1	61	2.86	11	<8	<2	3	17	<.2	<3	<3	7	.07	.061	3	6	.07	82	.01	<3	.39	.07	.24	<2	.17
JOK-PG-5	2	64	15	210	<.3	33	41	1322	7.50	17	<8	<2	<2	63	.7	3	<3	195	1.29	.135	1	86	3.99	70	.24	<3	3.43	.03	1.35	3	.05
JOK-PG-6	11	12	10	14	<.3	2	6	120	2.77	8	<8	<2	2	18	<.2	<3	<3	18	.14	.050	5	10	.22	52	.05	<3	.52	.07	.26	68	.59
JOK-PG-7	90	35	174	12	11.1	4	3	62	7.52	21	<8	55	<2	21	<.2	<3	28	27	.03	.087	4	13	.13	70	.02	8	.30	.02	.49	5	43.22
DOK-PG-8	4	13	26	23	.4	10	6	83	4.39	10	<8	<2	2	38	.2	<3	<3	73	.20	.141	4	17	.57	33	.03	<3	.66	.08	.59	2	.44
DOK-PG-9	28	261	<3	14	.9	3	4	268	1.81	<2	<8	<2	3	83	.2	<3	<3	7	.85	.058	11	6	.10	215	.01	<3	.51	.03	.32	12	.29
STANDARD C3/AU-1	26	67	39	164	5.7	38	12	804	3.52	59	18	2	21	30	24.2	19	22	79	.58	.093	18	168	.60	155	.09	22	1.83	.04	.17	16	3.56
STANDARD G-2	1	3	5	42	<.3	8	4	549	2.11	<2	<8	<2	5	72	<.2	<3	<3	39	.67	.098	7	72	.60	234	.13	3	.96	.07	.48	2	-

Sample type: ROCK R150 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



GEOCHEMICAL ANALYSIS CERTIFICATE

Sultan Minerals PROJECT KENA File # A003298
1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#

Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au**
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	gm/mt
9	2476	<3	28	2.7	7	11	655	4.15	5	<8	<2	<2	217	.4	<3	<3	89	3.51	.187	4	10	1.68	95	.09	6	1.91	.05	.81	<2	.36
1	128	<3	47	<3	20	26	1208	6.37	3	<8	<2	<2	159	.9	<3	<3	163	4.62	.186	3	43	2.89	91	.11	<3	2.97	.03	.59	<2	.09
3	447	<3	25	.8	14	71	774	9.50	11	<8	<2	<2	65	.9	<3	<3	70	1.03	.122	3	38	1.45	48	.01	<3	1.72	.03	.17	<2	.20
1	2652	<3	42	1.1	18	26	734	5.33	4	<8	<2	<2	111	.8	<3	<3	172	2.18	.146	4	26	2.57	81	.10	<3	2.49	.05	.48	<2	.26
5	121	23	118	1.1	93	38	2315	8.25	29	<8	<2	<2	29	1.4	<3	<3	164	1.29	.087	<1	148	2.80	41	.08	<3	2.23	.04	1.26	<2	.03
<1	55	<3	27	<3	6	9	469	2.33	3	<8	<2	<2	45	<2	<3	<3	24	.93	.099	3	6	.60	92	.09	<3	1.05	.04	.61	<2	.10
3	111	<3	49	<3	15	21	1247	6.43	7	<8	<2	2	76	.5	<3	<3	125	1.54	.142	3	27	2.30	157	.23	<3	2.49	.03	1.66	<2	.04
2	122	74	170	.9	45	46	1381	8.31	20	<8	<2	<2	25	.7	<3	<3	80	.17	.123	6	53	2.60	137	.01	<3	2.57	.02	.23	<2	.03
4	36	14	23	<3	4	3	143	5.75	8	<8	<2	<2	38	<2	<3	<3	30	.07	.148	10	5	.59	74	<0.01	<3	.81	.04	.22	<2	<.01
3	78	29	182	2.4	24	34	9330	17.21	39	<8	<2	6	99	3.2	<3	16	170	2.54	.092	<1	71	2.39	84	.18	<3	3.82	<.01	1.45	<2	.91
4	291	8	56	.9	7	12	1161	8.21	4	<8	<2	<2	38	.7	<3	20	199	.68	.173	2	15	1.63	37	.17	<3	2.17	.03	.29	31	.15
<1	36	6	67	<3	13	14	951	3.66	3	<8	<2	<2	131	.3	<3	<3	63	2.61	.121	7	30	1.15	149	.10	4	1.46	.04	.70	<2	.02
<1	34	5	67	<3	13	14	937	3.60	3	<8	<2	<2	129	.3	<3	<3	62	2.58	.119	7	29	1.13	146	.09	3	1.44	.04	.70	<2	.01
2	198	3	97	.5	6	19	1374	7.19	10	<8	<2	<2	56	.8	<3	6	245	1.54	.154	1	9	2.32	247	.20	<3	2.99	.07	.96	<2	.02
14	127	15	93	1.0	8	17	2232	7.15	3	<8	<2	<2	59	.7	<3	5	149	1.12	.114	<1	9	1.61	101	.18	<3	2.49	.16	1.18	<2	<.01
2	253	9	212	1.9	17	32	2121	7.31	13	<8	<2	<2	49	.6	<3	<3	238	1.47	.145	2	35	2.96	263	.31	<3	3.99	.11	2.73	<2	.01
27	66	34	163	5.7	37	12	806	3.55	59	15	3	21	31	24.6	18	22	82	.61	.094	18	176	.63	162	.09	25	1.91	.04	.17	14	3.60
2	3	<3	39	<3	8	4	528	2.05	<2	<8	<2	6	74	<2	<3	<3	40	.67	.100	6	76	.60	232	.13	4	.94	.08	.48	2	-

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK R150 60C AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 30 2000 DATE REPORT MAILED: *Sept 11/00* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE



Sultan Minerals PROJECT KENA File # A003516
1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** gm/mt
2+05N 4+47E	3	430	42	33	.8	46	78	390	5.26	5	<8	<2	<2	51	.4	<3	<3	112	.95	.110	2	75	.97	82	.18	4	1.23	.07	.19	<2	.01

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK R150 60C AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.

DATE RECEIVED: SEP 13 2000 DATE REPORT MAILED: *Sept 25/00* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE



Sultan Minerals PROJECT KENA File # A003517

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** gm/mt
NOMAN A	3	25103	3	28	22.6	9	4	255	4.52	4	<8	3	<2	10	.7	<3	<3	9	.07	.018	<1	18	.02	24	<.01	10	.19	.03	.06	13	.82
NOMAN B	66	905	31089	14357	115.8	10	21	109	1.33	265	<8	8	<2	17	528.8	67	38	2	.04	.016	1	18	.01	15	<.01	7	.10	.02	.02	<2	22.07
RE NOMAN B	60	865	33523	13443	111.6	10	20	102	1.25	249	<8	19	<2	16	517.7	58	38	3	.03	.016	<1	19	.01	15	<.01	3	.11	.03	.02	<2	24.66

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
 - SAMPLE TYPE: ROCK R150 60C AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 13 2000

DATE REPORT MAILED: *Sept 20/00*

SIGNED BY: *C.L.* D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE

Sultan Minerals PROJECT KENA File # A003715

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	%	ppm
L17N 1+45E	1	21	48	19	<.3	3	3	161	1.49	3	<8	<2	2	86	<.2	<3	<3	23	.43	.076	4	9	.33	25	.08	4	.62	.07	.19	2	.03
17+25N 0+25W	21	1682	121	27	3.3	7	18	353	1.47	5	<8	2	2	63	.8	<3	<3	18	.50	.069	5	10	.30	26	.09	4	.49	.07	.22	12	1.13
L19N 1+00E	38	24	14	20	<.3	3	4	292	1.83	5	<8	<2	3	76	<.2	<3	<3	25	.34	.072	7	9	.36	37	.08	4	.63	.06	.16	4	.05
21+00N 1+50E	1	26	23	14	<.3	3	4	194	2.60	8	<8	<2	3	40	<.2	<3	<3	8	.40	.077	6	6	.19	98	.06	4	.48	.05	.30	2	.12
43+50N 51+50W	10	251	15	25	<.3	12	12	722	10.25	11	<8	<2	2	72	<.2	6	<3	127	.16	.233	3	41	2.15	87	.27	5	1.96	.04	.67	2	.08
RE 43+50N 51+50W	10	255	8	25	<.3	12	12	726	10.28	11	<8	<2	2	72	<.2	7	<3	126	.16	.233	2	42	2.15	87	.27	6	1.95	.04	.67	<2	.08

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
 - SAMPLE TYPE: ROCK R150 60C AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 21 2000 DATE REPORT MAILED: Oct 2/00

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



GEOCHEMICAL ANALYSIS CERTIFICATE



Sultan Minerals PROJECT KENA File # A003767
1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	gm/mt
L6N 5+30W	2	2	5	13	<.3	3	3	381	1.29	<2	<8	<2	2	15	<.2	<3	<3	5	.47	.042	7	15	.06	75	<.01	<3	.30	.04	.17	4	.03

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK R150 60C AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.

DATE RECEIVED: SEP 25 2000 DATE REPORT MAILED: *Oct 6/00* SIGNED BY: *C. Leong* TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



ASSAY CERTIFICATE



Sultan Minerals PROJECT KENA File # A003768
1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	S.Wt gm	NAu mg	-Au gm/mt	TotAu gm/mt
00LD-01	2075	.01	.25	.25

-AU : -150 AU BY FIRE ASSAY FROM 1 A.T. SAMPLE. DUPAU: AU DUPLICATED FROM -150 MESH. NAU - NATIVE GOLD, TOTAL SAMPLE FIRE ASSAY.
- SAMPLE TYPE: ROCK M150 60C

DATE RECEIVED: SEP 25 2000

DATE REPORT MAILED: Oct 10/00

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

REVISED COPY



GEOCHEMICAL ANALYSIS CERTIFICATE



Sultan Minerals PROJECT KENA File # A003857

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** gm/mt
8+80N 4+90E	3	96	7	85	<.3	11	26	1559	6.12	19	<8	<2	<2	64	.3	<3	<3	112	3.11	.155	3	12	2.69	142	.18	5	2.75	.06	1.15	2	.03
HUB61-A	5	14	<3	43	.3	8	2	374	1.43	415	<8	<2	<2	5	.4	<3	<3	5	.03	.013	1	28	.04	53	<.01	4	.15	.01	.04	11	.02
HUB61-B	3	38	6	177	<.3	15	9	575	2.71	197	<8	<2	2	16	.9	<3	<3	11	.20	.105	8	16	.26	158	.01	3	.90	.10	.19	3	.01
OOLD-02	7	82	7	259	<.3	58	18	507	4.29	17	<8	<2	<2	12	1.4	<3	<3	131	.15	.097	8	112	1.97	54	.01	5	2.25	.03	.12	3	<.01
RE OOLD-02	8	84	5	259	<.3	59	18	519	4.38	15	<8	<2	2	13	1.4	<3	<3	135	.15	.099	8	117	1.99	56	.01	7	2.28	.03	.12	4	.01

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
 - SAMPLE TYPE: ROCK R150 60C AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 2 2000 DATE REPORT MAILED: *Oct 10/00* SIGNED BY: *C. Leong* .D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



ASSAY CERTIFICATE

Sultan Minerals PROJECT KENA File # A003858

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	S.Wt gm	NAu mg	-Au gm/mt	DupAu gm/mt	TotAu gm/mt
00LD-03	2020	<.01	.65	-	.65
00LD-04	2060	<.01	1.19	-	1.19
00LD-05	1920	<.01	.18	-	.18
00LD-06	2050	.06	.49	-	.52
00LD-07	2060	<.01	.27	-	.27
00LD-08	2120	<.01	.38	.48	.38

-AU : -150 AU BY FIRE ASSAY FROM 1 A.T. SAMPLE. DUPAU: AU DUPLICATED FROM -150 MESH. NAU - NATIVE GOLD, TOTAL SAMPLE FIRE ASSAY.
- SAMPLE TYPE: ROCK M150 60C

DATE RECEIVED: OCT 2 2000 DATE REPORT MAILED: *Oct 12/00* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE

Sultan Minerals PROJECT KENA File # A004217

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** ppb	Pt** ppb	Pd** ppb
P-1	5	6809	5	155	6.6	21	26	1094	8.78	15	<8	<2	4	39	3.8	<3	34	155	1.84	.099	13	2	.89	9	.11	4	.51	.05	.07	7	496	15	73
P-2	8	16086	12	186	34.0	60	64	967	18.74	54	<8	12	15	213	3.6	<3	28	323	6.10	2.399	45	5	.74	16	.09	3	.45	.04	.08	8	14245	3	114
RE P-2	7	16120	10	183	34.8	60	64	965	18.66	54	<8	15	15	215	3.8	<3	29	321	6.19	2.404	42	3	.73	16	.09	<3	.44	.04	.07	8	15048	9	109

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
 - SAMPLE TYPE: ROCK R150 60C AU** PT** PD** GROUP 3B BY FIRE ASSAY & ANALYSIS BY ICP-ES. (30 gm)
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 20 2000 DATE REPORT MAILED: *Oct 31/00* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE

Sultan Minerals PROJECT KENA File # A004360

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** gm/mt
11+40N 2+90E	9	47	9	12	.3	2	6	87	2.80	10	<8	<2	2	29	<.2	<3	<3	15	.13	.062	4	9	.29	70	.10	3	.62	.11	.40	6	.17

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
 - SAMPLE TYPE: ROCK R150 60C AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.

DATE RECEIVED: OCT 27 2000 DATE REPORT MAILED: Nov 6/00 SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

APPENDIX II

STRUCTURAL GEOLOGICAL REPORTS - D. RHYS



MEMO

DATE: July 2, 2000

TO: **Ms. L. Dandy and Mr. P. Grunenberg**
P&L Geological Services, Box 5036, Lac Le Jeune, B.C., V1S 1Y8

Mr. A. Troup
Sultan Minerals Inc., Suite 1610, 777 Dunsmuir St., Vancouver, B.C.,
V7Y 1K4

FROM: **David Rhys**

RE: **Kena property, air photo lineament study**

Introduction

This memo reports the results of an air photo lineament study on a set of government aerial photographs that cover the Kena property in southeastern British Columbia. The property is covered by aerial photos numbered BC88046 015-019, 117-122 and 147-151, at approximately 1:16,000 scale. The photos were examined stereoscopically, and mylar overlays were used as a base for tracing and plotting observed lineaments (these are attached to the air photos). The study was completed to identify possible structures associated with, or affecting Cu-Au mineralization on the property. A 1:100,000 scale government geology map (Andrew et al., 1990), and a detailed 1:5,000 scale geological map by Noramco Resources covering the Kena showing area were supplied to the author for reference.

Results

More than 860 lineaments were identified in the airphotos covering the property area for which stereoscopic coverage was available. The most significant lineaments are shown in relation to the Kena showings and associated Au in soil sample anomaly on Figure 1. The azimuth of the lineaments was measured and plotted in circular histograms (rose diagrams) in Figures 2 and 3. Note that no correction for distortion induced by topography has been made, and consequently the true azimuth of some lineaments, particularly in steeper areas, may differ from measurements on the ground, or the strike measurements of causative structures.

Lineaments show two dominant orientations (Figures 1, 2a): northwest-striking (310-340 strike) and east-northeast striking (070-100 strike). The latter are most abundant on the

northern and eastern airphotos (148, 98, 120 and 118, Figure 3), while more than 90% of lineaments on photos 16 and 122 (Figure 3c, e) trend northwest. When only lineaments >1 km long from all photos are plotted, northwest-striking orientations predominate (Figure 2b). The abundant, northwest-trending lineaments are parallel to, and probably represent, the trend of lithologies and dominant foliation shown on the supplied geological maps. The trace of the northwest trending Silver King Shear shown on the 1:100,000 geological map (Andrew et al.) occurring 0.5-1.5 km northeast of Toad Mountain is not apparent on the airphotos as a continuous structure. However, a closely spaced set of northwest trending lineaments that are developed west of a small lake 2 km east of the summit of Toad Mountain may reflect the occurrence of foliated lithologies in this interpreted structure (see photo 122, lineament overlay sheet). The consistent, planar northeast dip to the ridge on the southwest site of the Cottonwood Creek Valley south of Cottonwood Lake suggests that a planar feature such as a fault, prominent joint set, foliation, or bedding may be parallel to the slope in this area.

A resistant ridge and distinct outcrop pattern in less vegetated areas to the southeast that is visible in photos 018 (SW corner) and 120 (NW corner) may reflect outcrop of the Silver King Intrusion. This does not directly correspond with the distribution of the Silver King Intrusion on the Andrew et al. geological map, however. Where it forms a resistant ridge in the southwestern corner of Photo 18, a pronounced fracture/jointing pattern dips moderately to the southwest within the unit, possibly reflecting the orientation of the unit or of a fabric within it.

North and northeast-trending lineaments exhibit domainal distribution in the study area. North trending lineaments > 1 km long occur primarily in southwestern and western parts of the study area on south and shallow north dipping slopes and valleys (e.g. Noman Creek). Northeast-trending lineaments are developed primarily along the southwestern slopes (northeast dipping) of Cottonwood Creek (e.g. Gold Creek lineament). This pattern may reflect the trace of a single set of east-southeast dipping faults that vary in apparent strike due to the different slope orientations in these areas.

The Kena showings and associated northwest-trending Au soil sampling anomaly occur at the break in slope 1500-2000 feet above, and southwest of, Cottonwood Lake. The Kena mineralization is structurally early since it is deformed and frequently transposed into the dominant foliation. Lineaments directly in the area of the Kena showings and soil anomaly trend either northeast or northwest. If the northeast-trending lineaments are faults, they are probably late brittle structures, since early structures would have been affected by ductile strain, and would not have retained such linear trends. Consequently these are probably significantly younger than the deformed Kena mineralization and may affect it through displacement and/or late remobilization of mineralization. Unless late fractures, veins or gouge frequently host mineralization at Kena as opposed to the more typical deformed stringers and sulphide disseminations, the latter is unlikely or may be insignificant. However, if late faults are mineralized, they may contain high Au-Cu grades where they cross mineralized zones.

Much of the Kena soil anomaly is linear, with little evidence of any significant fault displacement. The bending of the northwestern end of the gold in soil anomaly into Gold Creek may primarily reflect topographic control as opposed to fault displacement, since (i) the bend is compatible with the southwest dip of foliation and sill-like intrusive bodies shown on the Noramco map that may be parallel to mineralization, which may result in the bend as these features drop into the topographic low occupied by the creek, and (ii) the Noramco maps do not show any displacement of intrusive bodies across Gold Creek.

Conclusions

Cautionary note

Air photo lineament studies are inherently subjective and always require ground truthing. The significance of any types of lineaments to exploration can only be established by physically identifying these structures in the field and establishing their nature (faults, bedding, joints, foliation, contacts), timing, and relationships to mineralization.

Consequently, where outcrop is available, structural features should be correlated with the lineament orientations observed in the region. Usually lineaments not controlled by lithologic trends reflect the youngest, brittle structural features in the region, and if mineralization is older (e.g. stratabound, ductilely deformed, or in ductile structures -- all of which may apply to the Kena mineralization) any potential ore-controlling structures may not form lineaments. Where lineaments are identified that may represent possible faults, it is extremely tenuous to interpret other lineaments that may obliquely join these as subsidiary fault structures (e.g. Riedel shear fractures) that may indicate shear sense; incorrect assertions of fault shear sense are highly misleading.

Principal Conclusions

With the factors above considered, the following conclusions are apparent:

1. Northwest-trending lineaments are the most abundant lineament orientation in the area. Their orientation is consistent with, and probably reflects the trace of lithologies and dominant foliation in the area. Although some faults may be parallel to this orientation, they can not be distinguished from lithologic/foliation trends on the airphotos.
2. The domainal distribution of north trending (in the southwest) and northeast trending (in the east and northeast) lineaments may reflect the trace of a single set of east-southeast dipping faults that vary in apparent strike due to the different slope orientations in each area.
3. The deformed Kena mineralization is probably significantly older than, and genetically unrelated to the northeast-trending lineaments - possible faults - that cross the showing and soil anomaly area. If significant remobilization of Cu-Au mineralization has occurred along these structures, local remobilized high grade mineralization may occur in the faults, particularly where they cross older mineralized areas. If late brittle fractures, veinlets and gouge are not visible in the zone, remobilization may be negligible.

4. No significant displacements of the Kena Au soil sample anomaly, showings or spatially associated sill-like intrusions shown on the Noramco maps are apparent from the supplied information. The jog in the soil sampling anomaly at Gold Creek may be topographic and reflect the trace of southwest-dipping mineralization into the topographic low occupied by the creek bed.

