PROSPECTUS

OLIVER GOLD PROJECT

Submitted by:

THE VALHALLA GOLD GROUP CORPORATION
#814, 837 West Hastings Street
Vancouver, British Columbia
V6C 1B6
Telephone: (604) 669-6656
Telecopier: (604) 669-4210

Prepared by:

KEEWATIN ENGINEERING INC.
#800, 900 West Hastings Street
Vancouver, British Columbia
V6C 1E5
Telephone: (604) 684-2822
Telecopier: (604) 684-9877

August 15, 1988

Report Number: bg88002

TABLE OF CONTENTS

6.0 ENVIRONMENTAL ASPECTS

LIST OF FIGURES

LIST OF TABLES

1.0 PROJECT DESCRIPTION

1.1 Introduction

The Valhalla Gold Group Corporation proposes to develop the Fairview Camp Project located in the southern Okanagan Valley approximately 6.5 km northwest of Oliver, British Columbia (See Figure 1) through its subsidiary companies, Oliver Gold Corporation, Loki Gold Corporation and Thor Gold Corporation.

1.2 Description of Mineral Claims

The project property consists of 36 crown grants and 10 recorded claims (45 units) covering an area of 1586 ha. The property which is located in the Osoyoos Mining Division includes:

Name	Lot No.	Area (Ha.)
Agricola	2027S	20.90*
August	1050	5.20
Banker	2013S	17.54*
Black Diamond	578	8.33
Brown Bear	385	8.36
Buller	554S	20.22
Chatty	3273S	14.52
Comet	624	6.27
Eureka	3401S	18.55
Evening Star	543	7.69*
Fairview	556S	16.80
Federal	2030S	19.09*
Flora	1086	14.37
Gunsite	255	18.13*
Grey Gables	2026S	20.87*
Hairspring	2056	18.49*
Haligonian	557S	16.31
John Fr.	3402S	12.23
Manton Fr.	1978	1.62
Morning Star	443	8.36
Ness	3274S	20.90
Oakville	2029S	20.45*
Ocean Wave	854	14.65
Ontario	573	7.19
Oro Basante	2055	18.17*
Rattler	445	8.35
Silver Crown	442	8.36*
Stemset	215	14.97*
Stemwinder	384	8.36
Susie	1917	20.90*
Treo Hermands	2028S	14.50*
Virginia	1087	20.64

Western Girl	*574*		*6.50*
Western Hill	*1085*		*19.44*
Wynn Fr.	*3275S*		*1.61*
Wynn M.	*554*		*7.80*
		TOTAL	*486.64*

* *THESE LOTS DO NOT INCLUDE SURFACE RIGHTS (See Figure 2)*

RECORDED CLAIMS

CLAIM	*UNITS*	*RECORD NUMBER*	*RECORD DATE*	*DUE DATE*
Winder 1	*2*	*1253*	*October 6, 1980*	*October 6, 1995*
Winder 2	*1*	*1254*	*October 6, 1980*	*October 6, 1995*
Winder 3	*6*	*1255*	*October 6, 1980*	*October 6, 1995*
Winder 2	*6*	*1304*	*December 17, 1980*	*December 17, 1995*
Winder 4	*8*	*1369*	*March 23, 1981*	*March 23, 1995*
Winder 5	*16*	*1370*	*March 23, 1981*	*March 23, 1995*
Winder 6 Fr.	*1*	*1371*	*March 23, 1981*	*March 23, 1995*
Winder 7 Fr.	*1*	*1372*	*March 23, 1981*	*March 23, 1995*
Stem 1	*1*	*1508*	*February 25, 1982*	*February 25, 1995*
Stem 2	*3*	*1509*	*February 25, 1982*	*February 25, 1995*

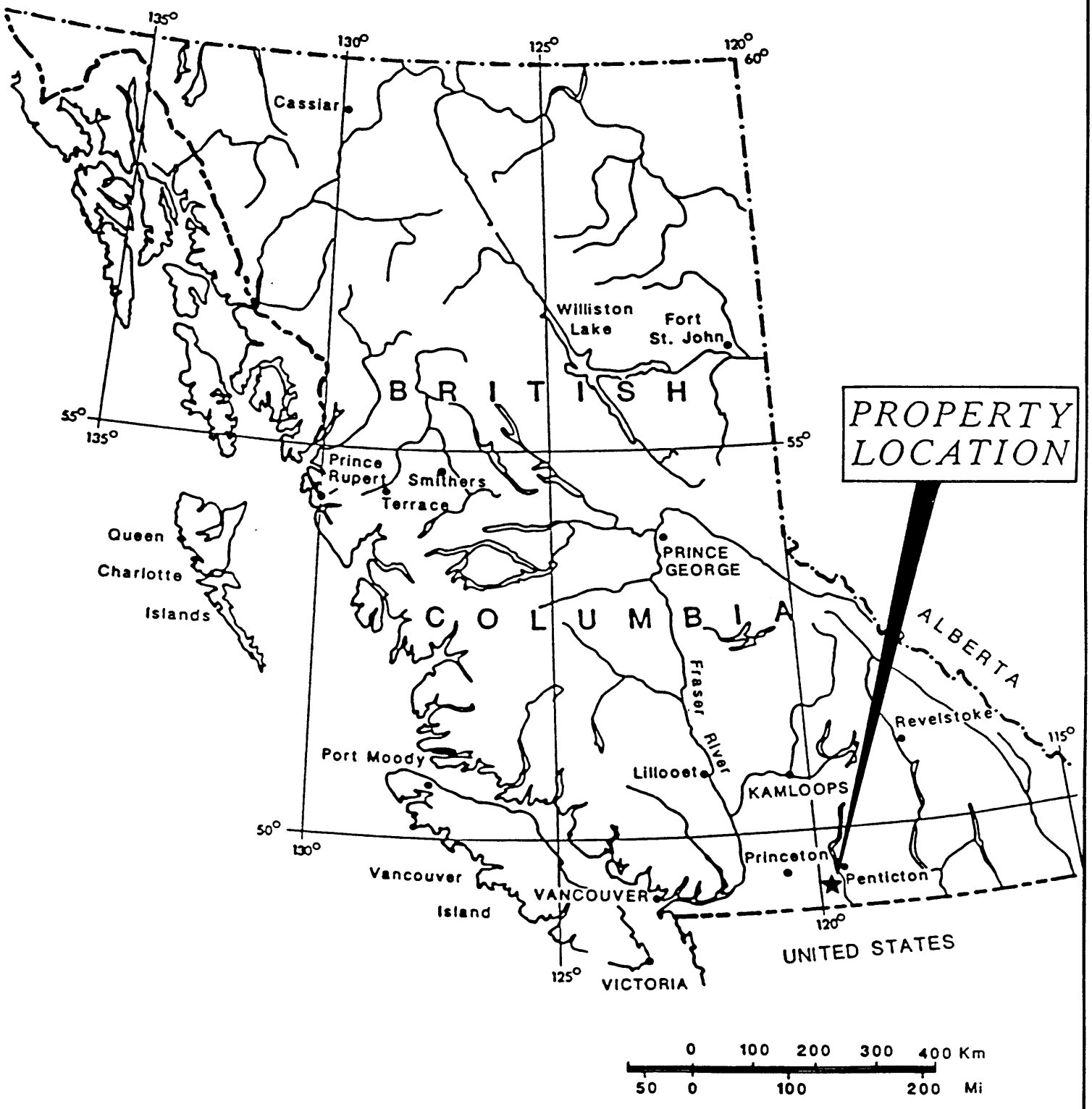
TOTAL UNITS 45 (see Figure 2)

1.3 History

Previous mining on the property dates back to 1896 and continued intermittently to as late as 1961. During that period 485,000 tons grading 0.112 oz / ton gold and 1.4 oz / ton silver were produced at the Fairview Mine (lots 574, 1085, 1086, 1087, 1978, 2055), 28,000 tons at 0.170 oz / ton gold and 1.9 oz / ton silver came from the Stemwinder (lot 384), and 8,300 tons grading 0.560 oz / ton gold and 1.27 oz / ton silver at the Morningstar (lot 443). In addition, 10,000-20,000 tons of up to 0.3 oz / ton gold equivalent has been removed from the Susie Mine (lot 1917).

