Geological, Prospecting, and Geochemical Report on the Gracey Property

GRACEY 1 to 4 Claims
Skeena Mining Division
N.T.S. 104-B/7E
Latitude 56°20′ North
Longitude 130°31′ West
British Columbia

November 6, 1989

on behalf of
KENGATE RESOURCES LTD.
Vancouver, B.C.

by

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ABSTRACT

The Gracey property consists of four contiguous modified-grid claims totalling 80 units located approximately 80 km northwest of Stewart, British Columbia. Access to the property is by fixed-wing aircraft from Terrace, Stewart, or Smithers to various airstrips in the area and then via helicopter to the property.

The property lies within the Intermontaine Tectono-Stratigraphic Belt and occurs near the contact between the Stikine Terrane and the unmetamorphosed sediments of the Bowser Basin. Diorites of the Coast Plutonic Complex underlie the western property area, with the eastern part underlain by the Lower Jurassic Unuk River Formation which is locally intruded by Middle Jurassic or younger diorite dykes and syn- to post-volcanic intrusions.

The area has an exploration history dating back to the turn of the century when prospectors passed through the region on their way to the interior. In the 1970's, the porphyry copper boom again brought prospectors and companies into the area. The current gold exploration rush began in 1980 with the option of the Sulphurets property by Esso Minerals Canada and the acquisition of the Johnny Mountain claims by Skyline Exploration Ltd. which was brought into production in mid-1988. The adjacent SNIP property is slated for production in 1990.

At this time, the Eskay Creek prospect, located 36 km northeast of the Gracey property and currently being explored by Calpine and Consolidated Stikine, is the most significant showing in the area. The prospect comprises at least eight mineralized zones occurring over a strike length of 1800 m within a sequence of felsic volcanics. The mineralization is associated with disseminated sulphides in felsic volcanic breccias and graphitic argillites in contact with overlying intermediate volcanic rocks.

The Doc prospect, which consists of several mineralized quartz veins occurring in a shear that cuts folded and metamorphosed andesitic tuffs

belonging to the Unuk River Formation, is located 2.5 km east of the property. The main vein is about 2 m wide and has been traced for 270 m.

A review of all available information indicates that the entire Unuk River area was subjected to reconnaissance geological mapping and prospecting by Newmont Mines Ltd. in 1959-1962, which led to the discovery of the Gracey Creek copper showing, located near the northwest corner of the GRACEY 2 mineral claim.

In 1988, a limited amount of reconnaissance prospecting and geochemical sampling were completed east of Gracey Creek, near the northwest corner of the GRACEY 2 claim. Three Cu/Pb/Zn/Ag/Au showings were located.

The 1989 exploration program consisted of helicopter-supported reconnaissance prospecting, geological mapping, and geochemical sampling with the objective of evaluating the property's potential for hosting economic precious metals deposits and for the purpose of fulfilling the assessment requirements.

A limited amount of reconnaissance prospecting, combined with geological mapping and lithogeochemical sampling, was completed over the GRACEY 2 claim. This work was concentrated in the area of reported mineralization and gossans noted. Two of the three showings located in 1988 by Quest Canada Exploration Services Inc. (Krkac, 1989) were re-examined. The mineralization is associated with a 50 to 70 cm wide siliceous zone in quartz-banded gneissic sandstone and siltstone. Lithogeochemical sampling confirmed the elevated to anomalous precious and base metals values previously reported. Reconnaissance prospecting completed over the southeastern portion of the GRACEY 2 claim located gneissic metasediments with numerous quartz-carbonate veinlets up to 10 cm wide. Lithogeochemical sampling of the veinlets yielded anomalous silver and elevated base metals values. A heavy mineral stream sediment sampling survey was completed over the eastern portion of the property. Three samples yielded anomalous gold values, one from a creek cutting across the GRACEY 2 claim, the other two from creeks draining the southeast part of the GRACEY 4 claim.

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INTRODUCTION

Kengate Resources Ltd. of Vancouver, commissioned Keewatin Engineering Inc. to conduct a field exploration program to be completed on the Gracey property located in the Unuk River area of northern British Columbia. Exploration was directed by Keewatin Engineering Inc. with geological support and field supervision provided by Taiga Consultants Ltd. as a sub-contractor to augment the Keewatin crew.

The objective of this program was to evaluate the property's potential for hosting economic precious metals deposits, and for the purpose of fulfilling the assessment requirements. Exploration consisted of prospecting, geological mapping, and geochemical sampling. Geochemistry included lithogeochemical, stream silt, and heavy mineral sampling.

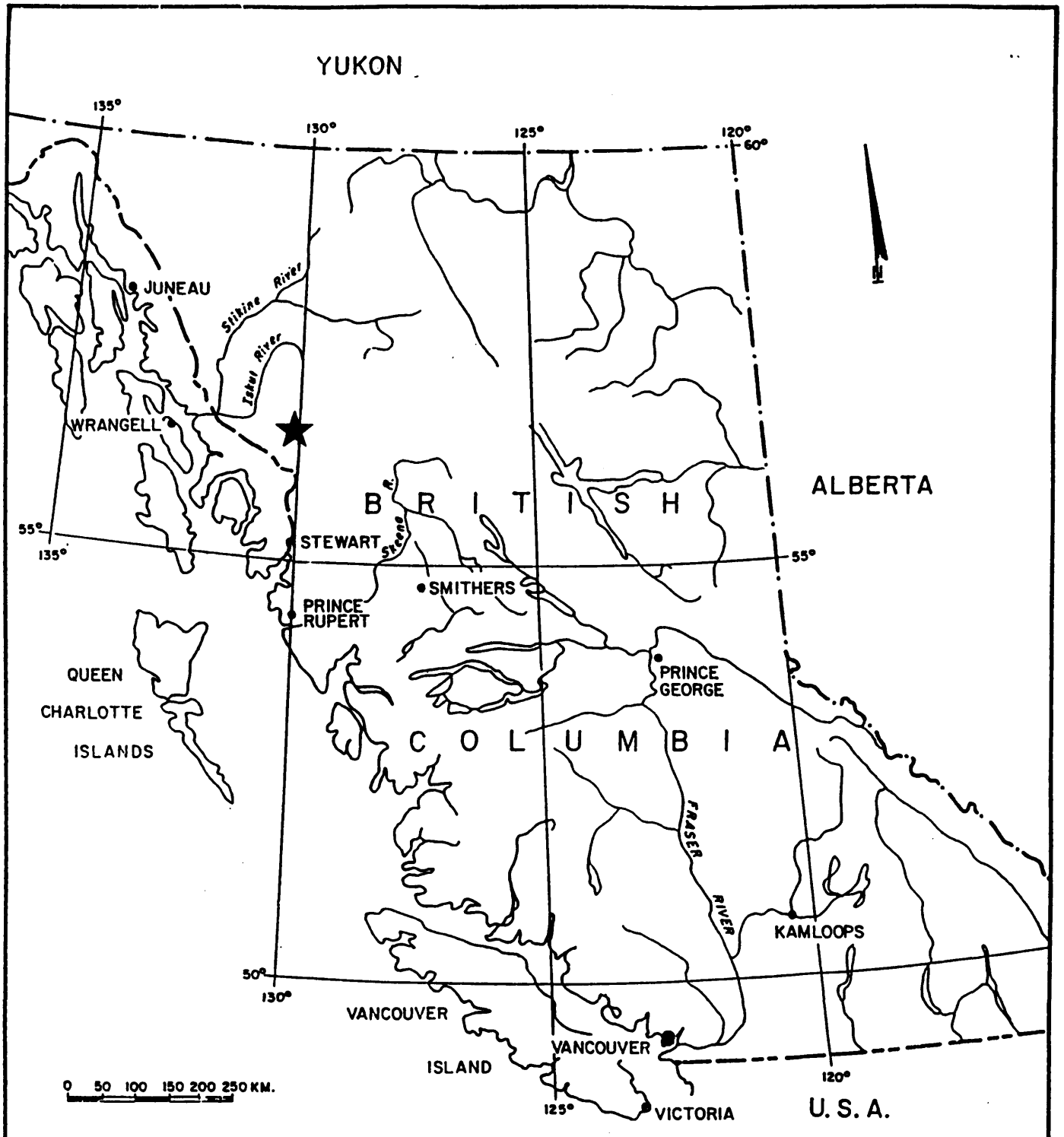
Location and Access

The Gracey property is located in northwestern British Columbia, approximately 80 km northwest of Stewart (Figure 1). The claims are situated within N.T.S. map-sheet 104-B/7E and centered about 56°20′ North latitude and 130°31′ West longitude. Access to the property is by fixed-wing aircraft from Terrace, Stewart, or Smithers to various airstrips in the area and then via helicopter to the property. The claims can also be directly accessed by helicopter from Stewart.

At some future date, road access to the area from the Stewart-Cassiar Highway could be obtained via the Upper Unuk River and Tiegen Creek valleys.

Property Status and Ownership

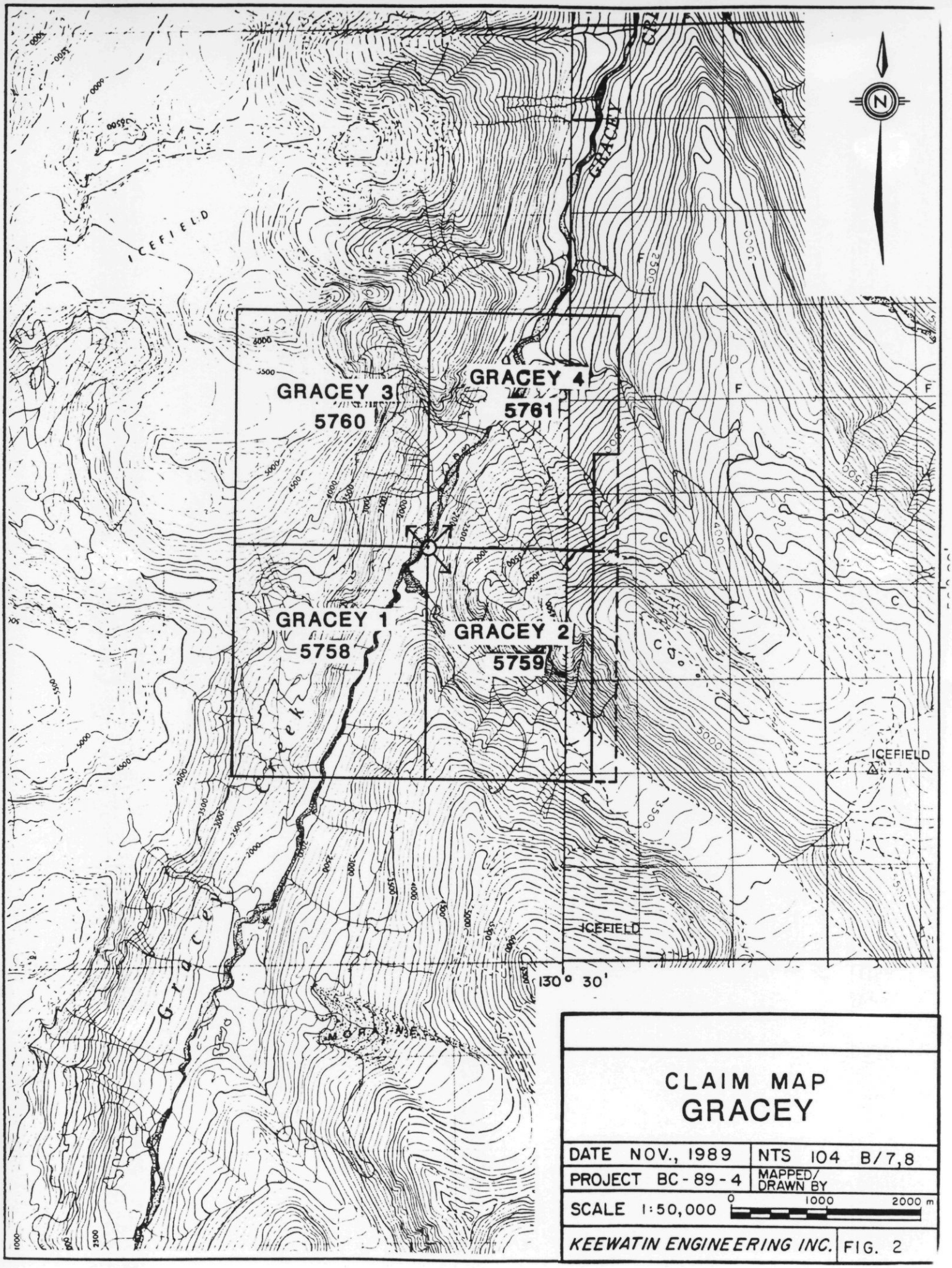
The Gracey property (Figure 2) consists of four modified-grid claims totalling 80 units, located within the Skeena Mining Division. Relevant claims data are tabulated below:



★ PROPERTY LOCATION MAP

Figure I

KEEWATIN ENGINEERING INC.