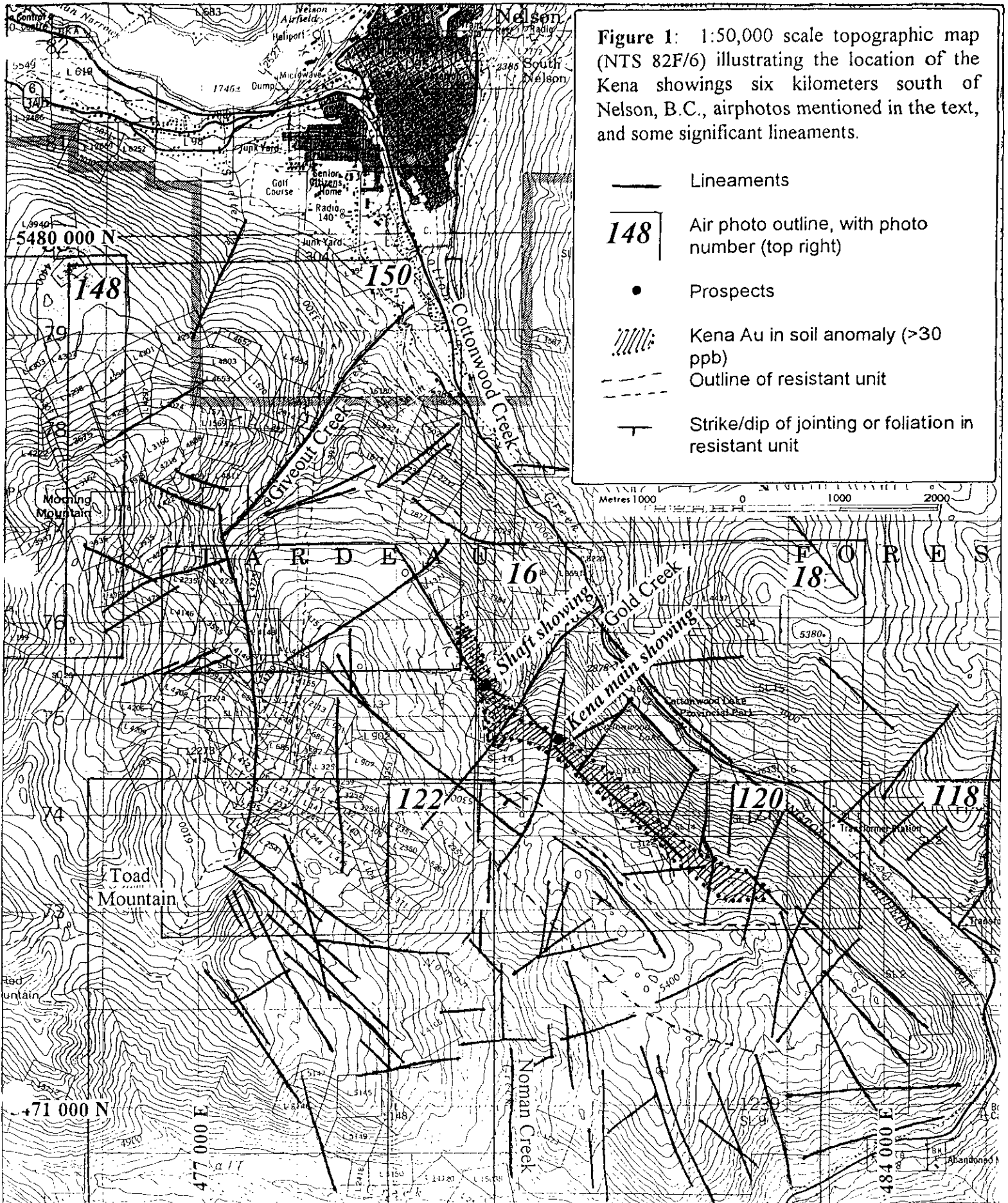


Figure 1: 1:50,000 scale topographic map (NTS 82F/6) illustrating the location of the Kena showings six kilometers south of Nelson, B.C., airphotos mentioned in the text, and some significant lineaments.

- Lineaments
- 148 Air photo outline, with photo number (top right)
- Prospects
- //// Kena Au in soil anomaly (>30 ppb)
- - - Outline of resistant unit
- └ Strike/dip of jointing or foliation in resistant unit

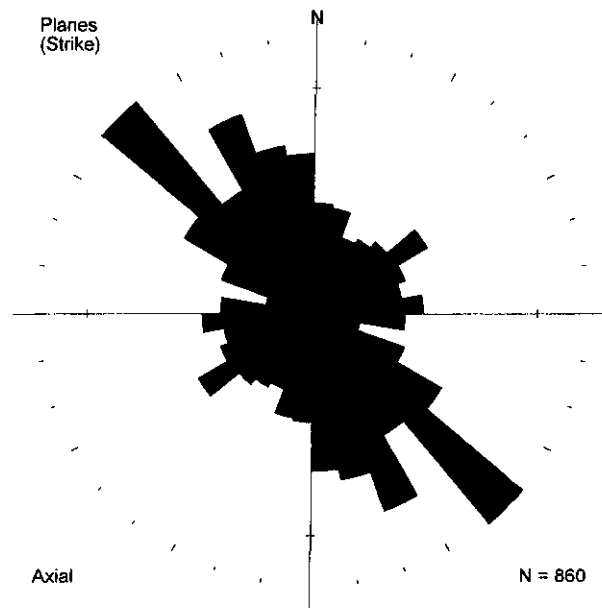


Figure 2a: Circular histogram illustrating trends of all air photo lineaments measured in the study area (n = 860), in bins at 10^0 intervals. Includes data from Figure 2b.

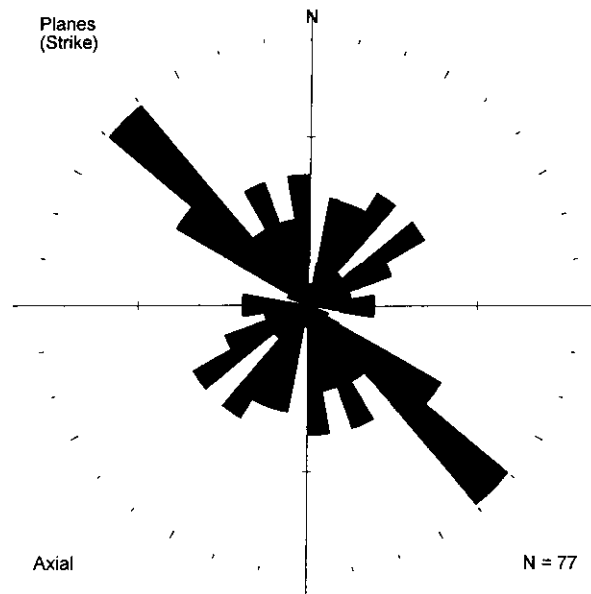


Figure 2b: Circular histogram of air photo lineaments >1 km in length, in bins at 10^0 intervals (n= 77) from throughout the study area.

Figure 3: Circular histograms of air photo lineaments from air photos throughout the study area. Histograms are in bins at 10⁰ intervals. Photos are ordered from north to south and west to east.

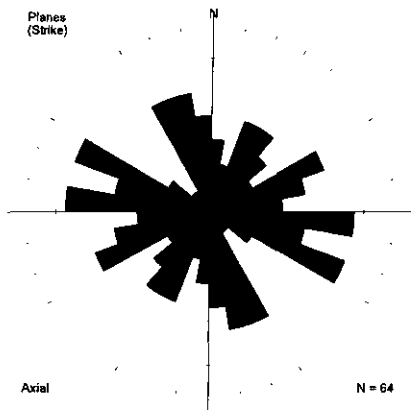


Figure 3a: Photo 148, n = 64

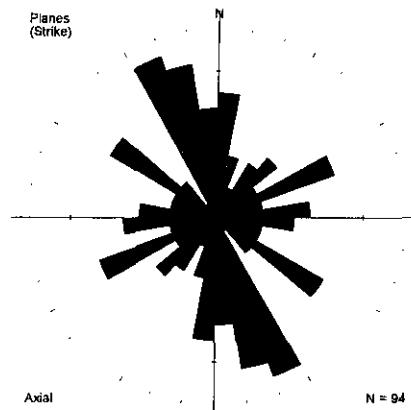


Figure 3b: Photo 150, n = 94

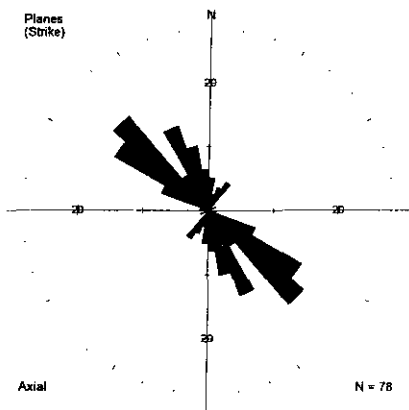


Figure 3c: Photo 16, n = 78

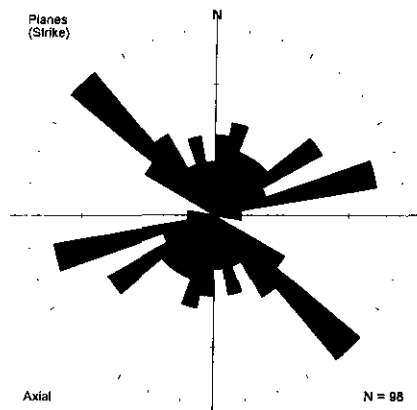


Figure 3d: Photo 18, n = 98

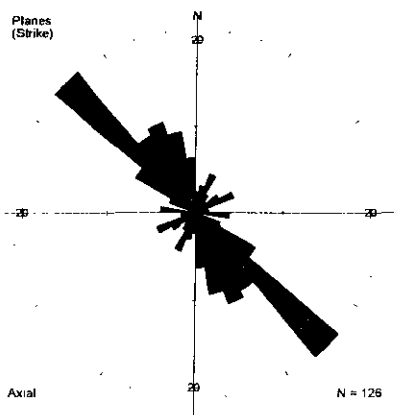


Figure 3e: Photo 122, n = 126

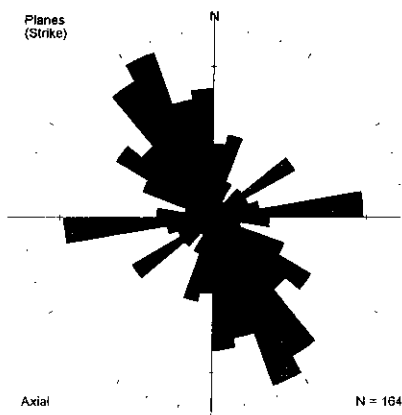


Figure 3f: Photo 120, n = 164

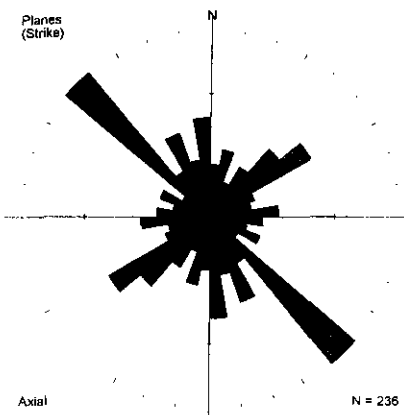
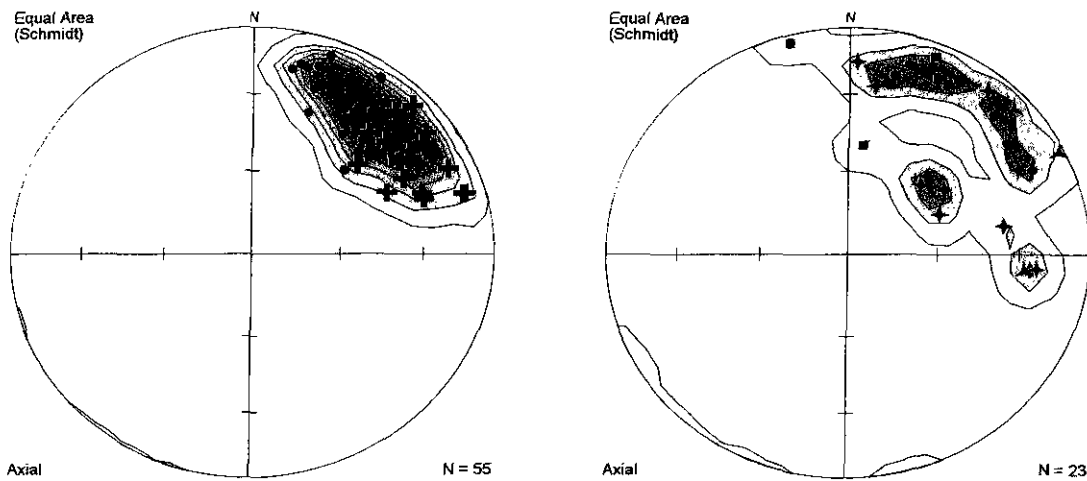


Figure 3g: Photo 118, n = 236



A: Poles to S1 foliation.

+ = measurements in the Shaft-Cat and Silver King areas;

* = measurements in the Main-Neil and north copper zones.

B: Poles to S2 and fracture cleavage.

S2 foliation:

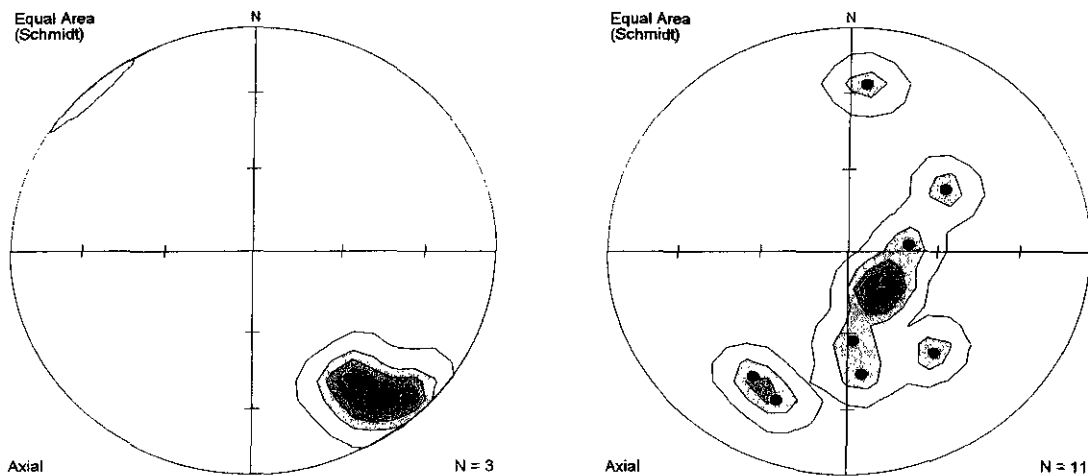
Boxes = Main/Neil showings

Circular Points = Shaft/Cat showings

Fracture cleavage:

Four point star: Main/Neil showings

Three point star: Shaft/Cat showings



C: L1 Lineation, all areas

D: Poles to quartz +/- chlorite +/- calcite +/- sulphide extension veins, all areas.

Figure 1: Equal area projections to fabrics and veins measured in the Shaft-Cat showing area, Main-Neil showing area, Silver King porphyry and northern copper zone, Kena property.



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MEMO

DATE: October 6, 2000

TO: **Ms. L. Dandy and Mr. P. Grunenberg**
P&L Geological Services, Box 5036, Lac Le Jeune, B.C., V1S 1Y8

Mr. A. Troup
Sultan Minerals Inc., Suite 1400-570 Granville St., Vancouver, B.C.

FROM: David Rhys

RE: Kena property, structural geology study

Introduction

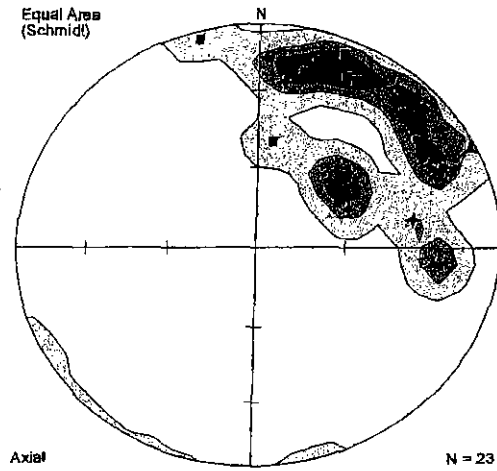
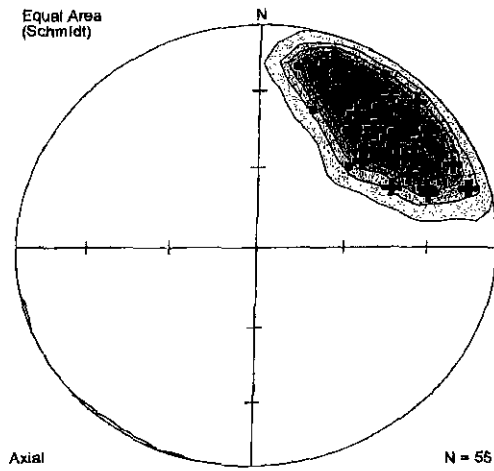
This memo reports the results of a three day field visit to the Kena property conducted by the author between September 25 and 27, 2000. The project was completed at the request of Ms. L. Dandy and Mr. P. Grunenberg, project managers, to assess potential structural controls on, and orientations of mineralized structures, in three areas on the property: (i) the Main zone – Neil zone area, (ii) the Shaft-Cat zone area, and (iii) gold enriched portions of the Silver King porphyry intrusion southwest of the Shaft zone. The work was conducted with field traverses over the areas of the showings using previous property geology maps generated by Noramco Mining Corp. in 1990-1991 as a base. Drill core from the Main zone area was also briefly examined. Most structural information was obtained from roadcuts and trenches, since outside these areas, outcrops are generally isolated and small, and are frequently disturbed by tree roots and slope creep. Equal area projections of fabrics and structural features measured in the study area are in Figures 1-3.

Geology of the Kena property: general observations

The Kena property is underlain by a southwest dipping sequence of intermediate to mafic volcanic rocks of the Early Jurassic Elise Formation within the Rossland Group (Hoy and Andrew, 1988, 1989). The volcanic rocks are intruded by a series of probable subvolcanic, sill-like dioritic intrusions, and by the Silver King porphyry, a plagioclase-hornblende porphyritic intrusion.

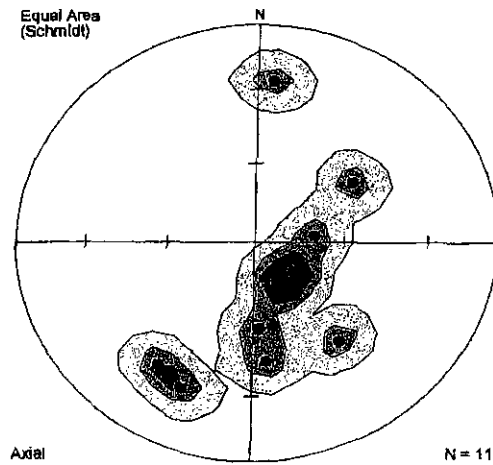
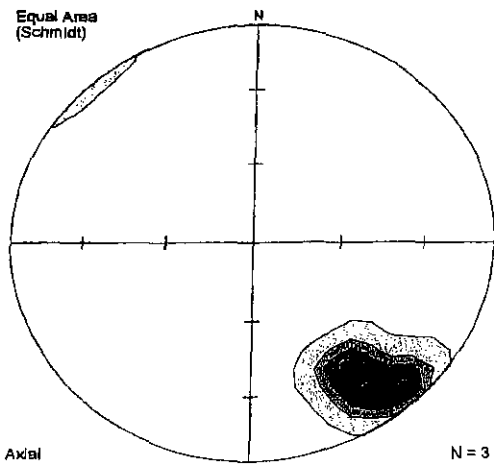
All lithologies in the area examined are affected by a moderate to steep southwest dipping slaty to phyllitic penetrative foliation (S1) that is defined by the platy alignment of phyllosilicate minerals, and the flattening of clasts and phenocrysts. S1 varies in strike from 100-130 degrees in the Main/Neil showing area, to strikes of 130-150 degrees in the

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A: Poles to S1 foliation.
 + = measurements in the Shaft-Cat and Silver King areas;
 * = measurements in the Main-Neil and north copper zones.

B: Poles to S2 and fracture cleavage.
S2 foliation:
 Boxes = Main/Neil showings
 Circular Points = Shaft/Cat showings
Fracture cleavage:
 Four point star: Main/Neil showings
 Three point star: Shaft/Cat showings



C: L1 Lineation, all areas

D: Poles to quartz +/- chlorite +/- calcite +/- sulphide extension veins, all areas.

Figure 1: Equal area projections to fabrics and veins measured in the Shaft-Cat showing area, Main-Neil showing area, Silver King porphyry and northern copper zone, Kena property.

Shaft/Cat zone area, corresponding with a change in the overall strike of lithologies. S1 reflects the first recognizable phase of deformation (D1) in the study area. Although no folds associated with S1 were identified during the field program, regional mapping indicates that S1 is axial planar to the regional, southeast plunging Hall Creek syncline which passes to the southwest of the property (Read, 1988; Hoy and Andrew, 1989). Since bedding in the massive volcanoclastic rocks in the area was not identified in outcrop, it was not possible to assess its angular relationship to S1. Although S1 has generally been assumed to be parallel to bedding, and mapping lithologies strike subparallel to S1, the strike and especially dip of lithologies may at least locally differ from S1, and this should be considered in the interpretation of mapping and cross sections in the area. Bedding measured by Johnston (1985) in the Main zone area, and interpreted volcanic contacts in drill holes in that area dip more shallowly to the southwest than the S1 foliation.

