PRUDDEN GEOSCIENCE SERVICES, INC.

PRELIMINARY MINERALOGICAL EVALUATION

OF THE

SLOCAN RIVER ALLUVIALS

PASSMORE AREA, BRITISH COLUMBIA

By

James M. Prudden P.G.

10 January 2001

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TABLE OF CONTENTS

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PRUDDEN GEOSCIENCE SERVICES, INC.

RESUME

WORK EXPERIENCE

May 1988
Present

Consultant

- involved with international gold and diamond feasibility utilizing a variety of geological, geochemical, geophysical and engineering techniques to solve economic, safety and environmental problems
- detailed soil and alluvial profile mapping for engineering & placer projects
- created NV Corporation, consolidated and successfully marketed major gold-silver district
- permitting on Nevada bulk mineable/heap leach gold property
- assist clients in property negotiations, acquisition, budgeting, general management, employee relations and production objectives
- successful in formulating international corporate business development plans to locate, develop and market commodities for a complicated smelter expansion

Jan 1987
May 1988

VALDEZ CREEK MINING COMPANY (Denali, Alaska)
Chief Engineer and Special Consultant

- created professional mine engineering, geological and metallurgical departments to upgrade the productivity of this mismanaged Canadian company
- established workable corporate budget and financial reporting system to control costs and equipment utilization
- engineered major stream diversion, fish ladders, dams and dump reclamation
- managed liquid and solid waste disposal requirements and problems
- solved disastrous pit wall stability problems using hydrology and geological engineering
- hosted planning meetings, maintained communication with Production Dept., functioned as Mine Manager in absence of General Manager
- attained 100% increase in open pit production goals to 37,000 tons/day +300% increase in gold output
- total staff - 185

Oct 1982
Dec 1986

Consulting Geologist

- conducted geological and engineering feasibility studies, economic mine modeling, industrial and commodity marketing studies, prospect/mine evaluation, geological mapping including soil and alluvial profiles, hydrogeochemistry
- expert witness
- specialties include volcanic hosted precious metal and placer deposit evaluation, sedimentology and industrial mineral commodity investigations

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26679

Jan 1982 – Sept 1982

NORANDA MINING INC. (Salt Lake City, Utah)
Chief Geologist

- co-ordinated geological activities, including maintaining underground and open pit ore reserves, geological engineering and environmental activities at all developing and operating properties
- involved in dam site evaluations, storm diversions, RQD analysis and engineering soil analysis
- member of the International Placer Task Force co-ordinating development and production, reviewed property submittals and participated in feasibility studies

Oct 1980 – Dec 1981

Consulting Geologist

- conducted a variety of regional placer evaluation and feasibility studies in US and overseas
- commodity and market research on industrial minerals
- directly responsible for re-directing geological and engineering ore reserve evaluation for now operating ID gold-silver mine

May 1979 – Sept 1980

FALCON EXPLORATIONS (Tonopah, Nevada)
General Manager

- co-ordinated and planned corporate objectives and goals
- found, developed and commenced production on a silver-gold deposit using unique agglomeration heap leach technology
- accomplished retimbering of three shafts and related underground development
- constructed and operated successful commercial assay laboratory and drilling operation
- staff averaged - 50

Nov 1976 – Dec 1978

U.S. STEEL (Salt Lake City, Utah)
Geologist

- developed Mid-Continent and Eastern US business directed toward Mississippi Valley lead-zinc and Precambrian uranium/base metal deposits
- located several areas of carbonate hosted lead-zinc and volcanic hosted lead-zinc-tin mineralization using advanced geology, geochemistry and geophysics

Sept 1973 – Nov 1976

AUSTRALIAN ANGLO AMERICAN (Melbourne, Australia)
Department Head; Gold and Base Metal Division

- designed regional alluvial gold geochemical program for Eastern Australia
- a 14 month promotion/transfer to South Africa resulted in defining Leader Reef reserves in the Orange Free State and the "C" Reef at Vaal Reef which continues to sustain district gold production
- re-structured mine sampling, assaying and mapping procedures resulting in defining previously unrecognized additional ore horizons
- upon returning from South Africa managed integrated successful exploration department in NE Australia
- located massive sulfide and placer deposits
- technical and professional staff - to 40

Aug 1967 – Sept 1973 | **INTERNATIONAL NICKEL AUSTRALIA (Sydney, Australia)**
Department Head - Senior Geologist

- variety of management positions throughout Australia and South Pacific as District Manager of large regional offices (up to 350 people) and integrated labs
- managed and designed nickel laterite trial mining and beneficiation projects in Solomon Islands and Queensland
- Exploration manager Western Australia involving evaluation of extensive property holdings including a developing underground nickel mine
- calcrete hosted uranium deposit located using advanced hydro-geochemistry and geophysics
- positions in South Australia and Northern Territories directed towards regional base metal and uranium exploration which defined mineralization

June 1967 – Aug 1967 | **COMINCO AMERICAN (Spokane, Washington)**
Project Geologist

- managed two diamond drill projects on Mississippi Valley and skarn deposits which were placed into production
- utilized mapping, geochemistry and geophysics for successful drill target definition

Aug 1965 – Dec 1966 | **INTERNATIONAL NICKEL COMPANY (Thompson Mine - Manitoba Canada)**
Geologist

- underground stope and development mapping involving routine geological evaluation of mining areas, mine planning, grade control and advising on mining problems
- summer Arctic exploration discovered significant molybdenum deposit

June 1965 – Sept 1965 | **NEVADA BUREAU OF MINES (Reno, Nevada)**
Junior Geologist

- commissioned by the Director to investigate Nevada turquoise deposit on which the data was subsequently published

June 1963 – Jan 1964 | **GETCHELL GOLD MINE (Golconda, Nevada)**
Junior Mining Engineer

- open pit and underground surveying and grade control in this gold mine using production sampling and geology

EDUCATION

University of Adelaide, Australia including Msc studies in Geochemistry
Mackay School of Mines
University of Nevada; Bsc Geology
C.C.S.F.
A.A. Engineering

PUBLICATIONS AND HONORS

- Director: Placer Deposit Short Course, NW Mining Association (1994-1995)
- Director: Society of Petroleum Engineers, Utah section (1993-1994)
- The Geology and Ore Deposits of the Great Basin (Field Trip) (1990)
  Overview of the Geology of Gold Mt., Central Divide Mining District, Esmeralda County, Nevada
- Annual SME-AIME Meeting, Salt Lake City (1990)
  Geology and Mineralization of the Central Tonopah Divide District, Esmeralda County, Nevada
- Annual Alaska Miners Convention (Fairbanks 1988)
  Alluvial Deposit Evaluation and Reclamation of Mine Dumps in Arctic Conditions
- First International Gold Conference (Vancouver 1987)
  Open Pit Mining Deep Placer Deposits, Valdez Creek Mining Company (Denali, Alaska), and Physical Evaluation of Placer Deposits
- 13th CMMI Congress 1986 (Singapore)
  Sedimentological Evaluation of Placer Deposits
- Speaker: Placer Exploration and Mining Short Course, Mackay School of Mines, UNR
- A.I.P.G. Conference (1984)
  Geochemical Evaluation of Placer Deposits
- Nevada Bureau of Mines, (Bulletin 36) (1981)
  Sedimentology As Applied To The Exploration of Fossil Placer Deposits
- Co-chairman SME Lead-Zinc Symposium (1979)
- Nevada Bureau of Mines (Report 17) (1968)
  Turquoise Deposits of Nevada

MEMBERSHIPS

SME-AIME, CIMM, SPE, GSSA, GSA, UGA, SPE
Registered Professional Geologist: AIPG #4455, Alaska #202, Wyoming #731

1.0 INTRODUCTION

PGS was engaged on a fee paid consulting basis to evaluate the mineralogical and potential gem content of the Hampton Court Resource-Anglo Swiss joint venture placer claims situated in the Slocan Valley, southeast British Columbia. This field work covered the July to August 2000 period and entailed geological reconnaissance, a geologically seleceted Side Looking Radar geophysical survey and the gemological classification of the heavy mineral samples obtained from panned concentrates. It must be emphasized that restricted access relating to dense population severely hindered representative sampling attempts. The procedures and results of this program are discussed in the following chapters.

James M. Prudden has neither direct nor indirect interest in Hampton Court Resources, Anglo Swiss Resources Inc. or the placer claims under investigation. Mr. Prudden is a graduate geologist and a licensed and registered Professional Geologist.

2.0 LOCATION

The 15 placer claims, totaling 750 hectares in area, are situated at the confluence of the Slocan and Little Slocan Rivers near Passmore, British Columbia approximately 25 kilometers west of Nelson (Map 1). The property is at a mean elevation of 500 meters with adjacent mountains reaching 2025 meters in elevation. The Slocan River gentle gradient and general meandering character is characteristic of the general geomorphology of the river basin. The forest cover is largely hemlock and western red cedar. Podzol soils cover most of the valley bottom with brunisol soils found on the steeper slopes.

Much of the river flood plane has been cleared and subdivided into small building lots resulting in sample site selection problems. This is particularly true in the alluvial plane between the two rivers and also in the Slocan Park community. Larger less developed tracts of land exist between these two population areas (Map 1) allowing for less restricted access.

3.0 GEOLOGY

The following descriptions attempt to meld the limited published Quaternary geology of the Passmore area and how it relates to potential alluvial concentrations of heavy minerals. Detailed PGS mapping within the Anglo Swiss placer claims highlights the complicated alluvial patterns centered on the confluence of the Slocan and Little Slocan Rivers. In addition reconnaissance mapping following definition of the geophysical anomalies has enhanced the paleo-placer potential of the Slocan Valley.

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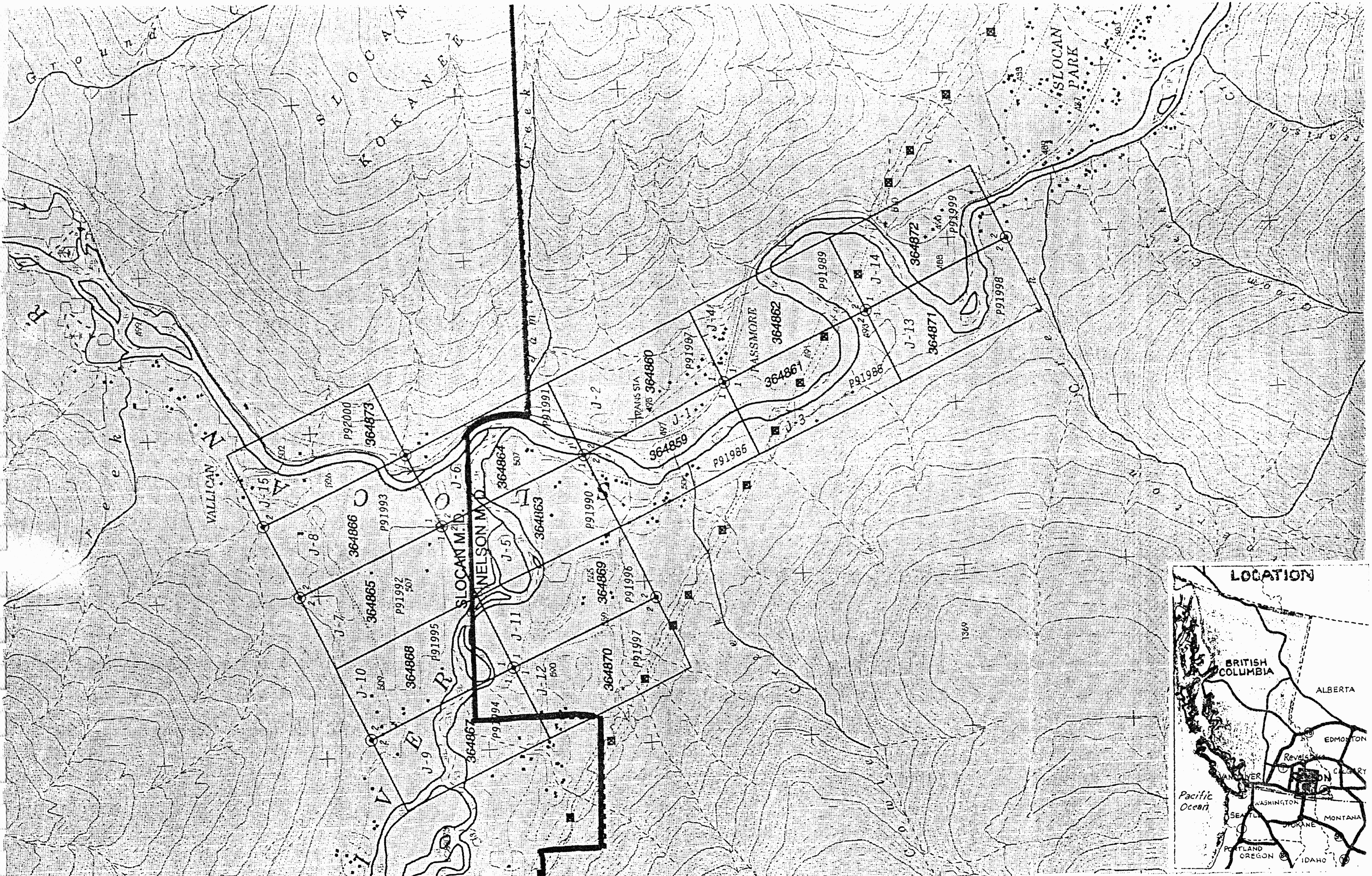

Map 1. Location; Topography and Claim

3.1 REGIONAL

Ressor, J.E. 1965 (Structural Evolution and Plutonism in Valhalla Gneiss Complex, B.C.), describes the regional geology of the Valhalla Complex as "...consists of very shallow-dipping gneisses in a superficially regular succession that forms the large, irregular, Valhalla dome and the smaller, subsidiary, Passmore dome to the south...Overlying the hybrid gneiss of the Passmore dome, and occurring southwest and west of Valhalla dome is a thick layer of mixed gneiss". The map unit underlying and containing most of the known hard rock corundum deposits the Passmore area is mapped as "garnet-hornblende augen gneiss, some garnetiferous leucrocratic-gneiss and some amphibolite (Map unit 1-d)". This unit encompasses an area of 17 square kilometers and is centered on Passmore (Map 2). This published map and accompanying report does not address Pleistocene or Quaternery geology.

Gauthier et al (Slocan Valley Gem Project, B.C.; 1996) comments that, "At the Blu Starr showing, corundum occurs in felsic paragneiss layers. This mineral is usually found in augens less than 15 centimeters long. Corundum can account for up to 50% of the augen but often accounts for more than 10%. Crystals vary in size from 1 millimetre to 1.5 centimeters. Corundum grains... are in general more purplish in color...show good to sharp stars on an opaque dark background...A rough evaluation of the Blu Starr deposit indicates a significant quantity of corundum crystals present in outcrops (~60,000 carats of cut stones/meter deep of outcrop)...At the Blu Moon showing the host rock for corundum is a coarse-grained white syenitic gneiss...crystals are generally better in color and transparency with color ranging from gray to gray-blue...with size ranging from 2 millimeters to 2 centimeters in diameter...".

Gauthier further comments on the Quaternery Geology as: "Two major glacial periods are recognized in British Columbia. The first glaciation was active between 60,000 and 43,800 years BP. Glacial sediments produced during this period are known as the Okanagan Center Drift. The younger glaciation spreads between 19,000 and 10,000 BP. The Kamloops Lake Drift is the name given to sediments deposited during this glaciation. Sediments deposited between these two glacial periods extending from 43,800 years BP and 19,000 years BP are named the Bessette Sediments. The oldest recognized Pleistocene deposits in southeastern British Columbia are the Westwold Sediments, which were deposited during a non-glacial period more than 60,000 years ago.".

Geological hazards mapping by the Ministry of Forests within a portion of the Slocan Valley (MoF file#12015-20/MA99DAR02PF) comments on the glacial history of the Slocan Valley, as follows: "In the west Kootenay area the most recent glaciation (the Frasier Glaciation) began approximately 21,000 years ago when alpine glaciers descended into and started to flow down the Slocan and other major valleys. As the valley glaciers moved or flowed over the landscape they eroded, transported and deposited rubbly and crushed material (till). Approximately 12,000 years ago the glacial ice began to melt. The first areas to be ice free were the higher elevations followed by the small tributaries. It is possible that ice melted from the Slocan Valley at different rates leaving patches or blocks of ice in parts of the valley bottom where the valley was shaded

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Map 2 Bedrock Geology, Passmore B.C.

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or confined. As the glacial ice melted streams flowing along side, beneath and from the downstream end of the melting valley glacier transported and re-worked the till previously deposited in the valley bottom and on the hillsides. It is likely that the thick ice sheets in the Kootenay and Columbia valleys were the last to melt and effectively dammed the Slocan Valley at Pass Creek and Crescent Valley resulting in a large lake or series of lakes forming in the Slocan Valley. While the lake(s) occupied the Slocan Valley sediment flowing out of larger tributary streams accumulated in the lake(s) as deltas. The sand and gravel being deposited at the outer edges of the deltas and fans is interlayered with fine sand, silt and clay which accumulated at the bottom of the large glacial lake(s). Downwasting of the ice dams released the ponded water of the glacial lake(s) occupying the Slocan Valley resulting in the Slocan River eroding through the thick glacial lake sediments. Observations in the Perry Ridge 15 kms. north of the Passmore area documents the present day geologic process affecting what is for the most part, the glacial landscape formed over 10,000 years ago."

3.2 DETAILED

Gradients of the present drainage system vary significantly, both between and within drainages, as follows:

Little Slocan	Upstream from claims	1:150
	Within claims	1:195
Slocan River	Upstream from claims	1:304
	Within claims	1:265
	Downstream from claims	1:250

Inspection of the topographic map (Map 1) reveals that reduction of the Little Slocan River gradient signals the change from a youthful to a mature drainage pattern. In contrast, the Slocan River gradients signify that this drainage is a mature system for its entire length containing acute meander patterns and related oxbow scour features. The exception to this condition is the 2.5 kilometer long portion between the southern margin of the claims to Slocan Park. On site inspection of this region reveals a significant increase in gradient coinciding with a much straighter channel. This portion of the Slocan River contains abundant boulders to 3.0 meters in diameter both within and adjacent to the river channel. Plastic blue clay was encountered underlying these boulders in the present river channel.

