GEOLOGICAL BRANCH
ASSESSMENT REPORT

LOG NO: 0628 RD.
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FILE NO:

21,463

KINGHORN ENERGY CORPORATION

GEOLOGICAL AND GEOCHEMICAL ASSESSMENT REPORT

ON THE

COP, HAR 1 & HAR 3 CLAIMS

ISKUT RIVER AREA

SKEENA MINING DIVISION

BRITISH COLUMBIA

NTS 104 - B / 10 E

W. Longitude: 130^0 36′ N. Latitude: 56^0 35′

FOR

KINGHORN ENERGY CORPORATION
430 - 580 Hornby Street,
Vancouver, B.C.,
V6C 3B6.

BY

Denis A. Collins, Ph.D., P.Geol., F.G.A.C. and
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JANUARY 7, 1991

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1.0 SUMMARY

This summary and evaluation of the Cop, Har 1 and Har 3 claims has been completed at the request of the directors of Kinghorn Energy Corporation. The claims total 60 units within the Skeena Mining Division on NTS Map 104B/10E, approximately 10 km south of the Iskut River and 2.5 km west of Harrymel Creek. The claims are held in the name of Westmar Resources Ltd. and are optioned to Kinghorn Energy Corporation.

This report is based on the results of a $49,000 work program consisting of bulk stream sampling, prospecting, 1:10,000 scale geological mapping and sampling which was conducted by Hi-Tec Resource Management Ltd. The authors worked on the project during the period July 1990 to September 1990.

The Cop, Har 1 and Har 3 claims are underlain by Upper Triassic volcanosedimentary sequences to Lower Jurassic Unuk River Formation porphyritic andesites and plagioclase phyritic meta-diorite with minor limestones in contact with Lower Jurassic Betty Creek andesites and andesitic lapilli tuffs. These are intruded by the Melville stock, a hornblende-biotite to quartz diorite. A major Tertiary dike swarm intrudes the andesites.

A massive magnetite showing was located along the northern margin of a glacier on the Har 3 claim. This skarn type showing is associated with the contact of granodiorite and a banded limestone unit. Gossanous zones within this showing contain up to 80% magnetite, 5% pyrite and 5% hematite. Brecciated zones of intrusive rock are also evident in this zone. In the southwestern portion of the Har 3 claim a brachiopod

fossil locality was mapped within a sandstone, siltstone, shale and limestone interbedded sequence.

One hundred and forty seven rock samples and three pan concentrate samples were collected on the property. Only spot high Au values were recorded from the samples. The best Au value of 980 ppb was from a rock grab sample (90HJR029) of quartz-carbonate veinlets near the fossil locality on the Har 3 claim. Cu values are elevated throughout the length of the skarn type showing on the Har 3 claim and range from 120 to 998 ppm. No appreciable precious or base metal values were recorded from the samples collected on the Cop and Har 1 claim.

Follow-up work is recommended on the Har 3 claim to determine the nature, size and inter-relation of the skarn and fossil locality showings.

2.0 INTRODUCTION

This summary and evaluation of the Cop, Har 1 and Har 3 claims has been completed at the request of the directors of Kinghorn Energy Corporation who have optioned the property from the registered owner Westmar Resources Ltd.

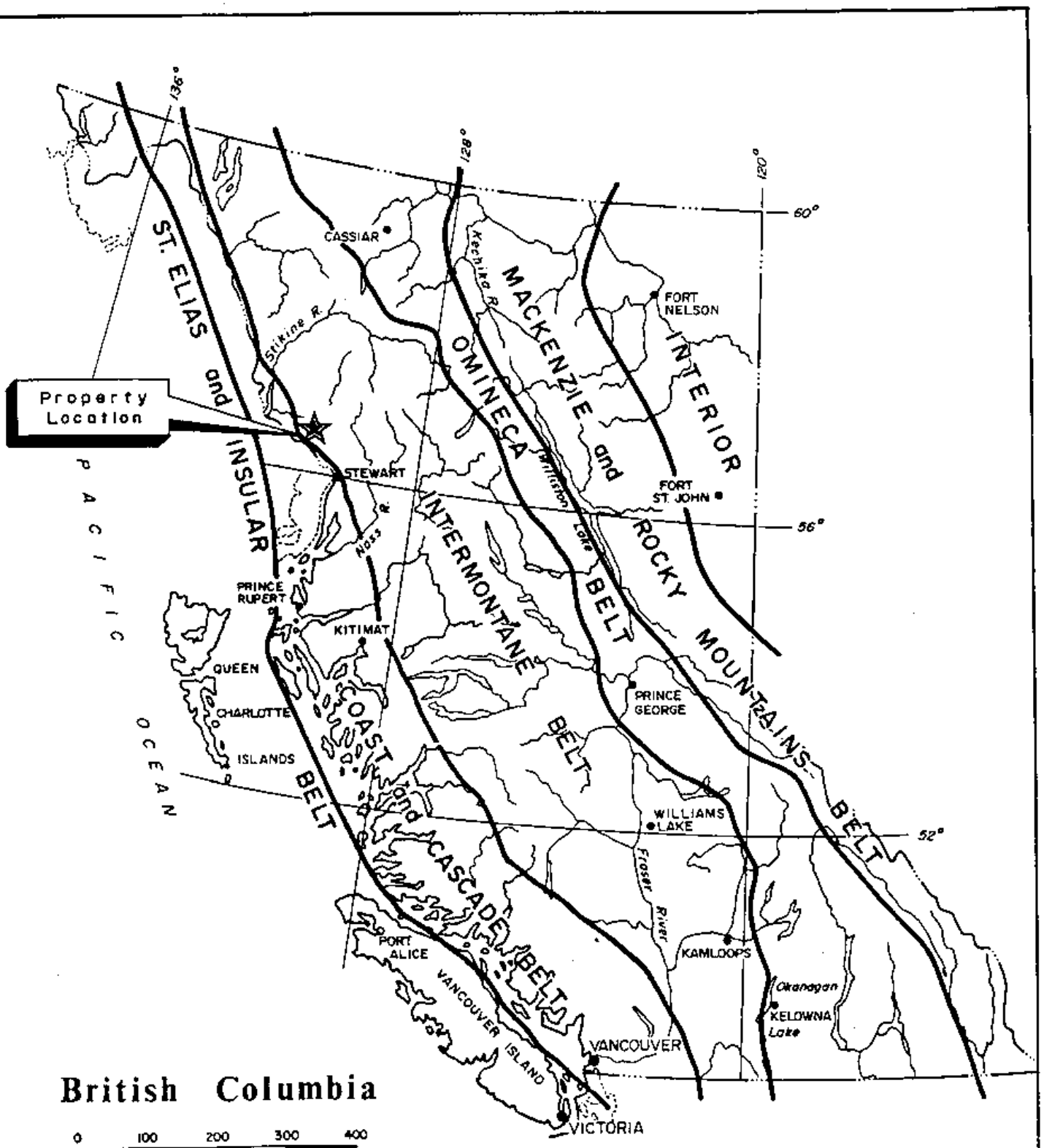
This report is based on the results of a $49,000 work program consisting of bulk stream sampling, prospecting, rock sampling and 1:10,000 scale geological mapping which was conducted by Hi-Tec Resource Management Ltd. The authors worked on the project during the period July 1990 to September 1990.

2.1 Location and Access

The property is located within the eastern boundary of the Coast Range Mountains (Figure 1) on NTS Map 104B/10E, approximately 10 km south of the Iskut River and 2.5 km west of Harrymel Creek.

The property is located approximately 300 air kilometers northwest of Smithers, British Columbia, 105 air kilometers east of Wrangell, Alaska and 15 air kilometers east from the Bronson Creek airstrip. Highway 37, connecting the Yellowhead highway at Kitwanga to the Alaska highway at Watson Lake, is at its closest 60 kilometers east-northeast of the properties. The Bob Quinn Highways maintainence yard and newly constructed Bob Quinn airstrip are at this point.

The property can be accessed by using fixed wing aircraft from Smithers, Wrangell, Terrace or Stewart to gravel airstrips at Bronson Creek (15 kilometers east)



British Columbia

0 100 200 300 400
kilometres

COP, HAR 1 & HAR 3 CLAIMS

KINGHORN ENERGY CORPORATION

General Location Map

HI-TEC RESOURCE MANAGEMENT LTD.	SCALE: as shown	N.T.S.: 104 B/10E	FIGURE No.: 1
	DWN. BY:	DATE: JAN./91	
	CHKD. BY:	PROJECT No.: 908C042	FILE No.:

and Snippaker Creek. The latter is limited in capacity to a twin engine Beechcraft, Turbo Otter or smaller aircraft. The most economic access to the subject property is by truck from Smithers for a distance of 350 kilometers to Bell II on Highway 37 at the Bell Irving Creek crossing. At the present time, a 205 Helicopter is stationed at Bell II and the claims can be reached by air, a distance of approximately 60 air kilometers to the southwest.

The Provincial Government of British Columbia is to establish a corporation to own, build and maintain an access road into the Iskut River-Eskay Creek area. This road would run east-west approximately 10 kilometers north of the claims.

2.2 Physiography

The Cop claim is bisected by the eastern portion of the Copper King Glacier while the Har 1 and 3 claims are located on the steep mountainous east facing slopes of a unnamed mountain immediately south of the Copper King Glacier and west of Harrymel Creek. Relief ranges from 1050 - 1650 m ASL in spectacular but extremely rugged terrain. Tree line is at approximately 1,200 meters ASL in this district.

Snow cover and glacial ice is a limiting factor on the exploration field season. The period of least snow cover occurs between July and September with best exposure in alpine areas during August-September.

2.3 Claim Status

The property consists of the contiguous Cop, Har 1 and Har 3 claims totalling 60 units on NTS map sheet 104B/10E (Figure 2).

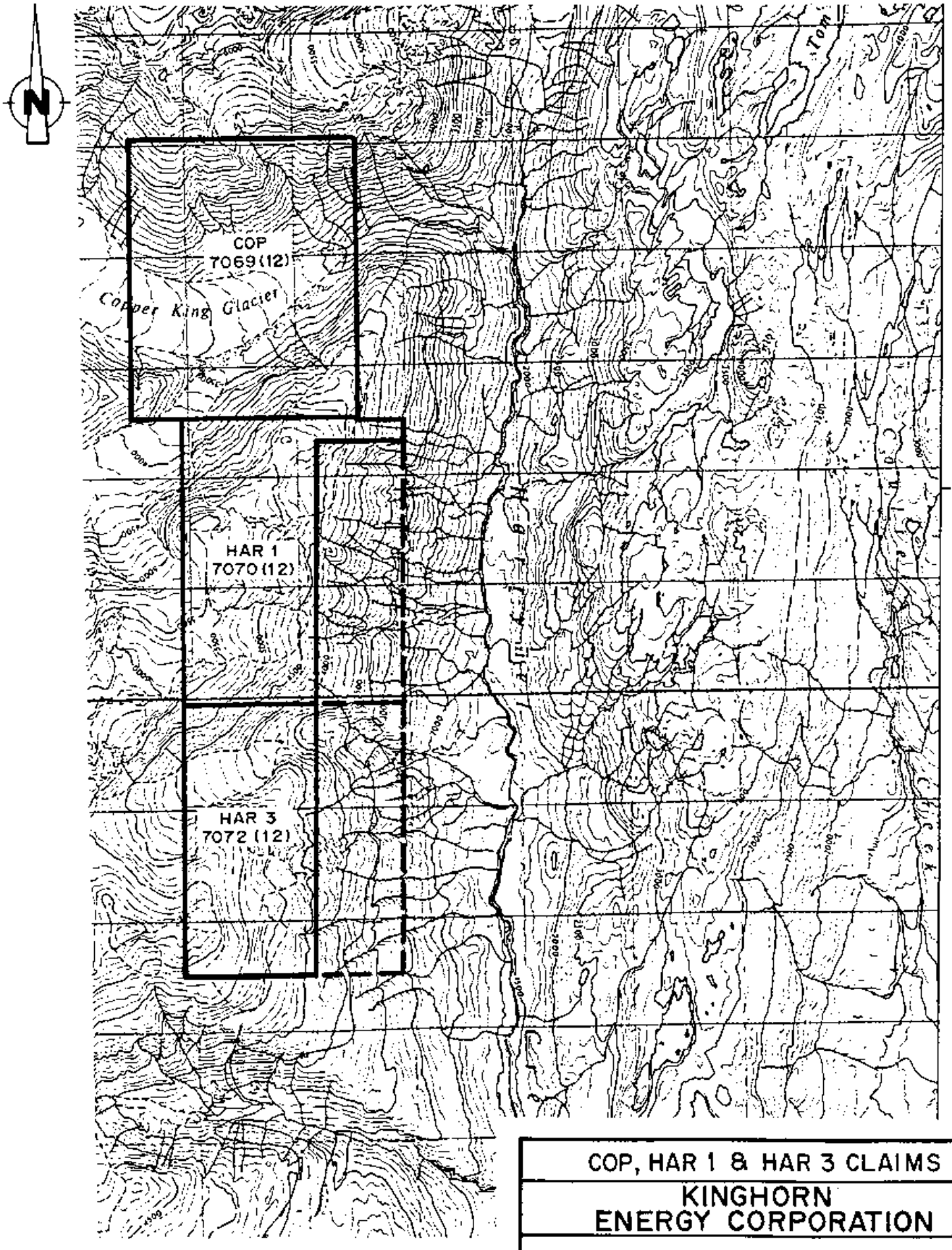
The claims are held in the name of Westmar Resources Ltd. and are optioned to Kinghorn Energy Corporation. The claims are located in the Skeena Mining Division and are recorded at the British Columbia Ministry of Energy, Mines and Petroleum Resources as follows:

CLAIM	UNITS	RECORD NO.	RECORD DATE	EXPIRY DATE *
COP	20	7069	Dec. 19, 1988	Dec. 19, 1990
HAR 1	20	7070	Dec. 19, 1988	Dec. 19, 1990
HAR 3	20	7072	Dec. 19, 1988	Dec. 19, 1990

* prior to filing of this report.

3.0 REGIONAL HISTORY AND PREVIOUS WORK

The earliest work in the district (Figure 3, Tables 1-3) was by placer miners in the Unuk River Sulphurets Creek area in the late 1800's. Hardrock mining ventures began around the turn of the century on Au, Ag, Pb veins of the Globe and Cumberland/Daly prospects in the Sulphurets Creek area and on Au, Ag, Cu, Pb veins of the Iskoot and Red Bluff claims (1907) on lower Bronson Creek. In 1932, Ag and Au bearing Pb, Zn, Cu deposits were found east of Tom MacKay Lake on the Tok and Kay claims. Initial work on the gossans at the upper reaches of Sulphurets Creek (Brucejack Lake) started in 1935. The Halport (now Doc) Au, Ag quartz vein was discovered in 1946 by Tom McQuillan, along the south fork of the Unuk River.