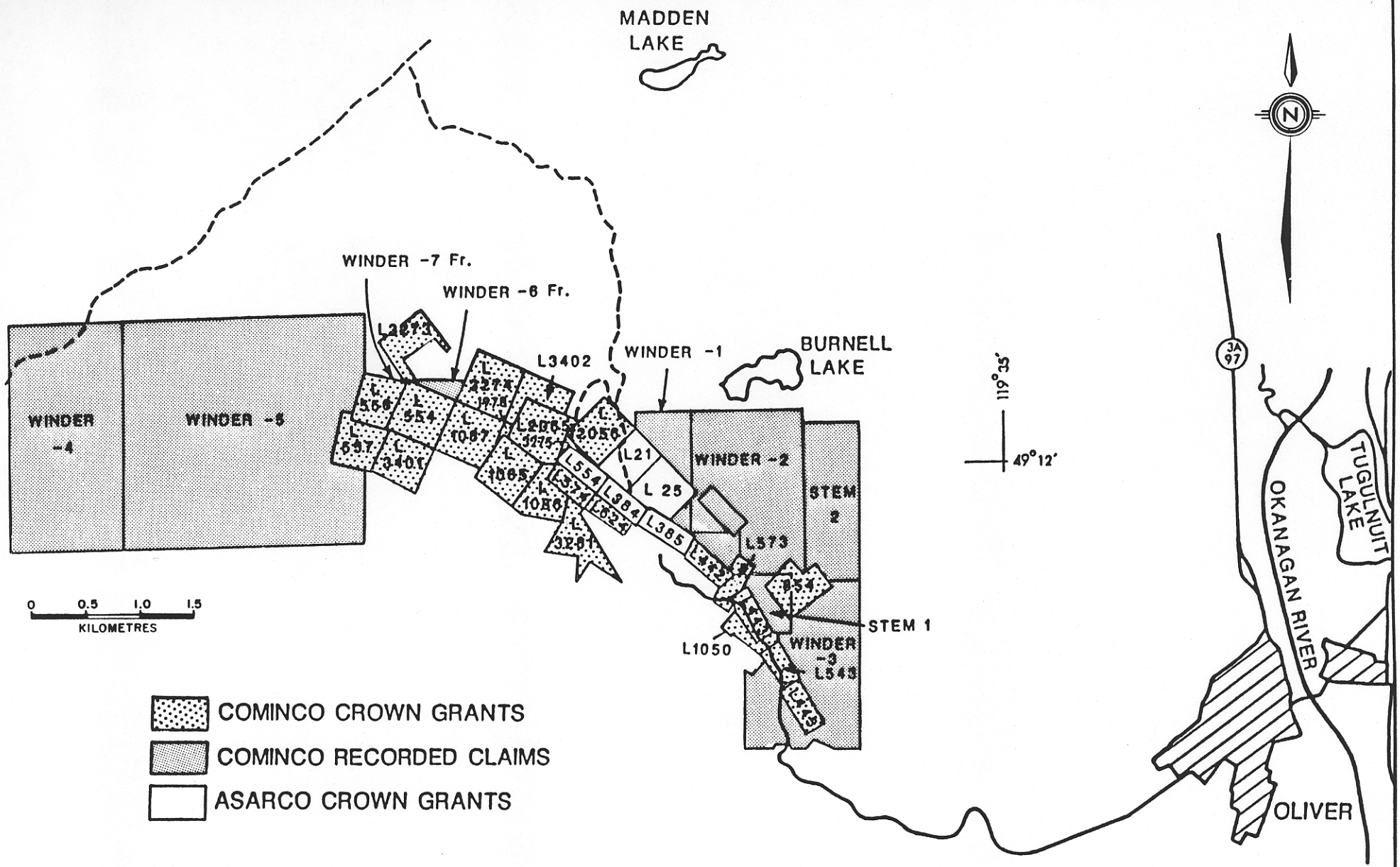
Recent exploration has concentrated on the area between the Brown Bear Adit (lot 385) to the east through to the northwest end of the old Fairview Mine workings on lot 1087, a horizontal distance of 2100 metres. This work which has concentrated on defining the overall grade of the vein as well as identifying higher grade shoots has included both diamond and reverse circulation drilling as well as extensive underground rehabilitation work.

Numerous other targets exist on the property including the Morningstar and Susie Mines. It is anticipated these targets will be the focus of future exploration in order to define additional reserves and extend the mine life.



PROPERTY LOCATION MAP

Figure I



FAIRVIEW CROWN GRANTS AND MINERAL CLAIMS

NTS 82E/4E

Figure 2

2.0 Location

2.1 Location and Access

The Fairview property is located on the west side of the Okanagan Valley about 35 km south of Penticton, British Columbia, and 6.5 km northwest of Oliver, British Columbia (see Figure 1). The property lies on map-sheet NTS 82-E/4 E in the Osoyoos Mining Division at 49° 12' North latitude and 119° 38' West longitude (Figure 2).

Access is partly by paved road from Oliver and partly by an all-weather gravel road which is currently used as a backway route to Cawston and Keremeos. The topography is best described as low rolling hills with steep slopes. The lowest elevation on the property is 2,200' at the southeast end of the belt and from here, gradually rises to over 4,800' at the northwest boundary of the Crown granted claims, and then down to 2,500' at the northwest property boundary near Blind Creek. The terrain is moderately wooded with a variety of coniferous trees and is a popular area for hunting, fishing, four-wheel driving, and cattle grazing during the summer months.

2.2 Existing Facilities

An exploration camp belonging to the underground contractor is located near the Brown Bear portal on lot 385. Buildings include 3 house trailers used as living quarters, 1 dry/washroom trailer, 1 shop trailer and an 8 ft x 8 ft plywood shack.

All trailers are hooked up to a single septic tank.

Water for washing purposes is piped in from the Brown Bear Adit. Drinking water is brought by container from Oliver.

The camp is serviced with a B.C. Telephone line and 2 phase power line from West Kootenay Power.

An 18 ft x 12 ft plywood core shack is located on lot 5554. In addition to the aforementioned buildings, cement foundations from 4 old buildings plus a buried cement cistern are located on lots 554 and 574.

B.C. Telephone Co. has a building and repeater station located on lot 385.

The 3 and 5 level portals for the Fairview Mine are situated on lot 1086 while the 6 level portal is on lot 2055. Wooden doors have been erected on 3 and 6 levels. Five level is boarded shut.

A decline and shaft (500 ft) complete with part of the old headframe exists at the Stemwinder Mine.

The Brown Bear Adit has a wooden door and the Susie Mine portal is boarded shut.

The Morningstar portal is sloughed in and is inaccessible. Numerous dirt roads exist throughout the property.

3.0 GEOLOGY, ORE RESERVES AND MINERALIZATION

3.1 Geology

3.1.1 Regional Geology

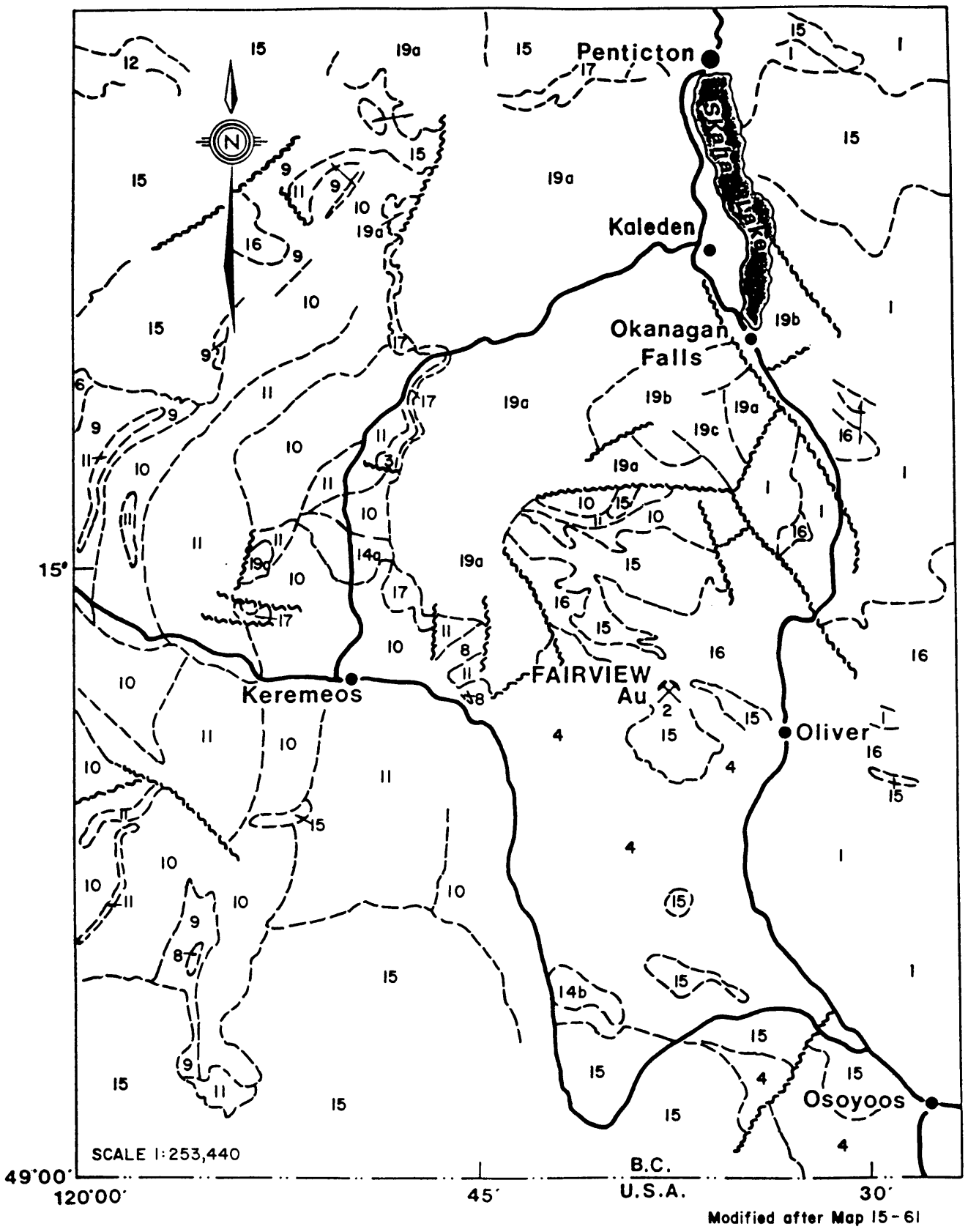
The Fairview property straddles a narrow northwesterly trending belt of Kobau Group metasediments which separate two large intrusive bodies, the Oliver granite to the northeast and the Fairview granodiorite to the southwest. The Oliver granite has been radiometrically dated at 144 m.y. while the Fairview granodiorite has been dated at 110 m.y.

