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**1994 ASSESSMENT REPORT  
ON THE NORTH BRUCE GROUP  
SULPHURETS PROPERTY - BRUCESIDE PROJECT**

Skeena Mining Division

Latitude: 56°29'N  
Longitude: 130°13'W  
NTS: 104B/8&9

OWNER: NEWHAWK GOLD MINES LTD.  
GRANDUC MINING CORPORATION

OPERATOR: NEWHAWK GOLD MINES LTD.

REPORT BY: M. McPherson, P. Geo

November 21, 1994

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

Distribution: - BCMEMPR (2)  
- Newhawk (1)

23,613

## SUMMARY

The Sulphurets Property - Brucejack Project is situated within northwest British Columbia, approximately 65km northwest of Stewart, BC. The property consists of 10 claims and 2 fractions totalling 71 units. The claims are owned by Newhawk Gold Mines Ltd. and Granduc Mining Corp. under a joint venture agreement. Newhawk is the operator.

The Sulphurets property was initially staked in 1959 by Granduc Mines Ltd. to cover various porphyry copper and precious metal vein showings between Mitchell Glacier and Brucejack Lake. Between 1960 and 1975 the property was intermittently explored by Granduc, who completed geologic mapping, geochemical sampling, geophysical surveying and limited drilling primarily over known porphyry showings. Granduc optioned the property to Esso Minerals in 1980, who completed extensive exploration between 1980 and 1985 that led to the discovery of several mineralized zones including the West Zone and Shore Zone. Esso returned the property to Granduc in 1985, and it was subsequently optioned by Newhawk Gold Mines Ltd. Since then, Newhawk has carried out detailed exploration over most of the property including detailed geologic mapping, sampling and trenching, surface and underground drilling, and exploratory underground drifting on the West Zone.

The property is underlain by Upper Triassic Stuhini Group and Lower Jurassic Hazelton Group andesitic tuffs, flows and minor sediments that have locally been extensively and pervasively quartz-sericite-pyrite altered. To date, at least forty zones of quartz +/- carbonate veining, stockwork and breccia have been discovered on the property. Mineralization consists of up to 15% disseminated pyrite within altered volcanics and trace to several percent combined tetrahedrite, sphalerite, galena, pyrargyrite and rare electrum and native gold within quartz veins.

Work in 1994 consisted of detailed mapping and sampling in the vicinity of the Gossan Hill Zone, and 7351.6m of diamond drilling, primarily on the West, R8, Shore and Gossan Hill Zones. Only one of the Gossan Hill drill holes, S94-449 (462.3m), is being filed for assessment.

Hole S94-449 was designed to test the Gossan Hill Area at depths of 100 to 250m below surface, considerably deeper than previous drilling in the vicinity. Results from this hole indicate that the Gossan Hill Zones, PM-1, PM-3, PM-3A, PM-4 and PM-4A are continuous down dip, but decrease in width, and show no significant increase in strength or grade with depth. The Tommyknocker Zone was also intersected, and also shows a marked decrease in width from surface, however it shows a corresponding significant increase in grade. The best intersection from this hole was 45.856 opt Au, 32.38 opt Ag over 0.70m from the Tommyknocker Zone.

Recommendations for further work include additional surface mapping and sampling west of Gossan Hill to try and trace the Tommyknocker Zone along strike to the west, and additional diamond drilling to follow up the significant intersection encountered in hole S94-449. A thorough compilation and interpretation of all previous drilling results from the Tommyknocker Zone needs to be completed in order to help target future drilling.

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## 1.0 INTRODUCTION

### 1.1 Location and Access

The Sulphurets Property is located within the Coast Range Mountains of northwest B.C., approximately 60 kilometres northwest of the village of Stewart. It is centred at 130°13'W, 56°29'N on NTS sheets 104/B8 and 9 (Fig. 1.1).

Access during the early summer is limited to helicopter from Stewart, BC or the Bob Quinn airstrip located on Highway 37. Later in the season supplies can be mobilized via the Granduc Road to the Tide Lake airstrip, 35 kilometres south of the property or flown by fixed wing to the Knipple airstrip 15 kilometres southeast of the property. Access from this point is then by helicopter. During previous major summer programs, overland access was by barge along Bowser Lake, then by road along the Bowser River with the final access to the camp being by tracked vehicle 16 kilometres up the Knipple Glacier. A permanent camp is located at the west end of Brucejack Lake. Access around the property is by four wheel drive all-terrain vehicle, helicopter or by foot. During the 1994 season, supplies were flown directly to the camp from Stewart BC using a Bell 206 helicopter on a casual basis from Vancouver Island Helicopters. A Hughes 500D and a Bell 205 helicopter were also used on an "as needed" basis to mobilize heavier equipment throughout the season.

### 1.2 Property Description

The Sulphurets Property has been split into two separate projects in past years, the Bruceside Project centred around Brucejack Lake and the West Zone, and the Sulphside Project, centred around Sulphurets Lake and the Sulphurets Gold Zone. The Sulphside Project was sold to Placer Dome Inc. in early 1992, however the Bruceside nomenclature still persists. The Bruceside Project is owned 60% by Newhawk Gold Mines Ltd. and 40% by Granduc Mining Corporation under a joint venture agreement. Newhawk is the operator. The property is comprised of the following mineral and placer claims, all of which lie within the Skeena Mining Division (Fig. 1.2):

**TABLE 1.1 - CLAIM STATUS**

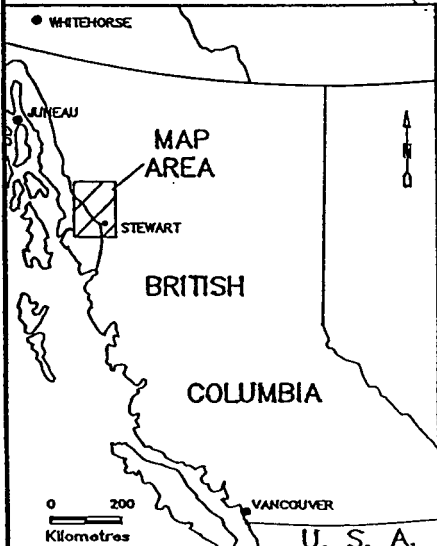
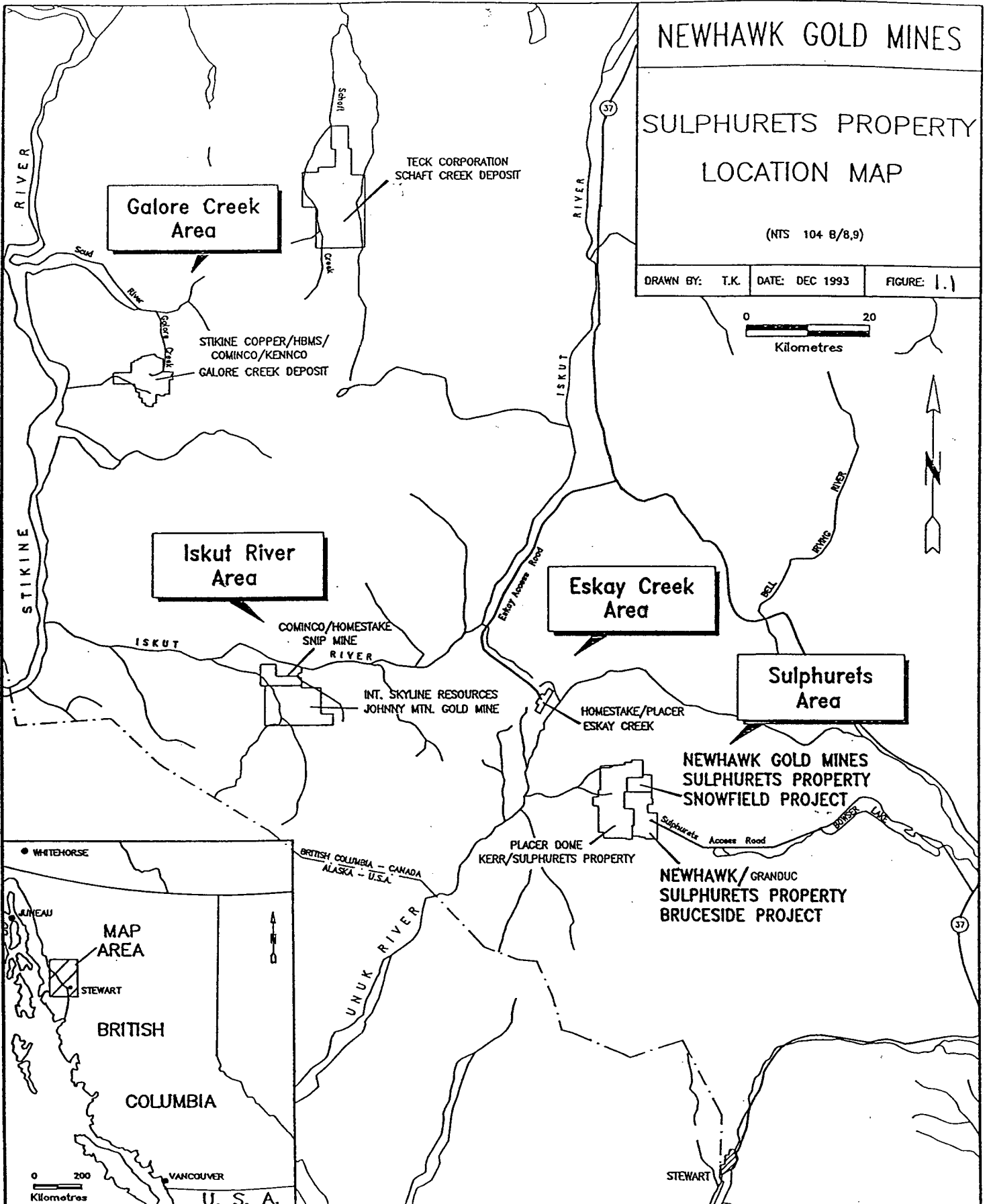
<u>Claim</u>	<u>Record</u>	<u>Units</u>	<u>Expiry Date</u>
Red River 7	250986	4	June 30, 2004
Red River 50	254205	2	June 29, 2004
Red River 53	254208	14	July 4, 2004
Tedray No. 12	250388	15	Aug 26, 2004
Tedray 21	250990	2	June 30, 2004
Tedray 22	251066	8	Oct 6, 2004
Tedray Fr.	313084	1	Sept 9, 2004
OK# 5	251284	8	Dec 10, 2004
Goldwedge #3	252512	6	Sept 3, 2004
Malone	313087	6	Sept 10, 2004
Malone 2	313090	4	Sept 5, 2004
Malone Fr.	313087	1	Sept 10, 2004

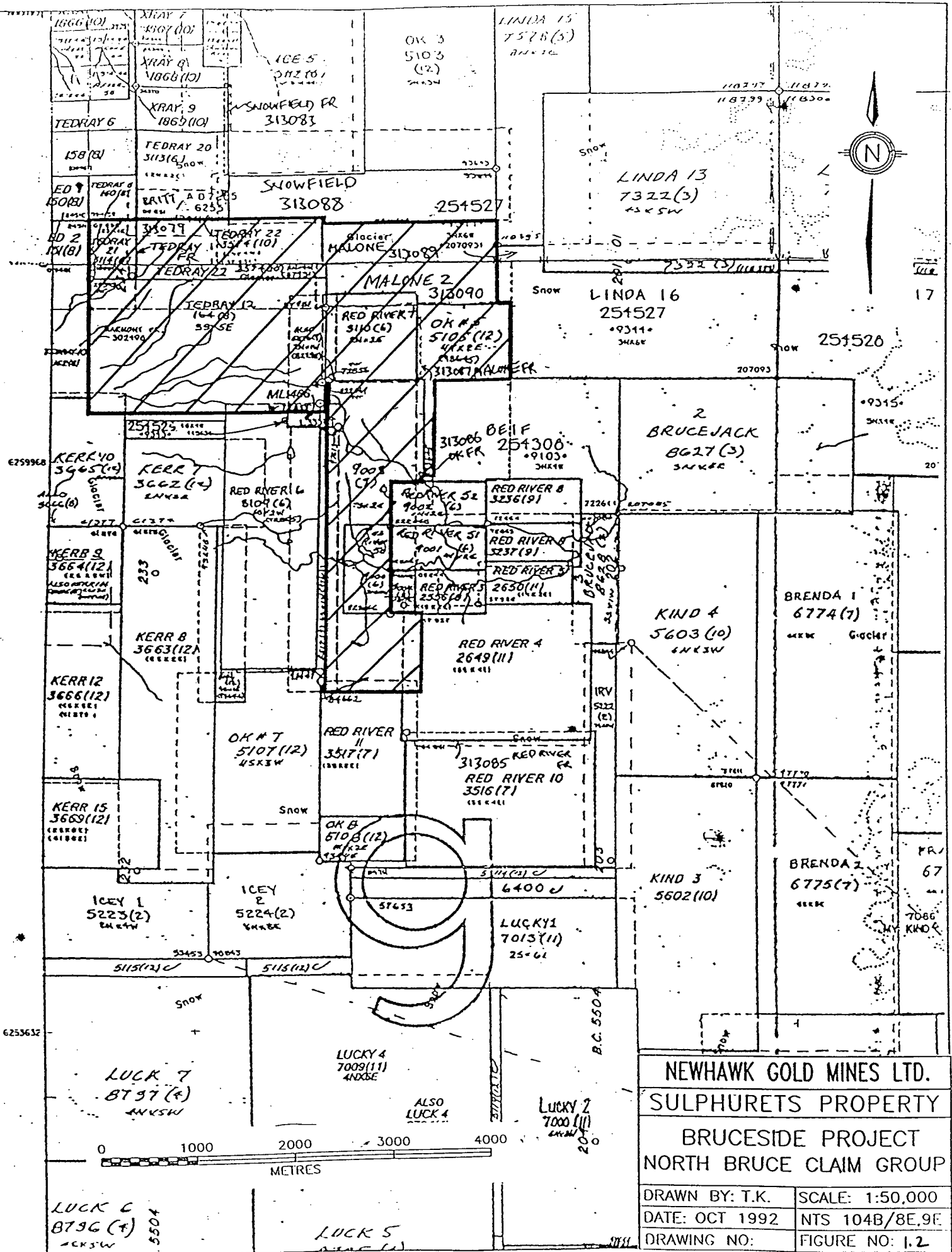
# NEWHAWK GOLD MINES

## SULPHURETS PROPERTY LOCATION MAP

(NTS 104 8/8,9)

DRAWN BY: T.K.    DATE: DEC 1993    FIGURE: 1.1





NEWHAWK GOLD MINES LTD.	
SULPHURETS PROPERTY	
BRUCESIDE PROJECT	
NORTH BRUCE CLAIM GROUP	
DRAWN BY: T.K.	SCALE: 1:50,000
DATE: OCT 1992	NTS 104B/8E.9E
DRAWING NO:	FIGURE NO: 1.2



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### 1.3 Physiography and Vegetation

The topography of the Sulphurets region is typical of the Coast Range Mountains with steep glaciated U-shaped valleys and several permanent snowfields. Elevations in the area range from 750 metres at Sulphurets Glacier just west of the property, to 2560 metres on Mt. John Walker northeast of the property.