1.0 0 1.0 2.0 km

SCALE 1:50,000

COP, HAR 1 & HAR 3 CLAIMS

KINGHORN ENERGY CORPORATION

Claim Map

	SCALE: as shown	N.T.S. 104 B/10E	FIGURE No: 2
	DWN. BY:	DATE: JAN./91	
	CHKD. BY:	PROJECT No: 90BC042	FILE No:

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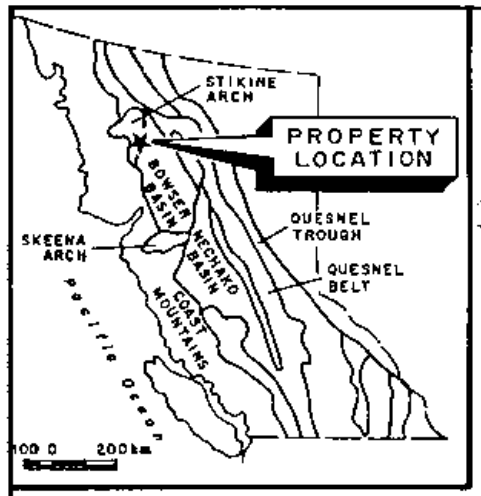
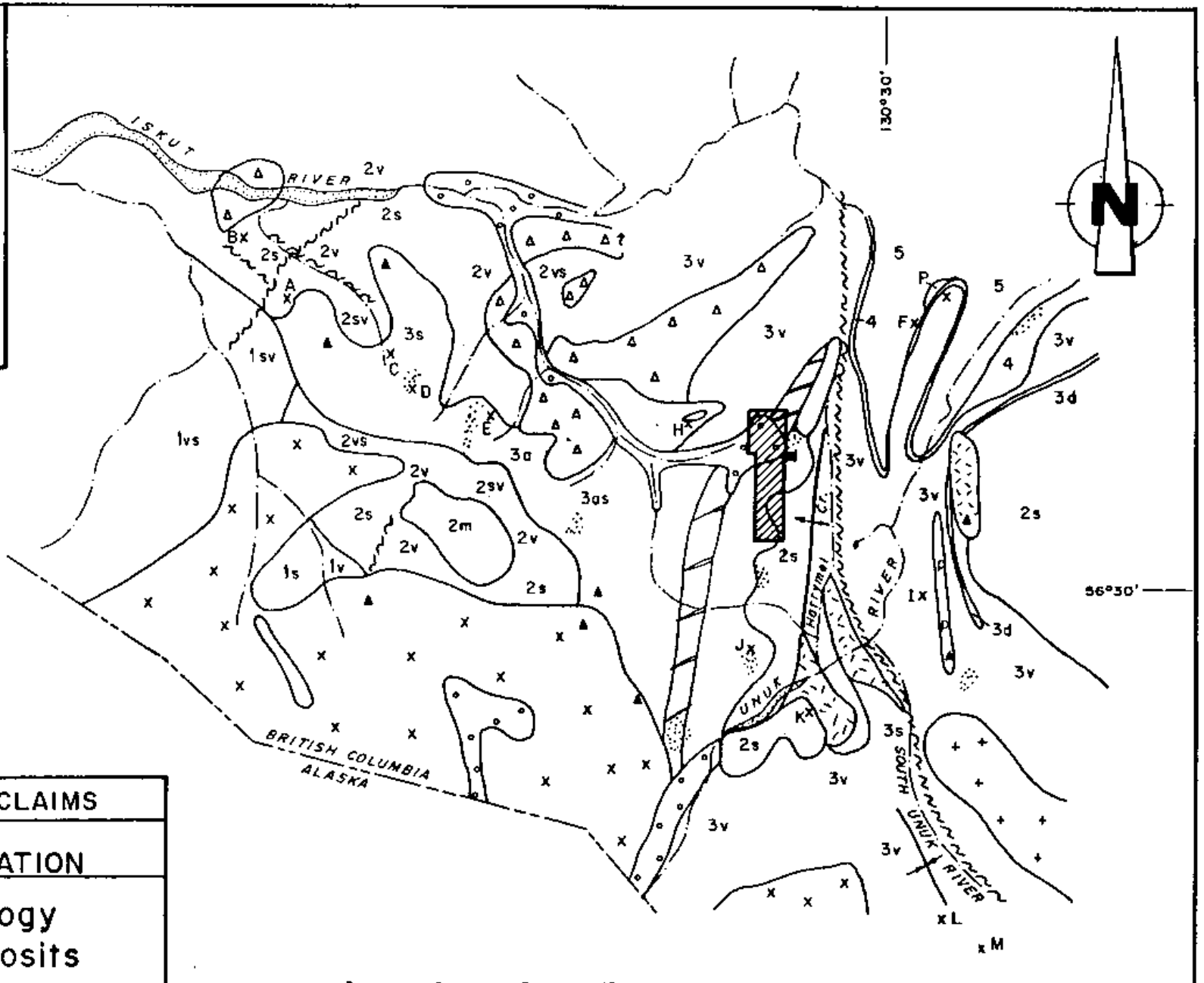
With the discovery in 1953 of the Granduc deposit south-east of the region, on Leduc Creek, exploration in the Unuk-Iskut River area increased with the subsequent discovery by Hudson's Bay Mining of the Pick Axe Au, Cu zone and high grade Au, Ag, Pb, Zn float zone on Johnny Mountain (now Skyline Explorations Reg property, Johnny Mountain mine). In 1958 the E & L Ni, Cu deposit on Nickel Mountain was discovered followed by the Max Cu, Fe skarn on McQuillan Ridge in 1960.

The search for porphyry copper deposits in the 1960 - 1970's led to the re-evaluation of the Sulphurets and Johnny Mountain area. Cu bearing skarns were discovered in 1962 by Newmont Mining Corp. at the head waters of Forrest Kerr Creek. The VV and Cole porphyry prospects south and north of King Creek were discovered in the early 1970's. The Inel property east of Johnny Mountain was restaked in 1969 after massive sulfide float was discovered at the toe of Bronson Glacier. The McClymont property was staked in 1980 by Dupont Canada Explorations Ltd. as a result of stream sediment sampling, these claims are now controlled by Gulf International Minerals Ltd. The Gossan claims were staked in 1983 subsequent to reconnaissance mapping and geochemical sampling by Lonestar Resources Ltd.

The Snip deposit of Cominco - Delaware was discovered in 1981 in the active area at the lower reach of Bronson Creek.

All the above areas have undergone intermittent mineral exploration over the years to present, some include underground development and definition of ore reserves, (see Table 1).





NOTE:
SEE TABLES 2 & 3

COP, HAR 1 & HAR 3 CLAIMS

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Regional Geology & Mineral Deposits

SCALE: as shown	N.T.S.: 104B/10E	FIGURE No.: 3	
DWN. BY:	DATE: JAN./91		
CHKD. BY:	PROJECT No.: 90BC042	FILE No.:	

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TABLE # 1

SUMMARY OF MAJOR SHOWINGS IN THE ISKUT RIVER - UNUK RIVER AREA

	SHOWING/DEPOSIT	LOCATION	OWNER	WORK HISTORY*	RESERVES OR COMMODITIES PRESENT	DEPOSIT TYPE
1)	Sulphurets: Bruce Jack Lake Zones	104B/8	Granduc/Corona	E,D,1	720,000 tonnes @ 28.4g/t Au Equiv.	veins
2)	Sulphurets Snowfield	104B/9	Granduc/Corona	E,2	7,000,000 tonnes @ 2.86 g/t Au	disseminated
3)	E & L	104B/10	Silver Standard Sumitomo	E,D,2	2,800,000 tonnes @ 0.7% Ni, 0.6% Cu tonnes	intrusive contact
4)	Johnny Mtn.	104B/11	Skyline Expl.	E,D,M (1987-89),1	Au, Cu	veins
5)	Snip	104B/11	Cominco/Delaware	E,D,M (1990-?),1	1,100,000 tonnes @ 24.0 g/t Au	veins
6)	Doc	104B/8	Silver Princess	E,D,1	426,000 tonnes @ 9.26g/t Au 4.91g/t Ag (Pb, Zn, Cu)	veins
7)	Eskay	104B/9	Prime/Stikine	E,D,1	5,025,000 tonnes @ 15.6 g/t Au, 441g/t Ag (Pb, In, Cu, Sb, As, Hg)	stratabound
8)	Gossan	104B/10	Lonestar/Western Canadian	E,1	Au	disseminated, vein
9)	Inel	104B/10	Inel Resources	E,D,1	Au, Zn	stockwork, veins
10)	VV	104B/10	Crest/ Corpteck	E,2	Cu, Mo (Au, Ag)	porphyry type disseminated and stockwork
11)	Max	104B/7		E,2	9,900,000 tonnes 45% Fe	skarn

* E surface exploration and drilling
  D underground development
  M Mine - Mill complex
  1 current expl. (development)
  2 dormant

TABLE # 2 (See Figure 3)

REGIONAL GEOLOGY

Legend
(from Britton 1988, 1989)

INTRUSIVE ROCKS

TERTIARY	////	King Creek dyke swarm
	× × × × ×	Coast Plutonic Complex
	+ + + +	Lee Brant stock
JURASSIC	△ △ △ △	Lehto porphyry and Iskut River Plutons
LATE TRIASSIC	⋀⋀	Diorite and Gabbro

STRATIFIED ROCKS

TERTIARY	°°°		Basalt flows and Tephra
MIDDLE JURASSIC		5	Marine Basin Turbidites
		4	Felsic Pyroclastics
LOWER JURASSIC		D	Dacite Marker
	3	V	Andesite Volcanics
	2	S	(with <40% sediments)
UPPER TRIASSIC		V	Intermed.-Ands Volcanics
	2	S	Sediments
		M	Basalt
PALEOZOIC		1	Metamorphosed sediment(s) and Tuffs(v)

TABLE #3 (See Figure 3)

REGIONAL GEOLOGY SYMBOLS

CONTACT

AIRSTRIP

CREEK, RIVER

GOSSAN

MINE, PROSPECT × A

PILLOW LAVAS P

ANTICLINE, SYNCLINE

MOUNTAIN PEAK ▲

PROSPECTS AND MINES

A	JOHNNY MOUNTAIN	Au, Cu, Ag
B	SNIP	Au, Cu, Ag, Pg, Zn
C	INEL	Au, Ag, Cu, Zn, Pb
D	KHYBER PASS (GOSSAN)	Au, Cu, Zn
E	PINS	Au, Ag, Cu, Zn, Pb
F	MACKAY	Au, Ag, Pb, Zn, Cu
G	COPPER KING	Cu, Fe
H	E & L NICKEL	Ni, Cu
I	CUMBERLAND / DALY	Au, Ag
J	VV	Cu, Mo, Au, Ag
K	MAX	Fe, Cu
L	DOC	Au, Ag, Pb, Cu
M	GLOBE	Au, Ag, Pb, Cu

In 1989 a limited amount of assessment work was completed on the Cop, Har 1 and 3 claims for Westmar Resources Ltd. (Todoruk & Ikona, 1989). A total of 15 rock chip samples were collected but no anomalous results were obtained.

Previous work immediate to the property includes three stream sediment samples taken as part of the NTS 104B sheet regional stream sediment and water data survey (G.S.C. Open File 1645). Samples 871366, 871367, 871168 yielded respectively 2 ppb, 8 ppb and 15 ppb Au. These samples were collected from creeks which drain the Har 1 and Har 3 claims.

4.0 REGIONAL GEOLOGY AND MINERALIZATION

The property is located within the westernmost part of the Intermontane Tectonic Belt, close to its boundary with the Coastal Crystalline Tectonic Belt. As a result of the proximity of this area to a regional tectonic boundary, geologic relationships tend to be quite complex. The geology of this area (Figure 3) has been studied by many people including Kerr (1948 later incorporated into Operation Stikine G.S.C. 1957), Grove (1971, 1986), Gunning (1986), Alldrick et al. (1989) and Anderson & Thorkelson (1990). The Bronson Creek area was mapped in 1987 and 1988 by Lefebure and by Gunning (1989) while the east and west halves of Figure 3 were mapped by Britton, Webster and Alldrick (1988) and Britton, Fletcher & Alldrick (1989) between 1987 - 1989. The G.S.C. is re-mapping the entire 104B sheet (Anderson, 1989; Anderson & Bevier, 1990). The area is represented in Geological Survey of Canada Maps 9-1957, 1418A, 1505A, 2094 and B.C.G.S. Open file 1989-10.

The western portion of the Intermontane Belt is formed by the Stikine Terrane. During the Late Triassic period this Terrane was the site of active volcanism which resulted in the deposition of calc-alkaline plagioclase rich andesitic sequences along with sediments which are now collectively termed the Stuhini Group. The volcanism was accompanied by granitic intrusives. At the end of the Triassic this assemblage of volcano-plutonic rocks was uplifted to form the Stikine Arch. Additional uplift in the Cache Creek Terrain to the east resulted in the formation of The Hazelton Trough in north central British Columbia. This trough was infilled by Early Jurassic volcanics and sediments now termed the Hazelton Group.

The strata have been cut by at least four intrusive episodes spanning Late Triassic to Quaternary, including synvolcanic plugs, dykes, dyke swarms and the batholitic Coast Plutonic Complex. The stratigraphic sequence has been folded, faulted and metamorphosed mainly during Cretaceous time, but earlier Paleozoic strata are polydeformed, probably recording an earlier deformational event. Stratigraphic correlations are complicated by a combination of facies changes and north trending high angle regional faults.

During the Lower to Middle Jurassic, Bajocian age, the Hazelton Trough was divided into both the northern Bowser and southern Nechako Basins (Figure 3) by the emplacement of the Topley intrusions which cored the Skeena Arch. Erosional material from the Stikine Arch and Skeena Arch infilled the Bowser Basin up to the Late Jurassic Kimmeridgian age.

The principal component of the Intermontane Tectonic Belt in the Iskut River area is a Mesozoic volcanic and

sedimentary sequence, correlative with the time equivalent Upper Triassic Stuhini Group. The Stuhini Group is characterized in the west section of the Iskut district by limestone and polymictic conglomerate which underlie a bimodal volcanic suite and in the east by feldspathic greywacke and siltstone which interdigitate with mafic and intermediate volcanics. Volcanic rocks (2V) are the most common and comprise basaltic to dacitic pyroclastics to flows. Plagioclase and pyroxene form characteristic phenocrysts. Sedimentary rocks (2V) are mostly rhythmic bedded siltstone with minor fine grained wacke, associated limestone lenses and volcaniclastic material (andesitic ash tuff to volcanic sandstone).