The Kobau Group metasediments consist of a complex assemblage of quartzites, schists, marble and greenstones which are thought to be pre-Pennsylvanian in age and are possibly Upper Mississippian. They have undergone at least two and possibly three phases of folding.

Tertiary dykes and sills of andesite to rhyolite composition occur throughout the belt.

Auriferous quartz veins occur in all lithologies but are thickest and most continuous where they occur in the quartzites. Some significant veining does occur in the intrusive bodies.

Tertiary faults cross-cut all lithologies including the quartz veins. (see Figure 3)



REGIONAL GEOLOGY
SOUTH OKANAGAN VALLEY

Figure 3

LITHOLOGICAL UNITS OF THE SOUTH OKANAGAN VALLEY

1 *MONASHEE GROUP - Layered gneuss (paragneuss); minor schist, ampjhibolite, quartzite, marble and pegmatite.*

2 *CHAPPERON GROUP - chlorite schist, quartzite.*

3 *OLD DAVE INTRUSIONS - serpentinized ultrabasic rocks.*

4 *KOBAU GROUP - quartzite, schist, greenstone.*

6 *BLIND CREEK FORMATION - limestone, limy argillite.*

8 *BARSLOW FORMATION - argillite.*

10 *SHOEMAKER FORMATION - chert, some tuff and greenstone.*

14a *JURASSIC - pyroxenite.*

14b *JURASSIC - hornblendite.*

15 *NELSON PLUTONTIC ROCKS - grandiorite, quartz diorite, diorite, granite, quartz monzonite, syerite, monozonite.*

16 *VALHALLA PLUTONIC ROCKS - granite, granodiorite.*

17 *PALEOCENE OR EOCENE - congolmerate, sandstone, shale, tuff.*

19a *EOCENE OR OLIGOCENE - andesite, trachyteflows and agglomerate.*

19b *EOCENE OR OLIGOCENE - conglomerate, sandstone, shale, tuff, minor agglomerate and breccia.*

19c *EOCENE OR OLIGOCENE - andersite and trachyte.*

3.2.1 Property Geology

The Fairview Property is underlain by a NW-SE trending sequence of quartzites overlain by a greenstone assemblage of chlorite schists with minor interbedded amphibolites and quartzites. On top of this to the north lies an assemblage of greenstones and minor quartzites that have been altered to gneisses. A series of intermediate to felsic sills parallel to foliation occur throughout the lower quartzite unit. Late, non-foliated tertiary basalt to andesite dykes cuts all units.

The stratigraphy is tightly squeezed and strongly foliated at 100-130 degrees between the Oliver granite to the north and the Fairview granodiorite to the south. Dips are to the NE at 50-65 degrees.

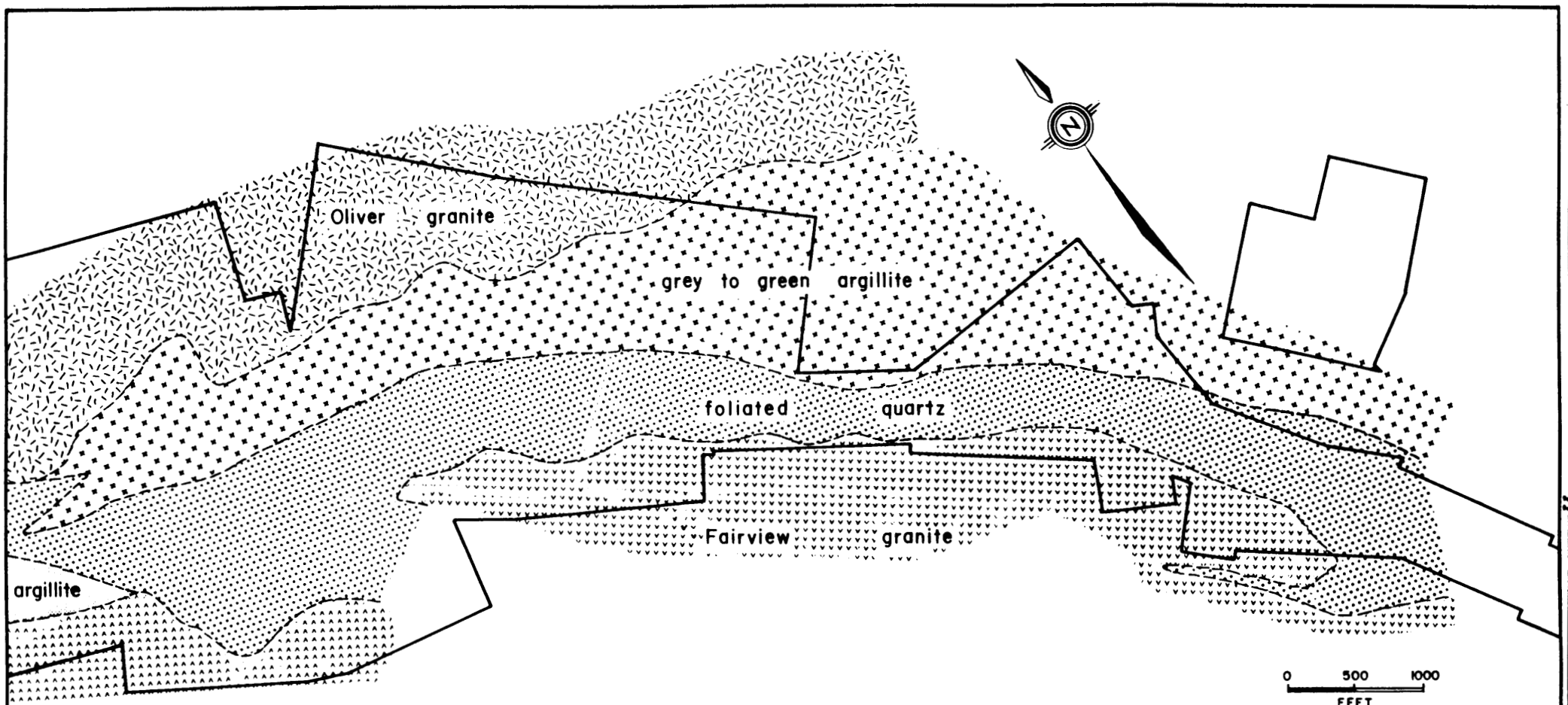
Mineralization is confined to a quartz vein system which parallels foliation and has been traced over 4 km.

This veining consists of two dominant veins often with a third or fourth present. They occur in the lower quartzite sequence, usually within 60 metres of the Fairview granodiorite contact. Individual veins reach up to 15 metres thick and pinch and swell both along strike and down dip.

Gold and silver values occur in portion of the vein that contain up to 2% sulphides including pyrite, sphalerite, galena and chalcopyrite. Strong fracturing parallel to foliation with graphite, sericite, chlorite and biotite filling fractures accompanies the mineralized zones.

Within the sulphide enriched areas ore shoots up to 82 metres long and 1.8 metres wide grading 0.302 oz / ton Au and 4.87 oz / ton Ag have been identified.