Winters tend to be severe with extensive snowfall and high winds, while summers are generally cool and wet. Vegetation consists of scrub alpine spruce and fir at lower elevations along Brucejack Creek, and alpine grasses and juniper at higher elevations. Much of the property is covered in outcrop or talus with no appreciable vegetation.

### 1.4 Property History

Exploration in the area dates back to the 1880's when placer gold was located on Sulphurets and Mitchell Creeks. In 1935, copper-molybdenum mineralization was located in the vicinity of the Main Copper showing on the adjacent Sulphside property. During the next twenty years the area was intermittently evaluated by a number of different parties. In 1959, Granduc Mines located gold and silver bearing veins near Brucejack Lake and in 1960 staked a series of claims totalling 246 units extending from south of Brucejack Lake north to the Mitchell Glacier. These claims covered the current Bruce Side Project precious metal showings, as well as numerous copper-moly occurrences located north and northwest of Brucejack Lake.

Between 1960 and 1975 Granduc completed several exploration programs involving geologic mapping and sampling, geophysical surveying, prospecting and limited drilling primarily in the vicinity of the known copper ± gold and molybdenum occurrences located immediately north and northwest of the current Bruce Side Property boundary.

In 1980 Esso Minerals optioned the Sulphurets property from Granduc, and from 1980 to 1985 completed a comprehensive evaluation of the property that resulted in the discovery of several precious metal showings including the West, Shore, Galena Hill and Electrum Zones. For various reasons, Esso dropped their option on the Sulphurets Property in 1985, and Newhawk Gold Mines optioned it that same year.

Since 1985, Newhawk has completed extensive exploration programs including additional regional and detailed geologic mapping and sampling, rock saw and backhoe trenching, limited soil geochemical sampling, airborne geophysical surveying, and 35,241.6m of surface diamond drilling in 511 holes. In addition to surface work, a total of 5276m of exploratory underground drifting was completed on the West Zone between 1986 and 1989, and 35,981.0m of underground diamond drilling in 422 holes was completed. This work succeeded in outlining significant proven and probable reserves of 826,000 Tons grading 0.450 opt Au, 18.80 opt Ag on the West Zone, and 92.276 Tons grading 0.371 opt Au, 4.63 opt Ag on the Shore Zone (Watts, Griffis and McOuat, 1990). At least forty additional showings of precious metal mineralization have been located across the property, some of which have associated small reserves



(Visagie, 1993b). Based on these reserves, a feasibility study was completed by Corona Corp. in 1990, and determined that the deposit was marginally economic under existing conditions. The current exploration mandate for the property is to delineate additional areas of economic gold-silver mineralization in order to increase the reserves such that the project becomes feasible.

## 2.0 GEOLOGY

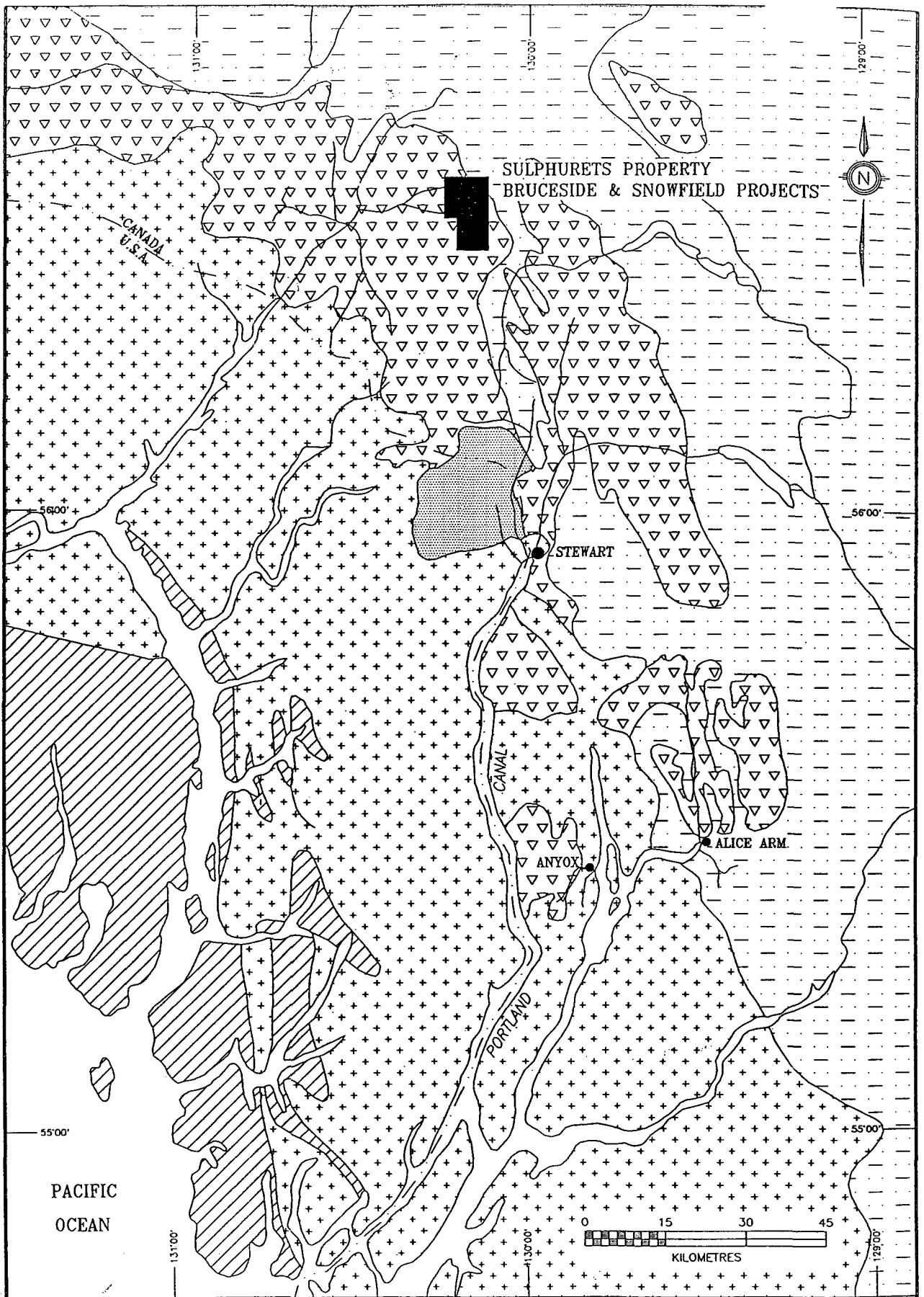
### 2.1 Regional Setting

The Sulphurets Property lies within the Stikine Terrane, along the western margin of the Intermontane Belt (Fig. 2.1). The area is underlain by Upper Triassic and Lower to Middle Jurassic Hazelton Group volcanic, volcanoclastic and sedimentary rocks, intruded by Mesozoic intermediate to felsic plutons and minor Tertiary mafic dykes and sills. Regional geologic mapping has been completed by the Geological Survey of Canada, the BC Ministry of Energy, Mines and Resources, and the Mineral Deposit Research unit at UBC.

The lithostratigraphic assemblage as compiled by Kirkham (1963), Britton and Alldrick (1988), Alldrick and Britton (1991) and Kirkham et al (in preparation) consists, from oldest to youngest, of alternating siltstone and conglomerate of the Lower Unuk River Formation; intermediate volcanic rocks and siltstones of the Upper Unuk River Formation; interbedded conglomerate, sandstone and intermediate to mafic volcanic rocks of the Betty Creek Formation; felsic flows and pyroclastic rocks, including tuffaceous rocks ranging from dust tuff to tuff breccia and localized welded ash tuff, of the Mount Dilworth Formation; and finally, alternating siltstone and sandstone of the Salmon River Formation and the Bowser Lake Group.






At least three intrusive events have occurred in the area: intermediate to felsic plutons that are probably coeval with volcanic and volcanoclastic supracrustal rocks; small stocks related to Cretaceous Coast Plutonic Complex rocks; and minor Tertiary dykes and sills.

Folding is common throughout the region, with Hazelton Group andesitic tuffs and flows southeast of Brucejack Lake being gently warped, while sediments of the Salmon River Formation and Bowser Lake Group are more tightly folded. Faulting is common, with north striking steep normal faults (ie the Brucejack Fault) and west dipping thrust faults (eg, the Sulphurets Thrust) being the most prevalent orientations.



SULPHURETS PROPERTY  
BRUCESIDE & SNOWFIELD PROJECTS

LEGEND

- |  |  |
|--|--|
|  LOWER-MIDDLE JURASSIC<br>BOWSER ASSEMBLAGE                   |  UPPER TRIASSIC-LOWER JURASSIC<br>TEXAS CREEK INTRUSION |
|  UPPER TRIASSIC-LOWER JURASSIC<br>TAKLA & HAZELTON ASSEMBLAGE |  CRETACEOUS-TERTIARY<br>COAST RANGE INTRUSIONS          |
|  WRANGELL METAMORPHIC BELT<br>(UNDEFINED AGE)                 |  |

(Map after Dykes et al. 1988)

NEWHAWK GOLD MINES LTD	
SULPHURETS PROPERTY	
REGIONAL GEOLOGY OF THE STEWART-ANYOX AREA	
DRAWN BY: T.K.	NTS 103/104
DATE: DEC 1993	FIGURE NO. 2-1

## 2.2 Property Geology

### 2.2.1 Stratigraphy

The Bruce side Project is underlain by two sequences of sedimentary and volcanic rocks; a Lower sequence of Upper Triassic Stuhini Group rocks that occupy the western side of the property, and an Upper sequence of Lower to Middle Jurassic Hazelton Group rocks in the central and eastern portions of the property (Fig. 2.2). Younger, more felsic flows and volcanoclastic rocks overlie the Hazelton Group rocks east of the property. All of these units have been intruded by sub-alkaline plutons of Lower to Middle Jurassic age, that range in composition from syenite to hornblende-feldspar porphyritic diorite to monzonite.

The Upper Triassic rocks (Lower sequence), consist of a lower heterolithic mafic to intermediate volcanic breccia and conglomerate (Fig. 2.2; unit 1), overlain by a sedimentary layer consisting of thin to medium bedded black argillite, siltstone, fine grained sandstone, and minor grey limestone, tuffaceous mudstone, and tuffaceous pebble conglomerate (Fig. 2.2; unit 2).

The Lower to Middle Jurassic rocks (Upper sequence) consists of a lower sedimentary package of two distinct units. The lowermost unit consists of medium to thick bedded medium to coarse grained sandstone and pebble to cobble conglomerate, conspicuous internal planar laminations and rare cross-stratification (Fig. 2.2; unit 3). Overlying this is a layer of thin to medium bedded dark grey to black mudstone and argillite, that is typically highly altered (Fig. 2.2; unit 4). Overlying the sedimentary rocks is a thick sequence of monolithic andesitic volcanoclastics ranging from ash tuff to tuff breccia and lahar, and dominated by plagioclase-hornblende phyric volcanic breccia (Fig. 2.2; unit 5). This upper volcanic package is the main host to alteration and mineralization on the property. To the east, the Upper sequence is overlain by dacitic flows and volcanoclastics, and minor sedimentary rocks (Fig. 2.2; unit 6). The volcanoclastics range from fine ash and plagioclase crystal tuffs to coarse felsic breccias and conglomerates, locally supported with a distinctive hematitic mud (Davies et al, 1994).

Both lower and upper volcano-sedimentary packages have been intruded by numerous late stage plutons, which can be grouped into three main mappable units: i) a plagioclase-hornblende-phyric diorite; ii) a potassium feldspar megacrystic plagioclase-hornblende porphyry; and iii) a plagioclase and rare potassium feldspar porphyry of dacitic composition (MacDonald, 1993). Late stage, fine grained, green andesitic dykes and sills cut all units on the property, and are definitely post-mineral.

Stratigraphy typically strikes north to northwest, with moderate to steep easterly dips and facing directions, indicating a younging direction to the east (Davies et al, 1994). Contacts between individual units are sharp to gradational over several meters, and no unconformities have been identified on the property.

### 2.2.2 Structure

The rocks on the property have been subjected to regional deformation and weak metamorphism, and exhibit a regionally penetrative foliation of varying intensity. Foliation generally strikes west-northwest, and dips steeply to the north, and is most strongly developed in sericitic rocks and in the argillites of the Upper Triassic package. The deformation is post-mineral, and has resulted in the flattening of mineralized veins and stockwork so that they lie parallel to the foliation.