Asymmetric pressure shadows on feldspar phenocrysts in the Silver King porphyry west of the Shaft showing suggest a component of sinistral shear was at least locally accommodated on S1 during deformation.

A composite elongation and crenulation lineation (L1) plunges shallowly to the southeast within the plane of S1 (Figure 1C). It is parallel to the orientation of dominant fold axes in the area (Read, 1988). S1 is developed with variable intensity, and is generally only visible in areas of highest strain and foliation intensity. L1 is defined by the elongation of biotite and chlorite blebs after mafic phases within the volcanic sequence, alignment of deformed plagioclase crystals in metadiorite, weak elongation of clasts in volcanoclastic units, and a parallel crenulation lineation. The existence of crenulations in parallelism with the elongation lineation suggests that L1 is developed at the intersection of S1 with an older foliation; no younger fabrics identified in outcrop (see below) intersect S1 in this orientation.

The S1 foliation is overprinted by at least one and possibly two younger spaced, non-penetrative cleavages. Cleavage in spaced planes 1-15 mm apart that strike northwest to east-west with steep south or southwest dips (Figure 1B) frequently overprints S1; it is here termed S2. In most locations, S2 strikes 5-20° anticlockwise to S1, and S1 asymptotically rotates into S2 surfaces. However, locally, a cleavage striking anticlockwise to S1 is also developed; this may be conjugate to S2 if the fabrics represent conjugate crenulation cleavage surfaces. Both surfaces intersect S1 in a steep intersection line and thus cannot be responsible for the L1 crenulation lineation surface developed in the plane of S1. Moderate southwest dipping fracture cleavage or closely spaced jointing is also frequently developed (Figure 1B). The significance of the S2 and fracture cleavages is unknown; they may in part be related to slip along S1 surfaces (i.e. shear bands), since they locally accommodate minor displacements, but shear sense is not consistent between outcrops.

Late, undeformed quartz +/- calcite +/- chlorite +/- Fe-carbonate extension veins cut all lithologies and other veins/veinlets (see below) in the study area. These are generally <1 cm thick and have strike lengths of 0.5-2m. Veins may vary up to 30 cm thick, however, with strike lengths of several meters. The veins consist of fibrous quartz, chlorite and carbonates, and usually occur as isolated veinlets or more rarely, small sets of veins spaced 0.1-0.5 m

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apart. They typically have moderate to shallow dips to the northwest (Figure 1D), but steeply dipping, northeasterly trending orientations also occur locally, and were observed in drill core in the Main zone showing area. In well mineralized areas, the extension veins may contain pyrite and chalcopyrite, probably as remobilization of older sulphides, but veins observed during this study are too small and widely spaced to cause significant upgrading of any areas, or to form exploration targets. Chlorite alteration enveloping a set of extension veins in trenches northwest of the Cat showing overprints pervasive biotite developed in that area.

No significant faults were noted in outcrop during the project, but any developed may weather recessively. Consequently, the possible coincidence of faults with air photo lineaments identified previously in the area could not be assessed.

Main/Neil showing area (Kena Gold zone)

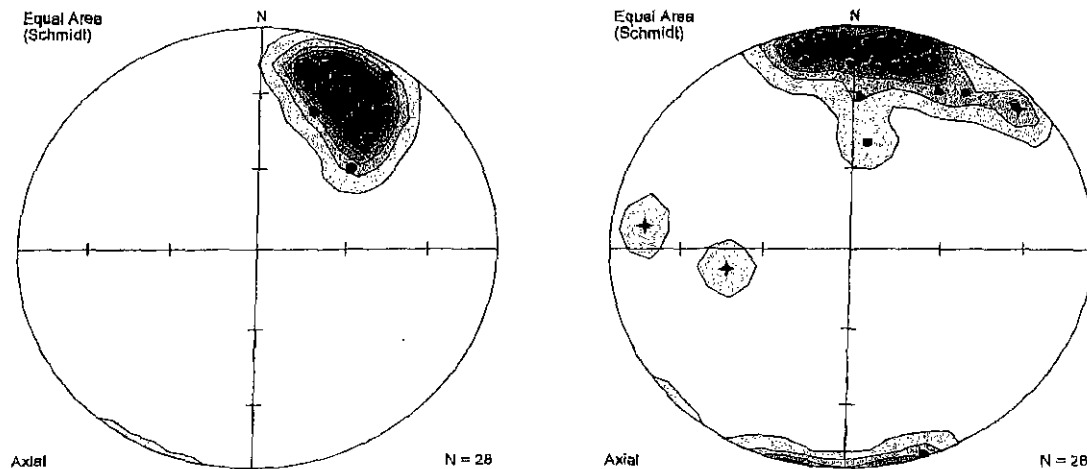
Trenches at the Neil and Main showings and nearby outcrops and roadcuts were examined during this study. In addition, drill holes LK-85-7, 13 and 14, and NK91-3 on section 4910N in the Main zone were briefly examined.

The Main and Neil showings occur in chloritic, locally plagioclase porphyritic, intermediate volcanic rocks that frequently contain blebs and patches of epidote. The host rocks are generally texturally massive, and may represent flows and/or subvolcanic intrusions. Volcaniclastic or pyroclastic units of intermediate composition containing 5-10% rounded to subangular lapilli sized volcanic and dioritic clasts occur in roadcuts to the west of the Main showing. Pale grey weathering, plagioclase-K-feldspar porphyritic dykes and/or sills, probably emanating from the Silver King porphyry, occur locally near the showings and in some drill holes. Diorite bodies have been identified at surface and in drill holes northwest of the Main zone (Johnston, 1986). No significant brittle faults were identified in outcrop or in drill holes examined on section 4910N in the vicinity of the Main zone.

The Main and Neil showings occur in a 800 m long, 50-200 m wide soil anomaly of > 100 ppb Au in soils (Johnston, 1986). Mineralization consists of disseminated pyrite and veinlets of pyrite +/- calcite +/- chlorite +/- quartz +/- k-feldspar +/- sericite in green chlorite-epidote +/- calcite altered intermediate volcanic rocks; disseminated magnetite is locally present. Veinlets frequently have thin chlorite + calcite and/or sericite-K-feldspar envelopes. Veins and veinlets are frequently folded and affected by S1-related strain (D1). Many of the highest gold values (>2, and locally >10 g/t Au) in outcrop and in drill core have been obtained from sets of 2-50 cm wide diffuse to discrete pyrite-quartz veins that occur in pale grey K-feldspar-sericite-quartz-calcite alteration (K-feldspar identified using Na-cobaltinitrate stain by L. Dandy). The veins occur isolated or in zones of veining with pervasive intervening pale grey K-feldspar-sericite alteration over intervals locally exceeding 10 m. Drilling beneath the Neil zone, however, intersected abundant pyrite-chlorite veins that lack grey K-feldspar-bearing alteration.

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A: S1 foliation. Pole contouring peak = 19 → 024, corresponding to an orientation of 114/71. **B:** Pyrite +/- quartz +/- chlorite (-) and Fe-oxide (+) veinlets.

Figure 2: Equal area projections of poles to S1 foliation and veins/veinlets in the Main and Neil showings.

Where measured in the Neil and Main showings, pyrite +/- chlorite +/- quartz veinlets and lenses of pyrite-quartz with K-feldspar-sericite-quartz-calcite envelopes trend east-west and have steep south dips (Figure 2A), oblique to the orientation of S1 (Figure 2B). S1 foliation locally refracts in a sinistral sense on the margins of some veinlets, suggesting that minor displacements were accommodated along the veins during D1. Between the two showings, outcrop is sparse, but where exposed consists mainly of chlorite phyllite with little or no pyrite. Local narrow (2-20 cm), tabular bands of cream colored ?K-feldspar - sericite -pyrite or limonite that trend east-west with steep dips occur in some outcrops; these are parallel to the veins observed in the Main and Neil trenches.

Drilling beneath the Main and Neil showings has intersected sets of pyrite-quartz veins with cream colored alteration that represent the down dip extension of mineralization in the trenches. However, these mineralized zones are discontinuous, and rapidly weaken in alteration and vein intensity and gold grade within 50 m of surface. Interpretation of cross sections suggests that mineralized zones of veining have moderate to shallow southwesterly apparent dips. The shallow apparent dip is consistent with the obliquity that a set of east-west trending veins would make on the northeast oriented cross sections, and suggests that the overall orientation of the mineralized zones is parallel to the average orientation of veins observed in outcrop.

Shaft/Cat zones

Trenches at the Shaft and Cat showings and outcrops in between them were examined during this study. Measurement of vein and foliation orientations in trenches at these showings was often hindered by the presence of magnetite, and measurements were only taken where magnetite content was minimal or absent.

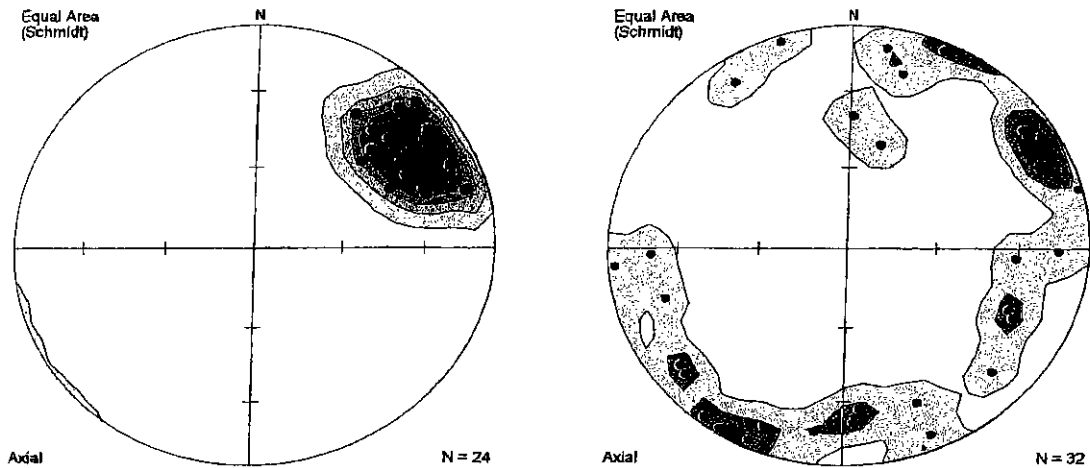
The primary host rock to the Shaft and Cat showings is a northwesterly trending, dark grey to brown biotite-rich, and fine to medium grained diorite body. Mafic minerals are altered to felted blebs of biotite +/- chlorite that are generally foliated and locally elongate, defining L1 lamination. Fine-grained, disseminated magnetite is common, and blebs/patches of epidote are present in some areas. Local breccia or conglomerate textures, comprising diorite clasts/fragments in a finer grained biotite-rich, locally more leucocratic matrix, are present in some areas and suggest the presence of volcaniclastic units, volcanic breccias, or erosional clastic breccias associated with this unit. The diorite and diorite fragmental unit together define a composite, northwest trending unit of undetermined thickness (at least locally >50 m) that is surrounded to the northeast and southwest by chlorite-biotite bearing, generally massive plagioclase - pyroxene or amphibole porphyritic intermediate volcanic rocks. S1 foliation intensity is generally similar in both the diorite and surrounding volcanic rocks, except where biotite content is high and foliation is stronger due to its presence, but the degree of strain is similar, and no evidence for a shear zone within or hosting the Shaft/Cat mineralization was observed.

Sulphide mineralization occurs in diorite and the associated fragmental unit. The style is similar in both the Shaft and Cat showings: it occurs as disseminated pyrite +/- chalcopyrite and veinlets/stringers of pyrite + chalcopyrite +/- quartz +/- epidote +/- calcite +/- magnetite. Highest Cu and Au values obtained in previous sampling and highest chalcopyrite content visible in outcrop occur in areas containing the highest magnetite content. Veinlets and sulphide blebs locally have tan or pale grey envelopes that may contain K-feldspar, and magnetite stringers are present as sets in some areas. Sulphide veinlets have variable orientations, with generally steep or subvertical dips; northwest trends predominate (Figure 3B). Quartz extension veins observed in the small trench above the main trench at the Shaft zone, and in some trenches northwest of the Cat showing are late, northwest dipping structures associated with chlorite alteration; pyrite + chalcopyrite are present in some of these, but the veins are too small and sulphide content too low to make them viable exploration targets.

In the 800 m of strike between the Shaft and Cat showings, the few intervening outcrops of diorite and diorite fragmental unit typically contain 1-4% disseminated and veinlet pyrite, defining a zone of mineralization/alteration that is continuous between the showings. However, both magnetite and chalcopyrite are either absent or present in low concentrations between these areas.

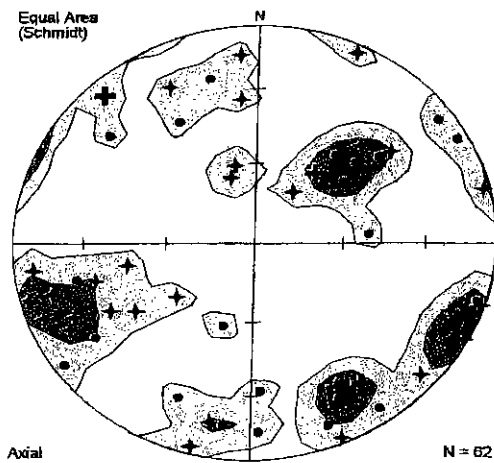
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A: Shaft/Cat zones and Silver King porphyry area, S1 foliation. Pole contouring peak = 22.5 \rightarrow 058, corresponding with an orientation of 148/67.

B: Shaft and Cat zones, pyrite +/- quartz +/- calcite +/- magnetite veinlets. Note the lack of shallow dipping veinlets.



C: Veinlets and joints in the Silver King porphyry.
 3 pointed star = pyrite-chalcocopyrite veinlets;
 + = limonite coated joints - ?oxidized veinlets
 * = joints, locally chlorite +/- quartz +/- calcite coated

Figure 3: Equal area projections of poles to fabrics, veinlets and joints measured in the Shaft-Cat and Silver King porphyry showing areas, Kena property.

Silver King Porphyry contact zone

This area, which occurs 250 to 400 m west and northwest of the Shaft showing, was examined to document the style and possible preferred orientation of mineralization/veins developed in the porphyry. The area is associated with a large gold in soil anomaly that ranges from 30-1030 ppb Au (Lewis and Lisle, 1990) that is associated with disseminated and stringer sulphide alteration in the northeastern portions of the Silver King porphyry. The porphyry here contains 25-60%, 1-15 mm long plagioclase and up to 10% biotite or pyrite altered amphibole phenocrysts in a fine-grained, pale green aphanitic matrix. Plagioclase phenocrysts are frequently fresh even where sulphide content is high; locally, however, the phenocrysts and matrix are sericite-chlorite altered. Mapping indicates that contacts of the porphyry trend west-northwest, although local irregularities suggest that dykes or apophyses extend into the volcanic rocks to the east.

Approximately 2-5% pyrite +/- chalcopyrite, and locally pyrrhotite are disseminated throughout the Silver King porphyry west of the Shaft showing area near the northeastern contact of the porphyry between lines 800-1100 N. The sulphide content diminishes in outcrops progressively to the northwest (grid north). Discontinuous pyrite-chalcopyrite stringers, frequently less than 10 cm long, are often present, but not abundant, and by far the majority of sulphide minerals present (>90%) are disseminated. Fe-oxide coated joints were measured in several outcrops that may or may not represent oxidized veinlets (Figure 3C); many may represent originally clean joints that now contain secondary limonite deposited by groundwater. Non-oxide bearing joints, many with thin chlorite +/- quartz or sericite coatings were also measured. An equal area projection of sulphide veinlets, Fe-oxide coated joints and non oxide-bearing joints measured in the Silver King porphyry shows a wide range of orientations, although three general clusters (steep northwest trending, moderate southwest dipping and steep northeast dipping) are apparent (Figure 3C).

Copper zone

A single outcrop at the north end of the Copper zone, south of the Main and Neil zones, was also examined. Here, pale green sericite-chlorite - Fe-carbonate altered volcanic rocks contain disseminated and stringer pyrite + chalcopyrite. Stringers of pyrite-chalcopyrite or quartz + chalcopyrite + pyrite +/- Fe-carbonate +/- chlorite occur throughout the outcrop, and are folded with variable orientations; dips are generally steep with a southerly or westerly component. S1 is axial planar to folds of stringers. A second foliation, S2, strikes 10-20° anticlockwise to S1.

Conclusions and recommendations

1. One dominant, early northwest trending, and moderate to steep southwest dipping foliation (S1), is developed on the property. It is predominantly a flattening foliation with only local evidence for minor sinistral shear strain indicated by asymmetric pressure shadows on feldspars on the margins of the Silver King porphyry. A composite, shallow southeast plunging crenulation/elongation lineation (L1) that is locally developed on S1 foliation

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surfaces may impart a component of elongation of mineralized zones in that direction. Since the property occurs on the northeast limb of the Hall Creek syncline, S1 may dip more steeply than lithologies on the property if it is axial planar to this fold.

2. There is little evidence for significant post-D1 (i.e. post S1) remobilization and upgrading of mineralization in the Kena area. Mineralization at the Main/Neil, Shaft/Cat and Silver King zones occurs as disseminated sulphides and in veins/veinlets that have been affected by D1 strain associated with S1 foliation. Veinlets are frequently folded, and in the Main and Neil showings, have locally accommodated minor slip during D1 deformation. Planar pyrite-chalcopyrite stringers that are unaffected by D1 and that may represent late remobilization of sulphides are present in the Silver King porphyry area and locally at other showings. However, they form only a minor component of sulphide content in these locations. Moderate northwest dipping, quartz dominant extension veins that locally occur in outcrops throughout the study area may contain pyrite and chalcopyrite. Steep northeast trending extension veins and stringers are also present locally, and were observed in core from the Main zone area. Both types of extension veins are too small, discontinuous and widely spaced to form exploration targets or to significantly upgrade mineralized areas. No other late (post D1) mineralized structures were identified or exposed, and no evidence for significant post D1 upgrading was identified.

3. Within the Main and Neil showing area, gold mineralization grading >2 g/t Au most consistently, although not exclusively, occurs in sets of east-west striking, steeply south dipping pyrite-quartz veins with pale grey K-feldspar-sericite-quartz-calcite alteration. If continuous veins or vein system of this type are developed, they could form higher grade vein targets within the broad area of low grade mineralization present in that area. Tracking of areas of higher vein density, thicker veins (>5 cm) and pale grey K-feldspar-sericite-quartz-calcite alteration on cross sections is recommended to identify any trends that may indicate the along strike or down dip existence of a larger vein system. Although areas of pale grey sericite phyllite present in outcrops downslope to the northeast of the Main showing may represent primary, more felsic, lithologies present in the chlorite-rich intermediate volcanic sequence, these areas should be re-evaluated to determine if they represent alteration associated with unidentified vein systems. If the veins are intrusion-related, they may display lateral and vertical zonation in both geochemistry and alteration assemblages that may indicate proximity to a fluid source and potentially areas of higher grade and continuity.

4. The moderate to shallow southwesterly apparent dip of higher grade mineralized zones of veining and gold mineralization at the Main and Neil showings suggested on cross sections in this area is consistent with the steep south dips of veins measured in outcrop, which are oblique to the drilling direction. The discontinuous nature and obliquity of the vein zones to the strike of lithologies suggests that they may be arranged in a right-stepping en echelon array. Re-evaluation of trends in soil sample anomalies and any previous geophysical surveys with consideration of potential east-west trends to vein systems is recommended in this area to identify further targets, or to trace the extent of known vein systems. For example, a weak east-west trending VLF anomaly (Fraser filter readings of 10-20; see plot

Kena property, structural study

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in Johnston, 1986) that occurs between 4900N, 5000W, and 5100N, 5175W southwest of, and along strike from, the Main zone, may represent a continuation of the vein system or associated alteration in that direction. If veins maintain the steep east-west trends observed in outcrop, optimum drilling direction is north-south.

5. In Shaft/Cat showing area, mineralization occurs both as disseminated and veinlet pyrite-chalcopyrite. Veinlets have variable orientation, but generally dip steeply. Steep west-northwest orientations that are parallel to, or dip more steeply than S1 are most common. The veinlet orientations and northwest trend of the mineralized host rocks together suggest that the optimum drilling direction in this area is still to the northeast, parallel to drill holes that have been completed in the past.