Past production from the entire Fairview camp which includes the Fairview, Stemwinder, and Morningstar Mines totalled 521,300 tons at 0.122 oz / ton Au. (see Table 1)



PROPERTY GEOLOGY
OLIVER GOLD PROJECT

Figure 4

TABLE 1

SUMMARY OF PAST PRODUCTION

		Tons	Grade
Fairview	*Pre-Cominco*	*120,000*	*0.17 oz / ton Au*
	Cominco	*365,000*	*0.093 oz / ton Au*
			1.4 oz / ton Ag
		485,000	*0.112 oz / ton Au*
Stemwinder		*28,000*	*0.17 oz / ton Au*
			1.9 oz / ton Ag
Morning Star		*8,300*	*0.56 oz / ton Au*
			1.27 oz / ton Ag
		521,300	*0.122 oz / ton Au*
			1.0 oz / ton Ag

Plus 10,000-20,000 tons @ 0.3 oz / ton gold equivalent from the Susie Mine.

3.2 Ore Reserves

When the Fairview Mine was shut down in 1961 Cominco estimated reserves for the mine at:

Measured	*290,000 tons*	*@ 0.090 oz / ton Au;*	*1.1 oz / ton Ag*
Indicated	*87,000 tons*	*@ 0.100 oz / ton Au;*	*1.2 oz / ton Ag*
Inferred	*385,000 tons*	*@ 0.120 oz / ton Au;*	*1.3 oz / ton Ag*
Total	*762,000 tons*	*@ 0.110 oz / ton Au;*	*1.2 oz / ton Ag*

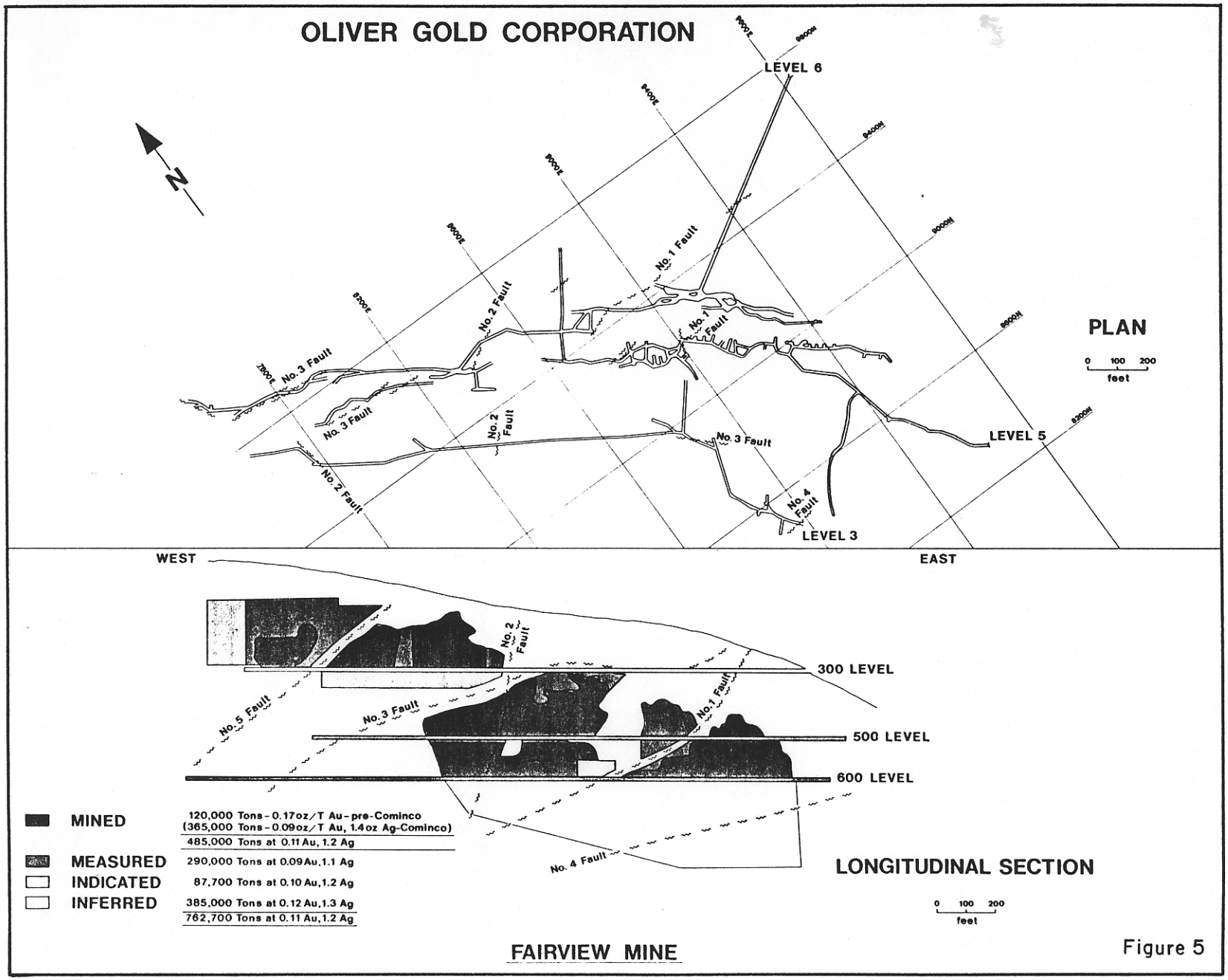
Exploration drilling by Cominco between 1982 and 1984 on the Stemwinder property indicated and infers reserves of 760,000 tons of 0.100 oz / ton Au. (see Figure 5)

Subsequent drilling of the property by The Valhalla Gold Group Corporation has extended the potential ore zone a further 90 metres NW of Cominco indicated reserves and has opened up potential reserves at depth both at the Fairview and Stemwinder Mine properties.

At present a firm ore reserve has not been calculated but a reasonable estimate puts the measured, indicated and inferred reserves at 2M tons grading 0.11 oz / ton gold and 1.2 oz / ton silver with 15% to 20% of the reserves grading 0.200 oz / ton gold equivalent or better.

The potential for increasing reserves on the property especially to the northwest where surface sampling has returned highly anomalous values in quartz veins and to the southeast where the old Morningstar workings are is considered excellent.

In order to firm up and confirm sufficient reserves for a production decision in early 1989, The Valhalla Gold Group is undertaking a major drill program commencing in mid-1988.



FAIRVIEW MINE

Figure 5

3.3 Mineralization

Gold and silver values in the Fairview quartz veins are closely associated with the presence of galena with or without chalcopyrite, sphalerite or pyrite. Where only pyrite exists, gold values are generally <0.05 oz / ton. No free gold was noted in any samples.

Sulphide mineralization appears to be of two ages and three styles. The oldest sulphides are disseminated pyrite grains which occur in quartzites, schists, altered sills and quartz veins. In places these crystals reach 5mm across.

The youngest sulphides include galena, chalcopyrite, sphalerite and rare pyrrhotite. These sulphides are fracture controlled with most occurring along S_1 fractures in quartz veins. A very small percentage also occur along S_2 fractures.

In places irregular clots up to 20 cm across of massive pyrite or galena can be found.

For the most part, the best galena-chalcopyrite-sphalerite mineralization and highest gold and silver values occur in the hangingwall parts of the veins, although significant values have been obtained throughout the vein. Gold values are also better where the vein has well-developed S_1 fractures lined with sericite-biotite-chlorite-graphite and, of course, sulphides. Where the vain is massive, sulphide content and gold plus silver values are low.

Thin and polished section studies by Jim M. McLeod indicate gold and silver entered the vein system along S_1 fractures in the fluids that produced galena, sphalerite and chalcopyrite. These fluids, which replace earlier formed pyrite, may be syn-deformation.

Age of mineralization is not clear but initial work suggests a sequence involving:

a) Emplacement of Oliver granite into volcanic / sedimentary pile in late Jurassic producing local penetrative foliation in stratigraphy and contact metamorphic aureole;
b) Emplacement of Fairview granodiorite in Cretaceous resulting n strong squeezing of stratigraphy between the Oliver granite to the north, producing the well-developed regional foliation and small scale isoclinal folds;
c) Shearing along the upper contact of the Fairview granodiorite provided room for quartz vein deposition;
d) Continued movement along the shear zone during late stages of Fairview granodiorite emplacement resulted in mobilization and redeposition of copper, lead and zinc along with gold and silver along late, vein-parallel fractures in the vein. Some of this same shearing may account for the "poddy" or lensy nature the vein now exhibits.
e) Tertiary faults have cut the stratigraphy offsetting the mineralized quartz vein.

4.0 MINING

4.1 Introduction

Mine development will be by conventional underground methods using open stopes, shrinkage stopes or combination of both types depending on geology and grade.

