83-#721 B - 11793

REPORT ON EXPLORATION DURING 1983
ON THE GOLDEN STRANGER PROPERTY

Omineca Mining Division

Latitude 57°16.5'N, Longitude 127°15.2'W
NTS 94E/6W

Prepared for

WESTERN HORIZONS AND REDFERN-SUTTON
JOINT VENTURE

by

WESTERN HORIZONS RESOURCES LTD.
AGASSIZ B.C.

November 30, 1983

K.E. Northcote Ph.D.,P.Eng.

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REPORT ON EXPLORATION DURING 1983 ON THE
GOLDEN STRANGER, COPPER KING-NAMERA IV,
DAVE PRICE, GORD DAVIES CLAIMS

INTRODUCTION

TERMS OF REFERENCE

Agreement was reached by Western Horizons Resources Ltd., Sutton Resources Ltd and Redfern Resources Ltd whereby Sutton-Redfern would provide funding for a joint venture exploration program during the 1983 field season on the GOLDEN STRANGER, GORD DAVIES, DAVE PRICE, McNAMERA claims owned by Western Horizons Resources Ltd. The exploration program was operated by Western Horizons and additional ground staked as mineral potential warranted and funding permitted.

FIELD PROGRAM

S.C.Gower, K.E.Northcote, geologists, and E.Thompson and B.K.Northcote assistants spent the period August 6th to 27th examining these claims. The 1983 program was directed towards discovery of new quartz-vein-breccia structures by geological reconnaissance, prospecting, sampling and where significant structures were discovered, detailed geological mapping and sampling. The field work will be supplemented by limited petrographic and mineral-graphic studies and assays of additional selected specimens.

This report outlines the results of the 1983 field program, conclusions and recommendations for continuing exploration where required.

LOCATION OF TOODOGGONE GOLD-SILVER DISTRICT

The centre of the Toodoggone gold-silver district is located 300 kilometres north of Smithers, at latitude 57°22.5'N and longitude 127°15'W; NTS 94E See Figure 1. The area extends 90 kilometers northwesterly from Thutade Lake to north of Stikine River. The central portion of this belt is shown on Figure 2.

Access to the area is by fixed wing from Smithers to the Sturdee River airstrip thence by road to the Baker and Lawyers properties or by helicopter to other properties in the Toodoggone gold-silver district.

The Toodoggone gold-silver district lies at the east edge of the Intermontane Belt adjacent to the Omineca Belt. An upland area, El. 2000 to 2300 metres (6500 to 7500 ft), is abundantly dissected by rivers and creeks heading in steep-walled cirques. The highest peak in the district is Mt. McNamera at 2523 metres (8278 ft). The lower valley bottoms range between 1150 to 1200 metres (3800 to 4000 ft.)

Exploration in the district is largely seasonal with activity beginning in mid May and ending mid October.

MINING HISTORY

Prospecting began in the Toodoggone district early in the 1930's and resulted in discovery of placer gold at Belle Creek but little gold was produced. Although lead-zinc mineralization in skarn near the head of Thutade Lake was discovered and staked at this time by Cominco, the search for the lode gold source resulted in no significant discoveries. Chappelle (Baker Mine) was discovered by Kennco Explorations (Western) Ltd. in 1968 while searching for porphyry copper-molybdenum deposits in the general area. Other companies engaged in

TOODOGGONE JOINT VENTURE

LOCATION OF TOODOGGONE GOLD-SILVER DISTRICT

FIGURE: 1.	SCALE: 1:10,000,000
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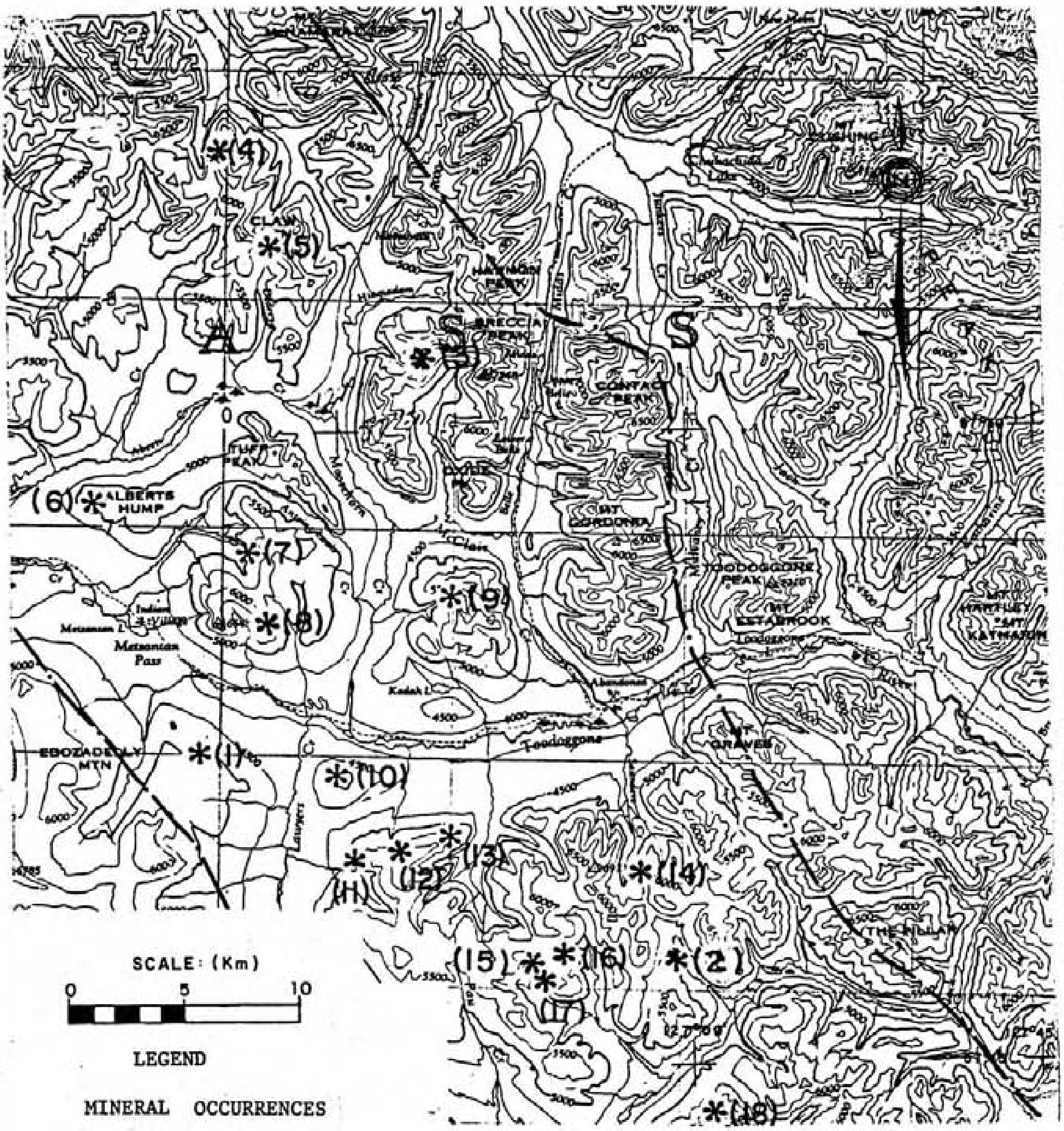

LEGEND

MINERAL OCCURRENCES

#1 GOLDEN STRANGER	#10 KODAH
2 DAVE PRICE	11 SILVER POND
3 GORD DAVIES	12 LAWYERS
4 COPPER KING	13 LAWYERS
5 CLAW MTN.	14 GOLDEN NEIGHBOUR
6 ALBERTS	15 BAKER
7 NORTH METSANTAN	16 BAKER
8 METSANTAN	17 BAKER
9 J.D.	18 SHA

TOODOGGONE JOINT VENTURE

LOCATION OF TOODOGGONE GOLD-SILVER DISTRICT MINERAL OCCURRENCES

FIGURE: 2.	SCALE: 1:250,000
DRAWN BY: P. STOECKLY	DATE: Oct. 83

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searching for porphyry deposits in the Toodoggone area during the period 1970 to 1982 include Conwest Exploration Ltd., Cordilleran Engineering Ltd., Cominco and Texas Gulf. This activity by companies and individuals resulted in discovery of significant gold and silver mineralization at Lawyers, Claw Mtn, Metsantan, J.D. (McClair), Sha and Remess properties. These and other properties of note are shown on Figure 2.

The Baker Mine (Cappelle) is in production with initial reserves of 120,000 tons 0.8 oz/ton Au,15.0 oz/ton Ag. At the present time S.E.R.E.M. is preparing the Lawyers property for production with reserves of approximately 400,000 tons 0.3 oz/ton Au and 4.0 oz/ton Ag.

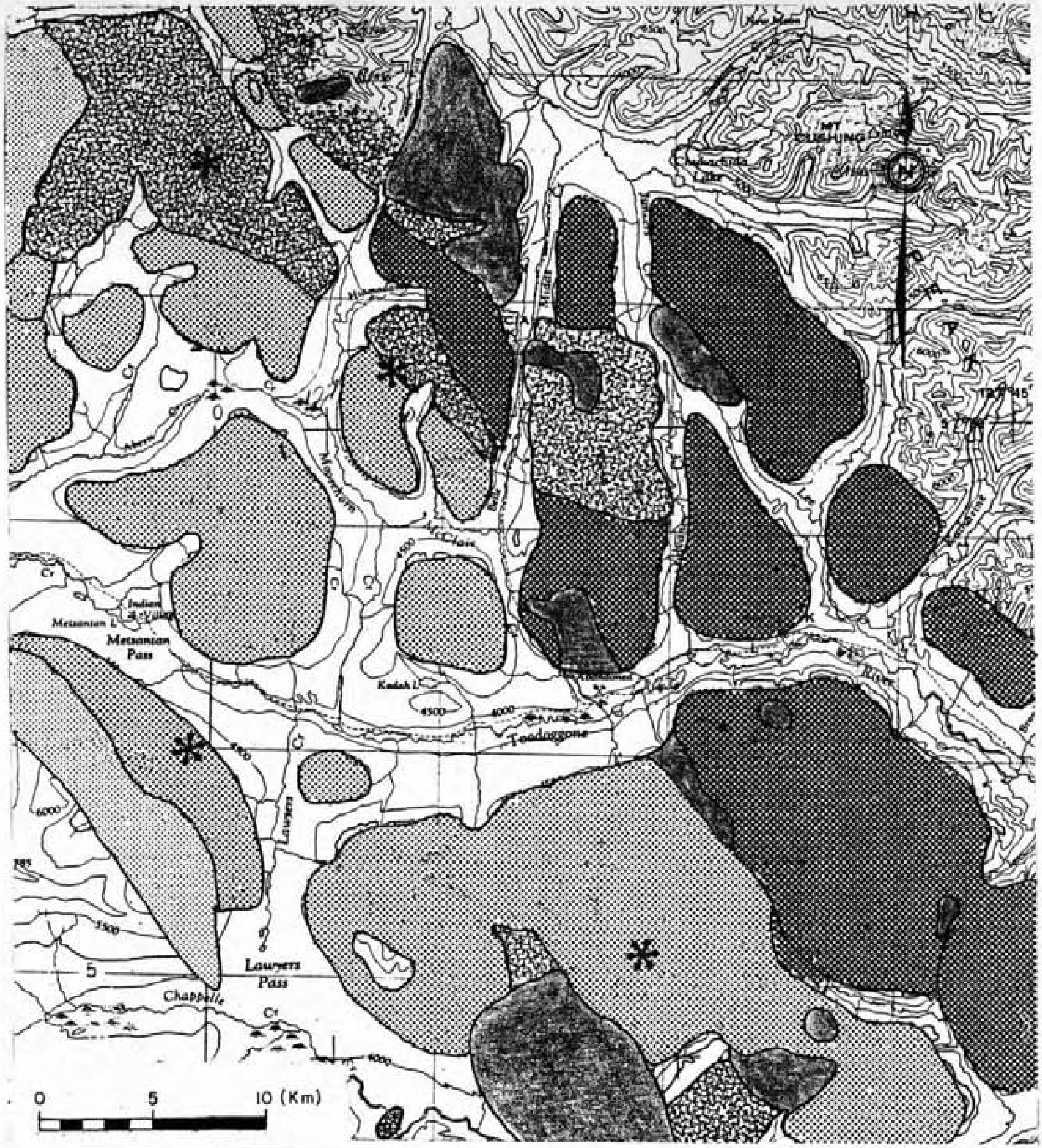
Exploration during the 1983 field season was carried out by S.E.R.E.M., Newmont, Kidd Creek (Texasgulf), Dupont, St. Joseph and Western Horizons. Total exploration expenditures of these companies in the Toodoggone area during 1983 are estimated to be 1.5 million dollars.

REGIONAL GEOLOGY

The Toodoggone mineral district, is underlain by a northwesterly trending belt 90 by 15 kilometres of sediments, volcanics and intrusives ranging in age from Paleozoic to Tertiary. Figure 3 shows that the Sustut Group (Upper Tertiary to Cretaceous) sediments, which form the west margin of the Toodoggone belt, unconformably overlie the Toodoggone volcanics (Hazelton Group, Lower Jurassic). To the east,and as fault blocks within Toodoggone volcanics, Takla Group (Upper Triassic) volcanics form a disrupted belt of faulted segments containing lesser fault blocks of Asitka (Permian) limestone. The Omineca Intrusions form the east margin of the Toodoggone belt.

STRUCTURAL SETTING

The geological framework of the Toodoggone gold-silver



LEGEND

- SUSTUT SEDIMENTS
- TOOGOGGONE VOLCANICS
- TAKLA VOLCANICS
- ASITKA SEDIMENTS (carbonate)
- OMINECA-RELATED INTRUSIVES

TOODOGGONE JOINT VENTURE	
GEOLOGY OF TOODOGGONE GOLD-SILVER AREA	
FIGURE: 3.	SCALE: 1:250,000
DRAWN BY: P. STOECKLY	DATE: Oct. 83
WESTERN HORIZONS RESOURCES LTD.	

camp is a result of comagmatic intrusive-volcanic-hydrothermal processes occurring along deep-seated northerly trending structural breaks during a 20-million-year period in upper Triassic to lower Jurassic time. Volcanism resulted in deposition of a thick succession of Toodoggone volcanic rocks in a subaerial, perhaps partly shallow marine environment, on a "basement" of older Takla volcanics and Asitka sediments. Intrusive and hydrothermal systems associated with volcanism invaded these volcanic rocks along the same deep-seated and periodically reactivated structural breaks controlling volcanism. Stocks, dykes and sills of Omineca related intrusions were thereby emplaced in Toodoggone volcanics and "basement" Takla-Asitka rocks. Linear zones of varied kinds and intensity of hydrothermal alteration, veining and mineralization, associated with emplacement of plutons, were also impressed at different structural levels in Toodoggone and older rocks.

Subsequently the Toodoggone and earlier rocks were subjected to repeated and extensive normal block faulting from Jurassic to Tertiary time. Within these fault blocks Toodoggone rocks display broad open folds commonly with dips less than 25 degrees.

Sustut Group sedimentary rocks unconformably overlie these earlier rocks and have relatively flat dips with few major structural disruptions.

STRATIGRAPHY

Asitka Group (Permian)

Asitka Group carbonates to greater than 150 metres thick are the oldest known rocks in the Toodoggone area. These rocks occur as fault blocks in association with Takla volcanics. In some areas these limestones are associated with brecciated serpentinite. Skarn development near contacts with Omineca Intrusions may contain garnet, magnetite, tremolite, galena and sphalerite and are hosts for some silver-lead-zinc deposits.

Takla Group (Triassic)

Barr (1978) subdivides the Takla Group volcanics into four units at Chappelle property (Baker Mine) as follows:

(1) Pyroclastic breccia

(2) Dark grey porphyritic andesite

(3) Fine grained andesite

(4) Tremolite andesite porphyry

The Takla Group volcanics may include some local development of limestone

Hazelton Group (Jurassic) Toodoggone volcanics.

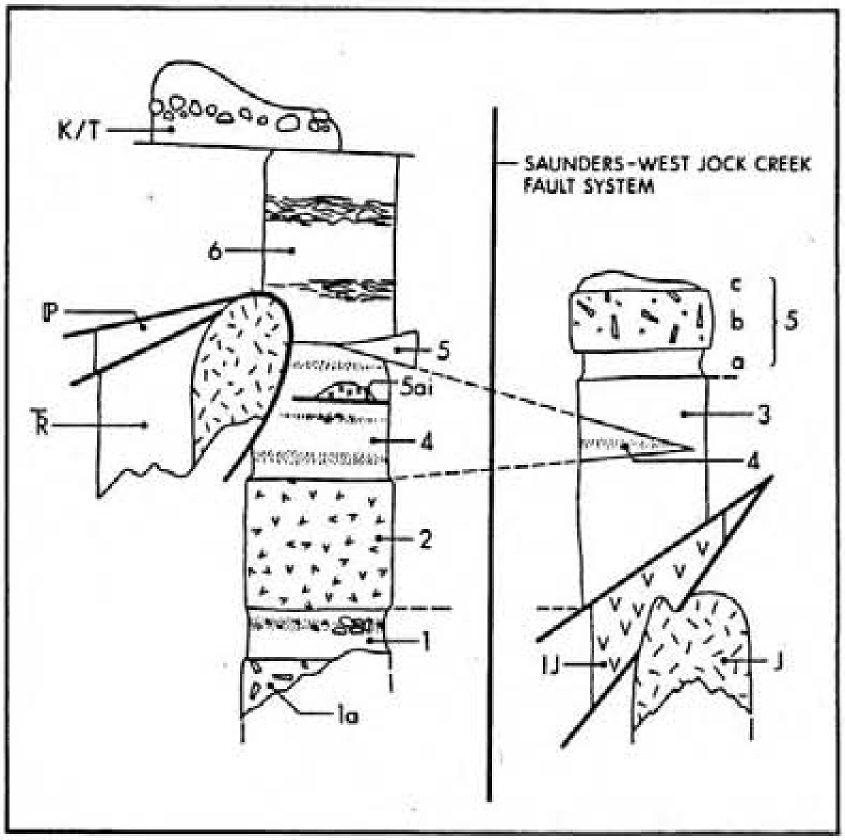
Toodoggone volcanics unconformably overlie Takla Group and consist of thick ashflow units succeeded by thin discontinuous and locally reworked ashflow material, volcanic breccias, and thin airfall tuffs.

Panteleyev (1983) divides the Toodoggone volcanics in the Toodoggone - Sturdee River area into six major units as follows:

Unit 6	Grey dacite
Unit 5	Andesite and trachyandesite flows
	Unit 5 ai Pyroxene basalt intrusion
	Unit 5 a, b, c Basaltic sequence east of Saunders Creek- West Jock Creek fault system.
Unit 4	Quartzose andesite pyroclastic rocks
Unit 3	Andesite flows and tuffs

TABLE I FORMATIONS IN THE TOODOGGONE AREA

ERA	PERIOD OR EPOCH	FORMATIONS	LITHOLOGIC UNITS	LITHOLOGY		
CENOZOIC / MESOZOIC	UPPER TERTIARY TO CRETACEOUS	SUSTUT	LOWER TANGLE CREEK	Pebble conglomerates and sandstones		
	Unconformity					
MESOZOIC	LOWER TO MIDDLE JURASSIC	TOODOGGONE VOLCANICS	Unit 6	Grey dacite	OMINECA INTRUSIONS	Quartz monzonite, granodiorite syenomonzonite
			Unit 5	Andesite and trachyandesite flows		
			(5ai)	Pyroxene basalt intrusion		
			(5a,b,c)	Basaltic sequence		
			Unit 4	Pyroclastic rocks		
			Unit 3	Andesite flows and tuffs		
			Unit 2	Andesite flows		
			Unit 1	Tuff and tuffaceous sandstone "redbeds"		
			(1a)	Volcanic flow		
	Unconformity					
	TRIASSIC	TAKLA		Pyroclastic breccia		
				Porphyritic feldspar andesite		
				Fine grained andesite		
				Tremolite andesite porphyry		
	Unconformity					
PALEOZOIC	PERMIAN	ASITKA FORMATION (150+)	CACHE CREEK GROUP	Calcite marble, chert, argillite, sandstone, skarn, garniferous calcite, marble, limestone		



LEGEND

CRETACEOUS/EARLY TERTIARY

K/T BUTTUT GROUP: SANDSTONE, CONGLOMERATE

LOWER JURASSIC

"TOODOGGONE VOLCANICS"

"GREY DACITE" ASH FLOW UNIT

5 ANDESITE FLOWS, IN PART TRACHYANDESITE AND MINOR TUFF

PYROXENE BASALT (INTRUSIVE)

QUARTZOSE ANDESITE PYROCLASTIC UNIT, PREDOMINANTLY CRYSTAL AND LITHIC-LAPILLI ASH FLOW TUFFS, WELL-LAYERED ASHFALL UNIT WITH MUCH CLAST SIZE RANGE, LESSER FLOWS, BRECCIAS, AGGLOMERATE; MINOR EPICLASTIC UNITS WITH LOCAL COARSE LANDSLIDE DEBRIS

2 ANDESITE FLOWS, SOME BRECCIAS, MINOR TUFFS

TUFFS, TUFFACEOUS SANDSTONE, CONGLOMERATE, "RED BEDS"

FELDSPAR PORPHYRY FLOWS (TRACHYANDESITE)

5c ANDESITIC BASALT, DUST TO COARSE LAPILLI LITHIC TUFFS

BASALT/BASALTIC ANDESITE FLOWS

5a BASALTIC TUFFS

3 ANDESITE FLOWS, MEDIUM TO FINE GRAINED; TUFFS; INCLUDES SOME QUARTZOSE TUFF UNITS EQUIVALENT (?) TO UNIT 4

JURASSIC

HAZELTON GROUP: ANDESITIC FLOWS, PYROCLASTIC ROCKS

OMINECA INTRUSIONS: GRANODIORITE

TRIASSIC

TAKLA GROUP: PYROXENE BASALT FLOWS, TUFFS, BRECCIAS

PALEOZOIC

P ASITKA (?) GROUP: LIMESTONE, IN PART MARBLE, SKARN; MINOR CHERT, ARGILLITE

Figure 4 Diagrammatic stratigraphic column, Toodoggone-Sturdee River area.

From Panteleyev, 1983.

Unit 2 Andesite flows

Unit 1 Tuff and tuffaceous sandstone "redbeds"
Unit 1a Volcanic flow unit
Moosehorn Creek - overlain by Unit 1

Panteleyev states that collective radiometric dates from Toodoggone volcanics from this gold-silver belt indicates that these rocks were deposited over 20 million-year period from approximately 180 to 200 Ma.

Omineca Intrusions

The Omineca Intrusions of Jurassic (and Cretaceous?) age, with potassium-argon age determination 186 to 200 + Ma, range in composition from granodiorite to quartz monzonite. Some syenomonzonite bodies and quartz-feldspar porphyry dykes may be feeders to the Toodoggone rocks. There is increasing evidence in support of Schroeter's contention that Omineca Intrusions and Toodoggone volcanics may be comagmatic and coeval.

MINERAL POTENTIAL

The following account is reproduced from Schroeter, 1981:

MINERALIZATION

The Toodoggone area is host to many polymetallic mineral prospects and four main types are recognized:

(1) *'Porphyry'* copper±molybdenum±silver±gold — mainly associated with Omineca Intrusions. Chalcopyrite and pyrite, with or without molybdenite, occur in fractures, as disseminations, or in quartz veins within both intrusive and the host volcanic rocks (mainly Takla Group andesitic rocks). Secondary chalcocite and covellite may form layers up to 30 metres thick. In these 'porphyries,' silver may exceed 3.1 grams per tonne (0.1 ounce per ton) and gold 0.47 gram per ton (0.015 ounce per ton) and therefore be economically significant [for example, Riga (MI 94E-3, 4, 5), Fin (MI 94E-16), Pillar (MI 94E-8), Rat (MI 94E-25), Mex (MI 94E-57), Kemess (94E-21)].

(2) *Skarn* — contact of limestone and host rock resulting in formation of small bodies of magnetite, galena, and sphalerite [for example, Castle Mountain (MI 94E-27) and several other minor showings west of Duncan Lake].

(3) *Precious and base metal epithermal* — gold-silver±copper±lead±zinc

(a) Fissure-vein type — the most important economic type. It is associated with predominantly silicified zones (quartz veins and/or older volcanic 'centres') related to repeated, extensive block faulting and possible tensional fractures formed during late doming. Large and small-scale faulting were integral processes in the sequential development of calderas formed by progressive emplacement and subsequent collapse of different phases of composite magmas (batholiths). So far, no distinct superimposed complex zones have been identified as isolated calderas in the Toodoggone area. Many calderas have a moat structure around their periphery, which is infilled by lacustrine sedimentary and pyroclastic rocks, mainly volcanic ash, deposited penecontemporaneously in the moat. Local fanglomerate deposits form adjacent to the steeper walls away from tributary streams. In the Toodoggone area, recurrent faulting during crater building would guide intrusions and the soft lacustrine sedimentary rocks may have acted as an impermeable barrier to mineralizing solutions.

Principal ore minerals include fine-grained argentite, electrum, native gold, and native silver with minor amounts of chalcopyrite, galena, and sphalerite. Rare constituents include bornite, polybasite, stromeyerite, and secondary chalcocite and covellite. Gangue minerals include, in order of decreasing abundance: amethystine to white quartz, chalcedony, calcite, hematite, manganese oxide, and rare barite and fluorite. Deposits occur in the form of vein fillings, stockworks, irregular branching fissures, and large, recurrently brecciated fault zones. Common textures include comb structures, symmetrical banding, crustifications, and drusy cavities — all typical features of epithermal deposits formed at shallow depths and at low temperatures. Alteration is commonly restricted to vein systems [Chappelle (MI 94E-26), Lawyers (MI 94E-17), Metsantan Lake (MI 94E-35), McClair, Cliff Creek, Shas (MI 94E-50), Saunders (MI 94E-37)].

(b) Hydrothermally altered and mineralized type — associated with major fault zones and possibly after subsidence of volcanic centres followed by a doming of caldera cores. Pyrite is the most common sulphide present with minor amounts of galena and sphalerite and rare molybdenite and scheelite. This type is probably somewhat older or contemporaneous with fissure-type mineralization. Cauldron zones are strongly leached and sulfotarically altered to varying degrees to clay minerals and silica; some areas contain alunite (for example, Alberts Hump). Epidote is a common alteration mineral in both hydrothermal and fracture zones [for example, Kodah, Alberts Hump, Saunders (MI 94E-17), Chappelle (MI 94E-26), Oxide].

(c) Alteration generally associated with the precious and base metal epithermal is as follows:

(i) Epidotization and silicification in the vicinity of quartz veins,
(ii) Laumontite in fractures,
(iii) Extensive pyritization,
(iv) Anhydrite as veinlets and fractures up to 70 metres or more long,
(v) Hematization near surface, and
(vi) Carbonatization at depth.

(4) *Stratabound* (?) — galena±sphalerite±chalcopyrite occur in or adjacent to limestone with interbedded chert in Takla Group (?) volcanic agglomerates and tuffs. This type of deposit, which may have been deposited on the flank of a volcano adjacent to a limestone reef, usually has associated low-grade silver values [for example, Firesteel (MI 94E-2), Attycelley (MI 94E-22)].

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PROFESSIONAL
PROVINCE
K.E. NORTHCOTE
BRITISH
COLUMBIA
ENGINEER

REPORT ON GOLDEN STRANGER CLAIMS

LOCATION

The GOLDEN STRANGER claims are located approximately 24 kilometres (15 miles) northwest of Sturdee River airstrip. The property lies between the headwaters of Toodoggone and Chappelle Rivers and on the west of Lawyers Creek, at latitude 57°16.5'N, longitude 127°15.2'W, NTS 94E/6W in the Omineca Mining Division. The property is at approximately 1500 metres elevation (5000 feet). See Figures 2 and 3. The claims are accessible by helicopter from Sturdee airstrip.

CLAIM STATUS

The claims comprising the Golden Stranger 1 group, totalling 12 units, are listed in Table II and shown on Figure 5.

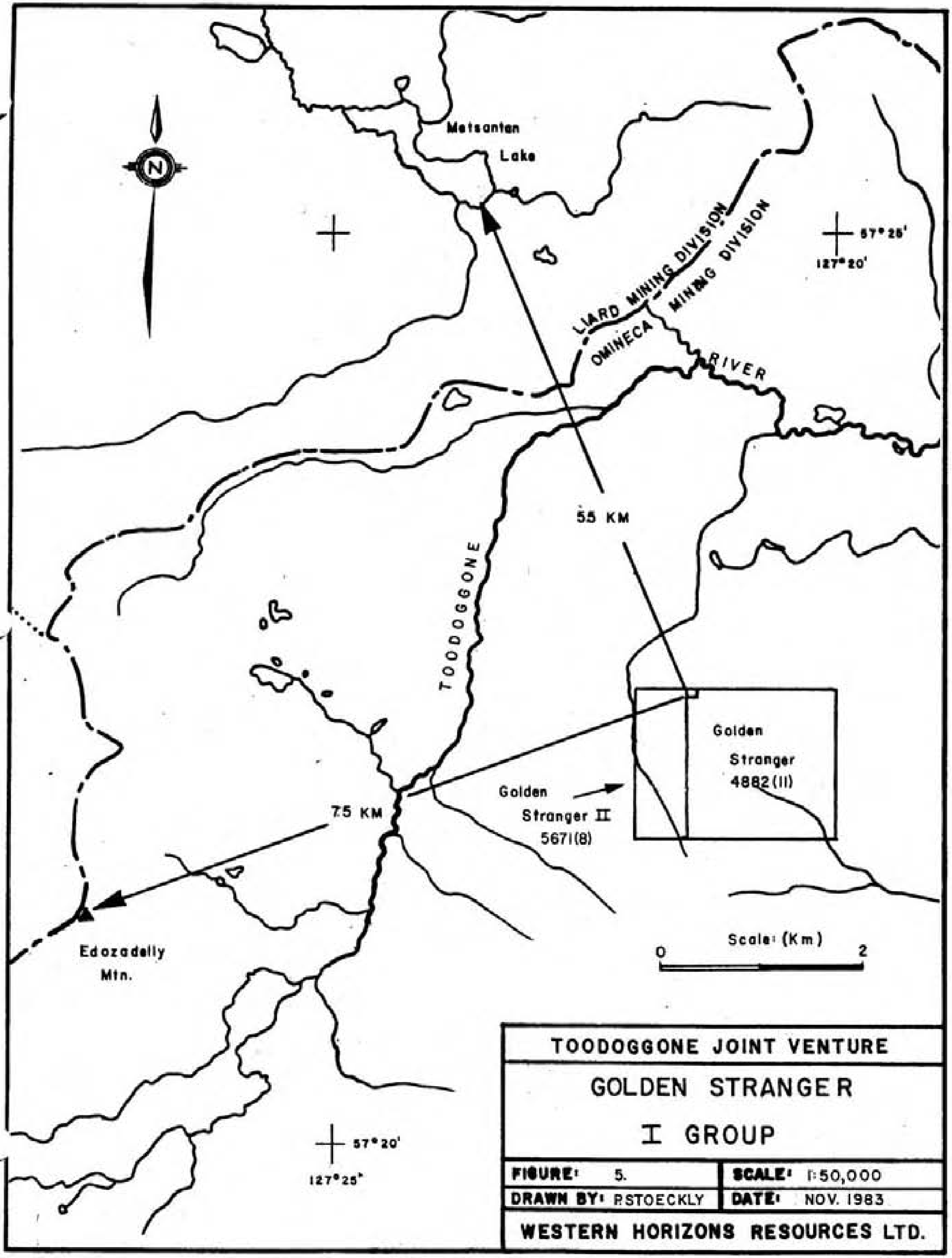
TABLE II

GOLDEN STRANGER 1 GROUP

CLAIM	UNITS	RECORD NO.	ANNIVERSARY DATE
GOLDEN STRANGER	9	4882 (11)	November 3, 1983*
GOLDEN STRANGER II	3	5671 (8)	August 29, 1984*

*Three years assessment work has been applied to each claim to extend the expiry date of GOLDEN STRANGER to November, 1986 and GOLDEN STRANGER II to August 29, 1987.

Notice to Group GOLDEN STRANGER and GOLDEN STRANGER II was filed October 31, 1983 under the group name Golden Stranger #1. The legal corner post is located 5.5 kilometres (3.5 miles) southeast of



N
Metsantan
Lake
LIARD MINING DIVISION
OMINECA MINING DIVISION
57° 25'
127° 20'
RIVER
5.5 KM
TOODOGGONE
Golden
Stranger
4882(11)
Golden
Stranger II
5671(8)
7.5 KM
Edozadelly
Mtn.
Scale: (Km)
0
2
57° 20'
127° 25'
TOODOGGONE JOINT VENTURE
GOLDEN STRANGER
I GROUP
FIGURE: 5.
SCALE: 1:50,000
DRAWN BY: P.STOECKLY
DATE: NOV. 1983
WESTERN HORIZONS RESOURCES LTD.

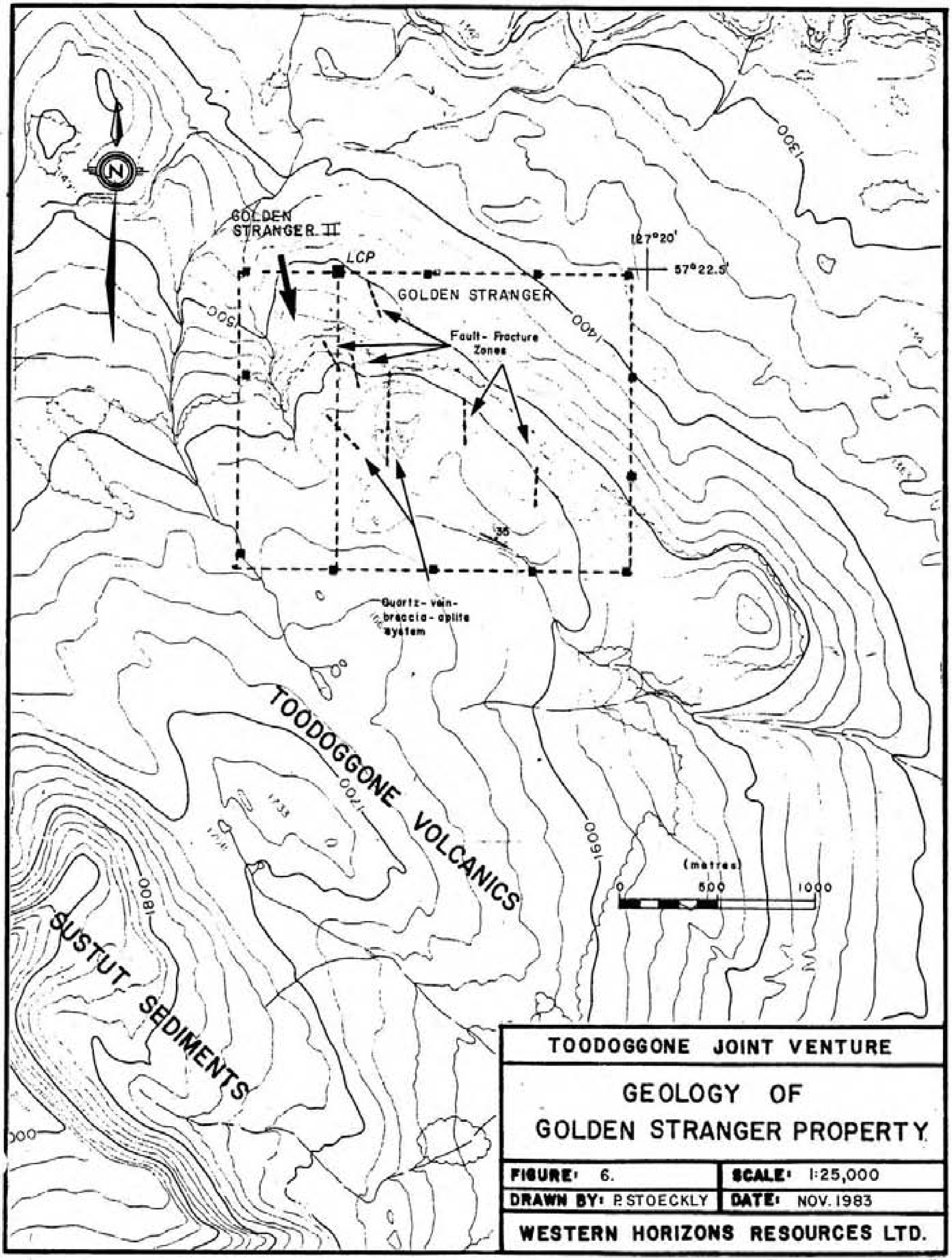
Metsantan Lake and 6.5 kilometres (4 miles) northeast by east of Edozadelly Mtn. The GOLDEN STRANGER claim is owned by Western Horizons Resources Ltd. by Bill of Sale, August 2, 1983, from E.Thompson. The GOLDEN STRANGER II claim was staked on August 13 and 14, 1983, by Western Horizons Resources Ltd.

GEOLOGY

GEOLOGY OF THE GOLDEN STRANGER PROPERTY

The GOLDEN STRANGER claims are underlain by massive Toodoggone volcanics consisting primarily of andesite porphyry and lesser crystal tuff and tuff breccia which are of similar appearance to andesite porphyry but less well indurated. Some of these volcanics have primary hematitic matrix and/or lithic fragments. They range from unaltered grey or purplish red porphyritic to secondary weathered hematitic which has resulted in pinkish coloration of plagioclase phenocrysts and in the rock matrix in more intensely weathered zones. The andestite porphyry volcanics in the claims are thought to be the approximate stratigraphic equivalent to the upper part of the Toodoggone volcanics succession, Unit 5 or 6 (Panteleyev, personal communication) See Figure 4 . The Toodoggone volcanics are unconformably overlain to the southwest by Sustut sediments. See Figure 6.

The Toodoggone volcanics have superimposed northerly trending zones of hydrothermal alteration of varied intensity; most of which are associated with northerly trending fracture and shear-fault systems. See Figure 6. These systems served as deep-seated channelways for hydrothermal solutions and magmatic differentiates and have undergone successive episodes of structural movement over a long period of time. Alteration in these zones ranges from disseminated pyrite with associated iron staining through epidotized, chloritized, pyritic propylitic and locally intense argillic alteration. Aplite dykes follow one or more of these northerly trending fracture-fault systems.



N
GOLDEN STRANGER II
LCP
127°20'
57°22.5'
GOLDEN STRANGER
Fault- Fracture Zones
35
Quartz- vein- breccia- aplite system
1300
1400
1500
1600
1700
1800
TOODOGGONE VOLCANICS
SUSTUT SEDIMENTS
(metres)
0
500
1000
TOODOGGONE JOINT VENTURE
GEOLOGY OF GOLDEN STRANGER PROPERTY
FIGURE: 6.
SCALE: 1:25,000
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DATE: NOV. 1983
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Quartz veining, also of varied intensity which cuts both altered porphyritic volcanics and aplite dykes, are present in some of the fracture-fault systems. Quartz breccias and multi-stage quartz layering are common with chalcedonic quartz along some vein margins. There are up to 10 or more successive quartz layers with drusy vugs and locally open drusy amethystine centres.

Variations in intensity of hydrothermal alteration, presence of aplite dykes and quartz-breccia vein systems probably represent related hydrothermal-magmatic processes which reached different structural levels in the Toodoggone volcanic sequence.

Aplite dykes are reported at the Kodah property at the same elevation, 1500 metres, as Golden Stranger. The Kodah property is approximately 6 kilometres east of Golden Stranger on the east side of Lawyers Creek.

PROGRAM

S.C. Gower, K.E.Northcote geologists, and E. Thompson and B.K.Northcote, assistants, conducted a geological mapping, prospecting and limited sampling program on the GOLDEN STRANGER claims. The work was done during the period August 9 to August 16, 1983.

RESULTS

Two divergent quartz-breccia zones approximately 180 metres apart were discovered and mapped on a scale 1 to 500. See Figure 7. These zones, in altered to relatively unaltered porphyritic andesite, follow northerly and northwesterly trending fractures and/or fault-shear systems.

The multistage quartz-vein-breccia-aplite system on the east strikes approximately northerly and has near vertical dip. Where its full width is exposed it measures more than 30 metres wide and extends for a length of more than 400 metres. Aplite dykes, which appear to cut the system and are themselves brecciated and veined by multistage quartz, are conspicuous at the north and south ends of the main system. See Figure 7. A strong fault gouge zone lies on the west flank of the north end of the main aplite-quartz-vein breccia system. The porphyritic andesite wall rocks have undergone propylitic alteration which is particularly intense adjacent to the aplite bodies.

A number of outcropping and frost-heaved exposures of quartz-vein-breccias were found to the west of the northern aplitic zone. These may represent continuation or off shoots of the main zone. See Figure 7.

The west vein-breccia system does not appear to be as well developed as the main system to the east. See Figure 7. It is noted, however, that this system is flanked on the east by a parallel linear depression which may be reflecting a major fault-shear structure. The best vein-breccia development was noted in exposures in closest proximity to this depression. There is potential, therefore, for improved vein-breccia development within or against this possible structure.

Eleven geochemical samples were collected of rock and vein material from surface exposures of the two quartz-vein-breccia systems. Sample locations are shown on Figure 7 and the results listed in Table III with sample descriptions listed in Appendix A.

Threshold values for anomalous Au and Ag in the Toodoggone camp are considered to be about 2.0 ppm Ag and 20 ppb Au. Eight of the eleven samples gave anomalous gold and four anomalous silver values from leached surface materials. A sample of aplite-quartz breccia gave 248.0 ppm silver and 1150 ppb gold. A siliceous zone containing some galena produced 36.0 ppm silver and 1375 ppb gold.

TABLE III

GOLDEN STRANGER ANALYSES

SAMPLE	WIDTH	AG. PPM	AU. PPB	DESCRIPTION
19951*	-	4.1	28	Aplite veined by quartz
19952*	-	0.8	85	Massive aplite
19953*	4.5 m	18.6	205	Quartz-breccia
19954	5.0	1.8	8	Float quartz-vein-breccia
19955	-	1.7	4	Float leached drusy quartz-breccia
19956*	-	0.6	3	Aplite quartz veinlets crackle zone
19957*	-	1.4	115	Quartz-vein-breccia in porphyritic andesite
19958*	0.5 m	0.6	59	Massive quartz and breccia
19959*	4.0 m	1.5	54	Quartz-amethyst breccia
19960*	-	36.0	1375	Siliceous zone containing galena in grains to several mm.
20367*	-	248.0	1150	Aplite-quartz breccia

* Indicates sample is from the main quartz-vein-breccia system

CONCLUSIONS

The Golden Stranger quartz vein-breccia systems are significant both in dimensions and strength of development. They have the characteristics of other gold-silver-bearing quartz vein-breccia systems of the Toodoggone camp.

(a) northerly trending fault-shear structures containing quartz vein-breccia systems.

(b) propylitic alteration and lesser argillic alteration of wall rock

(c) multilayered quartz open space filling

i] chalcedonic margins

ii] quartz crystals growing inwards in successive layers

iii] some veins with amethystine centres

iv] anomalous gold-silver values

None of the eleven samples collected from the surface of the vein-breccia systems gave ore-grade gold-silver values. Eight of the eleven samples gave anomalous gold (highest 1360 ppb) and four anomalous silver values (highest 248.0 ppm). These gold-silver values are, however, significant and require follow-up.

Although the stratigraphic level of the Golden Stranger quartz vein-breccia system is probably high in the Toodoggone volcanic succession the structural level and consequently the "boiling point" of Buchanan's model for epithermal precious metal deposits is not known. Buchanan's model, associated with subvolcanic-hydrothermal environments,requires conduits connecting to the surface with episodic release of pressure causing boiling of solutions within a fairly narrow range of elevations. There is consequent deposition of sulphides below and precious metals above the boiling level. Buchanan's model does not allow adequately for periodicity of volcanism from different centres at different stratigraphic levels in the volcanic sequence. Each centre could have differentiated satellitic hydrothermal systems which could result in epithermal gold-silver deposits at different stratigraphic levels in the volcanic succession.

The 1983 fieldwork has resulted in discovery of a strongly developed, significantly gold-silver anomalous, quartz vein-breccia system which requires follow-up exploration by blasting and hand trenching to locate gold-silver values approaching ore grade. In addition detailed mapping of lithology and alteration in the field and petrographic and fluid inclusion studies in the laboratory are required to determine the structural level of the exposed systems.

RECOMMENDATIONS

A single stage blasting, hand trenching program is recommended for the 1984 field season on the Golden Stranger property. Several trenches are required to adequately test the quartz vein-breccia systems.

At least four trenches are necessary to test the main system for mineralization of ore-grade and to provide suitable material for petrographic and fluid inclusion studies. Two trenches are recommended to test for strengthening of the west system adjacent to possible fault-shear structures. The trenches will be sampled for assay, mapped in detail, with alteration, petrographic and fluid inclusion studies carried out.

Subsequent programs will be dependent upon the results of this initial program.

PROFESSIONAL
PROVINCE
K.E. NORTHCOTE
BRITISH
COLUMBIA
ENGINEER

PRELIMINARY ESTIMATED COST OF EXPLORATION PROGRAM 1984

GOLDEN STRANGER PROPERTY

(Subject to revision in communication with joint venture partners)

Professional fees and salaries			
Two teams geologists and assistants 30 days @ $315.00 per diem X 2			$ 19 000.00
Accommodation 30 days @ $65 per diem/team Motels 4 days @ $40.00 X 2			4 300.00
Transportation			12 000.00
Fixed wing		$6 000.00	
Helicopter	8 hours	5 000.00	
Milage		1 000.00	
Assays			3 500.00
Petrographic Studies			2 500.00
Blasting Powder & Copco drill rental			3 500.00
Miscellaneous charges Camp fuel, freight, expediting (radio $500.00)			1 800.00
Preparation of report			5 000.00
Bookeeping and contingencies			1 900.00
	Estimate total		$53 500.00
Allowance for staking additional claims			5 000.00
	Total		$ 58 500.00

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K.E. NORTHCOTE

APPENDIX A

GOLDEN STRANGER PROPERTY

1. Assay Sample Descriptions
2. General Sample Descriptions

GOLDEN STRANGER   ASSAY SAMPLES

19951 Shoulder of ridge on aplite zone

Aplite veined by quartz

19952 as for 19951 Massive aplite

19953 Breccia zone, quartz vein-breccia containing galena, sphalerite, and pyrite width 4.5 metres.

19954 135 m northwest of start of West Zone
Float but nearly in place, breaking off wall of showing. Near area where showing becomes buried in slope. Selected breccia-vein samples from about a 5 metre length. Leached

19955 125 metres northwest of start of West Zone
Quartz breccia float but from outcrop area. Drusy breccia, leached

19956 At southwest end of main zone
Aplite; crackle zone filled with quartz veinlets to ½ cm or less 040/v & 020/v, persistent veins also flat lying veinlets dipping about 5° to the east.

19957 West side of main zone at 0 + 60N
Stringer zone, locally developed breccia. Sample consists of vein and breccia in porphyritic andesite (wall rock)

19958 Approximately 20 metres north of 371. West side of main zone.
Massive quartz and breccia, vugs containing euhedral quartz.
Chip sample across 0.5m.

19959 Northwest end of main zone (1+55N 0+18E)
Quartz-amethyst breccia. Highly altered porphyritic andesite matrix. Chips across 4 metres.

19960 West edge of aplite just north-northwest of 19951
Highly siliceous zone containing clusters of disseminated galena in grains to several mm in size.

20367 At North Aplite zone (60S-08W)
Aplite breccia, light cream-pink aplite fragments in a drusy matrix partially filled by quartz. No obvious mineralization

Golden Stranger
Sample Descriptions

83-K-301 Porphyritic andesite epiotized and hematitic stained phenocrysts. Aphanitic matrix-chlorite and epidote

83-K-302 Altered porphyritic andesite, bleached appearance epidote-chlorite matrix
Diss pyrite Iron stained

303 Altered porphyritic andesite? or slightly porphyritic albite impregnation

304

305

306 From aplite breccia zone veined by quartz-breccia infilling

308 Unaltered porphyritic andesite aphanitic matrix reddish brown hematitic; phenocrysts fine/medium crystalline. Contains fragments of fine/aphanitic volcanic rock.

309 Slightly/moderately altered porphyritic andesite. Plagioclase phenocrysts hematitic stained. Diffuse quartz-epidote veinlets
Disseminated pyrite
Some specimens have epidote alteration
K-spar impregnation-brecciated, disseminated pyrite

310 Hematitic porphyritic andesite veined by quartz veinlets, drusy centres

312 Porphyritic andesite-pink hematitic plagioclase phenocrysts. Epidote-chlorite groundmass

313 Quartz veinlets in porphyritic andesite

314 Porphyritic andesite, relatively unaltered pinkish stained phenocrysts

315 Bleached altered rock, pinkish color, clayey texture

316 Crystal-lithic tuff breccia; less well indurated as compared to flows and flow breccias. Plagioclase pheocrysts-fragments have pinkish stain
Matrix mottled light and dark brown-grey aphanitic suggesting lithic fragments

317 Porphyritic andesite, 15% plagioclase phenocrysts; aphanitic, chloritic-epidote matrix. Impregnated? by brecciated feldspar-rich zone.

318 Porphyritic andesite, relatively unaltered, aphanitic purplish grey matrix. Pinkish stained plagioclase phenocrysts

319 Porphyritic andesite, flow breccia, 15% plagioclase phenocrysts stained pink, epidotized, dark brown-grey aphanitic matrix

320 Crystal lithic tuff, chalky appearing fragments brownish matrix poorly indurated, sheared appearance.

322 Crystal lithic tuff, (?) chalky appearing fragments phenocrysts slight pinkish coloration, staining of fragments/phenocrysts.

323 Porphyritic andesite, flow breccia dark purplish brown-grey, aphanitic matrix,dense. Slight hematitic staining of plagioclase phenocrysts.

324 Flow breccia, (tuffaceous?) reddish brown, porphyritic appearance, dark mottling in matrix indicates fragmental nature (lithic fragments)

326 Open space quartz veining in altered porphyritic andesite. This is from Steve Gower's main vein on Golden Stranger

APPENDIX B

ASSAYS

GOLDEN STRANGER PROPERTY

MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project .... Date of report Sept/8/83.

File No. 3-906 .... Date samples received Aug.30/83.

Samples submitted by: ....

Company: Ken Northcote

Report on: 7 soil, 26 rock (assay prep) .... Geochem samples

....

.... Assay samples

....

Copies sent to:

1. Ken Northcote, Agassiz, B.C.
2. ....
3. ....

Samples: Sieved to mesh -80 soil Ground to mesh -100

Prepared samples stored ☒ discarded ☐

rejects stored ☒ discarded ☒ soil

Methods of analysis: ag-nitric,perchloric digestion.A.A.,

Au-fire.

Remarks: ....

....

....

MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project: Toodoggone (J.V.). Date of report: Nov.22/83.

File No.: 3-1411 Date samples received: Nov.16/83.

Samples submitted by: K.Northcote

Company: Western Hozions

Report on: 7 rock (assay prep) Geochem samples

6 Assay samples

Copies sent to:

1. Western Horizons, Agassiz, B.C.
2.
3.

Samples: Sieved to mesh Ground to mesh -100

Prepared samples stored ☒ discarded ☐

rejects stored ☒ discarded ☐

Methods of analysis: Assay Cu-Acid digestion-chemical analysis.
Geochem Ag-nitric,perchloric digestion.A.A., Au-aqua regia. A.A.

Remarks:

COMPANY: Western Horizons

PROJECT No.: WHR(JV)Golden Stranger

ATTENTION: K. Northcote

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 3-906

DATE: Sept.8 1983.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb fire			
19951	[illegible]	[illegible]					4.1					28			
52	[illegible]	[illegible]					0.8					85			
53	[illegible]	[illegible]					18.6					205			
54	[illegible]	[illegible]					1.8					8			
55	[illegible]	[illegible]					1.7					4			
56	[illegible]	[illegible]					0.6					3			
57	[illegible]	[illegible]					1.4					115			
58	[illegible]	[illegible]					0.6					59			
59	[illegible]	[illegible]					1.5					54			
19960	[illegible]	[illegible]					36.0					1375			

COMPANY: Western Horizon Res.

PROJECT No.: Toodoggone (J.V.)

ATTENTION: K. Nathcote

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

No. 3-1411

DATE: Nov.22, 1983.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb			
20367	GOLDEN STRANGER						2480					1150			
68							340					15			
69							365					45			
70	COPPER KING, WANEKA IV						660					25			
71							340					5			
72							270					5			
20373							330					<5			

*some of these samples should have bben requested for assay.

(signature)

STATEMENT OF COSTS GOLDEN STRANGER

WAGES -	E. W. Thompson	August 9,10,11,12,13,14,15, 7 days @100/	$ 700.00
	S.C. Gower	August 9,10,11,12,13,14,15, 7 days @200/	1 400.00
	K.E. Northcote	August 9,10,11,12,13,14,15, 7 days @200/	1 400.00
	B.K. Northcote	August 9,10,11,12,13,14,15, 7 days @100/	700.00

SUPPORT 28 man days @ 85	2 380.00
HELICOPTER 2 hours @ 550/hr.	1 100.00
TRANSPORTATION 150/person X 4	600.00
ASSAYS 8 samples @ 9.00/sample	72.00
REPORT WRITING 4 days @ 200/day	800.00
DRAFTING AND TYPING	200.00
Total	$9 352.00

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K.E. NORTHCOTE

CERTIFICATE

I, Kenneth E. Northcote of 2346 Ashton Road, R.R.#1, Agassiz B.C. do hereby certify that:

1] I have been practicing as a professional geologist for a period of approximately 25 years for petroleum exploration companies, mining exploration and consulting companies, federal and provincial agencies.

2] I obtained a Ph.D in geology from U.B.C. in 1968 and qualified for registration with the Association of Professional Engineers of B.C. in 1967.

3] This report is based on geological reconnaissance and sampling by S.C. Gower, K.E. Northcote geologists, E.M. Thompson and B.K. Northcote assistants in the period August 6 to 28, 1983 and on analyses of samples at Min-En and Bondar-Clegg Laboratories. In addition available reports and data from earlier programs were utilized and listed in References.

4] I am an officer of Western Horizons Resources Ltd which company owns an interest in GOLDEN STRANGER, GOLDEN STRANGER II, GORD DAVIES, DAVE PRICE, COPPER KING 1-5 and NAMERA IV claims.

PROFESSIONAL ENGINEER
PROVINCE
K.E. NORTHCOTE
BRITISH COLUMBIA

K.E. Northcote Ph.D.,P.Eng.


1500
1560
1600
1620
1640
1660
POSSIBLE BRECCIA ZONE
POSSIBLE BRECCIA ZONE
DEFINITE BRECCIA ZONE, GALENA, SPHALERITE, PYRITE
INDICATED QTZ BRECCIA ZONE IN TALUS
INDICATED QTZ BRECCIA ZONE IN TALUS
POSSIBLE BRECCIA ZONE
IRON STAINED GOUGE
1S POST
GOLDEN STRANGER II
GOLDEN STRANGER
19960 (36.0/1375)
19959 (1.5/14)
19958 (0.6/59)
19957 (1.4/115)
19956 (0.6/3)
19954 (1.8/8)
19955 (1.7/4)
000°/85°E
320°/80°E
CLAIM BOUNDRY
TALUS , SOIL COVER
APLITE SOMETIMES BRECCIATED & VEINED WITH QTZ & CALCITE
QTZ VEIN & QTZ BRECCIA
STRONGLY DEVELOPED QTZ BRECCIA ZONE
WEAKLY DEVELOPED QTZ BRECCIA ZONE IN GREY FELDSPAR PORPHYRY
GREY FELDSPAR PORPHYRY
FAULT ZONE
19960 (36.0/1375)
ppb Au
ppm Ag
SAMPLE NUMBER
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,793
TOODOGONE JOINT VENTURE
GOLDEN STRANGER
DETAILED GEOLOGY &
ROCK GEOCHEMISTRY
MAIN and WEST ZONES
0 5 15 25
date OCT. 83
Scale 1:500
drawn by SCG EMT
Fig. 7
WESTERN HORIZONS RESOURCES LTD.