Various local volcanic units have been identified including chloritized pyroxene crystal tuffs in the Olatine Mountain area (unit 2m); dacitic pyroxene plagioclase tuffs on Winslow Ridge; and andesite to dacite pyroclastics with locally distinguishing coarse (1cm) hornblende phenocrysts in the McQuillan Ridge area.

The contact of the Stuhini Group and the overlying Lower Jurassic Hazelton Group is gradational in the Stewart area and is marked by an unconformity in other areas. Granitoid- and dacite-bearing polymictic conglomerate and greywacke are characteristic of the transitional unit south of John Peaks area (Anderson & Thorkelson, 1990). Lower Jurassic rocks are mainly andesitic to dacitic fragmental volcanics with minor basaltic tuffs, siltstone, wacke and conglomerate. Pillow lavas and felsic pyroclastic units may service as markers even though the package is marked by lateral facies changes, variable colors and lithologic heterogeneity.

The Hazelton Group is subdivided into the Unuk River Formation (a Norian to Sinemurian andesitic sequence), the Betty Creek Formation (a Pliensbachian to Toarcian pyroclastic to epiclastic sequence), and to the east of the Harrymel Creek fault zone the Mount Dilworth Formation (a Toarcian age felsic volcanic sequence). These are overlain by the Middle Jurassic sedimentary rocks of the Salmon River Formation.

The basal Unuk River Formation is characterized by porphyritic andesites of massive to tuffaceous nature with interbeds of immature siltstones (turbidites), conglomerates and limestone.

The Betty Creek Formation is a pyroclastic - epiclastic sequence. Andesite to rhyolite, variably coloured well bedded lithic tuff to lapilli tuffs dominate with minor interbeds of siltstone, shale and argillite.

East of the Harrymel Creek fault zone the Lower Jurassic is terminated by the Mount Dillworth Formation, a regionally extensive blanket of felsic pyroclastics, which include welded tuffs and rare flows. This Formation is thought to mark the penultimate regionally extensive eruption of Hazelton Group felsic pyroclastics that included welded tuffs and flows.

The Lower Middle Jurassic, Bajocian age, Salmon River Formation overlies the Mount Dilworth Formation. Three important facies occur within this formation on a regionally mappable scale.

In the east of the Eskay/Iskut region the (1) Troy Ridge Facies is characterized by rhythmic alternating

thin shale and tuff beds of turbiditic origin. (2) West of John Peaks, limestone, limy and cherty siltstone and shale interdigitate or overlie thick pillow lava and pillow lava breccias. According to Grove (1986) and Anderson & Thorkelson (1990) the interpillow matrix is locally composed of limestone. This unit has been termed the Eskay Creek facies as it hosts the rich stratabound mineralization of the Eskay Creek deposit. In the west, a third facies termed the Snippaker Mountain facies is not well mapped but appears to consist of andesitic, calc-alkaline volcaniclastics.

Recent and Pleistocene basalt flows and tephra blanket much of the Iskut River and subsidiary drainages. Extinct volcanic domes are exposed, but severely eroded, for example in the Snippaker Creek area. The flows predominantly occupy valley bottoms and are commonly olivine rich basalts.

In the Coast Crystalline Tectonic Belt, Paleozoic and Mesozoic sequences are commonly intruded by dyke swarms, dykes, sills, and plutonic rocks of quartz monzonite to quartz diorite composition. These intrusions are Late Cretaceous to Early Tertiary in age. To the east of the main intrusive complex, Intermontane Stikine Terrane smaller granitic plugs and stocks are prevalent. Triassic dykes, sills and plugs are hornblende diorites contemporaneous with Triassic host volcanics, located typically north of the Iskut River.

Intrusive dykes, sills and plugs, believed to be of Jurassic age, range from dioritic stocks on McQuillan Ridge and near Melville Glacier; gabbroic stocks at John Peaks and Nickel Mountain; felsic stocks on Johnny

Flats and on the Inel property. The recently identified Lehto porphyry is a monzonitic to dioritic porphyritic mass with large, pink euhedral potassium feldspar phenocrysts. This trends east-west and crosses Snippaker Creek north of the airstrip.

The Lee Brant stock, located east of the south Unuk River, covers 40 sq. km and is a hornblende - biotite quartz monzonite. Both the Lehto and Lee Brant intrusions have potassium feldspar phenocrysts and are similar to the Summit Lake and Texas Creek plutons of the Stewart, B.C. region. The latter shows a close spatial and temporal relationship (Britton, 1990) with the Silbak Premier gold, silver and base metal deposits.

The area is complicated by major faults such as the easterly dipping Harrymel Creek (or Melville) fault and by regional folding such as doubly plunging, northeast trending, synclinal folds and numerous parasitic folds in Hazelton and Bowser Lake Group rocks. The Harrymel Creek fault juxtaposes older stratigraphy to the west (footwall block) with younger strata to the east (hangingwall block) and appears to form the western boundary to the Mount Dilworth Formation exposures in the district.

5.0 PROPERTY GEOLOGY

Mapping by Alldrick et al. (1989) in the area of the Cop, Har 1 and Har 3 claims shows Upper Triassic (Carnian to Norian Stuhini Group) volcanosedimentary sequences to Lower Jurassic (Norian to Sinemurian Hazelton Group) Unuk River Formation porphyritic andesites with minor limestones in contact with Lower Jurassic (Pliensbachian to Toarcian) Betty Creek

andesites and andesitic lapilli tuffs. These are intruded by the Melville stock, a hornblende-biotite quartz diorite. A major Tertiary dike swarm intrudes the andesites.

Prospecting and mapping on the property by Hi-Tec Resource Management Ltd. has shown that the mapping of Alldrick et al. (1989) is valid, however, the contact of the volcanics and intrusive as mapped by Alldrick et al. (1989) is incorrect. Much of the area previously mapped as Unuk River Formation volcanics on the Har 1 claim is actually plagioclase phyritic meta-diorite.

Mapping and prospecting on the Cop claim confirmed the presence of an unsystematic dyke swarm up to 20 m wide. These contained up to 10% pyrite in tension gash arrays. Mapping also located a minor pyritic lens zone with lenses of 1-3 cm wide by 2 m long associated with the quartz/hornblende dioritic unit which underlies much of the Cop claim. The diorite/volcanics contact zone in the area has up to 10% epidote alteration within the volcanics. The volcanics commonly contain up to 8% disseminated pyrite adjacent to the contact zone. Minor shears within the volcanics and intrusive on the Cop claim occasionally contain up to 5% pyrite. None of these shears are of significant dimensions.

Much of the Har 1 claim is underlain by plagioclase phyritic meta-diorite and diorite which is cut by aplitic dykes. Minor breccia zones within these lithologies are frequently Fe/Mn stained and contain up to 2% pyrite.

A massive magnetite showing was located along the northern margin of a glacier on the Har 3 claim (Figures 4 & 5). This skarn type showing is associated

with the contact of granodiorite and a banded limestone unit. Extremely altered gossanous lenses of gouge and quartz-carbonate veinlets are evident in the contact zone. These contain up to 80% magnetite, 5% pyrite and 5% hematite. Brecciated zones of intrusive rock are also evident in this zone. Rock samples 90HVR11 to 032 were taken from this showing (Figure 5).

In the southwestern portion of the Har 3 claim a brachiopod fossil locality was mapped within a sandstone, siltstone, shale and limestone interbedded sequence. Samples 90HJR016-031 were collected in this area. Many of the fossils are replaced by calcite and contain up to 5% disseminated pyrite blebs.

6.0 PROPERTY GEOCHEMISTRY

One hundred and forty seven rock samples and three pan concentrate samples were collected on the property. All samples were submitted to Vangeochem Lab Limited for analysis, analytical procedures are in Appendix II, Au and 25 element ICP results are tabulated in Appendix III, and descriptions in Appendix IV. Sample locations are plotted on Figure 5.

Only spot high Au values were recorded from the samples. The best Au value of 980 ppb was from a rock grab sample (90HJR029) of quartz-carbonate veinlets near the fossil locality on the Har 3 claim. This sample also contained an anomalous As value of 249 ppm. No other anomalous ICP results were recorded for this sample. An adjacent sample (90HJR030) contained 7% pyrite within < 2 cm quartz-carbonate veinlets and this yielded an Au value of 250 ppb.

Many of the samples collected from the skarn showing on the Har 3 claim contained massive magnetite. The Au values recorded from these samples are in the 10-40 ppb range with the exception of sample 90HVR011 which yielded a value of 150 ppb Au. Cu values are elevated throughout the length of this showing and range from 120 to 998 ppm.

One spot high of 3.04% Zn was obtained from sample 90HVR003 which was collected from the peak of an unnamed mountain 0.5 kilometers to the south of the fossil locality on the Har 3 claim.

7.0 CONCLUSIONS

Mapping on the Cop claim has shown that it is underlain by a quartz-hornblende diorite intrusion which is cut by andesitic dykes. This dyke swarm occasionally contains fractures which are infilled with up to 10% pyrite. No appreciable precious or base metal values were recorded from the samples collected on the Cop claim.

Much of the Har 1 claim is underlain by plagioclase phyritic meta-diorite and diorite which is cut by aplitic dykes.

On the Har 3 claim, a massive magnetite skarn type showing was located which is associated with the contact of granodiorite and a banded limestone unit. Only low Au values were recorded from this showing with the exception of sample 90HVR011 which yielded a value of 150 ppb Au. Cu values are elevated throughout the length of this showing and range from 120 to 998 ppm.

In the southwestern portion of the Har 3 claim a brachiopod fossil locality was mapped within a sandstone, siltstone, shale and limestone interbedded sequence. The best Au value of 980 ppb was from a rock grab sample (90HJR029) of quartz-carbonate veinlets near this fossil locality.

8.0 RECOMMENDATIONS

Follow-up work is recommended on the Har 3 claim to determine the nature and size of the skarn and fossil locality showings. Trenching of these showings would aid in the interpretation of their geometry and grade characteristics.

No additional work is recommended on the Cop and Har 1 claims.

Respectfully submitted,

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January 7, 1991

9.0 REFERENCES

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APPENDIX I

STATEMENTS OF QUALIFICATIONS

Statement of Qualifications

I, DENIS A. COLLINS, of the City of Vancouver, Province of British Columbia, hereby certify:

1. THAT I am a geologist employed by Hi-Tec Resource Management Ltd., with offices at 1500-609 Granville Street, Vancouver, British Columbia.

2. THAT I obtained a Bachelor of Science degree in Geology from University College Cork, Ireland in 1980 and a Ph.D. in Structural Geology from the same university in 1985.

3. THAT I have been practising my profession as a geologist in Ireland, South Africa, USA and Canada since 1980.

4. THAT I am a Fellow, in good standing, with the Geological Association of Canada.

5. THAT I am a registered Professional Geologist, in good standing, with a license to practice with the Association of Professional Engineers, Geologists and Geophysicists of the North West Territories.

6. THAT this report is based upon a thorough review of published and printed reports and maps on the subject properties and the surrounding area and on the results of a field program of geological mapping and sampling directed by the writer during July to September, 1990.

7. THAT I have no interest in the properties described herein, nor in securities of Kinghorn Energy Corporation or Westmar Resources Ltd. or any company associated with the property, nor do I expect to receive any such interest.

Dated in Vancouver, British Columbia, this 7th day of January, 1991.

Denis Collins

Denis A. Collins, Ph.D., P. Geol., F.G.A.C.

GEOLOGICAL ASSOCIATION OF CANADA
D.A. COLLINS
FELLOW

Statement of Qualifications

I, Robert F.Brown, of the City of Vancouver, Province of British Columbia, hereby certify :

1. THAT I am a geologist employed by Hi-Tec Resource Management Ltd., with offices at 1500-609 Granville Street, Vancouver, British Columbia.

2. THAT I obtained a Bachelor of Science (Engineering) degree in Geology from Queens University at Kingston, Ontario, Canada in 1975.

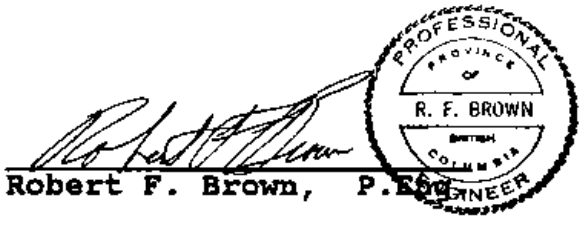
3. THAT I have been practising my profession as a geologist since 1975.

4. THAT I am a registered Professional Engineer, in good standing, with the Association of Professional Engineers of British Columbia.

5. THAT this report is based upon the results of a field program of geological mapping and sampling supervised by the author during July and September, 1990. All published maps and reports on the properties and the surrounding area have been thoroughly reviewed.

6. THAT I have no interest in the properties, nor the securities of Kinghorn Energy Corporation or Westmar Resources Ltd. or any company associated with the property, nor do I expect to receive any such interest.

Dated in Vancouver, British Columbia, this 7th day of January, 1991.



Robert F. Brown, P.Eng.

APPENDIX II

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE
1630 PANDORA STREET
VANCOUVER, B.C.
V5L 1L6
TEL (604) 251-5656
FAX (604) 254-5717

BRANCH OFFICES
BATHURST, N.B.
RENO, NEVADA, U.S.A.

October 10, 1990

TO: Mr. Robert Brown
HI-TEC RESOURCE MANAGEMENT LTD.
1500 - 609 Granville Street
Vancouver, BC V7Y 1G5

FROM: VANGEOCHEM LAB LIMITED
1630 Pandora Street
Vancouver, BC V5L 1L6

SUBJECT: Analytical procedure used to determine Aqua Regia soluble Hg vapour in geochemical samples.

1. Method of Sample Preparation

(a) Geochemical soil, silt or rock samples were received at the laboratory in wet-strength, 4" x 6" Kraft paper bags. Rock samples were received in 8" x 12" plastic bags.

(b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new envelope for subsequent analyses.

(c) Dried rock samples were crushed using a jaw crusher and pulverized into 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

2. Method of Digestion

(a) 0.50 gram of the minus 80-mesh portion of the samples were weighed out by using a top-loading balance into the test tubes.

(b) The samples were digested with aqua-regia in a hot water bath for an hour.

(c) The samples were shaken and diluted with demineralized water to a fixed volume settled.

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RENO, NEVADA, U.S.A.

(d) The heavy minerals are then removed from the bottom of the buret and filtered. This is then washed several times with acetone and dried on the hot plate.

(e) The dried heavy minerals are then put into envelopes for subsequent analyses.

3. Analysts

The procedures are supervised by Mr. Conway Chun and his laboratory staff.

Conway Chun
VANGEOCHEM LAB LIMITED

VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE
1630 PANDORA STREET
VANCOUVER, B.C.
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TEL (604) 251-5656
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BRANCH OFFICES
BATHURST, N.B.
RENO, NEVADA, U.S.A.