6. The Shaft and Cat showings occur within a broad area of biotite-dominant alteration that may be centered on the composite diorite/diorite fragmental unit that is host to mineralization. The biotite-rich nature of the alteration and associated magnetite and possible K-feldspar associated with veinlets typify a potassic alteration assemblage, and not propylitic as suggested by Andrew and Hoy (1988). The best mineralization is associated with highest areas of highest magnetite content at each showing. Between the two showings, outcrops display elevated pyrite content and biotite alteration, suggesting that mineralization may be continuous between the showings at depth. No significant structures hosting mineralization at the Shaft and Cat showings were identified – rocks in the mineralized zones are no more strained than surrounding lithologies – and the principal controls on mineralization here are probably dictated more by lithology and alteration assemblages than by structure. Outcrop in the area is insufficient to determine the morphology associated with the fragmental unit(s) associated with the diorite body.

7. Within the Silver King porphyry west and northwest of the Shaft zone, mineralization occurs primarily as disseminated pyrite and chalcopyrite. Some pyrite-chalcopyrite stringers are present, but these form only a minor component of the sulphide content. Many limonite coated joints visible in outcrop may represent oxide precipitation along joints during near surface weathering, and not oxidised primary sulphide veinlets. Joints, veinlets and oxide coated joints display variable orientation in outcrop, with clustering of steep northwest trends, moderate southwest dipping orientations and steep northeast dipping orientations. Since these orientations are variable, and most mineralization is disseminated, optimum drilling orientation is to the northeast, perpendicular to the northwest trend of the Silver King porphyry contact and trend of the Au in soil anomaly, to define the extend of the controlling host rock. Erratic Au values obtained during repeated sampling of outcrops in this zone may reflect variable incorporation of oxide or sulphide coated joints into samples. A few pairs of selective samples of oxide/sulphide coated joints and separate samples of associated disseminated mineralization collected at the same location may help identify the source and tenor of mineralization in the two different mineralization styles.

8. The metal assemblages, style of alteration and mineralization and association with porphyritic and dioritic intrusions suggest that Kena is an intrusion related, porphyry like system, or series of systems. Consequently, a program of alteration mapping (including

systematic K-feldspar staining) and evaluation of metal distribution with follow up whole rock geochemistry to determine the zoning, any overprinting relationships, and relationships of alteration/mineralization to intrusions in the area is recommended to determine the position and timing of known mineralized zones in the system(s) and to identify new targets. This program could be completed as a re-mapping project covering much or all of the property. Collection of a representative suite of petrographic samples to document mineral assemblages throughout the system for refinement of alteration zoning and lithologic types is also recommended. Some key alteration minerals may currently be unrecognized; for example, some areas currently mapped as chlorite phyllite may contain secondary amphibole, and thus represent a potassic assemblage rather than propylitic. If this program is undertaken, it would also be worthwhile examining showings on adjacent properties, since the Kena system is large, and the showings may provide information on the nature and zonation of the system as a whole on a scale larger than the property alone. For example, the Silver King shear zone, a sericite-rich high strain zone to the southwest of the property, may represent a large deformed sericitic alteration zone associated with the Silver King porphyry around which some showings and deposits may be zoned.

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APPENDIX III
SOIL AND SILT SAMPLE RESULTS - CERTIFICATES OF
ANALYSES



PLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
V 1+75E	5	45	15	54	.8	15	9	1474	2.19	<2	<8	<2	3	32	1.1	<3	<3	35	.47	.094	32	23	.22	128	.13	<3	4.71	.02	.04	<2	8.0
V 2+00E	2	12	11	52	.6	7	4	350	3.09	2	<8	<2	4	11	.4	<3	<3	47	.09	.152	6	13	.10	111	.15	<3	4.78	.01	.03	<2	6.0
V 2+25E	1	15	13	56	.6	9	6	588	2.82	3	<8	<2	4	10	<.2	4	<3	47	.08	.159	6	15	.18	57	.15	<3	3.25	.01	.04	<2	23.3
V 2+50E	2	27	14	63	.4	10	3	289	2.74	3	<8	<2	5	7	.5	<3	<3	43	.06	.090	5	16	.19	63	.14	<3	5.23	.01	.04	<2	5.9
V 2+75E	1	17	8	42	.3	9	5	377	1.87	<2	<8	<2	6	15	.6	<3	<3	32	.13	.078	10	18	.35	51	.07	<3	2.20	.01	.06	3	13.2
V 3+00E	1	21	13	23	.6	7	3	140	2.03	3	<8	<2	4	12	.2	4	<3	35	.09	.077	4	10	.07	80	.14	<3	5.20	.02	.03	<2	3.7
V 3+25E	2	13	11	71	.5	10	4	451	2.50	2	<8	<2	3	10	.2	<3	<3	50	.06	.097	7	15	.22	100	.12	<3	3.02	.01	.05	<2	10.4
V 3+50E	1	9	15	28	.5	7	2	109	2.08	5	<8	<2	2	8	.2	<3	<3	53	.04	.110	4	8	.08	46	.16	<3	.85	.01	.04	<2	3.4
L2ON 3+50E	1	9	18	28	.4	6	2	103	1.96	8	<8	<2	2	9	<.2	<3	<3	52	.05	.093	4	8	.08	46	.17	<3	.76	.01	.03	<2	3.4
V 3+75E	2	8	15	35	.5	4	2	214	3.22	5	<8	<2	3	14	.2	<3	<3	68	.11	.102	7	13	.15	70	.08	<3	1.84	.01	.04	<2	12.0
V 4+00E	2	13	16	63	.6	8	8	526	2.38	4	<8	<2	3	12	<.2	<3	<3	48	.08	.090	8	11	.20	87	.10	<3	1.54	.01	.07	<2	39.4
L2ON 4+00E	2	13	14	61	.4	7	7	520	2.33	2	<8	<2	3	11	<.2	<3	<3	47	.08	.088	7	11	.19	86	.09	<3	1.48	.01	.07	<2	53.1
BOARD DS2	15	126	34	155	.8	37	12	821	3.07	53	24	<2	5	28	10.6	11	10	75	.52	.091	16	163	.59	146	.09	<3	1.70	.04	.16	7	195.1

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



PLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
N 6+00W	1	14	11	56	.5	9	5	458	2.19	5	<8	<2	2	11	<.2	<3	3	36	.07	.137	6	14	.25	71	.08	<3	2.90	.01	.07	<2	36.6
N 5+75W	1	8	12	30	.3	4	2	167	2.22	4	<8	<2	2	10	.4	<3	<3	38	.07	.079	7	10	.21	49	.07	<3	1.29	.01	.05	<2	97.2
N 5+50W	1	8	12	19	.5	4	1	95	1.68	<2	<8	<2	2	6	<.2	<3	<3	31	.03	.048	7	7	.07	38	.07	<3	1.87	.01	.03	<2	37.4
N 5+25W	1	9	7	24	<.3	5	2	121	1.36	2	<8	<2	<2	10	<.2	<3	<3	23	.11	.051	9	8	.24	48	.03	<3	1.35	.01	.05	<2	60.5
N 5+00W	1	8	11	35	.4	3	5	242	1.61	5	<8	<2	2	8	<.2	<3	<3	26	.05	.041	8	7	.17	51	.06	<3	1.30	.01	.05	<2	145.8
N 4+75W	1	8	6	33	.4	4	5	330	1.53	<2	<8	<2	<2	9	<.2	<3	<3	23	.07	.043	9	7	.18	51	.06	<3	1.09	.01	.05	<2	201.6
N 4+50W	1	19	11	57	1.1	7	7	973	2.09	2	<8	<2	2	9	.2	<3	<3	36	.07	.101	6	9	.15	97	.09	<3	2.24	.01	.05	<2	84.8
N 4+25W	1	9	18	51	.4	7	6	768	1.97	2	<8	<2	2	14	<.2	<3	<3	34	.09	.111	8	10	.21	94	.08	<3	1.73	.01	.07	2	55.3
N 4+00W	1	13	25	46	.4	7	3	350	1.89	6	<8	<2	<2	12	<.2	<3	<3	37	.09	.084	6	10	.23	61	.07	<3	1.11	.01	.07	<2	122.6
N 3+75W	1	14	18	46	.5	6	3	247	2.72	3	<8	<2	2	11	<.2	<3	<3	44	.07	.056	7	11	.18	90	.13	<3	1.20	.01	.06	<2	88.2
N 3+50W	1	10	13	39	.5	7	4	179	1.84	<2	<8	<2	2	10	<.2	<3	3	31	.08	.099	6	9	.18	65	.09	<3	2.16	.01	.06	<2	45.4
N 3+25W	1	10	15	36	.6	5	4	360	1.99	<2	<8	<2	2	10	<.2	<3	<3	34	.07	.061	6	10	.14	66	.06	<3	1.23	.01	.05	<2	94.1
N 3+00W	1	9	13	38	.5	6	5	232	2.38	4	<8	<2	2	17	.2	<3	4	38	.12	.041	8	12	.18	113	.09	<3	1.84	.01	.05	<2	24.2
L15N 3+00W	1	9	16	40	.8	7	6	232	2.43	2	<8	<2	2	18	<.2	<3	<3	39	.13	.042	9	12	.19	114	.09	<3	1.90	.01	.06	<2	87.6
N 2+75W	1	7	16	37	.4	6	5	436	1.83	2	<8	<2	<2	12	.2	<3	<3	32	.08	.033	6	8	.13	91	.09	<3	.86	.01	.04	<2	21.8
N 2+50W	1	12	15	46	.5	7	7	1054	1.99	2	<8	<2	<2	39	.5	<3	<3	31	.48	.043	9	12	.22	100	.06	<3	1.46	.01	.06	<2	19.8
N 2+25W	1	17	10	46	.5	6	7	1185	1.87	2	<8	<2	<2	64	.7	<3	<3	29	.99	.099	11	12	.26	90	.05	3	1.87	.01	.05	<2	30.0
NDARD DS2	15	129	30	155	.8	39	12	822	3.07	57	20	<2	4	28	10.5	9	11	75	.55	.090	16	162	.59	148	.09	4	1.71	.04	.15	7	203.2

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

GEOCHEMICAL ANALYSIS CERTIFICATE

Sultan Minerals PROJECT KENA File # A002874 Page 1

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

Table with columns: LE#, Mo ppm, Cu ppm, Pb ppm, Zn ppm, Ag ppm, Ni ppm, Co ppm, Mn ppm, Fe %, As ppm, U ppm, Au ppm, Th ppm, Sr ppm, Cd ppm, Sb ppm, Bi ppm, V ppm, Ca %, P %, La ppm, Cr ppm, Mg %, Ba ppm, Ti %, B ppm, Al %, Na %, K %, W ppm, Au* ppb. Rows include sample IDs like 58+00W, 57+75W, etc.

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES. UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM. - SAMPLE TYPE: SOIL SS80 60C AU* BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 8 2000 DATE REPORT MAILED: Aug 21/00 SIGNED BY: [Signature] D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



CME ANALYTICAL

Sultan Minerals PROJECT KENA FILE # A002874

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ACME ANALYTICAL

PLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
00N 3+25E	3	40	29	56	.4	9	6	646	1.94	8	<8	<2	<2	45	.8	<3	<3	35	.49	.062	8	14	.35	114	.05	3	1.20	.02	.12	<2	65.8
00N 3+50E	4	68	13	49	.6	9	7	271	3.38	11	<8	<2	3	27	.2	3	<3	59	.24	.029	7	24	.53	90	.14	<3	2.34	.02	.12	<2	103.1
00N 3+75E	2	37	13	113	1.2	15	13	611	2.76	5	<8	<2	2	17	.5	<3	<3	49	.12	.118	7	25	.39	91	.11	3	2.58	.01	.06	<2	52.8
00N 1+00W	2	18	14	31	.4	5	3	216	2.48	4	<8	<2	<2	33	<.2	<3	<3	34	.26	.043	8	11	.18	103	.05	<3	1.79	.02	.09	<2	240.9
00N 0+75W	1	17	13	49	.7	6	4	412	2.47	6	<8	<2	<2	29	<.2	<3	<3	37	.26	.097	9	11	.20	88	.09	<3	1.65	.02	.08	<2	136.9
00N 0+50W	2	38	10	33	.4	7	6	407	1.85	6	<8	<2	2	26	.2	<3	<3	30	.21	.089	11	12	.26	75	.06	<3	1.71	.02	.11	<2	287.2
00N 0+25W	2	30	5	57	.7	7	4	220	1.77	4	<8	<2	2	26	.3	<3	<3	30	.19	.106	11	12	.28	81	.06	<3	2.17	.02	.13	<2	70.7
00N 0+00	1	23	10	44	.5	5	4	281	1.62	6	<8	<2	2	23	.2	<3	<3	31	.13	.056	12	10	.20	78	.09	<3	1.55	.02	.10	<2	72.6
00N 0+25E	2	30	10	43	1.2	7	4	328	1.89	4	<8	<2	2	16	.3	<3	3	31	.10	.101	13	12	.16	60	.09	<3	2.80	.02	.05	<2	25.6
00N 0+50E	2	33	8	55	.7	9	4	335	2.38	6	<8	<2	2	22	<.2	<3	<3	38	.14	.066	10	14	.32	101	.07	<3	1.98	.02	.13	<2	50.7
00N 0+75E	2	40	8	44	.9	8	5	237	2.36	3	<8	<2	2	21	.3	<3	<3	36	.13	.071	13	13	.25	68	.08	<3	2.09	.02	.10	<2	133.5
00N 1+00E	3	85	13	51	2.4	8	8	863	1.92	6	<8	<2	<2	24	.9	<3	<3	34	.14	.114	13	12	.22	88	.05	<3	1.75	.01	.09	<2	35.0
00N 1+25E	3	48	11	56	.7	10	5	322	2.35	5	<8	<2	2	18	.5	<3	<3	38	.11	.062	12	16	.28	77	.11	<3	2.48	.02	.10	<2	22.0
00N 1+50E	3	78	20	52	2.0	11	5	329	1.96	5	<8	<2	<2	23	1.3	<3	<3	34	.14	.059	14	14	.24	79	.06	<3	1.72	.02	.09	<2	40.4
00N 1+75E	4	49	14	62	1.3	8	5	2655	1.57	<2	<8	<2	<2	27	1.0	<3	<3	32	.16	.064	11	11	.19	128	.07	<3	1.23	.02	.11	<2	28.5
00N 2+00E	4	32	28	54	.9	7	6	479	1.98	4	<8	<2	<2	30	.9	<3	<3	38	.18	.061	12	13	.22	98	.08	<3	1.48	.02	.11	<2	49.5
00N 2+25E	3	35	13	57	1.0	7	6	616	2.21	6	<8	<2	<2	29	.7	<3	<3	37	.19	.066	13	15	.26	83	.07	<3	1.41	.02	.12	<2	55.5
00N 2+50E	2	26	11	64	.7	7	7	1027	2.00	6	<8	<2	<2	32	.4	<3	<3	39	.20	.100	9	15	.26	89	.07	<3	1.37	.02	.12	2	103.5
00N 2+75E	3	56	17	63	.5	12	9	780	2.38	8	<8	<2	2	37	.6	<3	<3	45	.23	.105	13	21	.48	114	.09	<3	1.91	.02	.20	2	90.6
00N 3+00E	6	109	12	93	1.1	14	21	1031	3.64	16	<8	<2	2	40	.7	<3	<3	59	.30	.155	16	24	.66	135	.07	<3	2.72	.02	.19	<2	358.1
00N 1+00W	1	22	11	40	<.3	6	4	422	1.92	2	<8	<2	<2	30	<.2	<3	<3	34	.22	.056	11	11	.18	68	.07	<3	1.34	.01	.07	<2	55.5
00N 0+75W	2	32	16	59	.6	6	6	597	2.16	2	<8	<2	<2	37	.3	<3	<3	36	.31	.071	11	12	.23	103	.08	<3	1.44	.02	.09	<2	50.8
L5+00N 0+75W	2	34	17	62	.5	7	6	625	2.23	<2	<8	<2	<2	42	.5	<3	<3	39	.33	.073	12	13	.24	109	.09	<3	1.55	.02	.11	<2	49.0
00N 0+50W	2	34	26	54	<.3	8	7	913	1.91	7	<8	<2	<2	64	.5	3	<3	32	.54	.107	16	13	.33	125	.05	<3	1.64	.02	.11	2	73.8
00N 0+25W	2	33	16	57	.5	9	7	778	2.10	4	<8	<2	<2	51	.7	<3	<3	36	.40	.087	15	14	.33	96	.07	<3	1.74	.02	.09	<2	107.1
00N 0+00	2	30	9	48	.5	8	6	697	2.15	5	<8	<2	<2	40	.3	<3	<3	36	.27	.068	14	14	.28	81	.07	<3	1.57	.02	.08	<2	92.4
00N 0+25E	1	35	12	46	.7	6	5	346	2.19	4	<8	<2	2	37	.4	<3	<3	41	.24	.047	13	15	.22	84	.12	<3	1.57	.02	.09	<2	83.3
00N 0+50E	2	27	11	56	.5	7	5	327	2.32	7	<8	<2	<2	35	.2	<3	<3	41	.24	.064	11	13	.25	78	.10	<3	1.54	.02	.08	<2	44.0
00N 0+75E	2	39	12	64	1.2	8	6	515	2.31	6	<8	<2	2	29	.3	<3	<3	39	.20	.073	14	14	.24	105	.10	<3	2.03	.02	.07	<2	84.4
00N 1+00E	3	38	10	64	.5	9	5	312	2.55	6	<8	<2	2	34	<.2	<3	<3	47	.23	.072	16	18	.39	97	.10	<3	1.89	.02	.13	2	69.1
00N 1+25E	2	31	14	85	1.5	9	7	545	2.70	4	<8	<2	2	35	.3	<3	<3	44	.27	.161	12	16	.29	148	.11	<3	1.79	.02	.10	<2	17.2
00N 1+50E	3	30	10	43	.5	5	4	231	2.19	3	<8	<2	2	26	.3	<3	<3	39	.14	.046	11	13	.18	72	.09	<3	1.45	.02	.10	<2	31.0
00N 1+75E	3	32	9	78	1.1	8	6	576	2.53	2	<8	<2	2	23	.6	<3	<3	44	.14	.072	14	16	.26	99	.10	<3	2.56	.02	.10	<2	36.9
ANDARD DS2	15	131	30	159	<.3	35	11	849	3.09	59	21	<2	3	26	10.8	9	12	72	.50	.093	15	154	.60	152	.08	3	1.64	.04	.15	9	191.4