CLAIM MAP
GRACEY

DATE NOV., 1989	NTS 104 B/7,8
PROJECT BC-89-4	MAPPED/ DRAWN BY
SCALE 1:50,000	0 1000 2000 m
KEEWATIN ENGINEERING INC.	FIG. 2

Claim Name	Record Number	No.of Units	Date of Record	Expiry Date
GRACEY 1	5758	20	Jan.29/87	1990
GRACEY 2	5759	20	Jan.29/87	1990
GRACEY 3	5760	20	Jan.29/87	1990
GRACEY 4	5761	20	Jan.29/87	1990

These claims are all registered in the name of Kengate Resources Ltd.

Physiography and Climate

The Gracey property is situated within the Coast Range Physiographic Division and is characterized by northern rain forests and sub-alpine plateaux. The northeast trending U-shaped valley of Gracey Creek bisects the property. Elevations (see Figure 2) range from 455 m in the valley of Gracey Creek to 1920 m in the northwestern corner of the property. The toes of several glaciers almost reach the eastern boundary of the property.

A transitional treeline, characterized by dense sub-alpine scrub occurs at approximately the 915 m elevation. Terrain above treeline is typified by intermontane alpine flora. Conifers up to 30 m tall are common below treeline, especially in stream valleys. Water for camp and drilling purposes is generally in good supply from the numerous creeks draining the claim area.

Precipitation is heavy, exceeding 200 cm per annum, with short mild summers but very wet spring and fall periods. Thick accumulations of snow are common during winter. It is seldom possible to begin surface geological work before July and difficult to continue past September.

PREVIOUS EXPLORATION

The area drained by the upper reaches of the Stikine, Iskut, Unuk, Craig, and Bell-Irving Rivers has been explored for gold since the late 1800's when prospectors passed through the region on their way to the interior. In the 1970's, the porphyry copper boom again brought prospectors and companies into the area. The current gold exploration rush began in 1980 with the option of the Sulphurets property by Esso Minerals Canada and the acquisition of the Johnny Mountain claims by Skyline Explorations Ltd. The Johnny Mountain deposit was brought into production in mid-1988, and the adjacent SNIP property is slated for production in 1990.

The mineralization at Eskay Creek was discovered in 1932, and active prospecting has continued sporadically since then. Two adits are the result of limited mining activity on this prospect. In 1988, Calpine Resources Incorporated discovered high-grade gold and silver mineralization on the '21 Zone' (*Northern Miner* - November 7, 1988). A number of excellent diamond drill intersections have been obtained to date, including drill hole CA-88-06 which encountered 96 feet of 0.752 oz/ton gold and 1.13 oz/ton silver. Based on the results of 70 drill holes completed to June 1, 1989, a preliminary geological ore reserve of 2.8 million tons grading 0.23 oz/ton gold and 3.3 oz/ton silver has been calculated for the '21 Zone' (Consolidated Stikine Silver Ltd. - 1989 Annual Report).

The Doc prospect is located 2.5 km east of the Gracey property boundary. This occurrence is hosted by folded and metamorphosed andesitic tuffs with interbedded sediments that have been intruded by irregular dioritic dykes or sills and small monzodiorite plugs.

Several mineralized quartz veins occur in a shear zone that cuts these rocks. The main vein is about 2 m wide and has been traced for 270 m. The total mineral inventory of the Doc prospect is estimated at 426,290 tonnes grading 9.26 grams/tonne Au and 44.91 grams/tonne Ag (*Northern Miner*, Nov.7, 1988).

The Unuk River area was covered by regional geological mapping in 1988 as part of the Iskut-Sulphurets project carried out by B.C. Ministry of Energy, Mines and Petroleum Resources (Britton, et al.,1989). The whole of N.T.S. 104-B is currently being mapped by R. G. Anderson of the Geological Survey of Canada (Anderson, 1989).

The results of a regional stream sediment sampling program conducted over this area were released in July 1988 (National Geochemical Reconnaissance, 1988). Britton (et al.) report that almost every known precious metal prospect in the Unuk River area is associated with high stream sediment gold values. Known gold deposits are also associated with high but variable values for such pathfinder elements as silver, arsenic, antimony, and barium. Six stream sediment samples were collected from creeks draining the Gracey property. One of these samples (#873287) exhibits an anomalous value in gold (570 ppb).

A review of the material in the B.C. Ministry of Energy, Mines and Petroleum Resources assessment report archives indicates that the entire Unuk River area was subjected to reconnaissance geological mapping and prospecting by Newmont Mines Ltd. during the period 1959 to 1962.

This work discovered one showing within the Gracey property, the Gracey Creek copper showing (Minfile #221). This showing is located east of Gracey Creek in the centre of the property, near the contact with the Tertiary Hyder Pluton of the Coast Plutonic Complex. Biotite schists of the Triassic gneissic unit and mylonite contain pyritic stringers with chalcopyrite.

In 1988, Quest Canada Exploration Services Ltd. (Hrkac, 1989) completed a limited exploration program on the property for Kengate Resources Ltd. The program concentrated on prospecting and geochemical sampling in the northeast corner of the GRACEY 1 claim and the northwest corner of the GRACEY 2 claim. This program included the collection of six rock samples, 15 soil samples, and 7 heavy mineral sediment samples. Three Cu/Pb/Zn/Ag/As showings were located by the program, the most significant of which is described as a fracture-hosted massive sulphide occurrence within the Upper Triassic banded mylonite.

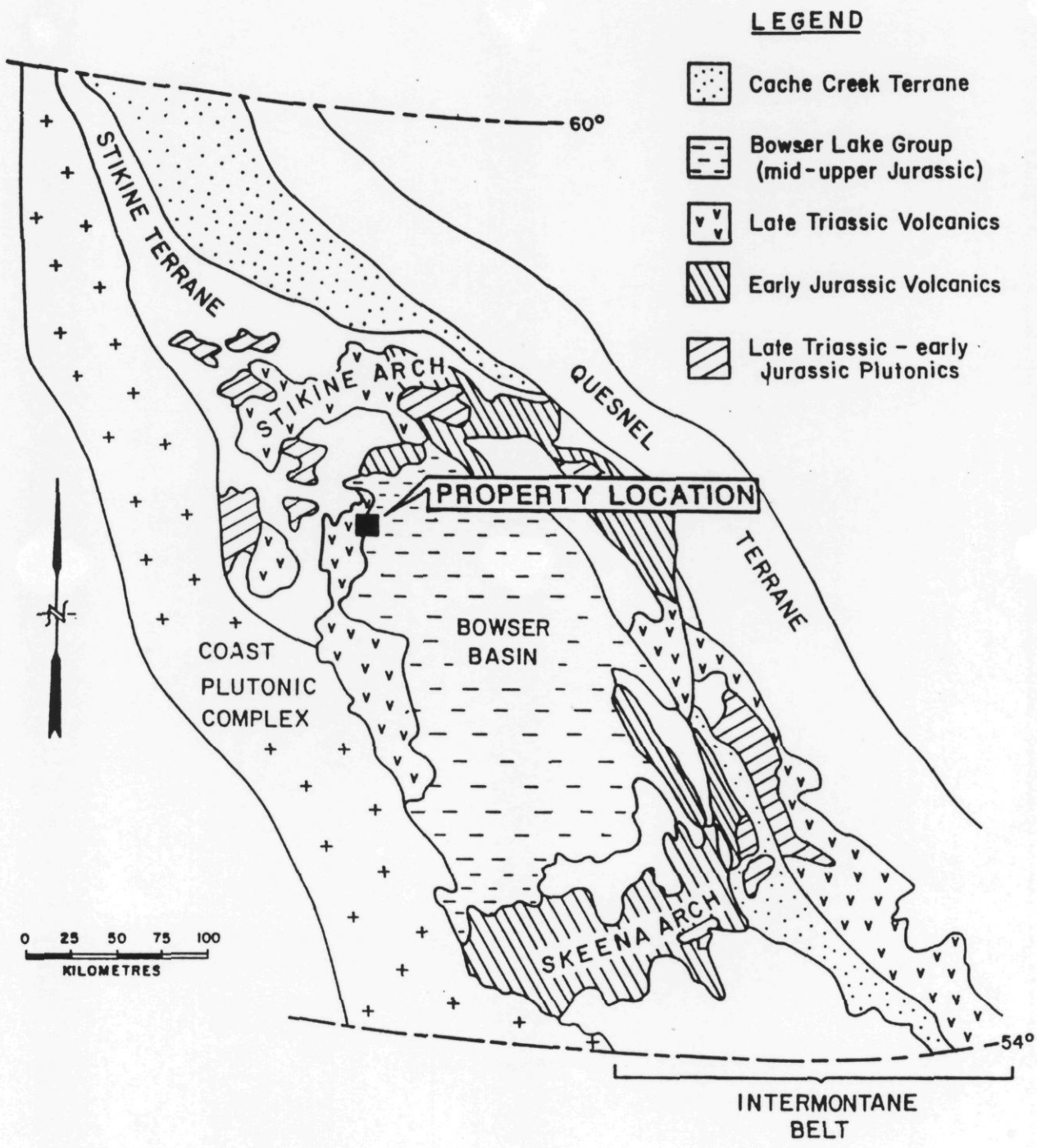
The assessment records (Korenic, 1982) indicate that Duval Corp. undertook a regional heavy mineral survey in the Unuk River area in 1981.

REGIONAL GEOLOGY

The property lies within the Intermontane Tectono-Stratigraphic Belt, one of five parallel northwest-southeast trending belts which comprise the Canadian Cordillera (Figure 3). The Gracey property occurs near the contact between the Stikine Terrane, which makes up most of the western part of the Intermontane Belt, and the unmetamorphosed sediments of the Bowser Basin.

The Unuk River area (Figure 4) is underlain by a thick succession of Upper Triassic to Lower Jurassic volcano-sedimentary arc complex lithologies capped by Middle Jurassic marine basin lithologies. This package has been intruded by a variety of plutons representing at least four intrusive episodes spanning late Triassic to Tertiary time. These include synvolcanic plugs, small stocks, dyke swarms, isolated dykes and sills, as well as batholiths belonging to the Coast Plutonic Complex.

The stratigraphic sequence has been folded, faulted, and weakly metamorphosed during Cretaceous time, but some Triassic strata are polydeformed and may record an earlier deformational event. Remnants of Pleistocene to Recent basaltic flows and tephra are preserved locally.



REGIONAL GEOLOGY
BOWSER BASIN
NW BRITISH COLUMBIA

(Outline of terrane boundaries and major rock groups of the Jurassic and Triassic – modified from Thomson, 1985).

Figure 3

KEEWATIN ENGINEERING INC.