PGS geological mapping enhances the published regional Quaternary geological history (Map 3). The large land slide which consumed Highway 6A immediately east of Line A has exposed a steep west sloping complex gneiss bedrock covered with a 15 meter thick sequence consisting of well bedded glacio-lacustrine clay and silt. These gray and gray-blue clastic sediments dip about 25 deg. west in the exposure and assume a gentler (10 deg.) dip westward towards the valley. Fine grained sand appears to overly and partially incise these bedded clastic sediments. Fluvial gravel lenses containing garnets (Sample 22) are found on the bedrock contact underlying these siltstones. Discussions with local farmers indicated that over 500 feet of 'blue clay' has been encountered in water wells in the valley bottom. Shallow dipping geophysical signatures on the eastern end of Line A correlate with these glacio-lacustrine sediments underlying the Slocan Valley. This enhances the conclusion that the major fluvial channel(s) detected by geophysics is incised into these sediments (Appendix I).

Geological mapping in the Little Slocan-Slocan River confluence has measured a 110 meter thick sequence of upward fining, unsorted and poorly packed glacio-fluvial sediments. This sequence of clastic sediments formed as a deltaic fan at the confluence of the two rivers. Sedimentoligical measurements indicate that the Little Slocan paleo-gradient was dominant in the formation of these estimated 250-300.0 M cubic meters of sediments. Subsequent vigorous erosion, largely by the Little Slocan River, has significantly removed this deltaic deposit exposing a complex series of glacio-fluvial sediments as a network of erosional terraces. Pebble counts from these two drainages also mirror this difference in hydraulic energy with the active Little Slocan River channel containing abundant cobbles in contrast to the medium to large pebble contained load for the Slocan River.

Initial fluvial erosion within this delta created the upper-most terrace exposing 30 meter high benches composed of well sorted medium grained fluted sands representing the low energy facies of this clastic sequence. Successive lower terraces expose gradual coarsening of silty gravely material into pebbly sands with matrix supported cobble gravels (Terraces c and d). A distinct east west trend in these benches indicates that after the initial erosion of the upper sands the Little Slocan River played a dominant role in eliminating this large delta. The successive lower terraces gradually assume a southeast trend correlating with the present course of the Little Slocan River. Many small and discontinuous terraces and cut-off meanders are found within these broad map groups.

The large alluvial plane (Map 3, GF1) immediately upstream from the confluence of these two rivers further highlights the dominance of the Little Slocan. In contrast, the Slocan River channel has probably occupied its eastward position in this portion of the Slocan Valley since the formation of the paleo-delta. The immense sediment load within the Slocan River downstream from this confluence is well displayed by its geomorphological mature condition formed by the 'dumping' of abundant sediment eroded from this mass of poorly sorted clastic sediments.

The well incised apparent channels (width:depth ratio of about 6:1) revealed by the Side Looking Radar (Appendix I) represents a probable high energy youthful fluvial system formed prior to the accumulation of glacio-fluvial sediments exposed in the numerous mapped terraces. Limited excavations in the river bottom at Slocan Park revealed plastic blue clay underlying the boulder strewn riverbed (Map 3, GF5). Geophysical interpretation of the A and B Line channels (Chapter 4.0) indicate that this proposed paleo-channel(s) had sufficient energy to scour a straight thalweg in the underlying glacio-lacustrine sediments. The geophysical anomalies revealed in Lines E and F contain similar geometry. Interpretation of the Line F anomaly indicates that this fluvial confluence persisted for a considerable time and coincides with the trace of the present

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river system. A possible paleo-point bar can be inferred from these channel anomalies (Map 3). It must be emphasized that these geophysical signatures have no surface expression within or between their respective lines. However, geomorphological observations in the Slocan Park region revealed that the bouldery sediment load within the Slocan River and adjacent banks commences at the point where the river assumes a straight course at the downstream projection of Line A and B anomalies (Map 3). The basal terrace (Terrace F) in this region is proposed, at this time, to be the stratigraphic equivalent to the above geophysical anomalies.

Terraces on the west side of the Slocan River have been grouped separately from the main erosional terrace development and are designated as A through E (Map 3, GF3). These benches are composed of a mixture of fluvial and colluvial material containing angular boulders to 3.0 meters in diameter. These basal glacio-fluvial sediments have a bi-modal clast distribution containing a medium grained silty sand matrix and large pebble-cobble clasts with 20% packing density. A definite fluvial channel has been located in Terrace D (Samples 53, 84 and 85) and is typified as a well washed high energy coarse gravel containing cobbles and boulders to 70 centimeters in diameter. Significant portions of these larger clasts are angular testifying to a combination of fluvial and colluvial sources.

4.0 GEOPHYSICS

A total of seven (7) geologically selected reconnaissance lines were covered with a Side Looking Radar survey conducted by Surface Search Inc. of Calgary, Canada (Appendix I). Additional short lines were also selected to either offset anomalies observed in the field or to enhance anomaly geometry. The standard frequency used for the reconnaissance lines was 12.5 Mhz with experimental anomaly definition conducted at 25 Mhz. The sought after features are alluvial channels containing definate thalwegs that would have sufficient volume potential and/or scour features adjacent to known gemstone occurrences.

The primary lines are plotted on the accompanying geological map and the relevant profiles are found in Appendix I. Lines A and B were positioned along the longitudinal axies of the two large east-west meanders in the southern portion of the claim group. Lines C and G are orientated about east west and were selected to define south trending fluvial systems originating adjacent to the hard rock Blue Moon sapphire deposit. Line F diagonally cuts across the Slocan-Little Slocan River point bar. Line E is intended to probe the Little Slocan River complex including the large meander formed by the confluence of these two rivers. Line D was positioned to investigate the fluvial channel potential underlying the northern Little Slocan alluvial plane. The following summarizes the results of these lines:

LINE	LENGTH M.	CHANNEL DIMENSIONS
A	960	300 m wide X 55 m deep
A-1	350	300 m wide X 50 m deep
		190 m So. A @ 25 Mhz

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Sample No.	Location/Terrace	Geological Unit	Sample Size (Liters)	Total Concentrate HM Wt. (g)	Magnetite Wt. (g)	Percent Zircon	Garnet Total (g)	Garnet -#8 (g)	Garnet +#8 - #12 (g)	Garnet +#12 (g)	Percent Garnet -#8	Percent Garnet +#8 - #12	Percent Garnet +#12	Percentage Magnetite	Percentage Garnet	Visable Corundum	Largest Gem Garnet (CT)	Grade Garnet (g/l)	$/Meter³
1	Little Slocan & Koch R. Confluence/Recent N49 35'27.3" W117 44	1	10	29.1	4.6	2.0%	24.5	18.5	6	0	75.5%	24.5%	0.0%	15.8%	84.2%	No	0.33	2.45	$ 0.29
2	N49 33'56.5" W117 42'41.2"	1	5	2.50	2.20	8.0%	0.30	0.30	0.00	0.00	100.0%	0.0%	0.0%	88.0%	12.0%	No		0.06	$ 0.01
3	Slocan R. Point Bar/Recent	1	10	34.10	20.20	15.0%	13.90	13.90	0.00	0.00	100.0%	0.0%	0.0%	59.2%	40.8%	No		1.39	$ 0.17
4	Little Slocan R. Point Bar/Recent	1	10	94.70	33.70	12.0%	61.00	50.60	10.40	0.00	83.0%	17.0%	0.0%	35.6%	64.4%	No		6.10	$ 0.73
5	Terrace D	5	10	12.40	3.30	2.0%	9.10	9.10	0.00	0.00	100.0%	0.0%	0.0%	26.6%	73.4%	No		0.91	$ 0.11
6	Terrace C	4	10	21.10	11.60	3.0%	9.50	9.50	0.00	0.00	100.0%	0.0%	0.0%	55.0%	45.0%	No		0.95	$ 0.11
7	Terrace B	3	10	17.60	12.80	3.0%	4.80	4.80	0.00	0.00	100.0%	0.0%	0.0%	72.7%	27.3%	No		0.48	$ 0.06
8	N49 32'27.6" W117 39'16.7" Terrace D	5	10	67.30	NO	5.0%	67.30	49.80	17.10	0.40	74.0%	25.4%	0.6%		100.0%	No		6.73	$ 0.81
9	Terrace C	4	10	15.60	8.90	2.0%	6.70	4.00	2.00	0.70	59.7%	29.9%	10.4%	57.1%	42.9%	No		0.67	$ 0.08
10	Terrace E	6	20	24.80	18.60	15.0%	6.20	6.20	0.00	0.00	100.0%	0.0%	0.0%	75.0%	25.0%	No		0.31	$ 0.04
11	Slocan R. Terrace E	6	10	9.20	5.00	10.0%	4.20	4.20	0.00	0.00	100.0%	0.0%	0.0%	54.3%	45.7%	No		0.42	$ 0.05
12	Little Slocan R. Recent	1	20	33.90	23.10	7.0%	10.80	10.80	0.00	0.00	100.0%	0.0%	0.0%	68.1%	31.9%	No		0.54	$ 0.06
13	Terrace A	2	15	15.80	10.60	10.0%	5.20	3.50	1.70	0.00	67.3%	32.7%	0.0%	67.1%	32.9%	No		0.35	$ 0.04
14	Terrace A	2	15	21.60	10.00	10.0%	11.60	10.20	1.40	0.00	87.9%	12.1%	0.0%	46.3%	53.7%	No		0.77	$ 0.09
15	Slocan R. Terrace E	6	10	19.10	10.40	2.0%	8.70	2.40	6.30	0.00	27.6%	72.4%	0.0%	54.5%	45.5%	No		0.87	$ 0.10
15A	Slocan R. Terrace E	6	65	89.10	61.80	15.0%	27.30	25.80	1.50	0.00	94.5%	5.5%	0.0%	69.4%	30.6%	Yes		0.50	$ 0.06
16	Slocan Terrace E	6	50	114.20	35.30	5.0%	78.90	74.20	4.70	0.00	94.0%	6.0%	0.0%	30.9%	69.1%	No		1.58	$ 0.19
17	Terrace D	5	15	10.60	0.60	3.0%	10.00	7.00	3.00	0.00	70.0%	30.0%	0.0%	5.7%	94.3%	No		0.67	$ 0.08
18	Terrace D	5	15	20.00	3.60	7.0%	16.40	11.80	4.60	0.00	72.0%	28.0%	0.0%	18.0%	82.0%	No		1.09	$ 0.13
19	Terrace D	5	15	17.70	0.60	5.0%	17.10	12.40	4.70	0.00	72.5%	27.5%	0.0%	3.4%	96.6%	No	0.53	1.14	$ 0.14
20	Slocan R. Recent	1	50	53.00	9.70	10.0%	43.30	36.20	7.10	0.00	83.6%	16.4%	0.0%	18.3%	81.7%	No		0.87	$ 0.10
21	Slocan R. Recent	1	50	127.90	47.50	20.0%	80.40	72.90	7.50	0.00	90.7%	9.3%	0.0%	37.1%	62.9%	No		1.61	$ 0.19
22	Landslide	1	10	23.80	0.20	1.0%	23.60	15.20	8.40	0.00	64.4%	35.6%	0.0%	0.8%	99.2%	No		2.36	$ 0.28
23	Terrace D	5	55	357.40	5.40	2.0%	352.00	235.00	104.80	12.20	66.8%	29.8%	3.5%	1.5%	98.5%	No		6.40	$ 0.77
24	Terrace D	5	30	55.00	34.20	5.0%	20.80	0.00	0.00	0.00	0.0%	0.0%	0.0%	62.2%	37.8%	No		0.69	$ 0.08
25	Terrace B	3	30	49.10	34.20	5.0%	14.90	0.00	0.00	0.00	0.0%	0.0%	0.0%	69.7%	30.3%	No		0.50	$ 0.06
26	Slocan Recent	1	80	663.90	272.10	12.0%	391.80	349.00	42.80	0.00	89.1%	10.9%	0.0%	41.0%	59.0%	No	0.15	4.90	$ 0.59
27	Slocan Recent	1	50	163.00	43.30	4.0%	119.70	110.80	8.90	0.00	92.6%	7.4%	0.0%	26.6%	73.4%	No		2.39	$ 0.29
28	Slocan R. Slocan Park	1	100	276.20	202.60	7.0%	73.60	46.10	27.50	0.00	62.6%	37.4%	0.0%	73.4%	26.6%	No		0.74	$ 0.09
29	Slocan R. Slocan Park	1	30	40.30	34.80	8.0%	5.50	5.00	0.50	0.00	90.9%	9.1%	0.0%	86.4%	13.6%	No		0.18	$ 0.02
30	Terrace C	4	30	19.50	13.20	3.0%	6.30	5.20	1.10	0.00	82.5%	17.5%	0.0%	67.7%	32.3%	No	0.24	0.21	$ 0.03
31	Terrace C	4	30	17.80	8.70	1.0%	9.10	7.10	2.00	0.00	78.0%	22.0%	0.0%	48.9%	51.1%	No	0.18	0.30	$ 0.04
32	Terrace C	4	30	15.70	9.70	3.0%	6.00	3.40	2.60	0.00	56.7%	43.3%	0.0%	61.8%	38.2%	No	0.18	0.20	$ 0.02
33	Recent	1	30	22.00	12.00	2.0%	10.00	7.40	2.60	0.00	74.0%	26.0%	0.0%	54.5%	45.5%	No	0.15	0.33	$ 0.04
34	Terrace C	4	30	18.20	10.20	4.0%	8.00	8.00	0.00	0.00	100.0%	0.0%	0.0%	56.0%	44.0%	No	0.1	0.27	$ 0.03
35	Terrace C	4	30	16.40	9.10	7.0%	7.30	7.30	0.00	0.00	100.0%	0.0%	0.0%	55.5%	44.5%	No	0.22	0.24	$ 0.03
36	Terrace C	4	30	7.20	3.70	5.0%	3.50	3.50	0.00	0.00	100.0%	0.0%	0.0%	51.4%	48.6%	No	0.21	0.12	$ 0.01
37	Terrace C	4	15	11.60	6.90	7.0%	4.70	3.70	1.00	0.00	78.7%	21.3%	0.0%	59.5%	40.5%	No		0.31	$ 0.04
38	Terrace C	4	15	8.80	3.60	6.0%	5.20	5.20	0.00	0.00	100.0%	0.0%	0.0%	40.9%	59.1%	No		0.35	$ 0.04
39	Terrace C	4	15	5.30	1.80	2.0%	3.50	3.50	0.00	0.00	100.0%	0.0%	0.0%	34.0%	66.0%	No	0.13	0.23	$ 0.03
40	Terrace C	4	15	43.60	8.30	8.0%	35.30	32.02	3.28	0.00	90.7%	9.3%	0.0%	19.0%	81.0%	No		2.35	$ 0.28
41	Terrace C	4	15	32.60	3.00	3.0%	29.80	25.50	4.30	0.00	85.6%	14.4%	0.0%	9.1%	90.9%	No		1.99	$ 0.24
42	Terrace C	4	15	32.60	1.30	2.0%	31.20	24.50	6.40	0.30	78.5%	20.5%	1.0%	4.0%	96.0%	No		2.08	$ 0.25
43	Terrace D	5	30	270.80	0.20	1.0%	270.60	170.70	96.50	3.40	63.1%	35.7%	1.3%	0.1%	99.9%	No	0.31	9.02	$ 1.08
44	Terrace D	5	30	60.30	39.70	15.0%	20.60	20.60	0.00	0.00	100.0%	0.0%	0.0%	65.8%	34.2%	No		0.69	$ 0.08
45	Slocan R. Recent	1	30	41.50	10.70	4.0%	30.80	19.80	10.10	0.90	64.3%	32.8%	2.9%	25.8%	74.2%	No		1.03	$ 0.12
46	Slocan R. Recent	1	30	28.90	9.60	6.0%	19.30	16.00	3.10	0.20	82.9%	16.1%	1.0%	33.2%	66.8%	No		0.64	$ 0.08
47	Slocan R. Terrace C	4	50	21.80	5.80	2.0%	16.00	14.70	1.30	0.00	91.9%	8.1%	0.0%	26.6%	73.4%	No		0.32	$ 0.04
48	Slocan R. Terrace D	5	25	32.30	15.40	8.0%	16.90	16.90	0.00	0.00	100.0%	0.0%	0.0%	47.7%	52.3%	No		0.68	$ 0.08
49	Little Slocan R. Terrace c	4	40	46.50	25.50	4.0%	21.00	21.00	0.00	0.00	100.0%	0.0%	0.0%	54.8%	45.2%	No		0.53	$ 0.06
50	Little Slocan R. Terrace B	3	55	23.70	11.80	1.0%	11.90	11.90	0.00	0.00	100.0%	0.0%	0.0%	49.8%	50.2%	No		0.22	$ 0.03
51	Little Slocan R. Terrace B	3	30	29.40	20.00	2.0%	9.40	9.40	0.00	0.00	100.0%	0.0%	0.0%	68.0%	32.0%	No		0.31	$ 0.04
52	Little Slocan R. Terrace A	2	30	32.60	19.90	4.0%	12.70	12.70	0.00	0.00	100.0%	0.0%	0.0%	61.0%	39.0%	No		0.42	$ 0.05
53	Slocan Terrace D	5	37.6	26.30	12.70	4.0%	13.60	13.60	0.00	0.00	100.0%	0.0%	0.0%	48.3%	51.7%	No		0.36	$ 0.04
54	Slocan Terrace D	5	30	39.30	15.30	8.0%	24.00	17.20	5.40	1.40	71.7%	22.5%	5.8%	38.9%	61.1%	No		0.80	$ 0.10
55	Slocan Terrace C	4	40	64.40	23.80	2.0%	40.60	35.00	5.20	0.40	86.2%	12.8%	1.0%	37.0%	63.0%	No	0.27	1.02	$ 0.12
56	Valican Bridge Slocan R. Recent	1	30	15.30	7.70	20.0%	7.60	7.60	0.00	0.00	100.0%	0.0%	0.0%	50.3%	49.7%	No		0.25	$ 0.03
57	Valican Bridge Slocan R. Recent	1	30	20.60	13.80	2.0%	6.80	6.80	0.00	0.00	100.0%	0.0%	0.0%	67.0%	33.0%	No		0.23	$ 0.03
58	Slocan R. Terrace C	4	30	15.10	4.30	2.0%	10.80	9.90	0.90	0.00	91.7%	8.3%	0.0%	28.5%	71.5%	No		0.36	$ 0.04
59	Slocan R. Terrace C	4	30	36.50	1.30	3.0%	35.20	24.50	4.40	6.30	69.6%	12.5%	17.9%	3.6%	96.4%	No	1.19	1.17	$ 0.14
60	Slocan R. Terrace D	5	30	33.80	1.00	1.0%	32.80	25.70	4.80	2.30	78.4%	14.6%	7.0%	3.0%	97.0%	No	0.61	1.09	$ 0.13
61	Slocan R. Terrace D	5	30	19.20	1.50	4.0%	17.70	10.80	2.70	4.20	61.0%	15.3%	23.7%	7.8%	92.2%	No	0.10	0.59	$ 0.07
62	Slocan Park Terrace F	7	30	69.90	6.40	6.0%	63.50	34.10	27.00	2.40	53.7%	42.5%	3.8%	9.2%	90.8%	No		2.12	$ 0.25
63	Slocan Park Terrace F	7	10	20.00	4.10	8.0%	15.90	8.30	5.70	1.90	52.2%	35.8%	11.9%	20.5%	79.5%	No	0.41	1.59	$ 0.19
64	Slocan Park Terrace F	7	30	29.40	3.30	18.0%	26.10	14.80	5.60	5.70	56.7%	21.5%	21.8%	11.2%	88.8%	Yes		0.87	$ 0.10
65	Little Slocan R. Terrace B	3	30	2.40	1.20	1.0%	1.20	1.20	0.00	0.00	100.0%	0.0%	0.0%	50.0%	50.0%	No		0.04	$ 0.00
66	Little Slocan R. Terrace B	3	30	4.20	1.60	1.0%	2.60	2.40	0.20	0.00	92.3%	7.7%	0.0%	38.1%	61.9%	No		0.09	$ 0.01
67	Little Slocan R. Terrace B	3	30	5.20	1.30	2.0%	3.90	3.90	0.00	0.00	100.0%	0.0%	0.0%	25.0%	75.0%	No		0.13	$ 0.02
68	Little Slocan R. Terrace B	3	30	2.20	0.30	4.0%	1.90	1.90	0.00	0.00	100.0%	0.0%	0.0%	13.6%	86.4%	No		0.06	$ 0.01
69	Little Slocan R. Terrace B	3	30	8.40	0.40	9.0%	8.00	6.70	0.80	0.50	83.8%	10.0%	6.3%	4.8%	95.2%	No		0.27	$ 0.03
70	Little Slocan R. Terrace B	3	30	16.60	4.40	4.0%	12.20	12.20	0.00	0.00	100.0%	0.0%	0.0%	26.5%	73.5%	No		0.41	$ 0.05
71	Little Slocan R. Terrace B	3	30	27.80	8.00	11.0%	19.80	19.80	0.00	0.00	100.0%	0.0%	0.0%	28.8%	71.2%	No		0.66	$ 0.08
72	Little Slocan R. Terrace B	3	30	22.30	6.90	3.0%	15.40	14.20	1.20	0.00	92.2%	7.8%	0.0%	30.9%	69.1%	No		0.51	$ 0.06
73	Terrace E Slocan R.	6	30	3.80	0.80	3.0%	3.00	3.00	0.00	0.00	100.0%	0.0%	0.0%	21.1%	78.9%	No		0.10	$ 0.01
74	Terrace E Slocan R.	6	30	0.10	0.10	1.0%	0.00	0.00	0.00	0.00				100.0%	0.0%	No		0.00	
75	Slocan R. Terrace D	5	30	7.10	0.50	2.0%	6.60	4.80	1.80	0.00	72.7%	27.3%	0.0%	7.0%	93.0%	No	0.17	0.22	$ 0.03
76	Slocan R. Terrace E	6	30	14.00	9.70	16.0%	4.30	4.30	0.00	0.00	100.0%	0.0%	0.0%	69.3%	30.7%	No		0.14	$ 0.02
77	Slocan R. Terrace C	4	30	6.10	0.40	1.0%	5.70	1.80	3.90	0.00	31.6%	68.4%	0.0%	6.6%	93.4%	No		0.19	$ 0.02
78	Little Slocan R. Upstream Koch Creek	1	30	198.70	15.50	5.0%	183.20	112.40	70.80	0.00	61.4%	38.6%	0.0%	7.8%	92.2%	No		6.11	$ 0.73
79	Wolverton Creek	8	30	128.10	5.70	1.0%	122.40	99.80	22.60	0.00	81.4%	18.6%	0.0%	4.4%	95.6%	No		4.08	$ 0.49
80	Wolverton Creek	8	30	463.40	21.10	2.0%	442.30	359.70	82.30	0.30	81.3%	18.6%	0.1%	4.6%	95.4%	No		14.74	$ 1.77
81	Wolverton Creek	8	30	132.80	4.00	1.0%	128.80	102.80	25.20	0.80	79.8%	19.6%	0.6%	3.0%	97.0%	No		4.29	$ 0.52
82	Wolverton Creek	8	30	106.90	3.50	1.0%	103.40	81.10	22.30	0.00	78.4%	21.6%	0.0%	3.3%	96.7%	No		3.45	$ 0.41
83	Terrace D Sample 23	5	30	100.90	11.00	1.0%	89.90	65.00	24.90	0.00	72.3%	27.7%	0.0%	10.9%	89.1%	No		3.00	$ 0.36
84	Terrace D Sample 53	5	30	173.20	36.10	2.0%	137.10	44.30	44.80	48.00	32.3%	32.7%	35.0%	20.8%	79.2%	No	0.29	4.57	$ 0.55
85	Terrace D Sample 53	5	75	208.80	66.40	2.0%	142.40	30.20	54.30	57.90	21.2%	38.1%	40.7%	31.8%	68.2%	No	2.40	1.90	$ 0.23
86	Slocan R., Slocan Park, Terrace F	7	30	168.60	22.30	3.0%	146.30	75.20	69.40	1.70	51.4%	47.4%	1.2%	13.2%	86.8%	No		4.88	$ 0.59
87	Slocan R., Slocan Park, Terrace F	7	25	41.30	30.10	3.0%	11.20	1.60	6.40	3.20	14.3%	57.1%	28.6%	72.9%	27.1%	No		0.45	$ 0.05
	Sum		2,537.60	5,522.80	1,552.90		3,969.90	2,867.12	891.98	155.10							7.84	129.73	
	Average (Xbar)			63.48	18.06	5.4%	46.63	33.19	10.25	1.78	79.5%	18.5%	2.8%	37.4%	63.0%		0.41	1.49	$ 0.18
	Standard Deviation			102.98	37.11	0.05	61.67	62.54	21.44	8.11	0.24	0.17	0.08	0.25	0.26		0.54	2.30	$ 0.28
		# of Samples	Sample Size (Liters)	Total Concentrate HM Wt. (g)	Magnetite Wt. (g)	Percent Zircon	Garnet Total (g)	Garnet -#8 (g)	Garnet +#8 - #12 (g)	Garnet +#12 (g)	Percent Garnet -#8	Percent Garnet +#8 - #12	Percent Garnet +#12	Percentage Magnetite	Percentage Garnet	Visable Corundum	Largest Gem Garnet (CT)	Grade Garnet (g/l)	$/Meter3
	Average (per Geological Unit)																		
	Recent	18	33.61	103.86	42.41	7.9%	61.46	49.96	11.43	0.06	84.2%	15.6%	0.2%	43.8%	56.2%			1.79	0.21
	Terrace A	3	20.00	23.33	13.50	8.0%	9.83	8.80	1.03	0.00	85.1%	14.9%	0.0%	58.1%	41.9%			0.51	0.06
	Terrace B	12	30.42	17.41	8.58	3.8%	8.83	7.37	0.18	0.04	69.0%	2.1%	0.5%	39.8%	60.2%			0.31	0.04
	Terrace C	20	25.50	22.83	8.06	3.5%	14.77	12.47	1.92	0.39	84.1%	14.4%	1.5%	38.8%	61.2%			0.69	0.08
	Terrace D	18	29.31	84.02	14.56	4.3%	70.27	41.38	20.62	7.21	68.2%	19.7%	6.5%	23.6%	77.8%			2.25	0.27
	Terrace E	8	29.38	34.29	17.71	8.6%	16.58	15.01	1.56	0.00	88.0%	12.0%	0.0%	59.3%	40.7%			0.49	0.07
	Terrace F	5	25.00	66.84	13.24	7.6%	52.60	26.80	22.62	2.98	45.7%	40.9%	13.5%	25.4%	74.6%			1.96	0.24
	Wolverton Creek	4	30.00	207.80	8.58	1.3%	199.23	160.60	38.15	0.28	80.2%	19.6%	0.2%	3.8%	96.2%			6.64	0.80
	Standard Deviation (per Geological Unit)																		
	Recent			158.33	73.20	0.06	96.16	82.16	18.42	0.21	0.14	0.14	0.01	0.26	0.26			1.97	0.24
	Terrace A			8.53	5.56	0.03	4.05	4.76	0.91	0.00	0.17	0.17	0.00	0.11	0.11			0.23	0.03
	Terrace B			14.08	10.12	0.03	6.90	6.14	0.40	0.14	0.29	0.04	0.02	0.22	0.22			0.21	0.02
	Terrace C			15.42	6.79	0.02	12.49	10.59	2.02	1.40	0.16	0.17	0.06	0.21	0.21			0.69	0.08
	Terrace D			100.15	18.56	0.04	96.60	61.02	32.45	16.59	0.28	0.17	0.12	0.22	0.22			2.60	0.31
	Terrace E			42.85	21.14	0.07	26.54	25.23	2.62	0.00	0.27	0.27	0.00	0.25	0.25			0.52	0.06
	Terrace F			60.43	12.20	0.06	50.26	29.65	27.60	1.63	0.18	0.13	0.12	0.27	0.27			1.74	0.21
	Wolverton Creek			170.77	8.40	0.01	182.41	132.94	29.46	0.38	0.01	0.01	0.00	0.01	0.01			6.41	0.66