Post mineral faulting occurs throughout the area, with steeply dipping normal faults being the most common orientation on the property. Offset on these faults ranges from negligible to several hundred meters. The two most important faults on the property are the Brucejack Fault which occupies a north trending lineament just north of camp, and the Bruce Fault, a west trending fault occupying Brucejack Creek (Fig. 2.2). Other mappable faults in the area strike northeast and northwest. The northeast faults dip steeply to the northwest and show tens of meters of normal-dextral oblique displacement. The dip and displacement of the northwest trending faults is unknown, but probably in the order of tens of meters of dextral slip.

The Brucejack Fault forms a northerly striking lineament extending from the extreme southern end of the property, north to the Iron Cap Zone; a strike length of 11 km. The fault cuts all stratigraphic and intrusive contacts, and cuts alteration zones and mineralized veins, indicating that the latest motion was post mineral. The Fault dips vertically to steeply to the west, and displacement has been estimated at 700 to 800m of reverse (west side up) motion, based on offset of stratigraphic contacts, and orientation of slickensides (Davies et al, 1994).

The Bruce Fault trends roughly east-west, and displays a curvilinear dip to the north, with dips ranging from 60 to 70 degrees. Offset on the PM5 Zone indicates displacement along the fault is in the order of tens of meters

Folding on the property is best developed in the sedimentary units of the Lower Sequence, exposed in Brucejack Creek. The folds are tight to open, have subangular to rounded hinges, and wavelengths of several tens of meters. Axial trends of folds are typically northerly, however local disharmonic folds have northwesterly and northeasterly axial trends. A large, north-northwest trending syncline has been postulated beneath the Gossan Hill area to account for stratigraphic relationships and a reversal of facing direction east of the Brucejack Fault and at the Shore Zone. This deformation is likely pre-regional cleavage development and pre-mineral, as cleavage cuts across the interpreted axial trace without deflection, and vein geometry is not significantly effected. An alternative interpretation is that the block of stratigraphy bounded by the Brucejack Fault, Shore Zone, Bruce Fault and Big Sleep Zone is a rotated fault block. This interpretation would include a pre-cursor, east-west fault structure to the Big Sleep vein system, similar to those at the West, Shore and Electrum Zones (see section 2.2.3).

### 2.2.3 Alteration and Mineralization

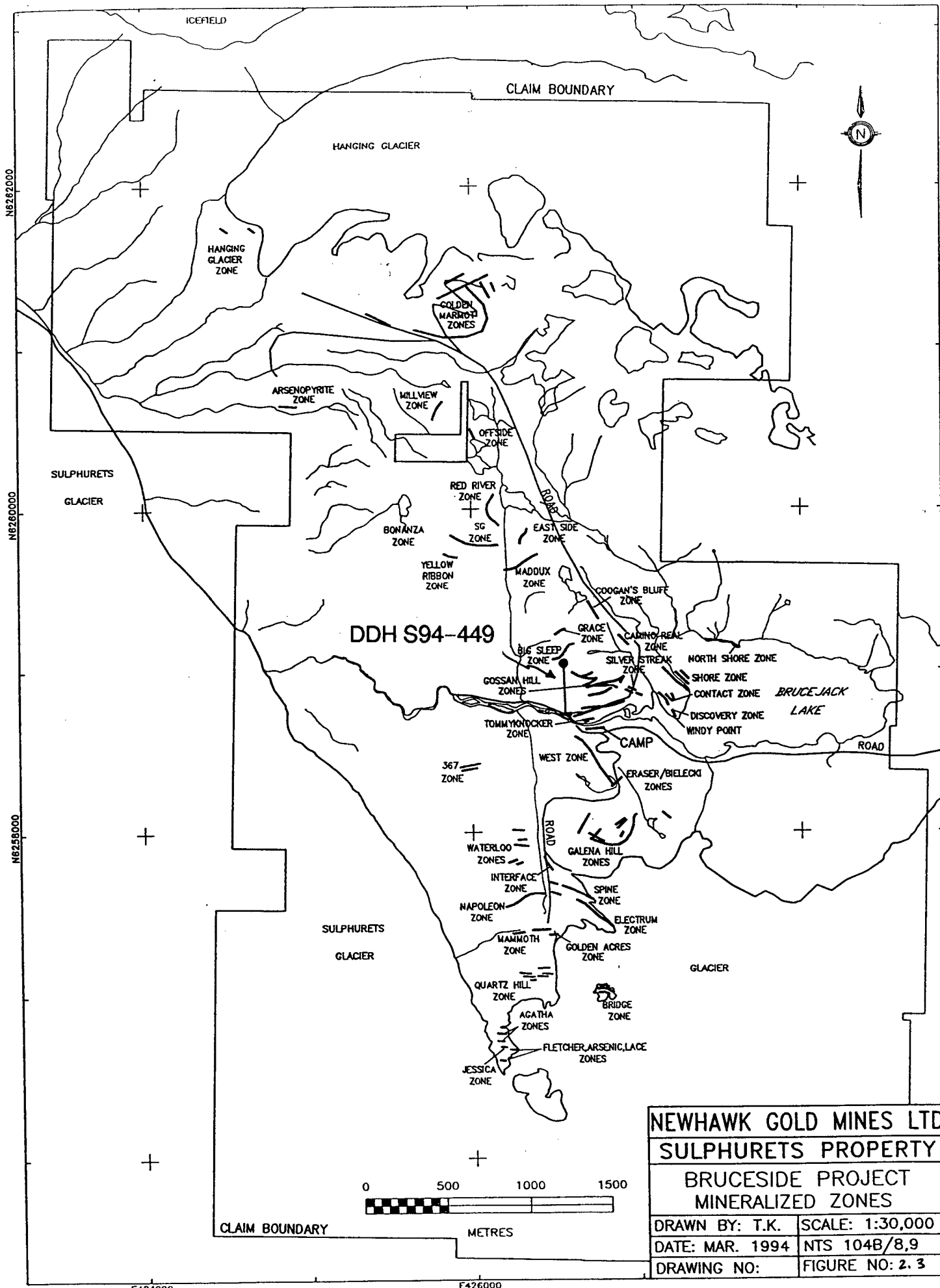
Mineralization on the Bruceside property consists mainly of structurally controlled, intrusive related quartz-carbonate, gold-silver bearing veins, stockwork and breccia zones. The veins are hosted within a broad zone of potassium feldspar alteration, overprinted by sericite-quartz-pyrite +/- clay. Structural style and alteration geochemistry indicate the deposits were formed in a near surface epithermal style environment (Fig. 2.3).

Mineralization was likely a three-stage process (Lewis, 1994). Stage 1 consisted of fault-development and ground preparation. Pre-cursor structures to the West, Shore and Electrum Zones likely formed at this time, as steep northwest trending normal faults with limited displacement, cutting all rock types. Stage 2 consisted of syntectonic mineralization and alteration. Massive and stockwork veins were emplaced within a differential stress field characterized by east-west compressional stress. The main vein orientations resulting from this stress are i) east-west dilational veins such as R8 and Big Sleep; and ii) northwest trending veins localized along pre-existing structures such as the West, Shore and Electrum Zones. Underground mapping indicates the northwest trending structures, particularly R6, have been brecciated, while east-west trending structures have not. This would support the theory of reactivation along pre-existing northwest structures. Reactivation was probably sinistral in movement, and may account for the sigmoidal shape of the east-west trending Big Sleep Zone. The localization of major vein systems within the volcanic rocks as opposed to the sedimentary rocks is likely the results of preferential ground preparation within the volcanics. Stage 3 was marked by the development of northwest trending cleavage and local warping of smaller veins as a result of northeast-southwest shortening.

The central part of the property is dominated by a north-trending band of pervasive quartz-sericite-pyrite alteration 100m to 450m wide and 4.5km long. Hosted within this alteration band are over 40 zones of quartz +/- carbonate +/- adularia +/- barite veins and stockworks ranging in width from several centimetres to over 50m, and in length from several meters to several hundred meters (Fig. 2.3). Veins locally form complex shaped mineralized bodies, in which several generations of syntectonic veins, stockworks and breccias may occur (Roach and MacDonald, 1992). The larger vein systems, ie. Shore and West Zones, trend northwest and dip vertically to steeply to the northeast, with somewhat smaller zones such as Big Sleep and Gossan Hill trending easterly and dipping variably north and south. The pattern of mineralized zones forms a slightly angled "ladder" system in the central part of the property, with the Shore and West Zones, and the Electrum Zone further south, forming the ladder "legs", and the east-west trending zones such as R8, Big Sleep and Gossan Hill forming the "rungs". This area has been the focus of continued exploration, as it hosts the highest concentration of mineralization on the property.

Mineralization within the alteration zone consists of 2% to 20% disseminated pyrite and rare arsenopyrite, and within the veins consists of trace to 10% combined disseminated pyrite, tetrahedrite, arsenopyrite, chalcopyrite, galena, sphalerite, pyrargyrite, polybasite and rare native gold and electrum. Of the forty zones of mineralization discovered to date, the West Zone/R8 and Shore Zone are the most significant in terms of grade and tonnage. Other zones of significance include Gossan Hill, Tommyknocker, Big Sleep, Grace and Coogan's Bluff (Fig. 2.3).

The Gossan Hill/Tommyknocker Zone is an area of intense quartz-sericite-pyrite alteration hosting eleven zones of quartz veining and stockwork carrying erratic gold mineralization. These zones include Marie Gold, PM-1, PM-2, PM-3 and 3A, PM-4 and 4A, PM-5, PM-6, U-Vein, Silver Streak and Tommyknocker (Fig. 2.3). They generally strike east-west, dip moderately to steeply to the north, and range in strike length from 30m to 245m, and in width from 0.5m to 20m. "Rolls" and inflections down dip are common. The Tommyknocker Zone is the southernmost vein zone at Gossan Hill, and is the most promising in terms of significant economic mineralization. It consists of a central quartz vein up to 1.0m in width, hosted within a 5m wide quartz stockwork in strong quartz-sericite-pyrite altered andesitic volcanics. Previous drilling on both the PM structures and the Tommyknocker Zone had concentrated on delineating the zone near surface, typically above the 1300m level. The 1994 exploration program concentrated on testing these zones at significantly deeper depths, at approximately the 1200m level.



<b>NEWHAWK GOLD MINES LTD</b>	
<b>SULPHURETS PROPERTY</b>	
<b>BRUCESIDE PROJECT</b>	
<b>MINERALIZED ZONES</b>	
DRAWN BY: T.K.	SCALE: 1:30,000
DATE: MAR. 1994	NTS 104B/8,9
DRAWING NO:	FIGURE NO: 2. 3

### 3.0 1994 DIAMOND DRILLING PROGRAM

#### 3.1 Introduction

The 1994 exploration program was designed to evaluate the highest priority targets on the property for their potential to host gold and/or silver mineralization of significant tonnage and grade. Exploration was focused in the vicinity of Gossan Hill, the area with the highest concentration of alteration and mineralization on the property, and therefore the area most likely to host mineralization of significant size. The program consisted of detailed surface mapping and diamond drilling. Only one drill hole is being reported for assessment purposes, S94-449 (fig. 2.3).

Drilling was contracted to F. Boisvenu Drilling of New Westminster, BC, using a Hagby-Brok diamond drill to recover BQW core. The drill site for S94-449 was levelled using a D7 Cat, and the drill was moved to the site using a Hughes 500D helicopter contracted from Vancouver Island Helicopters out of Stewart BC. Daily access to the drill was by all-terrain-vehicle. Drill core is stored on site, at the Newhawk core storage area south of the camp.

All zones of significant alteration and mineralization were split using a manual Longyear core-splitter. Split core was shipped to Eco-Tech Labs in Stewart, BC for gold and silver assay, and 9-element ICP. Samples were first dried (if necessary), crushed, sieved and pulverized to -140 mesh, and a 1/2 assay ton sub-sample taken. For gold analysis, the sub-sample was pre-concentrated by conventional fire assay, and the resulting bead digested in 3 ml 30% HNO<sub>3</sub> and 3 ml concentrated HCl (if necessary). The resulting solution was diluted to 10ml and analyzed by atomic absorption. Core carrying visible gold was cut with a rocksaw, and sent for gold metallic assay. For silver analysis, a 2.0 gram subsample was digested in 20 ml HNO<sub>3</sub> for 20 minutes, or until all the HNO<sub>3</sub> had disappeared. The digestion is then cooled, 10 ml HCl added and digested for 30 minutes. The digestion is again cooled and another 50 ml HCl added and digested for one hour. When this digestion has cooled to room temperature, it is bulked to 200 ml, mixed, centrifuged and analyzed by atomic absorption. For the ICP analysis, a 10 gram sub-sample was digested with 3 ml of 3:1:3 nitric acid to hydrochloric acid to water at 90° for 1.5 hours. The sample was then diluted to 20 ml with demineralized water and analyzed for Ag, Cu, Pb, Zn, Mo, As, Sb, Tl, Hg. Samples that contained > 30 ppm Ag or > 10,000 ppm Cu, Pb, As, or Zn were re-assayed for that particular element.

The drill log is located in appendix I, and assay data is located in appendix II.