October 10, 1990

TO: Mr. Robert Brown
HI-TEC RESOURCE MANAGEMENT LTD.
1500 - 609 Granville Street
Vancouver, BC V7Y 1G5

FROM: VANGEOCHEM LAB LIMITED
1630 Pandora Street
Vancouver, BC V5L 1L6

SUBJECT: Anlytical Procedure for Heavy Mineral Separation of Alluvial samples or coarsely ground rocks.

1. Method of Sample Preparation

(a) Alluvial samples are received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Coarsely ground rocks are received in poly ore bags.

(b) Samples are wet screened by hand using an 18" diameter, 18-mesh stainless steel sieve. The plus 18-mesh fractions are rejected. The minus 18-mesh fractions are washed free of organic matter and slime particles. These fractions are then dried.

(c) Dried samples are transferred to new bags for subsequent analyses.

2. Method of Heavy Mineral Separation

(a) Samples of up to 400 grams are placed into 1000 ml beakers. Tetrabromoethane with a S.G. of 2.95 is added to fill the beakers. The mixture is stirred to free air pockets and to initiate separation. The mixture is left for 15 - 30 minutes for the plus and minus S.G. 2.95 material to separate.

(b) The bulk of the lighter than S.G. 2.95 material is removed which floats on top of the tetrabromoethane solution.

(c) The heavier than S.G.2.95 material and tetrabromoethane is stirred into a large size buret and left for 15 - 30 minutes.

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RENO, NEVADA, U.S.A.

3. Method of Analysis

(a) An aliquot of the digested samples were mixed with H2SO4 acid, NaCl and hydroxylamine sulphate-stannous sulfate as the reductant.

(b) The vapour of the mixture was then drawn into the absorption cell and the Hg vapour was detected by the Techtron Model AA5 Atomic Absorption Spectrophotometer.

(c) The results were recorded on a strip chart recorder. The concentration were calculated in parts per billion by comparing with a set of Hg vapour standards.

4. Analysts

The analyses were supervised or determined by Mr. Conway Chun or Mr. Raymond Chan and the laboratory staff.

Conway Chun
VANGEOCHEM LAB LIMITED

APPENDIX III

ANALYTICAL DATA

1630 PANDORA STREET
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VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE
~~1988 TRIUMPH ST.~~
~~VANCOUVER, B.C. V5L 1K5~~
● (604) 251-5656
● FAX (604) 254-5717

BRANCH OFFICES
PASADENA, NFLD.
BATHURST, N.B.
MISSISSAUGA, ONT.
RENO, NEVADA, U.S.A.

REPORT NUMBER: 900496 GA JOB NUMBER: 900496 HI-TEC RESOURCE MANAGEMENT LTD. PAGE 1 OF 1

SAMPLE #	Au ppb
HPR013	nd
HPR014	nd
HPR015	nd
HPR016	nd
HVR021	58

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

1630 Pandora Street, Vancouver, B.C. V5L 1L6
Phr(604)251-5656 Fax:(604)254-5717

ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO_3 to H_2O at 95 °C for 90 minutes and is diluted to 10 ml with water.
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: _____

REPORT #: 900496 PA | HI-TEC RESOURCE MANAGEMENT LTD. | PROJECT: 90BC042 | DATE IN: SEPT 17 1990 | DATE OUT: OCT 16 1990 | ATTENTION: MR. DENNIS COLLINS | PAGE 1 OF 1

Sample Name	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
HPR013	<0.1	1.48	<3	24	<3	1.36	1.1	16	78	15	1.95	0.13	0.65	235	8	0.03	109	0.12	<2	<2	11	187	<5	<3	22
HPR014	<0.1	1.10	<3	54	<3	1.26	<0.1	17	46	40	4.23	0.16	0.37	172	6	0.04	7	0.23	<2	<2	10	79	<5	<3	21
HPR015	<0.1	1.75	<3	23	<3	1.35	<0.1	17	103	11	3.89	0.13	0.80	243	6	0.03	98	0.09	<2	<2	11	136	<5	<3	21
HPR016	<0.1	3.37	<3	69	<3	2.53	1.4	17	101	5	1.55	0.18	1.52	199	10	0.03	47	0.05	<2	<2	11	124	<5	<3	22
HVR023	<0.1	2.13	<3	69	<3	1.20	0.7	28	38	17	5.92	0.21	1.25	363	11	0.04	38	0.27	<2	<2	18	78	<5	<3	41
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000

< - Less Than Minimum > - Greater Than Maximum is - Insufficient Sample ns - No Sample ANOMALOUS RESULTS - Further Analyses By Alternate Methods Suggested.

1630 FAVORA STREET
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(604) 251-5556

VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE
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~~VANCOUVER, B.C. V5L 1K5~~
• (604) 251-5656
• FAX (604) 254-5717

BRANCH OFFICES
PASADENA, NFLD.
BATHURST, N.B.
MISSISSAUGA, ONT.
RENO, NEVADA, U.S.A.

REPORT NUMBER: 900241 GA JOB NUMBER: 900241 HI-TEC RESOURCE MANAGEMENT LTD. PAGE 1 OF 1

SAMPLE #	Au
	ppb
90HLR001	140
90HLR002	nd
90HLR003	nd
90HLR004	nd
90HLR005	nd
90HLR006	nd
90HLR007	nd
90HLR008	nd
90HKR001	nd
90HKR002	nd
90HKR003	20
90HKR004	20
90HKR005	30

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

1630 Pandora Street, Vancouver, B.C. V5L 1L6
Phn(604)251-5656 Fax(604)254-5717

ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO_3 to H_2O at 95 °C for 90 minutes and is diluted to 10 ml with water.
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: Rymth

REPORT #: 900241 PA | HI-TEC RESOURCE MANAGEMENT LTD. | PROJECT: 908C042 | DATE IN: AUG 14 1990 | DATE OUT: SEPT 06 1990 | ATTENTION: MR. B. LUCAS | PAGE 1 OF 1

Sample Name	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
30HLR001	0.1	1.52	<3	16	<3	1.79	2.5	23	54	20	2.04	<0.01	0.92	363	33	<0.01	13	0.21	69	<2	27	213	<5	<3	35
30HLR002	<0.1	3.16	<3	48	<3	1.42	6.7	47	82	13	7.16	0.11	2.70	1802	25	<0.01	8	0.20	76	<2	27	59	<5	<3	145
30HLR003	0.1	2.78	<3	48	<3	0.68	5.7	36	60	17	3.88	0.12	2.28	727	37	<0.01	40	0.15	60	<2	23	51	<5	<3	66
30HLR004	0.1	0.48	<3	33	<3	0.07	3.4	15	62	9	1.07	0.16	0.05	78	28	0.03	<1	0.02	80	<2	12	4	<5	<3	8
30HLR005	0.1	0.67	<3	51	<3	0.12	0.7	19	33	5	1.75	0.09	0.20	104	29	0.02	6	0.04	54	<2	18	8	<5	<3	13
30HLR006	0.3	0.97	<3	48	<3	0.15	4.9	23	110	29	2.43	0.15	0.51	150	30	<0.01	<1	0.08	58	<2	10	9	<5	<3	17
30HLR007	0.5	1.26	<3	214	<3	0.64	6.1	31	58	11	3.08	0.13	0.78	346	30	<0.01	26	0.10	64	<2	19	40	<5	<3	22
30HLR008	0.2	2.04	<3	136	<3	0.85	4.0	36	61	9	4.44	0.11	1.60	777	30	<0.01	<1	0.18	62	<2	30	50	<5	<3	78
30HKR001	0.4	1.54	9	85	<3	0.62	4.7	41	46	13	3.68	0.14	1.13	358	39	<0.01	6	0.15	52	<2	29	41	<5	<3	33
30HKR002	0.5	2.33	<3	48	<3	0.54	6.1	35	75	8	3.85	0.16	1.57	514	32	<0.01	4	0.11	66	6	22	43	<5	<3	39
30HKR003	0.3	0.75	14	47	<3	0.68	5.4	32	40	12	2.83	0.26	0.27	81	43	0.03	<1	0.07	73	11	24	10	<5	<3	31
30HKR004	0.2	1.85	<3	162	<3	0.38	5.3	30	68	4	2.75	0.15	1.10	464	42	<0.01	8	0.07	106	<2	22	29	<5	<3	64
30HKR005	0.2	2.16	7	129	<3	0.89	5.3	39	65	16	5.20	0.23	0.78	258	35	<0.01	<1	0.14	59	16	20	76	<5	<3	40
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000

< - Less Than Minimum > - Greater Than Maximum is - Insufficient Sample ns - No Sample ANOMALOUS RESULTS - Further Analyses By Alternate Methods Suggested.

1630 PANDORA STREET
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VGC VANGEOCHEM LAB LIMITED

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MISSISSAUGA, ONT.
RENO, NEVADA, U.S.A.

REPORT NUMBER: 900242 GA JOB NUMBER: 900242 HI-TEC RESOURCE MANAGEMENT LTD.

SAMPLE #	Au ppb
90HLR009	nd
90HLR010	nd
90HLR011	nd
90HLR012	nd
90HLR013	nd
90HLR014	nd
90HLR015	10
90HLR016	20
90HLR017	nd
90HLR018	nd
90HKR006	nd
90HKR007	nd
90HKR008	440
90HKR009	nd
90HKR010	nd
90HCR001	20
90HCR002	nd
90HCR003	nd
90HCH001	nd
90HCH002	nd
90HCH003	nd

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

1630 Pandora Street, Vancouver, B.C. V5L 1L6
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ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO_3 to H_2O at 95 °C for 90 minutes and is diluted to 10 ml with water.
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: _____

REPORT #: 900242 PA | MI-TEC RESOURCES MANAGEMENT LTD. | PROJECT: 90BC041 | DATE IN: AUG 14 1990 | DATE OUT: SEPT 04 1990 | ATTENTION: R. BROWN | PAGE 1 OF 1

Sample Name	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
90HLR009	<0.1	1.58	<3	185	138	0.40	3.3	19	205	23	2.85	0.08	0.70	298	163	<0.01	731	0.09	7	<2	20	37	<5	<3	27
90HLR010	<0.1	0.84	<3	65	<3	0.23	1.6	16	56	7	2.00	0.14	0.49	163	172	<0.01	18	0.10	31	<2	13	7	<5	<3	25
90HLR011	<0.1	2.41	<3	39	32	0.53	2.7	83	74	12	5.74	0.12	1.99	796	21	<0.01	86	0.15	18	<2	28	21	<5	<3	78
90HLR012	<0.1	1.29	<3	13	21	0.33	2.7	207	51	32	9.66	0.13	0.63	443	43	<0.01	49	0.06	41	<2	17	17	<5	<3	46
90HLR013	<0.1	1.78	<3	57	111	0.61	1.7	68	62	15	3.95	0.02	1.23	603	18	<0.01	26	0.12	14	<2	19	47	<5	<3	65
90HLR014	<0.1	1.42	<3	22	<3	0.74	0.6	18	55	6	2.34	<0.01	0.77	154	12	<0.01	16	0.09	19	<2	19	77	<5	<3	19
90HLR015	<0.1	1.90	<3	43	95	1.01	2.3	28	56	7	3.37	<0.01	1.12	424	14	<0.01	23	0.18	23	<2	22	71	<5	<3	71
90HLR016	<0.1	1.90	<3	24	<3	1.20	0.8	29	45	4	2.94	<0.01	0.91	225	10	<0.01	11	0.16	15	<2	16	130	<5	<3	33
90HLR017	<0.1	0.54	<3	>1000	80	2.29	1.9	6	43	6	2.50	<0.01	0.74	664	1	<0.01	6	0.06	<2	<2	<2	132	<5	<3	58
90HLR018	<0.1	1.76	<3	84	<3	1.17	1.4	25	59	17	2.54	<0.01	1.28	539	10	<0.01	21	0.14	13	<2	22	105	<5	<3	94
90HKR006	<0.1	1.17	<3	52	<3	0.37	1.1	20	54	3	3.06	0.05	0.47	160	11	<0.01	<1	0.05	21	<2	22	62	<5	<3	19
90HKR007	<0.1	1.54	<3	34	<3	0.74	<0.1	22	23	14	2.46	<0.01	1.02	315	10	<0.01	3	0.15	<2	<2	20	77	<5	<3	28
90HKR008	<0.1	2.67	<3	56	<3	0.47	2.7	199	69	7	5.17	0.10	1.76	584	10	<0.01	9	0.13	15	<2	18	21	<5	<3	78
90HKR009	<0.1	2.78	<3	20	<3	0.89	2.3	67	52	45	7.49	0.04	2.04	630	25	<0.01	72	0.15	29	<2	27	69	<5	<3	64
90HKR010	<0.1	2.20	<3	22	<3	0.95	1.9	24	47	76	3.31	0.05	1.74	437	12	<0.01	12	0.20	25	<2	19	40	<5	<3	203
90HCR001	<0.1	3.75	<3	17	<3	0.88	3.0	219	64	45	>10.00	0.06	2.21	791	14	<0.01	100	0.19	<2	<2	36	40	<5	<3	112
90HCR002	<0.1	0.54	<3	>1000	20	7.81	0.2	17	32	15	4.11	<0.01	2.41	1724	14	<0.01	12	0.10	<2	<2	3	171	<5	<3	129
90HCR003	<0.1	3.23	<3	78	25	1.72	<0.1	38	51	2	3.69	<0.01	2.29	967	13	<0.01	18	0.18	8	<2	21	173	<5	<3	157
90HCH001	<0.1	3.45	<3	114	<3	0.98	2.6	42	84	56	4.70	0.19	2.01	1189	12	<0.01	21	0.12	<2	<2	36	66	<5	<3	172
90HCH002	<0.1	3.22	<3	84	<3	0.93	<0.1	35	78	52	4.30	<0.01	1.91	1081	9	<0.01	21	0.11	<2	<2	28	58	<5	<3	158
90HCH003	<0.1	2.46	<3	103	<3	1.03	<0.1	37	51	48	4.64	<0.01	1.53	814	8	<0.01	20	0.14	<2	<2	26	56	<5	<3	104
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000

< - Less Than Minimum > - Greater Than Maximum is - Insufficient Sample ns - No Sample ANOMALOUS RESULTS - Further Analyses By Alternate Methods Suggested.

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RENO, NEVADA, U.S.A.

REPORT NUMBER: 900361 GA JOB NUMBER: 900361 MI-TEC RESOURCE MANAGEMENT LTD.