Table 1 Sample Data Base

A-2	350	300 m wide X 50 m deep @ 25 Mhz
B	630	240 m wide X 35 m deep
C	1230	+190 m wide X 30 m deep
		70 m wide X 20 m deep
		120 m wide X 20 m deep
		120 m wide X 20 m deep
D	960	high level channel 110m X 25m
E	750	240 m wide X 35 m deep
E-1	160	+100 m wide X 35 m deep; 203 m So E; 25 Mhz
E-2	230	+100 m wide X 25 m deep; much 'noise' 25 Mhz
E-3	230	no channel defined; much 'noise'
F	810	+270 m wide X 45 m deep
		150 m wide X 25 m deep
G	1050	80 m wide X 20 m deep
G-1	150	line perpendicular to G on scour
	7860 m total	

The geometry of the geophysical responses strongly suggests well incised fluvial channels. Scour type features adjacent to the Blue Moon sapphire deposit would suggest the possibility of local colluvial-fluvial concentrations of these gems (Line G).

5.0 MINERALOGY

A total of 88 heavy media concentrates were obtained utilizing gold pans from accessible areas (Map 3, Table 1 and Figure 1). The volume of each sample was recorded. Laboratory processing upgraded the pan concentrates utilizing a heavy liquid (Diiodomethane, SG=3.32). The resulting concentrate was beneficiated with diamond sieves (sizes #0 and #12; 0.8 mm and 2.7 mm, respectively). Magnetite was removed and weighed, visual point estimation of percentage zircon was determined and selective color grading potential gem quality garnets into hue, tone and saturation categories were performed on the resulting concentrate utilizing Gemological Institute of America standards (Tables 2, 3 and 4). All concentrates were viewed under the microscope initially at 10X magnification. Mineral grains that had the visual characteristics of corundum were subjected to a second heavy liquid testing process (Clerici Liquid, SG = 4.00). Potential corundum grains were subjected to refractive index and polariscope determinations for confirmation.

Shape measurements indicated that the garnets were angular fragments or shards of larger crystals. This suggests that garnets in the primary sources were broken or shattered prior to erosion. Parallel fractures cleaving garnets were observed in primary deposits and also in cobbles within the fluvial deposits. The length/thickness ratio and Corey Shape Factor calculations document the elongate shape of the garnet shards (Tables 2, 3 and 4) in contrast to the near spherical configuration expected from classical garnet crystals. Rare dodecahedron garnet crystals were, in fact, seen in the concentrates.

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Slocan Valley, Passmore B.C. Alluvial Claim Evaluation

Gem Garnet Evaluation

Table 2

Sample #23 +#12 size

Garnet - Transparent——

Color			Size			Wt	Calculations	
Hue/	Tone/	Sat.	Length	Width	Thickness	Ct	l / t	CFS
Stp R	3	3	ND	ND	ND	0.04		
"	"	"	ND	ND	ND	0.05		
"	"	"	ND	ND	ND	0.09		
Stp R	3	5	5.00	3.60	1.26	0.29	3.97	0.297
"	"	"	10.40	4.60	2.05	0.68	5.07	0.296
"	"	"	ND	ND	ND	0.06		
"	"	"	3.90	2.60	1.84	0.12	2.12	0.578
"	"	"	5.85	3.12	1.63	0.15	3.59	0.382
"	"	"	4.30	2.15	1.10	0.13	3.91	0.362
"	"	"	3.86	2.35	1.27	0.18	3.04	0.422
"	"	"	3.20	3.00	1.28	0.12	2.50	0.413
"	"	"	3.60	3.10	1.50	0.15	2.40	0.449
"	"	"	ND	ND	ND	0.09		
slp R	4	5	5.47	4.25	2.50	0.68	2.19	0.519
"	"	"	4.30	4.20	1.85	0.32	2.32	0.435
"	"	"	3.90	3.20	1.90	0.27	2.05	0.538
"	"	"	4.20	2.50	2.22	0.22	1.89	0.685
"	"	"	4.65	3.71	1.82	0.26	2.55	0.438
"	"	"	5.55	2.90	2.60	0.25	2.13	0.648
"	"	"	5.05	2.60	1.90	0.35	2.66	0.524
"	"	"	4.10	3.85	2.05	0.23	2.00	0.516
"	"	"	4.70	4.05	1.70	0.22	2.76	0.390
"	"	"	4.90	2.80	1.92	0.22	2.55	0.518
"	"	"	4.05	3.00	1.60	0.20	2.53	0.459
"	"	"	3.60	3.00	1.45	0.20	2.48	0.441
"	"	"	5.78	3.02	1.88	0.23	3.07	0.450
"	"	"	4.20	3.85	1.25	0.15	3.36	0.311
"	"	"	3.90	2.92	1.45	0.19	2.69	0.430
"	"	"	3.91	2.79	2.20	0.21	1.78	0.666
"	"	"	4.30	2.23	2.00	0.24	2.15	0.646
"	"	"	3.48	2.90	1.75	0.15	1.99	0.551
"	"	"	4.05	2.90	1.90	0.20	2.13	0.554
"	"	"	2.76	2.60	1.86	0.18	1.48	0.694
R	5	6	3.35	2.60	1.70	0.19	1.97	0.576
RO	3	5	3.60	2.95	1.85	0.16	1.95	0.568
"	"	"	4.30	3.15	1.20	0.14	3.58	0.326
"	"	"	4.50	3.25	1.15	0.14	3.91	0.301
RO	5	5	5.20	3.91	2.40	0.47	2.17	0.532
"	"	"	4.65	3.40	2.20	0.33	2.11	0.553
"	"	"	3.85	3.65	2.20	0.25	1.75	0.587
"	"	"	4.60	2.90	2.20	0.28	2.09	0.602
"	"	"	4.90	2.70	1.90	0.27	2.58	0.522
"	"	"	4.50	2.65	1.90	0.14	2.37	0.550
"	"	"	3.85	2.80	2.00	0.22	1.93	0.609
"	"	"	3.92	3.49	1.30	0.19	3.02	0.351
"	"	"	3.65	3.45	1.72	0.19	2.12	0.485
"	"	"	3.85	3.00	1.53	0.16	2.52	0.450
"	"	"	3.60	3.92	1.45	0.16	2.48	0.386
"	"	"	4.25	2.60	1.10	0.13	3.86	0.331
"	"	"	3.75	2.60	1.15	0.14	3.26	0.368
"	"	"	3.50	2.50	1.60	0.17	2.19	0.541
"	"	"	2.70	2.65	1.50	0.12	1.80	0.561
RO	5	6	5.62	3.62	2.30	0.40	2.44	0.510
"	"	"	3.40	3.10	2.65	0.23	1.28	0.816
"	"	"	3.15	3.05	1.85	0.17	1.70	0.597

Summary

Color				statistics					ct wt %	
Hue/	Tone/	Sat.	grade	n	total ct	avg ct	SD	avg CSF	dist	Garnet Type
Stp R	3	3	0.9	3	0.18	0.06	0.026		1.53	Almandine/Rhodolite
Stp R	3	5	2.5	10	1.97	0.20	0.180	0.400	16.74	" "
Slp R	4	5	3.6	20	4.97	0.25	0.113	0.521	42.23	" "
R	5	6	10.0	1	0.19	0.19		0.576	1.61	Pyrope
RO	3	5	0.1	9	0.44	0.15	0.012	0.398	3.74	Almandine/Spessartite
RO	5	5	6.4	15	3.22	0.21	0.094	0.495	27.36	" "
RO	5	6	6.4	3	0.80	0.27	0.119	0.641	6.80	" "
total				55	11.77	0.21	0.122	0.495	100.00	

CSF=Corey shsape factor = t / sqrt(l x w)