**TABLE 3.1 - DRILLHOLE SPECIFICS**

Drill Hole	Zone	Section	Azimuth	Dip	Length
S94-449	Gossan Hill	200+80N	177°	-45°	462.3m



### 3.2 Results

Drill hole S94-449 collared in weakly sericite-pyrite altered andesite lapilli tuff, intruded by a feldspar +/- hornblende porphyry from 22.8m to 96.7m. The porphyry is locally moderately sericite-pyrite altered and carries up to 20% quartz-carbonate veinlets. The hole crosses into a thick package of weakly altered, poorly sorted heterolithic lapilli tuff or lahar at 96.7m, and remains in this unit until ~ 297.0m, where the unit lies in fault contact with intercalated argillite and arkosic sediments. The hole remains in the sediments for most of the remaining length, until crossing back into the heterolithic unit at 447.3m. Both the heterolithic unit and the sediments are moderate to strongly quartz +/- sericite +/- pyrite altered from ~ 230m to the end of the hole. Numerous zones of quartz stockwork and quartz breccia were intersected within this package of altered rocks.

The PM-1 Zone was intersected from 57.1m to 61.9m, but it is poorly mineralized, with only 3-5% pyrite in the altered host. More significant mineralization was intersected below the 1260m level. The hole intersected the PM-3 (254.0 - 254.9m), PM-3A (262.1 - 263.0m; 266.9 - 273.5m), PM-4/4A (329.2 - 329.85m), and the Tommyknocker Zones (395.5 - 396.0m; 398.5 - 398.7m; 426.3 - 427.0m). All of these zones are relatively narrow (typically < 2m), and show a decrease in width from surface. Mineralization consists of trace tetrahedrite, trace to 5% pyrite in the PM Zones, and < 1% galena, < 1% pyrite, < 1% sphalerite, 1% tetrahedrite and significant visible gold in the Tommyknocker Zone.

The Tommyknocker Zone shows a decrease in width both down-dip from surface, and along strike from previous drill holes, however there is a corresponding significant increase in gold and silver grade. The nature of the zone has also changed, from a well defined quartz stockwork/quartz vein at surface, to a more diffuse, weaker quartz stockwork in a wider, package of alteration at depth.

**TABLE 3.2 - SIGNIFICANT DRILL INTERSECTIONS**

Hole	Zone	From (m)	To (m)	Width (m)	Au (opt)	Ag (opt)
S94-449	PM-3/PM-3A	260.4	265.7	5.3	0.231	0.46
	includes	262.1	263.0	0.9	0.426	1.11
	PM-3A?	278.0	281.0	3.0	0.187	2.65
	includes	278.0	279.0	1.0	0.460	0.54
	-----	291.5	292.5	1.0	0.125	0.22
	-----	308.7	311.0	2.3	0.123	0.51
	Tommyknocker	426.3	427.0	0.7	45.865	32.38

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

The 1994 exploration program on the Bruce side Project consisted of detailed mapping and sampling in the vicinity of the Gossan Hill Zone, and 7351.6m of diamond drilling, primarily on the West, R8, Shore and Gossan Hill Zones. One of the Gossan Hill drill holes, S94-449 (462.3m), is being filed for assessment purposes.

Hole S94-449 was designed to test the Gossan Hill Area at depths of 100 to 250m below surface, considerably deeper than previous drilling in the vicinity. Results from this hole indicate that the Gossan Hill Zones, PM-1, PM-3, PM-3A, PM-4 and PM-4A are continuous down dip, but decrease in width, and show no significant increase in strength or grade with depth. The Tommyknocker Zone was also intersected, and also shows a marked decrease in width from surface, however it shows a corresponding significant increase in grade. The best intersection from this hole was 45.856 opt Au, 32.38 opt Ag over 0.70m from the Tommyknocker Zone.

Recommendations for further work include additional surface mapping and sampling west of Gossan Hill to try and trace the Tommyknocker Zone along strike to the west, and additional diamond drilling to follow up the significant intersection encountered in hole S94-449. A thorough compilation and interpretation of all previous drilling results from the Tommyknocker Zone needs to be completed in order to help target future drilling.

## 5.0 REFERENCES

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Visagie, D.A. (1993b): 1993 Summary Report - Sulphurets Joint Venture; Bruceside Property, an in-house report prepared for Newhawk Gold Mines Ltd.

Watts, Griffis and McOuat (1990): Report on Ore Reserves for the West Zone - Sulphurets Property; a report prepared for Newhawk Gold Mines Ltd.

**6.0 STATEMENT OF EXPENDITURES**

<b>Labour</b>				\$ 2,760
J. Watkins (Geologist)	Aug. 6-11	6 days @ \$300/day	\$ 1,800	
J. Franks (Assistant)	Aug. 6-11	6 days @ \$160/day	\$ 960	
<b>Room &amp; Board</b>				\$ 1,440
		36 man-days @ \$40/day		
<b>Helicopter Support</b>				\$ 1,789
		2.4 hours @ \$745.52/hour (Hughes 500D)		
<b>Drilling</b>				\$ 27,542
		500' @ \$15.90/ft	\$ 7,950	
		500' @ \$16.90/ft	\$ 8,450	
		500' @ \$18.90/ft	\$ 9,450	
		16' @ \$21.50/ft	\$ 344	
	core boxes:	76 boxes @ \$7.50/box	\$ 570	
	tropari rental:	0.25 mo. @ \$1100/mo.	\$ 275	
	stanby:	15.5 man hours @ \$30/hr.	\$ 465	
		2.5 machine hours @ \$15/hr.	\$ 38	
<b>Assaying</b>				\$ 3,713
		199 samples @ \$18.66/sample		
<b>Supplies</b>				\$ 300
		Sample bags, tape etc.		
<b>Report Preparation</b>				\$ 1,000
		includes writing, drafting, etc.		
<b>TOTAL</b>				<u>\$ 38,544</u>

**7.0 STATEMENT OF QUALIFICATIONS**

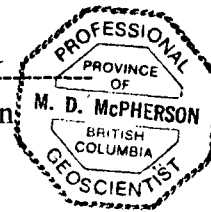
I, **Margaret D. McPherson**, DO HEREBY CERTIFY THAT:

1. I am presently employed as a geologist with Newhawk Gold Mines Ltd. located at #860 - 625 Howe Street, Vancouver, B. C. V6C 2T7.
2. I graduated from the University of British Columbia in 1987, with a Bachelor of Science degree in Geology.
3. I have been employed in the mineral exploration industry since 1985.
4. The work described in this report was done under my supervision.

*Margaret McPherson*

Margaret D. McPherson

November 15, 1994



**APPENDIX I**

**Diamond Drill Logs**















NEWHAWK GOLD MINES LTD.  
SULPHURETS PROPERTY

Hole No. 59A-449  
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Interval (meters)		Rock Type	Geologic Description	Alteration				Mineralization				Assay Data						Core Data							
From	To			From	To	SIL	CHLOR	SER	CARB	% Py	% Cp	% Mag	% Mo	Sample	From	To	Int	Au opt	Cu %	Au check	Cu check	Ag opt	Mo %	RQD %	Run
211.75	230.5	HELT/SP	Heterolithic lapilli tuff grading from lapilli tuff to lapilli tuff agglomerate with block of alt'd porphyry, clast types included: alt'd porphyry, f.g. tuff, rare chert and scattered black siliceous argillite, all unsorted in ground-mass of eg tuff, weak to moderate pervasively sericite + 2-3% diss Py; scattered qtz + carb vnlts most @ 50-60°, lower gradational			wk	wk	wk	wk	3															
													127	298	211.75	213.2	1.45	0.003				.12			
													299	213.2	214.7	1.5	0.002				.13				
													300	214.7	216.2	1.5	0.001				.13				
												150	001	216.2	217.7	1.5	0.002				.13				
													002	217.7	218.7	1.0	0.003				.11				
													003	218.7	219.7	1.0	0.006				.16				
													004	219.7	221.2	1.5	<0.001				.10				
													005	221.2	222.7	1.5	0.002				.14				
													006	222.7	224.2	1.5	<0.001				.09				
													007	224.2	225.7	1.5	0.003				.09				
													008	225.7	227.2	1.5	0.003				.11				
													009	227.2	228.7	1.5	0.001				.09				
													010	228.7	229.6	0.9	0.006				.11				
													011	229.6	230.5	0.9	0.020				.05				
230.5	232.5	SP/HELT	mod to strong pervasively sericite + py masking cleastic texture, 2% diss Py lower contact gradational			wk	Str			2															
													012	230.5	231.5	1.0	0.002				.10				
													150	013	231.5	232.5	1.0	0.002				.13			

NEWHAWK GOLD MINES LTD.  
SULPHURETS PROPERTY

Hole No. 594-449  
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Interval (meters)		Rock Type	Geologic Description	Alteration				Mineralization					Assay Data						Core Data							
From	To			From	To	SIL	CHLOR	SER	CARB	% Py	% Cp	% Mag	% Mo	tet	Sample	From	To	Int	Au opt	Cu %	Au check	Cu check	Ag opt	Mo %	RQD %	Run
232.5	254.0	HELT/OSP	Alt'd heterolithic lapilli tuff as before, pervasive alt'n partly masking primary textures, some fragments very strong sericite alt'd, 5% qtz + carb vnlts vns to 3cm, patchy c.g. py, rare amber sphalerite host in qtz + carb vns, vnd @ 70°-80° @ 29.3-6 : 5cm py + qtz + carb vn @ 80°, 80% py c.g. lower contact gradational											150014	2325	234	1.5	0.002				.07				
														015	2340	235	1.5	0.004				.13				
														016	2355	237	1.5	0.009				.11				
														017	2370	238.5	1.5	0.010				.23				
														018	238.5	240	1.5	0.003				.14				
														019	240	241.5	1.5	0.001				.10				
														020	241.5	242.5	1.0	0.007				.10				
														021	242.5	243.5	1.0	0.003				.06				
														022	243.5	244.0	0.5	0.018				.25				
														023	244.0	245	1.0	0.004				.20				
														024	245.0	245.5	1.5	0.017				.21				
														025	246.5	248	1.5	0.011				.20				
														026	248.0	249.5	1.5	0.008				.18				
														027	249.5	251	1.5	0.008				.19				
														028	251.0	252.5	1.5	0.009				.16				
														029	252.5	254.0	1.5	0.020				.13				
254.0	254.9	OTVA	80% qtz vning most @ 40°, qtz + ser + py host, 5% patchy py to tetrahedrite, lower contact broken.					80	slg wk	S			41	030	254.0	254.9	0.9	0.02				.11				
														031	254.9	256.1	1.5	0.053				.18				
														032	256.1	257.9	1.5	0.022				.15				
														033	257.9	259.4	1.5	0.024				.13				
254.9	262.1	OSP	qtz + ser + py alt'd fig to aphanitic, possible fine bed tuff or sed?, vague capill: ? 5-10% qtz-carb vning					10	slg wk	S			tr.	034	257.4	260.4	1.0	0.057				.11				
														035	260.4	262.1	1.7	0.186				.22			*	





NEWHAWK GOLD MINES LTD.  
SULPHURETS PROPERTY

Hole No. 594-449  
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Interval (meters)		Rock Type	Geologic Description	Alteration				Mineralization					Assay Data							Core Data						
From	To			From	To	SIL	CHLOR	SER	CARB	% Py	% Cp	% Mag	% Mo	LA	Sample	From	To	Int	Au opt	Cu %	Au check	Cu check	Ag opt	Mo %	RQD %	Run
274.05	286.5	QSP/ #HTP	pervasive qtz + ser + py alt'd thru w 20% grading to 10% white qb vning to 2cm most @ 45°-60° primary texture partly masked, probable magmatic andesite porphyry w qtz pseudo-morphed fspas, bit could be lapilli tauff, s/patchy dis. by grading to 7%, @ 280.8: 5cm comb qtz vn @ 30° covered with 20% mg py + 2% tetrahedrite lower contact gradational.			slg	slg tr	tr					<1%	150045	274.05	275	0.95	.018				.12				
														046	275	276	1.0	.011				.09				
														047	276	277	1.0	.006				.11				
														048	277	278	1.0	.018				.12				
														049	278	279	1.0	.460				.54	*			
														050	279	280	1.0	.043				.16				
														051	280.0	280.5	0.5	.011				.20				
														052	280.5	281.0	0.5	.185				14.29	*			
														053	281.0	281.5	0.5	.076				.24				
														054	281.5	282.5	1.0	.028				.16				
														055	282.5	283.5	1.0			?						
														056	283.5	284.5	1.0	.018				.08				
														057	284.5	285.5	1.0	.011				.09				
														058	285.5	286.5	1.0	.017				.15				
286.5	297.0	QSP/ #HET	pervasive qb + ser + py alt'd with 10% qtz vn qb vn bx to 3cm wide @ 60°-70°, 45° primary texture partly masked as above but distinctly clastic w large lapilli of ser alt'd andesite porphyry and fg clasts, 7% patchy pyrite + arsen pyrite thru lower contact			slg	slg tr	tr					tr	059	286.5	287.5	1.0	.010				.16				
														060	287.5	288.5	1.0	.052				.19				
														061	288.5	289.5	1.0	.057				.15				
														062	289.5	290.5	1.0	.027				.21				
														063	290.5	291.5	1.0	.019				.17				
														064	291.5	292.5	1.0	.125				.22	*			
														065	292.5	293.5	1.0	.029				.18				
														066	293.5	294.5	1.0	.019				.13				
														067	294.5	295.5	1.0	.013				.16				
														068	295.5	297.0	1.5	.069				.60				