SAMPLE #	Au ppb
90HBR001	nd
90HBR002	360
90HBR003	nd
90HBR004	50
90HBR005	30
90HBR006	200
90HJR001	20
90HJR002	10
90HJR003	nd
90HJR004	nd
90HJR005	nd
90HJR006	130
90HJR007	30
90HJR008	nd
90HJR009	20
90HJR010	20
90HJR011	10
90HJR012	nd
90HJR013	nd
90HJR014	nd
90HJR015	70
90HJR016	nd
90HJR017	20
90HJR018	40
90HJR019	nd
90HJR020	nd
90HJR021	nd
90HJR022	nd
90HJR023	nd
90HJR024	nd
90HJR025	20
90HJR026	10
90HJR027	10
90HJR028	10
90HJR029	940
90HJR030	250
90HJR031	60
90HJR032	20
90HJR033	nd
DETECTION LIMIT	5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO_3 to H_2O at 95 °C for 90 minutes and is diluted to 10 ml with water.
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: _____

REPORT #: 900361 PA | MK-TEC RESOURCE MANAGEMENT LTD. | PROJECT: 90BC042 | DATE IN: SEPT 04 1990 | DATE OUT: SEPT 24 1990 | ATTENTION: MR. DENNIS COLLINS | PAGE 1 OF 2

Sample Name	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
90HBR001	0.3	1.72	193	26	<3	1.61	0.7	22	62	131	3.25	0.03	0.95	331	9	<0.01	37	0.17	15	<2	6	20	<5	5	44
90HBR002	0.1	0.41	596	34	<3	6.17	0.3	13	31	55	3.63	0.06	1.40	739	7	<0.01	29	0.10	33	11	3	235	<5	<3	46
90HBR003	0.3	2.62	27	42	<3	6.61	1.4	38	109	143	4.09	0.06	1.37	791	12	<0.01	79	0.10	21	<2	8	98	<5	8	71
90HBR004	0.2	2.23	398	52	<3	2.28	<0.1	25	82	96	2.89	0.04	0.97	398	14	<0.01	35	0.13	14	<2	7	24	<5	6	47
90HBR005	0.2	2.49	80	22	<3	1.28	2.3	39	164	109	4.53	0.03	2.50	527	13	<0.01	139	0.15	20	<2	9	37	<5	7	74
90HBR006	0.2	2.61	19	55	11	1.52	3.0	21	79	86	3.50	0.03	1.77	654	13	<0.01	44	0.13	45	<2	7	73	<5	8	109
90HJR001	0.5	4.06	<3	88	<3	1.21	4.0	31	49	133	7.47	0.05	3.06	831	18	<0.01	31	0.28	25	3	11	83	<5	12	320
90HJR002	0.1	3.39	<3	45	<3	2.01	2.9	42	104	81	4.61	0.04	2.60	758	14	<0.01	91	0.12	11	<2	10	78	<5	9	79
90HJR003	0.4	4.44	<3	59	<3	0.77	3.8	42	54	93	8.50	0.04	3.29	670	15	<0.01	35	0.29	18	<2	10	52	<5	13	93
90HJR004	0.3	5.81	<3	118	<3	3.30	3.1	59	131	50	5.92	0.06	6.93	1028	19	<0.01	315	0.14	24	<2	11	143	<5	17	82
90HJR005	0.3	2.42	<3	21	<3	>10.00	2.3	13	65	38	3.62	0.07	2.03	1675	10	<0.01	20	0.08	132	<2	5	725	<5	7	220
90HJR006	<0.1	1.88	11	44	6	3.85	1.3	17	63	25	2.85	0.05	1.41	689	8	<0.01	74	0.11	7	<2	4	143	<5	6	53
90HJR007	0.4	3.16	<3	75	<3	5.61	3.0	20	32	56	6.14	0.07	2.04	1278	12	<0.01	19	0.18	20	<2	6	290	<5	9	92
90HJR008	0.1	2.17	<3	48	<3	4.72	3.6	26	51	108	5.25	0.06	1.60	968	10	<0.01	20	0.19	29	<2	6	230	<5	7	76
90HJR009	0.3	1.52	8	47	<3	7.52	3.2	21	47	96	4.06	0.06	1.49	902	9	<0.01	32	0.17	36	<2	7	183	<5	5	117
90HJR010	1.2	6.03	22	37	<3	>10.00	2.0	14	22	23	2.61	0.08	1.02	699	7	<0.01	17	0.12	47	3	4	953	<5	3	30
90HJR011	0.6	2.53	<3	188	<3	5.67	3.6	22	32	138	5.48	0.06	1.74	1531	12	<0.01	38	0.23	30	3	6	324	<5	7	94
90HJR012	0.3	2.25	<3	40	<3	1.73	1.6	15	119	43	2.80	0.03	1.27	582	37	<0.01	29	0.12	14	<2	5	79	<5	7	91
90HJR013	0.7	0.26	144	24	<3	>10.00	3.4	18	106	10	4.35	0.08	6.98	1252	9	<0.01	77	0.03	55	24	6	614	<5	<3	28
90HJR014	0.1	1.38	9	35	7	1.31	1.7	18	117	46	2.77	0.03	1.56	366	7	<0.01	115	0.13	17	<2	6	36	<5	4	53
90HJR015	0.4	2.71	<3	79	<3	0.73	4.1	23	133	53	5.47	0.03	2.57	850	13	<0.01	47	0.17	43	<2	10	33	<5	7	109
90HJR016	1.3	0.30	28	256	18	>10.00	1.2	3	16	10	0.88	0.07	0.28	579	4	<0.01	4	0.03	29	<2	2	1093	<5	<3	57
90HJR017	1.2	0.34	45	96	16	>10.00	0.9	5	15	14	1.45	0.07	0.15	493	5	<0.01	19	0.07	30	<2	2	878	<5	<3	13
90HJR018	0.8	1.87	131	115	<3	0.83	1.7	9	59	74	5.00	0.03	0.82	216	9	<0.01	15	0.13	36	<2	4	53	<5	6	85
90HJR019	0.6	1.70	100	76	9	0.26	1.6	6	33	37	3.47	0.02	0.74	322	7	<0.01	10	0.11	21	<2	4	19	<5	5	43
90HJR020	1.2	0.52	38	45	<3	>10.00	1.2	5	28	12	1.65	0.07	0.99	630	8	<0.01	9	0.11	28	<2	3	768	<5	<3	35
90HJR021	1.2	1.17	8	65	5	>10.00	1.7	10	16	22	2.57	0.07	0.84	722	6	<0.01	2	0.09	25	<2	4	654	<5	4	60
90HJR022	0.2	0.48	43	36	9	>10.00	1.6	6	12	13	1.63	0.07	0.46	516	4	<0.01	2	0.07	40	<2	2	615	<5	<3	19
90HJR023	0.8	1.01	23	30	11	>10.00	5.8	8	20	49	2.31	0.07	3.00	1178	6	<0.01	30	0.09	48	<2	3	581	<5	3	473
90HJR024	0.2	1.29	24	38	<3	>10.00	2.6	9	30	38	2.64	0.07	1.15	560	6	<0.01	19	0.11	36	<2	4	419	<5	4	94
90HJR025	<0.1	0.71	32	28	15	0.62	1.4	1	59	<1	1.12	0.01	0.45	208	3	<0.01	<1	0.03	<2	<2	<2	24	<5	<3	25
90HJR026	0.2	1.05	32	77	6	>10.00	2.0	9	16	49	2.42	0.07	0.62	405	22	<0.01	30	0.13	30	<2	3	657	<5	3	70
90HJR027	0.7	1.69	209	22	<3	7.45	2.6	16	52	52	5.07	0.07	2.49	1900	12	<0.01	95	0.11	48	10	5	292	<5	5	120
90HJR028	0.2	2.57	21	15	<3	7.84	4.3	13	43	46	4.93	0.07	3.17	1605	11	<0.01	66	0.09	42	2	6	265	<5	8	270
90HJR029	0.7	1.32	249	30	<3	>10.00	3.2	23	167	50	4.62	0.08	5.01	1383	10	<0.01	183	0.07	49	19	6	540	<5	5	87
90HJR030	0.3	2.40	55	56	<3	4.22	3.3	21	27	133	4.48	0.06	2.36	817	11	<0.01	12	0.21	31	5	6	233	<5	7	53
90HJR031	0.2	6.24	<3	47	<3	7.06	3.8	39	387	41	5.12	0.07	5.41	1656	16	<0.01	318	0.11	5	<2	7	583	<5	12	86
90HJR032	0.2	3.25	<3	11	<3	4.66	4.8	35	98	77	4.98	0.06	3.33	1151	13	<0.01	44	0.18	14	<2	10	53	<5	10	47
90HJR033	<0.1	1.51	23	22	5	1.00	1.9	11	72	41	2.60	0.02	1.66	399	9	<0.01	21	0.09	8	<2	5	50	<5	5	20
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1

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BRANCH OFFICES
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BATHURST, N.B.
MISSISSAUGA, ONT.
RENO, NEVADA, U.S.A.

REPORT NUMBER: 900361 G1 JOB NUMBER: 900361 HI-TEC RESOURCE MANAGEMENT LTD.

SAMPLE #	Au ppb
90HJR034	nd
90HJR035	30
90HJR036	30
90HJR037	10
90HJR038	20
90HPR001	nd
90HPR002	nd
90HPR003	nd
90HPR004	20
90HPR005	nd
90HPR006	10
90HPR007	nd
90HPR008	nd
90HPR009	10
90HPR010	nd
90HPR011	nd
90HPR012	nd

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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ICAP GEOCHEMICAL ANALYSIS

A .5 grm sample is digested with 5 ml of 3:1:2 HCl to HNO_3 to H_2O at 95 °C for 90 minutes and is diluted to 10 ml with water.
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: [signature]

REPORT #: 900361 PA | HI-TEC RESOURCE MANAGEMENT LTD. | PROJECT: 90HC042 | DATE IN: SEPT 04 1990 | DATE OUT: SEPT 24 1990 | ATTENTION: MR. DENNIS COLLINS | PAGE 2 OF 2

Sample Name	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sn ppm	Sr ppm	U ppm	W ppm	Zn ppm
90HJR034	0.5	4.46	<3	142	<3	5.20	3.8	43	136	69	5.75	0.06	3.63	1313	17	<0.01	131	0.19	7	<2	61	208	<5	11	104
90HJR035	0.1	1.86	14	25	<3	1.96	1.7	21	75	63	3.36	0.04	1.87	747	8	<0.01	30	0.13	38	<2	7	77	<5	5	53
90HJR036	1.1	1.39	132	28	<3	1.04	4.7	45	55	292	8.61	0.04	1.37	514	10	<0.01	64	0.13	102	16	9	37	<5	4	177
90HJR037	0.2	3.77	<3	57	<3	7.43	3.5	44	429	79	5.49	0.07	4.14	1070	15	<0.01	337	0.13	16	<2	9	223	<5	9	36
90HJR038	<0.1	2.51	<3	63	<3	1.47	2.0	24	72	52	4.07	0.03	1.76	853	10	<0.01	86	0.13	13	<2	9	49	<5	7	47
90HPR001	<0.1	4.60	<3	135	<3	2.41	2.6	39	107	56	5.37	0.05	2.99	938	14	<0.01	46	0.14	<2	<2	12	121	<5	12	83
90HPR002	0.1	3.90	<3	64	<3	7.96	2.8	39	382	69	4.29	0.06	5.20	817	14	<0.01	293	0.11	7	<2	7	1881	<5	10	56
90HPR003	0.3	3.16	<3	26	<3	>10.00	3.2	33	488	74	4.48	0.07	4.91	1055	13	<0.01	332	0.12	11	<2	7	322	<5	8	69
90HPR004	<0.1	3.29	<3	68	<3	3.33	2.8	26	32	96	4.73	0.05	3.09	739	11	<0.01	26	0.11	<2	<2	5	164	<5	8	87
90HPR005	0.3	2.24	<3	59	<3	1.86	1.4	14	45	89	3.88	0.04	1.56	697	9	<0.01	61	0.16	7	<2	6	39	<5	6	53
90HPR006	<0.1	3.29	<3	193	<3	2.99	3.2	34	70	45	4.86	0.05	2.56	770	12	<0.01	58	0.16	13	<2	10	77	<5	9	106
90HPR007	0.1	2.84	<3	29	<3	0.57	2.3	25	107	45	4.60	0.02	2.71	785	12	<0.01	45	0.15	11	<2	8	10	<5	7	64
90HPR008	0.1	2.29	<3	24	<3	1.87	0.2	25	39	59	3.53	0.03	0.98	454	11	<0.01	77	0.16	14	<2	8	17	<5	6	42
90HPR009	0.2	2.24	<3	23	8	3.77	2.2	16	55	73	3.97	0.05	1.34	650	8	<0.01	14	0.10	26	<2	5	127	<5	6	92
90HPR010	0.3	2.89	<3	18	<3	3.26	3.3	38	53	157	4.36	0.05	0.87	545	11	<0.01	93	0.18	40	<2	10	42	<5	7	224
90HPR011	0.1	2.43	<3	28	<3	2.02	1.0	27	43	96	3.38	0.04	1.07	380	9	<0.01	9	0.18	<2	<2	9	61	<5	6	53
90HPR012	0.1	2.71	<3	61	<3	1.82	1.8	29	41	46	4.45	0.04	1.62	843	10	<0.01	67	0.13	14	<2	9	109	<5	7	66
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000

(= Less Than Minimum) = Greater Than Maximum is = Insufficient Sample ns = No Sample ANOMALOUS RESULTS = Further Analyses By Alternate Methods Suggested.

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REPORT NUMBER: 900337 GA JOB NUMBER: 900337 RE-TEC RESOURCE MANAGEMENT LTD. PAGE 1 OF 1

SAMPLE #	Au ppb
90EDR001	140
90EDR002	20
90EDR003	nd
90EDR004	10
90EDR005	nd
90EDR006	nd

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO_3 to H_2O at 95 °C for 90 minutes and is diluted to 10 ml with water.
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: _____

REPORT #: 900337 PA | HI-TEC RESOURCE MANAGEMENT LTD. | PROJECT: 90BC042 | DATE IN: AUG 29 1990 | DATE OUT: OCT 04 1990 | ATTENTION: V. KURIK | PAGE 1 OF 1

Sample Name	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
90HDR001	1.8	4.28	<3	51	<3	1.66	3.9	37	104	1049	5.91	0.27	3.03	1329	18	0.04	53	0.14	<2	<2	20	103	<5	<3	86
90HDR002	<0.1	3.13	<3	326	<3	0.14	2.4	4	103	62	7.12	0.19	0.75	198	42	0.04	3	0.05	<2	<2	9	35	<5	<3	33
90HDR003	0.2	1.34	<3	15	<3	0.22	1.9	29	77	96	8.01	0.17	0.20	215	33	0.03	33	0.06	<2	2	9	45	<5	<3	47
90HDR004	<0.1	1.55	<3	28	<3	0.16	1.4	50	98	54	6.38	0.13	0.58	158	48	0.02	13	0.06	<2	<2	9	6	<5	<3	31
90HDR005	0.1	2.57	<3	5	<3	0.36	4.1	56	47	61	>10.00	0.35	0.76	289	31	0.04	41	0.12	<2	2	15	5	<5	<3	102
90HDR006	<0.1	0.45	<3	134	<3	<0.01	<0.1	99	71	6	3.35	0.04	0.18	27	37	0.01	<1	0.01	6	7	5	5	<5	<3	9
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000

< - Less Than Minimum > - Greater Than Maximum is - Insufficient Sample ns - No Sample ANOMALOUS RESULTS - Further Analyses By Alternate Methods Suggested.