Slocan Valley, Passmore B.C. Alluvial Claim Evaluation

Sample #28 +#12 size **Table 3**

Garnet - Transparent——

Color			Size			Wt	Calculations	
Hue/	Tone/	Sat.	Length	Width	Thickness	Ct	l / t	CFS
Slp R	4	4	3.5	3.38	2.9	0.34	1.21	0.843
"	"	"	4.5	3.2	2.1	0.30	2.14	0.553
"	"	"	4.68	3.6	2.2	0.28	2.13	0.536
"	"	"	3.90	3.10	2.10	0.28	1.86	0.604
"	"	"	3.95	3.95	1.80	0.30	2.19	0.456
"	"	"	4.90	3.50	1.22	0.26	4.02	0.295
"	"	"	3.80	2.60	2.20	0.23	1.73	0.700
"	"	"	4.15	2.40	1.90	0.19	2.18	0.602
"	"	"	4.95	2.50	1.75	0.20	2.83	0.497
"	"	"	3.70	2.70	1.95	0.18	1.90	0.617
"	"	"	3.60	3.30	2.10	0.23	1.71	0.609
"	"	"	3.90	2.65	1.47	0.16	2.65	0.457
"	"	"	3.15	2.80	1.92	0.15	1.64	0.646
"	"	"	3.30	1.15	1.20	0.10	2.75	0.616
Stp R	4	3	4.88	3.25	1.10	0.20	4.44	0.276
"	"	"	4.78	3.15	0.80	0.15	5.98	0.206
"	"	"	4.86	3.65	1.15	0.19	4.23	0.273
"	"	"	3.35	3.25	1.70	0.23	1.97	0.515
"	"	"	3.70	2.50	1.70	0.14	2.18	0.559
"	"	"	4.40	2.50	0.90	0.14	4.89	0.271
"	"	"	3.52	3.60	1.10	0.14	3.20	0.309
"	"	"	4.00	3.45	0.90	0.13	4.44	0.242
"	"	"	3.50	3.35	1.26	0.15	2.78	0.368
"	"	"	3.10	3.10	1.00	0.10	3.10	0.323
"	"	"	ND	ND	ND	0.07	-	-
"	"	"	ND	ND	ND	0.03	-	-
oR	5	4	4.00	3.25	3.20	0.33	1.25	0.888
"	"	"	4.50	2.44	1.76	0.16	2.56	0.531
"	"	"	5.70	2.50	1.60	0.28	3.56	0.424
"	"	"	4.00	3.25	1.43	0.20	2.80	0.397
"	"	"	4.90	3.50	1.29	0.19	3.80	0.311
"	"	"	3.51	3.25	1.80	0.15	1.95	0.533
"	"	"	4.20	3.05	1.61	0.18	2.61	0.450
"	"	"	3.20	3.10	1.72	0.19	1.86	0.546
"	"	"	3.25	3.03	1.95	0.15	1.67	0.621
rO/oR	5	4	3.88	3.27	1.83	0.17	2.12	0.514
"	"	"	3.32	2.50	1.63	0.14	2.04	0.566
"	"	"	3.27	3.00	1.20	0.12	2.73	0.383
"	"	"	ND	ND	ND	0.09	-	-
rO	5	5	4.64	3.60	1.82	0.32	2.55	0.445
"	"	"	3.86	3.50	1.70	0.25	2.27	0.463
"	"	"	4.13	2.80	0.90	0.14	4.59	0.265
"	"	"	4.90	2.40	1.50	0.19	3.27	0.437
"	"	"	4.30	2.55	1.20	0.15	3.58	0.362
"	"	"	3.00	2.50	2.18	0.16	1.38	0.796
"	"	"	3.10	1.85	1.65	0.14	1.88	0.689
"	"	"	3.84	2.80	1.78	0.12	2.16	0.543
oR	5	6	5.36	3.10	2.18	0.42	2.46	0.535
"	"	"	4.90	3.25	3.00	0.46	1.63	0.752
"	"	"	4.90	2.00	2.10	0.21	2.33	0.671
"	"	"	3.75	3.00	2.10	0.20	1.79	0.626
"	"	"	3.20	3.00	1.72	0.15	1.86	0.555

Summary										
Color				statistics					ct wt %	
Hue/	Tone/	Sat.	grade	n	total ct	avg ct	SD	avg CFS	dist	Garnet Type
Slp R	4	4	0.9	14	3.20	0.23	0.068	0.574	31.53	Almandite/Rhodolite
Stp R	4	3	0.7	12	1.67	0.14	0.055	0.334	16.45	" "
oR	5	4	0.9	9	1.85	0.21	0.060	0.522	18.23	Almandite
rO/oR	5	4	0.1	4	0.52	0.13	0.034	0.488	5.12	" "
rO	5	5	6.4	24	1.47	0.18	0.068	0.500	14.48	Almandite/Spessartite
oR	5	6	10.0	5	1.44	0.29	0.141	0.628	14.19	" "
total				52	10.15	0.20	0.083	0.504	100.00	

CSF=Corey shsape factor = t / sqrt(l x w)

Slocan Valley, Passmore B.C. Alluvial Claim Evaluation

Gem Garnet Evaluation

Sample #53A +#12 size

Table 4

Garnet - Transparent-----

Color			Size			Wt	Calculations	
Hue/	Tone/	Sat.	Length	Width	Thickness	Ct	l / t	CFS
Stp R	6	6	5.76	5.32	3.45	0.98	1.67	0.623
rO/oR	5	5	5.25	4.28	3.2	0.81	1.64	0.675
"	"	"	6.2	4.2	3.3	0.61	1.88	0.647
"	"	"	5.50	4.90	2.53	0.59	2.17	0.487
"	"	"	6.00	4.02	2.10	0.47	2.86	0.428
"	"	"	3.60	3.10	1.86	0.24	1.94	0.557
"	"	"	3.52	3.25	2.55	0.28	1.38	0.754
SlpR	4	3	5.93	5.00	2.65	0.67	2.24	0.487
"	"	"	6.00	3.72	2.90	0.49	2.07	0.614
"	"	"	5.25	4.50	2.00	0.54	2.63	0.411
"	"	"	4.55	3.60	1.90	0.31	2.39	0.469
"	"	"	5.15	2.80	1.20	0.29	4.29	0.316
"	"	"	3.45	3.30	1.90	0.24	1.82	0.563
"	"	"	4.30	3.00	0.95	0.20	4.53	0.265
"	"	"	3.90	3.25	1.90	0.24	2.05	0.534

Summary										
Color				statistics					ct wt %	
Hue/	*Tone/*	Sat.	*Grade*	*n*	*total ct*	*avg ct*	SD	avg CFS	dist	Garnet Type
Stp R	6	6	6.4	1	0.98	0.98		0.623	14.08	Almandite/Rhodolite
rO/oR	5	5	3.6	6	3.00	0.50	0.216	0.591	43.10	Almandite
SlpR	4	3	0.7	8	2.98	0.37	0.172	0.457	42.82	Almandite/Rhodolite
total				15	6.96	0.46	0.236	0.522	100.00	

CSF=Corey shsape factor = t / sqrt(l x w)

The classification of garnet types is found in Tables 2, 3, and 4. The following will summarize percent distribution:

Almandite/Rhodolite	56.3
Almandite/Spessartite	25.9
Almandite	17.0
Pyrope.	0.7

These divisions were determined from hue, tone, saturation and optical characteristics utilizing the Gemological Institute of America standard color grading classification system.

Grading +#12 garnets (Tables 2, 3 and 4) from select samples resulted in the following averages:

TYPE	COLOR GRADE
Almandite/Rhodolite	2.2
Almandite/Spessartite	6.7
Almandite	2.6
Pyrope	10.0

N.B.: Grade of 10 denotes ideal gem color.

Several potential gem grade garnets were submitted to a lapidarist to polish for optical testing. The resulting conclusion was that the #12 garnets 'crumbled' when he attempted to polish the stones. This indicates that even the better grade color stones are internally fractured and marginally suitable for gem purposes. This factor alone would assign a clarity grade of I-3 indicating these garnets would contain serious 'feathers' that would severely impact stone durability.

Magnetite removal prior to heavy liquid separation indicated that these mineral grains could reach 4 mm in diameter. Concentration ranges from 5% to 100%. The higher percentages occur in the upper elevation terraces (Table 1).

Zircon is readily detectable under long wave ultraviolet light. Visual point count estimates ranged from 1% to 20%. This friable mineral almost exclusively reports to the fines (#0 size).

Micro-corundum grains were positively identified in two sample locations. The corundum grain observed in Sample 15A was medium brown in color. This hexagonal grain was about 1 mm long parallel to the C axis. This location is on the immediate upstream projection of the prominent channel shaped geophysical anomaly on Line A. The second corundum crystal detected (Sample 64) was purple-blue in color and could be termed a 'sapphire'. This occurrence is located in Terrace F (Map 3, GF5) within the Slocan Park high hydraulic energy boulder gravels. Samples from this location also contain a high percentage of coarse garnets (Table 1).

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Correlation	Recent	Terrace A	Terrace B	Terrace C	Terrace D	Terrace E	Terrace F	Wolverton Creek
	Geologic Unit							
Concentrate Weight(g) vs Magnetite (g)	0.922	0.921	0.925	0.612	0.257	0.871	0.431	0.996
Concentrate Weight (g) vs Garnet Total (g)	0.955	0.845	0.775	0.903	0.983	0.920	0.981	1.000
Magnetite (g) vs Garnet (g)	0.765	0.569	0.477	0.212	0.079	0.610	0.246	0.995
Percent Zircon vs Percent Magnetite	0.140	-0.235	-0.420	0.251	0.685	0.246	-0.429	0.615
Percent Zircon vs Percent Garnet	-0.140	0.235	0.420	-0.251	-0.649	-0.246	0.429	-0.615
	Standard Error of regression							
Concentrate Weight(g) vs Magnetite (g)	29.219	3.063	4.035	5.515	18.782	11.216	12.714	0.972
Concentrate Weight (g) vs Garnet Total (g)	29.219	3.063	4.035	5.515	18.489	11.216	12.714	0.972
Magnetite (g) vs Garnet (g)	63.197	4.709	5.613	12.537	104.234	22.729	62.971	19.749
Percent Zircon vs Percent Magnetite	0.267	0.147	0.213	0.211	0.165	0.263	0.280	0.008
Percent Zircon vs Percent Garnet	0.267	0.147	0.213	0.211	0.172	0.263	0.280	0.008

Figure 1

Statistical Evaluation of Slocan Valley Alluvial Units

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A variety of dark gray and black metallic minerals were observed in the heavy liquid concentrates. Suspected scheelite grains were detected in a few samples. Detrital gold was not detected.

Statistical manipulation of the data in Table 1 (Figure 1 and Appendix II) reveals several important mineralogical and geological relationships for the various indicator minerals. The most significant of these are:

- Positive correlation between zircon and magnetite for Terrace D and Wolverton Creek is also complimented by the elevated garnet grades. The negative correlations for Terrace F and B suggest varying selective hydraulic equilibrium depositional environments and possibly provenance area fluctuations.
- A strong negative correlation between zircon and garnet exists for both Terrace D and Wolverton Creek. Both Terrace F and B have modest positive correlation for these two minerals.
- Correlation between magnetite and garnet is highest for Recent alluvium and Wolverton Creek and negligible for Terrace D probably reflecting provenance area variations.
- Regression analysis for the magnetite-garnet suite mirrors the correlation coefficient data. High data dispersion is reflected in Terrace D, Terrace F and Recent alluvium.
- The fluvial channel sampled in Terrace D (Samples 53, 84 and 85) contain low zircon and magnetite associated with high percentages of coarse garnet and elevated grades.
- The statistical data that the two micro-corundum occurrences (Samples 15A and 64) share is: low garnet grade and high zircon content. The differing geological sedimentological environments account for the high coarse garnet concentrations for Terrace F and high magnetite levels for Terrace E.

The above statistics and observations reveal potentially useful mineralogical tracers for both geophysical prospecting and sampling. It must be emphasized that, although the total sample base is within statistical acceptability, the individual geological units contain relatively few samples and might bias data evaluation.

6.0 ECONOMICS

Cut gem quality almandite and pyrope garnets will wholesale in the US \$8-12/ct range for the grade and weight range found in the alluvials (0.5 to 1.0 ct). Rhodolite garnets wholesale for \$25-35/ct utilizing the same parameters.

Industrial garnet price depends on type, source, quantity purchased, quality and application. Values (\$ US) for crude concentrate range from about \$55 to \$120/t as stated in the June 2000 edition of Mining Engineering (Appendix III). Suggested average global prices are \$200/ton (personal communication with industrial mineral consultants). Refined garnet prices ranged from \$55 to \$237/t with spot prices reaching a high of \$413/t. Table 1 lists the calculated industrial garnet values for this data base with select maximum garnet concentrations listed below:

UNIT	SAMPLE	g/l	$/CM
Recent	No. 26	4.90	0.59
Terrace D	No. 8	6.73	0.81
Terrace D	No. 23	6.40	0.77
Terrace D	No. 84	4.57	0.55
Terrace D	No. 43	9.02	1.08
Terrace F	No. 86	4.88	0.59
Wolverton Cr.	No. 80	14.74	1.77
Koch Cr.	No. 78	6.11	0.73

The consistently higher garnet concentrations from Wolverton Creek (Map 3, GF4) are considered as a secondary but important source for the Slocan Park alluvials. The low zircon and magnetite levels for this tributary are also notable.

Industrial garnet uses span many industries and 1999 world consumption was about 350,000 tons. The preferred grain shape is equal dimensional. Almandite/Pyrope garnets are the preferred garnets due to their low calcium content thus providing maximum durability. Visual observations indicated that the -#0 stones were more equal dimensional in shape as compared to the measured larger sizes (Tables 2, 3 and 4). Crushing generally reduces the mined product by about 25%. The suggested required minimum deposit grade for an operating mine is about 4% to 5% (e.g. about $8.00/CM) which is about 10X the maximum grade found in the Wolverton Creek samples. Obviously, mine economics plays an important role in assigning a mine cut-off grade.

The micro-corundums found in this reconnaissance survey have no commercial value. However, they are considered as important mineralogical indicators. Gem grade sapphire prices are highly variable and are largely dependent on color, clarity, weight and cut. Maximum wholesale cut prices for blue star sapphire ranges from $225 to $3,800/ct depending on stone weight. Previous evaluation of the Slocan Valley area sapphires derived from the various lode deposits would indicate that heat treatment is desirable to maximize stone values.

Potential volumes of the various alluvial systems, relative to this reconnaissance sampling and mapping program, are:

Little Slocan River	1.8 M CM/km channel
Slocan River	1.8 M CM/km channel
Paleo-channel/Terrace F	15.0 M CM/km channel

NB: Depth of 15 meters are assumed for the active river channels.

It must be emphasized that the above estimates assume continuous minability and playability necessary for a large volume mining operation.

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7.0 CONCLUSIONS

The Little Slocan River has been the major factor in the removal of a glacio-fluvial paleo-delta at the confluence of these two rivers. The sediment that formed this +/- 250 M CM mass was derived from upper level metamorphic terrain. Very limited access to representative sampling locations restricts volume calculations for the fluvial channel sampled within Terrace D. Side Looking Radar geophysical anomalies have outlined major well incised channel configurations and also local scour features adjacent to known bedrock sapphire deposits. These features strongly suggest that these are paleo-channels formed in a youthful high energy fluvial environment and could contain eroded material from the known Slocan Valley corundum deposits. The geometry of these features indicates that a volume of 15.0M CM of material could be present per kilometer of proposed major channel. The high energy bouldery gravels exposed in the Slocan Park region are most probably the southern continuation of these buried paleo-channels.

Heavy mineral sampling has indicated that the glacio-fluvial sediments within the claim area contain increasing garnet concentrations with depth. A basal fluvial channel within Terrace D contains appreciably more heavy minerals than the host terrace. This is attributed to reworking these unsorted cobble gravels.

Restricted sampling within the populated area of Slocan Park reveals that the garnet concentrations are both heavier and coarser in the bouldery gravels of Terrace F than in the stratigraphically higher glacio-fluvial sediments (excluding the Terrace D channel). It is anticipated that similar mineralogy can be expected upstream in the geophysically defined paleo-channels. The two micro-corundum occurrences (one of which is a sapphire) are directly or indirectly associated with this geological unit.

Evaluation of the garnet suite suggests that only modest quantities of gem quality material will be recovered from the alluvials. Gem garnets do not command the high prices as compared with saphires. Potential industrial grade garnets for the abrasive, filtration and hydro-cutting markets could be supplied from the Slocan alluvials. However, potential shape, grade and durability problems must be addressed. The indicated industrial garnet values from this reconnaissance sampling ranges from $0.00 to $1.77 per cubic meter (US$ 120/ton product price). These very preliminary results suggest that a modern large volume mining operation could possibly be at least partially sustained on garnet sales while capitalizing on a potential high value sapphire by-product. More definitive sampling is required to qualify this statement.

8.0 RECOMMENDATIONS

Environmental concerns regarding mining active river channels should be investigated.

The meandering nature of the Slocan River channel might segment the underlying suspected straight geophysical detected paleo-channels to render them awkward for large-scale mining. Standard open pit mining methods could be applied to the terrace deposits.

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It is necessary to acquire a significant land position, possibly through options, to justify drilling expenditures.

The proposed drilling program of 12 holes totaling 500 meters to sample the geophysical anomalies should be initiated pending satisfactory property negotiations and other concerns within the existing placer claims. These holes would be prioritized to enable preliminary results to be evaluated. The same should apply for the proposed 23 bulk sample sites to evaluate fluvial zones within Terraces D and E. Additional Side Looking Radar lines and ground magnetics would be an distinct advantage prior to final drill site selection. These two proposed sampling stages, in contrast to this initial reconnaissance program, would provide sufficient representative data to provide data for deposit evaluation.

The PGS proposed southern extension of the existing placer claims to include the Slocan Park alluvial plane should be initiated (Map 3). This area is relatively densely populated and would require sophisticated property negotiations. A Side Looking Radar and magnetics survey would be the initial approach for this area to search for drill targets. In addition, a total of eight holes aggregating 320 meters of drilling would be budgeted for this geologically important area.

The drilling method utilized in sampling the paleo-channels, as discussed in June 2000 between HCR and PGS, should be reviewed. Field investigations indicate that the nature of the bouldery gravels lying below the water table would favor large diameter churn drill holes in contrast to the proposed rotary drill.