LEGEND

INTRUSIVE ROCKS

Eocene		King Creek Dyke Swarm
		Coast Plutonic Complex
		Lee Brant Stock
Jurassic		Lehto Porphyry
L Jurassic to U Triassic		Diorite and Gabbro: Nickel Mountain (nm) John Peaks (jp) Melville (mv) Max (mx)
U Triassic		Meta-quartz-diorite

STRATIFIED ROCKS

Recent to Pleistocene		Basalt Flows and Tephra
M Jurassic	4	Marine-basin Turbidites
	3	Felsic Pyroclastics
L Jurassic	2 D V S	D = Dacite Marker V = Andesitic Volcanics (with <40% sediments)
U Triassic	1 V S	S = Sediments (with <40% volcanics)

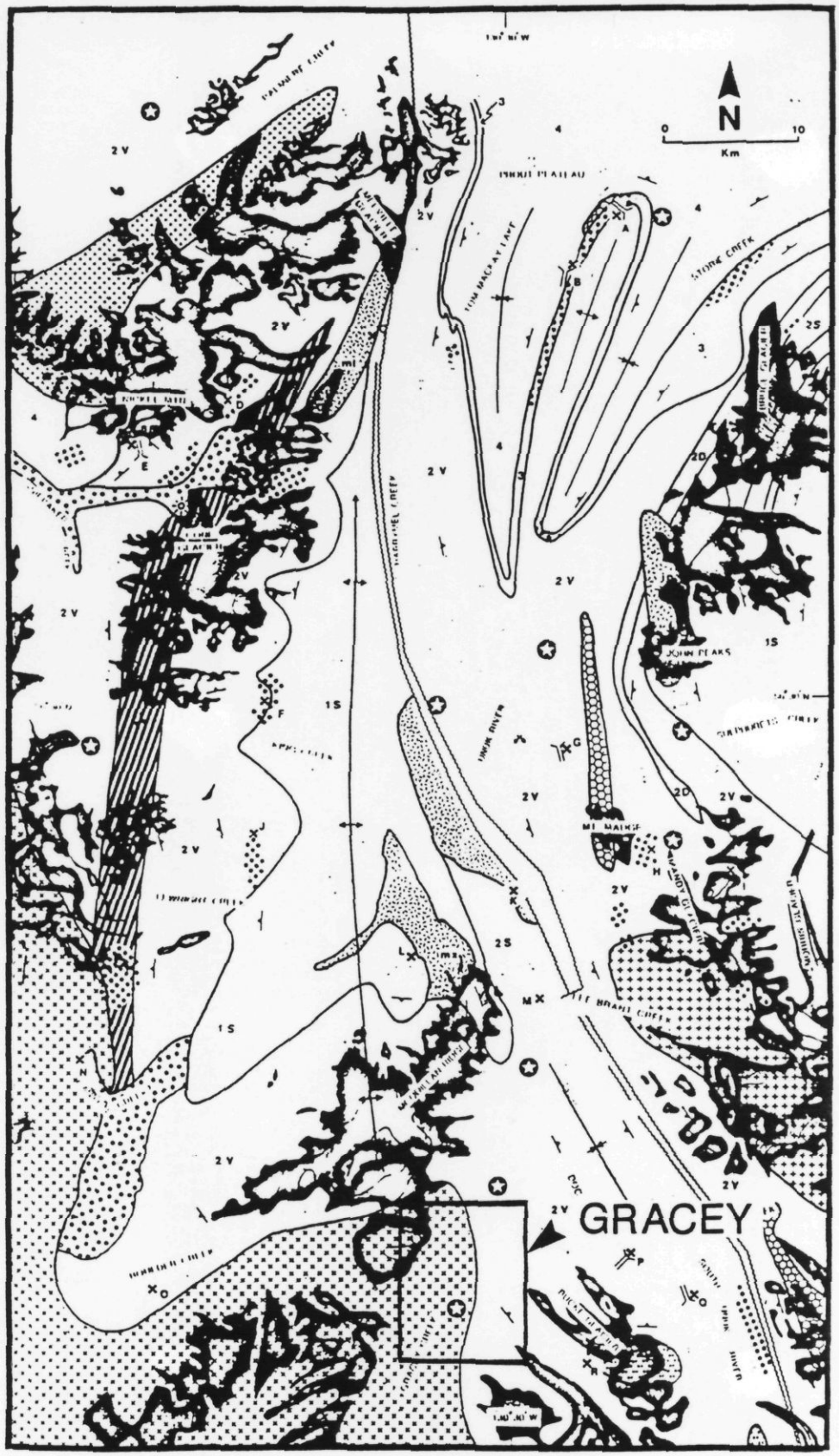
SYMBOLS

- Compositional layering (bedding; foliation)
- Contact
- Anticline; syncline
- Harrymel-South Unuk shear
- Pillow lavas
- Recent volcanic vent
- Gossan
- Adit
- Stream sediment gold values >90th percentile
- Mineral occurrence
- Placer occurrence

MINERAL OCCURENCES

	NAME	COMMODITY
A	Emma	Au,Ag,Pb,Zn,Cu
B	MacKay	Au,Ag,Pb,Zn,Cu
C	Copper King	Cu,Fe
D	Colagh	Cu
E	*E&L Nickel*	*Ni,Cu*
F	Cole	Cu,Au,Ag
G	Cumberland/Daly	Au,Ag
H	Mt. Madge (C-10)	Au,Ag,Zn
I	Mt. Madge (GFJ)	Au,Ag,Cu,Zn
J	VV	Cu,Mo,Au,Ag
K	Chris & Anno	Cu,Fe
L	Max	Fe,Cu
M	Unuk Jumbo	Fe,Cu
N	Black Bear	Au,Pb,Zn
O	Boulder Creek	Pb,Zn,Au,Cu
P	Doc	Au,Ag,Pb,Cu
Q	Globo	Au,Ag,Pb,Cu
R	Alf	Au,Ag

NOTE: Not to scale



Geology and mineral deposits, Unuk map area.

Modified after Britton et. al. (1989)

PROPERTY GEOLOGY

Figure 4

PROPERTY GEOLOGY

Regional geological mapping by Britton et al.(1989) shows that the Gracey property is underlain on the west by the Coast Plutonic Complex, and on the east predominantly by the Lower Jurassic Unuk River Formation (Figure 5). Recent field work on the nearby Doc prospect, along with recent fossil dating, has assigned a Late Triassic age to some of these rocks. These strata may be correlative with the Stuhini Group. The Unuk River Formation, which consists of andesitic volcanics with lesser sediments, is locally intruded by Middle Jurassic or younger diorite dykes and syn- to post-volcanic intrusions.

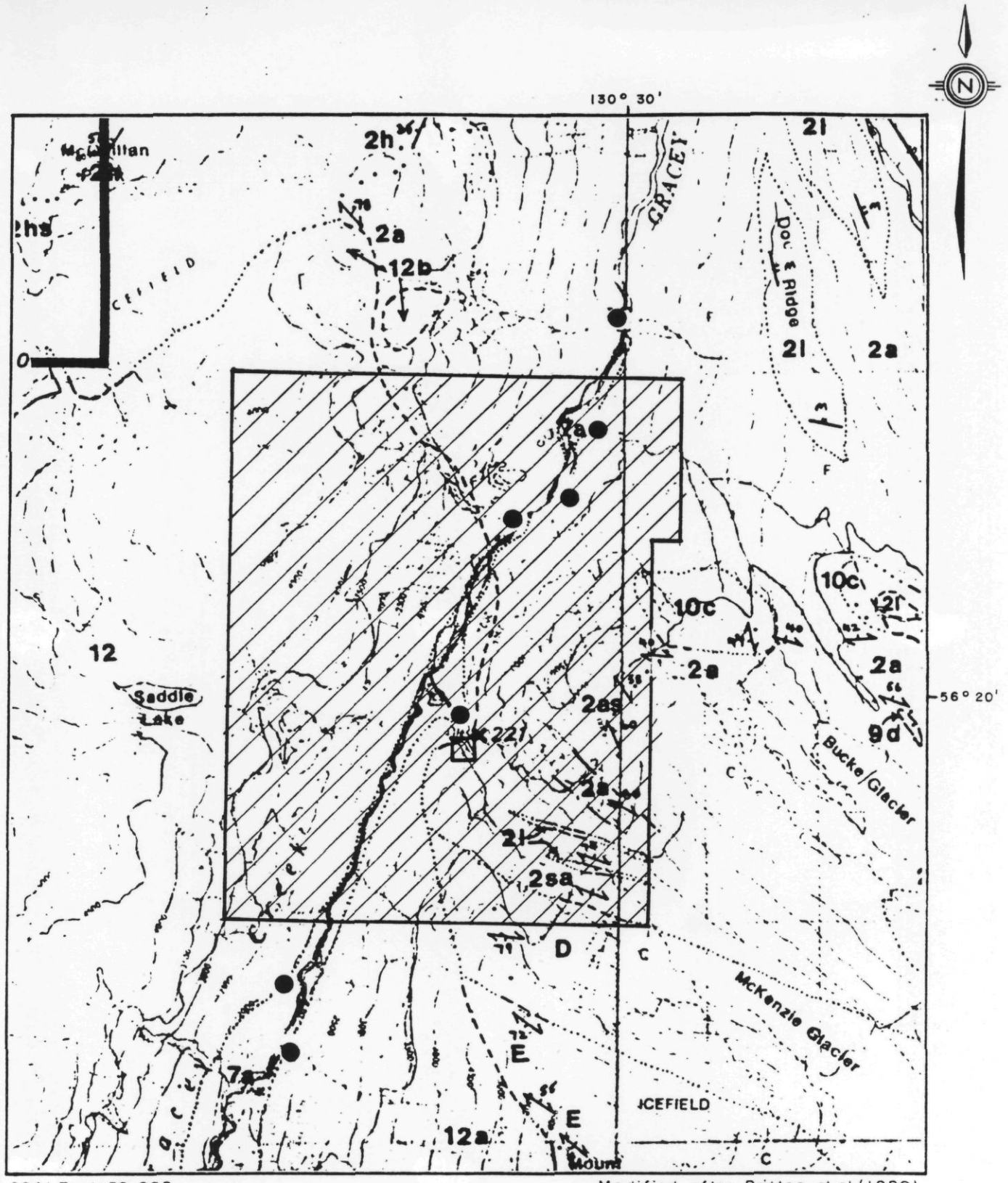
The southeastern corner of the property is underlain by hornblende-plagioclase mylonite and gneisses, the metamorphosed equivalents of the Unuk River Formation or the Stuhini Group.

Upper Triassic Stuhini Group (Unit 1)

The Stuhini Group rocks occupy the nose of a north-plunging anticline, and occur as a wedge between the Harrymel-Unuk shear zone and the overlying Unuk River Formation. These rocks are not mapped on the property, but recent field work on the nearby Doc prospect indicates that they may occur in the area. The Stuhini Group consists of thin bedded siltstones, immature fine-grained wackes, chert, impure limestones, and andesitic tuffs that locally attain a considerable thickness. Andesitic tuffs may be laminated to massive, aphanitic to hornblende-feldspathic. Limestones occur as thin beds or discontinuous lenses that show extensive recrystallization and highly disrupted internal structure. Fossil evidence led Britton et al.(1989) to ascribe a Carnian to Norian age to these rocks.

Upper Triassic to Lower Jurassic Unuk River Formation (Unit 2)

Britton et al.(1989) described this sequence as green and grey intermediate to mafic volcaniclastics and flows with locally thick interbeds of fine-grained immature sediments. The volcanics are reported to be dominantly massive to poorly bedded plagioclase (± hornblende) porphyritic andesite. The sediments are predominantly grey, brown, and green thinly bedded tuffaceous siltstone and fine-grained wacke. These Norian to Sinemurian age rocks of the Unuk River Formation constitute the lowermost unit of the Hazelton Group. The basal contact with Triassic strata appears to lie near the top of a thick sequence of clastic sedimentary rocks. Neither an angular unconformity nor a widespread conglomerate marks the lower contact. Government regional geological mapping and mapping completed during the 1989 property exploration program indicate this unit underlies the eastern portion of the property.



GRACEY

PROPERTY GEOLOGY

Figure 5

LEGEND

INTRUSIVE ROCKS

TERTIARY

13 *POST-TECTONIC DYKES*

- 13a *Lamprophyre, andesite, diabase (Hanson not shown)*
- 13b *King Creek Dyke Swarm: feldspar porphyry dacite, andesite, diabase, quartz diorite*
- 13c *Hawilton monzonite: fine-grained leuco-monzonite*

12 *COAST PLUTONIC COMPLEX*

- 12a *Biotite granite*
- 12b *Hornblende-biotite quartz diorite*
- 12c *Lee Brent Stock: K-feldspar porphyry, hornblende-biotite quartz monzonite*

JURASSIC

11 *NICKEL MOUNTAIN GABBRO: metamorphic olivine-pyroxene gabbro*

10 *SYN TO POST-VOLCANIC INTRUSIONS: Porphyritic to phaneritic textured; possibly hypabyssal equivalents of intrusive rocks*

- 10a *Leiste Porphyry: K-feldspar-plagioclase-hornblende porphyry granodiorite to syenite*
- 10b *Bare Lake Dyke: fine- to medium-grained hornblende diorite*
- 10c *Andesite-Diorite Complex: metamorphic, fine- to medium-grained dikite with abundant xenoliths of dark green meta-andesite; (possibly Triassic)*

9 *UNUK RIVER DIORITE SUITE: medium- to coarse-grained, mafic to intermediate stocks*

- 9a *John Peaks metamorphic hornblende diorite*
- 9b *Mac biotite-hornblende diorite; quartz diorite*
- 9c *Mallalite hornblende-biotite diorite to quartz diorite*
- 9d *Dee Ridge biotite monzodiorite*

TRIASSIC

8 *BUCKE GLACIER STOCK: light grey, gneissic to foliated, medium-grained hornblende-biotite quartz diorite*

METAMORPHIC ROCKS

A - F *METAMORPHIC EQUIVALENTS OF UNITS 1, 2 OR 3*

- *A Metapelite: dark grey, carbonaceous quartz-feldspar-sericite phyllite*
- *B Felsic metavolcanics: light green,quartz-albite-chlorite-sericite phyllite; locally with deformed lapilli*
- *C Mafic to intermediate metavolcanics: dark green, plagioclase-chlorite phyllite*
- *D Hornblende-plagioclase mylonite; mylonitic meta-tuff*
- *E Hornblende-plagioclase gneiss; agmatitic migmatite*
- *F Strongly sheared rocks within the Unuk-Harrymel fault zone*

GOSSANOUS ALTERATION ZONES

Pyrite ± quartz ± sericite ± carbonate ± clay; locally foliated to schistose

Disseminated pyrite in felsic volcanics

VOLCANIC AND SEDIMENTARY ROCKS

(Note: No stratigraphic order is implied within sequences.)

QUATERNARY

RECENT

17 *UNCONSOLIDATED SEDIMENTS*

- 7a *Alluvium, glaciofluvial deposits, landslide debris, moraine*
- 7b *Alluvium undivided by Pleistocene to Recent basalt*

PLEISTOCENE TO RECENT

6 *BASALT FLOWS AND TEPHRA*

- 6a *Dark grey to black, basalt flows and tephra; minor pillow lavas*
- 6b *Basalt tephra*

TRIASSIC TO JURASSIC

HAZELTON GROUP

MIDDLE JURASSIC (TOARCIAN TO BAJOCIAN)

5 *SILTSTONE SEQUENCE (Salmon River Formation): Dark grey, well-bedded siltstone with minor sandstone and conglomerate.*

- 5c *Chert pebble conglomerate and arenite*
- 5t *Rhythmically bedded siltstone and shale (turbidite)*
- 5w *Thinly bedded wacke*
- 5p *Andesitic pillow lavas and pillow breccias with minor siltstone interbeds*

LOWER JURASSIC (TOARCIAN)

4 *FELSIC VOLCANIC SEQUENCE (Mount Dilworth Formation): Light weathering, intermediate to felsic pyroclastic rocks, including dust, ash, crystal and lithic tuffs, lapilli tuff. Locally pyritiferous (5 to 15%) and gossanous. Minor chalcedonic quartz veins locally.*

- 4a *Variably bedded airfall tuffs*
- 4f *Massive felsic tuff*
- 4r *Black and white, carbonaceous felsic volcanics; locally flow banded and autobrecciated*

LOWER JURASSIC (PLIENSBACHIAN TO TOARCIAN)

3 *PYROCLASTIC-EPICLASTIC SEQUENCE (Betty Creek Formation): Heterogeneous, grey, green, locally purple or maroon, massive to bedded pyroclastic and sedimentary rocks; pillow lava*

- 3a *Green and grey, massive to poorly bedded andesite*
- 3d *Grey, green and purple dacitic tuff, lapilli tuff, crystal and lithic tuff; massive to well bedded; feldspar phyric*
- 3f *White weathering, felsic tuffs and breccias with quartz stringers*
- 3c *Andesitic lapilli tuff with pink siliceous clasts*
- 3p *Andesitic pillow lavas and pillow breccias with minor siltstone interbeds*
- 3t *Black, thinly bedded siltstone, shale and argillite (turbidite)*

UPPER TRIASSIC TO LOWER JURASSIC (NORIAN TO SINEMURIAN)

2 *ANDESITE SEQUENCE (Unuk River Formation): Green and grey, intermediate to mafic volcaniclastics and flows with locally thick interbeds of fine-grained immature sediments; minor conglomerate and limestone*

- 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*
- 2s *Grey, brown and green, thinly bedded, tuffaceous siltstone and fine grained wacke*
- 2t *Black, thinly laminated siltstone (turbidite); shale; argillite*
- 2g *Dark grey, matrix-supported conglomerate with granitic cobbles*
- 2l *Grey, variably bedded limestone (completely recrystallized along South Unuk valley)*

TRIASSIC

STUHINI GROUP

UPPER TRIASSIC (CARNIAN TO NORIAN)

1 *LOWER VOLCANOSEDIMENTARY SEQUENCE: Brown, black and grey, mixed sedimentary rocks interbedded with medium to dark green, mafic to intermediate volcanic and volcaniclastic rocks*

- 1t *Grey to black, thinly bedded siltstone, shale, argillite (turbidite)*
- 1w *Brown and grey, fine grained tuffaceous wacke; minor siltstone or conglomerate*
- 1l *Grey, impure, silty, sandy limestone*
- 1a *Green, fine-grained, andesitic ash tuff; feldspar and hornblende phyric*
- 1b *Dark green basalt*
- 1p *Grey and green, andesitic breccia with augite-hornblende-plagioclase clasts and augite-rich matrix*

SYMBOLS

- Geological boundary (defined, approximate, assumed)
- Bedding, tops known (horizontal, inclined, vertical, overturned)
- Bedding, tops unknown (horizontal, inclined, vertical)
- Bedding, estimated dip (gentle, moderate, steep)
- Stratigraphic tops in pillow volcanics
- Compositional layering in metamorphosed rocks; foliation (inclined, vertical)
- Trend line
- Regional anticline; syncline
- Antiform; synform (normal, overturned)
- Minor fold axis with M, Z or S symmetry; with plunge
- Fault (defined, assumed; D = downthrown side)
- Thrust fault (defined, assumed; teeth on upper plate)
- Air photo lineament
- Fossil locality (F)
- Flamme (f)
- Area with more than 40% Tertiary dykes
- Limit of major phyllite zone
- Volcanic vent (observed, assumed)
- Geologic station
- National geochemical reconnaissance sample site — 871365 (0.8,48,3.8,11); Sample No. (Ag ppm, As ppm, Sb ppm, Au ppb)
- Potassium-argon isotope age site; H = hornblende; age in millions of years before present
- Mineral occurrence: MINFILE number — X83

AGE	GROUPS	FORMATIONS	MEMBERS	LITHOLOGIES
Bathonian	Bowser Lake	Ashman	Main Sequence	Turbidites, wackes, intraformational conglomerates
			Basal Conglomerate	Chert pebble conglomerates
Bajocian to Toarcian	Spatsizi(?)	Salmon River	Pyjama Beds	Thin bedded, alternating siltstones and mudstones
			Basal Limestone	Gritty, fossiliferous limestone
Toarcian	Hazelton	Mount Dilworth	Upper Lapilli Tuff	Dacitic lapilli tuff with flow-bandedd clasts
			Middle Welded Tuff	Dacitic welded ash flow and lappilli tuff
			Lower Dust Tuff	Dacitic dust tuff
Pliensbachian		Betty Creek	Sedimentary Members	Hematitic volcaniclastic sediments, and turbidites
			Volcanic Members	Andesitic to dacitic tuffs and flows
Sinemurian to Hettangian(?)		Unuk River	Premier Porphyry	Two feldspar + hornblende porphyritic tuffs
			Upper Andesite	Massive tuffs with local volcaniclastic sediments
			Upper Siltstone	Turbidites, minor limestones
			Middle Andesite	Massive tuffs and minor volcaniclastic sediments
			Lower Siltstone	Turbidites
			Lower Andesite	Massive to bedded ash tuffs
Norian to Carnian	Stuhini		Volcanic Members	Pyroxene porphyry flows and tuffs
			Sedimentary Members	Turbidites, limestones, conglomerates

TABLE 1. Table of Formations Unuk River Area

Upper Jurassic Andesite-Diorite Complex (Unit 10c)

Britton et al.(1989) described this unit as melanocratic, fine- to medium-grained diorite with abundant xenoliths of dark green meta-andesite and described these rocks as possibly hypabyssal equivalents of extrusive rocks.

Eocene and possibly Jurassic Coast Plutonic Complex (Unit 12)

Britton et al.(1989) described the intrusions as ranging in composition from biotite granite to biotite-hornblende quartz diorite. Numerous discrete stocks are probably present. The country rock contacts are reported to be sharp, discordant, and thermally metamorphosed. The age of these intrusives is Eocene, but the complex may include remnants of Jurassic granitoids.

Metamorphic Rocks (Units D and E)

Britton et al.(1989) described these rocks as metamorphic equivalents to Units 1, 2, or 3. These rocks consist of hornblende-plagioclase mylonite and hornblende-plagioclase gneiss.

Structure

Actual fault surfaces or zones are rarely seen in the Unuk River area, but they are probably quite common and may have developed concurrently with regional folding. Britton et al.(1989) mapped several assumed faults to the north and west of the property. These are assumed to be normal faults and are described as megascopic structures with relatively little offset.

ECONOMIC GEOLOGY

Britton et al.(1989) list 55 mineral occurrences in the Unuk map-sheet. These showings are predominantly gold/silver occurrences and are hosted by a number of various lithologies. Most can be classified into one of four categories: stratabound, vein, skarn, and disseminations. Grove (1986) has determined that the age of the mineralizing events is variable and, notably, can be post-Triassic.

Stratabound mineralization consists almost exclusively of pyritic zones and lenses contained within a particular stratum or a restricted set of strata. The best example is the Eskay Creek prospect, currently being explored by Calpine Resources Incorporated and Consolidated Stikine Silver Ltd. Intrusive-contact (skarn) deposits show a close spatial and temporal relationship with igneous intrusions. Three deposits in this category are the E & L nickel/copper deposit (Minfile #006), the Max copper/iron skarn (Minfile #013), and the Chris-Anne copper/iron skarn (Minfile #125). Britton et al.(1989) stated:

> Mineralization at the E & L occurs within two medium- to coarse-grained, olivine-pyroxene gabbro bodies. These roughly triangular plugs are each approximately 1300 square metres in area and are probably connected. They intruded a sequence of argillites, tuffaceous siltstones, and grey dacitic ash tuffs that strike northwest with moderate to steep southwesterly dips. Mineralization consists of pyrrhotite, pentlandite, and chalcopyrite, with lesser amounts of pyrite and magnetite. In the northwestern gabbro, mineralization extends up to the contact with the sediments, whereas in the southeastern gabbro, mineralization is confined to the pluton. Diamond drilling has delineated pipelike pods and disseminations of sulphides to a depth of 120 metres. Drill-indicated reserves are 2.8 million tonnes of 0.7% Ni and 0.6% Cu (Sharp, 1965).
>
> The Max prospect lies on the northwest side of McQuillan Ridge, between the Unuk and South Unuk Rivers, at elevations between 455 and 1500 metres. Massive magnetite with lesser pyrrhotite and chalcopyrite occur in skarn-altered sedimentary rocks adjacent to a diorite stock. Garnet, epidote, actinolite, and diopside characterize the skarn assemblage. Drilling has indicated a reserve of 11 million tonnes at 45% iron (Canadian Mines Handbook 1973-1974, page 432).
>
> The Chris-Anne prospect lies approximately 3 kilometres east of the Max. Skarn mineralization is reported in limestone beds which are up to 10 metres thick and that are interbedded with volcaniclastics. Magnetite and pyrrhotite-rich layers, from 0.5 to 7 metres

thick, with minor chalcopyrite, extend over a distance of 1 km. There are minor intrusive bodies reported on the property. Grades range from 0.1% to 0.4% copper (Allan and MacQuarrie, 1981).

The gold potential of these skarn deposits does not appear to have been tested. Based on recent skarn studies (Ettlinger and Ray, 1988), this area has many features that are associated with gold-enriched skarns elsewhere in the province: sequences of calcareous and tuffaceous host rocks; structural deformation; intrusion by dioritic I-type granitoids; and contact metamorphism and recrystallization. Some auriferous skarns are enriched in cobalt, an element that may be a useful pathfinder.

High-grade precious metal quartz veins are the target of exploration programs at Mount Madge (Minfile #240 and #233) by Bighorn Development Corporation, and at the Doc prospect (Minfile #014) by Echo Bay Mines Limited. Britton et al.(1989) reported:

The Mount Madge prospects are located south of Sulphurets Creek near its confluence with Unuk River, on the east and west sides of Mandy Glacier. Two different targets are being evaluated (Kruchkowski and Sinden, 1988). On the west, the C-10 prospect (Minfile #240) is a stockwork of thin quartz veinlets, locally with thicker quartz lenses, in intensely altered, fine-grained tuffaceous andesite or dacite. Quartz veinlets locally form up to 30% of the rock. The alteration assemblage consists of quartz and sericite with up to 10% pyrite. Chalcopyrite and traces of sphalerite are also present. The rocks are strongly foliated to schistose and are very similar to the broad alteration zones seen at Brucejack Plateau 12 kilometres to the northeast (Britton and Alldrick, 1988). Soil samples locally return analyses in excess of 1 ppm gold.