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



IPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
00N 2+00E	2	21	12	69	1.5	7	7	487	2.34	9	<8	<2	2	32	.3	<3	<3	37	.37	.097	6	15	.23	103	.09	3	2.15	.01	.07	3	64.4
00N 1+00W	1	23	12	40	<.3	6	5	609	1.65	2	<8	<2	<2	22	.3	<3	<3	31	.19	.057	9	10	.19	78	.07	<3	1.37	.01	.04	<2	63.6
00N 0+75W	1	20	9	35	.5	6	4	236	1.91	<2	<8	<2	<2	18	<.2	<3	<3	33	.14	.042	8	11	.19	60	.07	<3	1.40	.01	.05	<2	43.6
00N 0+50W	1	27	9	50	.9	5	5	394	2.16	5	<8	<2	<2	17	.2	<3	<3	36	.11	.069	10	12	.19	85	.08	<3	1.59	.01	.06	2	64.2
00N 0+25W	2	29	13	49	.6	9	5	657	1.76	6	<8	<2	<2	21	.8	<3	3	28	.18	.096	10	10	.22	81	.06	<3	1.35	.01	.07	<2	62.1
00N 0+00	2	27	8	39	.6	6	5	323	1.88	3	<8	<2	<2	21	.4	<3	<3	29	.14	.095	9	11	.21	73	.06	<3	1.26	.01	.06	<2	50.4
00N 0+25E	1	26	7	46	.9	6	4	366	1.95	2	<8	<2	<2	18	.5	<3	<3	31	.12	.127	8	11	.16	55	.06	<3	1.68	.01	.05	<2	72.9
00N 0+50E	2	17	16	47	.5	6	2	222	2.24	8	<8	<2	<2	15	.5	<3	<3	37	.12	.183	5	11	.15	62	.09	<3	1.35	.01	.06	<2	31.0
00N 0+75E	1	18	9	32	.3	5	4	412	1.96	3	<8	<2	<2	11	.2	<3	<3	35	.06	.053	8	9	.11	41	.08	<3	1.20	.01	.04	<2	44.3
00N 1+00E	2	45	9	94	.8	9	13	864	3.40	8	<8	<2	2	17	<.2	<3	<3	68	.12	.087	5	20	.59	91	.14	<3	2.37	.01	.07	<2	89.4
00N 1+25E	2	36	10	78	1.0	11	11	610	2.70	2	<8	<2	2	17	<.2	<3	<3	45	.13	.167	7	18	.33	92	.09	<3	2.64	.02	.09	<2	121.2
00N 1+50E	4	33	8	59	1.1	9	6	1045	2.64	4	<8	<2	2	16	<.2	<3	<3	46	.09	.191	6	15	.29	86	.08	<3	1.65	.01	.09	<2	52.2
00N 1+75E	2	31	14	75	1.0	8	5	597	2.45	3	<8	<2	<2	15	.3	<3	<3	42	.09	.138	7	17	.21	78	.07	<3	2.16	.01	.08	<2	98.6
00N 1+00W	1	18	11	51	<.3	6	3	207	1.99	6	<8	<2	3	11	<.2	<3	<3	35	.08	.164	6	12	.16	55	.09	<3	2.54	.01	.04	<2	62.0
00N 0+75W	1	14	20	56	.3	9	3	450	3.57	9	<8	<2	3	10	<.2	<3	<3	62	.06	.252	6	17	.21	72	.13	3	1.86	.01	.05	<2	22.3
00N 0+50W	1	28	16	53	<.3	8	5	281	2.02	5	<8	<2	2	18	.2	<3	<3	33	.17	.136	10	13	.32	73	.06	<3	1.83	.01	.09	<2	87.8
00N 0+25W	1	16	18	54	.4	6	5	996	2.24	4	<8	<2	<2	24	.2	<3	<3	42	.21	.074	7	12	.24	137	.07	<3	1.36	.01	.06	<2	19.4
00N 0+00	1	20	14	51	.6	7	6	641	2.33	3	<8	<2	<2	17	<.2	<3	<3	42	.12	.123	7	13	.22	92	.07	<3	2.30	.01	.06	<2	40.3
00N 0+25E	1	73	13	63	.9	8	7	881	2.16	<2	<8	<2	<2	24	.3	<3	<3	34	.21	.082	19	16	.37	127	.05	<3	1.95	.01	.11	<2	52.6
00N 0+50E	2	39	13	69	1.3	8	6	550	2.49	2	<8	<2	<2	25	.4	<3	<3	34	.22	.081	10	12	.22	170	.06	<3	1.72	.01	.07	2	39.1
00N 1+00W	2	22	14	55	<.3	9	7	550	2.74	8	<8	<2	3	9	.2	<3	<3	46	.06	.156	7	18	.23	80	.12	<3	3.08	.01	.05	<2	18.5
00N 0+75W	2	26	18	55	<.3	8	6	774	2.37	<2	<8	<2	<2	18	<.2	<3	<3	42	.15	.169	8	16	.29	86	.06	<3	1.68	.01	.07	<2	25.0
00N 0+50W	2	21	11	34	<.3	8	4	171	2.31	3	<8	<2	2	11	<.2	3	<3	37	.10	.126	10	15	.23	45	.11	<3	3.77	.01	.05	<2	34.4
L2+00N 0+50W	2	21	7	36	<.3	9	3	180	2.35	<2	<8	<2	3	12	.3	<3	<3	39	.10	.128	10	16	.24	47	.11	<3	3.84	.01	.05	<2	28.5
00N 0+25W	1	38	14	34	.7	7	10	656	1.96	2	<8	<2	<2	12	.4	<3	<3	34	.09	.092	10	11	.18	66	.07	<3	1.87	.01	.05	<2	89.8
00N 0+00	2	43	14	42	.7	8	9	681	2.42	2	<8	<2	<2	13	.2	<3	<3	40	.08	.092	11	15	.24	72	.08	<3	2.26	.01	.06	<2	139.5
00N 1+00W	1	18	9	39	.5	6	5	767	2.37	<2	<8	<2	2	7	<.2	<3	<3	42	.04	.113	8	14	.14	57	.12	<3	2.77	.01	.04	<2	88.0
00N 0+75W	2	33	11	31	1.0	6	4	377	2.18	<2	<8	<2	<2	12	.3	4	<3	39	.08	.043	11	12	.14	70	.10	<3	2.45	.01	.05	2	20.4
00N 0+50W	1	13	9	31	.3	5	4	172	2.10	2	<8	<2	<2	15	<.2	<3	<3	35	.12	.043	5	9	.12	102	.10	<3	1.44	.01	.04	<2	123.4
00N 0+25W	1	15	9	29	.3	5	4	215	1.98	<2	<8	<2	2	11	<.2	<3	<3	32	.07	.085	7	10	.14	62	.08	<3	1.75	.01	.04	<2	51.9
00N 0+00	1	23	7	28	<.3	5	6	194	1.86	<2	<8	<2	2	13	<.2	<3	<3	27	.13	.081	8	10	.21	53	.06	<3	1.60	.01	.05	2	102.7
00N 1+00W	1	40	44	65	.4	4	10	4302	1.67	8	<8	<2	<2	16	.8	<3	<3	27	.15	.118	6	8	.11	210	.01	<3	.64	.01	.08	<2	47.5
00N 0+75W	1	29	36	52	.3	8	6	1535	1.67	3	<8	<2	<2	14	.5	<3	<3	30	.09	.108	7	11	.24	93	.02	<3	.91	.01	.07	<2	26.4
NDARD DS2	14	127	31	153	.3	35	11	827	3.00	61	21	<2	3	26	10.2	9	11	73	.49	.089	14	158	.58	150	.08	3	1.58	.04	.15	8	206.4

Sample type: SOTL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



E#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
DN 0+50W	1	24	19	59	.3	9	6	311	2.67	5	<8	<2	3	15	.2	<3	<3	42	.12	.073	9	14	.26	110	.12	<3	2.76	.01	.07	<2	362.1
DN 0+25W	1	34	14	36	.6	8	5	561	2.37	<2	<8	<2	<2	26	.7	<3	<3	36	.30	.048	23	11	.15	142	.11	<3	1.85	.01	.05	<2	18.3
DN 0+00	2	23	14	48	.3	7	6	688	2.42	<2	<8	<2	<2	17	.2	<3	<3	39	.16	.053	8	11	.16	141	.11	<3	2.13	.01	.05	<2	18.4
DN 3+00E	1	28	17	242	1.2	10	7	356	2.38	4	<8	<2	<2	15	1.8	<3	<3	41	.11	.055	8	11	.19	72	.14	<3	2.21	.02	.07	<2	10.6
DN 3+25E	1	104	17	179	.4	18	24	589	2.00	2	<8	<2	<2	61	1.2	<3	<3	55	.81	.108	13	23	.91	148	.10	<3	1.75	.01	.32	2	110.8
J+00N 3+25E	1	104	18	184	.5	18	24	589	2.00	<2	<8	<2	<2	60	1.3	<3	<3	55	.82	.105	13	25	.92	145	.09	<3	1.76	.01	.32	3	79.3
JARD DS2	15	129	34	156	<.3	36	11	824	3.05	59	18	<2	3	26	10.4	11	10	75	.49	.088	15	153	.58	150	.09	<3	1.63	.04	.15	8	196.6

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

GEOCHEMICAL ANALYSIS CERTIFICATE

Sultan Minerals PROJECT KENA File # A002875

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy



SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
JOK-S1	<1	103	18	91	<.3	29	21	1333	4.01	3	<8	<2	<2	81	.5	<3	<3	68	1.12	.169	17	31	1.25	284	.08	<3	1.89	.02	.14	<2	10.8
JOK-S2	<1	135	27	105	<.3	21	20	1826	3.80	3	<8	<2	<2	101	.7	<3	<3	73	1.25	.154	19	31	1.30	173	.08	<3	2.51	.02	.14	<2	15.1
JOK-S3	2	285	11	186	<.3	24	26	1377	5.00	4	<8	<2	<2	64	.7	<3	<3	125	.89	.137	9	32	2.08	135	.15	<3	2.56	.01	.52	<2	70.1
RE 00K-S3	2	275	12	178	<.3	23	25	1316	5.00	4	<8	<2	<2	61	.7	<3	<3	123	.84	.136	9	33	2.06	131	.15	<3	2.51	.01	.52	<2	216.4

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 - SAMPLE TYPE: SILT SS80 60C AU* BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 8 2000

DATE REPORT MAILED: *Aug 22/00*

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



GEOCHEMICAL ANALYSIS CERTIFICATE



Sultan Minerals PROJECT KENA File # A003299 Page 1

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

LE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
2+00W	1	15	23	70	<.3	10	8	1547	2.36	2	<8	<2	2	35	.6	<3	<3	39	.37	.073	16	15	.20	122	.11	<3	2.72	.02	.05	2	55.6
1+75W	1	9	14	54	<.3	8	6	242	2.46	5	<8	<2	<2	17	.3	<3	<3	36	.13	.154	8	12	.27	125	.06	<3	1.39	.01	.06	<2	86.5
1+50W	1	15	14	62	<.3	9	8	347	2.58	3	<8	<2	2	18	.3	<3	<3	38	.17	.071	7	15	.26	149	.09	<3	2.75	.01	.06	3	96.0
1+25W	2	49	26	92	1.0	9	8	1494	2.38	<2	14	<2	2	67	.7	<3	<3	32	.86	.108	22	19	.30	165	.10	<3	2.39	.02	.09	2	103.0
1+00W	1	17	17	61	.5	8	7	765	2.54	2	<8	<2	2	22	.4	<3	<3	36	.22	.131	7	13	.21	117	.11	<3	3.03	.01	.06	<2	35.9
0+75W	2	26	15	64	.5	7	7	591	2.76	3	<8	<2	2	13	.2	<3	<3	40	.08	.084	8	12	.22	109	.08	<3	2.19	.01	.05	2	63.9
0+50W	1	76	18	61	.7	10	8	1171	2.30	3	<8	<2	2	29	.7	<3	<3	32	.31	.075	35	15	.24	132	.11	<3	3.27	.02	.06	2	50.9
0+25W	1	29	20	71	.4	9	8	454	3.04	4	<8	<2	2	20	.5	<3	<3	39	.17	.100	7	13	.21	106	.12	<3	2.83	.01	.06	4	36.4
0+00	5	49	12	42	<.3	8	7	1012	1.94	2	<8	<2	<2	29	.3	<3	<3	30	.27	.051	12	12	.36	159	.05	<3	1.51	.01	.07	<2	75.0
0+25E	2	32	16	48	.6	7	2	157	2.94	2	<8	<2	2	8	<.2	<3	<3	50	.04	.180	7	15	.14	71	.15	<3	3.97	.01	.04	<2	37.9
0+50E	3	48	10	33	.4	6	4	198	1.77	3	<8	<2	3	6	<.2	<3	<3	31	.04	.126	5	6	.09	42	.17	<3	5.06	.02	.02	2	22.5
0+75E	2	19	14	38	.5	5	5	677	1.97	4	<8	<2	2	8	.4	<3	<3	31	.05	.199	3	8	.07	50	.15	<3	5.34	.01	.02	2	4.9
1+00E	7	66	14	46	.3	8	5	312	2.73	5	<8	<2	2	15	.3	<3	<3	45	.12	.092	6	14	.33	68	.08	<3	2.23	.01	.05	4	1332.2
1+25E	4	22	14	53	.4	8	5	418	2.68	3	<8	<2	2	10	.2	<3	<3	51	.08	.087	6	14	.26	113	.14	<3	2.18	.01	.06	<2	86.7
1+50E	2	25	12	47	<.3	8	5	255	2.19	5	<8	<2	3	10	<.2	<3	<3	41	.05	.108	6	12	.26	54	.12	<3	3.25	.01	.05	<2	16.6
1+75E	2	16	18	33	<.3	7	4	215	2.00	5	<8	<2	3	6	.3	<3	<3	34	.04	.100	6	11	.12	48	.14	<3	5.02	.01	.03	3	4.7
2+00E	1	20	15	45	.3	7	6	913	2.14	5	<8	<2	3	6	.2	3	<3	41	.04	.146	5	13	.11	62	.12	<3	4.10	.01	.03	<2	30.5
19N 2+00E	1	19	18	44	.3	7	6	900	2.13	4	<8	<2	3	6	.3	<3	<3	41	.04	.144	4	12	.11	61	.12	<3	4.04	.01	.03	2	22.8
2+25E	3	20	13	43	.4	6	6	368	2.19	2	<8	<2	2	7	<.2	<3	<3	33	.07	.093	5	10	.14	76	.12	<3	3.43	.01	.03	2	7.1
2+50E	1	16	20	78	<.3	7	7	2582	2.05	<2	<8	<2	2	9	.5	<3	<3	37	.07	.082	6	10	.12	130	.11	<3	2.75	.01	.04	2	4.9
2+75E	2	13	12	54	<.3	10	5	526	2.17	4	<8	<2	3	10	.4	<3	<3	37	.09	.119	5	11	.19	123	.15	<3	4.04	.01	.05	<2	2.5
3+00E	1	13	19	54	<.3	10	6	301	2.42	2	<8	<2	4	8	.2	<3	<3	42	.07	.129	5	14	.18	111	.14	<3	4.48	.01	.05	3	5.6
3+25E	3	17	13	41	.9	6	6	600	1.80	4	<8	<2	2	6	.5	<3	<3	32	.04	.153	4	7	.09	90	.16	<3	3.84	.01	.03	2	6.5
3+50E	2	12	13	70	.5	8	5	1385	1.95	6	<8	<2	2	8	.7	<3	<3	35	.05	.127	5	9	.14	107	.14	<3	3.14	.01	.04	2	4.9
3+75E	2	25	11	91	.6	10	6	633	2.18	5	<8	<2	3	14	.3	<3	<3	37	.09	.104	7	13	.35	146	.11	<3	2.23	.01	.09	2	103.9
4+00E	1	15	14	76	<.3	8	5	965	1.97	4	<8	<2	2	11	.5	<3	<3	36	.07	.132	4	10	.16	131	.14	<3	2.92	.01	.04	<2	48.4
4+25E	1	13	21	56	<.3	6	4	1369	2.13	2	<8	<2	<2	15	.2	<3	<3	40	.08	.149	6	11	.21	150	.09	<3	1.43	.01	.06	<2	20.0
4+50E	2	59	38	83	<.3	10	12	4192	2.24	8	<8	<2	<2	42	1.1	<3	<3	38	.39	.124	10	11	.49	285	.04	<3	1.97	.01	.11	2	57.8
4+75E	4	54	58	60	.3	9	6	1257	1.86	8	<8	<2	<2	15	1.5	3	<3	29	.12	.368	12	10	.25	91	.08	<3	2.80	.02	.06	2	39.2
5+00E	5	48	18	44	.5	8	7	467	2.82	2	<8	<2	2	22	.8	<3	<3	40	.23	.042	17	12	.13	74	.16	<3	2.37	.01	.05	2	11.8
5+25E	19	114	20	46	<.3	8	13	391	3.80	5	<8	<2	2	27	.6	<3	<3	75	.17	.084	6	15	.27	98	.17	<3	1.24	.01	.06	5	17.4
5+50E	15	150	24	62	.3	10	11	624	2.10	5	<8	<2	<2	48	1.0	<3	<3	39	.49	.069	10	18	.30	89	.10	<3	1.56	.01	.06	2	26.6
5+75E	12	66	17	92	.3	13	12	985	2.61	3	<8	<2	2	52	1.1	<3	<3	49	.36	.108	10	20	.41	137	.14	<3	2.12	.02	.08	4	83.2
STANDARD DS2	15	126	33	155	<.3	36	11	828	3.08	58	14	<2	3	26	10.5	10	11	75	.51	.091	15	151	.59	152	.09	3	1.67	.04	.15	9	196.4

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 - SAMPLE TYPE: SOIL SS80 60C AU* BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 30 2000 DATE REPORT MAILED: *Sept 11/00* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

LE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
6+00E	6	31	13	84	.5	11	11	1088	2.32	4	<8	<2	<2	24	.6	<3	<3	41	.17	.116	6	19	.42	137	.06	<3	1.36	.01	.07	<2	65.2
6+25E	13	276	13	80	2.1	36	23	1004	2.43	5	10	<2	2	36	1.5	<3	<3	36	.41	.103	14	22	.39	102	.11	<3	3.04	.02	.09	<2	34.2
6+50E	7	91	18	113	<.3	24	18	741	3.56	9	<8	<2	2	28	.8	<3	<3	86	.25	.085	7	32	1.14	138	.12	<3	2.33	.01	.33	<2	46.1
6+75E	3	43	12	93	.3	12	9	327	2.90	5	<8	<2	2	18	.4	<3	<3	65	.13	.096	7	22	.63	79	.09	<3	1.55	.01	.09	2	45.6
7+00E	1	60	13	134	1.3	16	15	875	3.65	8	<8	<2	2	18	.5	<3	<3	103	.17	.148	7	33	1.30	123	.16	<3	2.95	.01	.11	<2	10.5
N 2+00W	<1	8	20	39	.4	6	4	244	2.15	<2	<8	<2	2	19	.3	<3	<3	37	.20	.060	6	10	.13	97	.12	<3	2.03	.01	.04	<2	19.8
N 1+75W	<1	9	10	26	<.3	4	5	207	1.65	5	<8	<2	2	12	<.2	<3	<3	23	.10	.094	8	7	.15	53	.04	<3	1.37	.01	.04	<2	90.2
N 1+50W	<1	12	14	63	<.3	12	5	366	2.90	2	<8	<2	<2	20	.2	<3	<3	68	.09	.136	7	38	.57	106	.15	<3	1.44	.01	.05	<2	38.4
N 1+25W	2	14	14	54	.3	8	5	355	2.15	3	<8	<2	2	17	<.2	<3	<3	33	.13	.150	9	15	.30	87	.06	<3	2.04	.01	.08	<2	290.5
N 1+00W	1	15	18	70	.3	9	5	473	2.63	3	<8	<2	2	20	.3	<3	<3	44	.11	.131	10	20	.27	161	.09	<3	2.74	.01	.05	<2	32.8
N 0+75W	2	21	16	42	.9	6	5	382	2.42	5	<8	<2	3	10	.3	<3	<3	32	.08	.094	5	9	.12	72	.09	<3	3.63	.01	.04	<2	103.2
N 0+50W	2	30	11	36	.8	6	4	194	1.96	<2	<8	<2	3	9	<.2	<3	<3	31	.05	.097	7	9	.15	65	.11	<3	3.46	.01	.04	<2	62.5
N 0+25W	2	41	18	70	.5	10	7	298	2.59	2	<8	<2	3	10	.3	<3	<3	37	.07	.099	6	12	.23	88	.11	<3	3.78	.01	.05	<2	24.7
N 0+00	3	46	13	48	.5	10	5	243	2.33	<2	<8	<2	3	15	.3	<3	<3	37	.09	.037	9	12	.23	142	.12	<3	2.95	.02	.05	<2	23.4
N 0+25E	2	22	8	23	.4	5	2	170	2.34	6	<8	<2	3	7	.3	<3	<3	40	.07	.208	4	8	.07	56	.16	<3	4.31	.01	.03	<2	8.9
N 0+50E	1	22	7	35	.7	5	4	1034	1.87	<2	<8	<2	2	7	.3	<3	<3	33	.06	.144	3	7	.08	106	.11	<3	3.49	.01	.03	<2	12.2
N 0+75E	2	36	13	45	.5	5	4	456	1.90	2	<8	<2	2	10	.3	<3	<3	33	.06	.120	5	10	.12	68	.10	<3	2.86	.01	.04	<2	42.7
N 1+00E	4	85	13	42	.4	21	10	1170	2.60	2	<8	<2	2	28	.8	<3	<3	43	.29	.048	24	42	.48	181	.12	<3	2.01	.01	.07	<2	32.5
L18N 1+00E	5	85	20	43	.4	22	10	1194	2.55	<2	<8	<2	<2	28	.8	<3	<3	43	.29	.048	24	43	.49	180	.13	<3	1.97	.01	.07	<2	23.6
N 1+25E	1	53	18	47	.5	5	3	644	1.80	5	<8	<2	<2	25	.6	<3	<3	34	.27	.154	5	11	.08	407	.11	<3	1.22	.02	.05	<2	90.2
N 1+50E	2	37	21	45	.5	6	2	207	2.41	5	<8	<2	<2	32	.4	<3	<3	42	.44	.080	5	10	.10	127	.16	<3	1.46	.01	.04	<2	30.9
N 1+75E	8	284	18	85	.3	137	37	760	6.98	4	<8	3	5	43	.9	<3	<3	160	.53	.067	34	311	4.63	218	.40	<3	5.02	.02	.10	<2	43.5
N 2+00E	2	25	17	31	.3	5	2	134	2.09	3	<8	<2	2	7	.2	<3	<3	37	.05	.096	6	10	.10	50	.11	<3	3.02	.01	.03	2	167.5
N 2+25E	2	45	17	25	.9	5	4	316	2.67	2	<8	<2	2	6	.4	<3	<3	44	.05	.147	10	8	.07	57	.16	<3	2.59	.01	.03	<2	6.5
N 2+50E	2	25	17	41	<.3	8	4	509	2.21	3	<8	<2	3	6	.6	<3	<3	37	.06	.143	4	12	.14	61	.13	<3	4.58	.01	.04	<2	37.5
N 2+75E	3	29	10	54	<.3	6	4	637	2.60	4	<8	<2	2	8	.2	<3	<3	42	.05	.145	6	12	.18	75	.11	<3	2.60	.01	.04	<2	29.5
N 3+00E	5	40	22	38	.3	7	4	619	2.21	10	<8	<2	2	14	.8	<3	<3	35	.18	.092	15	9	.11	128	.15	<3	2.77	.01	.04	<2	6.7
N 3+25E	3	31	21	30	.8	8	6	429	2.06	<2	<8	<2	2	14	.7	<3	<3	38	.13	.052	10	11	.15	120	.16	<3	2.59	.02	.04	<2	8.3
N 3+50E	2	16	24	79	<.3	11	5	313	1.99	2	<8	<2	2	16	.7	<3	<3	35	.16	.047	6	17	.32	134	.06	<3	2.00	.01	.07	2	25.9
N 3+75E	3	25	11	176	.5	14	10	589	2.10	3	<8	<2	3	14	1.5	<3	<3	37	.09	.073	7	15	.26	182	.11	<3	3.41	.01	.06	3	19.8
N 4+00E	5	63	9	80	.5	9	6	568	2.47	5	<8	<2	3	18	.4	<3	3	38	.15	.092	8	15	.28	119	.11	<3	2.70	.01	.06	3	113.0
N 2+00W	1	11	16	41	<.3	6	3	225	2.22	4	<8	<2	2	11	.4	<3	<3	36	.11	.086	5	12	.14	75	.11	<3	2.54	.01	.04	<2	30.5
N 1+75W	1	15	12	47	<.3	7	10	432	2.13	2	<8	<2	3	7	.3	<3	<3	30	.05	.267	7	13	.18	63	.12	<3	3.88	.01	.04	<2	37.9
NDARD DS2	14	127	35	156	<.3	35	11	819	3.06	57	23	<2	3	26	10.5	11	9	72	.50	.090	15	156	.59	149	.08	<3	1.63	.04	.15	8	198.8

