


REVIEW AND EXPLORATION PROPOSAL

ON


**EXCELSIOR SILVER-GOLD PROJECT
WASHINGTON, USA**

FOR

1160232 ONTARIO LIMITED



I.S. Thompson, P. Eng



Donald H. Buchholz, P. Eng

Vancouver B.C.
September 23, 1996

Derry, Michener, Booth & Wahl
Consultants Ltd.



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Certificates

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Summary

At the request of 1160232 Ontario Limited, Derry, Michener, Booth & Wahl Consultants Ltd. (DMBW) has carried out a geological review of the geology and exploration potential of the Excelsior Project in Washington State, USA.

The Excelsior Mine produced silver and gold from 50,000 tons of high-grade ore prior to 1916. Exploration and substantial core and reverse circulation drilling from 1968 to 1990, resulted in the outlining of an in-situ mineral inventory (reported as Probable Reserves) of 4,148,000 tons grading 0.042 oz. Au/ton, 2.604 oz. Ag/ton. This reserve is an irregularly mineralized semi-tabular body, about 1300 ft. long, 405 ft. wide, over a general thickness of 100 ft. and could be mined from a shallow pit.

1160232 Ontario Limited holds 30 recently staked claims and has leased 5 other patented claims covering the mineralization and its environs.

In the opinion of DMBW, the Excelsior property has good untested exploration potential for pit-mineable resources.

A Phase I exploration program of data compilation, core and chip re-logging is recommended, as well as soil geochemical surveys for Ag and Au and Transient EM surveys to delineate drill targets. The cost of this first phase is US \$200,000.

The second phase would consist of 3000 ft. of core drilling, 7500 ft. of reverse circulation drilling, to both increase the confidence level of the resources and to explore new targets, at a cost of US \$350,000.



1.0 Introduction

At the request of 1160232 Ontario Ltd., Derry, Michener, Booth & Wahl Consultants Ltd. (DMBW) was asked to do a due diligence study of 30 full sized mineral claims in Whatcom County, Washington. Within the thirty claims there is an application for patenting on five claims by Excelsior Mining Corporation. 1160232 has entered into a lease with Excelsior on the five mineral claims for a period of 20 years. There is also one patented claim that covers parts of three of the northern most claims.

The claims were visited by Donald H. Buchholz, P.Eng. for DMBW and an understanding of the property was gained. The terrain is steep, and heavily wooded. The property was mined for gold and silver in the period of 1902 to 1916. In 1967 a long period of exploration began. Several drill programs were undertaken which developed a large low grade gold and silver resource that may be able to be mined by open pit methods.

The property study was mainly of old reports, maps and resource evaluations by various companies. No core from drill holes was available for study. There is very limited outcrop. One of the old workings was visited as was the site of the old stamp mill.

The old reports, maps and resource estimates were judged to be of worth, however DMBW has not audited any of the resources.

2.0 Location, Access, Physiography

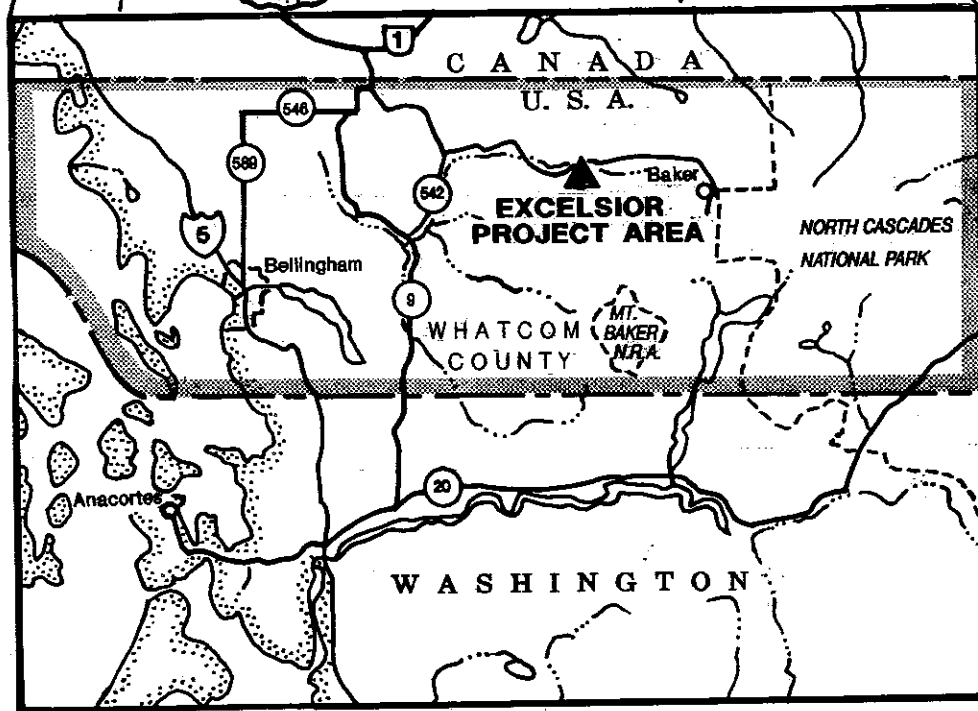
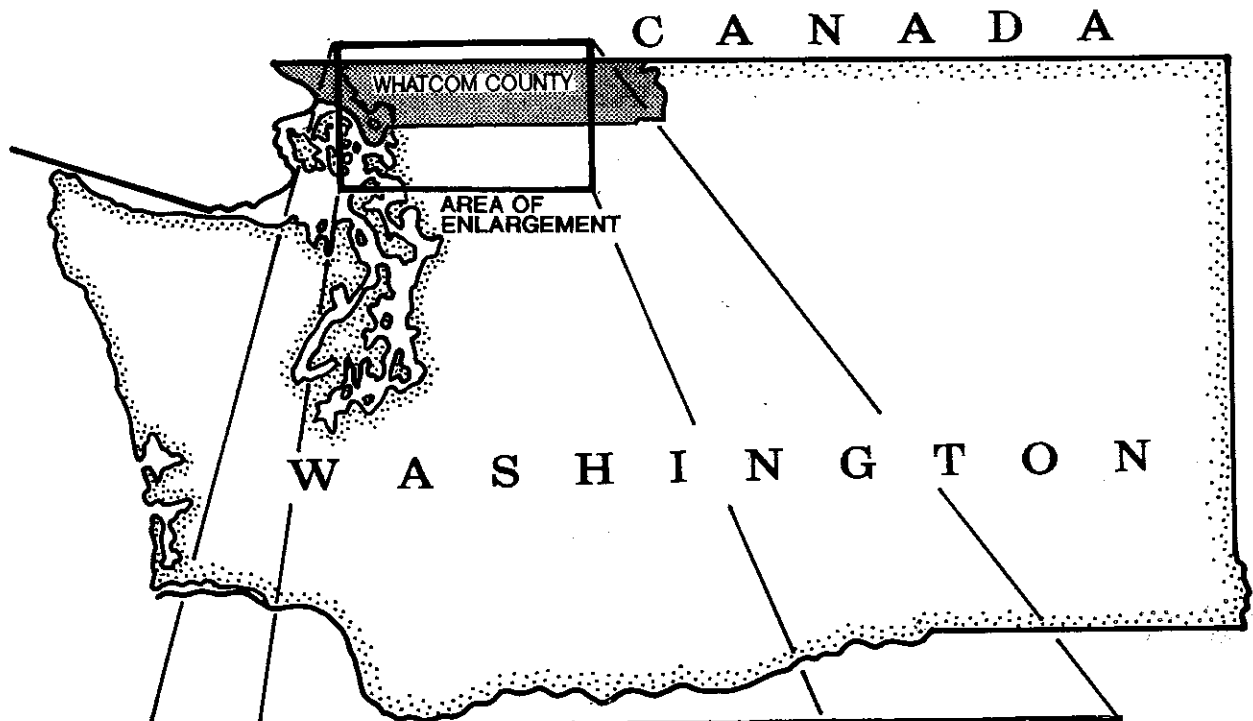
The Excelsior project and claim blocks are located in the unsurveyed west half of Section 5 and the east half of Section 6, T. 39 N., R. 8 E., Whatcom County, Washington within the Mt. Baker-Snoqualmie National Forest. (Refer to Figure 2.1)

Access to the claim blocks is gained from Bellingham, Washington by State Highway 542 to the village of Glacier some thirty-six miles to the east. One mile east of Glacier a six mile gravel US Forest Service leads to the property. A one mile mine road leads to the old mine and numerous drill roads all of which are in need of repair.