Two kilometres to the east, Ken Konkin discovered a massive pyrite-siderite float boulder with visible gold. Prospecting uphill led to the discovery of the GFJ veins (Minfile #233), apparently flat-lying, zoned siderite-quartz-sulphide veins that returned assays up to 121 grams per tonne gold (Kruchkowski and Sinden, 1988). The veins are poorly exposed. Float blocks seen this year display symmetrical zoning from margin to core across vein widths of 10 to 15 centimetres. Vein margins are 1 to 2 centimetres of thin white quartz layers separated by hairline accumulations of very fine-grained tin-white sulphide, probably arsenopyrite. The core is a very coarse-grained intergrowth of siderite, milky quartz, and cubes and clusters of pyrite, with lesser amounts of sphalerite and chalcopyrite as crystals and irregular masses. Rare tetrahedrite and visible gold have been observed (K.Konkin, personal communication, 1988). The veins cut variably foliated andesitic ash tuffs with thin interbeds of foliated to schistose siltstones.

The Doc prospect (Minfile #014) is located at treeline on a ridge overlooking the South Unuk River, opposite the mouth of Divelbliss Creek. The prospect consists of several west-northwest trending quartz veins up to 2 metres wide that have surface strike lengths of up to 275 metres (Gewargis, 1986). The main veins (Q17, Q22) are massive white quartz with sparse sulphide mineralization (5% to 10%) consisting of galena, pyrite, chalcopyrite, and sphalerite, with associated specular hematite and magnetite. Precious metal values are mostly confined to the sheared edges of veins and immediately adjacent wallrock. Shear zones with very little quartz may also return good values. Seraphim (1948) observed that gold was associated with either specular hematite or with galena and pyrite, but not with chalcopyrite and pyrite assemblages. The veins are a true fissure type, crosscutting folded and metamorphosed andesitic tuffs and thin-bedded sediments, including marble, that have been intruded by irregular dioritic dykes or sills and small monzodioritic plugs. The veins are different from any others seen in the Sulphurets or Unuk map areas. They have very restricted wallrock alteration aureoles, no apparent zoning, and appear to be limited to a few large fluid pathways. In this, they display characteristics of mesothermal veins. Structural control of the vein sets has not been determined but may be due to fractures related to folds in the host rocks. Total mineral inventory of the Q17 and other veins is given as 426,000 tonnes with 9.26 grams per tonne gold and 44.91 grams per tonne silver (*Northern Miner*, November 7, 1988).

Porphyry-type disseminated pyrite, chalcopyrite, and molybdenite mineralization occurs immediately north and south of King Creek, west of Harrymel Creek. Two properties have been worked: the VV to the south and the Cole to the north.

The VV property (Minfile #079) is the site of a heavily weathered monzonitic intrusive body in fault contact, on the east and west, with layered andesitic lapilli tuffs and tuff breccias with minor siltstone and calcareous sandstone interbeds. The stock is 250 metres wide, at least 6 kilometres long, strikes northerly, and dips steeply to the west, parallel to the country rocks. Chalcopyrite occurs in quartz stockworks and as fine disseminations within the monzonite. Molybdenite, sphalerite, malachite, and azurite have also been reported (Winter and McInnis, 1975; Mawer et al.,1977). Representative assays give 0.34% copper, 0.003% molybdenum, 2.1 grams per tonne silver, and 0.8 gram per tonne gold. Maximum gold and silver values obtained were 8.65 grams per tonne gold and 19.54 grams per tonne silver (Mawer et al.,1977).

The Cole prospect (Minfile #209) is situated approximately 4 kilometres north of the VV claims; it appears to be on strike with the same fault system and has similar intrusive and country rocks. Mineralization consists of up to 10% pyrite as disseminations and fracture fillings. Minor chalcopyrite and malachite have been reported but the bedrock source of the gold/silver soil anomalies has not been located (Korenic, 1982; Gareau, 1983). Reported assays range up to 0.43% copper, 7.12 grams per tonne gold, and 13.03 grams

per tonne silver. Gold and copper values show a positive correlation on both properties.

At this time, the Eskay Creek prospect, located 36 km northeast of the Gracey property, is the most significant showing in the area. This prospect comprises at least eight mineralized zones occurring over a strike length of 1800 m within a sequence of felsic volcanics (Mount Dilworth Formation). This property is currently being explored by Calpine and Consolidated Stikine Silver. Preliminary drilling on the '21 Zone' intersected 96 feet assaying 0.752 oz/ton gold and 1.13 oz/ton silver including 52.5 feet grading 1.330 oz/ton gold and 1.99 oz/ton silver (*Northern Miner*, November 7, 1988).

The drilling results obtained to date indicate that the '21 Zone' extends over 335 m and is open along strike and at depth. Based on the results of 70 drill holes completed to June 1, 1989, a preliminary geological reserve of 2.8 million tons grading 0.23 oz/ton gold and 3.3 oz/ton silver was calculated for the '21 Zone' (Consolidated Stikine Silver, 1989 Annual Report). These deposits have been variously described as silicified shear zones (Harris, 1985) or as volcanogenic deposits (Donnelly, 1976). The mineralization is associated with disseminated sulphides in felsic volcanic breccias and graphitic argillites in contact with overlying intermediate volcanic rocks.

A review of all the available information (Minfile, assessment reports, geological maps, reports, etc.) indicates that one mineralized occurrence is known within the area currently covered by the Gracey property.

The Gracey Creek copper showing (Minfile #221) occurs east of Gracey Creek in the centre of the property near the contact with the Coast Plutonic Complex. Biotite schists of the Triassic gneissic unit and mylonite contain pyritic stringers with chalcopyrite.

The Doc prospect is located 2.5 km east of the Gracey property. This occurrence is hosted by folded and metamorphosed andesitic tuffs with interbedded sediments that have been intruded by irregular dioritic dykes or sills and small monzodiorite plugs.

Several mineralized veins, composed of milky white quartz, occur in a shear zone that cuts these rocks. The veins contain 5-10% sulphides with associated precious metals. Three different types of mineralization occur:

1. quartz veining with specularite and gold
2. quartz veining with galena, pyrite, and gold
3. quartz veining with chalcopyrite and pyrite; no precious metals

The main vein structure is about 2 m wide and has been traced for a distance of 270 m. The vein strikes at about 110°, the entire length of which carries specularite and galena with associated gold values.

Based on several hundreds of metres of underground drifting as well as hundreds of metres of surface and underground drilling, the total mineral inventory of the Doc prospect is estimated at 426,290 tonnes grading 9.26 grams/tonne gold and 44.91 grams/tonne silver (*Northern Miner*, Nov.7, 1988).

1989 EXPLORATION PROGRAM

The 1989 property exploration program, completed between September 9 and October 16, consisted of helicopter-supported reconnaissance prospecting, geological mapping, and geochemistry (lithogeochemical, stream silt, and heavy mineral sampling). Areas of known mineralization and gossans noted within the area were investigated and sampled.

A total of 35 rock and 7 heavy mineral samples were forwarded to Bondar-Clegg & Company in Vancouver for multi-element analyses; Au by fire assay-AA and the remaining 29 elements by I.C.P. (results are presented in the Appendix, along with rock sample descriptions).

The accompanying map depicts the property geology (modified after Britton et al.,1989), with 1989 prospecting traverses, sample locations, and Au/Ag/As/Sb analytical results. Descriptions of the exploration completed and the results follow.

ROCK GEOCHEMICAL SAMPLING

Reconnaissance prospecting and geochemical sampling were completed over selected parts of the property. This work was concentrated in areas of reported mineralization and gossans noted within the property.

Exploration conducted in 1988 by Quest Canada Exploration (Hrkac, 1989) located significant precious and base metals values near the northwest corner of the GRACEY 2 mineral claim. This area was re-examined during the current program to attempt to determine the extent of the mineralization.

The area is underlain by quartz-banded gneissic sandstone and siltstone exhibiting small-scale folding. The mineralization is apparently associated with a 50-70 cm wide siliceous zone. The two showings located are approximately 100 m apart and may be on the same zone. Trenching and channel sampling will have to be conducted to confirm the width and extent of the mineralization.

Grab samples confirmed the elevated to anomalous precious and base metals values, however, with a significantly lower gold content. A summary of the elevated to anomalous analytical results obtained along with the corresponding 1987 geochemical results follows:

Sample	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Cd ppm	
KCR-032	495	25.9	678	>10000	131	-	}
21354 ('87)	3150	57.9	1646	20843	128	-	} same sample site
21355 ('87)	1730	66.9	1436	18666	295	-	}
KCR-033	179	-	-	513	-	-	
KVR-057	95	2.7	-	1652	-	-	
KVR-058	124	-	-	-	-	-	
KCR-034	971	>50.0	-	>10000	>20000	760	} same sample site
21351 ('87)	56	17.0	662	7032	15243	-	}
KCR-035	716	12.9	-	9534	15181	418	

An aerial reconnaissance of the property noted extensive iron staining in the southeast portion of the GRACEY 2 claim. Reconnaissance prospecting found the area to be underlain by gneissic metasediments (quartzite, siltstone) with numerous quartz and quartz-carbonate veinlets up to 10 cm wide, the iron staining associated with weak sulphide (pyrite) mineralization within the

metasediments. A number of grab samples from the narrow quartz or quartz-carbonate veinlets yielded anomalous precious and base metals values, the mineralization associated directly with the veining. A summary of the anomalous analytical results obtained, along with brief sample descriptions, follows:

Sample	Au ppb	Ag ppm	Ba ppm	Pb ppm	Mo ppm	Cu ppm	Zn ppm	Bi ppm	Description
KOR-77	-	23.0	-	1074	549	866	859	-	2 cm qtz-carb vein
KYR-20	-	-	-	-	1733	-	-	-	Mo lining frac plane in 10 cm qtz veinlet
KYR-26	-	25.7	-	1878	1151	-	-	-	6-8 cm qtz veinlet, Mo lining frac plane
KYR-27	-	13.0	-	1083	-	-	-	-	qtz veinlet
KER-82	-	-	-	-	3838	-	-	-	2 cm qtz veinlet
KER-83	-	8.8	-	-	-	1293	-	-	qtz stringers & veinlets
KER-85	-	-	-	-	1551	-	-	-	2 cm qtz veinlet
KER-90	148	-	-	-	1102	-	-	-	10 cm qtz veinlet
KZR-73	-	18.0	>2000	-	-	-	-	-	4 cm qtz veinlet
KZR-74	-	5.1	-	-	-	-	-	-	10 cm qtz veinlet
KZR-75	-	45.0	-	2826	-	-	-	1213	10 cm qtz veinlet

The mineralized veinlets located indicate that the property may have potential for hosting a deposit similar to that found at the nearby Doc prospect in which precious metals mineralization is associated with several west-northwest trending quartz veins up to 2 m wide. Additional exploration work consisting of extensive prospecting combined with geological mapping, lithogeochemical sampling, and stream silt sampling is required in order to fully evaluate the property.

HEAVY MINERAL SAMPLING

A heavy mineral stream sediment sampling survey was conducted on the property as part of the current exploration program. Heavy mineral samples were collected in parts of a creek where there is a sudden transition from high to low energy, if present, moss mat was used. Samples were sieved to -20 mesh and a 3 to 5 kg sample of sieved material was collected.

The samples were forwarded to Bondar-Clegg and Company in Vancouver for multi-element analyses: Au by fire assay-AA and the remaining 29 elements by I.C.P. The heavy mineral separation consists of floating off the light (<3.3) minerals using methylene-iodine followed by magnetic separation. A sample weight of 0.5 grams is taken for the I.C.P. and the remainder used for fire assay.

The heavy mineral sampling survey was conducted by Mr. M. Waskett-Myers of Keewatin Engineering Inc. which company has done a considerable amount of work in the Unuk River area, and in the process, has assembled a fairly substantial data base. These data were used to assess the values obtained on the property.

Heavy mineral sampling is a good first-pass tool and should be considered as a micro-prospecting approach to evaluating an area.

A total of seven heavy mineral samples were collected from creeks draining the property area, east of Gracey Creek. Creeks sampled by Quest Canada Exploration in 1988 (Hrkac, 1989) were re-sampled because of possible poor sampling procedures by Quest as mentioned in their report. Although the anomalous gold values determined by the Quest survey were an order of magnitude lower, there was a good correlation between the two sets of results.

Three samples yielded significant gold values, one from a creek cutting across the GRACEY 2 claim and the other two from creeks draining the southeast portion of the GRACEY 4 claim: samples KWH-52 (461 ppb), KWH-50 (3197 ppb), and KWH-46 (1001 ppb). The remaining samples yielded background values for all the elements. The lack of correlation between the gold values and the base metals/arsenic/silver values suggests that the gold may be related to mineralized quartz veining.

Stream silt samples should be collected at regular intervals, combined with reconnaissance prospecting, along all the creeks draining the property area.

SUMMARY AND RECOMMENDATIONS

The 1989 exploration program consisted of helicopter-supported reconnaissance prospecting, geological mapping, and geochemical sampling, with the objective of evaluating the property's potential for hosting economic precious metals deposits and for the purpose of fulfilling the assessment requirements. A limited amount of reconnaissance prospecting combined with geological mapping and lithogeochemical sampling was completed over the GRACEY 2 mineral claim. This work was concentrated in areas of reported mineralization and gossans noted.

Two of the three showings located by Quest Canada Exploration in 1988 (Hrkac, 1989) were re-examined. The mineralization is associated with a 50-70 cm wide siliceous zone in quartz-banded gneissic sandstone and siltstone, located approximately 100 m apart and possibly on the same zone. Grab samples confirmed the elevated to anomalous precious and base metals values previously reported. Trenching, channel sampling, and additional geological mapping will have to be conducted to determine the width and extent of the mineralization.

Reconnaissance prospecting completed over the southeastern portion of the GRACEY 2 claim located gneissic metasediments (quartzite, siltstone) with numerous narrow quartz-carbonate veinlets up to 10 cm wide, the iron staining noted associated with weak sulphide (pyrite) mineralization within the metasediments. Lithogeochemical sampling yielded anomalous silver and elevated base metals values, the mineralization associated directly with the veining. Although these veinlets are two widely spaced and narrow to be of economic importance, they do indicate that the property may have potential for hosting a deposit similar to that found at the nearby Doc prospect, in which precious metals mineralization is associated with several west-northwest trending quartz veins up to 2 m wide.

A heavy mineral sampling program was completed over the eastern part of the property. Three samples yielded anomalous gold values. Sample KWH-52 (461 ppb Au) was collected from a creek cutting across the GRACEY 2 claim, samples KWH-50 (3197 ppb) and KWH-46 (1001 ppb) from creeks draining the southeast

portion of the GRACEY 4 claim. The lack of correlation between the gold values and the base metals/arsenic/silver values suggests that the gold may be related to mineralized quartz veining.

Considering the limited amount of exploration completed on the claims, additional work is required in order to fully evaluate the property's mineral potential. This work should consist of extensive reconnaissance prospecting, combined with geological mapping, lithogeochemical sampling, and stream silt sampling. Additional exploration should be completed over the areas of known mineralization to determine the width and extent of this mineralization, and in the drainage areas of the creeks from which heavy mineral sampling yielded anomalous gold values. All limonite-stained outcrops should be extensively prospected, and if warranted, sampled. The heavy mineral sampling survey should be extended to cover the remaining property area, and stream silt samples should be collected at regular intervals along all the creeks draining the property.

CERTIFICATE - C. H. Aussant

I, Claude Henry Aussant, of 31 Templebow Way N.E. in the City of Calgary in the Province of Alberta, do hereby certify that:

1. I am a Consulting Geologist with the firm of Taiga Consultants Ltd. with offices at Suite 400, 534 - 17th Avenue S.W., Calgary, Alberta.

2. I am a graduate of the University of Calgary, B.Sc.Geology (1976), and I have practised my profession continuously since graduation.

3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta; and I am a Fellow of the Geological Association of Canada.

4. I am co-author of the report entitled "Geological, Prospecting, and Geochemical Report on the **Gracey Property**, GRACEY 1 to 4 Claims, Skeena Mining Division, British Columbia", dated November 6, 1989. I personally worked on the property during the program described herein.

5. I do not own or expect to receive any interest (direct, indirect, or contingent) in the property described herein nor in the securities of **Kengate Resources Ltd.**, in respect of services rendered in the preparation of this report.

DATED at Calgary, Alberta, this 6th day of November, A.D. 1989.

PERMIT TO PRACTICE
TAIGA CONSULTANTS LTD.
Signature
Date January 19, 1990
PERMIT NUMBER: P 2990
The Association of Professional Engineers, Geologists and Geophysicists

Respectfully submitted,

C. H. Aussant, B.Sc., P.Geol., F.GAC

PROFESSIONAL GEOLOGIST ALBERTA
CLAUDE H. AUSSANT

GEOLOGICAL ASSOCIATION OF CANADA
C. H. AUSSANT
FELLOW

CERTIFICATE

I, DAVID GEORGE DuPRE, of 56 Parkgrove Crescent in the Municipality of Delta in the Province of British Columbia, do hereby certify that:

1) I am a graduate of the University of Calgary, B.Sc. Geology (1969), and have practised my profession continuously since graduation.

2) I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta; and I am a Fellow of the Geological Association of Canada.

3) I am a consulting geologist with the firm of Keewatin Engineering Inc. with offices at Suite 800 - 900 West Hastings Street, Vancouver, British Columbia.

4) I am the co-author of the report entitled "Geological, Prospecting, and Geochemical Report on the **Gracey Property**, GRACEY 1 to 4 Claims, Skeena Mining Division, British Columbia", dated November 6, 1989. I personally supervised the work on the property and visited the site on two occasions between September 6 and October 15, 1989.

5) I do not own or expect to receive any interest (direct, indirect or contingent) in the property described herein nor in the securities of **Kengate Resources Ltd.**, in respect of services rendered in the preparation of this report.

Dated at Vancouver, British Columbia this 6th day of November, A.D. 1989.

Respectfully submitted,

GEOLOGICAL ASSOCIATION OF CANADA · FELLOW · D. G. DuPRE

David G. DuPre, B.Sc., P.Geol., FGAC

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A P P E N D I X

Summary of Personnel
Rock Sample Descriptions
Certificates of Analysis
Analytical Techniques

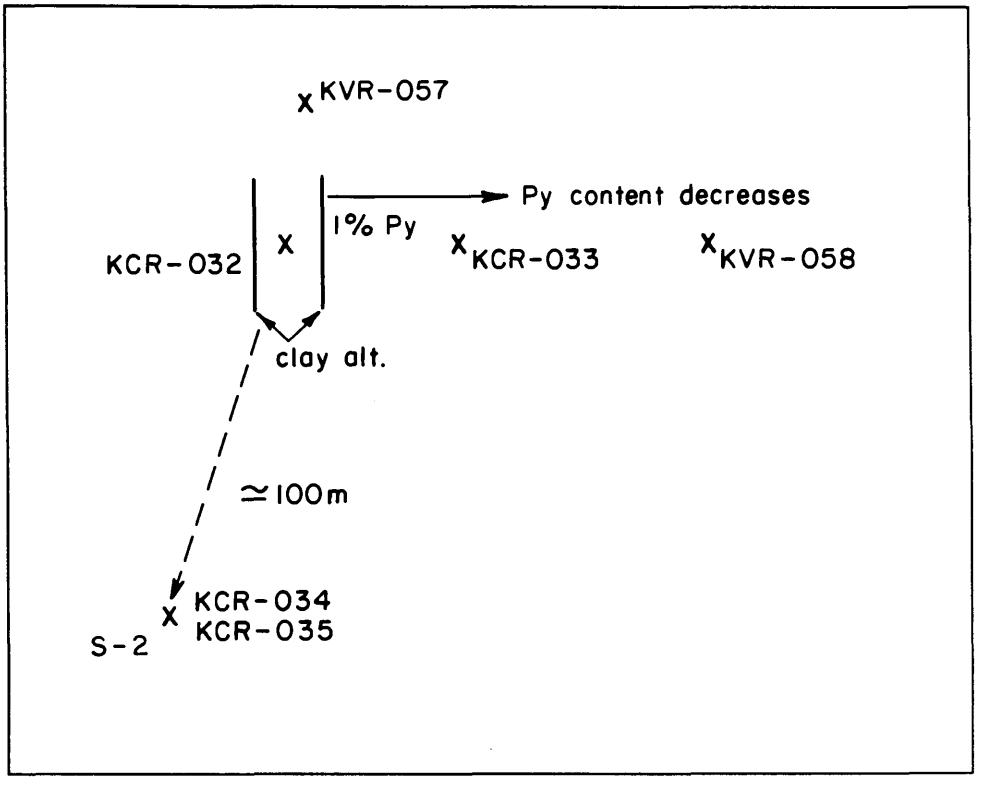
* *

SUMMARY OF PERSONNEL

Name / Address	Position	Dates	Man Days
C. H. Aussant Calgary, Alberta	Project Geologist	Sep.9-Oct.16	1.00
B. C. Beattie Calgary, Alberta	Assistant Geologist	Sep.9-Oct.16	1.00
M. Waskett-Myers Vancouver, B,C.	Geochemist	Sep.9-Oct.16	1.00
B. McIntyre Vancouver, B.C.	Senior Prospector	Sep.9-Oct.16	1.00
S. Hardlotte LaRonge, Sask.	Senior Prospector	Sep.9-Oct.16	1.00
Don McLeod LaRonge, Sask.	Senior Prospector	Sep.9-Oct.16	1.00
Dennis McLeod Stanley Mission, Sask.	Junior Prospector	Sep.9-Oct.16	1.00
Irvine Roberts Stanley Mission, Sask.	Junior Prospector	Sep.9-Oct.16	1.00
C. Oevermann Smithers, B.C.	Cook	Sep.9-Oct.16	1.00
		TOTAL	9.00

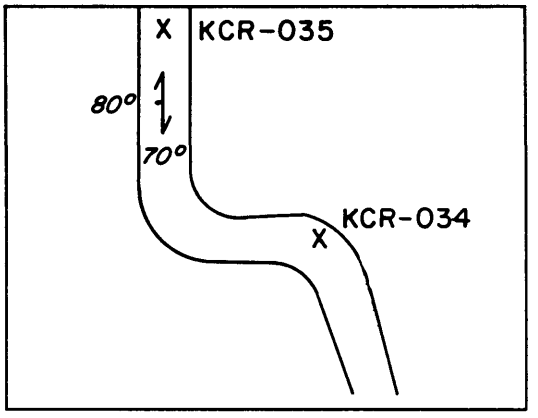
ROCK SAMPLE DESCRIPTIONS

	Au ppb	
KCR-032	495	25.9 ppm Ag, >10000 ppm Pb; grab o/c (same sample area as #21354, #21355); gneissic metasediments (mylonite), rusty weathered, well laminated, siliceous; 50 cm wide zone, 5-15% diss pyrrhotite, Pb, minor chalcopyrite, strongly magnetic, occasional quartz stringers crosscutting foliation apparently 060°, extent of mineralized zone not determined, would have to be trenched and channel sampled
KCR-033	179	grab o/c; gneissic metasediments (mylonite), beige, rusty weathered, siliceous, 1% diss pyrite, foliation trends indicate that there may be some folding occurring in this area, a fair amount of clay alteration is associated with the highly mineralized zone



KCR-034	971	>50.0 ppm Ag, >10000 ppm Pb, >20000 ppm Zn; grab o/c (same location as previous sample #21351); massive and disseminated galena associated with quartz veining in gneissic metasediments, minor chalcopyrite, 070°/80°N, weak gneissic foliation, numerous quartz veinlets pronouncing foliation, occ quartz and quartz-carbonate veinlets and stringers and random orientations cutting across foliation (#21351 - grab sample of a spottily rusty weathered quartz-banded gneissic sandstone)

	Au ppb	
KCR-035	716	12.9 ppm Ag, 9534 ppm Pb, 15181 ppm Zn; grab o/c; mottled green-grey gneissic sediments with numerous quartz veinlets parallel to and accenting foliation, 1% disseminated fine galena, minor pyrite, trace chalcopyrite



apparent width of the siliceous zone 70 cm, exhibits small-scale folding, biotite-rich along margins of zone, may be on same zone as KCR-032, KCR-033

KVR-057	95	1652 ppm Pb; grab o/c; gneissic metamorphosed sandstone, 2% diss Po/Py
KVR-058	124	grab o/c; gneissic metamorphosed sediments, diss Po
KVR-059	52	grab o/c; siliceous gneissic metasediments, pyrrhotite as disseminations and blebs, occ quartz-carbonate veinlets cross-cutting foliation
KVR-060	60	grab o/c; siliceous gneissic metasediments, 205% diss Po, small-scale folding noted
KZR-072	<5	grab o/c; narrow quartz-carbonate veinlet in silty sandstone, minor pyrite stringers in sediments, occ pyrite crystals on margins of the veinlet, inclusion of sediments in the quartz-carbonate
KZR-073	51	18.0 ppm Ag, >2000 ppm Ba; grab o/c; 4 cm quartz-carbonate veinlet, minor diss pyrite, trace galena (same location as KZR-072)
KZR-074	16	5.1 ppm Ag; grab o/c; quartz vein 10 cm wide, in metasediments, large clusters of pyrite, minor Pb
KZR-075	58	45.0 ppm Ag, 1213 ppm Bi, 2826 ppm Pb; float; qtz vein 10 cm wide, angular boulder, minor diss Pb, minor Mo, <1% Py