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

MPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
7N 1+50W	<1	8	13	40	.3	6	4	181	2.24	4	<8	<2	2	6	.2	<3	<3	34	.04	.085	4	10	.10	67	.08	<3	3.50	.01	.03	<2	39.6
7N 1+25W	<1	13	10	54	.3	7	7	417	2.08	3	<8	<2	2	9	<.2	<3	<3	29	.07	.100	6	11	.22	94	.05	<3	2.16	.01	.06	2	67.5
7N 1+00W	<1	11	12	24	.6	4	1	122	1.97	<2	<8	<2	2	4	.2	<3	<3	33	.02	.068	3	7	.05	33	.12	<3	3.90	.01	.01	2	4.0
7N 0+75W	1	21	14	51	.3	7	3	218	2.54	<2	<8	<2	3	8	.2	<3	<3	46	.04	.094	6	11	.21	60	.11	<3	3.12	.01	.05	2	139.9
7N 0+50W	1	24	11	52	.3	7	4	191	2.19	2	<8	<2	3	10	.2	<3	<3	32	.06	.089	6	12	.19	59	.07	<3	3.70	.01	.04	3	53.8
7N 0+25W	1	26	16	52	.5	7	4	288	3.55	4	<8	<2	3	12	.3	<3	<3	45	.07	.074	6	13	.23	57	.08	3	2.54	.01	.05	3	180.4
7N 0+00	6	1285	18	47	2.1	11	95	1308	1.93	3	<8	<2	<2	32	.6	<3	<3	23	.35	.083	68	11	.23	115	.05	<3	2.18	.01	.06	5	133.1
7N 0+25E	2	860	17	103	1.2	33	15	403	2.98	5	<8	<2	2	38	1.1	<3	3	41	.44	.041	15	64	.63	149	.17	<3	2.30	.01	.06	4	38.4
7N 0+50E	3	449	20	38	1.6	11	7	1431	1.65	5	18	<2	<2	82	1.6	<3	<3	21	1.37	.111	36	16	.15	158	.05	<3	2.85	.02	.04	<2	21.6
7N 0+75E	5	45	18	46	.4	5	2	114	2.78	7	<8	<2	<2	14	.4	<3	<3	50	.11	.077	5	8	.17	112	.15	<3	1.12	.01	.04	<2	22.4
7N 1+00E	7	38	33	105	.4	13	6	493	2.55	7	<8	<2	2	19	.4	<3	<3	41	.17	.155	13	16	.37	131	.09	<3	2.50	.01	.07	2	134.0
7N 1+25E	5	40	20	55	.4	8	4	350	3.34	3	<8	<2	3	12	.3	<3	<3	51	.12	.173	7	14	.25	159	.13	<3	2.97	.01	.05	2	37.4
7N 1+50E	2	21	14	66	.4	11	6	519	2.77	4	<8	<2	2	13	.3	<3	<3	48	.10	.142	5	13	.30	134	.14	<3	1.98	.01	.05	2	1283.1
7N 1+75E	5	43	14	34	.6	5	3	234	2.41	2	<8	<2	2	9	.2	<3	<3	38	.06	.078	5	9	.15	83	.09	<3	2.47	.01	.04	2	147.6
7N 2+00E	1	16	24	41	.4	4	4	491	2.31	4	<8	<2	<2	8	.2	<3	<3	37	.09	.161	5	8	.11	67	.10	<3	1.76	.01	.03	2	233.0
7N 2+25E	7	80	18	68	1.0	9	7	1710	2.42	4	<8	<2	<2	21	.6	<3	<3	39	.23	.144	18	13	.23	143	.11	<3	2.38	.01	.05	2	25.1
7N 2+50E	4	70	12	31	.6	6	8	256	1.97	2	<8	<2	<2	18	.3	<3	<3	29	.19	.046	18	11	.16	113	.06	<3	2.08	.01	.04	<2	67.2
7N 2+75E	4	246	14	34	.8	11	6	367	2.59	3	<8	<2	2	29	.9	<3	<3	38	.28	.055	27	19	.19	236	.13	<3	3.26	.01	.04	<2	47.1
7N 3+00E	5	141	11	24	.5	6	2	134	2.69	<2	<8	<2	<2	31	.8	<3	<3	36	.28	.032	18	10	.12	117	.13	<3	2.14	.01	.04	<2	20.2
7N 3+25E	5	27	15	18	.3	5	1	79	2.27	<2	<8	<2	2	11	.4	<3	<3	31	.06	.026	9	9	.07	113	.12	<3	2.72	.01	.03	2	6.8
L17N 3+25E	5	28	12	18	<.3	4	1	79	2.29	<2	<8	<2	2	11	.4	<3	<3	31	.06	.025	10	9	.07	115	.12	<3	2.74	.01	.03	2	7.3
7N 3+50E	135	86	26	28	.9	8	10	3037	3.56	6	<8	<2	2	45	.7	<3	<3	61	.64	.053	19	17	.14	155	.14	<3	3.67	.01	.04	3	28.6
7N 3+75E	12	267	19	15	.7	7	4	499	2.22	3	<8	<2	<2	41	.8	<3	3	30	.65	.047	31	12	.07	102	.13	<3	3.63	.02	.02	2	23.3
7N 4+00E	22	80	14	22	.3	7	5	501	1.60	<2	8	<2	<2	47	.5	<3	<3	28	.64	.042	11	11	.19	90	.10	<3	2.65	.01	.03	7	63.1
7N 5+75E	8	183	4	54	.6	11	16	419	3.80	10	<8	<2	2	24	.5	<3	<3	104	.16	.070	4	13	1.16	93	.23	<3	3.09	.01	.16	4	50.7
7N 6+00E	1	106	35	292	.4	22	27	1354	4.39	8	<8	<2	2	17	1.0	<3	<3	128	.15	.097	8	42	1.47	175	.22	<3	3.33	.01	.17	2	28.1
7N 6+25E	<1	66	41	428	.7	24	28	1667	4.03	9	<8	<2	<2	13	1.0	<3	<3	109	.12	.191	3	75	1.13	151	.22	<3	3.11	.01	.07	<2	9.0
7N 6+50E	<1	71	35	476	.4	13	20	2688	4.21	6	<8	<2	<2	13	.9	<3	<3	144	.13	.134	4	15	1.27	187	.24	<3	3.80	.01	.09	<2	19.5
7N 6+75E	<1	75	144	1796	2.3	16	20	1570	4.27	9	<8	<2	2	16	1.6	3	<3	114	.16	.065	7	23	1.18	135	.17	<3	3.49	.01	.12	<2	57.7
7N 7+00E	1	97	1455	2041	17.4	16	32	6197	4.63	31	<8	<2	<2	32	8.4	3	<3	120	.32	.128	6	25	1.09	201	.11	<3	2.89	.01	.11	<2	31.8
5N 2+00W	<1	14	9	39	.3	6	4	159	1.68	3	<8	<2	2	8	<.2	<3	<3	27	.07	.131	9	10	.17	49	.09	<3	2.68	.01	.04	2	60.5
5N 1+75W	1	13	15	54	.3	7	4	564	1.94	3	<8	<2	<2	12	.2	<3	<3	36	.07	.105	7	12	.22	83	.07	<3	1.98	.01	.04	2	60.7
5N 1+50W	1	13	13	32	.4	5	5	452	2.48	3	<8	<2	2	8	.3	<3	<3	42	.05	.098	7	10	.12	70	.11	<3	2.57	.01	.04	2	21.3
STANDARD DSZ	13	127	31	155	<.3	35	11	819	3.04	55	20	<2	3	26	10.4	9	11	75	.50	.090	15	150	.58	147	.09	3	1.64	.04	.15	10	188.0

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



PLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
N 1+25W	2	13	18	24	.4	5	5	385	3.06	3	<8	<2	2	5	<.2	<3	<3	43	.03	.088	8	10	.10	65	.13	<3	3.33	.01	.03	<2	49.0
N 1+00W	2	16	14	25	.5	6	4	198	2.04	2	<8	<2	2	10	.2	<3	<3	27	.08	.074	10	11	.14	69	.09	3	2.89	.01	.04	<2	78.5
N 0+75W	2	21	14	40	.4	6	5	258	2.01	5	<8	<2	2	11	.2	<3	<3	32	.06	.085	6	11	.20	84	.08	<3	2.73	.01	.05	2	81.9
N 0+50W	1	20	16	29	.6	6	4	512	1.88	2	<8	<2	2	5	<.2	<3	<3	33	.03	.104	4	14	.12	45	.13	<3	3.67	.01	.03	3	27.1
N 0+25W	3	69	16	56	.5	8	6	768	2.56	2	<8	<2	3	5	<.2	<3	<3	43	.03	.146	8	13	.17	69	.13	<3	4.52	.01	.04	<2	31.6
N 0+00	2	27	12	37	<.3	7	8	301	2.47	6	<8	<2	2	12	.2	<3	<3	35	.08	.128	8	14	.26	52	.07	<3	1.97	.01	.05	2	121.9
N 0+25E	1	15	15	33	.4	4	3	199	1.86	4	<8	<2	2	5	<.2	<3	<3	37	.02	.065	5	9	.09	51	.12	<3	2.98	.01	.02	<2	29.9
N 0+50E	1	21	11	27	<.3	6	2	91	1.77	3	<8	<2	3	5	.2	<3	<3	30	.03	.111	9	10	.13	35	.13	3	4.41	.01	.03	<2	20.9
N 0+75E	2	14	12	37	.6	6	3	218	1.99	3	<8	<2	3	7	.2	<3	<3	35	.04	.095	4	11	.14	56	.11	<3	3.53	.01	.03	<2	26.9
N 1+00E	4	24	10	47	<.3	8	5	292	2.06	4	<8	<2	2	14	<.2	<3	<3	38	.10	.052	9	14	.28	86	.10	<3	1.47	.01	.05	<2	79.2
N 1+25E	4	35	13	27	.3	6	3	155	2.25	2	<8	<2	3	11	.2	<3	<3	33	.17	.050	15	11	.18	56	.11	3	3.65	.01	.03	<2	43.7
N 1+50E	4	62	20	83	.4	7	7	1685	2.66	3	<8	<2	<2	13	.3	<3	<3	48	.10	.082	6	13	.20	162	.09	<3	1.55	.01	.05	<2	67.5
N 1+75E	3	65	19	91	.4	57	14	793	3.81	3	<8	<2	2	41	.4	<3	<3	81	.24	.159	13	54	1.18	323	.28	3	2.11	.01	.11	<2	25.9
N 2+00E	5	133	21	62	.5	42	12	889	2.94	7	<8	<2	2	34	.4	<3	<3	61	.27	.095	24	39	.87	250	.23	3	2.43	.01	.10	<2	17.5
N 2+25E	3	33	15	45	.7	6	3	227	2.07	2	<8	<2	<2	13	.4	<3	<3	36	.11	.080	6	10	.17	110	.08	<3	2.01	.01	.04	<2	52.7
N 2+50E	4	22	19	38	.4	5	4	312	2.70	5	<8	<2	<2	11	.5	<3	<3	51	.09	.132	5	11	.11	83	.12	3	1.33	.01	.04	<2	16.0
N 2+75E	3	30	9	40	<.3	10	6	256	2.09	4	<8	<2	2	14	<.2	<3	<3	35	.12	.086	8	18	.37	132	.08	<3	1.61	.01	.07	<2	159.8
N 3+00E	3	37	11	83	.8	11	8	477	2.51	4	<8	<2	3	12	.3	<3	<3	39	.11	.130	7	17	.35	112	.10	<3	2.49	.01	.06	2	67.3
N 3+25E	20	121	22	49	1.2	11	9	1243	2.64	3	<8	<2	4	13	1.0	<3	<3	43	.15	.071	22	18	.21	96	.15	<3	3.42	.01	.05	3	14.4
N 3+50E	18	32	9	28	<.3	7	6	449	2.10	2	<8	<2	3	26	<.2	<3	<3	36	.27	.029	11	15	.36	101	.08	<3	1.15	.02	.07	7	23.9
N 3+75E	27	96	17	43	.6	10	5	435	2.03	3	<8	<2	4	21	.3	<3	<3	33	.29	.086	18	13	.25	87	.15	<3	4.52	.02	.03	3	14.8
L16N 3+75E	27	102	15	45	.5	10	5	459	2.11	4	<8	<2	4	22	.5	<3	<3	35	.30	.089	19	13	.26	90	.16	<3	4.71	.02	.04	2	268.7
N 4+00E	8	46	15	62	<.3	6	9	637	2.63	7	<8	<2	2	15	.3	<3	<3	47	.11	.154	7	12	.32	116	.10	<3	1.92	.01	.06	3	36.0
N 4+25E	40	238	21	43	1.4	6	6	1205	2.01	5	<8	<2	<2	33	.8	<3	<3	32	.46	.070	40	10	.16	107	.09	3	2.44	.01	.04	2	23.8
N 2+00W	<1	16	12	39	.4	7	7	622	1.92	3	<8	<2	<2	42	.6	<3	<3	29	.46	.086	11	12	.27	84	.04	<3	1.65	.01	.06	<2	41.2
N 1+75W	<1	10	15	36	.3	6	6	428	1.89	4	<8	<2	<2	30	.2	<3	<3	30	.38	.046	9	10	.20	91	.07	<3	1.45	.01	.05	<2	44.3
N 1+50W	<1	13	10	47	<.3	8	7	370	2.12	2	<8	<2	<2	26	<.2	<3	<3	34	.28	.071	10	15	.36	78	.06	<3	1.74	.01	.08	<2	88.4
N 1+25W	1	13	16	51	.3	7	7	1206	2.18	3	<8	<2	<2	28	.4	<3	<3	37	.32	.064	10	12	.25	107	.09	<3	1.53	.01	.06	<2	39.1
N 1+00W	2	17	9	45	.3	7	5	285	2.18	4	<8	<2	<2	21	<.2	<3	<3	31	.20	.083	8	10	.26	79	.06	3	1.56	.01	.06	<2	96.3
N 0+75W	2	33	10	29	.6	5	2	268	1.77	4	<8	<2	2	5	.3	<3	<3	34	.06	.198	3	11	.08	48	.13	<3	3.82	.01	.03	2	11.3
N 0+50W	2	16	12	27	.5	5	3	227	2.16	7	<8	<2	3	5	.3	3	<3	37	.03	.294	3	8	.08	44	.14	<3	4.25	.01	.02	<2	10.8
N 0+25W	2	23	15	68	.5	7	6	1681	2.40	3	<8	<2	2	8	.2	<3	<3	40	.05	.131	6	11	.17	118	.09	3	2.56	.01	.05	<2	53.2
N 0+00	8	411	21	44	.8	13	9	1310	2.40	3	<8	<2	2	28	1.1	<3	<3	33	.32	.055	34	14	.24	146	.13	<3	2.99	.01	.05	2	39.5
NDARD DS2	14	126	35	154	<.3	35	11	817	3.05	59	21	<2	3	26	10.4	10	9	75	.50	.090	15	156	.58	148	.09	4	1.65	.04	.15	10	197.4

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



AMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
6N 1+50W	1	15	11	29	.3	4	4	215	1.86	2	<8	<2	<2	19	.4	<3	<3	28	.13	.027	8	8	.13	71	.07	<3	.83	.01	.04	<2	69.2
6N 1+25W	1	19	7	17	.3	6	4	296	2.16	2	<8	<2	<2	21	.2	<3	<3	23	.19	.061	12	9	.12	40	.08	<3	2.41	.02	.03	2	30.0
E L6N 1+25W	1	20	9	16	<.3	6	4	284	2.19	4	<8	<2	<2	21	.4	<3	<3	24	.19	.061	12	8	.11	39	.08	<3	2.45	.02	.03	<2	19.4

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



MPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
4+75W	1	102	25	73	1.0	31	22	2120	4.14	6	<8	<2	<2	45	1.0	<3	<3	54	.55	.120	21	51	.86	172	.07	3	2.62	.02	.08	<2	15.4
4+50W	<1	57	14	81	<.3	29	15	924	4.21	4	<8	<2	<2	61	.5	<3	<3	65	.68	.118	13	55	1.30	202	.06	<3	2.21	.02	.12	<2	28.0
4+25W	<1	54	18	78	<.3	21	17	1114	3.96	5	<8	<2	<2	57	.4	<3	<3	51	.45	.138	15	31	.74	127	.08	<3	2.66	.02	.08	<2	25.7
4+00W	<1	55	18	61	<.3	22	21	1115	4.36	9	<8	<2	<2	70	.4	<3	3	52	.43	.106	13	34	.70	125	.08	<3	2.47	.01	.07	<2	28.1
3+75W	1	22	17	49	<.3	12	9	810	3.68	5	<8	<2	<2	20	.4	<3	<3	51	.14	.058	10	21	.42	119	.07	<3	1.54	.01	.05	<2	11.4
3+50W	<1	23	14	77	<.3	13	9	558	2.89	5	<8	<2	<2	27	.5	<3	3	47	.25	.070	7	21	.37	198	.06	4	1.73	.02	.06	<2	21.0
3+25W	1	24	27	67	<.3	12	9	1832	2.59	6	<8	<2	<2	28	.7	<3	<3	40	.21	.077	14	16	.32	132	.08	3	1.52	.02	.06	<2	9.7
3+00W	1	19	16	48	.4	8	5	370	2.50	3	<8	<2	<2	12	.4	<3	3	40	.09	.061	9	10	.19	105	.09	4	1.88	.01	.05	<2	15.8
2+75W	1	22	16	61	.4	10	5	200	2.94	5	<8	<2	<2	10	<.2	<3	<3	45	.06	.070	6	17	.28	93	.09	<3	2.45	.02	.05	<2	19.7
2+50W	1	15	14	64	<.3	8	3	507	2.75	5	<8	<2	3	14	.3	<3	<3	44	.11	.180	6	11	.19	72	.10	<3	2.97	.01	.07	<2	25.0
LON 2+50W	2	15	13	67	.4	8	3	521	2.85	6	<8	<2	4	14	.2	<3	<3	45	.12	.184	7	14	.20	75	.10	7	3.08	.01	.08	<2	40.0
2+25W	2	19	13	55	.3	7	4	397	2.26	5	<8	<2	3	13	.2	<3	4	40	.07	.108	7	12	.20	58	.09	3	2.53	.01	.06	<2	73.8
2+00W	2	25	21	72	.4	10	6	663	3.01	5	<8	<2	<2	19	.3	<3	<3	51	.15	.133	9	17	.34	87	.10	<3	1.89	.01	.09	<2	16.9
1+75W	1	37	26	68	.4	23	12	1340	2.73	7	<8	<2	<2	23	.8	<3	<3	44	.20	.077	17	30	.49	112	.10	3	1.95	.02	.08	<2	58.3
1+50W	2	57	19	49	.8	15	17	3713	2.15	<2	<8	<2	<2	13	1.2	<3	<3	43	.10	.114	19	17	.24	117	.11	<3	2.28	.02	.06	<2	8.8
1+25W	<1	15	17	34	<.3	8	4	383	2.67	2	<8	<2	<2	21	.4	<3	<3	49	.24	.035	10	11	.15	162	.15	<3	1.31	.02	.05	<2	11.3
STANDARD DS2	13	122	33	150	<.3	34	11	792	2.98	54	17	<2	3	28	9.8	9	11	76	.51	.086	17	161	.57	152	.09	<3	1.67	.04	.16	7	206.0