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President

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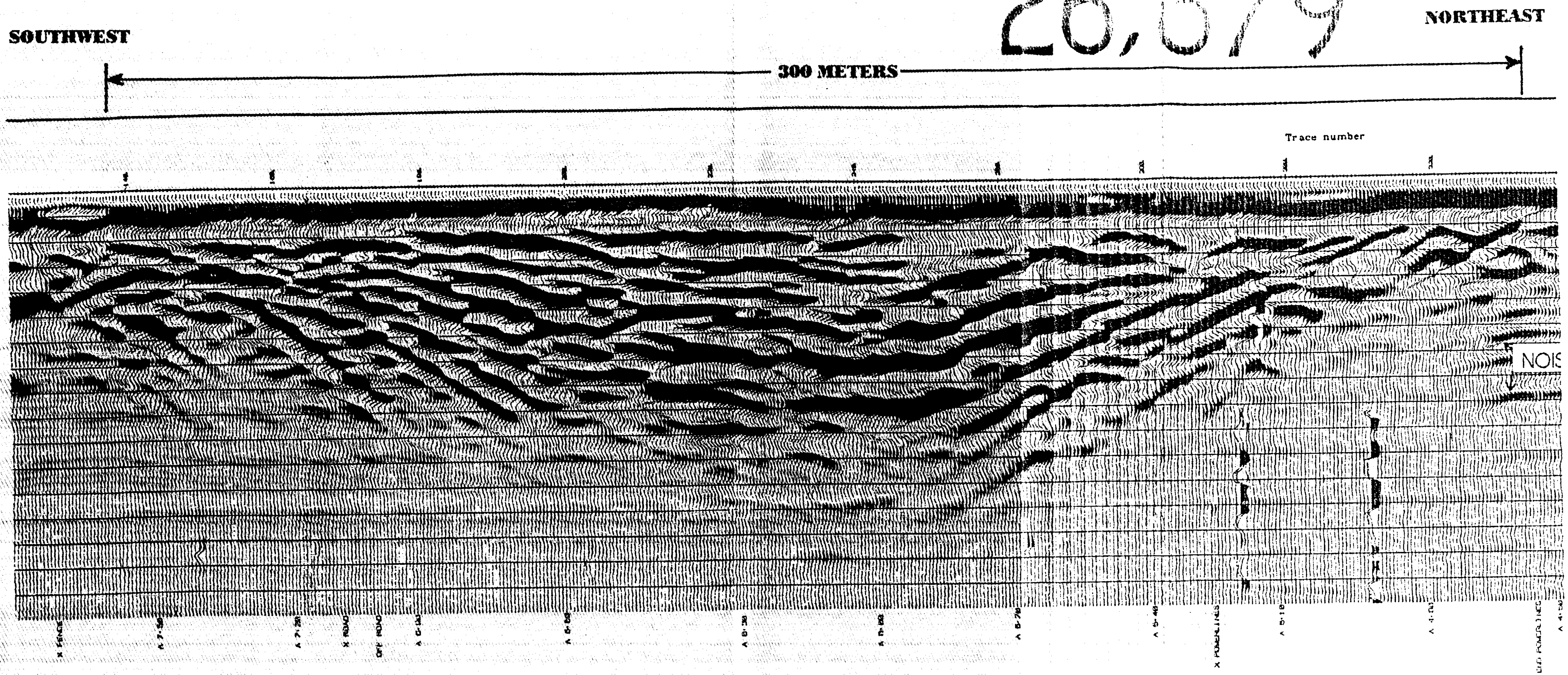
APPENDIX I



300 meters wide X 55 meters deep

Surface Search Inc.
Bay 7, 6523 - 11 Street SE, Calgary, AB, Canada T2H 2L6
Phone: (403) 531-9715 Fax: (403) 234-1240
www.surfacesearch.com

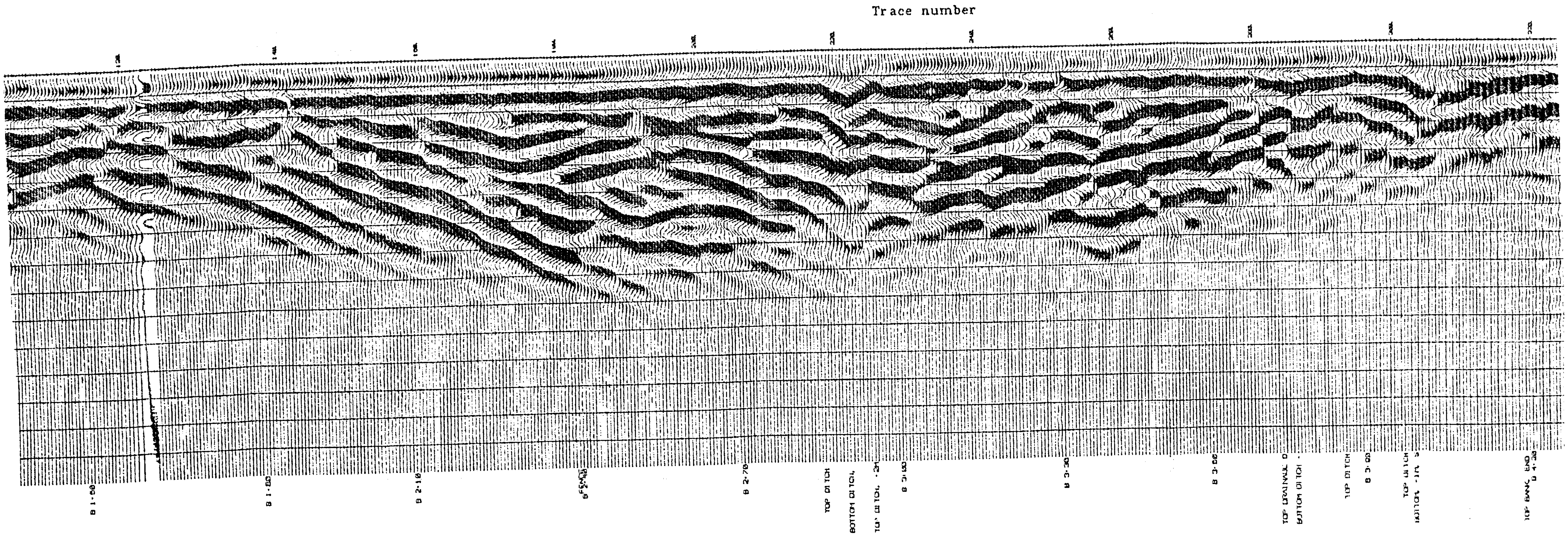
LINE A: Side Looking Rada

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

26,679

NORTH SOUTH

240 METERS



240 meters wide X 35 meters deep

Surface Search Inc.
Bay 7, 6523 - 11 Street SE, Calgary, AB, Canada T2H 2L3
Phone: (403) 531-9715 Fax: (403) 294-1240
www.surfacesearch.com

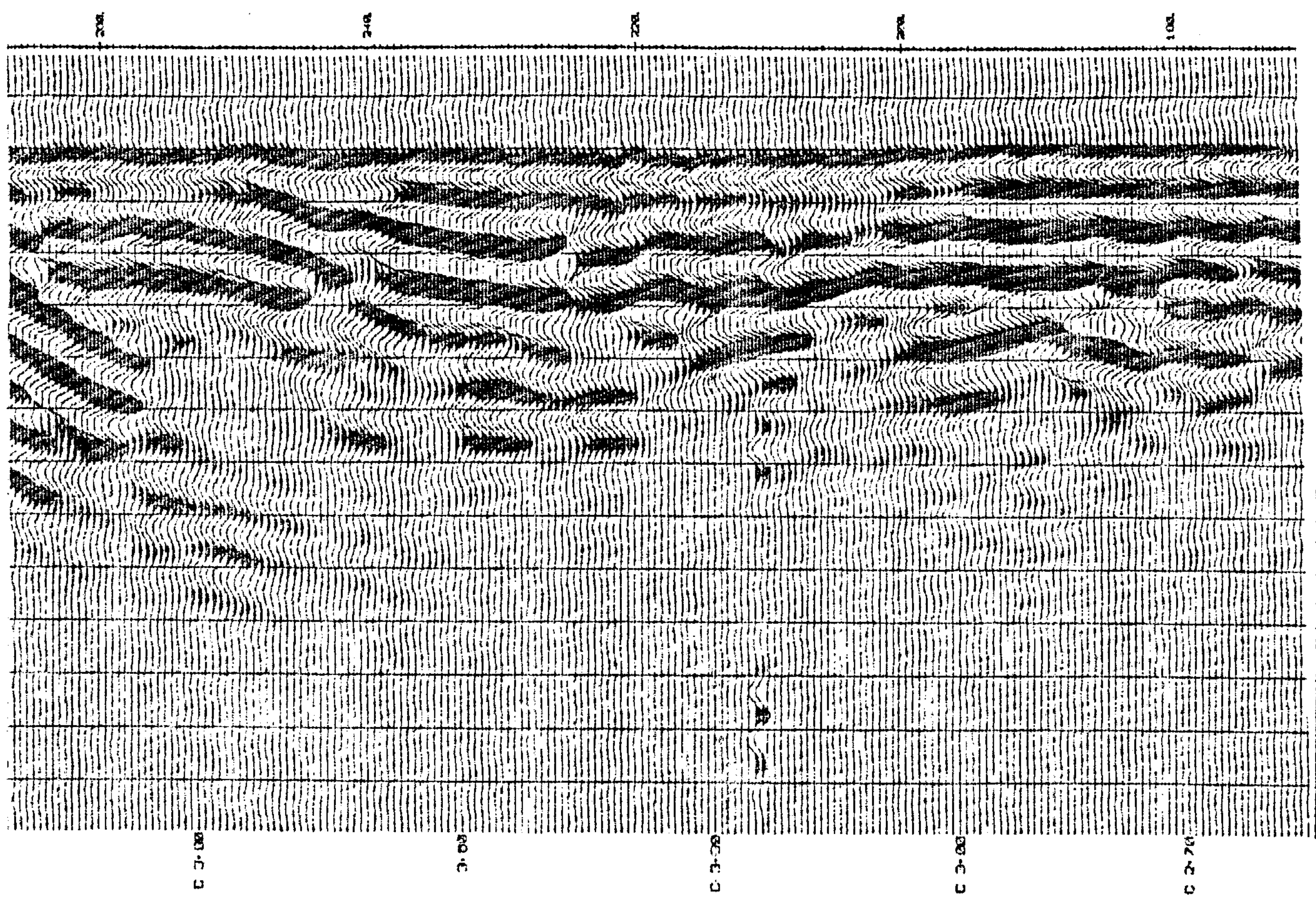
LINE B: Side Looking Rad:

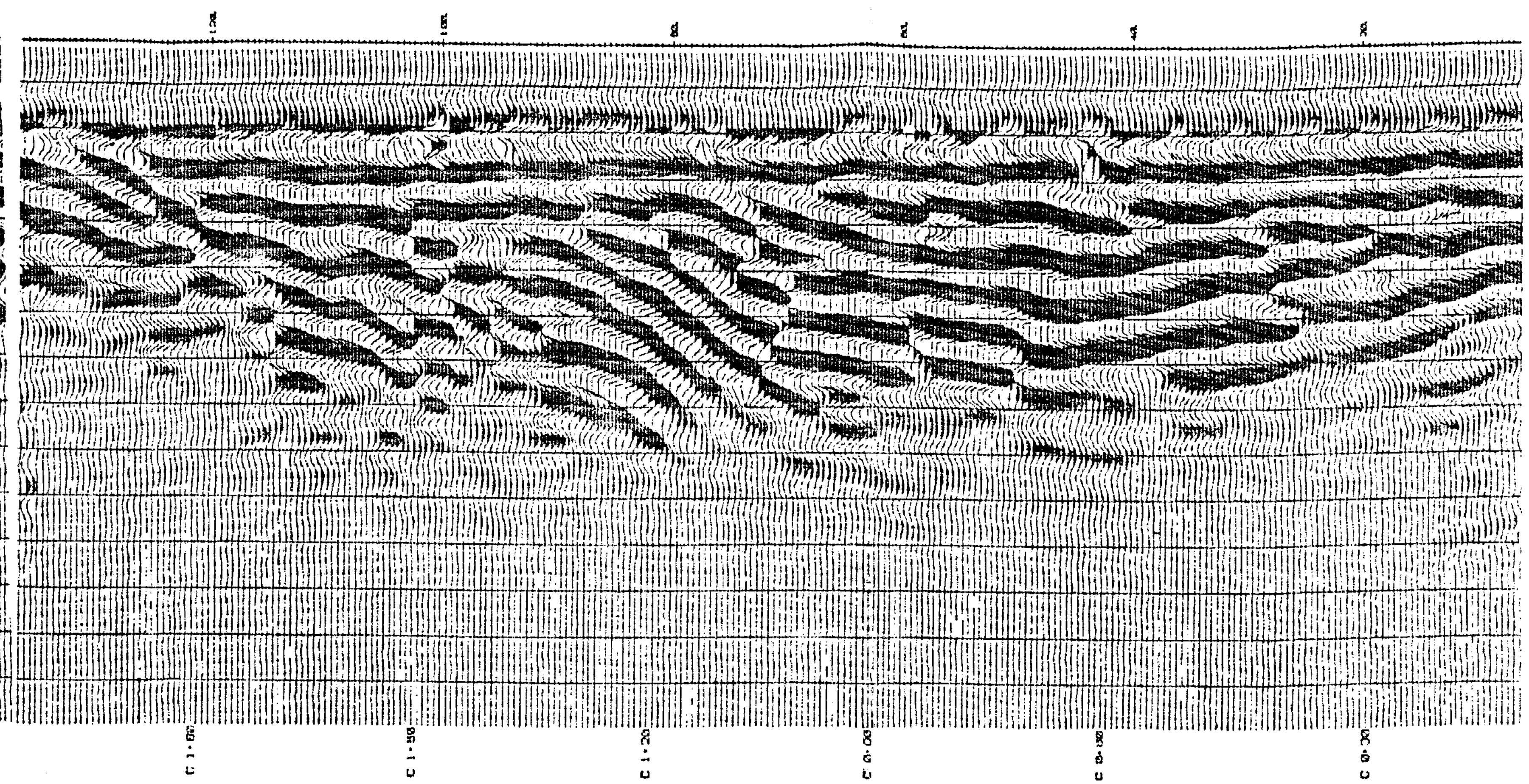
GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

26,679

WEST **EAST**

120 METERS +190 METERS

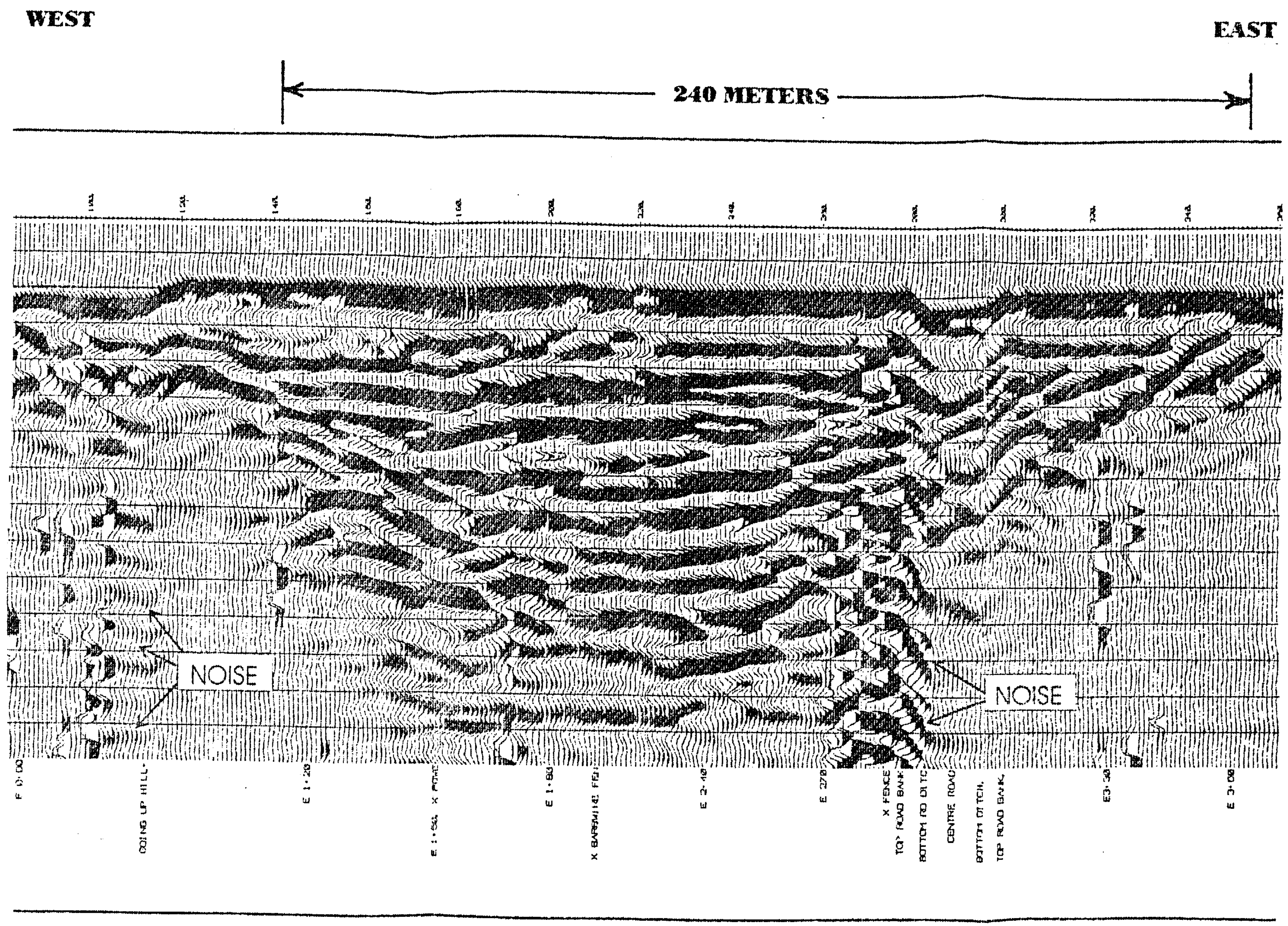




120 meters wide X 20 meters deep **+190 meters wide X 30 meters deep**

Surface Search Inc.
Bay 7, 6523 - 11 Street SE, Calgary, AB, Canada T2H 2L6
Phone: (403) 531-9715 Fax: (403) 294-1240
www.surfacesearch.com

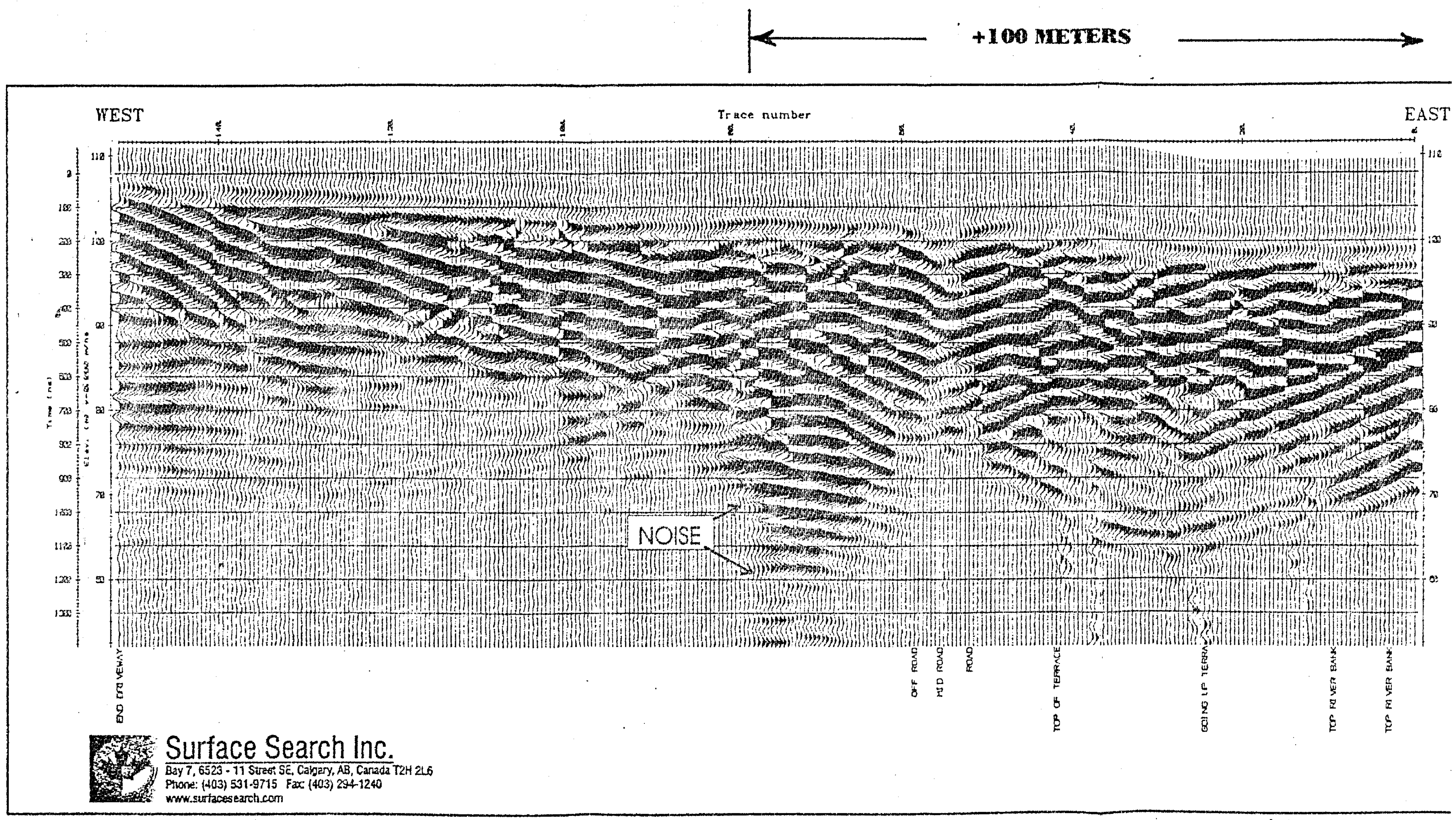
LINE C: Side Looking Radar



240 meters wide X 35 meters deep

Surface Search Inc.
Bay 7, 6523 - 11 Street SE, Calgary, AB, Canada T2H 2L6
Phone: (403) 531-9715 Fax: (403) 294-1240
www.surfacesearch.com

LINE E: Side Looking Radar



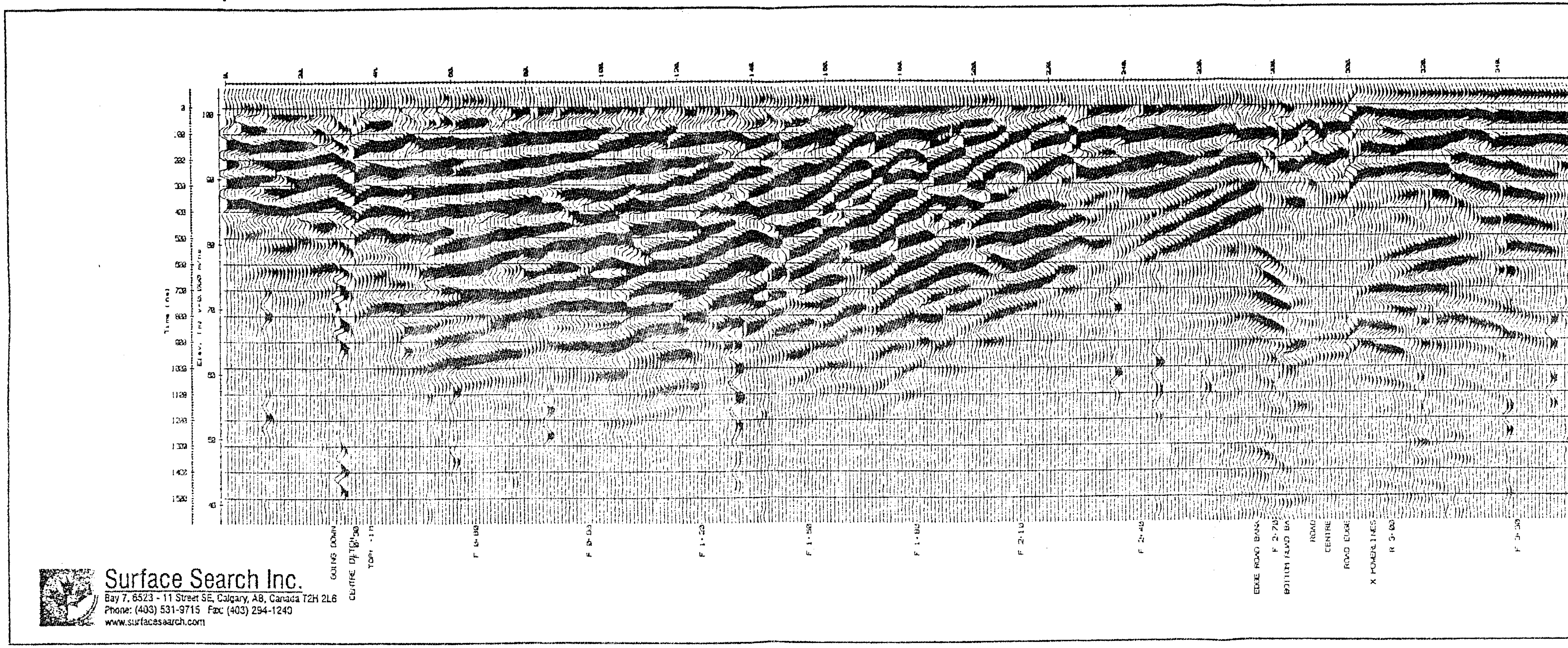
203 METERS SE LINE E 25 Mhz

Surface Search Inc.
Bay 7, 6523 - 11 Street SE, Calgary, AB, Canada T2H 2L6
Phone: (403) 531-9715 Fax: (403) 294-1240
www.surfacesearch.com

LINE E-1: Side Looking Radar

NORTHEAST **SOUTHWEST**

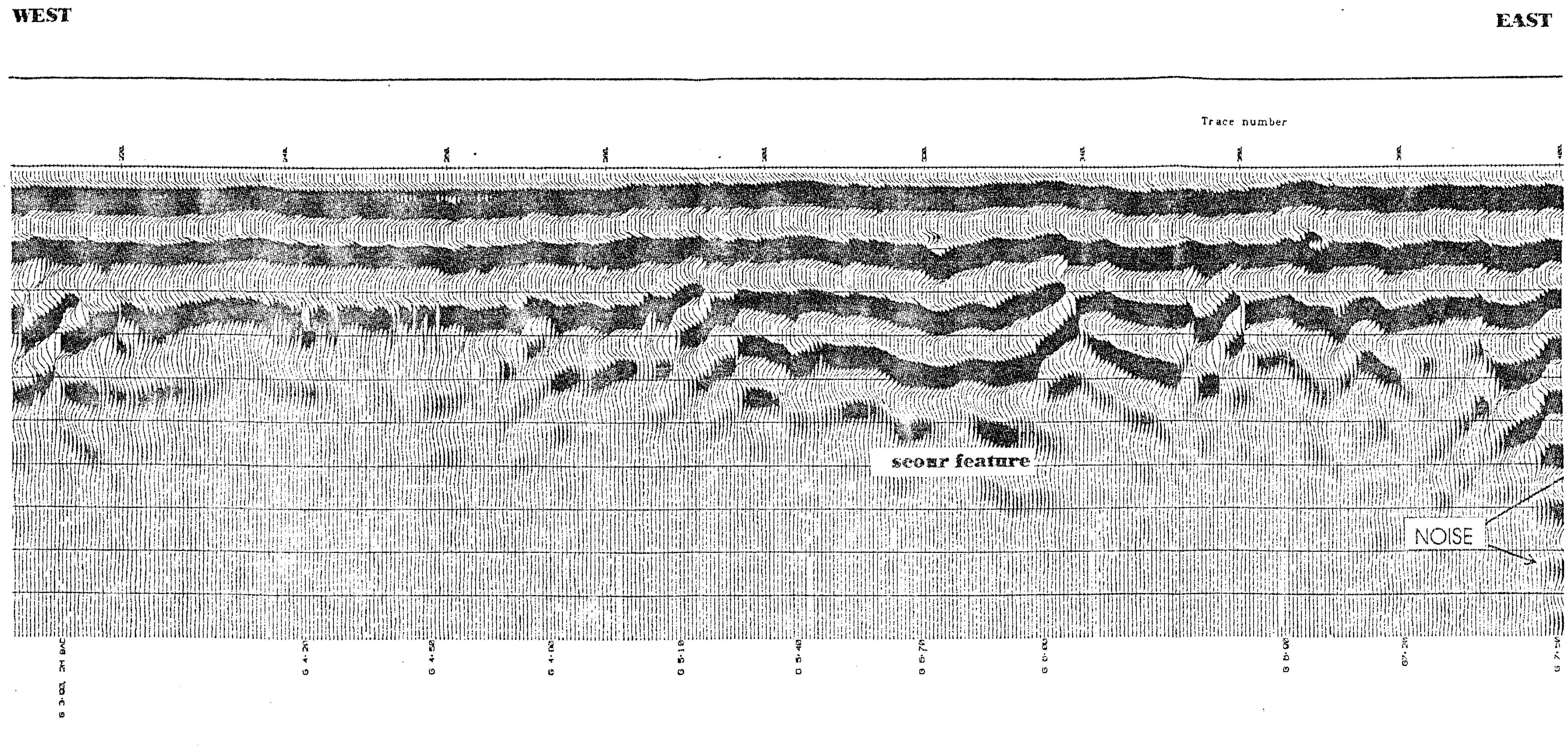
+270 METERS



+270 meters wide X 45 meters deep

Surface Search Inc.
Bay 7, 6523 - 11 Street SE, Calgary, AB, Canada T2H 2L6
Phone: (403) 531-9715 Fax: (403) 294-1240
www.surfacesearch.com

LINE F: Side Looking Rada

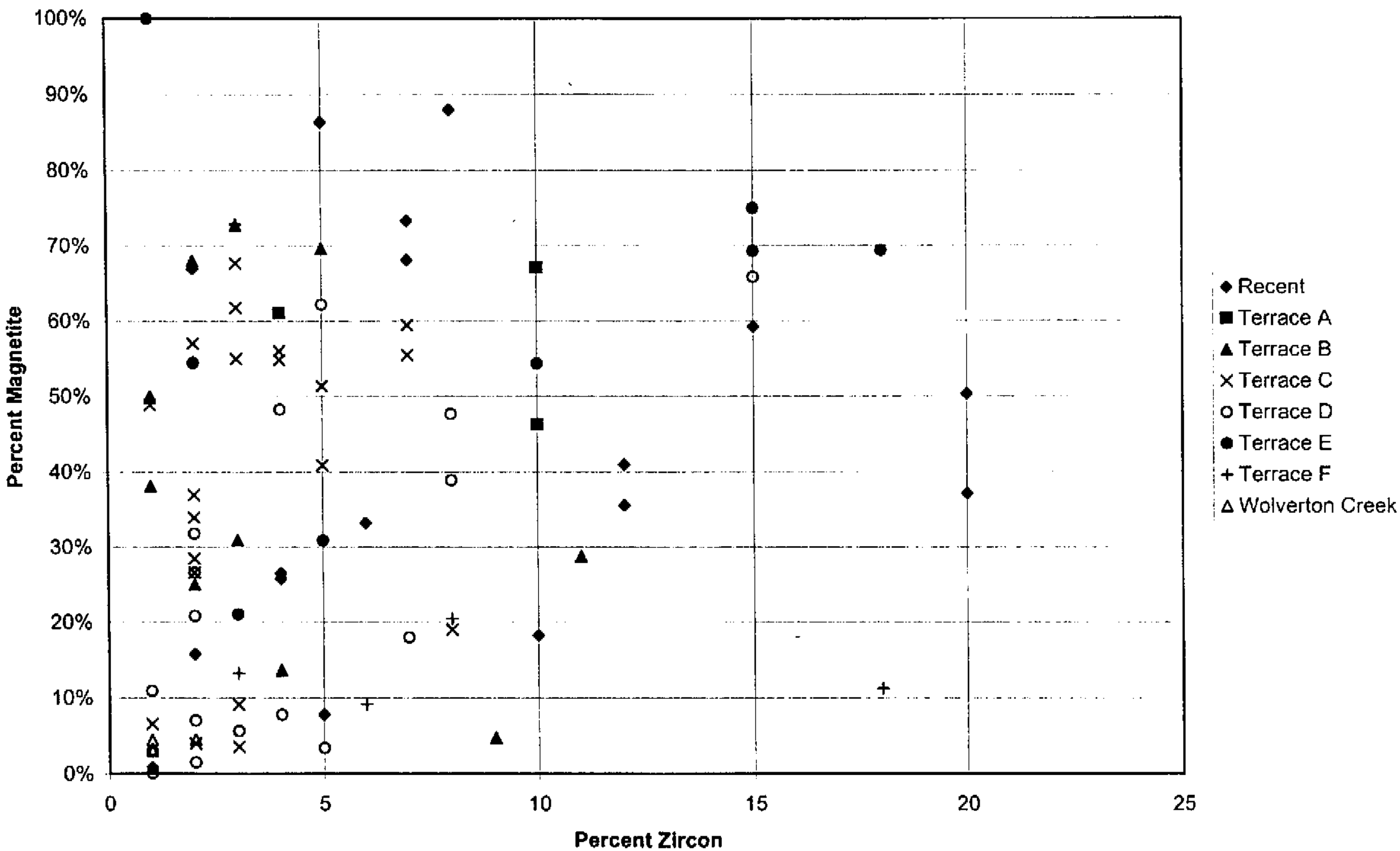


Surface Search Inc.
Bay 7, 6523 - 11 Street SE, Calgary, AB, Canada T2H 2L6
Phone: (403) 531-9715 Fax: (403) 294-1240
www.surfacesearch.com

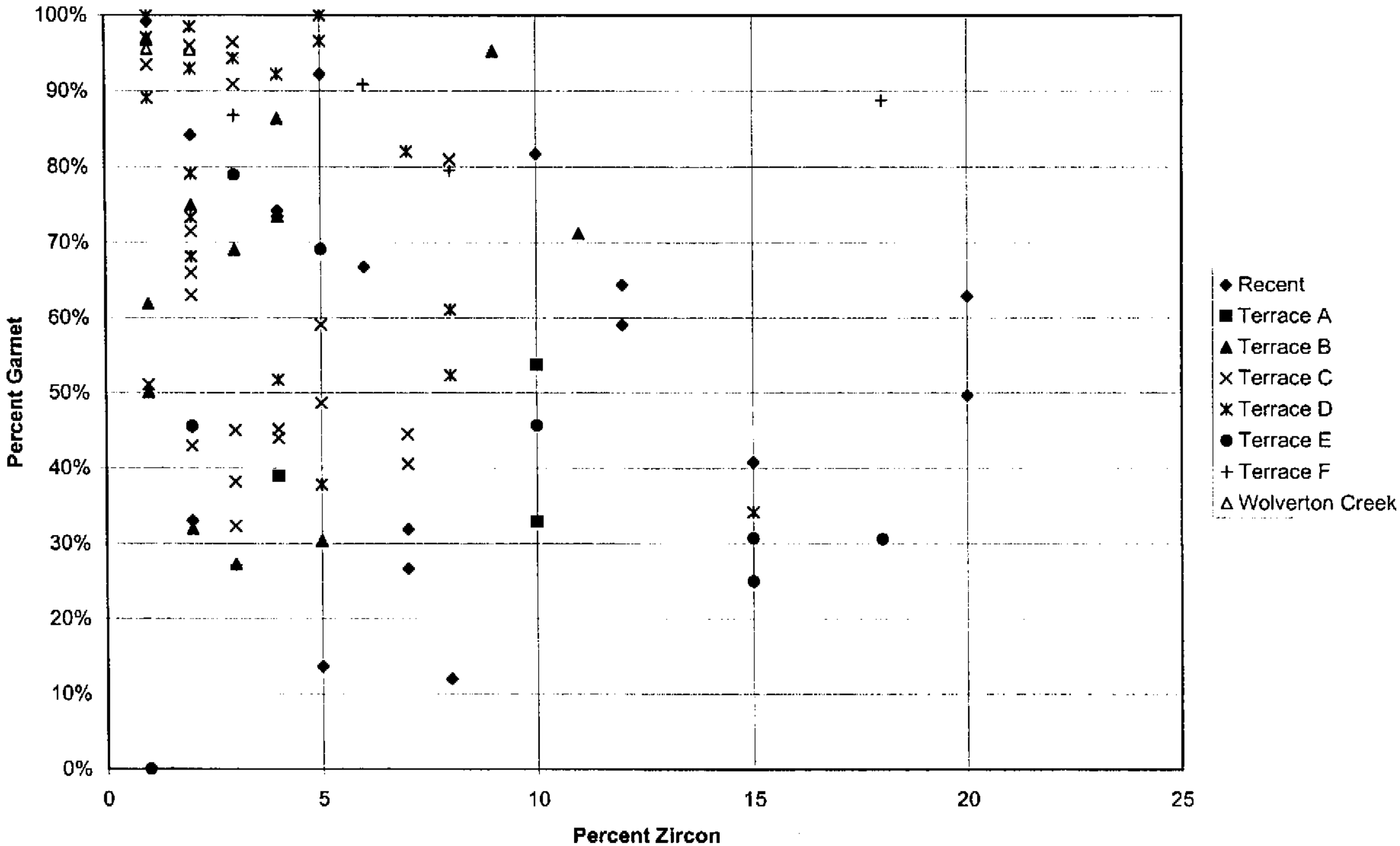
LINE G: Side looking Radar

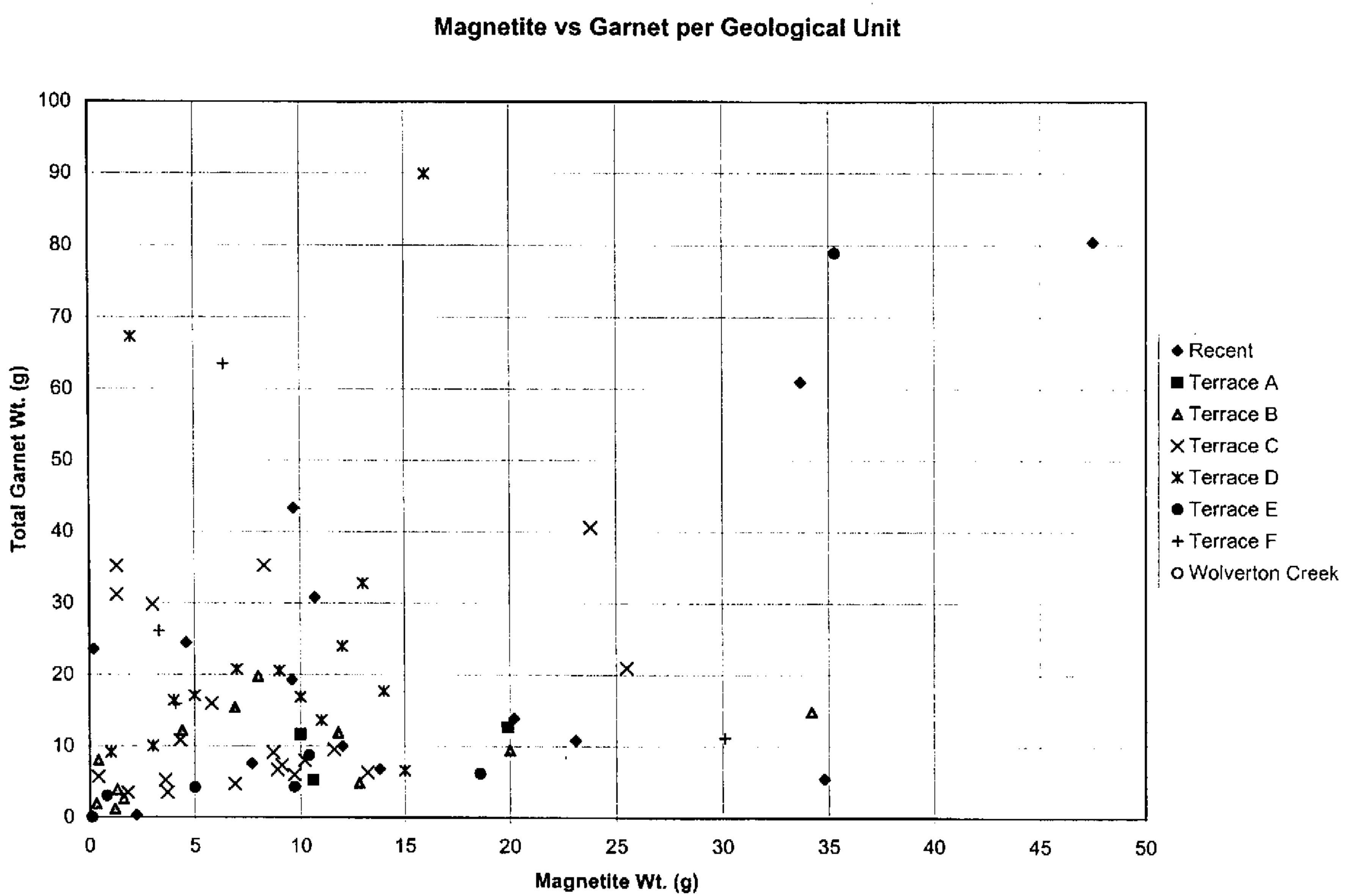
APPENDIX II

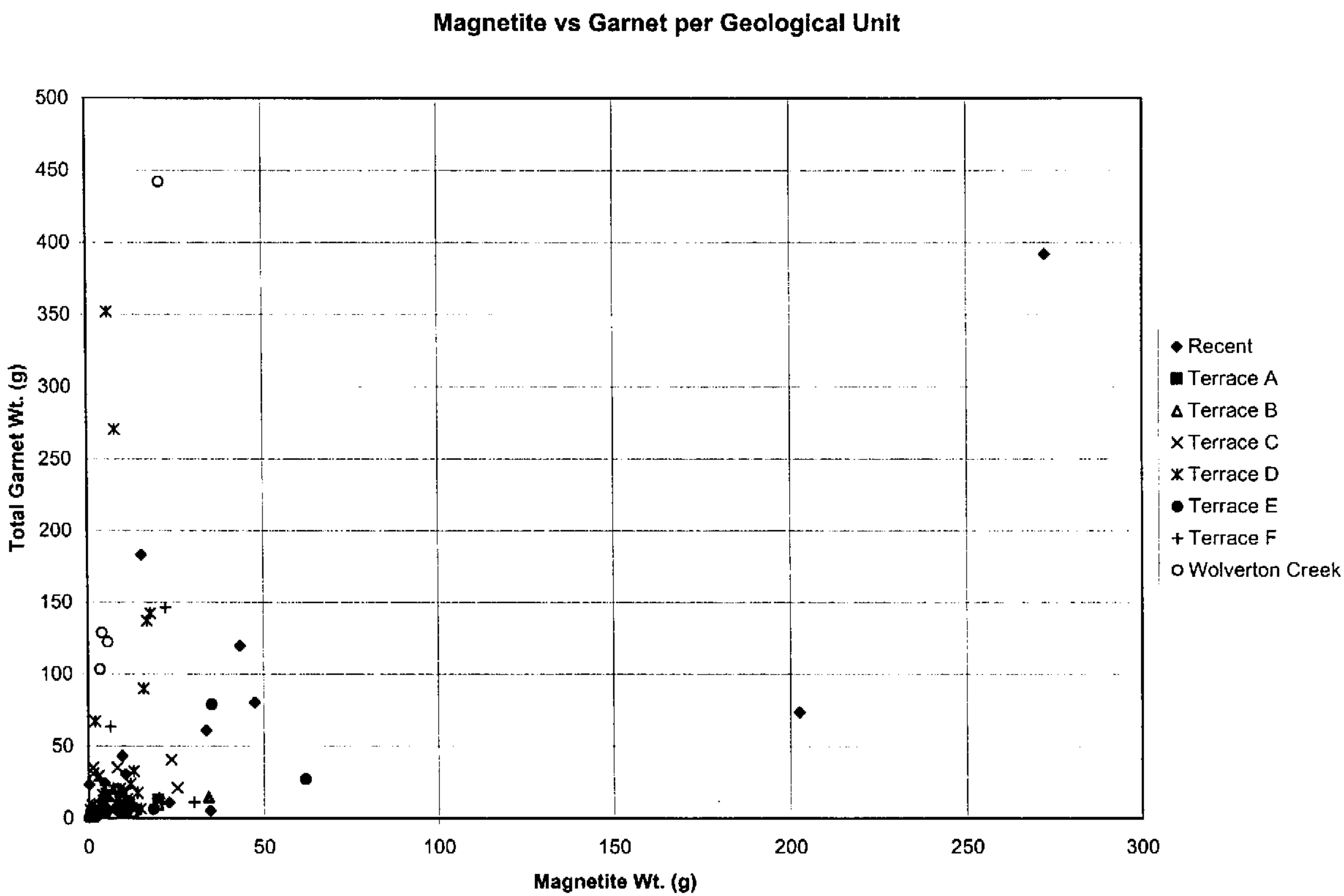
Percent Zircon vs Percent Magnetite per Geological Unit



Percent Zircon vs Percent Garnet per Geological Unit

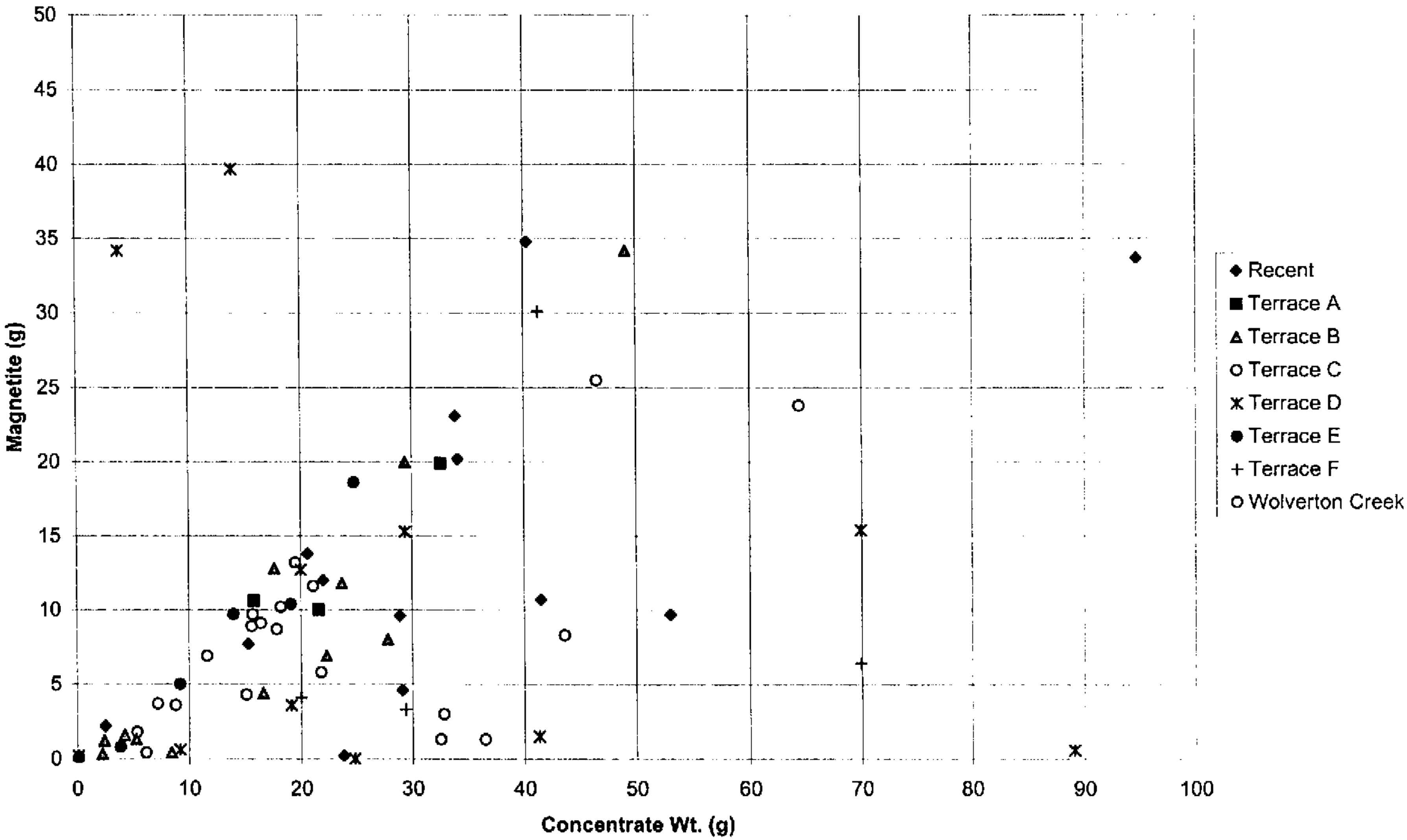



Magnetite vs Garnet per Geological Unit
Total Garnet Wt. (g)
Magnetite Wt. (g)
0
10
20
30
40
50
60
70
80
90
100
0
5
10
15
20
25
30
35
40
45
50
Recent
Terrace A
Terrace B
Terrace C
Terrace D
Terrace E
Terrace F
Wolverton Creek

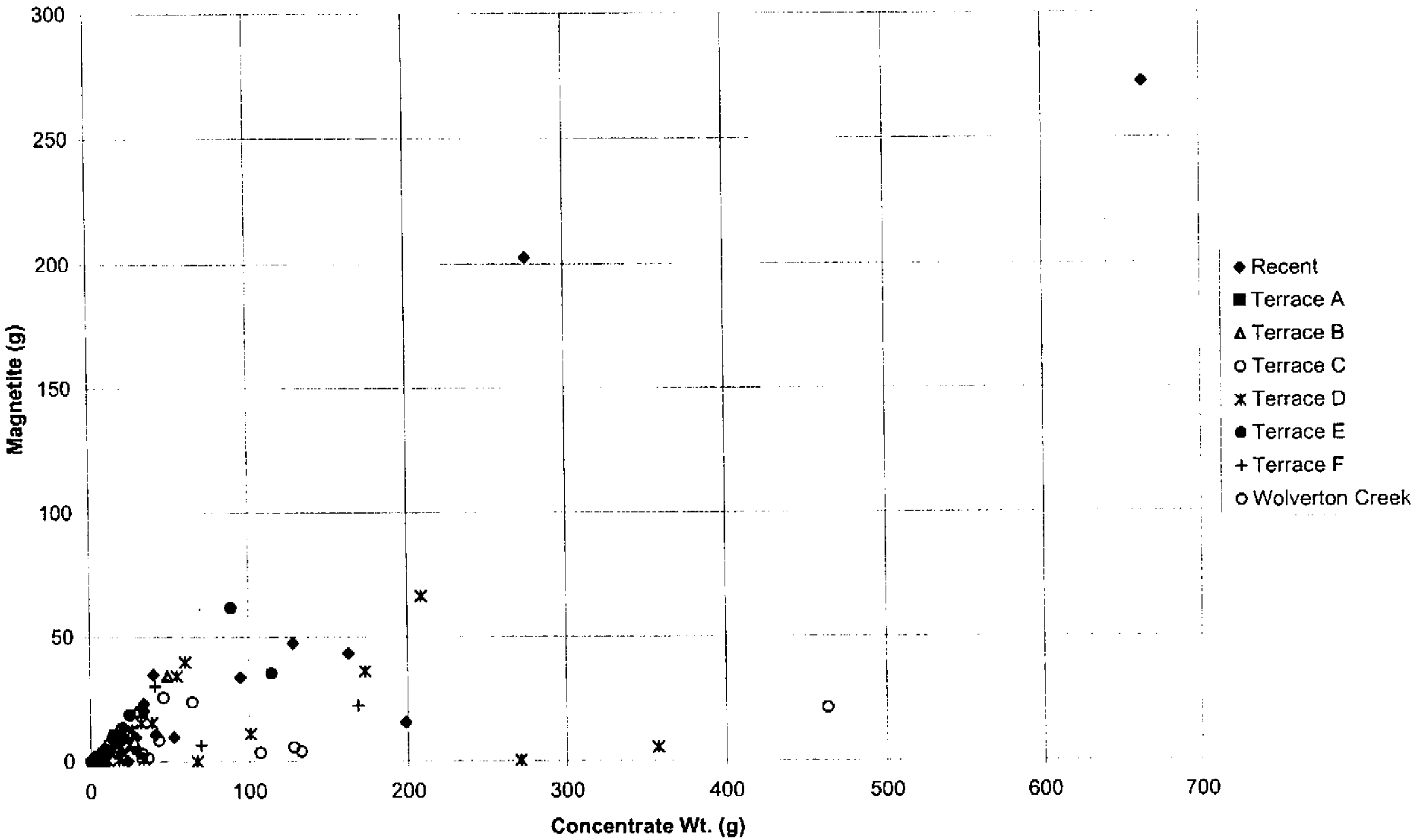


Magnetite vs Garnet per Geological Unit
Total Garnet Wt. (g)
Magnetite Wt. (g)
0
50
100
150
200
250
300
350
400
450
500
0
50
100
150
200
250
300
Recent
Terrace A
Terrace B
Terrace C
Terrace D
Terrace E
Terrace F
Wolverton Creek

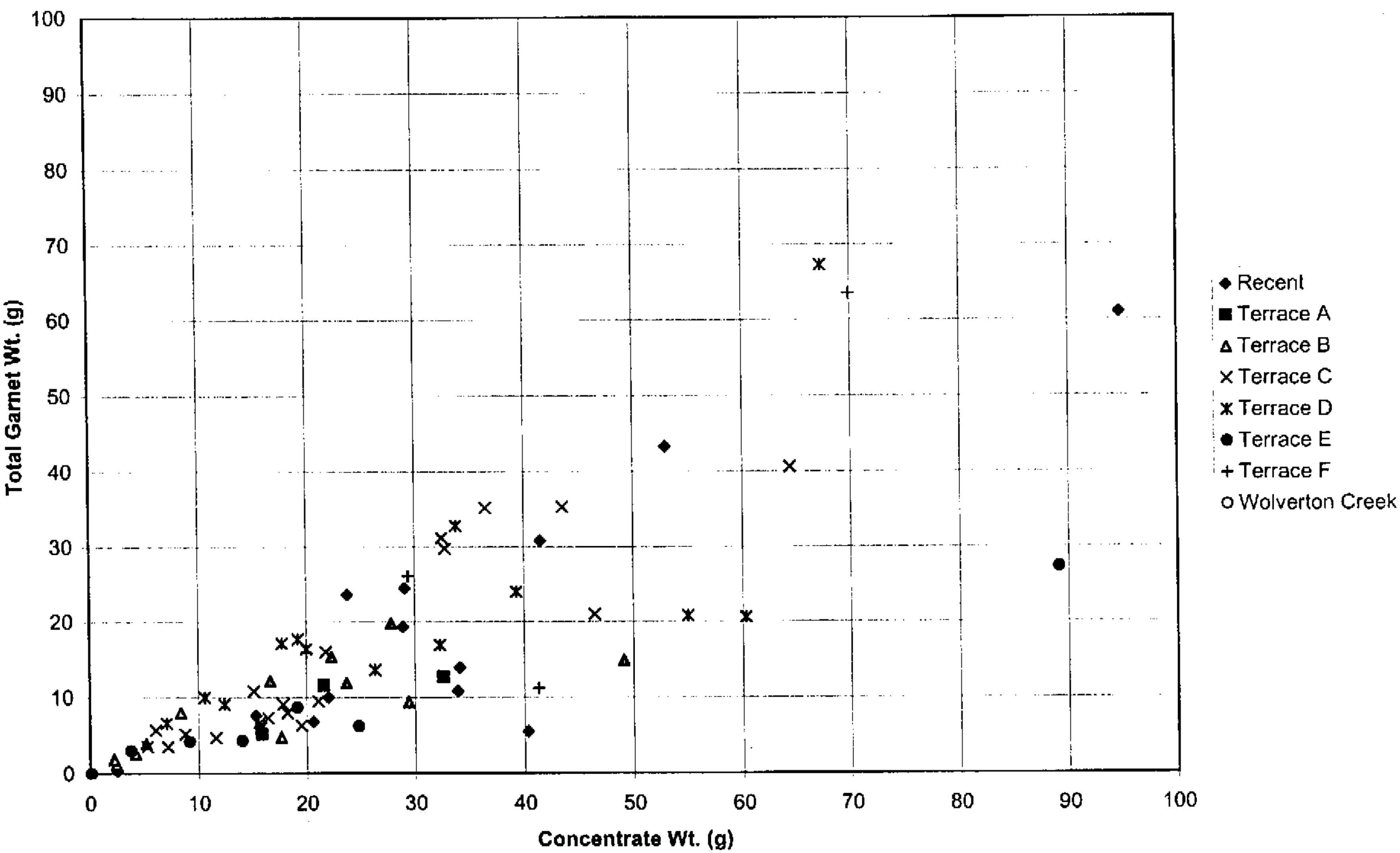
Concentrate Weight vs Magnetite per Geologic Unit

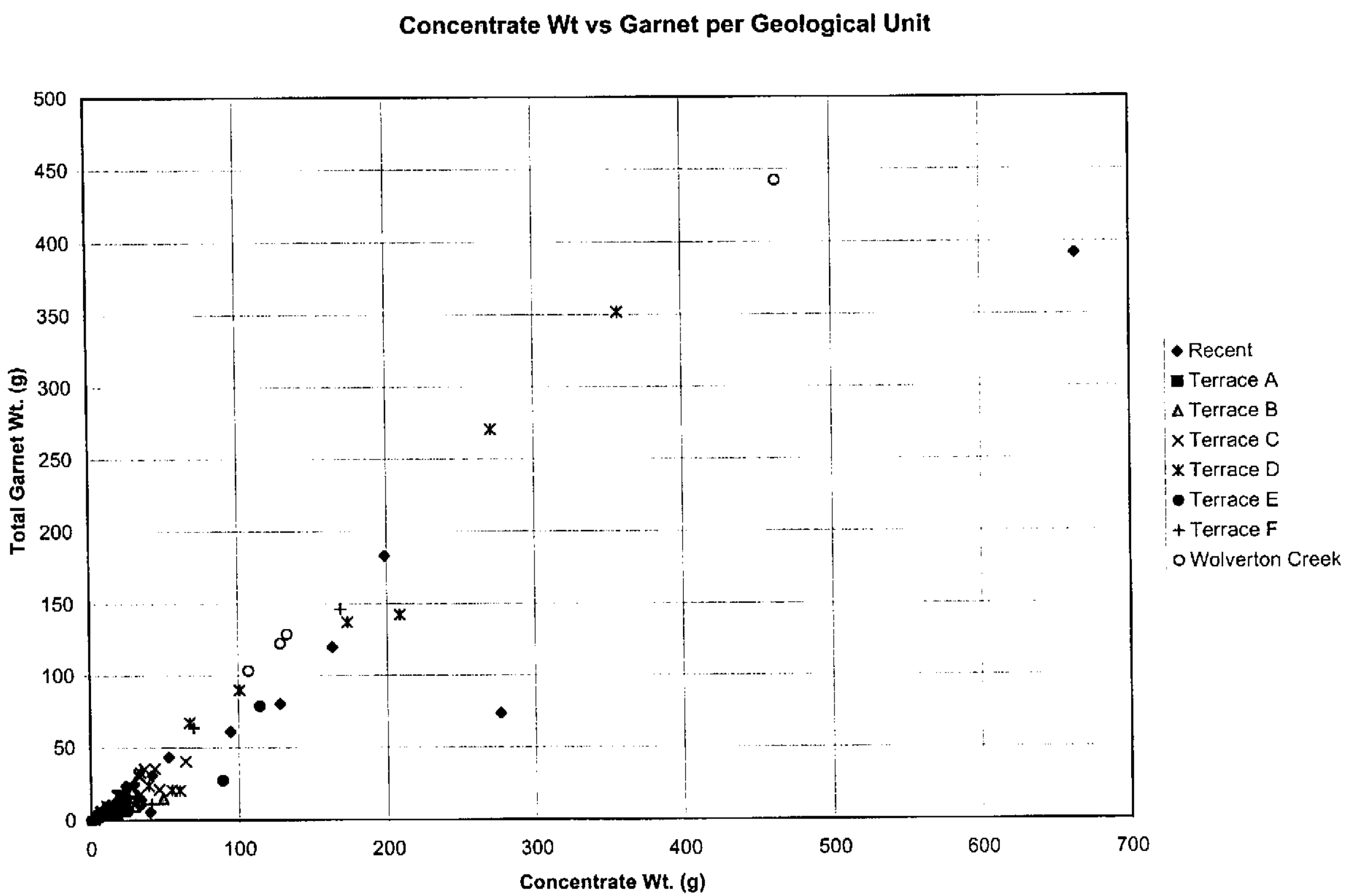


Concentrate Weight vs Magnetite per Geologic Unit



Concentrate Wt vs Garnet per Geological Unit





Concentrate Wt vs Garnet per Geological Unit
Total Garnet Wt. (g)
Concentrate Wt. (g)
500
450
400
350
300
250
200
150
100
50
0
0
100
200
300
400
500
600
700
Recent
Terrace A
Terrace B
Terrace C
Terrace D
Terrace E
Terrace F
Wolverton Creek

APPENDIX III

quirements for more precision machining and attempts to compensate for future increases in labor and energy costs also could spur demand.

World demand for industrial diamond will continue to increase during the next few years. Constant-dollar prices of synthetic diamond products, including chemical-vapor-deposition diamond films, will decline as production technologies become more cost effective and competition increases from low-cost producers in China and Russia. ■

INDUSTRIAL GARNET

D.W. OLSON, US Geological Survey

Garnet is mined as a gemstone and an industrial material. But it is valued primarily for its many industrial applications. Garnet is the general name for a group of complex silicate minerals with similar crystalline structures and diverse chemical compositions. The general chemical formula is $A_3B_2(SiO_4)_3$, where A can be calcium, magnesium, ferrous iron or manganese and B can be aluminum, chromium, ferric iron or, rarely, titanium. Its angular fractures, high hardness and ability to be recycled make industrial garnet desirable for a variety of abrasive and filtration purposes.

Garnets are common, widely distributed and usually occur as constituents in metamorphic rocks, principally gneisses and schists. Occurrences of garnet are large and numerous. However, few commercially viable garnet deposits have been discovered. Most of the industrial-grade garnet mined in the United States is almandine (iron-aluminum silicate) and pyrope (magnesium-aluminum silicate), though andradite (calcium-iron silicate) is also a domestic source for industrial uses.

Production

The global industrial garnet industry is dominated by a few major producers in markets influenced by the size and grade of reserves, the type and quality of garnet mined, the proximity of deposits to infrastructure and consumers, and the milling costs. Pricing is competitive and suppliers must provide a high level of customer service.

The United States produces about 30% of the industrial garnet mined worldwide. In 1999, five US companies in New York, Montana and Idaho accounted for all domestic output. Total production by these firms decreased to an estimated 64.4 kt (71,000 st), valued at about $6.2 million.

Total world production in 1999 was estimated to be 214 kt (236,000 st). The most significant producers outside of the United States are Australia, China and India, all with growing markets. Other producers include the Czech Republic, Pakistan, Russia, Turkey and Ukraine. Output in most of these countries is for domestic use.

Consumption and uses

The United States is the world's largest consumer of industrial garnet. It accounts for 25% to 35% of global consumption. In 1999, estimated US consumption of industrial garnet was 43.4 kt (47,800 st).

Most of the industrial garnet is used as a loose-grain abrasive because of its hardness, which ranges from 6 to 7.5 on the Mohs scale. Lower-quality industrial garnet is used as a filtration medium because it is inert and resists chemical degradation.

US users of industrial garnet include the petroleum industry (for cleaning drill pipes and well casings), filtration plants, aircraft and motor vehicle manufacturers, shipbuilders, woodfurniture-finishing operations, electronic-component manufacturers and ceramics and glass producers.

Major end uses in the United States and their estimated market share are abrasive blasting media, 45%; water filtration, 15%; waterjet cutting, 10%; abrasive powders, 10% and other miscellaneous abrasive uses, 20%. Domestic consumption approximates world-demand patterns, except that filtration uses abroad account for a greater market share.

Prices

Industrial garnet's price range depends on type, source, quantity purchased, quality and application. Values for crude concentrates ranged from about $55 to $120/t ($50 to $110/st) in 1999.

Average values for refined garnet sold during the year ranged from $55 to $237/t ($50 to $215/st). However, spot prices reached as high as $413/t ($375/st) in 1999.

Imports and exports during 1999 were estimated to be 15 and 10 kt (16,500 and 11,000 st), respectively. Australia reportedly provides more than 75% of US industrial garnet imports. India and China are also sources of US imports. Most US exports of garnet are shipped to Australian, Asian and European markets.

Outlook

Growing world demand has encouraged new companies to enter the garnet industry. However, the current major producers will continue to be the dominant suppliers in the coming decade.

Additional supplies to meet greater demand will be based on the expansion of existing operations. New production capacity reportedly is under construction or planned worldwide. Capacity expansion would restrain price increases as well as meet anticipated market needs. Most of the new capacity growth is expected in Australia and India. ■

IODINE

B. HAMEL, IOCHEM Corp.

Iodine has a molecular weight of 126.9045. In its unreacted, elemental form, iodine is a subliming gray-black solid. The vapors are a characteristic bright purple color. Iodine's name is derived from *iodes*, the Greek word for "purple." Although it is the least reactive of the commonly occurring halogens, one always finds it combined in nature.

Iodates are found in recoverable quantities in association with sodium nitrate in Chilean caliche deposits. Subterranean brines in the United States, Japan and the

HAMPTON COURT RESOURCES INC.
850, 10655 SOUTHPORT ROAD SW
CALGARY AB T2W 4Y1

2000/2001 STATEMENT OF EXPENSES
JUNE 29, 2000 to MARCH 10, 2001
SLOCAN GEMSTONE PROJECT
ALLUVIAL DEPOSITS

WAGES AND FEES

James Prudden, Msc Geochemistry, Bsc Geology, Exploration Manager

June 17,18,19,20,21,22,23
July 3,5,6,7,8,9,10,11,12,13,15,16,19,24,25,26,28,29,30, 31
Aug. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,21,22,23,24,25,26,27,28,29,30,31
Sept. 1,2,3,4,5,6,7,8,9,11,12,13,14,15,16,17,18,19,20,21,25,26
Oct. 10,11,12,13,14,16,17,18,
Nov. 7,8,9,10
Dec. 1,2,3
Jan 4,5, 10,11,17, 20

101 days @ $865.00 per day (US $600/day paid) — $ 87,365.00

56 days = 48,440.
(from Aug 19/00 only)

Vern Stone, C.E.T., Engineering Technician, Project Manager

June 29,30
July 1,3,4,5,6,7,8,9,10,11,12,13,15,16,17,18,19,20,21,22,25
Aug. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27
Sept. 4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
Oct. 2,3,4,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28
Nov. 27,30
Dec. 8,11,15
Jan 3,4,5,10,11,22,25,31
Feb 6,8,13,14,19,21,22,23,25,26,27,28
Mar 4,5,610

123 days @ $400.00 per day — $ 49,200.00

82 days = 32,800.

Dennis Llewellyn, Contract Labor

Aug. 17,18,19,20,21,22,23,24,25,26
Sept. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15

25 days @ $160.00 per day — $ 4,000.00

23 days = 3680.

M. Goldenberg, Contract Labour

Aug. 2,3,4,6,7,8,13,14,15,16,17,18,21,22,23,24,25
Sept. 11,12,13,14,15

22 days @ $160.00 per day — $ 3,520.00

10 days = 1600.

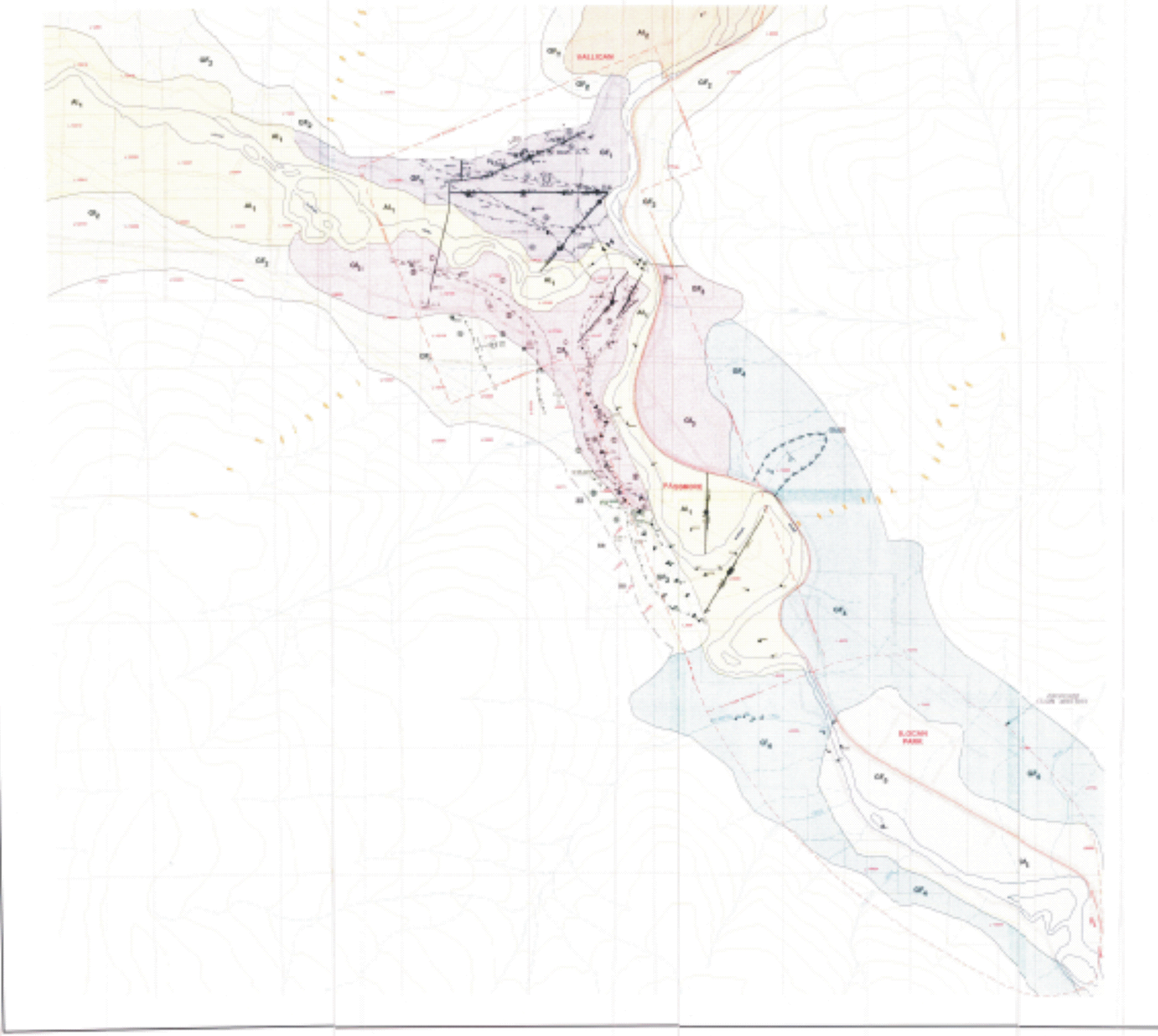
Barbara Harrison, Contract Labour

Aug. 15,16,17,18
Sept. 12,13,14,15,19,20,21,22 — 8 days = 1280.

12 days @ $160.00 per day	$ 1,920.00
Total Wages and Fees	$ 146,005.00
	- 87,800.
FIELD ACCOMMODATION	
190 days @ $90.00 per day	$ 17,100.00
4 X4 TRUCK RENTAL	
7 months @ $1,000.00 per month x 2 vehicles	$ 14,000.00
GPR Survey Data Acquisition	$ 13,230.00
Mobilization/Demobilization	$ 3,500.00
Report Preparation	$ 1,625.00
Laboratory Analysis	$ 3,826.70
Miscellaneous Expenses and Supplies	$ 11,123.96
Administrative Overhead	$ 21,041.00
TOTAL	**$ 231,451.66**

SUMMARY

Wages and fees	$	146,005.00
Field accommodation	$	17,100.00
4 X 4 Truck rental	$	14,000.00
GPR Survey data acquisition	$	13,230.00
Mobilization/Demobilization	$	3,500.00
Report preparation	$	1,625.00
Laboratory analysis	$	3,826.70
Miscellaneous expenses and supplies	$	11,123.96
Administrative overhead - 10% ($231,451.66-$21,041.00)	$	21,041.00
	$	231,451.66



N
W E
S

LEGEND

Proposed Drill Hole

Proposed Bulk Sample Site

Geophysical SLR Line, noting Channel Anomaly Depth and Length

Sample Location

Spot Elevation

Lot Subdivision

GEOLOGICAL LEGEND

Alluvial Terrace Rim

Alluvial Terrace Toe

Bedrock Exposure

Slocan River Terraces

Little Slocan River Terraces

Blue Moon – Hard Rock Saphire Deposit

Height of Alluvial Terrace

EGS	DESCRIPTION*
Al 1	Cobble gravel, coarse, unsorted, interbedded sand & small gravel lenses
Al 2	Large pebble gravel better sorted than Al 1, sand & small gravel lenses also more abundant
GF 1	Glaciofluvial point bar, cobble gravel, unsorted, exposed in East-West erosional terrace (Terraces 0-4), and fluvial bars
GF 2	Glaciofluvial mixed alluvial, ice-contact deposits, cobble – large pebble unsorted matrix supported, lower hydraulic energy than GF 1, local alluvial fan development from tributaries
GF 3	Glaciofluvial, cobble-large pebble matrix supported gravels, contains secondary/reworked alluvial channels, exposed in erosional terraces (Terraces A-D), Erosion soil and alluvial fans
GF 4	Glaciofluvial, coarse to very coarse unsorted gravels mixed with alluvial fan colluvial material
GF 5	Glaciofluvial, 3 meters sorted sg sand overlying unsorted cobble gravel, +6 meters boulder gravel. Designated "Terrace (?)", sub-rounded boulders to 3.0m in cg cobble-large pebble & sandy matrix, lying on glaciolacustrine blue clay. Glaciolacustrine bedrock

*Modified from B.C. Ministry of Forests

250 0 250 500

SCALE IN METERS

CONTOUR INTERVAL 20 METERS

26,679

SHEET TITLE

Slocan River Alluvial Prospect

Passmore Area, British Columbia, Canada

MAP 3