The claim block is located south of the North Fork of the Nooksack River and to the west of Wells Creek, a tributary of the Nooksack. The topography is steep in the mine area rising rapidly from 1400 ft. to 2400 ft. South of the claim block the land rises very steeply. All of the area is heavily forested with fir and cedar and covered with rain forest vegetation. Snow may be expected above 2000 ft. during the winter months:

With the steep topography, camp grounds and proximity to the Nooksack River and Wells Creek, it will be necessary to locate any mine tailings and waste dumps above the mine area where the topography is not as severe. Power is readily available, as is water.





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FIGURE 2.1.

GENERAL LOCATION OF EXCELSIOR PROJECT

3.0 Property

Thirty full sized claims, totalling 600 acres, were staked for 1160232 Ontario Limited during the period August 26 to 29, 1996.

They are:

- 101 - 110 inclusive
- 201 - 210 inclusive
- 301 - 310 inclusive

Within the above claim area there are five full sized claims, totalling 100 acres, which are in the process of a patent application by Excelsior Mining Company, a Washington Corporation. The claims are US B.L.M. numbers 19329 LD, 19330 LD, 19331 LD, 19333 LD, and 19334 LD (WC-2, WC-3, WC-4, WC-6 and WC-7). (Refer to Figure 3.1 and 3.2)

11660232 Ontario Limited has entered into an agreement dated September 11, 1996 with Excelsior Mining Corporation to lease the mineral rights of the above 5 claims, known as the Excelsior Group for a period of twenty years. There is a gross sales royalty of 3 percent. Annual advanced royalty payments start at \$30,000 and escalate \$10,000 per year to \$80,000 in the fifth year. Thereafter payments will be \$150,000 per year unless there are permitting delays, during which the payment will be \$80,000 per year.

Excelsior has agreed to sell its 3% Gross Sales royalty to Ontario for the sum of five million dollars adjusted for inflation to 1996 value of the US dollar as per the CPI.

There is also one patented claim, SUR 687, held by Puget Power, within the claim boundaries that covers parts of 103, 104 and 105 and WC-6.

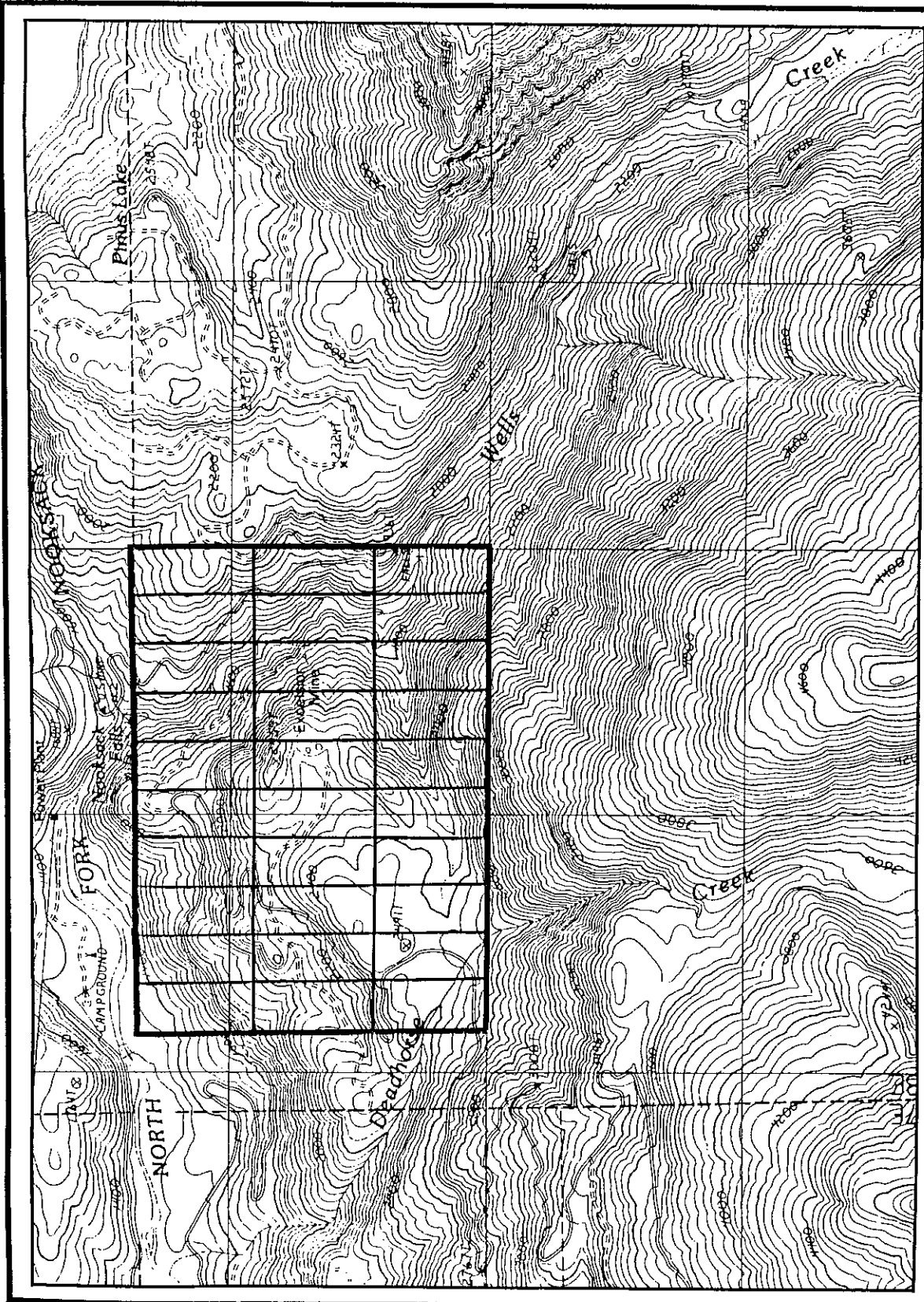
4.0 History

Early exploration of the Excelsior began around the turn of the century and a stamp mill using amalgamation was built in 1902. Production during the period to 1916 has been estimated to have been 50,000 tons. It has been reported that the mine shut down because of poor recoveries, but tests conducted in 1935 on thirty tons of crude ore by the Department of Geology, State of Washington, indicated a 90% gold recovery and a 80-85% silver recovery.

In 1967 ASARCO staked the property and abandoned the claims in 1968. In 1972 Douglas McFarland staked the mine area and leased them to the Silver Standard Mining Company. That company optioned the property to the Hanna Mining Company who drilled two holes for a total length of 2,018 feet and dropped the option. In 1976 Quintana Exploration leased the claims from Silver Standard and drilled six holes south of the mine workings at the south end of the property.