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



Sultan Minerals PROJECT KENA FILE # A003515



LE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
155+00W	1	31	15	102	<.3	14	12	2703	2.38	5	<8	<2	<2	69	1.0	<3	<3	53	.65	.076	15	16	.45	259	.06	<3	2.14	.02	.05	<2	26.4
154+75W	1	18	36	43	.4	5	3	547	1.08	3	<8	<2	<2	12	1.1	<3	<3	24	.09	.069	6	7	.08	122	.02	<3	.63	.01	.05	<2	101.1
154+50W	1	20	14	62	.6	12	6	273	2.91	6	<8	<2	3	13	.3	<3	<3	58	.11	.084	8	21	.40	98	.12	<3	3.04	.01	.06	<2	11.7
154+25W	1	30	19	84	.3	13	10	1664	2.44	6	<8	<2	<2	28	.5	<3	<3	48	.19	.099	4	22	.85	103	.13	<3	1.67	.01	.15	<2	.9
154+00W	1	28	9	100	.4	12	14	866	3.25	8	<8	<2	2	23	.3	<3	<3	83	.16	.213	5	18	1.06	135	.13	<3	2.72	.02	.09	<2	14.5
46N 54+00W	1	28	11	99	.4	13	14	884	3.18	9	<8	<2	2	21	.3	<3	<3	81	.15	.211	5	18	1.03	134	.12	<3	2.65	.02	.08	<2	10.6
154+00W IDARD DS2	15	127	31	157	<.3	35	11	812	3.05	57	20	<2	3	28	10.5	10	11	76	.52	.089	16	159	.59	153	.09	<3	1.69	.04	.16	8	200.1

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
DN 58+25W	1	29	31	98	<.3	12	8	1133	2.60	9	<8	<2	2	12	.7	3	<3	57	.09	.164	8	16	.46	79	.09	<3	2.01	.01	.08	<2	11.4
DN 58+00W	2	19	31	55	.3	9	5	294	3.00	14	<8	<2	2	10	.3	<3	<3	68	.05	.060	7	15	.34	59	.12	<3	1.78	.01	.06	<2	14.7
DN 57+75W	2	25	15	53	<.3	8	5	230	3.05	8	<8	<2	2	11	.2	<3	<3	75	.06	.044	7	16	.40	64	.13	<3	2.80	.01	.05	<2	28.0
DN 57+50W	2	13	24	12	.5	5	1	49	2.78	4	<8	<2	3	5	.4	<3	<3	61	.03	.044	8	10	.08	40	.19	<3	3.57	.01	.03	<2	3.6
DN 57+25W	2	17	21	48	.4	7	4	233	3.31	4	<8	<2	3	11	<.2	3	<3	79	.07	.055	8	17	.39	63	.11	<3	2.03	.01	.05	2	32.1
DN 57+00W	1	22	30	75	.3	9	9	1648	2.33	7	<8	<2	<2	28	.4	3	<3	42	.26	.081	8	12	.25	365	.07	<3	1.20	.01	.06	2	5.0
DN 56+75W	<1	43	30	124	<.3	11	13	5749	2.49	5	<8	<2	<2	76	1.4	<3	<3	49	.86	.139	23	14	.40	310	.04	<3	2.24	.01	.06	2	11.3
DN 56+50W	1	28	21	84	<.3	9	10	1605	2.69	6	<8	<2	<2	31	.5	<3	<3	64	.30	.066	12	15	.65	116	.07	<3	1.83	.01	.06	<2	17.1
DN 56+25W	1	31	31	112	<.3	9	13	3855	2.84	7	<8	<2	<2	44	.9	3	<3	60	.37	.133	13	15	.55	322	.03	<3	1.81	.01	.07	<2	26.4
DN 56+00W	1	35	24	93	<.3	9	12	1782	2.70	7	<8	<2	<2	59	.5	<3	<3	66	.50	.105	13	16	.72	129	.05	<3	1.93	.01	.05	<2	13.3
DN 55+75W	1	36	19	101	<.3	10	14	1816	3.18	6	<8	<2	<2	65	.5	<3	<3	72	.59	.090	13	19	.78	161	.07	<3	2.21	.01	.06	<2	20.5
L40N 55+75W	1	39	22	107	<.3	11	15	1982	3.40	8	<8	<2	<2	69	.5	<3	<3	76	.63	.096	14	20	.84	173	.07	<3	2.35	.01	.06	<2	179.4
DN 55+50W	1	33	19	81	<.3	10	9	620	3.05	5	<8	<2	2	28	.3	3	<3	72	.20	.096	9	18	.71	128	.10	<3	1.96	.01	.07	<2	10.8
DN 55+25W	2	39	18	64	.3	10	7	365	3.65	7	<8	<2	3	13	<.2	<3	<3	77	.07	.177	9	20	.55	76	.13	<3	2.82	.01	.07	2	37.5
DN 55+00W	1	38	27	127	<.3	10	23	1955	4.78	6	<8	<2	<2	22	.2	<3	<3	130	.24	.100	4	9	1.94	102	.14	<3	2.48	.01	.07	<2	33.5
DN 54+75W	1	77	22	105	<.3	13	19	1410	4.08	11	<8	<2	<2	27	.4	3	<3	107	.31	.079	8	18	1.32	114	.11	<3	2.83	.01	.06	2	16.1
DN 54+50W	1	58	44	99	<.3	12	15	1754	3.43	6	<8	<2	<2	39	.9	<3	<3	84	.49	.088	9	19	.95	156	.10	<3	2.31	.01	.08	<2	8.9
DN 54+25W	1	59	32	102	.3	10	13	2574	2.72	7	<8	<2	<2	78	1.1	3	<3	62	.83	.114	12	16	.62	194	.06	<3	1.95	.01	.05	<2	8.1
DN 54+00W	1	85	23	93	.3	14	18	1910	3.36	10	<8	<2	<2	67	.7	<3	3	71	.77	.116	13	20	.82	183	.07	<3	2.43	.01	.07	<2	15.3
STANDARD DS2	15	131	35	163	<.3	38	12	851	3.18	57	19	<2	5	31	10.8	10	12	79	.57	.092	18	173	.63	168	.10	3	1.83	.04	.18	7	198.7

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



GEOCHEMICAL ANALYSIS CERTIFICATE

Sultan Minerals PROJECT KENA File # A003769

1400 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
HTS-1	4	93	21	331	<.3	73	27	1230	4.05	47	<8	<2	<2	82	3.9	3	<3	67	.83	.146	13	66	1.17	168	.05	<3	1.77	.01	.11	<2	6.4

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 - SAMPLE TYPE: SILT SS80 60C AU* BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)

DATE RECEIVED: SEP 25 2000 DATE REPORT MAILED: *Oct 10/00* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



LE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
23+00W	1	50	18	214	<.3	28	18	1217	4.42	31	<8	<2	3	10	2.1	<3	<3	64	.06	.201	11	27	.47	113	.11	4	3.09	.02	.08	5	15.8
22+75W	5	50	14	311	1.1	43	18	1314	3.97	192	<8	<2	2	10	4.2	<3	<3	51	.07	.230	10	27	.37	167	.08	<3	2.95	.02	.05	<2	4.5
22+50W	3	29	17	185	<.3	58	18	1307	3.39	59	<8	<2	<2	18	1.6	3	<3	53	.15	.160	8	40	.52	223	.09	<3	2.77	.02	.05	3	2.6
22+25W	6	53	26	232	.4	47	17	2779	2.97	116	<8	<2	<2	59	6.6	<3	<3	44	.67	.206	16	19	.32	126	.07	<3	3.67	.02	<.01	<2	3.5
22+00W	7	80	26	263	<.3	81	38	2774	5.67	98	<8	<2	2	23	1.7	3	<3	50	.26	.348	12	28	.75	305	.06	<3	2.42	.01	.05	<2	2.6
21+75W	2	76	45	264	<.3	58	53	3498	5.67	95	9	<2	2	17	1.1	<3	3	87	.19	.196	9	31	.70	173	.11	4	2.32	.01	.07	<2	1.4
21+50W	2	398	21	135	<.3	37	36	1053	4.68	37	<8	<2	3	10	.5	<3	<3	96	.08	.114	12	39	.93	123	.14	3	3.44	.01	.05	3	19.1
21+25W	<1	49	12	126	<.3	69	23	1475	3.56	7	<8	<2	4	51	.6	<3	<3	60	.25	.319	22	78	1.39	433	.24	<3	3.53	.02	.15	2	37.6
21+00W	<1	59	29	150	<.3	26	21	4884	4.43	5	9	<2	<2	36	.9	<3	<3	99	.47	.166	8	37	1.04	395	.15	<3	2.53	.02	.34	2	2.0
20+50W	<1	49	15	109	.4	21	21	2275	3.74	8	<8	<2	<2	19	.5	<3	<3	79	.17	.160	6	35	.84	139	.09	4	2.11	.01	.10	2	3.5
20+00W	1	25	11	75	<.3	13	12	912	2.99	3	<8	<2	3	7	.3	<3	<3	57	.05	.182	5	25	.40	87	.12	<3	3.60	.01	.05	<2	2.8
90N 20+00W	1	27	18	81	<.3	14	13	986	3.22	5	<8	<2	3	8	<.2	<3	<3	63	.05	.198	5	29	.44	94	.13	4	3.88	.01	.05	<2	11.0
19+50W	<1	35	14	91	<.3	16	15	1310	3.54	7	<8	<2	2	14	.2	<3	<3	65	.10	.171	6	33	.58	158	.10	<3	2.59	.01	.07	<2	4.7
19+00W	<1	72	13	94	<.3	23	19	820	3.74	6	<8	<2	4	15	<.2	<3	<3	70	.12	.116	10	39	.91	135	.09	4	2.65	.02	.09	2	10.2
18+50W	1	44	10	97	<.3	18	14	942	3.40	7	<8	<2	4	10	.3	3	<3	67	.06	.200	8	31	.68	117	.10	5	3.25	.01	.07	2	6.4
18+00W	<1	64	14	94	<.3	21	16	872	4.10	7	<8	<2	3	13	.2	<3	<3	78	.09	.241	7	43	.83	86	.09	<3	3.09	.01	.07	<2	28.2
DARD DS2	13	120	34	157	<.3	34	12	787	2.94	56	20	<2	4	26	10.0	10	11	72	.50	.086	15	151	.57	165	.09	3	1.62	.04	.15	8	190.0

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



GEOCHEMICAL ANALYSIS CERTIFICATE

Sultan Minerals PROJECT KENA File # A003943

1400 - 570 Granville St., Vancouver BC V6C 3P1 Submitted by: Linda Dandy

PLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
N 24+00W	1	73	18	170	.5	27	19	1568	3.85	15	<8	<2	<2	30	.9	<3	<3	57	.26	.145	9	39	.84	265	.04	4	1.93	.01	.17	4	28.0
N 23+50W	<1	56	20	139	.7	25	21	937	4.16	16	<8	<2	2	18	.6	3	<3	57	.11	.198	8	29	.73	234	.05	6	2.58	.01	.12	4	11.8
N 23+00W	2	87	16	116	<.3	34	25	1241	4.41	18	<8	<2	3	23	.7	<3	<3	77	.17	.128	10	49	1.16	140	.06	7	2.21	.01	.23	4	32.8
N 22+50W	3	71	17	284	.7	71	24	1436	4.63	58	<8	<2	<2	28	2.2	<3	<3	84	.22	.212	10	82	1.13	297	.05	6	2.57	.01	.12	<2	7.4
N 22+00W	4	55	15	206	2.3	43	21	947	4.21	30	<8	<2	2	19	1.5	3	<3	67	.14	.146	9	46	.81	226	.06	5	2.53	.01	.09	7	15.9
N 21+50W	1	46	19	185	.6	34	18	1678	3.76	12	<8	<2	2	17	1.9	<3	<3	56	.11	.239	9	31	.69	230	.05	6	2.54	.01	.11	4	16.8
N 21+00W	2	52	20	149	.6	27	19	1162	3.97	16	<8	<2	<2	31	1.4	<3	<3	53	.21	.276	9	27	.80	311	.05	<3	2.41	.01	.14	3	12.2
N 20+50W	1	79	11	104	<.3	40	20	699	4.52	18	<8	<2	2	20	.3	<3	<3	76	.13	.090	10	67	1.28	134	.05	5	2.35	.01	.09	<2	18.1
N 20+00W	1	66	16	90	<.3	18	19	692	4.27	13	<8	<2	2	26	.3	<3	<3	52	.16	.109	8	24	.85	142	.03	4	1.93	.01	.13	5	26.9
N 19+50W	1	45	26	111	<.3	19	18	1375	3.97	13	<8	<2	<2	35	.6	<3	<3	57	.28	.208	8	24	.72	281	.04	<3	2.43	.01	.13	2	5.6
N 19+00W	<1	54	14	89	<.3	25	22	1464	3.84	12	<8	<2	<2	30	.5	<3	<3	59	.22	.127	14	42	.73	198	.07	<3	2.68	.01	.10	5	8.8
N 18+50W	1	71	13	86	<.3	25	24	1450	4.20	13	<8	<2	<2	34	.4	<3	<3	67	.33	.152	11	45	.85	210	.07	<3	2.25	.01	.10	5	20.0
N 18+00W	2	72	10	74	<.3	24	21	1306	3.69	11	<8	<2	<2	19	.5	<3	<3	60	.19	.111	11	43	.76	106	.07	<3	2.21	.01	.06	<2	12.4
N 195N 18+00W	<1	69	10	73	<.3	24	20	1279	3.63	10	<8	<2	<2	18	.6	<3	<3	57	.19	.109	10	39	.75	101	.06	<3	2.17	.01	.06	<2	10.7
STANDARD DS2	14	125	33	154	<.3	35	12	816	3.06	56	18	<2	4	27	10.3	10	12	76	.51	.090	16	157	.58	172	.09	6	1.66	.04	.15	8	204.8

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
 - SAMPLE TYPE: SOIL SS80 60C AU* BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 6 2000 DATE REPORT MAILED: Oct 18/00

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



PLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
3+00W	1	11	23	31	<.3	5	4	265	1.62	6	<8	<2	2	12	<.2	<3	<3	32	.08	.071	7	10	.18	55	.07	<3	1.60	.01	.05	<2	55.3
2+75W	2	20	12	79	.3	9	9	1196	2.81	3	<8	<2	2	13	.2	<3	<3	48	.11	.308	8	17	.21	117	.08	<3	2.30	.01	.06	<2	25.5
2+50W	1	13	11	35	<.3	6	3	147	2.53	<2	<8	<2	3	11	<.2	<3	<3	44	.10	.063	9	13	.17	65	.13	<3	2.81	.01	.04	<2	31.0
2+25W	1	34	22	85	.6	10	13	6612	1.80	4	<8	<2	<2	26	1.2	<3	<3	33	.24	.170	13	9	.12	160	.02	<3	1.44	.01	.06	<2	32.2
2+00W	1	11	25	49	.3	7	5	581	2.38	6	<8	<2	3	26	.5	<3	3	45	.29	.053	6	12	.20	141	.09	<3	2.29	.01	.05	<2	10.0
1+75W	1	20	17	50	<.3	5	9	1894	1.77	3	<8	<2	<2	23	.4	<3	<3	29	.20	.095	7	7	.10	154	.03	<3	.92	.01	.04	<2	27.7
1+50W	1	20	32	62	<.3	6	6	1878	1.83	3	<8	<2	<2	47	.8	<3	<3	32	.52	.070	10	9	.16	179	.04	<3	1.59	.01	.07	<2	21.6
1+25W	1	24	13	41	.4	6	7	1366	1.90	2	<8	<2	<2	46	.4	<3	<3	31	.47	.086	10	11	.19	102	.05	<3	1.48	.01	.05	<2	54.3
6+00W	1	18	11	49	<.3	8	5	486	2.32	3	<8	<2	2	11	<.2	<3	<3	42	.07	.078	7	14	.25	86	.08	<3	1.41	.01	.07	<2	47.5
5+75W	<1	12	11	34	<.3	6	3	191	1.86	<2	<8	<2	3	10	<.2	<3	<3	30	.07	.070	7	9	.22	54	.04	<3	1.67	.01	.06	<2	79.3
5+50W	1	14	13	9	.5	6	2	28	.65	<2	<8	<2	<2	7	.2	<3	<3	21	.04	.035	9	5	.09	48	.14	<3	2.03	.02	.03	<2	4.9
5+25W	1	10	11	28	<.3	5	2	208	2.41	2	<8	<2	3	10	<.2	<3	3	41	.07	.065	6	11	.14	56	.07	<3	2.50	.01	.05	<2	64.0
5+00W	1	9	14	27	.3	5	2	107	3.28	3	<8	<2	3	11	<.2	<3	<3	71	.05	.043	7	10	.13	53	.18	<3	1.76	.01	.05	<2	30.0
4+75W	1	14	13	56	<.3	10	5	335	2.63	6	<8	<2	3	16	<.2	<3	<3	48	.12	.129	11	17	.40	55	.09	<3	1.80	.01	.10	<2	99.6
4+50W	2	20	14	35	.3	8	5	213	2.29	2	<8	<2	<2	8	.2	3	3	38	.05	.130	10	12	.19	53	.08	<3	3.02	.01	.05	<2	13.8
4+25W	1	42	17	25	.6	9	7	240	1.83	3	<8	<2	<2	6	.4	<3	<3	33	.04	.080	11	11	.10	66	.11	<3	2.85	.02	.03	<2	9.6
4+00W	1	26	17	31	<.3	6	3	132	1.44	2	<8	<2	<2	13	<.2	<3	<3	28	.06	.051	8	9	.20	73	.06	<3	1.41	.01	.07	<2	44.6
3+75W	1	24	17	63	<.3	8	9	1861	2.13	<2	<8	<2	<2	27	.3	<3	3	38	.27	.072	17	12	.24	122	.06	<3	2.39	.01	.06	<2	24.8
3+50W	1	12	13	48	<.3	7	7	1158	1.89	2	<8	<2	<2	37	.2	<3	<3	34	.43	.070	12	11	.26	96	.05	<3	1.63	.01	.06	<2	22.6
3+25W	1	20	10	38	.6	8	7	976	1.86	2	<8	<2	<2	35	.2	<3	<3	33	.42	.094	15	12	.24	87	.04	<3	2.16	.01	.05	<2	23.1
3+00W	1	19	23	32	.4	7	4	494	1.06	<2	<8	<2	<2	52	1.1	<3	<3	21	.60	.074	20	7	.10	115	.03	<3	1.21	.01	.05	<2	15.6
L5N 5+25W	1	10	12	28	.3	4	2	208	2.38	5	<8	<2	3	10	<.2	<3	<3	41	.07	.065	7	12	.14	55	.07	<3	2.48	.01	.05	<2	90.5
2+75W	1	22	19	49	.7	9	7	1400	1.87	2	<8	<2	<2	41	.6	<3	<3	30	.51	.091	21	11	.20	107	.05	<3	2.49	.02	.05	<2	20.0
2+50W	1	17	14	50	.5	6	10	829	3.18	<2	<8	<2	2	30	.5	<3	<3	70	.40	.068	16	12	.53	97	.16	<3	2.66	.01	.16	<2	18.2
2+25W	1	33	13	40	.6	10	6	825	2.03	<2	<8	<2	<2	33	.7	<3	3	33	.36	.109	17	13	.22	86	.05	<3	2.84	.01	.04	<2	23.9
2+00W	1	28	13	39	.6	8	5	391	2.28	3	10	<2	<2	60	.6	<3	<3	31	.72	.091	21	12	.20	97	.06	<3	2.30	.01	.05	<2	21.6
1+75W	1	27	14	42	.5	8	8	1260	2.16	2	<8	<2	<2	38	.2	<3	<3	39	.38	.118	18	13	.25	79	.05	<3	2.37	.01	.05	<2	26.7
1+50W	2	23	30	46	.8	6	4	1043	1.29	3	11	<2	<2	112	.9	<3	<3	21	1.22	.190	27	10	.15	108	.02	3	1.84	.01	.05	<2	12.3
1+25W	1	48	16	42	.9	7	6	1129	1.76	4	<8	<2	<2	82	1.0	<3	3	28	.86	.123	22	11	.16	103	.03	<3	2.19	.01	.05	<2	34.2
VDARD DS2	14	128	35	154	.3	35	12	810	3.04	56	23	<2	4	28	10.8	10	12	81	.52	.091	16	158	.59	146	.09	3	1.67	.04	.16	8	192.0