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MISSISSAUGA, ONT
RENO, NEVADA, U.S.A.

REPORT NUMBER: 900404 GA JOB NUMBER: 900404 **HI-TEC RESOURCE MANAGEMENT LTD.**

SAMPLE #	Ag ppb
90HPR017	nd
90HPR018	30
90HPR019	20
90HPR020	nd
90HPR021	nd
90HPR022	10
90HPR023	40
90HPR024	40
90HPR026	20
90HPR027	10
90HVR001	10
90HVR002	90
90HVR003	20
90HVR004	30
90HVR005	50
90HVR006	20
90HVR007	nd
90HVR008	nd
90HVR009	30
90HRV010	10
90HRV011	150
90HRV012	40
90HRV013	30
90HRV014	nd
90HRV015	nd
90HRV016	nd
90HRV017	nd
90HRV018	30
90HRV019	10
90HRV020	10
90HRV021	10
90HRV022	20
90HVR024	20
90HVR025	30
90HVR026	30
90HVR027	30
90HVR028	20
90HVR029	10
90HVR030	10
DETECTION LIMIT	5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED
1630 Pandora Street, Vancouver, B.C. V5L 1L6
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ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO_3 to H_2O at 95 °C for 90 minutes and is diluted to 10 ml with water.
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: _____

REPORT #: 900404 PA | HI-TEC RESOURCE MANAGEMENT LTD. | PROJECT: 90BC042 | DATE IN: SEPT 07 1990 | DATE OUT: SEPT 20 1990 | ATTENTION: MR. DENNIS COLLINS | PAGE 1 OF 2

Sample Name	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
90HPR017	<0.1	0.80	40	14	<3	0.74	0.5	13	90	24	1.51	0.09	0.36	231	9	<0.01	216	0.06	18	4	9	82	<5	<3	23
90HPR018	<0.1	2.56	<3	28	<3	1.44	1.3	27	63	13	4.17	0.21	1.11	255	11	<0.01	19	0.25	<2	<2	22	180	<5	<3	42
90HPR019	<0.1	2.19	<3	72	<3	1.02	1.4	25	62	28	3.58	0.18	1.31	362	9	<0.01	17	0.20	<2	<2	21	86	<5	<3	42
90HPR020	<0.1	1.42	<3	>1000	<3	>10.00	2.0	20	49	36	4.64	0.58	1.31	1987	11	<0.01	45	0.07	16	6	11	135	<5	<3	65
90HPR021	<0.1	0.66	42	>1000	<3	2.08	0.1	7	82	17	2.09	0.24	0.11	475	11	<0.01	179	0.05	6	4	5	95	<5	<3	14
90HPR022	<0.1	2.49	<3	105	<3	1.07	2.1	32	67	36	4.85	0.22	1.46	731	16	<0.01	15	0.18	<2	<2	22	40	<5	<3	97
90HPR023	<0.1	0.60	<3	181	<3	0.07	1.1	8	121	16	2.82	0.07	0.11	55	12	<0.01	5	0.05	3143	4	10	10	<5	<3	14
90HPR024	<0.1	2.69	<3	52	<3	2.22	2.5	44	25	44	6.57	0.32	2.10	1212	15	<0.01	8	0.51	43	<2	36	120	<5	<3	141
90HPR026	<0.1	4.16	<3	54	<3	2.19	2.4	48	113	29	6.73	0.32	3.11	1052	17	<0.01	128	0.26	<2	<2	32	130	<5	<3	102
90HPR027	0.3	4.42	<3	16	<3	1.92	1.4	146	802	13	5.88	0.30	4.09	1104	15	<0.01	75	0.39	<2	<2	29	163	<5	<3	119
90HVR001	<0.1	2.89	<3	205	<3	8.37	1.9	24	69	58	5.56	0.49	2.24	1248	11	<0.01	24	0.27	<2	<2	16	283	<5	<3	101
90HVR002	0.8	1.60	291	289	<3	0.45	15.6	51	33	97	>10.00	1.12	0.19	4176	41	<0.01	54	0.27	175	96	42	30	<5	<3	832
90HVR003	1.8	1.44	<3	56	<3	2.68	248.1	16	53	652	3.53	0.28	0.84	891	<1	<0.01	16	0.15	128	<2	9	100	<5	<3	>20000
90HVR004	0.2	0.56	46	10	<3	>10.00	24.3	4	16	72	1.33	0.49	0.53	5202	8	<0.01	31	0.02	80	10	9	1016	<5	<3	3091
90HVR005	<0.1	3.39	<3	118	<3	5.53	3.8	21	107	94	5.28	0.44	2.91	1053	14	<0.01	68	0.27	<2	<2	18	305	<5	<3	380
90HVR006	<0.1	2.56	<3	52	<3	>10.00	1.2	20	42	49	4.75	0.56	1.50	1086	11	<0.01	20	0.22	8	<2	15	362	<5	<3	166
90HVR007	<0.1	1.74	206	374	<3	9.73	11.0	49	144	64	6.73	0.57	4.32	1606	14	<0.01	330	0.18	22	34	16	503	<5	<3	1136
90HVR008	<0.1	4.56	<3	100	<3	4.46	3.2	23	59	44	7.19	0.44	3.06	1502	16	<0.01	27	0.29	32	<2	21	135	<5	<3	255
90HVR009	<0.1	1.60	<3	217	<3	0.12	<0.1	4	32	32	5.18	0.15	0.37	83	17	<0.01	4	0.06	30	<2	12	35	<5	<3	50
90HVR010	<0.1	1.36	65	58	<3	2.22	0.9	14	76	52	3.98	0.27	0.95	907	10	<0.01	89	0.24	14	<2	9	123	<5	<3	53
90HVR011	<0.1	1.83	6	19	<3	0.89	1.4	33	142	356	4.89	0.19	1.68	198	15	<0.01	69	0.19	9	<2	21	33	<5	<3	27
90HVR012	<0.1	4.41	<3	17	<3	0.98	5.8	575	68	967	>10.00	0.61	2.24	479	33	<0.01	103	0.18	26	14	43	22	<5	<3	76
90HVR013	<0.1	5.02	<3	36	<3	1.10	4.9	92	98	998	>10.00	0.80	2.80	958	32	<0.01	84	0.32	5	<2	42	42	<5	<3	71
90HVR014	<0.1	5.42	<3	29	<3	1.53	3.1	56	265	580	>10.00	0.40	4.29	512	40	<0.01	225	0.23	<2	<2	36	77	<5	<3	41
90HVR015	<0.1	4.82	<3	9	<3	>10.00	8.9	112	681	729	5.71	0.59	4.54	1359	20	<0.01	437	0.24	<2	<2	26	276	<5	<3	37
90HVR016	<0.1	4.42	<3	19	<3	3.12	2.1	65	121	120	7.53	0.40	4.15	1271	20	<0.01	84	0.25	<2	<2	37	104	<5	<3	104
90HVR017	<0.1	5.16	<3	19	<3	2.26	2.7	97	650	587	>10.00	0.57	4.78	941	23	<0.01	318	0.19	<2	<2	36	31	<5	<3	75
90HVR018	<0.1	3.52	<3	20	<3	1.11	10.0	76	436	639	>10.00	1.08	3.13	462	31	<0.01	200	0.23	83	52	48	7	<5	<3	102
90HVR019	<0.1	1.82	<3	15	<3	1.30	14.2	53	69	360	>10.00	1.64	1.05	542	38	<0.01	156	0.16	163	103	58	9	<5	<3	147
90HVR020	<0.1	4.03	<3	19	<3	1.53	7.0	74	297	459	>10.00	0.86	2.93	640	26	<0.01	274	0.19	37	22	45	18	<5	<3	99
90HVR021	<0.1	0.17	41	<1	<3	>10.00	0.1	4	19	29	1.31	0.46	0.46	884	9	<0.01	24	0.04	50	11	9	473	<5	<3	5
90HVR022	<0.1	3.28	49	102	<3	2.84	<0.1	87	35	29	5.91	0.35	2.72	523	14	<0.01	41	0.55	77	<2	29	81	<5	<3	74
90HVR024	<0.1	1.67	60	48	<3	0.27	1.4	155	45	263	>10.00	0.23	0.32	122	60	<0.01	31	0.06	25	10	22	38	<5	<3	34
90HVR025	<0.1	0.36	44	9	<3	0.67	13.0	82	72	153	>10.00	1.76	0.38	301	36	<0.01	73	0.12	197	127	58	5	<5	<3	129
90HVR026	<0.1	4.43	<3	<1	<3	2.83	0.4	88	211	108	8.14	0.39	2.33	236	19	<0.01	78	0.10	<2	<2	30	535	<5	<3	27
90HVR027	<0.1	0.73	33	13	<3	0.29	2.9	52	70	45	>10.00	0.36	0.28	67	75	<0.01	25	0.25	52	26	27	19	<5	<3	29
90HVR028	<0.1	3.73	14	19	<3	1.94	1.2	91	101	120	>10.00	0.43	2.58	393	23	<0.01	178	0.16	<2	<2	38	77	<5	<3	48
90HVR029	<0.1	2.90	<3	10	<3	0.65	2.1	123	250	45	>10.00	0.49	2.81	236	24	<0.01	132	0.17	31	12	37	29	<5	<3	48
90HVR030	<0.1	3.22	<3	19	<3	0.91	7.9	176	192	387	>10.00	0.99	2.95	462	35	<0.01	202	0.20	105	47	48	9	<5	<3	132
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000

1630 PANDORA STREET
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VGC VANGEOCHEM LAB LIMITED

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BRANCH OFFICES
PASADENA, NFLD.
BATHURST, N.B.
MISSISSAUGA, ONT.
RENO, NEVADA, U.S.A.

REPORT NUMBER: 900404 AA JOB NUMBER: 900404 HI-TEC RESOURCE MANAGEMENT LTD.

SAMPLE #	Zn %
90HVR003	3.04

DETECTION LIMIT .01

1 troy oz/short ton = 34.28 ppm 1 ppm = 0.0001% ppm = parts per million < = less than

signed: _____

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RENO, NEVADA, U.S.A.

REPORT NUMBER: 900404 GA JOB NUMBER: 900404 EI-TEC RESOURCE MANAGEMENT LTD.

SAMPLE #	Au ppb
90EVR031	20
90EVR032	40
90EVR033	20
90EVR034	10
90EVR035	10
90EVR036	20
90EVR037	40
90EVR038	30
90EVR039	20
90EVR040	20

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED
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ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO_3 to H_2O at 95 °C for 90 minutes and is diluted to 10 ml with water.
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Mo, Na, P, Sb, Sr and W.

ANALYST: Raymond

REPORT #: 900404 PA | HE-TEC RESOURCE MANAGEMENT LTD. | PROJECT: 908C042 | DATE IN: SEPT 07 1990 | DATE OUT: SEPT 20 1990 | ATTENTION: MR. DENNIS COLLINS | PAGE 2 OF 2

Sample Name	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sn ppm	Sr ppm	U ppm	W ppm	Zn ppm
DHVR031	<0.1	3.16	<3	21	<3	1.23	4.4	108	143	442	>10.00	0.55	2.39	260	26	<0.01	272	0.17	27	9	35	24	<5	<3	45
DHVR032	0.1	1.91	<3	9	<3	1.29	2.2	227	76	925	>10.00	0.54	1.02	164	35	<0.01	208	0.15	39	20	31	143	<5	<3	41
DHVR033	<0.1	2.58	<3	43	<3	1.27	1.0	62	121	30	8.18	0.29	2.06	307	17	<0.01	55	0.25	5	<2	29	130	<5	<3	31
DHVR034	<0.1	3.15	<3	44	<3	4.26	<0.1	17	76	67	5.25	0.39	2.16	1049	13	<0.01	25	0.23	<2	<2	16	144	<5	<3	86
DHVR035	<0.1	1.90	85	30	<3	1.62	<0.1	35	76	154	3.43	0.19	1.29	232	18	<0.01	36	0.25	2	<2	19	21	<5	<3	23
DHVR036	0.2	6.81	<3	15	<3	>10.00	<0.1	45	133	177	5.09	0.51	1.73	929	22	<0.01	70	0.20	<2	<2	35	75	<5	<3	64
DHVR037	<0.1	3.79	170	35	<3	4.02	<0.1	42	194	128	5.50	0.36	2.22	490	17	<0.01	133	0.25	<2	<2	26	63	<5	<3	48
DHVR038	<0.1	3.20	28	30	<3	3.24	<0.1	27	113	132	3.53	0.29	0.96	327	17	<0.01	63	0.20	<2	<2	21	40	<5	<3	40
DHVR039	<0.1	1.16	16	128	<3	0.10	<0.1	7	98	11	2.07	0.03	0.30	95	14	<0.01	<1	0.05	5	<2	12	11	<5	<3	12
DHVR040	<0.1	0.40	12	>1000	<3	>10.00	1.0	38	37	7	>10.00	0.66	2.11	3882	14	<0.01	71	0.07	47	19	17	130	<5	<3	45
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000

< - Less Than Minimum | > - Greater Than Maximum | is - Insufficient Sample | ns - No Sample | ANOMALOUS RESULTS - Further Analyses By Alternate Methods Suggested.