It is estimated that production could start one year after the production decision is made.

4.2 Mining Procedures

A program of mining the high-grade ore shoots during the first two or three years at a 300-ton per day rate will be commenced for the following reasons:

- larger proportion of high grade ore mined early in the mine life will result in faster pay back period;
- if selective mining is successful, then future low grade ore can be mined at a lower mining cost with good grade control.

To accomplish the above it may be necessary to have a decline sunk to a point 200 feet below 6 level to establish a new 7 level. A scoop drift would be driven 1,200 feet on this level together with stope development. Adequate rehabilitation will have been done on 6 level but a small amount of rehabilitation work will be required on 5 level plus some development work. The 3 level will require rehabilitation, some drift development, chutes and a ventilation raise. After this work is done stoping should start in order to provide adequate mill feed for start up. It is estimated all decline and development work can be done in the first 8 months, leaving 3 or 4 months for stoping.

It is estimated that 4 stopes will be required to supply the mill. This will be close to 300 tons per day on a 5-day week. Of these 2 may be good shrinkage stopes with a vein dip of 60 degrees or more. The remainder may be modified shrinkage stopes which will require help is scraping, or even open stopes depending on vein dip. An exception to the latter statement would be in the event that a section f vein may be deemed regular enough in outline and with a dip of not less than 40 degrees to qualify as a long-hole stope. As mining progresses in shrinkage stopes only about 35% of the ground broken is available immediately for the mill, the remainder being required in the stope to work off. When all drilling and blasting in the stope is complete all muck in the stope is available for the mill.

4.3 Mining Facts

4.3.1 Metal Reserves

Metals	Gold / Silver		
Reserves	Tons	Au	Ag
-undiluted	762,000	0.110	1.20
Dilution, 5%	38,100	-	-
-diluted	800,100	0.105	1.20
Cutting, 5%	800,100	0.100	1.14

4.3.2 Mining Data

Mine Operation	Underground by adit entry
Production Rate	300 tons per day, milled
Process Plant	Conventional cyanidation or flotation
Mine Life	10 years (plus)
Work Period	Mining - 5 days / week
	Milling - 7 days / week

4.3.3 Estimated Work Force

Operational	30
Staff	14
Housing	Oliver, Penticton and Osoyoos

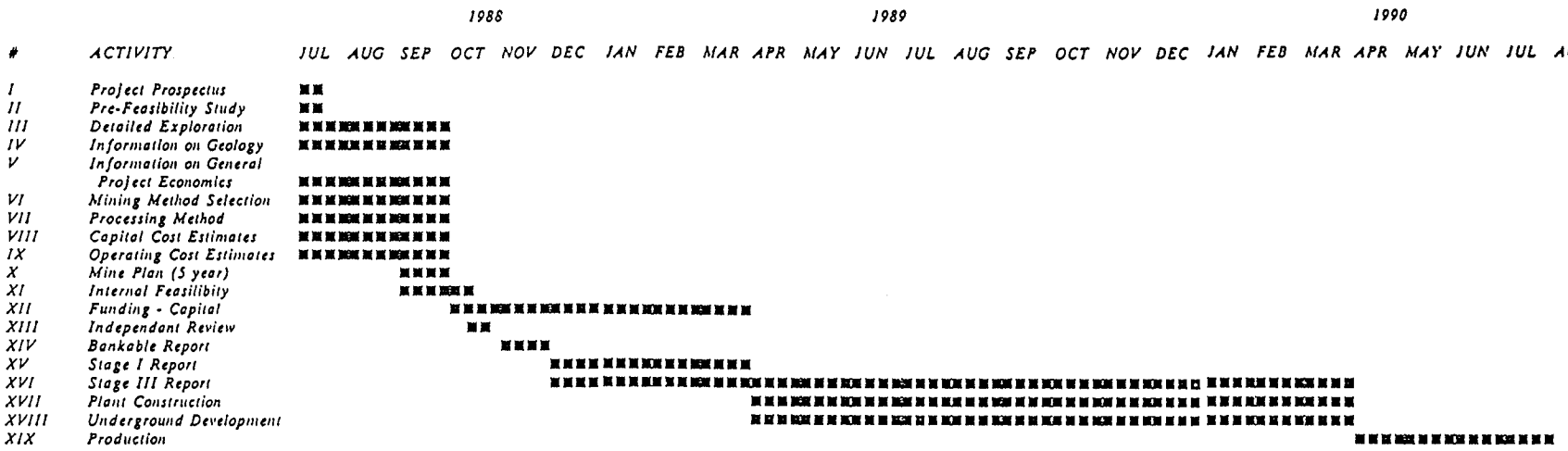
4.3.4 Project Schedule

Complete project schedule of operation is shown in Table 2. Major project dates are as follows:

Submission of Prospectus Report	August, 1988
Submission of Stage I Report	January, 1989
Approval-in-Principal	March, 1989
Site Construction and Development	April, 1989
Production Target	April, 1990

TABLE 2

GENERALIZED CRITICAL PATH FOR OLIVER PROJECT



5.0 METALLURGY, PROCESS PLANT AND OPERATIONS

5.1 Metallurgical Testing

Preliminary testing, one by flotation and cyanidation have been completed. The material responded well to both cyanidation and flotation. This testing was completed by Gary W. Hawthorne, Consulting Mineral Processing Engineer in Vancouver.

The results indicated recoveries of 88.4% gold and 85.4% silver by flotation or 96% gold and 75% silver using cyanidation over 24 hours. Further testing will be evaluated during the Stage I study, to determine if flotation r cyanidation are the most favourable option.

5.2 Process Plant

A 300 ton per day process plant will be constructed at the mine site, according to all geotechnical, environmental and engineering requirements and will be further evaluated during the Stage I study.

Mill tailings will be transported by pipeline to the proposed tailings disposal area. Reclamation of process water for re-use in the mill circuits will be necessary for the entire life-of-mine.

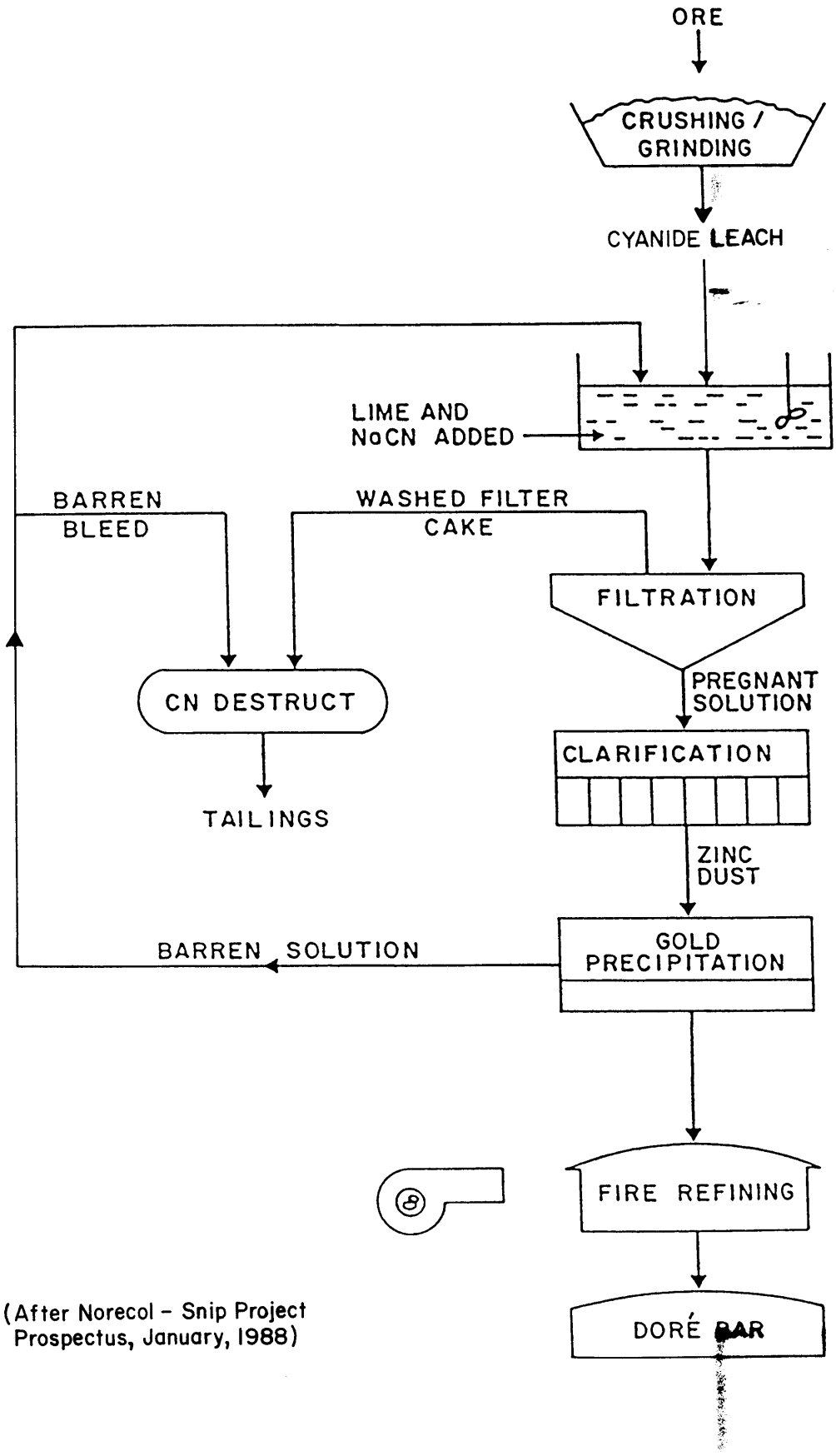
If gold is to be recovered using a conventional cyanidation process, the proposed mill flowsheet would appear as shown in Figure 6.