NEWHAWK GOLD MINES LTD.  
SULPHURETS PROPERTY

Hole No. 39A-449  
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Interval (meters)		Rock Type	Geologic Description	Alteration				Mineralization				Assay Data						Core Data							
From	To			From	To	SIL	CHLOR	SER	CARB	% Py	% Cp	% Mag	% Mo	Sample	From	To	Int	Au opt	Cu %	Au check	Cu check	Ag opt	Mo %	RQD %	Run
303.3	305.2	ARKS	Arkose: f.g. uniform thin, wldy sordicite alt'd, 10% fine qb + carb + (Py) stockwork, best in center of unit. lower contact sharp bed @ 10°.			wlc	wk mod.			3			W0001	303.3	304.3	1.0	.006				.16				
													076	304.3	305.2	0.9	.023				.10				
305.2	305.7	ARGT.	argillite: black to light gray; 2% fine qb + carb vnlts. most @ 70°-80°, rare qb + carb + py vnlts. lower contact distinct @ 80°.			wk	wk wk			1			077	305.2	305.7	0.5	.006				.07				
305.7	318.8	ARKS/ARGT.	arkose and/or pervasively wldy per. alt'd argillite, scattered dk gray to black remnants of argillite, vague bedding thru @ 0°-10°, x-cut by 5% qb (carb) vnlts, most at 70°-80°, and by 5% qb + carb + py vnlts.			wlc	wk wk			3			078	305.7	307.2	1.5	.028				.11				
													079	307.2	308.7	1.5	.002				.05				
													080	308.7	311.0	2.3	.123				.51	*			
													081	311.0	313.2	2.2	.004				.09				
													082	313.2	314.7	1.5	.005				.07				
													083	314.7	316.2	1.5	.002				.06				
													084	316.2	317.7	1.5	.001				.08				
													085	317.7	318.8	1.1	.017				.09				
													086	318.8	320.8	1.0	.009				.09				
													087	319.8	320.8	1.0	.018				.06				
													088	320.8	321.3	0.5	.054				.10				
													089	321.3	322.3	1.0	.053				.15				
													090	322.3	323.8	1.5	.007				.07				
													091	323.8	325.0	1.2	.010				.03				
													092	325.0	326.2	1.2	.024				.24				

NEWHAWK GOLD MINES LTD.  
SULPHURETS PROPERTY

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Hole No. 554-449  
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Interval (meters)		Rock Type	Geologic Description	Alteration		Mineralization				Assay Data						Core Data									
From	To			From	To	SIL	CHLOR	SER	CARB	% Py	% Cp	% Mag	% Mo	Sample	From	To	Int	Au opt	Cu %	Au check	Cu check	Ag opt	Mo %	RQD %	Run
			pyrite vnlts most @ 80° from 320.8-321.0' 80% white qtz vning @ 70° lower contact sharp @ 80°																						
326.2	327.9	DY	Andesite dyke w 20% carb vning " stockwork, lower contact chilled sharp @ 80°			2 wk	2 wk	20	tr																
327.9	329.2	QSP/ SD	qtz + sericite + pyrite alt'd as before w 15% irregular white qtz vnlts " patchy silic rare remnant of black argillite, vague bedding, lower contact gradual			15	mod stg	10	W				QSP	327.9	329.2	1.3	.002				.09				
329.2	329.8	STN	70% white qtz, irregular on silt " sericite alt'd seds? patchy black ch. vnlts " qtz, 2% diss Py lower contact gradual			stg	wk	wk	wk	2			DA	329.2	329.8	0.65	.008				.13				
329.8	338.7	SP/ SD	sericite + pyrite alt'd sediments moderately alt'd, vague bedding @ 20°-10° 2-3% fine qtz + carb vnlts, 2% fine Py vnlts + diss Py			wk	mod	wk		2			DA5	329.8	331.3	1.45	.006				.09				
													DA6	331.3	332.8	1.5	.001				.06				
													DA7	334.3	335.8	1.5	.00				.06				
													DA8	335.8	337.3	1.5	4.00				.04				
													DA9	337.3	338.7	1.4	4.00				.06				







NEWHAWK GOLD MINES LTD.  
SULPHURETS PROPERTY

Hole No. SDA-449  
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Interval (meters)		Rock Type	Geologic Description	Alteration				Mineralization				Assay Data						Core Data							
From	To			From	To	SIL	CHLOR	SER	CARB	% Py	% Cp	% Mag	% Mo	Sample	From	To	Int	Au opt	Cu %	Au check	Cu check	Ag opt	Mo %	RQD %	Run
3980	3985	SP/ SER.	pervasively alt'd bedded sedimentary mod ser thro, bedded @ 0-10°; rare 1mm qb + carb vnlts @ 20° sharp at 20°					23				123	3980	3982	1.2	100					.08				
												124	3982	3985	1.3	100					.07				
3985	3987	VNBX	2cm vn at top contact of diss py (10%) is ram mass of chl + qb with fine ser alt'd frags. @ 20°; fine to vn is blacked. ser. frags as above with 20% irregular vn admix, lower contact tight bedded shear @ 20°									125	3985	3990	0.5	100					.08				
3987	4176	SP/ SER	pervasively sericite alt'd bedded sedimentary with rare remnant of dark grey to black argillite, scattered qb + carb + py vnlts 2cm with distinct strong sericite alt'd haloes to 1cm wide @ 30°, 1% - 1mm qb + carb vnlts @ 10-20°; 3% diss py, 2% py in vnlts					5				126	3990	400.5	1.5	100					.09				
												127	4005	402.0	1.5	100					.09				
												128	402.0	403.5	1.5	100					.05				
												129	403.5	405.0	1.5	100					.09				
												130	405.0	406.5	1.5	100					.07				
												131	406.5	408.0	1.5	100					.05				
												132	408.0	409.5	1.5	100					.09				
												133	409.5	411.0	1.5	100					.09				
												134	411.0	412.5	1.5	100					.03				
												135	412.5	414.0	1.5	100					.29				
												136	414.0	415.5	1.5	100					.04				
												137	415.5	416.5	1.0	100					.07				
												138	416.5	417.6	1.10	100					.06				









NEWHAWK GOLD MINES LTD.  
SULPHURETS PROPERTY

Hole No. 594-449

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Interval (meters)		Rock Type	Geologic Description			Alteration				Mineralization				Assay Data						Core Data					
From	To			From	To	SIL	CHLOR	SER	CARB	% Py	% Cp	% Mag	% Mo	Sample	From	To	Int	Au opt	Cu %	Au check	Cu check	Ag opt	Mo %	RQD %	Run
447.3	450.9	HELT/SP	mixed with sections of sericite alt'd sediments as above that could be large blocks, intervals of good heterolithic lapilli tuff, rare large frags of sericite alt'd spar porphyry, all disrupted by scattered tight shears at 40°, weak to moderate sericite + disc pyrite alt'd thro, lower contact sharp @ 40°			nk	nk	nk		5				150124	447.3	448.5	1.2	.010				.22			
														165	448.5	449.7	1.2	.010				.34			
														166	449.7	450.9	1.2	.005				.30			
450.9	451.6	SP/SPD	pervasive sericite pyrite, probable bedded sals, probable large block, low contact sharp tight shear @ 40°											167	450.9	451.6	0.7	.003				.15			
451.6	457.7	HELT/SP	juxtaposed intervals of heterolithic lapilli tuff. as before and pervasive sericite alt'd sediments as before, all segmented by scattered tight, bedded shears @ 40° lower contact sharp against gorge fault at 30°											168	451.6	453.1	1.5	.004				.27			
														169	453.1	454.6	1.5	.004				.15			
														170	454.6	456.1	1.5	.024				.29			
														171	456.1	457.6	1.5	.005				.22			
														172	457.6	458.7	1.1	.003				.15			



**APPENDIX II**

**ASSAY DATA**

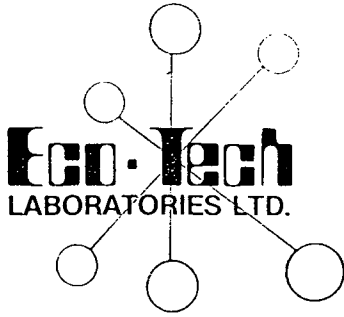
ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)
		0.84	0.024	9.1	0.27
45	127276	1.03	0.030	5.8	0.17
46	127277	0.50	0.015	3.2	0.09
47	127278	0.41	0.012	11.0	0.32
48	127279	0.23	0.007	8.0	0.23
49	127280	0.30	0.009	9.3	0.27
50	127281	0.20	0.006	5.4	0.16
51	127282	0.21	0.006	11.1	0.32
52	127283	0.75	0.022	8.1	0.24
53	127284	0.42	0.012	4.8	0.14
54	127285	0.54	0.016	8.5	0.25
55	127286	1.14	0.033	5.5	0.16
56	127287	0.31	0.009	7.5	0.22
57	127288	0.44	0.013	4.6	0.13
58	127289	0.34	0.010	3.0	0.09
59	127290	1.01	0.029	3.7	0.11
60	127291	0.71	0.021	2.7	0.08
61	127292	0.67	0.020	2.6	0.08
62	127293	2.03	0.059	2.4	0.07
63	127294	0.58	0.017	2.5	0.07
64	127295	0.35	0.010	3.9	0.11
65	127296	0.71	0.021	5.3	0.16
66	127297	0.40	0.012	4.0	0.12
67	127298	0.11	0.003	4.1	0.12
68	127299	0.06	0.002	4.6	0.13

Frank J. Pezzotti, A.Sc.T.B.C. Certified Assayer

ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)
69	127300	0.05	0.001	4.5	0.13
70	150001	0.07	0.002	4.5	0.13
71	150002	0.11	0.003	3.6	0.11
72	150003	0.22	0.006	5.4	0.16
73	150004	<.03	<.001	3.5	0.10
74	150005	0.08	0.002	4.9	0.14
75	150006	<.03	<.001	3.1	0.09
76	150007	0.09	0.003	3.0	0.09
77	150008	0.10	0.003	3.6	0.11
78	150009	0.03	0.001	3.1	0.09
79	150010	0.20	0.006	3.6	0.11
80	150011	0.67	0.020	1.8	0.05
81	150012	0.06	0.002	3.5	0.10
82	150013	0.07	0.002	4.5	0.13
83	150014	0.06	0.002	2.4	0.07
84	150015	0.14	0.004	4.3	0.13
85	150016	0.31	0.009	3.6	0.11
86	150017	0.33	0.010	7.8	0.23
87	150018	0.10	0.003	4.7	0.14
88	150019	0.04	0.001	3.3	0.10
89	150020	0.24	0.007	3.5	0.10
90	150021	0.10	0.003	2.0	0.06
91	150022	0.61	0.018	8.6	0.25
92	150023	0.13	0.004	6.9	0.20
93	150024	0.57	0.017	7.2	0.21
94	150025	0.39	0.011	7.0	0.20
95	150026	0.28	0.008	6.2	0.18
96	150027	0.26	0.008	6.6	0.19
97	150028	0.31	0.009	5.6	0.16
98	150029	0.68	0.020	4.5	0.13
99	150030	0.72	0.021	3.8	0.11
100	150031	1.14	0.033	6.3	0.18
101	150032	0.76	0.022	5.0	0.15
102	150033	0.81	0.024	4.4	0.13
103	150034	1.97	0.057	3.7	0.11
104	150035	6.38	0.186	8.2	0.24
105	150036	14.61	0.426	37.9	1.11
106	150037	8.25	0.241	12.3	0.36

  
 Frank J. Pezzotti, A.Sc.T.B.C. Certified Assayer





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10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 2J3 Phone (604) 573-5700  
 Fax (604) 573-4557

**CERTIFICATE OF ASSAY ETS3057**

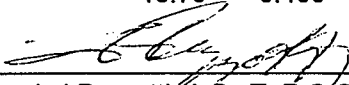
NEWHAWK GOLD MINES  
 625 HOWE ST- SUITE 860  
 VANCOUVER, B.C.  
 V6C-2T6

1-Sep-94

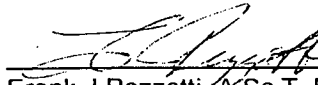
Attention: Fred Hewitt/M.McPherson

138 rock samples received August 16, 1994  
 Sample run date: August 23, 1994  
 Samples Submitted By: J.Watkins/B.McDonough  
 Client Project Number: Sulphurets  
 Shipment Number: 28

ET #	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)
11	150038	4.62	0.135	14.3	0.42
12	150039	1.13	0.033	5.6	0.16
13	150040	1.15	0.034	3.5	0.10
14	150041	0.19	0.006	3.6	0.11
15	150042	0.60	0.017	3.5	0.10
16	150043	0.22	0.006	4.7	0.14
17	150044	0.09	0.003	2.1	0.06
18	150045	0.61	0.018	4.2	0.12
19	150046	0.38	0.011	3.0	0.09
20	150047	0.21	0.006	3.7	0.11
21	150048	0.62	0.018	4.1	0.12
22	150049	15.76	0.460	18.6	0.54

  
 Frank J. Pezzotti, A.Sc.T. B.C. Certified Assayer

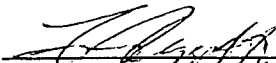
ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)
23	150050	1.49	0.043	5.6	0.16
24	150051	0.38	0.011	6.7	0.20
25	150052	3.53	0.103	490.0	14.29
26	150053	2.61	0.076	8.3	0.24
27	150054	0.95	0.028	5.4	0.16
28	150056	0.62	0.018	2.7	0.08
29	150057	0.37	0.011	3.2	0.09
30	150058	0.60	0.017	5.1	0.15
31	150059	0.34	0.010	5.6	0.16
32	150060	1.79	0.052	6.4	0.19
33	150061	1.27	0.037	5.1	0.15
34	150062	0.93	0.027	7.3	0.21
35	150063	0.65	0.019	5.9	0.17
36	150064	4.27	0.125	7.4	0.22
37	150065	1.01	0.029	6.2	0.18
38	150066	0.66	0.019	4.3	0.13
39	150067	0.44	0.013	5.5	0.16
40	150068	0.32	0.009	20.6	0.60
41	150069	0.91	0.027	10.2	0.30
42	150070	0.84	0.024	5.7	0.17
43	150071	0.18	0.005	2.1	0.06
44	150072	2.06	0.060	10.2	0.30
45	150073	0.53	0.015	12.7	0.37
46	150074	0.11	0.003	5.9	0.17
47	150075	0.19	0.006	3.4	0.10
48	150076	0.78	0.023	3.3	0.10
49	150077	0.22	0.006	2.4	0.07
50	150078	0.96	0.028	3.6	0.11
51	150079	0.08	0.002	1.8	0.05
52	150080	4.23	0.123	17.3	0.51
53	150081	0.13	0.004	3.2	0.09
54	150082	0.11	0.003	2.5	0.07
55	150083	0.07	0.002	2.1	0.06
56	150084	0.05	0.001	2.7	0.08
57	150085	0.60	0.017	2.9	0.09
58	150086	0.32	0.009	3.1	0.09
59	150087	0.62	0.018	2.0	0.06
60	150088	1.86	0.054	3.3	0.10
61	150089	1.13	0.033	5.2	0.15
62	150090	0.23	0.007	2.4	0.07
63	150091	0.35	0.010	1.0	0.03
64	150092	0.84	0.024	8.1	0.24
65	150093	0.07	0.002	2.9	0.09

  
 Frank J. Pezzotti, A.Sc.T. B.C. Certified Assayer

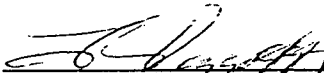
## NEWHAWK GOLD MINES ETS3057

1-Sep-94

ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)
66	150094	0.28	0.008	4.3	0.13
67	150095	0.19	0.006	3.0	0.09
68	150096	0.04	0.001	2.1	0.06
69	150097	0.03	0.001	1.9	0.06
70	150098	<.03	<.001	1.5	0.04
71	150099	<.03	<.001	2.0	0.06
72	150100	0.09	0.003	12.4	0.36
73	150101	0.05	0.001	10.4	0.30
74	150102	0.31	0.009	13.1	0.38
75	150103	0.35	0.010	7.1	0.21
76	150104	1.20	0.035	4.9	0.14
77	150105	0.06	0.002	4.8	0.14
78	150106	0.03	0.001	1.9	0.06
79	150107	<.03	<.001	2.8	0.08
80	150108	<.03	<.001	2.4	0.07
81	150109	0.03	0.001	3.0	0.09
82	150110	0.03	0.001	1.1	0.03
83	150111	<.03	<.001	2.3	0.07
84	150112	<.03	<.001	3.0	0.09
85	150113	<.03	<.001	1.7	0.05
86	150114	0.04	0.001	2.2	0.06
87	150115	0.03	0.001	3.8	0.11
88	150116	<.03	<.001	1.3	0.04
89	150117	<.03	<.001	2.3	0.07
90	150118	<.03	<.001	2.2	0.06
91	150119	0.03	0.001	2.3	0.07
92	150120	<.03	<.001	2.7	0.08
93	150121	<.03	<.001	2.7	0.08
94	150122	<.03	<.001	2.2	0.06
95	150123	0.03	0.001	2.6	0.08
96	150124	0.04	0.001	2.3	0.07
97	150125	0.03	0.001	2.8	0.08
98	150126	<.03	<.001	2.9	0.09
99	150127	<.03	<.001	3.1	0.09
100	150128	<.03	<.001	1.6	0.05
101	150129	<.03	<.001	1.3	0.04
102	150130	<.03	<.001	2.4	0.07
103	150131	0.03	0.001	1.6	0.05
104	150132	0.04	0.001	1.5	0.04
105	150133	0.03	0.001	1.4	0.04
106	150134	<.03	<.001	1.0	0.03
107	150135	<.03	<.001	10.0	0.29
108	150136	<.03	<.001	1.3	0.04


  
 Frank J. Pezzotti, A.Sc.T. B.C. Certified Assayer

ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)
109	150137	<.03	<.001	2.4	0.07
110	150138	0.03	0.001	1.9	0.06
111	150139	<.03	<.001	1.8	0.05
112	150140	<.03	<.001	1.7	0.05
113	150149	0.03	0.001	3.1	0.09
114	150150	<.03	<.001	3.3	0.10
115	150151	0.03	0.001	2.1	0.06
116	150152	0.03	0.001	2.3	0.07
117	150153	<.03	<.001	1.8	0.05
118	150154	<.03	<.001	1.5	0.04
119	150155	<.03	<.001	2.4	0.07
120	150156	0.03	0.001	1.8	0.05
121	150157	0.04	0.001	3.2	0.09
122	150158	0.06	0.002	2.3	0.07
123	150159	<.03	<.001	1.9	0.06
124	150160	0.04	0.001	2.0	0.06
125	150161	0.10	0.003	2.3	0.07
126	150162	0.05	0.001	2.4	0.07
127	150163	0.10	0.003	3.9	0.11
128	150164	0.33	0.010	7.4	0.22
129	150165	0.34	0.010	11.7	0.34
130	150166	0.18	0.005	10.3	0.30
131	150167	0.10	0.003	5.2	0.15
132	150168	0.13	0.004	9.3	0.27
133	150169	0.15	0.004	5.1	0.15
134	150170	0.83	0.024	10.0	0.29
135	150171	0.16	0.005	7.5	0.22
136	150172	0.09	0.003	5.1	0.15
137	150173	0.11	0.003	1.7	0.05
138	150174	0.11	0.003	1.2	0.04

  
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ET #.	Tag #	Metallics				Ag (g/t)	Ag (oz/t)
		Au (g/t)	Au (oz/t)	Au (g/t)	Au (oz/t)		
81	150142	0.21	0.006			2.5	0.07
82	150143	0.19	0.006			2.1	0.06
83	150144	0.13	0.004			1.3	0.04
84	150145	0.24	0.007			2.7	0.08
85	150146	0.23	0.007			3.3	0.10
86	150147			1572.72	45.865	1110.3	32.38
87	150148	2.83	0.083			3.2	0.09
<b>QC/DATA:</b>							
<i>Resplit #:</i>							
	RS/7	16781	8.68	0.253			
	RS/50	127219	0.11	0.003		19.6	0.57
	RS/80	127249	0.17	0.005		8.2	0.24
<i>Repeat #:</i>							
	1	16775	4.47	0.130		160.5	4.68
	1	16775	4.58	0.134			
	39	16776				15.6	0.46
	77	16776				7.7	0.23
<i>Standard</i>							
		STD 1991				1.4	0.04
		STD 1991				1.2	0.04
		STD 1991				1.8	0.05

NOTE: Average values are reported where repeat assays are performed.  
 Screened "Metallic Assays" are performed on sample resplits screened to -140 mesh.

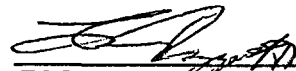
  
 \_\_\_\_\_  
 ECC-TECH LABORATORIES LTD.  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer

QC/DATA:

ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)
<b>Resplit #:</b>					
R/S10	16808	3.27	0.095		
R/S11	16809	0.08	0.002		
R/S12	16810	0.71	0.021		
R/S38	127269			710.0	20.71
R/S78	150009			3.4	0.10
R/S109	14814			3.0	0.09
<b>Repeat #:</b>					
77	150008			3.6	0.11

NOTE:

Average values are reported where repeat assays are performed.  
 Screened "Metallic Assays" are performed on sample resplits screened to -140 mesh.

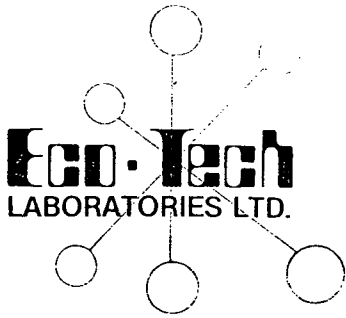


ECO-TECH LABORATORIES LTD.  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer

Et #.	Tag #	Ag (ppm)	As (ppm)	Cu (ppm)	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Tl (ppm)	Zn (ppm)
44	127275	9.0	565	70	<5	<1	12	<5	<10	46
45	127276	6.0	540	59	<5	<1	12	5	<10	65
46	127277	3.6	485	25	<5	<1	16	<5	<10	42
47	127278	11.2	345	32	<5	<1	14	5	<10	39
48	127279	7.8	350	21	<5	<1	10	<5	<10	48
49	127280	9.8	420	20	<5	<1	16	5	<10	84
50	127281	5.4	405	16	<5	<1	18	5	<10	55
51	127282	15.0	60	43	<5	<1	8	30	<10	46
52	127283	9.2	420	46	<5	<1	4	10	<10	21
53	127284	5.4	535	21	<5	<1	10	10	<10	25
54	127285	8.4	1020	28	<5	<1	26	10	<10	176
55	127286	6.0	705	31	<5	<1	20	10	<10	80
56	127287	8.0	530	29	<5	1	12	15	<10	26
57	127288	4.0	480	21	<5	<1	14	15	<10	47
58	127289	2.8	480	20	<5	1	16	10	<10	37
59	127290	3.2	845	24	<5	<1	12	<5	<10	43
60	127291	3.2	880	17	<5	<1	8	<5	<10	40
61	127292	2.4	625	16	<5	<1	14	<5	<10	35
62	127293	2.0	365	43	<5	<1	38	<5	<10	131
63	127294	2.8	525	44	<5	<1	44	<5	<10	158
64	127295	3.8	495	27	<5	1	20	<5	<10	29
65	127296	5.2	310	24	<5	2	10	<5	<10	15
66	127297	4.0	280	31	<5	<1	24	5	<10	60
67	127298	3.6	420	61	<5	<1	72	<5	<10	230
68	127299	3.6	350	53	<5	<1	114	<5	<10	361
69	127300	4.2	310	53	<5	<1	112	<5	<10	343
70	150001	4.2	300	59	<5	<1	94	<5	<10	346
71	150002	3.4	270	54	<5	<1	38	<5	<10	88

Et #.	Tag #	Ag (ppm)	As (ppm)	Cu (ppm)	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Tl (ppm)	Zn (ppm)
72	150003	4.6	255	33	<5	<1	40	<5	<10	127
73	150004	3.0	185	46	<5	1	56	<5	<10	158
74	150005	4.4	275	32	<5	<1	60	<5	<10	152
75	150006	2.8	220	44	<5	<1	50	<5	<10	170
76	150007	2.4	240	48	<5	<1	38	<5	<10	140
77	150008	3.6	285	48	<5	<1	68	<5	<10	216
78	150009	2.8	265	45	<5	<1	58	<5	<10	156
79	150010	4.0	225	54	<5	<1	42	5	<10	133
80	150011	2.0	195	25	<5	1	76	10	<10	170
81	150012	3.6	180	36	<5	<1	60	15	<10	124
82	150013	4.0	485	42	<5	1	62	5	<10	80
83	150014	2.4	270	30	<5	<1	30	<5	<10	57
84	150015	4.4	275	36	<5	<1	66	<5	<10	1194
85	150016	3.4	120	47	<5	<1	50	<5	<10	112
86	150017	7.6	215	65	<5	<1	62	<5	<10	109
87	150018	5.2	155	60	<5	<1	34	<5	<10	79
88	150019	3.4	130	37	<5	<1	26	5	<10	46
89	150020	3.6	160	36	<5	<1	38	<5	<10	74
90	150021	2.2	80	39	<5	<1	22	<5	<10	48
91	150022	9.0	455	29	<5	<1	32	<5	<10	44
92	150023	7.0	100	34	<5	<1	46	<5	<10	88
93	150024	7.2	235	24	<5	<1	36	<5	<10	58
94	150025	7.4	110	42	<5	<1	56	<5	<10	138
95	150026	6.8	105	42	<5	28	56	5	<10	94
96	150027	7.4	80	50	<5	4	62	<5	<10	177
97	150028	5.4	95	43	<5	<1	58	<5	<10	161
98	150029	4.2	125	42	<5	4	40	<5	<10	152
99	150030	3.6	85	58	<5	18	34	<5	<10	135
100	150031	6.0	45	180	<5	2	16	<5	<10	44
101	150032	4.2	90	124	<5	6	16	5	<10	47
102	150033	4.4	100	119	<5	2	22	10	<10	66
103	150034	3.2	115	46	<5	<1	20	10	<10	35
104	150035	7.8	115	130	<5	38	24	<5	<10	42
105	150036	>30	95	110	<5	15	26	25	<10	57
106	150037	12.2	110	58	<5	12	18	<5	<10	17





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 ENVIRONMENTAL TESTING

10341 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 2V3 Phone (604) 573-5700  
 Fax (604) 573-4557

**CERTIFICATE OF ANALYSIS ETS 3057**

**NEWHAWK GOLD MINES**  
 #860-625 HOWE STREET  
 VANCOUVER, B.C.  
 V8Y-3A5

30-Aug-94

ATTENTION: Fred Hewett/Margaret McPherson

138 rock samples received August 16, 1994  
 Sample run date: August 26, 1994  
 Samples Submitted By: J.Watkins/B.McDonough  
 Client Project Number: Sulphurets  
 Shipment Number: 28

Et #.	Tag #	Ag (ppm)	As (ppm)	Cu (ppm)	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Tl (ppm)	Zn (ppm)
11	150038	13.2	295	119	<5	15	560	10	<10	438
12	150039	5.2	70	22	<5	43	88	<5	<10	71
13	150040	3.6	60	12	<5	13	40	<5	<10	35
14	150041	2.6	65	14	<5	4	32	<5	<10	41
15	150042	3.4	70	11	<5	5	28	<5	<10	79
16	150043	4.2	70	13	5	6	34	<5	<10	64
17	150044	2.8	55	8	<5	5	14	<5	<10	26
18	150045	4.2	105	23	<5	13	26	<5	<10	47
19	150046	2.6	100	12	<5	4	30	<5	<10	59
20	150047	3.8	80	16	<5	4	40	<5	<10	68
21	150048	3.8	200	22	<5	46	40	<5	<10	85
22	150049	18.0	245	18	<5	4	26	<5	<10	99
23	150050	5.8	970	23	<5	8	22	<5	<10	120
24	150051	6.4	255	16	5	5	44	<5	<10	102
25	150052	>30	215	342	<5	2	642	305	<10	1607

## NEWHAWK GOLD MINES ETS 3057

Eco-Tech Laboratories Ltd.