	Au ppb	
KZR-076	46	grab o/c; quartzite, weakly laminated, pyrite and 1% disseminations and occ crystals
KOR-073	24	grab o/c; weakly foliated (gneissic) metasediments, occ quartz stringers, minor diss pyrrhotite, trace pyrite
KOR-074	<5	grab o/c; pale grey and green quartzite, weakly laminated, weak foliation
KOR-075	7	grab o/c; same location as KOR-074; same description, minor pyrite crystals
KOR-076	21	grab o/c; quartzite, weak gneissic foliation, moderately laminated, occ quartz stringers, minor quartz flooding; disseminated Py/Po associated with flooding/stringers
KOR-077	33	23 ppm Ag, 1074 ppm Pb, 859 ppm Zn; grab o/c; metasediment, disseminated pyrite, minor Pb, in quartz-carbonate enriched band 2 cm wide
KER-082	27	3838 ppm Mo; grab o/c; dark grey metaquartzite, with 2 cm quartz veinlet containing massive Mo, Py, Po, stringers of Po
KER-083	83	8.8 ppm Ag, 1293 ppm Cu; grab o/c; quartz stringers and veinlets in metaquartzite, pyrrhotite stringers and disseminations
KER-084	<5	grab o/c; grey quartzite, minor disseminated pyrite, trace pyrrhotite
KER-085	10	1551 ppm Mo; grab o/c; 2 cm wide quartz veinlet in beige calcareous quartzite, minor disseminated Mo, pyrite
KER-086	27	grab o/c; metaquartzite, weak gneissic foliation, weakly laminated, 5-7% disseminated pyrite
KER-087	69	grab o/c; quartz vein 4 cm wide containing pyrrhotite as clusters and occ stringers, 15% sulphides
KER-088	<5	grab o/c; sucrosic quartz vein 14 cm wide, with minor pyrite and minor Pb along margins, clots of pyrrhotite within vein
KER-089	37	grab o/c; gneissic quartzite, weakly laminated, disseminated pyrite, occ Pb stringers
KER-090	148	1102 ppm Mo; grab o/c; quartz vein 10 cm wide, minor diss Mo, 1-3% pyrite

	Au ppb	
KYR-020	<5	1733 ppm Mo; grab o/c; 10 cm quartz veinlet with Mo lining fractures in the quartz; in a dark grey quartzite, <1% diss pyrrhotite, pyrite
KYR-021	<5	grab o/c; gneissic quartzite, weakly laminated, quartz veinlets parallel to laminations, 104°/80°NE, 1% diss pyrite, minor pyrrhotite
KYR-022	<5	grab o/c (same location as KYR-021); quartz veinlets parallel to laminations in weakly laminated gneissic quartzite, <1% disseminated pyrite, minor pyrrhotite
KYR-023	<5	grab o/c; grey quartz veinlet 2 cm wide, with 1% diss pyrite, minor Pb, minor pyrrhotite, in gneissic quartzite, 020°/060°E
KYR-024	<5	grab o/c; gneissic quartzite, moderately laminated, minor quartz stringers, minor pyrrhotite
KYR-025	<5	grab o/c; gneissic quartzite, moderately laminated, 1-3% disseminated pyrrhotite, minor pyrite
KYR-026	21	25.7 ppm Ag, 1151 ppm Mo, 1878 ppb Pb; grab o/c; white sucrosic quartz vein, 6-8 cm wide, strike 080°/60°S crosscutting foliation, Mo lining fractures, 1% disseminated pyrite
KYR-027	<5	13.0 ppm Ag, 1083 ppm Pb; grab o/c; sucrosic quartz vein, 080°/60°S crosscutting foliation, minor pyrite, 1-3% diss Pb, galena concentrated in clusters throughout the quartz

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A DIVISION OF ECTOR APPLIED INSPECTION & TESTING SERVICES

Geochemical Lab Report

REPORT: V89-06998.0

DATE PRINTED: 26-OCT-89

PROJECT: UNUK

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
R2 89KC-R 032 Gracie		495	25.9	59	16	<0.5	12	22	5	34	65	378
R2 89KC-R 033		179	0.9	10	29	<0.5	<2	1	5	15	76	48
R2 89KC-R 034		971	>50.0	66	24	<0.5	41	760	<5	42	119	290
R2 89KC-R 035 Gracie		716	12.9	27	13	<0.5	9	418	5	31	106	247
R2 89KO-R 073 Gracie		24	0.6	12	214	<0.5	5	4	<5	12	81	80
R2 89KO-R 074		<5	0.2	<5	13	2.2	2	5	11	4	44	4
R2 89KO-R 075		7	0.2	<5	27	2.4	3	2	14	6	59	18
R2 89KO-R 076		21	0.6	<5	185	<0.5	<2	<1	<5	10	78	46
R2 89KO-R 077 Gracie		33	23.0	73	60	<0.5	104	22	<5	27	15	366
R2 89KV-R 057 Gracie		95	2.7	15	18	<0.5	4	6	6	16	63	151
R2 89KV-R 058		124	0.5	9	68	<0.5	<2	<1	6	13	67	80
R2 89KV-R 059		52	1.8	10	65	<0.5	<2	1	8	20	57	62
R2 89KV-R 060 Gracie		60	1.2	19	63	<0.5	<2	<1	16	44	38	175

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R2 89KC-R 032		7	<1	4	16	5	123	10000	<20	24	2	<20
R2 89KC-R 033		10	2	2	25	7	60	513	<20	8	<1	<20
R2 89KC-R 034		11	<1	3	<1	6	22	10000	<20	68	<1	<20
R2 89KC-R 035		28	2	5	<1	15	21	9534	<20	41	<1	<20
R2 89KO-R 073		13	<1	16	34	5	17	369	74	6	10	<20
R2 89KO-R 074		11	4	3	<1	26	8	165	23	7	4	<20
R2 89KO-R 075		16	6	5	<1	27	13	117	40	6	6	<20
R2 89KO-R 076		18	<1	16	5	7	19	75	112	<5	8	<20
R2 89KO-R 077		13	<1	4	549	11	21	1074	<20	12	6	<20
R2 89KV-R 057		10	2	5	29	7	59	1652	<20	8	2	<20
R2 89KV-R 058		12	2	9	9	7	19	41	55	<5	8	<20
R2 89KV-R 059		8	2	9	4	4	32	148	80	<5	3	<20
R2 89KV-R 060		11	5	6	3	8	14	<2	57	9	2	<20

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Geochemical
Lab Report

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REPORT: V89-06998.0

PROJECT: UNUK

SAMPLE NUMBER	ELEMENT UNITS	Sr PPM	Ta PPM	Te PPM	V PPM	W PPM	Y PPM	Zn PPM	Zr PPM
R2 89KC-R 032		13	<10	<10	23	39	4	131	1
R2 89KC-R 033		10	<10	<10	19	61	5	32	3
R2 89KC-R 034		12	<10	19	18	245	2	20000	<1
R2 89KC-R 035		23	<10	<10	15	210	2	15181	2
R2 89KO-R 073		23	<10	<10	91	<10	6	215	<1
R2 89KO-R 074		57	<10	<10	28	<10	14	485	11
R2 89KO-R 075		73	<10	<10	31	<10	14	258	9
R2 89KO-R 076		66	<10	<10	72	<10	5	174	<1
R2 89KO-R 077		64	<10	<10	3	<10	9	859	<1
R2 89KV-R 057		14	<10	<10	80	30	5	158	1
R2 89KV-R 058		54	<10	<10	131	<10	5	36	<1
R2 89KV-R 059		24	<10	<10	66	<10	8	41	3
R2 89KV-R 060		22	<10	<10	99	<10	18	31	10

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 23-OCT-89

REPORT: V89-07562.0

PROJECT: UNUK Gracie

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
R2 KYR-20	Gracie	<5	1.0	10	53	<0.5	8	9	<5	16	137	178
R2 KYR-21		<5	0.8	9	128	<0.5	10	1	<5	17	108	109
R2 KYR-22		<5	0.7	8	105	<0.5	6	<1	<5	16	125	86
R2 KYR-23		<5	1.4	18	29	<0.5	21	<1	6	17	127	213
R2 KYR-24		<5	<0.2	<5	19	<0.5	3	<1	<5	12	41	61
R2 KYR-25		<5	0.8	21	25	<0.5	5	<1	8	25	69	343
R2 KYR-26		21	25.7	9	41	<0.5	145	2	<5	5	186	36
R2 KYR-27	Gracie	<5	13.0	<5	11	<0.5	84	<1	<5	1	215	7

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Geochemical Lab Report

DATE PRINTED: 23-OCT-89

REPORT: V89-07562.0 | PROJECT: UNUK | PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	Ga PPM	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM
R2 KYR-20		11	<1	15	233	9	19	53	34	10	5	<20
R2 KYR-21		15	<1	22	21	15	65	35	45	13	5	<20
R2 KYR-22		10	<1	11	12	5	13	19	85	11	6	<20
R2 KYR-23		12	<1	10	376	7	10	87	60	10	5	<20
R2 KYR-24		5	<1	8	5	17	20	10	<20	7	2	<20
R2 KYR-25		10	3	11	8	9	20	46	34	13	4	<20
R2 KYR-26		11	<1	4	151	10	7	1878	<20	6	2	<20
R2 KYR-27		<2	<1	1	317	<1	8	1083	32	<5	<1	<20

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REPORT: V89-07562.0 | PROJECT: UNUK | PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Sr PPM	Ta PPM	Te PPM	V PPM	W PPM	Y PPM	Zn PPM	Zr PPM
R2 KYR-20		17	<10	<10	45	<10	6	371	2
R2 KYR-21		102	<10	<10	92	<10	5	130	1
R2 KYR-22		15	<10	<10	66	<10	4	67	<1
R2 KYR-23		42	<10	<10	41	<10	5	51	<1
R2 KYR-24		108	<10	<10	28	<10	5	25	1
R2 KYR-25		18	<10	<10	58	<10	9	76	2
R2 KYR-26		40	<10	<10	8	<10	3	33	1
R2 KYR-27		3	<10	<10	<1	<10	<1	12	<1

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Geochemical Lab Report

DATE PRINTED: 23-OCT-89

REPORT: V89-06997.0

PROJECT: UNUK

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
R2 KE-R 082	Gracie	27	1.8	12	146	<0.5	15	4	<5	15	18	196
R2 KE-R 083		83	8.8	36	22	<0.5	13	4	<5	24	137	1293
R2 KE-R 084		<5	<0.2	5	6	<0.5	<2	<1	9	5	136	142
R2 KE-R 085		10	0.5	55	127	<0.5	7	<1	8	42	112	350
R2 KE-R 086		27	0.4	9	158	<0.5	8	<1	<5	77	200	668
R2 KE-R 087		69	1.6	18	33	<0.5	4	<1	<5	47	200	220
R2 KE-R 088		<5	<0.2	<5	26	<0.5	3	<1	<5	12	218	48
R2 KE-R 089		37	1.6	14	60	<0.5	5	<1	5	18	178	372
R2 KE-R 090		148	3.0	25	6	<0.5	5	<1	<5	16	176	174
R2 KZ-R 072		<5	0.2	20	679	<0.5	2	<1	13	12	54	75
R2 KZ-R 073		51	18.0	13	>2000	<0.5	<2	<1	<5	1	172	496
R2 KZ-R 074		16	5.1	29	46	<0.5	78	4	<5	66	166	424
R2 KZ-R 075		58	45.0	18	159	<0.5	>1213	10	<5	5	264	151
R2 KZ-R 076	Gracie	46	1.4	20	33	<0.5	10	<1	<5	12	62	803