In 1977 U.S. Borax and Chemical Company entered into an option to purchase the property. Borax then conducted geological studies and diamond drilling until 1981. They drilled 45

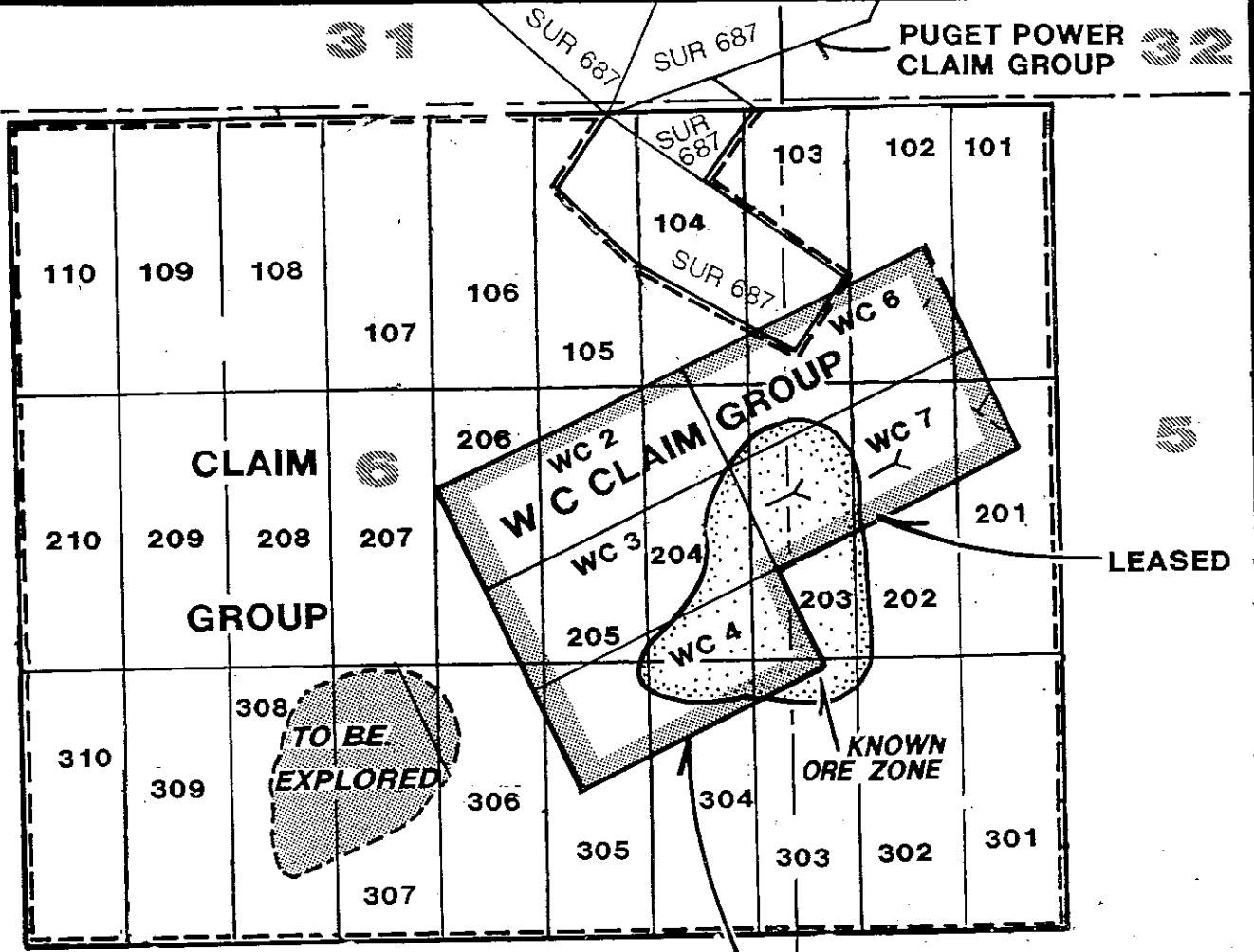




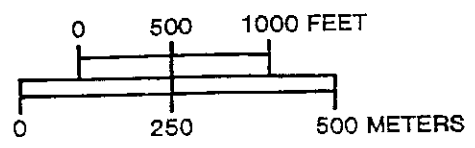
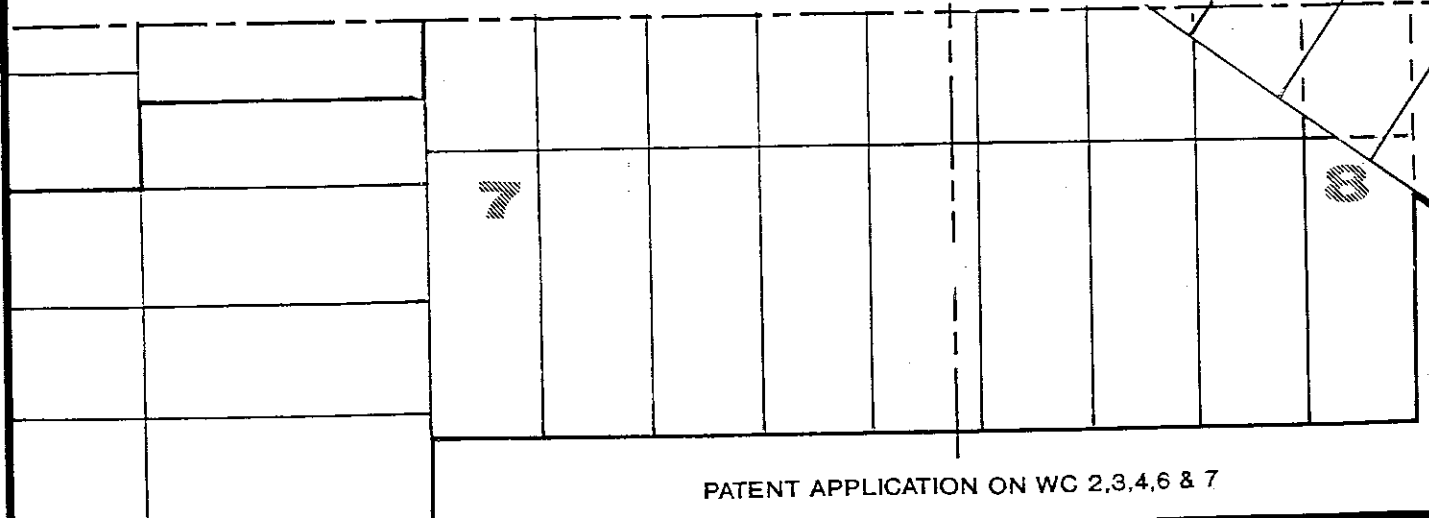
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 FIGURE 3.1. LOCATION OF 1160232 ONTARIO CLAIMS



CONTOUR INTERVAL = 40 FEET

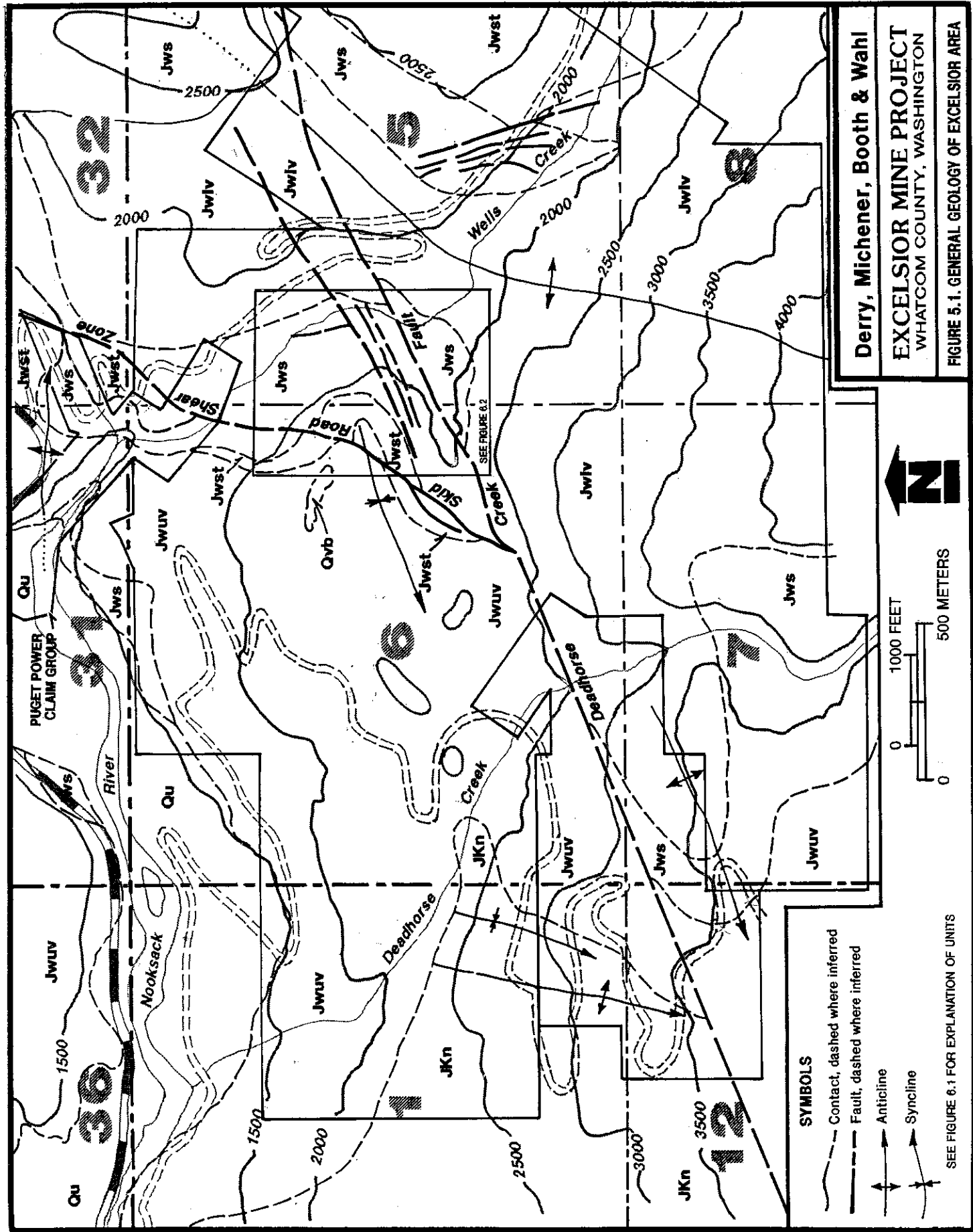


PATENT APPLICATION



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FIGURE 3.2. 1160232 ONTARIO CLAIMS & LEASED CLAIMS



diamond drill holes, mainly angle multiple holes from a few drill sites, due to the topography, for a total length of 15,214 feet. The core was sampled at five foot intervals and assayed by Bondar-Clegg Co., in Vancouver, British Columbia. U.S. Borax dropped the property in 1981.

In 1985, Steelhead Resources took over the agreement between U.S. Borax and its subsidiary, Pacific Coast Mines Inc., Steelhead and its subsidiary, Nooksack Mines Inc. In 1987 a reverse circulation drill program to further test the mineralized area outlined by the Borax core drilling was completed (61 holes of 5.5" diameter for a total of 24,776 ft.). Most of the holes were vertical but several were angle holes due to difficult topography. The holes were sampled at five foot intervals and assayed by Chemex Laboratories in Vancouver, British Columbia.

In 1988 FMC Gold Company explored the property but dropped the property at the end of 1989 after drilling exploration six diamond drill holes away from the main mineralized area.

Stanford Metals of Delta, British Columbia undertook a review of the Excelsior deposit during the fall of 1990. This work included the reinterpretation of the geology, alteration and mineralization. While they did not undertake additional work, the deposit was considered to be an analog to the Eskay Creek deposit of British Columbia.

5.0 Regional Geology

Regionally the mine lies within a structural block of volcanic, sedimentary and metamorphic units of Paleozoic and Mesozoic age. These units comprise the Mt. Baker window, the lower-most structural - metamorphic unit of the Western North Cascades.

The rock units of the mine area are the middle Jurassic Wells Creek Volcanics which are overlain by the Jura-Cretaceous Nooksack Group, which in turn is overlain by Quaternary Mt. Baker Volcanics.

The Wells Creek Volcanics are exposed in the area centered on the North Fork of the Nooksack River and its Wells Creek tributary. The volcanics are divided into four mapping units; the lower-most volcanic unit, followed by the sedimentary unit, the siliceous tuff unit and the upper volcanic unit.

The Wells Creek volcanics and the Nooksack group have been folded into a large open upright anticline which strikes generally north-south. Within the major anticline there are small scale drag folds of various strikes. The units have been cut by several north to northeast faults and shear zones. (Refer to Map 5.1)



6.0 Property Geology

6.1 Stratigraphy

The mine series of rocks consists of Middle Jurassic Wells Creek upper volcanics, siliceous tuff and sedimentary units, namely, the youngest, an upper green tuff, gray siliceous tuff, felsic volcanic breccia, dark sediments, lower green tuff and the oldest, a black slate. The units between the black slate and the upper green tuff are hydrothermally altered and are the host rocks for gold and silver mineralization. The units above and below the mineralized units are relatively unaltered except for regional metamorphism. (Refer to Figure 6.1 in Text and Figure 6.2 in Pocket.)

6.2 Alteration

Hydrothermal alteration in the mine series rocks is intense and generally pervasive with the intensity depending on the local permeability. Three episodes of alteration have been noted by R. Franklin, in a Master's thesis: the first episode involved replacement of feldspars by adularia and quartz adularia veining; the second phase involved intense calcite and quartz flooding with the development of sericite; the third phase consisted of the development of calcite veinlets. Pyrite is ubiquitous in the mine series units.

6.3 Structure

The zone of mineralization is located in a small east-west trending syncline located the west limb of the larger north-south trending Wells Creek anticline. This small syncline is located just east of the intersection of a strong north to northeast striking shear, known as the Skid Road shear zone, and the strong east-northeast striking Deadhorse creek fault. Just north of the Deadhorse fault and east of the Skid Road shear zone, several faults with the same strike as the Deadhorse have been mapped. These faults plus additional north-northeast structures may have helped the emplacement of the mineralization. It is notable that the south-west extremity of the known mineralization may have been controlled by these faults.

It is also possible that higher grade lenses are associated with the intersection of the east-northeast fault with north trending faults in the area of the lenses. (Refer to Map 6.2)

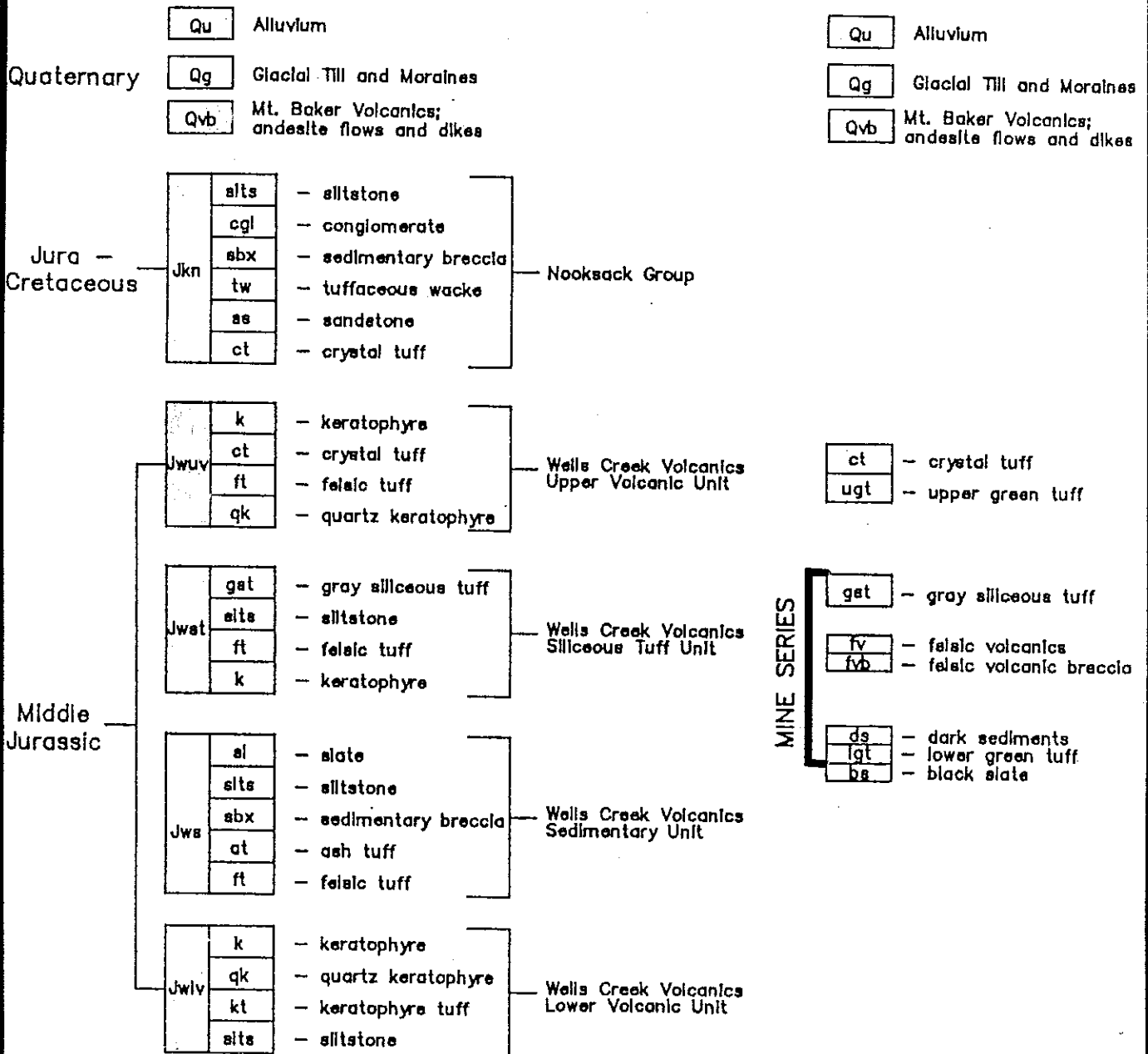
6.4 Mineralization

Companies that have studied the deposit consider it a submarine epithermal volcanogenic silver-gold deposit. It appears that the permeable units within the Wells Creek Volcanics (lower green tuff, dark sediments, felsic volcanic breccia, felsic volcanics, grey siliceous tuff and upper green tuff) allowed the movement of hydrothermal fluids. Brecciation of some of the units may have been caused by hydrostatic boiling.



REGIONAL

MINE AREA



NOTES:

1. The regional stratigraphy is from Franklin (1985), Misch (1977) and Sondergaard (1979).
2. The regional rock types represent the dominant lithologies mapped in each unit.
3. The regional stratigraphic column is used for the explanation in figure 1.
4. The majority of the mineralization in the mine area is found in the felsic volcanic breccia, dark sediments and the lower green tuff.

FIGURE 6.1. GENERALIZED CORRELATION BETWEEN REGIONAL & MINE AREA STRATIGRAPHY

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The alteration and associated minerals are indicative of an epithermal deposit. Copper, lead and zinc are found in very minor amounts but pyrite is ubiquitous to the area. The absence, however, of arsenic and antimony is very surprising.

7.0 Mineral Resources

The mineral resources of the Excelsior project are located within an area some 1,300 feet in length averaging 405 feet in width, over a vertical thickness in the order of 100 feet, that has been defined by both diamond drilling and reverse circulation drilling. (Refer to Figure 7.0 in Pocket.)

Prior to 1987 a total of 53 holes were drilled in a number of programs. The holes were core drill holes ranging from 1 inch to 3 inches in width. Most of the holes were drilled at various angles and dips from limited drill sites because of the steep terrain and access conditions. Unfortunately, the individual logs of these holes are presently unavailable for perusal, as to mineralization and geology. Most of the holes are of the EX series drilled by U.S. Borax.

American Mines Services, Inc.

In 1987 American Mines Services, Inc. of Denver, Colorado performed geostatistical studies on gold and silver assays from 45 of the exploration EX (Borax) diamond drill holes furnished by Steelhead Resources. No additional information such as rock types or structures was provided. "Preliminary global geological ore reserves were derived through Block Model Kriging methods using 10 foot composited exploration drill hole assay data and mineral indicator values." The results are summarized in Table 7.1 which has been extracted from the report.

The "probable and possible mineral inventory estimates at a cutoff grade of .02 opt Au equivalent is 7,494,126 tons at 0.024 opt Au and 1.351 opt Ag (0.062 opt Au equivalent at 60 Au:1Ag). At a cutoff grade of 0.03 opt Au equivalent, the inventory is 5,333,333 tons at 0.029 opt Au and 1.640 opt Ag (0.056 opt Au equivalent)". (Au \$400/oz and Ag \$6.50/oz - 1987).

Steelhead Resources Ltd. *

In 1988, Steelhead Resources Ltd. estimated reserves (resources) based on the 61 reverse circulation 5.5" diameter holes. (A typical cross section is shown as Figure 7.1.) The tonnage and grade estimate was made by both polygons and cross sections.

* Steelhead (prior to 1987) in an executive summary of an incomplete report also quote "at least 4 million tons of ore averaging 0.035 opt Au and 3.16 opt Ag." This estimate has been superceded by 1987 drilling. Au \$400/oz; Ag \$6.50/oz - 1987 Currently \$375/\$5 or 75:1.



TABLE 7.1
EXCELSIOR MINERAL INVENTORY

PROBABLE

CUTOFF	TONS	AU OZ/T	AG OZ/T	AUEQ 60	AU OZ	AG OZ
0.010	5,459,968	0.019	1.221	0.039	103,739	6,666,621
0.020	3,908,356	0.024	1.634	0.051	93,801	6,386,254
0.030	2,867,283	0.029	2.002	0.062	83,151	5,740,301
0.040	2,000,833	0.036	2.406	0.076	72,030	4,814,004

POSSIBLE

CUTOFF	TONS	AU OZ/T	AG OZ/T	AUEQ 60	AU OZ	AG OZ
0.010	6,357,077	0.017	0.671	0.028	108,967	4,264,146
0.020	3,585,770	0.024	1.043	0.041	86,058	3,738,311
0.030	2,446,050	0.029	1.219	0.049	71,515	3,006,366

TOTAL

CUTOFF	TONS	AU OZ/T	AG OZ/T	AUEQ 60	AU OZ	AG OZ
0.010	11,817,045	0.018	0.925	0.033	212,707	10,930,767
0.020	7,494,126	0.024	1.351	0.047	179,859	10,124,564
0.030	5,333,333	0.029	1.640	0.056	154,667	8,746,666

AFTER AMERICAN MINE SERVICE, INC.



POLYGON	AREA	THICKNESS			TONS			GRADE .02			GRADE .03			AU OZ.			AG OZ.		
		.02	.03	.04	.02	.03	.04	AU	AG	EQ(60)	AU	AG	EQ(60)	.02	.03	.04	.02	.03	.04
N-1 *	8,527	130	70	92,376	49,741	.032	1,478	.057	.042	2,151	.078	2,956	136,531	2,089	2,089	106,993			
N-2	6,978	135	115	78,503	66,873	.066	3,130	.118	.075	3,550	.134	5,181	245,713	5,015	5,015	237,397			
N-3 *	14,748	155	145	190,495	178,205	.096	1,240	.117	.108	1,260	.129	18,288	236,214	19,246	19,246	224,538			
N-4	5,026	110	105	46,053	43,960	.063	1,182	.083	.065	1,222	.085	2,901	54,433	2,857	2,857	53,719			
N-5	11,447	40	30	38,158	28,618	.021	3,516	.080	.025	4,300	.097	891	136,169	715	715	123,055			
N-6	15,519	180	130	232,785	193,988	.025	1,788	.055	.028	2,367	.067	5,829	416,220	5,432	5,432	459,168			
N-7	3,337	105	90	29,155	24,990	.018	1,826	.048	.020	1,921	.082	513	53,179	500	500	48,036			
N-8	5,083	110	80	46,594	33,887	.024	3,066	.075	.030	3,788	.093	1,118	142,358	1,017	1,017	128,363			
N-9	18,346	80	58	120,307	87,222	.086	.552	.095	.112	10,346	.122	10,346	66,409	9,269	9,269	51,897			
N-11	34,063	250	140	652,874	397,402	.025	1,108	.043	.033	1,433	.387	16,322	723,385	13,114	13,114	562,477			
N-13	2,335	145	125	88,631	76,406	.026	2,327	.073	.027	3,191	.028	2,304	260,561	2,063	2,063	243,812			
N-14	11,099	75	45	69,369	41,621	.087	1,958	.120	.130	3,068	.181	6,035	135,334	5,411	5,411	127,696			
N-15 *	2,445	70	45	43,629	27,919	.035	1,950	.068	.044	2,930	.093	1,520	86,424	1,228	1,228	81,802			
N-16	1,012	20	20	1,687	1,687	.006	2,185	.042	.006	2,103	.062	10	3,685	10	10	3,685			
N-23	12,683	75	65	79,269	68,700	.071	1,522	.096	.071	1,522	.096	5,628	120,647	4,878	4,878	104,561			
N-25 *	11,999	35	25	34,997	24,998	.042	.710	.054	.029	2,700	.074	1,670	24,348	725	725	67,496			
N-30	9,251	85	15	65,528	11,554	.009	1,000	.026	.016	2,290	.052	591	65,528	162	162	26,481			
N-31	10,268	45	10	38,505	8,537	.007	2,464	.048	.014	6,225	.118	276	94,876	120	120	53,265			
N-32	10,527	75	70	65,794	61,408	.021	4,433	.095	.022	4,672	.100	1,382	291,664	1,351	1,351	286,896			
N-33	19,469	35	20	56,785	32,428	.008	1,880	.039	.009	2,177	.045	654	186,755	292	292	75,640			
N-34	11,563	20	20	19,272	19,272	.029	2,820	.067	.020	2,828	.067	385	54,346	385	385	54,346			
N-35	9,244	120	100	92,410	77,033	.006	2,633	.050	.007	2,891	.055	565	245,243	559	559	222,703			
N-37	6,638	125	95	69,094	52,611	.021	1,497	.046	.026	1,708	.052	1,461	103,633	1,265	1,265	89,389			
N-38	2,433	155	100	31,626	20,275	.017	1,362	.040	.021	1,700	.049	534	42,796	412	412	34,468			
N-39 *	7,198	150	140	89,975	83,977	.139	11,336	.328	.139	11,336	.328	12,507	1,819,957	11,673	11,673	951,959			
N-41	11,828	40	25	39,427	26,642	.023	1,208	.043	.028	1,650	.055	907	47,627	690	690	40,166			
N-42	3,301	40	0	11,003	0	.021	.270	.025	.025	2,700	.000	227	2,969	0	0	0			
N-43	8,647	40	20	28,823	14,412	.016	.893	.031	.021	1,317	.043	461	25,739	303	303	18,890			
N-44	11,115	365	255	338,081	236,194	.026	2,055	.060	.031	2,575	.074	8,655	694,757	7,322	7,322	628,199			
N-45	20,600	240	160	412,000	274,667	.023	1,467	.047	.029	1,769	.058	9476	606,404	7,965	7,965	483,413			
N-46	7,814	90	85	58,605	55,349	.095	.839	.109	.100	.874	.115	5567	49,170	5,535	5,535	48,373			
N-47	9,922	65	40	53,744	33,073	.029	1,270	.050	.034	1,691	.059	1,537	68,234	1,124	1,124	49,312			
N-49 *	21,088	295	230	512,413	604,187	.033	3,161	.086	.038	3,794	.101	17,108	1,638,705	15,359	15,359	1,533,484			
N-50	16,679	110	105	152,891	145,961	.026	2,429	.066	.027	2,515	.069	3,975	371,372	3,882	3,882	367,042			
N-51	13,921	85	30	98,607	34,803	.008	1,442	.032	.014	1,458	.038	789	142,191	487	487	50,742			
N-52	13,737	150	75	171,713	85,856	.028	2,728	.073	.047	4,513	.122	4,796	668,432	4,035	4,035	387,469			
N-53	26,892	145	110	324,945	246,510	.018	2,022	.051	.026	2,993	.074	5,752	657,169	5,916	5,916	737,804			
N-54	9,920	235	160	194,267	132,267	.024	1,483	.050	.031	1,774	.060	4,993	288,097	4,047	4,047	234,641			
N-55	12,716	255	145	270,215	153,652	.026	1,340	.046	.029	1,720	.058	6,485	362,088	4,471	4,471	264,281			
N-56	9,758	160	100	130,107	81,317	.027	2,168	.063	.031	3,030	.082	3,448	282,071	2,521	2,521	246,390			
N-57 *	13,486	200	150	224,767	168,575	.038	2,278	.076	.061	2,474	.102	8,541	512,018	10,283	10,283	417,053			
N-59 *	14,062	200	125	234,367	146,479	.023	1,643	.050	.027	2,004	.060	5,990	385,018	3,955	3,955	293,544			
O-6	4,247	160	130	56,627	46,009	.026	3,273	.081	.040	3,823	.104	1,472	125,339	1,840	1,840	175,893			
EX-6	3,828	50	30	15,950	9,570	.016	2,703	.061	.018	4,080	.086	762	43,113	168	168	39,046			
EX-5	27,356	65	50	148,128	113,983	.026	2,027	.060	.023	2,541	.070	3,832	300,357	3,192	3,192	289,532			
EX-18	13,126	57	25	62,369	27,346	.012	2,061	.046	.016	3,394	.073	736	128,500	438	438	92,812			
TOTALS	534,969	5,532	3,928	5,918,576	4,148,089							193,753	12,113,060	173,804	173,804	10,800,390			

POLYGON	AREA	THICKNESS			TONS			GRADE .02			GRADE .03			AU OZ.			AG OZ.			
		.02	.03	.04	.02	.03	.04	AU	AG	EQ(60)	AU	AG	EQ(60)	.02	.03	.04	.02	.03	.04	
N-1																				
N-3																				
N-9																				
N-15																				
N-25																				
TOTALS																				

GRADE WEIGHTED USING EX-16 AND N-1
GRADE WEIGHTED USING N-3 AND N-40
GRADE WEIGHTED USING N-24 AND N-9
GRADE USING EX-28
PROJECTED THICKNESS, AVERAGED GRADE USING N-8, N-56, N-41, N-6

TABLE 7.2 STEELHEAD RESOURCES, 1987 DRILL HOLE GEOLOGICAL RESERVES

GRADE AT C/O .02 OPT
GRADE AT C/O .03 OPT

Some vertical 1987 EX diamond drill holes were used; once again, little, if any geological information was incorporated into the study. The polygonal reserves were stated as: Probable reserve (at a cutoff grade of 0.03 AuEq) of 4,148,000 tons at 0.042 opt Au and 2.604 opt Ag. A cutoff grade of .02 AuEq resulted in a probable reserve of 5,918,000 tons at 0.033 opt Au and 2.046 opt Ag.

There is no report on the recovery of cuttings from the reverse circulation holes. Steelhead's 1987 Drill Hole Geologic Reserve Data is shown in Table 7.2.

Steelhead's east-west cross section geologic reserve at 0.03 AuEq cutoff is 4,108,717 tons >0.03 opt Au. At a cutoff of 0.02 AuEq the reserves were 5,423,533 tons >0.02 opt Au which agrees with the tonnage estimate by the polygonal method. It should be noted that the mineralization is quite variable within each hole as well as from hole to hole. Additional drilling will be necessary to confirm the reserves.

8.0 Metallurgy

Very preliminary metallurgical testing of drill core from the Excelsior project was undertaken by Dawson Metallurgical Laboratories, Inc. in September, 1988. It is not known where the samples were collected.

A summary of the test result is as follows: "Better extractions were obtained from a combination of flotation and concentrate cyanidation (65.2 and 70.8 percent gold and silver respectively), than from whole ore cyanidation (40.1 and 80.8 percent gold and silver). A flotation cleaner concentrate assaying 0.225 and 25.45 oz/ton gold and silver, respectively, was obtained from a composite ore assaying 0.034 and 3.18 oz/ton gold and silver, with a percent recovery for gold and silver of 83.9 and 83.5 respectively. A value of 0.005 and 0.45 oz/ton gold and silver, was obtained for the flotation tails. No free gold was observed and the dominate sulfide mineral was pyrite. The majority of the sulfide mineralization appears to be liberated at a coarse primary grind; and regrinding of a flotation rougher concentrate prior to cleaner flotation could be considered."

In February 1986 Consulting Mineral Laboratories performed three preliminary bulk sulfide flotation tests on a blended sample of ore from the Excelsior Mine. The report speculated that the following recoveries and grades could be obtained by flotation:

Expected recoveries:	Au = 90 - 95%
	Ag = 80 - 90%
Expected grades:	Au = 1.5 - 2.5 oz/ton
	Ag = 150 - 200 oz/ton



8.1 Addendum – Metallurgy – October 4, 1996

The most recent test work was by Hazen Research in August, 1989, for FMC Gold Company from which summary the following information is extracted.

“The purposes of the project were (1) to characterize the ore samples by chemical, optical, and sizing methods, and (2) to determine the amenability of the ores to gold/silver recovery methods.

Composite	ASSAYS			
	Au, oz/ton ¹	Ag, oz/ton ¹	S _(T) , %	C _(O) , %
1	0.028	3.79	3.06	0.27
2	0.075	6.99	3.19	0.18
3	0.033	1.66	3.86	.032

1 - Average of direct fire assays T - Total O - Organic

Microscopic examination of flotation concentrates showed that the three composites were of similar mineralogy, with principal components being pyrite and siliceous and carbonate gangue. Arsenopyrite, carbonaceous matter, and base metal sulfides are present in minor to trace quantities. Precious metals mineralization consists of auriferous silver, native silver, argentite, silver sulfide, silver sulfosalts, and several other minor occurrences of rare minerals. Although some auriferous silver would be expected to be cyanide soluble, the mineralogy of the ores is such that a significant portion of the precious metals are refractory.

The test work confirmed that the ores contained appreciable refractory gold and silver mineralization, and, as a result, the ores responded best to flotation and severe chemical oxidation to achieve good recoveries.

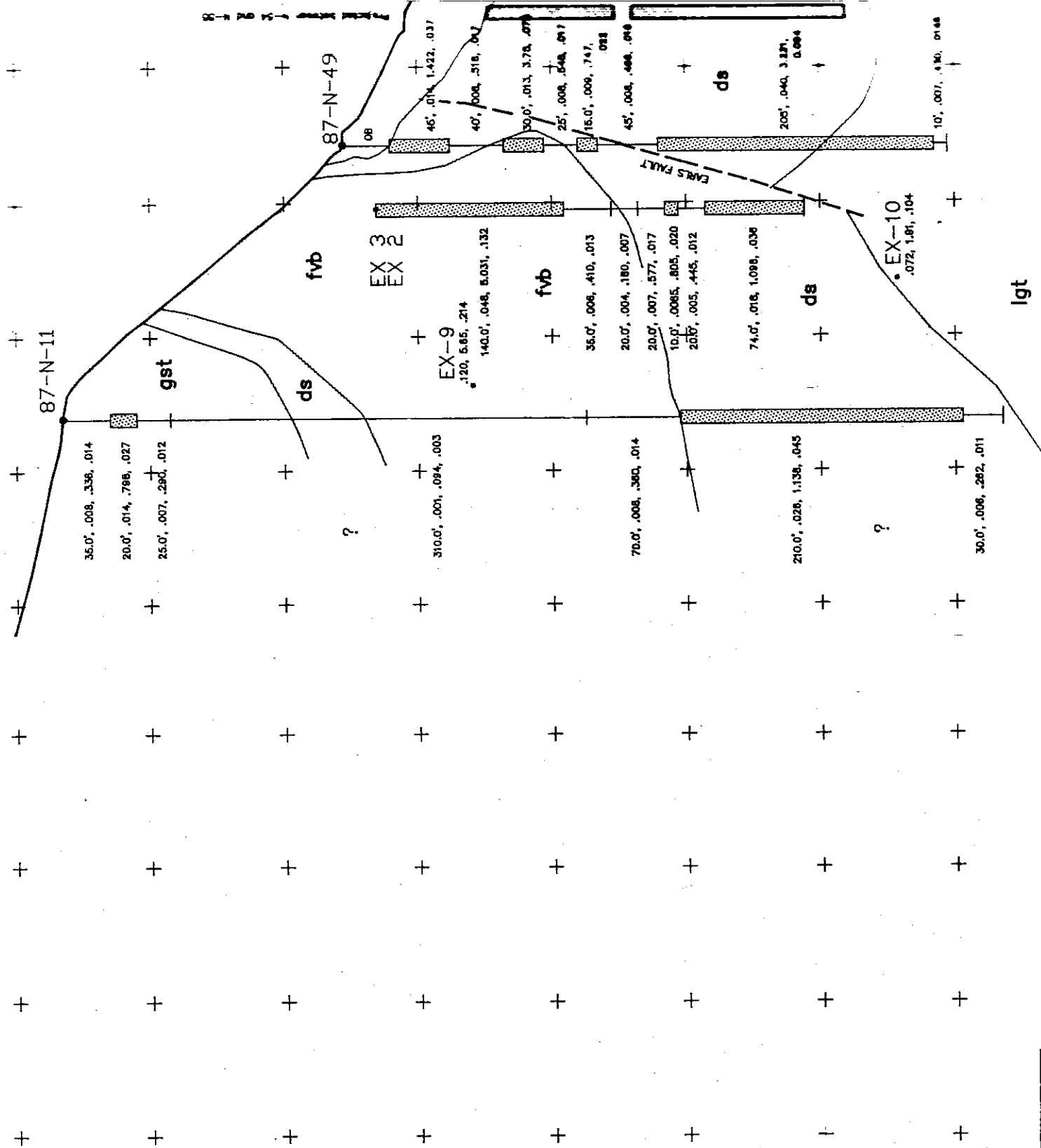
The best gold and silver recoveries, summarized below, were obtained using rougher flotation and nitric acid preleaching of the concentrate followed by carbon in leaching.

Composite	RECOVERIES %					
	Flotation		Conc Leaching		Ore Basis	
	Au	Ag	Au	Ag	Au	Ag
1	84.1	72.9	92.8	98.6	78.0	71.4
2	89.1	81.0	95.6	96.8	85.2	78.4
3	92.3	86.5	94.6	94.7	87.3	82.2

Sodium cyanide consumptions were from 2.5 to 3.5 lb/ton of ore, and CaO consumptions were 1.3 lb/ton.

The tailings were high acid consumers, in the range of approximately 280 to over 400 lb H₂SO₄/ton, due to the carbonate content of the ores. The tailings, therefore, would not represent a source of acid generation when impounded and weathered. ”





87-N-11

87-N-49

EX 3

EX 2

EX-9

fvb

ds

EX-10

lgt

EARLS FAULT

ds

35.0', .008, .336, .014

20.0', .014, .788, .027

25.0', .007, .280, .012

?

310.0', .001, .094, .003

.120, 5.85, .214
140.0', .048, 5.031, .132

70.0', .008, .380, .014

20.0', .004, .180, .007

210.0', .028, 1.138, .045

?

30.0', .008, .282, .011

45', .014, 1.422, .037

40', .008, .518, .047

30.0', .013, 3.78, .078

25', .008, .648, .017

15.0', .009, .747, .018

45', .008, .488, .018

205', .040, 3.237, 0.004

10', .007, .430, .018

9.0 Environment

The Excelsior mine lies in a National Forest and an area that is considered a prime tourist and recreation area including camping, hiking and winter sports. The area may contain the Spotted Owl, although the last operator of the mine sponsored a Spotted Owl calling program, which did not locate any owls and a US Forest Service program to locate owl's nests was unsuccessful. In addition, the claim block is covered with valuable timber which will be under the Forest Service control. Apparently, Steelhead and Nooksack Mines had developed a good relationship with both the Forest Service and with the local environmental groups. It would be good to redevelop this association.

10.0 Conclusions and Recommendations

After a close study of information available through a field visit to the property and a study of old reports by the various companies who have explored the Excelsior Mine area, D. Buchholz has concluded that the Excelsior is a very worthwhile project.

A study of the available drilling information indicates that there is a considerable area of low grade gold and silver mineralization. This area is subhorizontal in attitude, approximately 1300 feet in length, averaging 405 feet in width, and with a thickness in the order of 100 feet. Drilling has indicated mineralized sections well above the cutoff grade of 0.02 opt Au equivalent and over two hundred feet in length. While the mineralization is very irregular horizontally and vertically, it would appear that additional fill-in drilling would give better continuity to the stated reserves. At the present time the reported Probable Reserves are in the order of 4,148,000 tons at 0.042 opt Au and 2.604 opt Ag.

There is also a very good chance to extend the outlined mineralized zone because the drill holes on the east side encountered some mineralization. On the northwest side the last hole returned a 230 foot intersection of 0.028 opt Au and 1.138 opt Ag. for a 0.045 opt AuEq.

The southwest is extremely interesting because of the mineral intercepts in drill holes, outside of the defined areas, with the numerous southwest striking faults in favorable Mine Series Rocks. The faults, which appear to be related to the mineralization, trend towards the intersection of the north-striking Skid Road shear zone and the ENE-striking Deadhorse fault. These conditions appear to control the high grade mineralization in the south half of the outlined mineralization.

The host "mine series" units cover most of the claim group which has very little outcrop and should be explored for additional mineralized zones. It is therefore recommended that the following staged program be undertaken:



Phase I

1. Relog all of the diamond drill core to understand the "mine series" units, paying particular attention to structure.
2. Develop geologic plans and section of the mineralized areas.
3. If available also log the cuttings of the reverse circulation holes.
4. Develop a fill-in drill program for the main mineralized area.
5. Plan a drill program to locate the limits of the known mineralization.
6. Plan a drill program for the Skid Road-Deadhorse fault area.
7. Carry out a geochemical sampling of the claim block.
8. Carry out a Transient EM and Magnetometer Survey.
9. Repair drill road system to allow for 4 x 4 travel.
10. Obtain necessary permit and approval from the US Forest Service.
11. Develop a plan to meet environmental impact statements and permitting.

Phase II

1. Continue road repair for drill access.
2. Core drilling - 6 holes, 3000 ft.
3. Reverse Circulation drilling - 15 holes, 7500 ft.
4. Assay - 2000 samples.
5. Preliminary estimation of geological reserves.
6. Start environmental permitting.
7. Start a metallurgical test program.

As set out in the budget section, the overall recommended exploration cost is \$550,000, of which Phase I represents about \$200,000 and Phase II \$350,000.



11.0 Budget

		\$ US
Field Geologists	150 man days @ \$500	75,000
Field Technicians	150 man days @ \$200	30,000
Soil Geochemical Analysis	15 claims-3750 samples, Au, Ag @ \$12/sample	45,000
Gridding (Topofill & Flagging)	15 claims-200 foot intervals	15,000
Geophysical Surveys	1 mile/claim x 15 claims	
	Transient EM \$1250/day x 15	19,000
	Magnetometer - 15 claims	10,500
Drilling Reverse Circulation (including Mob & Demob)	15 holes - 7500 feet @ \$10/foot	75,000
Drilling (BQ) Core	3000 ft (6 holes) @ \$35/foot	105,000
Mobilization & Demobilization		10,000
Assays (Fire Assay Au, Ag)	2000 @ \$18/sample	36,000
Accommodation & Board	350 days @ \$75/man day	26,000
Truck (4 x 4) - Rental/Gasoline	\$2000/month x 3	6,000
Road & Site Work	15 days D-7(D-8) dozer & shovel	
	\$200/hour x 10 hours/day x 15 days	30,000
	(Mobilization)	2,000
Reclamation of Drill Sites	\$2000 x 3 days	6,000
		510,000
Environmental Planning & Permitting		15,000
Preliminary Metallurgical Testing		5,000
General Exploration Overhead	(15% of 120,000)	18,000
		528,000
General Contingency	(10% of 220,000)	22,000
TOTAL		\$550,000



REFERENCES

1. Internal memo of FMC Gold Company, dated November 8, 1989.
2. Summary Report of Stanford Mineral. (1990)
3. Report on the Excelsior Project, Steelhead Resources Ltd., dated September 20, 1988.
4. Geostatistics (resource estimate), American Mine Services, Inc. (1987)
5. Report on the Excelsior Project, Nooksack Mines, Inc./Steelhead Resources Ltd., dated May 22, 1987.

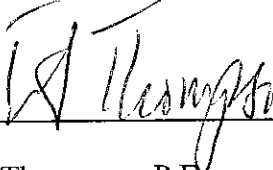


CERTIFICATE OF QUALIFICATION

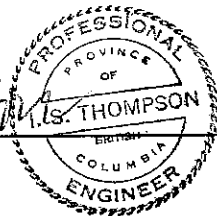
I, **IAN S. THOMPSON**, with business address at Suite 1500 - Pender Place, 700 West Pender Street, Vancouver, British Columbia, V6C 1G8, do hereby certify that:

1. I hold an Honours Geological Sciences degree from the University of Toronto, with over 30 years of professional experience since graduation.
2. I am a registered Professional Engineer in the Provinces of British Columbia and Ontario, and a Designated Consultant in Ontario with specialization in exploration and engineering development.
3. I am a fellow of the Society of Economic Geologists, The Geological Association of Canada and the Association of Exploration Geochemists.
4. I am a Consulting Geologist and the President and Principal of Derry, Michener, Booth & Wahl Consultants Ltd., an independent firm specializing in mineral exploration, ore reserves, engineering and valuations of mineral properties.
5. This report is based upon a report prepared for me by Donald H. Buchholz, P.Eng, following his field visit to the Excelsior project from August 26 to 30, 1996, inclusive.
6. I have worked with D.H. Buchholz in exploration since 1991 and support the conclusions and recommendations made by him.
7. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the capital stock of 1160232 Ontario Ltd., or of any affiliate thereof.
8. I hereby give my permission to include this report, or the summary thereof, in any document to be filed with any appropriate regulatory authority.

DATED at Vancouver, British Columbia, this 23rd day of September, 1996.



Ian S. Thompson, P.Eng.
Consulting Geologist




CERTIFICATE OF QUALIFICATION

I, DONALD H. BUCHHOLZ, with a business address at 3601 Skyline Blvd # 1, Reno, Nevada, 89509, do hereby certify that:

1. I hold a Bachelor and Masters of Art degrees in Geology from Indiana University, with over thirty-five years experience since graduation.
2. I am a registered Professional Engineer in the Province of Ontario.
3. I am a member of the Society for Mining, Metallurgy, and Exploration of The American Institute of Mining Engineers.
4. I am a Consulting Geologist specializing in mineral exploration, mining geology and ore reserves.
5. This report is based upon information provided to me by 1160232 Ontario Limited and a field visit to the Excelsior project from August 26 to 30, 1996 inclusive.
6. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the capital stock of 1160232 Ontario Ltd. or of any affiliate thereof.
7. I hereby give my permission to include this report in any document to be filed with any appropriate regulatory authority.

DATED at Reno, Nevada, this 20th day of September, 1996.



Donald H. Buchholz

Consulting Geologist