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

PLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
2+50W	1	18	12	60	.3	10	9	613	3.05	3	<8	<2	2	43	.4	<3	<3	41	.65	.086	11	18	.41	169	.07	<3	1.83	.02	.07	<2	40.9
2+25W	1	24	40	64	.3	10	7	1579	1.77	6	<8	<2	<2	46	1.7	<3	<3	29	.71	.139	16	10	.25	154	.03	3	1.63	.01	.07	<2	20.1
2+00W	1	17	13	60	<.3	9	6	882	2.30	11	<8	<2	2	36	.4	<3	<3	36	.50	.053	9	12	.30	205	.08	<3	1.47	.02	.06	<2	38.5
1+75W	2	16	10	50	<.3	6	3	283	2.15	<2	<8	<2	2	19	.2	<3	<3	35	.16	.110	6	10	.14	119	.08	<3	1.80	.02	.05	<2	53.3
1+50W	1	21	18	75	.3	7	4	1156	2.38	2	<8	<2	3	12	.2	<3	<3	42	.15	.236	6	13	.18	125	.11	<3	2.66	.01	.05	<2	16.8
1+25W	1	19	25	55	.4	7	5	1473	2.53	12	<8	<2	2	9	.4	<3	<3	46	.08	.220	7	12	.16	85	.12	<3	2.28	.02	.06	<2	11.7
6+00W	1	50	8	87	.7	17	17	1931	3.64	11	<8	<2	2	13	.4	<3	<3	45	.11	.158	9	18	.37	172	.05	<3	2.76	.01	.07	<2	37.0
5+75W	1	47	11	75	.6	20	13	1127	3.70	8	<8	<2	2	12	.5	3	<3	52	.09	.133	8	29	.56	113	.06	<3	2.01	.01	.07	<2	162.5
5+50W	1	34	13	68	.3	19	13	1178	3.27	7	<8	<2	2	17	.2	<3	<3	48	.17	.081	11	31	.58	132	.06	<3	1.87	.02	.07	<2	71.8
5+25W	1	51	10	57	.4	17	15	891	3.55	7	<8	<2	3	18	.6	<3	<3	50	.17	.094	15	29	.59	94	.06	<3	2.22	.01	.07	<2	26.4
5+00W	1	43	16	60	.5	15	17	1613	3.42	6	<8	<2	<2	31	.8	<3	<3	49	.46	.094	12	26	.64	127	.05	<3	1.82	.01	.07	<2	34.1
4+75W	3	115	10	83	<.3	27	16	737	7.37	16	<8	<2	3	39	<.2	<3	<3	61	.35	.148	14	39	.89	84	.06	<3	2.38	.01	.09	<2	89.7
4+50W	2	15	18	28	<.3	7	2	112	2.68	6	<8	<2	3	6	.4	<3	<3	43	.03	.042	8	12	.16	62	.12	<3	2.11	.02	.03	<2	6.7
4+25W	1	17	13	38	<.3	10	6	453	2.64	3	<8	<2	2	9	.2	<3	<3	56	.04	.062	8	18	.31	51	.07	<3	1.39	.01	.05	<2	11.6
4+00W	1	26	10	63	.4	15	7	400	3.15	5	<8	<2	3	8	.5	<3	<3	50	.06	.071	7	27	.47	103	.11	<3	3.09	.02	.04	<2	10.9
3+75W	1	10	28	31	<.3	5	2	577	1.41	7	<8	<2	<2	11	.5	<3	<3	35	.07	.056	6	9	.10	85	.06	<3	.68	.01	.05	<2	24.3
3+50W	1	34	25	91	.7	16	8	1787	2.55	5	<8	<2	2	21	.8	<3	<3	40	.16	.254	11	20	.26	167	.09	<3	1.77	.02	.10	<2	13.2
3+25W	1	12	17	73	<.3	10	7	1153	2.30	5	<8	<2	2	13	.3	<3	3	39	.12	.102	8	11	.18	128	.08	<3	1.41	.02	.06	<2	12.7
3+00W	2	16	12	71	<.3	11	6	669	2.32	<2	<8	<2	3	11	<.2	<3	<3	38	.08	.125	10	15	.26	88	.09	<3	3.24	.01	.06	<2	93.7
1N 3+00W	1	16	7	71	<.3	8	6	703	2.35	<2	<8	<2	4	11	.2	<3	<3	39	.08	.126	10	15	.26	90	.09	<3	3.33	.01	.06	<2	24.8
2+75W	1	15	9	36	<.3	6	3	114	2.28	2	<8	<2	3	12	.2	<3	<3	34	.10	.056	6	11	.16	83	.06	<3	1.68	.01	.04	<2	56.9
2+50W	1	21	13	46	<.3	7	4	766	2.00	<2	<8	<2	2	10	<.2	<3	<3	34	.05	.114	7	9	.16	68	.05	<3	1.54	.02	.06	<2	63.0
2+25W	1	8	19	34	<.3	5	3	289	1.81	4	<8	<2	2	7	<.2	<3	<3	46	.04	.057	7	8	.08	67	.06	<3	.90	.01	.05	<2	9.5
2+00W	2	14	11	45	<.3	7	3	317	2.73	<2	<8	<2	4	5	<.2	<3	<3	43	.03	.182	5	10	.09	53	.12	<3	4.65	.01	.03	<2	1.8
1+75W	1	37	23	91	.3	13	20	3432	1.82	2	<8	<2	<2	24	.9	<3	<3	25	.26	.199	14	9	.12	173	.03	<3	2.33	.02	.05	<2	308.5
1+50W	1	15	12	54	<.3	7	4	241	2.36	2	<8	<2	3	18	<.2	<3	<3	41	.11	.111	5	11	.20	128	.10	<3	1.09	.02	.06	<2	32.3
1+25W	2	20	18	47	.4	6	3	206	2.33	9	<8	<2	4	7	<.2	<3	<3	44	.04	.108	5	12	.15	67	.12	<3	2.65	.02	.04	<2	22.5
DARD DS2	15	128	30	154	<.3	36	11	824	3.06	60	21	<2	6	28	10.5	10	10	74	.52	.092	16	161	.59	152	.09	<3	1.71	.05	.17	7	190.0

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

APPENDIX IV

**REPORT ON INDUCED POLARIZATION SURVEY,
GOLD MOUNTAIN GRID - P.E. WALCOTT & ASSOCIATES**

A GEOPHYSICAL REPORT

ON

ELECTROMAGNETIC AND
INDUCED POLARIZATION SURVEYING

**Kena property
Nelson M.D., B.C.
49° 26'N, 117° 16'W
N.T.S. 82F/6W**

For

SULTAN MINERALS INC.

Vancouver, British Columbia

By

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

FEBRUARY 2001

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INTRODUCTION.

In the fall of 2000 Peter E. Walcott & Associates Limited undertook limited electromagnetic surveying over parts of the Kena property, located some 6 kilometres south of Nelson, B.C., for Sultan Minerals Inc.

The surveying consisted of 7 lines of electromagnetic traversing using a S.E. 88 electromagnetic – Genie - system and 4 lines of VLF E.M. traversing using an Omni VLF unit.

4 of the traverses with the Genie unit were conducted on widely spaced lines east of Noman Creek to pinpoint the ground location of a Dighem airborne conductor, while the other 3 were conducted on lines parallel to the main strike direction of the Kena Gold Zone in an effort to explore for higher grade sulphide occurrences in cross cutting structures.

Measurements of amplitude ratios of three frequency pairs, 337/112, 1012/112 and 3037/112 Hz., were taken with 50 and 75 metre coil spacings on the Noman grid, and a 25 metre coil separation was employed on the Gold Zone grid.

The VLF traverses were undertaken on N 30° W lines around the area of recent trenching on the Gold Mountain Zone where 1.43 g/t Au was reported over 182 metres of combined length in three trenches to search for cross cutting features as suggested by northeasterly trending offsets in the airborne magnetic coverage.

After an examination of the gold bearing sulphide mineralization in the above mentioned trenches suggested its amenability for detection and outlining by the induced polarization technique, Sultan made the decision to establish a grid with lines running N 60° E at 100 metre centres from 200 metres south to 200 metres north of the trench area, and to conduct I.P. surveying on the same.

Measurements of apparent chargeability – first to sixth separation – and resistivity were made on the grid lines using the pole-dipole technique with a 25 metre dipole.

As a result of the favourable response the coverage was extended by two lines at a time, and was eventually completed on Lines 400N and 1900N.

INTRODUCTION CONT'D

The data obtained was merged with previous data collected in the early 80's on adjoining grids to the east and south and presented in various formats as described in later sections of the report.

PROPERTY, LOCATION & ACCESS

The consolidated property, now known as the Kena property, an amalgamation of the separately owned Kena and Shaft Properties, is located in the Nelson Mining Division of British Columbia.

It is situated at higher elevations some 6 kilometres to the south and overlooking the town of Nelson, British Columbia.

Access is obtained by means of two and four wheel drive vehicle on logging roads that run through the property.

GEOLOGY.

The property is predominantly underlain by volcanic rocks (andesite tuffs and flows) of the Elise Formation -Rossland Group. These are overlain in the southwest in the vicinity of Noman Creek by argillites and carbonaceous siltstones of the Hall Group, and are intruded by the Silver King Porphyry Stock – see Map W525-1.

A small dioritic sill – the possible cause of the elevated total field readings on the helicopter borne magnetic survey – strikes northwesterly through a good portion of the north half of the property just east of the volcanic-intrusive contact – not seen of above regional map.

Numerous mineral occurrences are found on the property. These can be collectively grouped into five mineralized zones known as the Kena Gold Zone, Kena Copper Zone, Shaft and Cat Zones, Gold Mountain Zone and South Gold Zone.

These zones have been subject of varying amount of work by previous operators with the Kena Gold Zone receiving the bulk of attention.

The style of mineralization found include gold in silicified and pyritized crackle-breccia volcanics, chalcopyrite, pyrite and magnetite as disseminations and fracture filling in northwest shear zones, gold bearing sulphide mineralization in porphyry rocks, etc.

For further description the reader is referred to reports held by Sultan Minerals Inc.

PREVIOUS WORK.

Exploration work on the property dates back to the late 1880's. However the writer has little knowledge of previous work until the early 1980's when Lacona Mining Corporation and South Pacific Gold Corp. carried out airborne electromagnetic and magnetic surveying, soil sampling, geological mapping and diamond drilling.

Work continued into 1991 when Noramco Mining Corporation let their option lapse after completing ground geophysics including induced polarization surveying and diamond drilling.

For further details the reader is referred to the aforementioned reports held by Sultan Minerals Inc.

PURPOSE.

The purpose of the Genie survey in the Noman Creek area was to more properly define the location of the airborne E.M. conductor thought to occur in the underlying volcanics, while that over the Kena Gold Zone showing was to explore for potentially high-grade structures in cross cutting features as suggested by Sultan's consultant structural geologist.

The purpose of the I.P. survey was to ascertain the I.P. response of the gold bearing sulphide mineralization in the Silver King Porphyry and to use this response in an effort to outline this mineralization and other similar occurrences.

SURVEY SPECIFICATIONS.

Electromagnetic Surveying.

The basic principle of any electromagnetic survey is that when conductors are subjected to primary alternating fields secondary magnetic fields are induced in them. Measurements of these secondary fields give indications as to the size, shape and conductivity of conductors. In the absence of conductors no secondary fields are obtained.

Genie Electromagnetic Survey:

The Genie electromagnetic survey was carried out using a SE 88 Genie electromagnetic system manufactured by Scintrex Limited of Metropolitan Toronto, Ontario. The operation of this system is based on the simultaneous transmission of two pre-selected, well separated frequencies from the transmitter, and the simultaneous reception and amplitude comparison of the resultant signals by a single receiver. There is no cable or radio link between the coils, and since there are effectively no coil geometry errors, the instrument is very effective in rugged topography, and heavily forested areas. In the absence of atmospheric noise useful amplitude ratio changes may be made up to a transmitter-receiver separation of 150 metres.

On this survey measurements were made at three frequency pairs, 337/112, 1012/112 and 3037/112 Hz, at 75 and 50 metre coil separations on the Nomad grid, and at 25 metre separations on the Kena Gold Zone grid at a station interval of 25 metres.

VLF Surveying:

The VLF electromagnetic survey was carried out using an Omni Plus unit manufactured by EDA Instruments Ltd. of Metropolitan Toronto, Ontario. This unit makes use of the VLF transmitting stations operating for communication with submarines for its transmitted signal – the vertical antenna currents create concentric horizontal magnetic fields – and measures the vertical components of the secondary fields created as above. These measurements were made every 12.5 metres along the grid lines.

SURVEY SPECIFICATIONS cont'd

Induced Polarization Survey.

The induced polarization (I.P.) survey was conducted using a pulse type system, the principal components of which are manufactured by Iris Instruments of Orleans, France.

The system consists basically of three units, a receiver (Iris), transmitter and a motor generator (Iris). The transmitter, which provides a maximum of 4.0 kw d.c. to the ground, obtains its power from a 4 kw 400 c.p.s. three phase alternator driven by a gasoline engine. The cycling rate of the transmitter is 2 seconds "current-on" and 2 seconds "current-off" with the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through the current electrodes C_1 and C_2 , the primary voltages (V) appearing between any two potential electrodes, P_1 through P_7 , during the "current-on" part of the cycle, and the apparent chargeability, (M_a) presented as a direct readout in millivolts per volt using a 120 millisecond delay and a 900 millisecond sample window by the receiver, a digital receiver controlled by a micro-processor – the sample window is actually the total of ten individual windows of 90 millisecond widths.

The apparent resistivity (ρ_a) in ohm metres is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry of the array used. The chargeability and resistivity are called apparent as they are values which that portion of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous the calculated apparent chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

The survey was carried out using the "pole-dipole" method of surveying. In this method the current electrode, C_1 , and the potential electrodes, P_1 through P_7 , are moved in unison

SURVEY SPECIFICATIONS cont'd

along the survey lines at a spacing of "a" (the dipole) apart, while the second current electrode, C_2 , is kept constant at "infinity". The distance, "na" between C_1 and the nearest potential electrode generally controls the depth to be explored by the particular separation, "n", traverse.

On this survey a 25 metre dipole was employed and first to sixth separation readings were obtained.

Data Presentation.

The E.M. data were presented as profiles of percent ratio of the three frequency pairs read on the Genie survey and percent inphase and quadrature on the VLF survey.

The I.P. data were presented as stacked individual pseudo-section plots of apparent chargeability and resistivity at a scale of 1:2000, with the location of the anomalous chargeability zones on the former.

Lines 600N and 1050 were presented as individual pseudo sections as for obvious reasons their data could not be fitted into the stacked plots.

Contour plans were made of the first and third separation measurements of apparent chargeability and resistivity at 1:5000. Data from the previous I.P. surveying by Lloyd Geophysics and Delta Geoscience were incorporated into these plots.

Two-dimensional smooth model inversion of the resistivity and chargeability data was carried out using the Zonge Smooth Model Algorithm. This algorithm uses a 2-D finite element method and incorporates topography in modeling resistivity and I.P. data. Nearly uniform starting models are generated by running broad moving-average filters over the respective lines of data. Model resistivity and chargeability properties are then adjusted iteratively until the calculated data values match the observed as closely as possible, given constraints which keep the model section smooth.

The smooth chargeability model along with plots of the apparent and synthetic (calculated) chargeability and resistivity are plotted for each individual line at 1:2000.

SURVEY SPECIFICATIONS cont'd

Plots of the 21 point moving filter – illustrated on the pseudo section – for the above were also displayed in the top plot window to better show the location of the anomalous zones.

DISCUSSION OF RESULTS

Noman Grid

The horizontal loop E.M. survey outlined the presence of two conductive bands of moderate conductivity trending across the 500 metre spaced lines – Figure W-525-8.

As no soil anomalous readings were obtained on the follow-up geochemical survey the causative sources of the conductors were thought to be graphitic horizons in underlying Hall Group Sediments.

Kena Gold Zone

No E.M. responses were obtained over the three lines traversed here as clearly discernible from the profiles of Figure W-525-9.

VLF Gold Mountain Zone.

One conductor open to the west was noted on four lines traversed here. Its axis probably swings to the south to cross Line 300E.

Its causative source is presumed to be a shear related structure.

Induced Polarization Gold Mountain Zone.

A strong chargeability response was obtained over the observed sulphides in the trench area on Line 1100N circa 300E on the initial core survey as clearly shown on the stack pseudo section plots of apparent chargeability.

This shows good correlation with the elevated gold soil results as shown on Figure W-525-2.

These geochemical results show a 700 metre wide by 2100 metre long gold zone open at both ends trending N 55° W across the grid as illustrated on Figure W-525-2.

DISCUSSION OF RESULTS cont'd.

This zone occurs mostly in the Silver King Porphyry but extends in the south into the adjacent Elise volcanic package – see regional geology Map W-525-1 (331 Shaft showing appears slightly out of position).

A complex zone of high chargeability fairly coincident with the gold zone in the south, and coincident only with the eastern half of the zone in the north can be seen trending across the lines surveyed as can be seen on Figure W-525-3 and 4, the contoured plans of the first and third separation respectively.

The response is stronger at depth on the northern lines as can be seen from the same maps.

The causative source(s) exhibits depth extent as shown by the stronger responses on the deeper separations as illustrated on the pseudo sections.

The area surveyed exhibited high overall resistivity – low conductivity – as shown on the pseudo sections and on the contour plans of the first and third separation resistivity measurements – Figures W-525-5 and 6.

Lower resistivities are associated with the core of the chargeability response between 550N and 1100N.

A narrow resistivity low feature is discernible trending northward across the grid between 700N and 1500N. This is associated with lower chargeability readings and would appear to break the I.P. responses into two zones.

The strong chargeability responses with the accompanying lowest resistivity values – order of magnitude less than those to the west – on the eastern portions of Figures W-525-3 to 6 were obtained on previous surveys, the causative sources of which are believed to be mostly graphitic material in the underlying Elise Formation.

Smooth model inversion was carried out on the results from all the traverses. The results are shown for each line with the apparent chargeability, the synthetic chargeability, the

DISCUSSION OF RESULTS cont'd

smooth inversion model of chargeability, the calculated resistivity, and the synthetic resistivity featured along with the filter profiles of the respective chargeabilities and resistivities.

These models show the unlimited depth extent of the sulphide mineralization – the interpreted causative source of the chargeability response – in the context of the survey investigation depth. It should be noted here that it would have been better to conduct the inversion using electrodes on the topographic surface rather than on a flat plane.

The model response at 50 metre depth of burial is shown on Figure W-525-7. The north trending break is clearly discernible with the stronger response in the southern body.

The models suggest that trenching and excavation work would be satisfactory as an initial investigation tool for the causative source of the southern body, but that borehole investigation is necessary for the northern body.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

In the late fall of 2000, Peter E. Walcott & Associates Limited undertook a small electromagnetic survey programme and an induced polarization survey over portions of the Kena property for Sultan Minerals Inc.

The property is located in the Nelson Mining District of British Columbia some 6 kilometres south of the town of Nelson.

The horizontal loop surveying on the Noman grid outline the trace of two conductor axes. These conductors were considered to be attributable to graphitic material in the underlying sediment based on the negative geochemical response.

No indication of high grade sulphide mineralization of any strike length was seen on the work over the Keno Gold Zone showing.

I.P. traversing with a 25 metre dipole over the trench area in the Gold Mountain Zone showed the mineralization to respond to the method.

The chargeability results showed a large complex zone of strongly anomalous readings trending northwest across the area surveyed and open at both its southern and northern extremities.

Its causative source(s) is thought to be attributable to sulphide mineralization in the underlying intrusive rocks.

This mineralization appears to be shallow in the south but deeper going north.

Smooth inversion modeling suggests that the mineralization extends to the maximum investigative depth of the survey, circa 80 metres.

The broad chargeability zone shows good correlation with the gold soils.

As a result the writer concludes that there is reasonable probability for the existence of large low grade porphyry style gold mineralization in the underlying intrusive, and recommends that the I.P. – gold soil coincidences be investigated by trenching and diamond drilling.

SUMMARY, CONCLUSIONS & RECOMMENDATIONS cont'd

To this end he suggests that topographic and land use maps be used as an aid in the spotting, planning and permitting of drill holes so as to ensure the most cost effective investigation of the aforementioned broad anomalous zone along its considerable strike length.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

**Peter E. Walcott, P.Eng.
Geophysicist**

February 2001

APPENDIX

COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the surveys on a daily basis. Plotting and reporting costs were extra so that the total cost of the services provided was \$30,344.46.

PERSONNEL EMPLOYED ON SURVEY

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & Associates Limited 506-1529 W, 6 th Ave. Vancouver, B.C.	Oct. 1 st -Oct. 4 th Nov. 26 th -30 th , 2000 Feb. 1 st - 18 th , 2001
Marek Welz	Geophysicist	"	Oct. 23 rd - Nov. 6 th 2000
A. Walcott	Geophysical Operator	"	Oct. 1 st - 4 th , 2000 Nov. 28 th - 30 th , 2000 Feb. 1 st - 7 th , 2001
J. Harrison	"	"	Nov. 1 st - 6 th , 2000
J. Denny	Geophysical Assistant	"	Oct. 1 st - 4 th Oct. 23 rd - Nov. 5 th 2000
O. Janout	"	"	Oct. 23 rd - Nov. 5 th , 2000
J. Walcott	Report Prep.	"	Feb. 18 th , 2001

CERTIFICATION

1. I am graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
2. I have been practicing my profession for the last thirty nine years.
3. I am a member of the Association of Professional Engineers of British Columbia and Ontario.

Peter E. Walcott, P.Eng.

Vancouver, B.C.
February 2001

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Peter E. Walcott, P.Eng.

Vancouver, B.C.
February 2001