Et #.	Tag #	Ag (ppm)	As (ppm)	Cu (ppm)	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Tl (ppm)	Zn (ppm)
26	150053	9.4	595	43	<5	<1	24	<5	<10	58
27	150054	5.4	375	30	<5	3	20	<5	<10	58
28	150056	3.2	225	23	<5	2	22	<5	<10	42
29	150057	3.8	175	20	<5	8	20	<5	<10	35
30	150058	5.6	225	21	<5	2	22	<5	<10	53
31	150059	5.2	160	25	<5	3	28	<5	<10	74
32	150060	6.2	385	56	<5	<1	24	<5	<10	49
33	150061	5.2	370	58	<5	1	26	<5	<10	76
34	150062	6.8	615	39	<5	<1	22	<5	<10	41
35	150063	5.2	415	22	5	3	32	<5	<10	66
36	150064	6.8	325	13	<5	2	38	<5	<10	94
37	150065	5.4	520	16	<5	2	32	5	<10	80
38	150066	4.2	345	14	<5	1	14	<5	<10	35
39	150067	5.8	340	19	<5	4	24	<5	<10	61
40	150068	24.0	265	30	<5	2	54	20	<10	67
41	150069	11.6	1180	92	<5	2	168	15	<10	1075
42	150070	6.2	2370	66	10	2	158	10	<10	395
43	150071	2.2	1150	44	<5	<1	64	10	<10	230
44	150072	10.8	3785	129	<5	13	108	20	<10	252
45	150073	13.8	2955	84	<5	<1	94	5	<10	162
46	150074	6.8	2495	93	<5	1	74	10	<10	502
47	150075	3.8	2345	77	<5	<1	44	20	<10	179
48	150076	4.4	3110	73	<5	2	22	20	<10	59
49	150077	3.4	1720	61	<5	<1	30	15	<10	87
50	150078	4.4	2145	86	<5	<1	20	20	<10	59
51	150079	3.0	375	56	<5	<1	6	10	<10	44
52	150080	18.4	575	104	5	1	38	15	<10	496
53	150081	3.2	790	86	10	<1	30	15	<10	165
54	150082	3.4	510	85	<5	<1	16	5	<10	59
55	150083	2.2	1030	74	5	3	30	10	<10	102
56	150084	3.0	405	92	<5	1	22	10	<10	121
57	150085	2.8	1955	87	<5	<1	18	15	<10	82
58	150086	3.0	855	276	<5	<1	8	15	<10	38
59	150087	2.6	150	38	<5	<1	36	10	<10	59
60	150088	3.4	275	45	<5	3	48	15	<10	539
61	150089	5.8	145	70	<5	<1	28	15	<10	39
62	150090	3.2	155	57	<5	3	4	10	<10	34
63	150091	0.8	75	24	<5	1	8	<5	<10	21
64	150092	8.8	80	21	<5	3	68	<5	<10	125
65	150093	3.0	195	90	<5	1	12	10	<10	59
66	150094	4.2	210	110	5	3	20	<5	<10	81
67	150095	4.0	175	80	<5	<1	22	<5	<10	57
68	150096	2.4	100	133	<5	3	6	<5	<10	19
69	150097	2.4	50	62	<5	3	20	<5	<10	21
70	150098	2.4	60	56	<5	3	12	10	<10	26
71	150099	2.0	100	55	<5	4	6	<5	<10	16
72	150100	13.6	180	114	<5	23	50	<5	<10	113
73	150101	10.8	205	120	<5	19	56	5	<10	157
74	150102	13.0	830	153	<5	6	48	<5	<10	59
75	150103	8.0	480	126	5	3	24	<5	<10	36

## NEWHAWK GOLD MINES ETS 3057

Eco-Tech Laboratories Ltd.

Et #.	Tag #	Ag (ppm)	As (ppm)	Cu (ppm)	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Tl (ppm)	Zn (ppm)
76	150104	5.2	635	142	5	<1	48	5	<10	146
77	150105	4.6	645	100	<5	3	18	5	<10	55
78	150106	3.6	730	141	<5	6	22	10	<10	74
79	150107	2.8	590	110	5	8	22	5	<10	74
80	150108	2.8	460	122	<5	5	18	10	<10	50
81	150109	3.4	635	139	<5	5	30	10	<10	63
82	150110	1.2	60	80	<5	7	16	15	<10	237
83	150111	2.4	50	96	<5	3	30	<5	<10	198
84	150112	3.0	40	107	5	2	34	<5	<10	156
85	150113	1.8	105	130	<5	7	28	15	<10	217
86	150114	2.4	180	127	<5	2	36	10	<10	159
87	150115	4.0	175	103	<5	1	62	10	<10	216
88	150116	1.6	110	30	<5	4	58	10	<10	290
89	150117	2.0	85	77	<5	5	42	15	<10	208
90	150118	2.4	120	112	<5	2	38	10	<10	254
91	150119	2.2	90	127	5	3	46	10	<10	257
92	150120	2.6	105	124	<5	7	38	10	<10	209
93	150121	2.8	85	150	<5	6	16	10	<10	198
94	150122	2.0	150	117	<5	7	22	10	<10	155
95	150123	2.4	60	146	<5	20	34	15	<10	263
96	150124	2.2	130	123	<5	18	30	<5	<10	196
97	150125	3.6	305	93	<5	16	50	5	<10	150
98	150126	2.8	150	123	<5	21	58	10	<10	355
99	150127	2.6	85	154	<5	33	60	10	<10	301
100	150128	2.0	50	118	<5	2	26	20	<10	148
101	150129	2.0	65	132	<5	9	26	15	<10	160
102	150130	3.0	85	171	<5	8	16	15	<10	107
103	150131	1.6	35	107	5	22	12	<5	<10	57
104	150132	1.4	70	104	5	14	28	10	<10	170
105	150133	2.0	40	146	<5	11	22	10	<10	69
106	150134	1.4	35	82	5	7	12	5	<10	34
107	150135	2.2	50	160	<5	16	8	5	<10	58
108	150136	1.6	70	67	<5	21	20	10	<10	60
109	150137	2.2	100	92	<5	24	36	5	<10	159
110	150138	2.4	135	147	<5	<1	32	10	<10	129
111	150139	2.0	105	137	5	16	24	10	<10	115
112	150140	1.2	210	143	5	4	32	10	<10	82
113	150149	3.2	320	158	<5	<1	62	5	<10	177
114	150150	2.8	320	139	<5	1	28	<5	<10	148
115	150151	2.4	295	93	<5	1	24	<5	<10	133
116	150152	2.2	335	122	<5	<1	34	<5	<10	83
117	150153	2.4	210	131	<5	<1	20	10	<10	125
118	150154	1.8	85	104	<5	<1	26	5	<10	109
119	150155	3.2	105	150	<5	<1	28	15	<10	237
120	150156	2.2	115	134	<5	<1	20	15	<10	97
121	150157	3.4	110	187	<5	<1	48	10	<10	191
122	150158	2.2	175	122	<5	<1	20	15	<10	112
123	150159	2.0	200	143	5	<1	20	10	<10	111
124	150160	1.8	195	115	<5	2	30	5	<10	144
125	150161	2.8	315	126	<5	8	16	10	<10	85

## NEWHAWK GOLD MINES ETS 3057

Eco-Tech Laboratories Ltd.

Et #.	Tag #	Ag (ppm)	As (ppm)	Cu (ppm)	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Tl (ppm)	Zn (ppm)
126	150162	2.2	355	116	<5	9	34	10	<10	108
127	150163	4.2	430	118	<5	2	98	5	<10	120
128	150164	7.4	510	34	5	4	216	<5	<10	364
129	150165	12.2	340	59	<5	4	108	<5	<10	263
130	150166	11.4	450	72	<5	6	94	<5	<10	284
131	150167	5.6	440	103	<5	5	28	5	<10	76
132	150168	10.0	510	84	<5	16	64	<5	<10	134
133	150169	5.4	490	86	<5	11	34	<5	<10	325
134	150170	10.4	480	95	<5	6	44	10	<10	108
135	150171	8.8	445	123	<5	9	28	<5	<10	153
136	150172	5.8	540	113	<5	10	26	<5	<10	70
137	150173	2.2	85	109	<5	5	38	<5	<10	100
138	150174	1.6	55	121	5	4	42	<5	<10	88

QC/DATA:Resplit #:

RS/41	150069	12.0	1230	93	<5	2	176	20	<10	1025
RS/81	150109	3.6	630	140	<5	6	30	15	<10	67
RS/121	150157	3.4	120	175	<5	<1	52	10	<10	190
RS/137	150173	1.4	80	104	<5	4	36	<5	<10	94

Repeat #:

1	14429	>30	245	21	5	2	248	20	<10	259
39	150067	5.4	345	18	<5	4	24	<5	<10	57
77	150105	4.4	635	102	<5	2	20	10	<10	56
115	150151	2.6	325	94	<5	2	26	<5	<10	133

Standard:

1.6	65	88	5	<1	20	5	<10	76
1.6	70	85	5	<1	22	5	<10	77
1.8	65	82	<5	<1	20	5	<10	74
1.2	70	80	<5	<1	22	5	<10	77

XLS/NewhawkS


  
**ECO-TECH LABORATORIES LTD.**

Frank J. Pezzotti, A.Sc.T.

B.C. Certified Assayer

Et #.	Tag #	Ag (ppm)	As (ppm)	Cu (ppm)	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Tl (ppm)	Zn (ppm)
81	150142	1.4	285	158	<5	<1	36	10	<10	73
82	150143	1.4	260	140	<5	14	40	10	<10	84
83	150144	1.0	185	116	<5	4	36	10	<10	73
84	150145	2.0	260	177	<5	10	52	10	<10	101
85	150146	2.6	250	161	<5	22	58	10	<10	90
86	150147	>30	370	407	10	<1	658	20	<10	1245
87	150148	2.6	330	152	<5	4	68	10	<10	167

**QC/DATA:**

**Resplit #:**

R/S7	16781	>30	370	95	<5	12	2320	100	<10	1080
R/S50	127219	17.6	300	50	<5	7	60	10	<10	43
R/S80	127249	5.2	155	39	<5	4	16	<5	<10	31


**Repeat #:**

1	16775	>30	290	27	<5	10	1638	90	<10	750
39	127208	14.8	185	88	<5	3	150	10	<10	251
77	127246	6.4	125	47	<5	6	28	5	<10	89

**Standard: 1991**


1.0	65	88	<5	<1	24	5	<10	76
1.2	65	86	<5	<1	22	<5	<10	81
1.0	70	86	<5	<1	22	5	<10	85

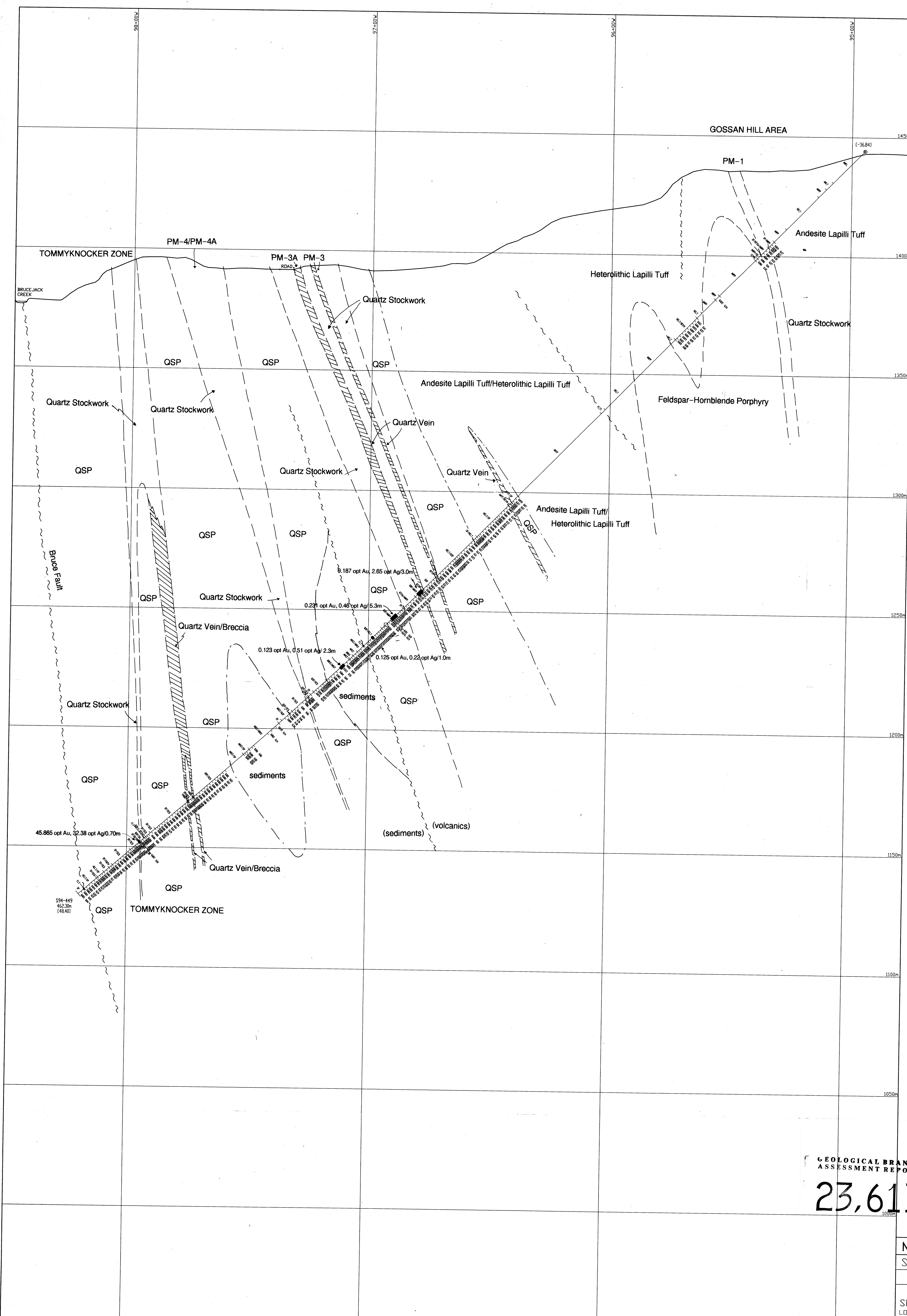
XLS/NewhawkS  
df#3044

  
**ECO-TECH LABORATORIES LTD.**  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer

Et #.	Tag #	Ag (ppm)	As (ppm)	Cu (ppm)	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Tl (ppm)	Zn (ppm)
<b>QC/DATA:</b>										
<b>Resplit #:</b>										
R/S38	127269	>30	310	554	<5	9	1148	235	<10	1705
R/S78	150009	2.8	275	45	<5	<1	58	<5	<10	168
R/S109	14814	3.2	260	12	<5	<1	32	<5	<10	51
<b>Repeat #:</b>										
1	16799	4.6	120	8	<5	7	116	10	<10	14
39	127270	8.0	55	129	<5	<1	28	5	<10	95
77	150008	3.8	270	44	<5	<1	70	<5	<10	224
<b>Standard: 1991</b>										
		1.2	75	85	<5	<1	20	5	<10	76
		1.4	80	82	<5	<1	20	5	<10	79
		1.2	80	80	<5	<1	22	5	<10	76