APPENDIX IV

SAMPLE DESCRIPTIONS

SAMPLE DESCRIPTIONS COP, HAR 1 & HAR 3 CLAIMS 90BC042

SAMPLE #	ROCK TYPE	SAMPLE TYPE	MINERALIZATION	FEATURE	CLAIM
90HCR001	Mafic volc xenolith in qtz dior.	Rock grab	<5% Py		Cop
90HCR002	Qtz. Diorite, intrsv, sil w/ qtz strngrs	Rock grab	<1% Py, Malachite	Calc, lim	Cop
90HCR003	Inter. Vol. Andesite?	Rock grab		Epid chl alt	Cop
90HCH001		Heavy Metal			Cop
90HCH002		Heavy Metal			Cop
90HCH003		Heavy Metal			Cop
90HLR001	Diorite, hb/biot., med xtln w/ 10% epdt	Rock grab	trace Py		Cop
90HLR002	Andst, 5cm frac zn, limonitic	Rock grab	2-4% Py	fracture	Cop
90HKR001	Andst, silf'd to 40%, gy grn	Rock grab	4-5% Py		Cop
90HLR003	Andst, gy grn, porph plag, epdt, lim	Rock grab	5% Py	Shear 15 cm	Cop
90HLR004	Andst, 4m wd sil zn, silfcatn 40 - 70%	Rock grab	2% Py ovrall, 5% frc	silf'd zn	Cop
90HKR002	Andst w/ sml shrs	Rock grab	1-2% Py		Cop
90HKR003	Andst, sil to 50%, clay arnd sil zn	Rock grab	> 5% Py		Cop
90HLR005	Int. volc, bleached, mldly sil, bxwrk	Rock grab	> 1% Py vis	fractures	Har 1
90HLR006	Alt volc, blchd,silf'd w/occ zns to 60%	Rock grab	up to 10% in sil zns	Shr/fracs	Har 1
90HLR007	Andst, silf'd to 60%	Rock grab	8% Py		Har 1
90HLR008	Andst, propylitic alt	Rock grab	5% Py		Har 1
90HLR009	Tuff, dacitic, lt gy grn, mnr hb porphs	Rock grab	<1% to 1% in pods		Cop
90HLR010	Int tuff, 20-25% silf'd	Rock grab	3-5% Py in pods/frac	fractures	Cop
90HKR004	East dipping shears in andesite	2.5 m chip	Py	Shears	Cop
90HKR005	Siliceous andesite	Rock grab	<5% py		Cop
90HKR006	Py lens	Rock grab		lens	Cop
90HKR007	Tuff, lt gy grn	Rock grab	3% Py		Cop
90HKR008	Qtz diorite w/ andst frags, pos dike?	Rock grab	>5% Py	trend	Cop
90HLR011	Qtz dior, w/ andst/diabase dikes	Rock grab	up to 10% in pds/frc		Cop
90HLR012	As in 011, occ 10 cm lng gashes 100% Py	Rock grab	10% and >10% Py		Cop
90HLR013	As in 011 & 012	Rock grab	10% Py		Cop
90HKR009	Qtz dior w/ volc fragmnts	Rock grab	>5% Py		Cop
90HKR010	Andst, massv, gy grn	Rock grab	5% Py		Cop
90HLR014	Dior, qtz to hb/biot, cut by mafic dikes	Rock grab	3-5% PY		Cop
90HLR015	Andst, massv, gy grn w/ qtz dior dikes	Rock grab	1-3% PY disseminated		Cop
90HLR016	Dior, epidotized	Rock grab	>5% Py		Cop
90HLR017	Qtz dior, silf'd to 65%, org-brn wthrng	Rock grab	3-5% Py, tr Cpy, mal		Cop
90HLR018	Andst, gy grn, epdtz'd, sml dior dikes	Rock grab	3% Py		Cop
90HDR001	Pod-50cm, in gr ands, small shear zone	Rock grab	massive py	shear	Har 1
90HDR002	V altered lim volc? contact dior/ands	Rock grab		Contact	Har 1
90HDR003	2x.5m lent nod in hornbl-dior, sil	Rock grab	<5% py in patches		Har 1
90HDR004	Gossanous alt volc? in qtz-diorite	Rock grab	<5% py	Dyke?	Har 1
90HDR005	Gossanous 2m wide alt volc? in diorite	Rock grab	<7% py	Dyke?	Har 1
90HDR006	Gossanous 2m wide zone in volc? alt ands	Rock grab		Dyke?	Har 1
90HBR001	brecciated SIF SILT	ROCK GRAB	<1%PY		HAR 3
90HBR002	FE-CB ALT. ZONE, CV's	rock grab	<1%py	2m thick	HAR 3
90HRB003	FE-CB ALT. of joints	rock grab	<1%po,py		HAR 3
90HBR004	CHERT, SIL SILT; BRXY	ROCK GRAB	<5%PY	<5m WIDE	HAR 3
90HBR005	CHERT, SIL SILT; BRXY	ROCK GRAB	<5%PY	<5m wide	HAR 3
90HBR006	SANDSTONE, SILT; FLT ZONE	ROCK GRAB	5%PY,O,F		HAR 3
90HJR001	Epicl. brx & cong., argl lst in fg gy ax	Rock Grab	5% py		Har 3
90HJR002	F.g int. tuff, gy w phyric feldspars	Rock Grab	>2% py		Har 3
90HJR003	Fine grained int. grey tuff	Rock Grab	1% py		Har 3

90HJR004	Dyke, int feld, with pale gr amph, 40cm	Rock Grab	2% py	Dyke E dip	Har 3	
90HJR005	Int tuff with calcite veins.	Rock grab	1% py, 1% sphalerite		Har 3	
90HJR006	Dacite tuff, medium grained.	Rock Grab	Tr py		Har 3	
90HJR007	Lithic wacke (int tuff),cls of Si/Lst	Rock Grab	1% py, 1% po		Har 3	
90HJR008	Int silty tuff, blocky	Rock Grab	2% py on fract plane	Fractures	Har 3	
90HJR009	Siltstone	Rock Grab			Har 3	
90HJR010	Tuffaceous siltstone,dk gy,qtz-cal veins	Rock Grab	1% py disseminated	Veins	Har 3	
90HJR011	Grey tuffaceous siltstone	Rock Grab	1% py on fract plane	Fractures	Har 3	
90HJR012	Tuffaceous siltstone	Rock Grab	1% py, <0.1% po		Har 3	
90HJR013	Massive dacite, siliceous	Rock Grab	Tr py		Har 3	
90HJR014	Lst, int tuff, brx by felsic dykes,Amph	Rock Grab	<2% py	Amph phyric	Har 3	
90HJR015	Silty tuff?	Rock Grab			Har 3	
90HJR016	Intbdd sh/si local folds/faults	Rock grab	1% disseminated py	cb-vnlts	Har 3	
90HJR017	Gossan calc ss/ls & sh lenses cb-vnlts	Rock grab			Har 3	
90HJR018	Intbdd sh/si Fe/Mn stained cb-vnlts	Rock grab	2% disseminated py		Har 3	
90HJR019	Intbdd sh/si gossanous cb-vnlts	Rock grab	3% py		Har 3	
90HJR020	Intbdd calc sh/si/ss/ls Fe-rusted	Rock grab	1% py in vnlts	cb-vnlts	Har 3	
90HJR021	Polym calc congl, clasts sh/ls, mtrx ss	Rock grab	1% disseminated py		Har 3	
90HJR022	Poly calc congl sh/ls clasts Fe-rust	Rock grab	<1% disseminated py	fossils	Har 3	
90HJR023	Intbdd calc sh/ls/ss cb-vnlts ls-clasts	Rock grab	<1% py vnlts/diss	fossils	Har 3	
90HJR024	Intbdd calc sh/si/ss cb-vnlts	Rock grab	1% py diss/blebs	fossils	Har 3	
90HJR025	Sil qtz arenite 3m wide cb-vnlts Fe-rust	Rock grab			Har 3	
90HJR026	Intbdd calc sh/si/ss Fe-rust cb-vnlts	Rock grab	1% disseminated py	tops	Har 3	
90HJR027	Intbdd sh/ss gossanous broken ss beds	Rock grab	1-2% py diss/blebs	cb-vnlts	Har 3	
90HJR028	Intbdd sh/ss lenses gossanous	Rock grab	3-5% disseminated py	cb-vnlts-vns	Har 3	
90HJR029	Calc poly congl mtrx calc ss cb-vnlts	Rock grab	2% disseminated py		Har 3	
90HJR030	Gry and slightly calc cb-vnlts-vns <2cm	Rock grab	7% py diss/blebs		Har 3	
90HJR031	Pyrocl clasts sil <8cm mtrx calc	Rock grab	1-2% py along vnlts	cb-vnlts	Har 3	
90HJR032	L gry sil fel dyke 3m cb-blebs	Rock grab	2% disseminated py		Har 3	
90HJR033	Cherty sh Fe-rust/gossan pyro/sh contact	Rock grab	3% py along vnlts	cb-vnlts	Har 3	
90HJR034	Dac dyke .5m Fe-rusted cb-vns 8mm	Rock grab	1% disseminated py		Har 3	
90HJR035	Cherty gossan sh Fe/Mn-stain cb-vnlts	Rock grab	<1% py		Har 3	
90HJR036	Sil si Fe/Mn-stain gossan qtz-vnlts	Rock grab	7% py along vnlts		Har 3	
90HJR037	Pyrocl Fe/Mn-stain cb-vnlts	Rock grab	<1% py		Har 3	
90HJR038	Altrd volc Fe/Mn-stain gossan cb-vnlts	Rock grab	trace py		Har 3	
90HPR001	Gry sil fin gr gabb Fe-rusted	Rock grab	<1% disseminated py	dyke 1m wide	Har 3	
90HPR002	Pyrocl tuff clasts 1-12mm altrd/sheared	Rock grab		cb-vn 1cm	Har 3	
90HPR003	Pyrocl altrd/sheared Fe/Mn-stain	Rock grab	1% py along vnlts	qtz/cb-vnlts	Har 3	
90HPR004	Gry sil fel tuff calc Fe/Mn-stain	Rock grab	3-4% py diss	qtz-vnlts	Har 3	
90HPR005	D gry sil and Fe/Mn-stain cb-vnlts <1mm	Rock grab	1% py		Har 3	
90HPR006	Gry/wht/grn fin gr dior calc Fe/Mn/shear	Rock grab	<1% disseminated py	cb-vnlts	Har 3	
90HPR007	Gry sil dac Fe/Mn-stain cb-vn 1cm	Rock grab	<1% py	dyke	Har 3	
90HPR008	Gry/grn sil and tuff Fe/Mn-stain/gossan	Rock grab	<1% py along vnlts	qtz-vnlts	Har 3	
90HPR009	Intbdd sh/si/ss FE-rust cb-vnlts 1-7mm	Rock grab	<1% disseminated py	bedding	Har 3	
90HPR010	Gry/wht and tuff Fe/Mn-stain/gossan calc	Rock grab	2% disseminated py		Har 3	
90HPR011	Gry/wht and tuff calc Fe/Mn-stain/gossan	Rock grab	2% disseminated py		Har 3	
90HPR012	D gry sil and Fe/Mn-stain epid xls	Rock grab	<1% py	cb-vnlts 3mm	Har 3	
90HVR001	Agglom ash/ls-sh clasts <10cm	Rock grab		brachiopods	Har 3	
90HVR002	Extremely rusted limonite/Fe/Mn	Float			Har 3	
90HVR003	Cb-vn 2cm in ashfall tuff very Fe-rusted	Rock grab	1% py	cb-vnlts	Har 3	
90HVR004	Calcited vn?clast? 20cm banded brachios	Float			Har 3	
90HVR005	D gry ls bleached on surface brachios	Rock grab			Har 3	
90HVR006	Agglom ash/ls-sh clasts <10cm brachios	Rock grab			Har 3	
90HVR007	Fel vesic tuff 1m wide Fe-rusted	Rock grab	1% py	qtz/cb-vns	Har 3	

90HVR008	Sil l gry rhy/dac calc fractured	Rock grab	trace pyt		Har 3
90HVR009	And tuff gossan/Fe-rusted qtz stringers	Rock grab	1% py		Har 3
90HVR010	Agglom ash/ls-sh clasts .2-8cm gossan	Rock grab	1% py	cb-vnlts	Har 3
90HVR011	Sil-massive gossan and qtz-vnlts	Chip 10m	10% py diss/blebs		Har 3
90HVR012	Rusted/sil and altrd to clay shearing?	Chip 2m	10% py	alt qtz-vnlt	Har 3
90HVR013	Clay/gouge altered and qtz-vnlts	Chip 2m	3% py		Har 3
90HVR014	Massive d gry and slightly calc Fe-rust	Rock grab	5% py	qtz-vn-vnlt	Har 3
90HVR015	Banded blk/gry ls baked to gouged	Rock grab	<1% py	2m wide unit	Har 3
90HVR016	Massive D gry sil and qtz/cb-vnlts	Chip 6m	1% diss py		Har 3
90HVR017	Gossanous lens altrd and qtz-vnlts	Rock grab	3% py		Har 3
90HVR018	Massive magnetite cb-vnlts Fe-rusted	Chip 6m	80% mag 5% py 5% hem		Har 3
90HVR019	Massive magnetite cb-vnlts Fe-rusted	Rock grab	80% mag 5% py 5% hem		Har 3
90HVR020	Massive magnetite cb-vnlts Fe-rusted	Rock grab	80% mag 5% py		Har 3
90HVR021	Banded ls unit baked & folded 1m wide	Rock grab	<1% disseminated py		Har 3
90HVR022	Gossanous granodior Fe-rusted qtz-vnlts	Rock grab	2% py		Har 3
90HVR023	Intrusive breccia (granite)	Rock grab	2% py		Har 1
90HVR024	Gossanous intrusive heavily rusted	Float	15% diss py		Har 1
90HPR013	Intrus brecc dio/grdio clsts-gran mtrx	Rock grab			Har 1
90HPR014	Med gr dior clst in gran mtrx (brecc)	Rock grab			Har 1
90HPR015	Int brecc 8m-1mm dio clsts gran matrix	Rock grab		qtz-vnlts	Har 1
90HPR016	Porphyr dior agglom	Rock grab			Har 1
90HPR017	Rexllzd int gran grades to dior	Rock grab	2% py in 1cm lens	shearing?	Har 1
90HPR018	Int brecc grdior Fe-rust	Rock grab	<1% py		Har 1
90HPR019	Int brecc grdio mtrx volc/dior clsts	Rock grab	<1% diss py		Har 1
90HPR020	Fe-rich cb vn 5cm hosted in grdio	Rock grab		vein	Har 1
90HPR021	Dior/grdior Fe-rusted qtz-vnlts	Rock grab	1% py		Har 1
90HVR025	Massive magnetite Fe/Mn-rust qtz-vnlts	Rock grab	100% mag		Har 3
90HVR026	Altrd int Fe-rust epid-alteration	Float	1% finely diss py		Har 3
90HVR027	Altrd int	Float			Har 3
90HVR028	Fin-gr blk/wht dior qtz-vnlts <3mm	Rock grab	3-5% py		Har 3
90HVR029	Altered volcanics	Rock grab	limonite		Har 3
90HVR030	Fin gr dior-and volc-mass mag	Chip 10m	5% py, 100% mag	qtz-vnlts	Har 3
90HVR031	Basalt flow-mass mag qtz-vnlts	Chip 7m	5% py, 100% mag	qtz-vns 1cm	Har 3
90HVR032	andesite flow	rock grab	1-2% diss py		Har 3
90HVR033	altered andesite	rock grab	limonite + clay		Har 3
90HVR034	Sil intbdd sh/si/ss/volc brecc si	Rock grab	<1% disseminated py	cb-vnlts	Har 3
90HVR035	Gossanous intbdd seds Fe/Mn stain	Rock grab	1% py	qtz/cb-vnlts	Har 3
90HVR036	andesite	rock grab	limonite	qtz-cb vn	Har 3
90HVR037	Gossanous sil intbdd seds/volc flow	Rock grab	2-3% py	qtz/cb-vnlts	Har 3
90HVR038	Gossanous Fe-rusted sil and qtz-vnlts	Float	2% py		Har 3
90HVR039	felsic tuffs	rock grab	tr pyrite	gossanous	Har 1
90HVR040	andesite	rock grab	cb-qtz-lim vein	gossanous	Har 1
90HPR022	Gry sil dac Fe/Mn-stain d gry vesic dyke	Rock grab	3% py	dyke .5-50cm	Har 1
90HPR023	Sil gry dac gossanous	Rock grab	1% disseminated py	qtz-vnlts	Har 1
90HPR024	D gry and tuff qtz-vnlts <2mm	Rock grab	1% py diss/vnlts		Har 1
90HPR025	no sample				
90HPR026	And tuff Fe/Mn-stain qtz/cb-vnlts <2mm	Rock grab	<1% py		Har 1
90HPR027	D gry and Fe/Mn-stained gossanous	Rock grab	2% py	qtz-vnlts	Har 1