5.3 Tailings Disposal

A number of tailings pond sites are currently being considered. The most promising occur in the steep sided, SE oriented gullies located south east of the Brown Bear Adit. Engineering and environmental concerns will be evaluated during Stage I using up-to-date geotechnical, groundwater, wildlife and environmental data.

5.4 Water Supply

Fresh water will be required for plant facilities, fire protection and domestic use. Potential surface and underground water sources have been selected and will be more fully evaluated during the Stage I study. At this point it seems much of the water will have to come from water wells.



(After Norecol - Snip Project Prospectus, January, 1988)

PRELIMINARY MILL FLOW SHEET

Figure 6

5.5 Access Requirements

The majority of the project is accessible by the all season, Oliver-Cawston gravel road which runs through most of the property. Dirt road access leads from it to the various mine workings. The paved White Lake Road goes past the Susie Mine Workings. The Department of Highways out of Oliver maintains both the White Lake Road and the portion of the Oliver-Cawston road in the area of the present mine workings.

New road construction along with upgrading of existing dirt roads for access to various mine workings and facilities on the property will be considered during Stage I studies.

5.6 Power Supply

Electrical power could be supplied by West Kootenay Power, which has transmission lines in close proximity to the operation.

6.0 ENVIRONMENTAL ASPECTS

6.1 General Environmental Parameters

6.1.1 Climate

The Okanagan Basin is located in a zone of transition between a wet coastal climate characterized by maximum precipitation in the winter and a continental climate to the east having peak precipitation in the summer. The coast and Cascade Mountains west of the Okanagan form an effective blockage that severely restrict the amount of precipitation in the basin.

Within the Fairview Project Area, two biogeoclamitic zones have been identified:

a) the interior Douglas Fir zone which encompasses the central part of the property and includes most of the area with elevations above 1200 metres ASL;

b) the Ponderosa Pine, Bunchgrass zone which covers about 60% of the property and includes the portion of the property below 1200 metres ASL.

Generally the Oliver area is characterized by hot summers with extreme maximums of 43 degrees C and daily mean temperatures of 20 degrees C for July-August and extreme lows of -30 degrees C and daily mean temperatures of -5 degrees C for the December-February period (from Penticton Weather Station data). Mean annual temperatures are about 9 degrees C.

Average precipitation from the Oliver climatological recording station at 305 meters ASL is about 290mm which is comprised of 235mm rainfall and 55cm snowfall (recorded at 305 metes ASL). Maximum precipitation of about 37mm occurs in December and is made up of 18mm rain and 19 cm snow. September-October are the driest months with typically 17mm rain. It is anticipated that temperatures at the project site (670 metres ASL-1160 metres ASL) would be slightly cooler than those recorded at Oliver and precipitation levels, especially snow, would be higher.

6.1.2 Topography

The Fairview property lies within the Interior Plateau of southern British Columbia. Topography consists of low rolling ridges orientated in a NW-SE direction on the northerly facing slope of the Plateau edge. Steep west and east facing slopes occur in the higher areas of the central part of the property.

Elevations vary from 670 metres above sea level at the southeast end of the property and rise to over 1493 metres in the central part of the property. At the northwest boundary elevations are 760 metres ASL.

6.1.3 Drainages

The property is located on the west side of the Okanagan Valley in an area lacking creeks or rivers. Reed Creek, up hill and south of the mine workings is the closest drainage in the area. Flow, which peaks in the spring, is very intermittent. During peak discharge water flows throughout the creek bed but over most of the year, much of the flow is subsurface with the occasional small pools being found in the creek bed. The Reed Creek drainage flows eastward into the Okanagan River.

The west side of the property is drained by Blind Creek, another stream with only seasonal flow. This creek flows west into the Similkameen River.

North of the planned mine facilities by about 3.5 km is Victoria Creek. This easterly flowing creek which drains Madden Lake and is a tributary of Park Rill Creek is abut 0.5 km north of the Susie Mine workings.

6.1.4 Hydrology

Owing to the absence of creeks or rivers in the region that flow all year, water monitoring data is minimal. However, discharge data for Park Rill Creek (station 08NM120) 6.0 km NE of the Fairview Project from 1952 to 1969 indicates discharge increases in April and peaks in May then declines reaching stable low flows from August to March (Environment Canada). The station on Park Rill Creek recorded a mean yearly flow of 0.146 cubic metres per second for May over a 20 year period.

There are no records of major flood events.

Reed Creek, the main drainage in the project area only flows throughout its creek bed in the spring. The rest of the year most of the flow is subsurface with only the occasional pool occurring in the creek bed. Flow data is lacking.

A number of springs with flows less than 5 gallons per minute plus outflow from the Fairview and Brown Bear Mine adits are the main sources in the area.

6.1.5 Fisheries

There are no fish in either Reed or Blind Creeks, the two drainages on the property. Immediately north of the project is Burnell Lake, a small lake recently stocked with trout by the Fisheries Branch of the Ministry of Environment. At the present time no fishing is allowed in this lake.

6.1.6 Wildlife

A wide variety of bats are known to occur in the Okanagan and many are believed to live in the numerous old mine workings found throughout the region.

Pheasant and quail are common in the lower, open grassland areas of the property while Blue, Willow and Spruce Grouse are found in the more wooded areas at higher elevations.

Reptiles known to occur in the region include painted turtle, western rattlesnake, tiger salamander and Great Basin spadefoot toads.

6.1.7 Vegetation

The Fairview Property is located in the Columbia Forest Region. The lower elevations of the property on the east, north and west slopes are within the Ponderosa Pine, Bunchgrass vegetation zone. Ponderosa pine and bunchgrass are typical vegetation. The central part of the property at elevations above 1125 metres ASL is in the Interior Douglas Fir vegetation zone. Representative trees include Interior Douglas Fir, lodgepole pine and ponderosa pine.

Some alder, willow, poplar and birch are found along creek draws and near springs.

6.1.8 Soils

The area is strongly glaciated resulting in very poor soil development over much of the property. The more open and lower portions of the property are covered by thin mantels of glacial moraine and till with substantial portions of bare rock exposed along ridge tops and northerly facing slopes. Soils, where developed are Eluviated Eutric Brunisols and Orthic Dark Brown.

Soils which have formed under the forested areas at higher elevations are Orthic-Gray Luvisol and Eluviated Eutric Brunisol.

6.1.9 Land Use

The Okanagan Valley is a heavily used recreational area with boating, fishing and bathing occurring throughout the valley lakes and rivers.

In the project area recreational use includes hiking, hunting, dirt-biking, snowmobiling and cross-country skiing. Fishing takes place at Ripley and Madden Lakes to the north and at Burnell Lake the B.C. Forestry Service maintain a campground.

Two local ranches have grazing rights for cattle over the entire project area.

Timber licenses have been recently issued to logging companies for two small cutting blocks 3 km south-west of the Fairview Mine workings.

Blind Creek Indian Reserve #6 is situated 2 km west of the property and the town of Oliver is 3.5 km east of the south-eastern part of the project.

Individual families living on farms in the 4 to 20 acre range are located 0.5 km north of the Fairview Mine, 0.5 to 1.0 km south-east of the Stemwinder shaft and 0.5 km north of the Susie Mine workings.

6.2 Potential Concerns

The principal environmental concerns for the Fairview project is the possible effects on water quality. In particular the possible effects of groundwater flowing to the town of Oliver and on into the Okanagan River.

Siting and design of all facilities will require detailed study to ensure proper treatment and containment of all mine waste materials. Special emphasis will be placed during the Stage 1 Study on determining groundwater flow and the possible effects resulting from an operating mine and associated facilities.

Since the proposed mine operation will be quite small no major disruption to wildlife, recreation, grazing land or local hobby farms is anticipated.

6.3 Proposed Studies

Baseline data collection for water quality and hydrology was initiated in April, 1988 and followed up in June, 1988. A more complete environmental impact study will be established during the Stage 1 Report after terms of reference are established following review of the project Prospectus by Provincial and Federal Government Agencies. The presently proposed program of environmental studies is as follows.

6.3.1 Climate

Regional climate data will be fully evaluated during the Stage 1 Report. At present Atmospheric Environment Service stations exist at Oliver, Osoyoos and Penticton. These stations have relatively long term data on temperature and precipitation including snowfall.

Snowpack data is also available for the Mount Koban Observatory situated at 1864 metres ASL and 10 km SSE of the project site.

6.3.2 Hydrology

A stream gauging station was established by Norecol in April, 1988 on Reed Creek. Owing to the small flow, measurements are being made with a pail and stopwatch.

Flow measurements will be taken twice a week by Valhalla staff throughout the year.

All existing hydrology information pertinent to the project area including data on storm events will be evaluated for the Stage I proposal. Table 3 shows a summary of NORECOL water quality and hydrology measurements at the Fairview property in April, 1988.

6.3.3 Groundwater

No information on groundwater exists for the project area. As such

groundwater quantity and quality will be assessed during the Stage 1 environmental program.

In April, 1988 Norecol established gauging stations at the Brown Bear and Fairview 6 level portals and at a spring between Fairview 3 and 5 levels. Flow is being measured twice a week by Valhalla staff using a pail and stopwatch at these sites.

Drill holes and piezometer installation will be undertaken as part of the Stage 1 study in areas where necessary to characterize groundwater.

6.3.4 Water Quality

Norecol sampled Reed Creek and the 3 groundwater gauging stations for water quality in April, 1988 to characterize early spring high flow conditions. A second set of samples were collected by Valhalla staff in June to characterize late spring conditions. Additional sampling at these sites will be undertaken in summer, fall and winter when flows are expected to be low. The parameters and their actual respective detection limits from Norecol samplings are shown in Table 4.

6.3.5 Acid Generation

Preliminary sampling will assess the potential for acid generation at the project site. Three representative samples of waste rock and three of ore have been submitted for testing. These were to be analyzed for total and sulphide sulphur, paste pH and neutralizing potential. The results are stated in Table 5.

6.3.6 Fisheries

No studies are planned for fisheries at this time.

6.3.7 Soils and Surficial Geology

Generalized mapping of soils in the project area was undertaken by the Ministry of Environment between 1970 and 1980. This data will be reviewed and limited additional work carried out to verify conditions and aid in design of mine site facilities. Any terrain hazards will be documented.

TABLE 3

SUMMARY OF NORECOL WATER QUALITY AND HYDROLOGY MEASUREMENTS IN THE OLIVER GOLD PROJECT AREA

April 27 and 28, 1988

SITE	CREEK SAMPLING LOCATION	TIME (hours)	$t^{o}H_2O$ (^{o2}C)	SG (cm)	DISCHARGE m^3/s	COMMENTS
R1	Reed Creek downstream of road @ about 2470 ft elevation	1320	7.0	-		water quality samples collected
B1	Adit water from Brown Bear Adit	1455			7.7 L/min (1.7 IGPM)	water quality site flow measured at outflow from adit
F1	Adit water from Fairview Adit (Level #6)	1600	6.0	-	24 L/min (5.28 IGPM)	water quality site flow measured at out-flow from adit
C1	Cistern Pipe	1720	6.0	-	11.5 L/min (2.5 IGPM)	water quality site and flow monitoring location
H-R1	Downstream (north) end of road Culvert @ 2000 feet elevation	April 28 0900		-	507 L/min (111 IGPM)	Flow monitoring location

6.3.8 Vegetation

Regional scale vegetation studies have been undertaken by the Forestry Ministry in the area. They are constantly assessing their data and have just let logging permits out on two parcels of land 2 km southwest of the project area.

No additional vegetation studies are planned at this time.

6.3.9 Wildlife

The South Okanagan is home to a wide variety and number of wildlife species that are of special management significance. Specific information regarding the current presence or abundance of any of these wildlife species in the project area is lacking.

At present an observation log is being kept at the project site and is being filled out by The Valhalla Gold Group staff. To accompany this data, a wildlife survey and impacts assessment will be undertaken as part of the Stage 1 Report. It is anticipated that this study would include on site surveys and assessments during the spring-summer months and mid-winter.

Current studies on bats being undertaken by the University of Calgary would be incorporated into the assessment on wildlife.

6.3.10 Resource Use, Heritage

Heritage resource values will be assessed from existing information with heritage potential being divided into broad classes such as low, medium and high. More detailed heritage would be conducted only if required and would depend on the findings of the overview study.

6.3.11 Supplementary Studies

In addition to the aforementioned surveys and studies the Stage 1 program will address water management, waste management and reclamation and provide details and plans in the Stage 1 Report.

6.3.12 Socio-Economic

Due to the small size of the project it's expected the socio-economic impact on surrounding communities will be minimal. The towns of Oliver, Osoyoos, Keremeos and Cawston along with the City of Penticton would be the main centres for employee housing and for the purchase of supplies and services. It is expected that employees would commute on a daily basis from their homes to the mine using their own transportation.

An assessment on the local communities including available skilled and unskilled labour services and the availability of housing will be addressed in the Stage 1 Report.

TABLE 4

ANALYTICAL RESULTS FOR WATER SAMPLES FROM OLIVER GOLD PROJECT
SITE: B1 BEAR ADIT

ANALYTICAL PARAMETER	APRIL 27/88	JUNE 13/88
Temperature (°C)		
pH	7.3	7.5
Alkalinity (mg $CaCO_3$/L)	235	202
Turbidity (NTU)	9.3	0.2
Conductance (µmhos/cm)	608	521
Total Solids (mg/L)	442	408
Suspended Solids (mg/L)	2	<1
EDTA-Hardness (mg $CaCO_3$/L)	345	297
Sulfate (mg/L)	108	96
Ammonia (mg N/L)	0.006	0.008
Nitrate (mg N/L)	<0.005	0.212
Nitrite (mg N/L)	<0.002	<0.002
Total Phosphorus (mg P/L)	<0.003	<0.003
Total Cyanide (mg/L)	<0.001	<0.001
TOTAL METALS: (mg/L)		
Ag	<0.0002	<0.0002
Al	<0.01	<0.01
As	<0.001	0.005
Ba	0.063	0.061
Cd	<0.0002	0.0026
Co	<0.001	<0.001
Cr	<0.001	<0.001
Cu	<0.0005	0.0080
Fe	0.92	0.14
Hg (µg/L)	<0.05	<0.05
Mn	0.16	0.009
Mo	<0.005	<0.005
Ni	<0.002	0.017
Pb	<0.001	<0.001
Sb	<0.002	<0.002
Se	<0.001	<0.001
Zn	<0.0005	0.46
DISSOLVED METALS: (mg/L)		
Ag	<0.0002	<0.0002
Al	<0.01	<0.01
As	<0.001	0.003
Ba	0.038	0.031
Cd	<0.0002	0.0023
Co	<0.001	<0.001
Cr	<0.001	<0.001
Cu	<0.0005	0.0029
Fe	0.44	0.05
Mn	0.15	0.009
Mo	<0.005	<0.005
Ni	<0.002	0.015
Pb	<0.001	<0.001
Sb	<0.002	<0.002
Se	<0.001	<0.001
Zn	<0.0005	0.14

TABLE 4

ANALYTICAL RESULTS FOR WATER SAMPLES FROM OLIVER GOLD PROJECT
SITE: F1 FAIRVIEW ADIT

ANALYTICAL PARAMETER	APRIL 27/88	JUNE 13/88
Temperature (°C)		
pH	8.0	7.5
Alkalinity (mg $CaCO_3$/L)	180	282
Turbidity (NTU)	0.15	0.6
Conductance (µmhos/cm)	1350	1138
Total Solids (mg/L)	1214	1066
Suspended Solids (mg/L)	3	3
EDTA-Hardness (mg $CaCO_3$/L)	835	505
Sulfate (mg/L)	680	515
Ammonia (mg N/L)	<0.005	0.020
Nitrate (mg N/L)	0.008	0.007
Nitrite (mg N/L)	<0.002	<0.002
Total Phosphorus (mg P/L)	<0.003	0.007
Total Cyanide (mg/L)	<0.001	<0.001
TOTAL METALS: (mg/L)		
Ag	<0.0002	<0.0002
Al	<0.01	<0.01
As	0.002	0.004
Ba	0.013	0.024
Cd	0.0002	0.0020
Co	0.001	0.001
Cr	<0.001	<0.001
Cu	<0.0005	0.0007
Fe	0.09	0.24
Hg (µg/L)	<0.05	<0.05
Mn	<0.001	0.07
Mo	0.036	0.026
Ni	0.014	0.011
Pb	<0.001	<0.001
Sb	0.003	0.005
Se	<0.001	<0.001
Zn	0.0021	0.012
DISSOLVED METALS: (mg/L)		
Ag	<0.0002	<0.0002
Al	<0.01	<0.01
As	0.002	<0.001
Ba	0.012	0.015
Cd	0.0002	0.0005
Co	<0.001	<0.001
Cr	<0.001	<0.001
Cu	<0.0005	<0.0005
Fe	0.014	0.10
Mn	<0.001	0.07
Mo	0.036	0.026
Ni	0.014	0.011
Pb	<0.001	<0.001
Sb	0.003	0.005
Se	<0.001	<0.001
Zn	0.0021	0.011

TABLE 4

ANALYTICAL RESULTS FOR WATER SAMPLES FROM OLIVER GOLD PROJECT
SITE: C1 CISTERN

ANALYTICAL PARAMETER	APRIL 27/88	JUNE 13/88
Temperature (°C)		
pH	7.3	6.6
Alkalinity (mg $CaCO_3$/L)	333	325
Turbidity (NTU)	<0.1	0.2
Conductance (µmhos/cm)	818	747
Total Solids (mg/L)	602	604
Suspended Solids (mg/L)	<1	<1
EDTA-Hardness (mg $CaCO_3$/L)	470	436
Sulfate (mg/L)	153	137
Ammonia (mg N/L)	<0.005	0.007
Nitrate (mg N/L)	<0.005	<0.005
Nitrite (mg N/L)	<0.002	<0.002
Total Phosphorus (mg P/L)	<0.003	<0.003
Total Cyanide (mg/L)	<0.001	<0.001
TOTAL METALS: (mg/L)		
Ag	<0.0002	<0.0002
Al	<0.01	0.010
As	<0.001	0.002
Ba	0.054	0.034
Cd	<0.0002	<0.0002
Co	0.001	<0.001
Cr	<0.001	<0.001
Cu	<0.0005	0.0007
Fe	0.08	0.039
Hg (µg/L)	<0.05	<0.05
Mn	<0.001	<0.001
Mo	<0.005	<0.005
Ni	0.002	<0.002
Pb	<0.001	<0.001
Sb	0.002	0.002
Se	<0.001	<0.001
Zn	<0.0005	0.0027
DISSOLVED METALS: (mg/L)		
Ag	<0.0002	<0.0002
Al	<0.01	<0.01
As	<0.001	<0.001
Ba	0.041	0.025
Cd	<0.0002	<0.0002
Co	<0.001	<0.001
Cr	<0.001	<0.001
Cu	<0.0005	0.0005
Fe	0.015	0.039
Mn	<0.001	<0.001
Mo	<0.005	<0.005
Ni	<0.002	<0.002
Pb	<0.001	<0.001
Sb	0.002	0.002
Se	<0.001	<0.001
Zn	<0.0005	0.0006

TABLE 4

ANALYTICAL RESULTS FOR WATER SAMPLES FROM OLIVER GOLD PROJECT
SITE: R1 REED CREEK

ANALYTICAL PARAMETER	APRIL 27/88	JUNE 13/88
Temperature (°C)		
pH	7.9	7.3
Alkalinity (mg $CaCO_3$/L)	193	95
Turbidity (NTU)	<0.1	1.0
Conductance (µmhos/cm)	440	322
Total Solids (mg/L)	302	256
Suspended Solids (mg/L)	<1	2
EDTA-Hardness (mg $CaCO_3$/L)	240	200
Sulfate (mg/L)	45	37
Ammonia (mg N/L)	<0.005	0.007
Nitrate (mg N/L)	<0.005	<0.005
Nitrite (mg N/L)	<0.002	<0.002
Total Phosphorus (mg P/L)	<0.003	0.033
Total Cyanide (mg/L)	<0.001	<0.001
TOTAL METALS: (mg/L)		
Ag	<0.0002	<0.0002
Al	<0.01	0.010
As	<0.001	0.002
Ba	0.043	0.067
Cd	<0.0002	<0.0002
Co	<0.001	<0.001
Cr	<0.001	<0.001
Cu	<0.0005	0.0071
Fe	0.07	0.15
Hg (µg/L)	<0.05	<0.05
Mn	<0.001	0.0021
Mo	<0.005	<0.005
Ni	<0.002	<0.002
Pb	<0.001	<0.001
Sb	<0.002	<0.002
Se	<0.001	<0.001
Zn	<0.0005	0.27
DISSOLVED METALS: (mg/L)		
Ag	<0.0002	<0.0002
Al	<0.01	<0.01
As	<0.001	<0.001
Ba	0.032	0.023
Cd	<0.0002	<0.0002
Co	<0.001	<0.001
Cr	<0.001	<0.001
Cu	<0.0005	0.0005
Fe	0.006	0.032
Mn	<0.001	<0.001
Mo	<0.005	<0.005
Ni	<0.002	<0.002
Pb	<0.001	<0.001
Sb	<0.002	<0.002
Se	<0.001	<0.001
Zn	<0.0005	0.03

TABLE 5

OLIVER GOLD ACID-BASE ACCOUNTING

Three samples of waste rock (F88R03, F88R06, S87R06) and four samples of ore (57721, 57800, 57809, 60882) from the Fairview Property were assayed for acid producing potential; samples were provided by Oliver Gold. Waste rock was from rotary drill rejects and ore from diamond drill cores.

Acid-base accounting gives a measure of the potential total acid production and neutralization capability of a rock. Three parameters are measured: total, sulphur, neutralization potential, and paste pH. The neutralization potential is determined by adding a known amount of acid and measuring the amount of base that is required to neutralize to pH 7. Maximum potential acidity is calculated from the total amount of sulphur present in the rock. Net neutralization potential is then determined by subtracting the neutralization potential from the maximum potential acidity. A negative neutralization potential value (below minimum 5 kilograms calcium carbonate per tonne of rock) typically is used to indicate a potential acid producing rock type. Paste pH is a measure of immediate acidity present in the rock.

Waste rock sample F88R03 is andesite with approximately 5% quartz. Sample F88R06 is biotite quartzite and typical of the host rock for the deposit. Vein quartz composes about 5%, pyrite about 0.5% and graphite less than 1% of the rock. Sample SR87R06 is chlorite quartzite with about 3% quartz content in veins, and less than 1% pyrite.

Ore samples 57721 and 57809 are 100% quartz. Sample 60882 is 95% quartz and sample 57800 is about 25% quartz. All ore samples carry anomalous gold, silver, copper, lead and zinc mineralization.

None of the waste rock samples is potentially acid generating, although one (S87R06) has a slightly negative net neutralizing potential (-1).

Three ore samples are potentially acid generating (57800, 60882 and 57809) at -16, -14 and -6 kg $CaCO_3$/tonne, respectively. The other ore sample (57721) is not a potential net acid producer.

Ore that is potentially acid producing is a concern if rock of this type will be left on pit or adit walls upon mine closure and if, in addition, there is not enough acid-consuming rock adjacent to the potential acid producing rock to consume any acid that might be produced upon weathering of the sulphides present in the acid producer. This may possibly be a concern with the Fairview deposit because the host rock has little acid consuming potential. Acid producing rock is also a concern if, after milling, the resultant tailings have a potential to produce acid. This will not be the case if all, or most, of the sulphides present are removed.

REFERENCES

Atmospheric Environmental Service. Canadian Climate Normals, B.C. Temperature and Precipitation 1951-1980

R.C. Lincoln, 1988. Wildlife Section Head, Wildlife Management Program Ministry of Environment and Parks, Environment Division Personal Communication

Environment Canada. Historical Streamflow Summary British Columbia Water Survey of Canada

Canada-British Columbia Okanagan Basin Agreement, Water Quantity in the Okanagan Basin, March 1974, Technical Supplement I

Netolitzky, R.K. 1986. Evaluation Report on the Fairview Property, Oliver, British Columbia for Odin Resources Inc.

Nasmith, H. 1962. Late Glacial History and Surficial Deposits of the Okanagan Valley, British Columbia

B.C. Ministry of Environment, 1980 - Soil Maps

Barker, H.G. / Tremaman, R.T., 1987. Oliver Gold Mines Fairview Property, An Estimate of Capital and Operating Costs for Oliver Gold Corporation

Norecol Environmental Consultants Ltd., 1988 SNIP Project Prospectus for Cominco Ltd. and Delaware Resources Corp.