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SAMPLE NUMBER	ELEMENT UNITS	Ga PPM	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM
R2 KE-R 082		9	<1	21	3838	5	4	65	63	11	5	<20
R2 KE-R 083		7	<1	6	34	5	63	60	36	11	2	<20
R2 KE-R 084		6	3	2	372	4	20	7	44	<5	1	<20
R2 KE-R 085		9	<1	2	1551	18	22	21	54	17	3	<20
R2 KE-R 086		13	<1	13	14	5	116	<2	80	17	19	<20
R2 KE-R 087		<2	<1	2	149	<1	33	<2	60	14	<1	<20
R2 KE-R 088		3	<1	3	82	2	8	4	<20	7	<1	<20
R2 KE-R 089		10	2	11	331	4	58	13	50	11	4	<20
R2 KE-R 090		4	<1	2	1102	2	39	20	<20	10	<1	<20
R2 KZ-R 072		7	3	3	7	15	19	16	79	12	7	<20
R2 KZ-R 073		7	<1	2	6	12	6	53	<20	15	3	<20
R2 KZ-R 074		3	<1	6	72	2	14	229	70	14	2	<20
R2 KZ-R 075		3	<1	6	58	6	10	2826	57	10	3	<20
R2 KZ-R 076		11	1	11	2	5	8	26	63	8	<1	<20

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SAMPLE NUMBER	ELEMENT UNITS	Sr PPM	Ta PPM	Te PPM	V PPM	W PPM	Y PPM	Zn PPM	Zr PPM
R2 KE-R 082		23	<10	<10	36	<10	4	175	<1
R2 KE-R 083		17	<10	<10	14	<10	2	244	<1
R2 KE-R 084		32	<10	<10	34	<10	6	9	1
R2 KE-R 085		178	<10	11	<1	<10	12	52	<1
R2 KE-R 086		35	<10	<10	233	<10	5	91	<1
R2 KE-R 087		10	<10	<10	11	<10	<1	6	<1
R2 KE-R 088		112	<10	<10	20	<10	<1	9	<1
R2 KE-R 089		11	<10	<10	157	<10	9	46	<1
R2 KE-R 090		3	<10	<10	46	<10	4	10	<1
R2 KZ-R 072		235	<10	<10	16	<10	10	61	<1
R2 KZ-R 073		228	<10	<10	6	<10	4	136	<1
R2 KZ-R 074		19	<10	<10	13	<10	2	81	<1
R2 KZ-R 075		21	<10	<10	19	<10	5	118	<1
R2 KZ-R 076		33	<10	<10	67	<10	2	48	<1

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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V89-06781.0 (COMPLETE)

REFERENCE INFO:

CLIENT: KEEWATIN ENGINEERING INC.
PROJECT: PARADIGM

SUBMITTED BY: TERRAMIN RES. LAB
DATE PRINTED: 4-OCT-89

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold - Fire Assay	93	5 PPB	FIRE-ASSAY	Fire Assay AA
2	Ag	Silver	93	0.2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
3	As	Arsenic	93	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
4	Ba	Barium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
5	Be	Beryllium	93	0.5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
6	Bi	Bismuth	93	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
7	Cd	Cadmium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
8	Ce	Cerium	93	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
9	Co	Cobalt	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
10	Cr	Chromium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
11	Cu	Copper	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
12	Ga	Gallium	93	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
13	La	Lanthanum	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
14	Li	Lithium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
15	Mo	Molybdenum	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
16	Nb	Niobium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
17	Ni	Nickel	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
18	Pb	Lead	93	2 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
19	Rb	Rubidium	93	20 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
20	Sb	Antimony	93	5 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
21	Sc	Scandium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
22	Sn	Tin	93	20 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
23	Sr	Strontium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
24	Ta	Tantalum	93	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
25	Te	Tellurium	93	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
26	V	Vanadium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
27	W	Tungsten	93	10 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
28	Y	Yttrium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
29	Zn	Zinc	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma
30	Zr	Zirconium	93	1 PPM	HNO3-HCL HOT EXTR	Ind. Coupled Plasma

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SUBMITTED BY: TERRAMIN RES. LAB
DATE PRINTED: 4-OCT-89

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
T STREAM SEDIMENT,SILT	41	1 -80	41	DRY, SIEVE -80	41
R ROCK OR BED ROCK	52	2 -150	52	CRUSH,PULVERIZE -150	52

REPORT COPIES TO: KEEWATIN ENGINEERING INC.
TAIGA CONSULTANTS LTD.

INVOICE TO: KEEWATIN ENGINEERING INC.

GRACIE PROPERTY

HEAVY MINERAL RESULTS

LAB NUMBER	FIELD NUMBER	LOCATI	Au(30g (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Be (ppm)	Bi (ppm)	Cd (ppm)	Ce (ppm)	Co (ppm)	Cr (ppm)	Cu (ppm)	Ga (ppm)	La (ppm)	Li (ppm)	Mo (ppm)	Nb (ppm)	Ni (ppm)	Pb (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)	Sn (ppm)	Sr (ppm)	Ta (ppm)	Te (ppm)	V (ppm)	W (ppm)	Y (ppm)	Zn (ppm)	Zr (ppm)
75770033	89 K WH47	GRA	18	0.4	19	135	-0.5	7	-1	-5	35	70	129	9	2	7	3	4	53	5	76	8	5	-20	43	-10	-10	127	-10	5	41	2
75770034	89 K WH48	GRA	1001	-0.2	9	51	-0.5	10	-1	6	24	91	46	13	5	8	4	5	43	6	-20	12	5	-20	44	11	-10	171	-10	6	45	2
75770036	89 K WH49	GRA	17	-0.2	8	43	-0.5	4	-1	6	16	63	35	11	4	10	2	5	33	6	29	8	4	-20	37	-10	-10	131	-10	5	38	2
75770037	89 K WH50	GRA	3197	-0.2	9	85	-0.5	10	-1	6	21	64	69	11	5	6	2	7	35	6	27	9	4	-20	49	-10	-10	98	12	6	34	3
75770038	89 K WH51	GRA	32	-0.2	7	51	-0.5	6	-1	6	21	78	56	11	3	9	3	6	34	5	25	11	4	-20	42	-10	-10	113	-10	6	35	2
75770039	89 K WH52	GRA	461	1	22	158	-0.5	13	-1	17	44	94	165	14	10	7	18	6	47	114	-20	12	5	-20	63	-10	-10	135	39	7	70	3
75770040	89 K WH53	GRA	6	0.2	-5	77	-0.5	6	-1	-5	12	100	88	15	2	6	2	7	54	7	-20	-5	3	-20	82	-10	-10	67	-10	4	40	2

GRACEY 3

GRACEY 4

GRACEY 1

GRACEY 2

GRACEY CREEK

Gossan

Gossan

Andesite Diorite Complex

873283(22,0.2,2,0.3)

KWH 47(18,0.4,19,8)

KWH 48(1001,<0.2,9,12)
873284(13,0.1,2,0.4)

KWH 49(17,<0.2,8,8)
873285(11,0.1,3,0.4)

KWH 50(3197,<0.2,9,9)

KWH 51(32,<0.2,7,11)

873286(60,0.4,8,0.4)
873287(570,0.4,7,0.5)

KWH 53(6,0.2,<5,<5)

KWH 52(461,1.0,22,12)

KCR 32(495,25.9,59,24)(>10,000 ppm Pb, 678 ppm Cu)
KCR 33(179,0.9,10,8)(513 ppm Pb)
KCR 34(971,>50.0,66,68)(>10 000 ppm Pb, 760 ppm Cd, >20 000 ppm Zn)
KCR 35(716,12.9,27,41)(9534 ppm Pb, 418 ppm Cd, 15,181 ppm Zn)

KVR 57(95,27,15,8)(1652 ppm Pb)
KVR 58(124,0.5,9,<5)
KVR 59(52,1.8,10,<5)
KVR 60(60,1.2,19,9)

Diorite dyke
1-1.5 m wide

6-8 cm Qtz vein
KYR 26(21,25.7,9,6)(1151 ppm Mo, 1878 ppm Pb)

KYR 25(5,0.8,21,13)

KYR 24(<5,<0.2,<5,7)

KYR 27(<5,13.0,<5,<5) Qtz vein (1083 ppm Pb)

KYR 23(<5,1.4,18,10) (3838 ppm Mo)

KYR 22(<5,0.7,8,11)

KER 82(27,1.8,12,11)
2 cm Qtz veinlet

KYR 21(<5,0.8,9,13)

KYR 20(5,1.0,10,10)(1733 ppm Mo)
10 cm Qtz veinlet

Qtz stringers & veinlets
KER 83(83,8.8,36,11)

KER 90(148,3.0,25,10)

KER 84(<5,<0.2,5,<5)
10 cm Qtz veinlet

KER 89(37,1.6,14,11)

KER 88(<5,<0.2,<5,7)
14 cm Qtz veinlet

KER 87(69,1.6,18,14)

KER 85(10,0.5,55,17) (1551 ppm Mo)
2 cm Qtz veinlet

4 cm Qtz veinlet
KER 86(27,0.4,9,17)

KZR 76(46,1.4,20,8)

Diorite dyke

(1074 ppm Pb, 866 ppm Cu, 549 ppm Mo, 859 ppm Zn)
KOR 77(33,23.0,73,12)
2 cm Qtz-carb. band
KZR 75(58,45.0,18,10)(1213 ppm Bi, 2826 ppm Pb)
10 cm Qtz vein
KZR 74(16,5.1,29,14)

KOR 73(24,0.6,12,6)
KOR 74(<5,0.2,<5,7)
KOR 75(7,0.2,<5,6)
KOR 76(21,0.6,<5,8)

KZR 73(51,18.0,13,15)(>2000 ppm Ba)
4 cm Qtz-carb. veinlet
KZR 72(<5,0.2,20,12)

Gneissic metasedimentary rocks
(Qtzite greywacke)

873288(3,0.1,0,0.1)

6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000

56°20'
SADDLE
LAKE

130°30'

N

LEGEND

Volcanic Sedimentary Rocks

Pleistocene to Recent

1 — Basalt flows and tephra: dark brown to black, minor pillow lavas

Lower Jurassic (Pleinsbachian to Toarcian)

2 — Betty Creek Formation: pyroclastic-epiclastic sequence, heterogeneous, grey-green, massive to bedded, pyroclastics and sedimentary rocks (black, thinly bedded siltstone, shale, and argillite)

Upper Triassic to Lower Jurassic (Norian to Sinemurian)

3 — Unuk River Formation: andesite sequence, green and grey, intermediate to mafic volcaniclastics and flows, with locally thick interbeds of fine-grained immature sediments, minor conglomerate, and limestone

Upper Triassic (Carnian to Norian)

4 — Stuhini Group: brown, black, grey; mixed sedimentary rocks (siltstone, shale, argillite, limestone, chert), with minor mafic to intermediate volcanics and volcaniclastic rocks

Intrusive Rocks

Tertiary

5 — King Creek Dyke Swarm: feldspar porphyry dacite, andesite, diabase, and hornblende to quartz diorite; limits of the unit shown indicate where the dykes exceed 50% of the exposed bedrock

9 — Hawilson Monzonite: fine-grained monzonite

6 — Coast Plutonic Complex: hornblende-biotite-quartz diorite to granodiorite

Jurassic

7 — Unuk River Diorite Suite:
a) Max: biotite-hornblende diorite, quartz diorite, granodiorite
b) Melville: hornblende-biotite diorite, quartz diorite

Metamorphic Rocks

8 — Metamorphic equivalents of Units 1, 2, or 3
a) hornblende, mylonite gneiss, mylonite
b) Unuk-Harrymel Fault Zone, strongly sheared rock within fault zone

SYMBOLS

- Geological contact (observed, assumed)
- Bedding with dip
- Foliation
- Regional anticline
- Fault (defined, assumed)
- Airphoto lineament
- ◇ Regional stream silt sample site (Au ppb, Ag ppm, As ppm, Sb ppm)
- ✱ Minfile mineral occurrence (Cu ppm, Pb ppm, Zn ppm, Au ppb, Ag ppm)
- x Rock sample - outcrop (Au ppb, Ag ppm, As ppm, Sb ppm)
- ▲ Rock sample - float (Au ppb, Ag ppm, As ppm, Sb ppm)
- ● Stream silt sample (Au ppb, Ag ppm, As ppm, Sb ppm)
- ■ Heavy mineral sample (Au ppb, Ag ppm, As ppm, Sb ppm)
- Trench

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,625

KENGATE RESOURCES LTD.

GRACEY PROJECT

GEOLOGY & 1989 EXPLORATION SAMPLE LOCATIONS & RESULTS

DATE: NOV. 1989	NTS: 104 B/7
PROJECT: GRACEY	
SCALE: 1:10,000	0 100 200 300 400 500 METRES
KEEWATIN ENGINEERING INC.	MAP No 1

SUMMARY OF EXPENDITURES

Personnel and Crew	$4,229.82
Transportation - helicopter/fixed wing/fuel	$2,900.60
Camp - food/accommodation	$ 903.75
Report/Drafting/Secretaries	$1,427.94
Total Expenditures	**$10,106.99**