APPENDIX V

STATEMENT OF COSTS

STATEMENT OF COSTS

KINGHORN ENERGY CORPORATION
Project 90BC042
COP and HAR 1, HAR 3 Claims
Period of Field Work: July 31, 1990 to September 01, 1990

Salaries					
R.Brown	Geologist	1 days @	$400.00 /day	$400.00	
D.Collins	Geologist	1 days @	$400.00 /day	$400.00	
R.Verzosa	Prosp/blaster	7 days @	$350.00 /day	$2,450.00	
D.Lucas	Geologist	3 days @	$400.00 /day	$1,200.00	
D.Carstens	Prospector	1 days @	$350.00 /day	$350.00	
P.Daigle	Geologist	9 days @	$300.00 /day	$2,700.00	
J.P.Sorbara	V. President	1 days @	$400.00 /day	$400.00	
Tom Kennedy	Prosp/Blaster	4 days @	$350.00 /day	$1,400.00	
J.Cooper	Cook	9.92 days @	$225.00 /day	$2,232.00	
D.Hebditch	Repl Cook	0.25 days @	$225.00 /day	$56.25	
J.Himmelright	Technician	3 days @	$225.00 /day	$675.00	$12,263.25

Project Expenses

Project Preparation					$2,144.78
Mobilization/Demobilization					$2,548.34
Domicile					
40.17 man days @	$115.00 /manday				$4,619.55
Geochemistry and Laboratory Service					
Pan conc					
3 samples	$3.00 /sample preparation			$9.00	
3 samples	$12.00 /Au FA/AA,Cu,Pb,Zn,Ag			$36.00	
Rocks					
147 samples	$3.00 /36 elem. ICP/AuFA/AA			$441.00	
147 samples	$12.00 /sample preparation			$1,764.00	
1 samples	$6.30 /Au FA/AA, Cu,Pb,Zn,			$6.30	
Freight charges to Vangeochem				$86.15	
					$2,342.45
Helicopter Support	11.87 hours	@	$665.00/hour		$7,895.60
Fixed Wing Support					$1,361.33
Radio Rental	0.5 month @		$175.00/month		$87.50
Walkie talkie Rental					$185.50
Field Supplies					$706.73
Equipment Rental	30 mandays @		$20.00/manday		$600.00
Generator fuel and Propane					$265.34

Computer Rental		$180.00
Expediting		$696.12
Accounting/Communications/Freight		$2,157.20
Report writing, drafting and compilation		$4,600.00
15% Management Fees		$6,398.05
	TOTAL	$49,051.74

COP
7069(2)

HAR 1
7070(2)

HAR 3
7072(2)

3d

13b

2a

2h

2

9c

altered & sheared diorite in surrounding int. volc, (andst?) 3-6 % py in fractures w trace malachite

massive andesite w epidote to 5-10%; py up to 8%; occasionally cut by dioritic dykes

lahar

qtz diorite overlain by lahar-like (Pleistocene?); diorite cut by andesite dykes; at times andesite cut volcs contain between 1 to 5% py

qtz to hb diorite; light to dark grey; some remnant andesitic volc within; volc silf'd to 65% w py from 5-8%

qtz & hb diorite cut by andesite & diabase dykes; little consistent orientation to dykes; 20m wide zone of altered diorite pods & fracture fillings of up to 10% py; one 2m area w tension gashes 1-3 cm wide of 100% py

diorite-biotite/hb, med. xtln; approx. 10% epidote alt; trace py

alt/silicified int. volc, bleached; probably alt. andesite; orange to white weathering w up to 60 % silicification; py up to 10 % generally along contact between altered & unaltered rock; unaltered rock is andst

andst-grey green massive <1% py

andst-grey green fresh surface, grey brown to orange brown weathered surface; occasional shear zones at 038° to 040° subvertical; up to 40% silicification in shears w 5-10% epidote in bordering country rock; py in country rock = <1% to 1%; py in shears = 4-5%

light grey green tuff (dacitic); occasional hb porphs; generally <1% to 1% py in country rock; occasional NE trending fractures carry up to 4-5% py; py in pods or fractures

green andesite; some prop alteration

diorite

hb diorite, slightly finer-grained

andesite tuffs

ashfall tuffs

diabase dyke-pyritic pods to 1 m in alt diorite/hb rock

silicified int volc; silicification up to 60%; py to 8%; remnant andesite along borders

dioritic abundant bx zones xenoliths of more mafic diorite/Fe rich/magnetic within qtz rich diorite

increase in pinkish tinge in diorite

greenish meta-diorite

minor aplite dykes

pyritic pod meta-diorite

alt andesites

≤ 2m wide gossanous zone, ≤ 5% py

intrusives diorite/granodiorite

CB vein, 5 cm; 50 cm alt around vein; Fe/Fe, Mg CB

intrusive breccia; int & volc clasts; <1% diss py, very rusted

float, porphyritic agglom gabbro; no mineralization

intrusive bx, granite, 2% py

float, Fe-rusted int, 15% diss py

intrusive breccia

intrusive breccia gran. matrix granodiorite - diorite clasts 1mm-8mm; no mineralization; epidote staining; larger clasts are rounded

intrusive bx w volc & int clasts

massive diorite unit

gossanous lens of extremely altered (gouged) lens of andesite qtz veinlets; 3% py

massive mag unit; 80% mag/5% py/5% hem; CB veinlets (py filled)

massive andesite underlying gossanous zone & LS units; qtz/CB veinlets; 1% diss py

gossanous zone: <5% py; clay gouge, highly altered to massive andesite; Fe/Mn stain/rust, shear, altered qtz veinlets; altered qtz vein, 3cm 10% py; 2 x 1 units of baked to gouged LS unit; banded <1% diss py

gossanous sil to massive andesite qtz veinlets <3mm 10% py in blebs/veinlets & diss Fe/Mn stained

baked banded unit of LS (folded) 1m wide; <1% diss py

intbdd sh/si/ss/volc; gossanous zones; qtz/CB units; 1% diss py

Lt, bx, SIF, SILT

gossanous granodiorite; Fe-rusted; qtz veinlets; 2% py

andesite

cherts, banded

faulted cherts, silicified, SILT, bx

SILT & sandstone turbidite

small bx zone; <5% py, D

SILT, chert

andesite

bx zone

rhy dyke

bx fault zone, 5% py

SILT

cong limestone cobbles

fol & jts

dacite dyke 50cm wide; 1% diss py within cherty sh/si; 1% diss py/7% py in veinlets; Fe rusted

talus & boulder slope, very rusted, silicified andesite

Fe CB alt zone 2in thick

gossanous knob, 20m diameter, of silicified seds & volc; 2-3% py qtz/CB veinlets

silicified bx, SILT, <1% py, Lt

cong., limestone, mudstone

altered volc

pyroclastics <1% py

east & south of ridge (downslope) predominantly pyroclastics

south has mostly sil & tuffs/pyroclastics

andesite tuff, <1% py

contact pyroclastics/sh

along spine & top of ridge composed of silicified seds, very gossanous & fossiliferous

poly cong calc ss/ls/sh; fossils — brachiopods replaced by calcite; <1% diss py

Fel. pyroclastic tuffs; CB veinlets; 2% py along veinlets

gravel/boulder slope

intbdd calc sh/si/ss/ls locally folded & faulted; CB veins & veinlets; slight bx; gossanous; <3% py along veinlets/diss

intbdd calc sh/si/ss; gossanous, very rusted; <5% py diss & in blebs

dark grey tuff SILT w qtz/calc veinlets, 1% py

intbdd sh/si/ss; <1% py

vesicular debris flow w rounded clasts <20 cm (agglom) to matrix supported ashflow to fine grained ashfall tuffs (all int. layered); small unit of cong. (sh clasts); debris flow clasts fossiliferous - brachiopods, no mineralization; ashfall tuffs very rusted to bleached, 1% py

gossanous debris/ash flow, calc 1% py; ls & sh clasts 0.2-8 cm; CB veinlets; int ashfall tuffs

lithic wacke (intermediate tuff?) w clasts of si/ls; 1% py; 1% po

tops-graded debris flow

from peak to SE, predominantly debris & ashfall tuffs; large sh & ls (rounded) clasts, aggloms

silicified andesitic tuffs; Fe/Mn stained; <1% diss py; gossanous

dacite tuff, trace py

grey silicified dacite dyke

1m wide unit; sil light grey fel tuff rounded qtz clasts; vesicular, rusted on surface; euhedral qtz/CB veins 1 cm; 1% py

trend 235°

sil andesite tuffs; fel tuffs <1-1% py

sil rhy/dac unit; highly fractured calc; trace py

sil andesite tuff unit; gossanous, qtz stringers, 1% py; within large ash/debris flow

fine grained sil diorite/gabbro

sil fel tuff; 3-4% py

fine grained diorite; sheared slightly altered, <1% py

COPPER KING GLACIER

Icefield

Icefield

LEGEND

TERTIARY
Post-Tectonic Dykes

13b — King Creek Dyke Swarm: feldspar porphyry dacite, andesite, diabase, quartz diorite

JURASSIC
Unuk River Diorite Suite

9c — Melville hornblende-biotite diorite; quartz diorite

LOWER JURASSIC (PLIENSBACHIAN TO TOARCIAN)
Pyroclastic-Epiclastic Sequence

3d — Grey, green, and purple dacitic tuff, lapilli tuff, crystal and lithic tuff, massive to well bedded; feldspar phyric

UPPER TRIASSIC TO LOWER JURASSIC (NORIAN TO SINEMURIAN)
Andesite Sequence

2 — Meta-diorite, meta-gabbro

2a — Grey and green, plagioclase +/- hornblende porphyritic andesite; massive to poorly bedded

2h — Grey and green, hornblende (+/-pyroxene) feldspar porphyritic andesitic lapilli and ash tuff

agglom	Agglomerate	Fe	Iron
alt	Alteration	Lt	Limonite
and	Andesite	ls	Limestone
bx	Breccia	Mg	Magnetite
calc	Calcite	Mn	Manganese
dac	Dacite	po	Pyrrhotite
diss	Disseminated	rhy	Rhyolite
epid	Epidote	RHDK	Rhyolite dyke
fel	Felsite	ss	Sandstone
F	Float	sh	Shale
hb	Hornblende	SIF	Silicification
intbdd	Interbedded	si/SILT	Siltstone
int	Intrusive	tuff	Tuffaceous
		volc	Volcanic

Bedding

Joint or fracture

Shear

Dyke

Tops

Fault

Outcrop

Contact

Sample location (see Figure 5)

Property boundary

Legal corner post

GEOLOGICAL BRANCH ASSESSMENT REPORT

21,463

500 0 500m

SCALE 1:10,000

COP, HAR 1 & HAR 3 CLAIMS

KINGHORN ENERGY CORPORATION

GEOLOGY

HI-TEC RESOURCE MANAGEMENT LTD

SCALE: 1:10,000	N.T.S.: 104B/10E	FIGURE No: 4	
DWN. BY:	DATE: JAN./91		
CHKD. BY:	PROJECT No: 908C041	FILE No:	

COP
7069(2)

HAR 1
7070(2)

HAR 3
7072(2)

90HCH001
90HCH002
90HCH003
90HLR015
90HCR001
90HLR014
90HKR010
90HCR002
90HCR003
90HLR016
90HLR017
90HLR018
90HKR009
90HLR011, 012, 013
90HKR007
90HKR008 440
90HLR009
90HLR010
90HKR004, 005, 006
90HLR001 140
90HLR002
90HKR001
90HLR003
90HKR002
90HKR003
90HLR004
90HLR005
90HVR040
90HPR023
90HPR022
90HVR039
90HDR001 140
90HLR006
90HPR024
90HLR007
90HLR008
90HDR002
90HPR026
90HPR027
90HDR003
90HPR021
90HDR005
90HPR020
90HPR019
90HVR023
90HPR015
90HPR016
90HVR024
90HPR013
90HPR014
90HPR018
90HPR017
90HVR038
90HVR037
90HVR035
90HVR034
90HBR001
90HVR036 360
90HBR002
90HBR003
90HVR033
150
90HVR022
90HVR032
90HVR025-031
90HVR019-021
90HVR012-015
90HVR011
90HJR038
90HJR037
90HBR004
90HBR005
90HJR015
90HJR014
90HBR006 200
90HJR013
90HJR012
90HPR012
90HJR034,035
90HJR036
90HJR032
90HJR033
90HJR021
90HJR020
90HJR016, 017,018,019
90HJR022
90HJR023
90HJR031
90HJR030 250
90HJR029 980
90HJR027
90HJR024
90HJR025
90HJR026
90HJR011
90HJR010
90HPR011
90HPR010
90HJR009
90HJR008
90HPR009
90HPR008
90HJR007
90HVR001
90HVR005
90HVR004
3.04 % Zn
90HVR003
90HVR002
90HJR006 130
90HPR007
90HVR006
90HJR005
90HVR009
90HJR004
90HVR010
90HVR008
90HJR003
90HVR007
90HJR002
90HJR001
90HPR001
90HPR002
90HPR003
90HPR004
90HPR005
90HPR006

LEGEND

- ■ Stream sample
- x Rock sample
- 90HJR029 Sample number
- 980 Significant value in Au ppb (unless otherwise noted)
- Claim boundary
- ■ Corner post

GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,463

500 0 500 m

SCALE 1:10,000

COP, HAR 1 & HAR 3 CLAIMS

KINGHORN
ENERGY CORPORATION

SAMPLE LOCATIONS
&
SIGNIFICANT GOLD VALUES

HI-TEC RESOURCE MANAGEMENT LTD	SCALE: 1:10,000	N.T.S.: 104B/10E	FIGURE No: 5
	DWN. BY:	DATE: JAN./91	
	CHKD. BY:	PROJECT No: 908C041	FILE No: