# LINE CUTTING AND GEOLOLOGICAL REPORT ON THE JOE DANDY PROPERTY OLIVER, BRITISH COLUMBIA

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Latitude: 49° 10' N Longitude: 119° 36' W NTS: 82E/4E

FOR

YURIKO RESOURCES CORP. **\$501 - 905 West Pender Street** Vancouver, British Columbia V6C 1L6

Prepared By

Reginald L. Faulkner, B.Sc., M.A.Sc.

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GEOLO ASSES

FAIRBANK ENGINEERING LIMITED

Vancouver, B.C.

January, 1990

(Work dates May 22 - October 18, 1989 🕰 🎰

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#### SUMMARY

A limited exploration program of line cutting and geological mapping was undertaken by Fairbank Engineering Ltd. on the Joe Dandy property for Yuriko Resources Corp. Between May 22 and October 18, 1989 5.75 line kilometres of line was emplaced on the Smuggler grid and 14.2 line kilometres of line was emplaced on the Tinhorn grid. The new grids represent extensions of the old grids located in 1987.

During the same time period limited geological mapping took place. The objective of this initial mapping was to delineate the contact between the Kobau Group rocks and the Fairview granodiorite. This objective was not met as only a small portion of the property was mapped. However, the number of small narrow quartz veins located in both the intrusives and metasediments is significant.

#### 1. INTRODUCTION

This report summarizes a program of mineral exploration (May 22 to October 18, 1989) conducted on the Joe Dandy property, Fairveiw Mining Camp, Oliver, British Columbia. The exploration program was undertaken by Fairbank Engineering Limited on behalf of Yuriko Resources Corporation.

As the initial stage of a larger exploration program the 1989 work consisted of line cutting and limited geological mapping.

## 1.1 Location, Access and Topography

Situated approximately 5 kilometres east - southeast of Oliver, British Columbia, the Joe Dandy property lies within the Osoyoos Mining Division. It is approximately centred at latitude 49° 10' north, longitude 119° 36' west on NTS map sheet 82E/4E (Figure 1).

Access to the property from Highway 97 is eastward via 7th Avenue from Oliver. 7th Avenue turns into Fairveiw Road which continues eastward to Cawston. From Fairveiw Road various gravel and dirt roads give access to the western, eastern and southern portions of the property.

Elevations on the Joe Dandy property range from 300 m. a.s.l. in the east to 1500 m. a.s.l. in the west. The steeper upper elevations are intermittently forested with



pine, fir and spruce. The lower elevations consist of undulating semi-arid grasslands. Seasonal drainages on the property are Tinhorn, Reed and Togo Creeks.

### 1.2 Joe Dandy Poperty

The Joe Dandy property consists of 9 reverted crown grants, 10 modified grid claims and 7 2 post mineral claims (Figure 2). These claims cover the old Tinhorn, Smuggler and Joe Dandy veins and underground workings. They are optioned by Yuriko Resources Corporation from Messrs. L. Reichert and K. George of RR #1, Keromeos, British Columbia. Table 1 summarizes the pertinent claim information.

### TABLE 1

#### CLAIM DATA

Name	Lot Record		Area	Expiry	Owner	
	<u>No.</u>	<u>No.</u>	Ha.	Date		
Atlas Belmont Fr. Comstock Joe Dandy Gilpin Fr. Rob Roy St. John Joe Dandy #1 Joe Dandy #2 Joe Dandy #3 Joe Dandy #4	664 837 729 447 838 546 803	1063 1064 1065 1066 1066 1067 1069 1322 1323 1324 1325	20.59 4.45 20.90 8.34 20.90 20.90 1 unit 1 unit 1 unit 1 unit 1 unit	06/05/91 06/05/91 06/05/90 06/05/90 06/05/90 06/05/90 06/05/90 03/02/92 03/02/92 03/02/92	L. Reichert L. Reichert	
Joe Dandy 200 Tin Horn 300 Tin Horn 400 Tin Horn 83		1616 1617 1618 1764	12 unit 10 unit 10 unit 9 unit	18/10/90 18/10/90 18/10/90 18/05/90	K. George K. George K. George K. George & L. Reichert	
Morning Star Fairview Dominion Powis JD 5 JD 6 JD 7 JD 8 JD 7 JD 8 JD 9 JD 10 Jail House	1595 946	2175 2176 2445 2546 2546 2547 2548 2549 2550 2551 2562	9 unit 15 unit 20.90 20.84 20.90 20.90 20.90 20.90 20.90 20.90 20.90	21/01/90 21/01/90 02/06/90 02/06/90 18/11/90 18/11/90 18/11/90 18/11/90 18/11/90 18/11/90 21/01/90	K. George K. George L. Reichert L. Reichert K. George K. George K. George K. George K. George K. George L. Reichert	



## 1.3 History and Work

Claims were located in the Fairview Mining Camp as early as 1882 making it one of the oldest mining camps in British Columbia. By 1908 the camp was dying and many of the claims had been abandoned. Revival of interest in the camp occurred in the 1930's and 1940's and again in the 1960's and mid-1970's.

The Tinhorn veins had two years of recorded production, 1898 and 1942 (B.C.E.M.P.R. Min Dep Files). A total of 274 tonnes of ore were mined producing 1400 gm. of gold and 467 gm. of silver (302 tons, 45 oz. of gold and 15 oz. of silver) giving an average grade of 5.11 gm. per tonne gold (0.15 oz. per ton gold) and 1.70 gm. per tonne silver (0.05 oz. per ton silver).

Two levels of underground workings occur on the Tinhorn veins. The lower level consists of approximately 55 metres of tunneling and two shafts. The upper level has a main drift of about 30 metres and three adits of unknown length.

Production from the Smuggler veins occurred intermittently between 1895 and 1973. Production records show 137 tonnes of ore mined between 1939 and 1973 yielded 2643 gm. of gold, 3763 gm. of silver, 93 kg. of lead and 174 kg. of zinc (151 tons, 84 oz. of gold, 120 oz. of silver, 205 lb. of lead and 383 lb. of zinc) (B.C.E.M.P.R. Min Dep Files). The average grades were 19.29 gm. per tonne gold (0.56 oz. per ton gold), 27.47 gm. per tonne silver (0.79 oz. per ton silver), less than 0.1% lead and 0.13% zinc.

The underground workings on the Smuggler veins consist of a 61 metre shaft with drifting on the 15 metre, 31 metre and 61 metre levels. The 61 metre level includes a 115 metre crosscut to the surface.

There is no recorded production from the Joe Dandy vein, though approximately 610 metres of tunneling on two levels and 2 shafts averaging about 18 metres deep have been described (B.C.E.M.P.R. Ministry of Mines Annual Reports).

In 1983 VLF - EM and magnetometer surveys were undertaken on the Fairview and Morning Star claims by Strato Geological Engineering Ltd. on behalf of Paymaster Resources Ltd (Englund, 1983). The report concluded that the surveys indicated a number of conductors and geological contacts that warrant followup detailed geological mapping, soil sampling and geophysical surveys.

Lawrence Mining Corporation did a program of soil sampling over the Tinhorn, Smuggler and Joe Dandy underground workings in 1984 (Wells, 1984). Gold anomalies, up to 3000 ppb gold, in soils have been identified over all three workings. These anomalies were not followed up.

Surface exploration work was done by Shangri-La Minerals Limited in 1987 on behalf of Yuriko Resources Corporation. This program consisted of prospecting, underground and surface rock sampling, soil sampling, geological mapping, magnetometer surveys and limited Crone Shootback EM and Induced Polarization surveys. The target areas were the Smuggler vein, Tinhorn veins and the Joe Dandy vein with limited work on the Fairview and Morning Star claims (Di Spirito, 1987).

In 1989 Fairbank Engineering Ltd. undertook a limited exploration program of line cutting and geological mapping on the Joe Dandy property. This program occured between May 22 and October 18, 1989 under the supervision of R. Faulkner Manager-Exploration and A. Pratt Field Supervisor. The work was performed by R. Faulkner geologist, A. Pratt field supervisor, S. MacDonald geologist and field technicians S. Courte, J. Perry and J. Twomey.

### 2. LINE CUTTING

Approximately 17.9 line kilometres of new grid were emplaced and 2.0 line kilometres of old grid reflagged in two grids on the Joe Dandy property. The Smuggler and Tinhorn grids respectively cover portions of the Joe Dandy 200 and Tin horn 83 mineral claims (Figure 4).

The base lines of the 1987 Smuggler and Tinhorn grids (Di Spirito, 1987) were reflagged and picketted every 25 metres. Each of these base lines were subsequently extended 1 kilometre to the northwest.

On the Smuggler grid 4.75 line kilometres of new grid has been emplaced. From the base line at 100 metre separations eight lines running approximately 500 metres to the west (relative) were flagged with 25 metre stations.

The Tinhorn grid had 13.2 line kilometres of new grid emplaced. Four lines 50 metres apart and ten lines 100 metres apart with all lines extending 500 metres east and west (relative) were flagged with 25 metre stations.

As the initial stage of the exploration program the grids are the foundation over which soil sampling, geophysical surveys and geological mapping will take place.

### 3. GEOLOGY

### 3.1 Regional Geology

Within the Intermontain Tectonic Belt and the Quesnellia terrane the Joe Dandy property lies on the west side of the Okanagan River Valley. The valley as an expression of a major tectono-stratigraphic break sepatates high-grade metamorphic rocks of the Okanagan metamorphic complex to the east from low-grade metasedimentary and metavolcanic rocks to the west (Figure 3).

The area between the Similkameen and Okanagan River Valleys is dominated by the post-Devonian to pre-Cretaceous Kobau Group rocks. They are highly deformed, low-grade metamorphic quartzite, phyllite, schist, greenstone and marble.

In the area of the property Kobau Group rocks are Oliver granite intruded by the and the Fairview granodiorite. The Oliver pluton is approximately 155 Ma. old and is dominated by porphyritic biotite granite and and quartz monzonite phases. The Fairview granodiorite is a weaklv foliated hornblende-bearing granodiorite with chlorite alteration common (Mader et al, 1989). This intrusion is older than 111 Ma., but its age and compositional relationship with the Oliver pluton is not known.

Auriferous veins occur in both the metasediments/volcanics and the intrusives. They primarily occur in a wedge of Kobau Group rocks between the Oliver granite and the Fairview granodiorite adjacent and parallel with the granodiorite contact. The veins are concordant with the regional foliation striking northwesterly and dipping to the northeast. Veins in the intrusives are areally limited and not as abundant. The veins are believed to be of mesothermal origin.

### 3.2 Property Geology

A limited program of geological mapping was undertaken in 1989. The objective of the mapping was to delineate the contact between the Fairview granodiorite and the Kobau rocks. Most of the mapping occurred on the Joe Dandy 200 mineral claim and the Powis and Dominiom reverted crown grants (Figure 4).

The contact between the intrusives and the metasediments/volcanics is difficult to delineate as the outcrop on the Joe Dandy 200 claim occupies less than 15% of the

# LEGEND

TERTIARY		MIDD	DLE JURASSIC	A 80		
EOCE	:NE	mJg	NELSON PLUTONIC ROCKS: massive, generally moderately foliated, medium grey weathering, medium- to coarse-grained, equigranular,	63		
Es	SKAHA FORMATION: brecciated greenstone (Old Tom Formation), brecciated chert (Shoemaker Formation, Es1), and brecciated granite (Oliver Granite, Es2) resting as fault slices hundreds of metres across.		hornblende-biotite granodiorite, quartz diorite and granite: includes undifferentiated biotite granite of the Valhalla suite: age poorly constrained	135 mus		
	above the White Lake Formation on gently dipping faults: includes undifferentiated polymictic fanglomerate and arkose resting unconformably on these brecciated rocks: near Rock Creek includes heterogeneous epiclastic breccia (Klondike Mountain Formation)	Jgd	KRUGER SYENITE: massive, medium grained, biotite hornblende granodiorite with a marginal zone of megacrystic, mesocratic coarse grained hornblende syenite			
Ewl	WHITE LAKE FORMATION, massive to thick bedded volcanic breccia and pyroclastic rocks with clasts of Trepanier Rhyolite and Kitley Lake and Yellow Lake formations: includes interbedded medium and thin beds of			49°15'- 85		
	brown sandstone and clayey siltstone, minor carbonaceous seams includes minor trachyte and andesite. Palynomorphs from Powers Creek indicate a Middle Eocene or older age		AN TO UPPER TRIASSIC OLD TOM FORMATION: massive andesitic greenstone and greenstone breccia: locally includes large, extensive, strongly silicified equivalents in irregular bodies and lenses with gradational boundaries, which are	53 55 TO 1		
Em	MARAMA FORMATION: medium brownish grey, flow banded dacite with subhedral plagioclase, hornblende and biotite phenocrysts to 5 mm in an aphanitic ground: forms the top of Black Knight Mountain. Mount Boucherie, Aeneas Butte, Mount Law	L <u></u>	<sup>2</sup> undifferentiated: includes a few small lenses of undifferentiated limestone: minor diorite: unit is poorly understood: known to contain Ordovician. Carboniferous and Triassic fossils- undifferentiated; relations to Shoemaker Formation are gradational			
En	MARAMA FORMATION-NIMPIT LAKE MEMBER: recessive, reddish weathering, amygdaloidal, trachyandesite with minor intercalated pyroclastic deposits: includes undifferentiated intrusive equivalents	uTrs /	SHOEMAKER FORMATION: massive, greyish green silicified volcanic rocks, including "cherty" tuff and breccia: includes undifferentiated massive greenstone: may include chert: generally fractured and broken by irregular spaced cleavage: may be largely the silicified equivalent of			
Ek	KITLEY LAKE FORMATION: massive, yellowish to buff, trachyte to trachyandesite: plagioclase and biotite glomerophenocrysts to 3 cm (10 % of the rock) in a finely crystalline groundmass: includes ash flow tuff and minor mudstone, includes undifferentiated intrusive equivalents Church determined K-Ar ages between 52.9 (biotite) and 44.2 Ma		the Old Tom Formation	N RESTRICT IN T		
Eyl	(whole-rocks) YELLOW LAKE FORMATION. massive to thick, tabular flows of buff to light tan pyroxene-rich, mafic phonolite locally with rhomb anorthoclase phenocrysts and primary analcite, abundant zeolite fills cracks and amygdules, includes undifferentiated intrusive equivalents	CARBONIF CPa	EROUS OR OLDER ANARCHIST GROUP: dark grey weathering, recessive, amphibolite, greenstone, quartz-chlorte schist, quartz-biolite schist, minor serpentinized peridotite: "chert" breccia that resembles Trbc is locally included: CPap- peridotite and serpentinized equivalents: CPaa- amphibolite: age unknown	INS PROVIDENT		
Egn	"OKANAGAN GNEISS": massive, medium grey weathering, resistant hornblende-biotite granodiorite orthogneiss: strongly foliated: grades to mylonitic gneiss, mylonite and blastomylonite, minor amphibolite and	CPko	KOBAU GROUP: undivided amphibolite. greenschist, quartzite. mica schist, greenstone- minor marble: strongly foliated with penetrative flaser fabrics: age unknown			
	paragneiss- minor schist: minor pegmatite and aplite: strongly chlorihized along Okanagan Fault: grades eastward (and up the structural succession) to JKg, mJg and Pm units of which it is presumed as to the sheared equivalent: probably also includes sheared equivalents of the Anarchist Group: presumed sheared and thermally overprinted during the Eocene: Egn1- quartz chlorite microbreccia and related altered rocks close to the Okanagan Fault		MAP SYMBOLS	49°00'		
	Massive, light grey weathering, biotite granite gneiss and granodiorite	Outcrop bo Probable si	L			
Egng	gneiss with pegmatite veins and sills	Geological	Property			
			Strike and dip of bedding.			
		Strike and	dip of foliation X			
CRETACEOU	US AND/OR JURASSIC OKANAGAN BATHOLITH: massive, light grey weathering, medium- to	Trend and	plunge of lineation and minor folds			
JKg			Inferred fault, age and displacement unknown.			
, L	granodiorite of the Nelson suite: age poorly constrained	inferred no				
	OLIVER PLUTON: massive, unfoliated, medium grained porphyritic biotite	. inferred Eo				
Jo	granite with weakly foliated, equigranular hornblende granodiorite along the southern border: includes Jod, biotite-hornblende diorite agmatite and Jog, massive garnet-muscovite granite; age poorly constrained	Slide- inferi to foliation.	ferred fault in metamorphosed rocks, roughly parallel			

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From D. Tempelman-Kluit, 1985-86

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Λ	YURIKO RESO	URCES COR	P.
	JOE DANDY	PROPERTY	
	REGIONAL	GEOLOG	SY .
	OSOYOOS M.D., B.C.		82 E/4E
	Scale: 1:250,000	Date: JAN	1990
	FAIRBANK	Proj. No. 187	Fig. No. 3

surface area. Granodiorite and lesser amounts of granite dominate the exposed rocks with the metasediments resessively weathering and only being exposed in creek beds and on cliff faces.

The intrusives are well jointed with chloritic alteration. Jointing predominantly strikes to the northeast with dips steep to the northwest, less dominant jointing strike northwest and dip steeply to the northeast. There appears to be a gradual increase in the amount of chlorite and epidote alteration going from the northeast to the southwest. Carbonate enrichment and sausseritization of the intrusives was also noted.

Two gabbroic dykes were mapped cutting the intrusives. Up to 5 metres wide the dykes trend between 122° and 155° and are traceable for over 60 metres. One of the dykes contained approximately 1% pyrite as euhedral grains to 3 millimetres in diameter.

Narrow quartz veins were found to cut the intrusives and the metasediments. Veining in the intrusives was noted to generally strike between 080° and 130° and dip steeply to the north or south. Less than 5 centimetres in width these veins often had sericitic selvages and contained tourmaline. A 5 centimetre wide tourmaline vein was noted striking 095° and dipping 67° to the north. These veins were traceable only for a short distance, usually less than 2 metres. A 10 to 15 centimetre wide quartz vein was mapped along the southeast bank of Togo Creek. Hosted by quartzite the banded white quartz vein was exposed for 6.5 metres with a strike of 028° and a dip of 61° to the southeast. The vein contained iron carbonate and euhedral pyrite grains were noted. The selvage of the vein was sericitized and the envelope was locally carbonate enrich.

#### 4. CONCLUSIONS

The limited gridding and mapping program has laid the groundwork for a larger program of soil sampling, geophysical surveys and property and grid geological mapping. It has shown that quartz veining is present and that veins occur both in the intrusives and in the metasediments.

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6. STATEMENT OF QUALIFICATIONS

I, Reginald L. Faulkner of #302 - 1475 West 11th Avenue, Vancouver, British Columbia hereby certify that:

- 1. I am an exploration geologist and a graduate of the University of British Columbia, with a B.Sc. in Physical Geography/Geology in 1974 with additional course work in Geology in 1977-79 and 1982-83.
- 2. I obtained a M.A.Sc. from the University of British Columbia in Mining and Mineral Process Engineering in 1988, emphasizing mineral economics.
- 3. I am a Fellow of the Geological Association of Canada.
- 4. I have practiced as a geologist since 1979 for companies, including RIOCANEX, Vancouver, B.C.; Denison Mines Limited, Vancouver, B.C., Duval International Corporation, Vancouver B.C.; Trigg, Woollett, Olsen Consulting Limited, Edmonton, Alberta; Terra Mines Limited, Edmonton, Alberta, and Fairbank Engineering Limited, Vancouver, B.C.
- 5. The details of this report are based on work done by Fairbank Engineering from May 22 to October 18, 1989.

Reginald L. Faulkner, B.Sc. M.A.Sc.

January 1990

# 7. <u>STATEMENT OF COSTS</u>

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R. Faulkner A. Pratt S. MacDonald S. Courte J. Perry j. Twomey	3 4.5	days days days days	କ କ କ କ	\$350/day \$240/day \$232/day \$232/day \$200/day \$200/day	1050 1080 696 1044 800 <u>800</u> 5470	\$5470	
Room & Board							
23 mandays @ \$	50/m	anday			1150	\$1150	
Truck							
Rental Fuel	8 8			\$60/day \$10/day	480 <u>80</u> 560	\$ 560	
<u>Miscellaneous</u>							
Maps, reproductions, communication 150 Consumables 270							
consumables					420	<u>\$ 420</u>	
Total Costs						\$7600	

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