XLS/NewhawkS  
df#3054

  
**ECO-TECH LABORATORIES LTD.**  
 Frank J. Pezzotti, A.Sc.T.  
 B.C. Certified Assayer



- LEGEND**
- 5 INTERMEDIATE TO MAFIC INTRUSIVES
    - 5A UNBANDIED, 5B SODITE (SOD), 5C CARBON (CARB), 5D DIABASE (DIAB), 5E LAMPSONITE (SOD-CALC DUMP)
  - 4 FELSIC TO INTERMEDIATE INTRUSIVES
    - 4A UNBANDIED, 4B GRANITE (GRAN), 4C SENSITE (SENS), 4D QUARTZ-MONZONITE (QMON), 4E MONZONITE (MONZ), 4F GRANODIORITE (GRAN), 4G QUARTZ-DIORITE (QDIO), 4H FELDSPAR-PORPHYRY (FELSP), 4I QUARTZ-FELDSPAR PORPHYRY (QFSP), 4J HORNBLAND-TELDSPAR PORPHYRY (HSPH)
  - 3 CHEMICAL METASEDIMENTS
    - 3A CHERT (CHRT), 3B CHERT TUFF (CHT), 3C CHERT FACIES (CHFT), 3D CARBONATE FACIES (CARB), 3E SILICATE FACIES (SILF), 3F SULPHATE FACIES (SULF)
  - 2 METASEDIMENTS
    - 2A UNBANDIED, 2B ARGILLITE (ARG), 2C MUDROCK (MUD), 2D ARGILLITE (ARG), 2E GREENSLAND (GRAN) OF CONGLOMERATE (CONG), 2F CHERT (CHRT), 2G LIMESTONE (LIME)
  - 1 METAVOLCANICS - RHYOLITE (RHY), DACITE (DAC), ANDESITE (AND), BASALT (BAS)
    - 1A UNBANDIED, 1B MASSIVE FLOW (MAF), 1C PORPHYRIC FLOW (PFP), 1D FLOWED FELDSPAR-BRECCIA (FELB), 1E TUFF (TUFF), 1F LAPILLI TUFF (LAP), 1G TUFF-BRECCIA (TUB), 1H CRYSTAL TUFF (CRYT), 1I PORPHYRY (PFP), 1J VOLCANIClastic (VCLAS)
- ALTERED ROCKS**
- ALB ALBITIZATION
  - BO BOUTROUSITE
  - CA CARBONATE ALTERATION
  - CHL CHLORITIZATION/CHLORITE
  - CP POTASSIC ALTERATION
  - PROF PROPYLITIC ALTERATION
  - QSP QUARTZ-SERICITE-PYRITE SCHIST
  - QUZ QUARTZ VEIN
  - SE SERICITIZATION/SERICITE
  - SL SILICIFICATION/SILICITE
- MK - WEAK MOO - MODERATE STR - STRONG
- ABBREVIATIONS**
- |      |                 |     |                          |
|------|-----------------|-----|--------------------------|
| AU   | - NATIVE GOLD   | HEM | - HEMATITE               |
| AG   | - NATIVE SILVER | LM  | - LIMONITE               |
| ANK  | - ANKERITE      | ML  | - MALACONITE             |
| ANG  | - ANGRITE       | MOL | - MOLYBDENITE            |
| ASPH | - ARSENOPYRITE  | MO  | - MONTICHITE             |
| AZ   | - AZURITE       | PO  | - PYROPHOSPHATE          |
| BA   | - BARTITE       | PP  | - PIRRITE                |
| BBN  | - BARITE        | PR  | - PIRROPHOSPHATE         |
| BN   | - BORNITE       | PRC | - PIRROPHOSPHATE         |
| BR   | - BRECCIA       | PRF | - PROPYLITIC             |
| CHL  | - CHALCOCITE    | PRG | - PIRROPHOSPHATE         |
| CP   | - CHALCOPYRITE  | QSP | - QUARTZ-SERICITE-PYRITE |
| CU   | - NATIVE COPPER | QZ  | - QUARTZ                 |
| DOL  | - DOLICITE      | QZV | - QUARTZ VEIN            |
| EL   | - ELLIPSOIDAL   | SP  | - SERICITE               |
| EP   | - EPIDOTE       | SPR | - SPHALERITE             |
| GR   | - GRANITE       | TAN | - TENNANTITE             |
| GRN  | - GRANODIORITE  | TEL | - TELLOPHOSPHATE         |
| HA   | - HORNBLAND     |     |                          |
- QSP - QUARTZ-SERICITE-PYRITE  
 ARGILLIC - CHLORITE-SERICITE-PYRITE  
 QZV - QUARTZ VEIN  
 QZV - QUARTZ VEIN  
 QZV - QUARTZ VEIN  
 QZV - QUARTZ VEIN  
 QZV - QUARTZ VEIN

- DRILLHOLE ANNOTATION**
- DRILLHOLE COLLAR
  - DRILLHOLE TOE
  - SECTION ENTRY POINT
  - SECTION PIERCE POINT
  - SECTION EXIT POINT
  - DRILLHOLE ID
  - 0.358 4.23 AU (oz/t) AG (oz/t)
  - (-5.00) DISTANCE SOUTH OF SECTION
  - (5.00) DISTANCE NORTH OF SECTION
- NOTE: SECTIONS ARE ON RB GRID.

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

23,613

0 10 20 30 40 50  
METRES  
SCALE 1:500

NEWHAWK GOLD MINES  
SULPHURETS PROPERTY  
BRUCESIDE PROJECT  
GOSSAN HILL  
SECTION 200+80N +/-50m  
LOOKING WEST (SECTION AZIMUTH 350°)

DRAWN BY: T.K. SHEET NO:  
DATE: NOV 1994 FIGURE NO: 1

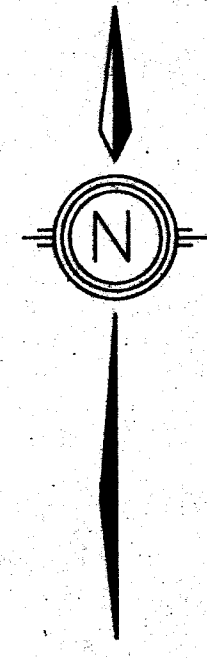
N6260000

N6250000

N6258000

HANGING GLACIER

SULPHURETS GLACIER



**LEGEND**

**STRATIFIED ROCKS**

**Jurassic 2**

- 6 felsic volcanic tuff, flow; locally plagioclase phytic
- 5 andesitic volcanic breccia, lapilli tuff, block/ash tuff
- 4 mudstone, argillite, cherty argillite
- 3 medium to coarse grained sandstone, pebble to cobble conglomerate

**Triassic 2**

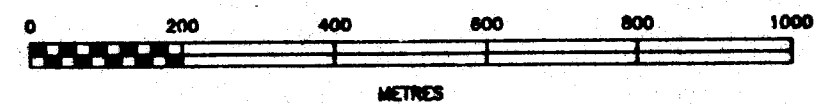
- 2 mudstone, sandstone, thin bedded limestone, tuffaceous sandstone
- 1 heterolithic volcanic conglomerate

**INTRUSIVE ROCKS**

**Jurassic**

- JrP plagioclase porphyry
- JrK potassium feldspar - hornblende - plagioclase porphyry
- JrD plagioclase - hornblende porphyry

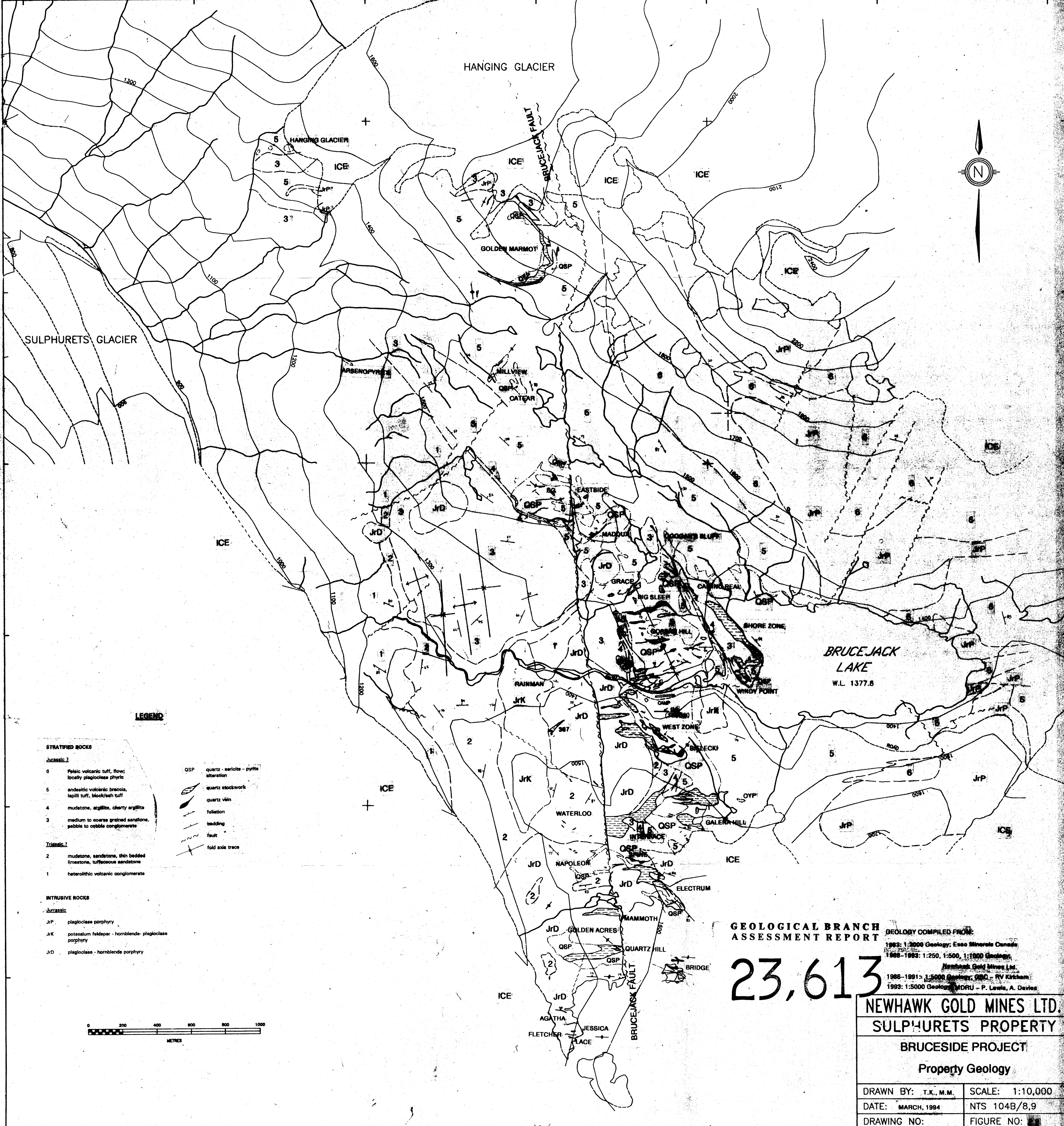
- QSP quartz - sericite - pyrite alteration
- quartz stockwork
- quartz vein
- foliation
- bedding
- fault
- fold axis trace



E423000

E425000

E427000



**GEOLOGICAL BRANCH ASSESSMENT REPORT**

GEOLOGY COMPILED FROM:  
 1983: 1:2000 Geology; Esso Minerals Canada  
 1985-1988: 1:250, 1:500, 1:1000 Geology;  
 Newhawk Gold Mines Ltd.  
 1988-1991: 1:5000 Geology; QMC - RV Kirkham  
 1993: 1:5000 Geology; MDRU - P. Lewis, A. Davies

23,613

<b>NEWHAWK GOLD MINES LTD.</b>	
<b>SULPHURETS PROPERTY</b>	
<b>BRUCESIDE PROJECT</b>	
<b>Property Geology</b>	
DRAWN BY: T.K., M.M.	SCALE: 1:10,000
DATE: MARCH, 1994	NTS 104B/8,9
DRAWING NO:	FIGURE NO: