1981 PROSPECTING REPORT

TERMINUS CLAIM GROUP

SKEENA MINING DIVISION

NTS 104 A/4 W

Lat. 56° 08'N Long. 129° 52'W

Owner: Mr. George Trowsdale Operator: Gatrow Resources Inc. Consultant: C. R. Harris, P.Eng.



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INTRODUCTION

At the request of Mr. George Trowsdale, President, Gatrow Resources Inc., the writer spent the month of July, 1981 on the Terminus Claim Group directing and supervising a small field crew. This crew consisted of Mr. Fred Bannerd and Mr. Dave Green, prospectors, Mr. Michael Harris and Mr. Andrew Harris, students, with Mr. Trowsdale assuming the duties of cook-expediter. Prior to the field work, several days were spent in Vancouver assembling and shipping supplies for the project. The students were hired in Vancouver, the prospectors in Stewart.

The field program was directed at locating, mapping and sampling old workings and at basic prospecting of the surrounding areas. Some time was spent clearing adits and timbering for sampling. Late in the program, Mr. P. W. Green, P.Eng. visited the property for two days for a preliminary geological assessment. Weather often hampered the work with cloud and severe storms making flying and even traversing quite hazardous.

This report outlines the results of the 1981 field program and makes conclusions to guide future exploration.

LOCATION & ACCESS

The claim group is located approximately 11 miles north of Stewart to the east of American Creek between Champion and Basin Creeks. Elevations run from 800' in American Creek to 5200' on the Hope #6 Fr by the snowfield on top of the mountain. Figure 1 shows the group location.

Access was once by a good trail along American Creek thence up the hillside to the Terminus Cabin but this in now much overgrown and the bridges collapsed. At present, access is by Helicopter only. During 1981, a road was constructed by another mining company along the west side of American Creek to a point near the lower claims of the group. This road may be of advantage in future either as a starting point for an access road of for staging of heavy shipments by helicopter.



. 3. PHYSICAL FEATURES

Slopes on the claim area vary from very steep at the lower and higher elevations to moderate in the vicinity of the Terminus adit. Below 3300' the area is heavily timbered with thick underbrush. Timber varies from stunted alpine growth to large overmature trees in American Creek. from 3400' to 4000' the vegetation is mostly scrub and moss while above 4000' the mountain is practically barren but much covered by rock debris and snow patches.

2.

Water is plentiful from melting snows. During winter, snowfall is heavy and at the Terminus workings it is mid July before most of the snow is melted. Much of the upper areas are not clear of snow until late august. Periods of fog and storms are common. Numerous locations for campsites exist in the Terminus and Evans Vein areas with good water supply and free from snow slides.

4. PROPERTY & TITLE

The Terminus Group consists of the following reverted crown grants.

Lot #	Name	Rec.#	Date.
3231	Evans	962	February 1980
3232	Ayrshire	963	11
3233	Oneda	964	91
3234	Glenora	965	PT
3235	Edith M	966	11
3236	Cobalt Fr.	967	11
3528	Ena 🕤	•	
4824	Snow	968	11
4823	Valley 🕽		
4822	Silver Dollar	949	11
4825	Diamond	950	97
4826	Duige	961	0
4899	Hope #5	951	11 ,
4900	Hope #1	952	11
4901	Hope #2 Fr.	954	11
4902	Hope #6 Fr.	955	11
4903	Noonday #7	956	tr.
4904	Noonday #6 Fr.	957	н
4905	Noonday #5	958	tt
- 4906	Noonday #4	9 <i>5</i> 9	11
	-		

Fig. 2



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4907	Vancouver Fr. 🦒		
4908	Noonday #3	· 968 969	February 1980
4909	Noonday #2		
4910	Noonday Fr.	9 <i>5</i> 3	**
4911	Dix	960	11

Payment in lieu of work was made in 1981 making the claims in good standing to February 1982. All claims are owned by Mr. George Trowsdale, Box 1297, Sechelt, B. C.

The arrangement of the claims with lot numbers is shown on Figure 2.

5. HISTORY

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The original Terminus claims were located in 1910, followed by the Adanac claims in 1920 and the Vancouver claims in 1922-1925. All were crown granted shortly after location but were eventually allowed to lapse.

The earliest mention of work is in the 1911 BCDM Annual Report which notes the Terminus with a 45° shaft, an open cut, a short tunnel and a shipment of ore of 12 tons assaying about \$ 200.00/ ton. Until 1924 work seems to have been sporadic but in that year almost all of the present underground workings were completed. Vancouver Mines also began work on their claims and two tunnels are mentioned. By 1928 permanent camp buildings had been constructed, trails improved and several high-grade shipments made with one in 1925 of 6 tons assaying 260 oz/ton silver, 3% lead and 23% zinc. The high zinc content was not welcomed.

Little is mentioned after 1927 although it is known from conversations with "old timers" in Stewart that some high-grading occurred during the 30s and 40s but judging by the underground work the tonnage was small and most efforts may have been at re-sorting old dumps.

No old maps, assay data or geological reports have been found to date although claim survey maps are still available.

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6. ECONOMIC ASSESSMENT

At present the primary interest in the property is for the silver content of the Terminus Vein which, if lateral and depth extensions can be proven, could become a small producing mine. Several other veins, the Evans, Mike, East and Camp, have not been explored to any great extent but are also of interest. Further exploration work, particularly diamond drilling and trenching, is definitely warranted on all veins.

The significance of the numerous pyrite-pyrrhotite zones, often copper bearing, is not yet known but they may indicate a deep seated mineralization which might be discovered by geophysical methods.

7. GEOLOGICAL SETTING

The claim group is located on the eastern limb of the northsouth trending American Creek anticline in fragmental volcanics of Grove's Hazelton assemblage. The rocks noted were predominately gray to green volcanic conglomerates and tuffs often highly epidotized. Numerous NNW trending dykes varying from light silicious composition to dark basaltic or lamprophyres were noted particularly above the 3000' level.

The Terminus and Evans showings are quartz-carbonate breccia veins associated with dark dykes. The Camp, Mike and East veins are similar but a dyke relationship has not yet been discovered. Barite was identified in float east of the Vancouver tunnel and is suspected to occur in the evans vein. Minerals identified in the Terminus vein were pyrite, galena, sphalerite, chalcopyrite and tetrahedrite along with oxidation products. One hand specimen showed a few specks of a gray sectile mineral, possibly argentite.

The Vancouver showings are pods or stringers of pyrite and pyrrhotite associated with shears and dykes. Numerous pyritized zones occur on the upper claims possibly related to tuffaceous beds and fractures and often contain significant copper values.

A brief geological report by Peter W. Green, P.Eng. is attached.

8. SUMMARY OF WORK

In late June work began on the purchase and assembly of equipment and supplies for shipment to Stewart via Arrow Transport barge. On June 29, C. R. Harris and one student flew to Stewart to offload the container and arrange for further supplies, crew and transportation. On June 30, George Trowsdale and another student arrived in Stewart and all supplies moved to a marshalling area near American Creek. Weather delayed departure for camp but by July 4 all supplies and crew were at camp and construction completed by July 5. F. Bannerd and D. Green, prospectors, were hired in Stewart on July 2, 1981.

On July 6 traversing was begun to locate and sample old workings, acquire a suite of rock specimens and to generally become familiar with the area. Between July 6 and 19, when the prospectors were released, work was concentrated on traversing the claim area and opening up the old workings as well as surveying locations. From July 20 to 28, the writer and students concentrated on traversing and sampling areas previously covered by snow or not otherwise visited. Mr. P. W. Green, P.Eng, visited the property on July 20-21 for a preliminary geological assessment. The camp was dismantled on July 29.

Traverses were laid out beforehand on air photo blowups to cover as much area as possible in the limited time available. Geology was not mapped in detail as phe prime objective for 1981 was to locate mineralized areas and veins for sampling and subsequent mapping as time allowed. Specimens and samples were taken and their locations marked on the ground and air photos. The areas traversed are shown on Figure 2. The traverse down the old trail toward American Creek required considerable trail clearing.

Surveys were run to the more important showings using compass, hip chain, clinometer and altimeter and are thought to be reasonably accurate. Survey points are shown on Figure 4. No claim posts were located therefore the claim boundaries shown are approximate only. A few rock cairns were noted along the edge of the icefield but it is not known if these are corners or witness cairns.

The Terminus and Vancouver portals required cleaning for drainage and the Terminus workings required some timbering and laddering for sampling

access and safety. Some old pits required cleaning and some new pits were dug to obtain fresh samples.

All underground samples and most of the surface samples were taken by the writer and shipped immediately for assay. A total of 83 samples were sent for assay along with 6 for rock geochemistry. Assay 'results are tabulated on Appendix I and sample locations shown on Figure 4.

9 FIELD RESULTS

The existance of the Vancouver tunnel, the Terminus underground , workings and the Evans vein were known from a brief visit in 1980 and old references but until traverses and surveys were completed their relative positions were not known. Traversing also located the previously unsuspected Hope pits and the Camp, Mike and East veins as well as other small vein outcrops.

Traversing further afield from the area shown on Figure 4 was generally disappointing and little of interest was noted particularly below 3700'. Some areas of pyritization were located but no veins other than those shown. Below 3700' outcrops are the exception and a geochemical technique may be required. Above 3700' traversing located a large number of pyritized zones in volcanics many of which are shown on Figure 4 but until detailed geological mapping and possibly rock geochemistry is completed their significance remains a matter of speculation.

Following are observations and comments on the various workings and showings investigated in detail.

EVANS VEIN

The main outcrop of the Evans vein occurs in a gulley about 1700' SSW of camp as shown on Figs 3 & 4. The showing consists of two quartz breccia veins of 4' to 10' width separated by about 30' of dark dyke and fractured volcanics. The veins strike northerly and dip steeply to the west. Elevation of the outcrop is 4096'.

On the west or hanging wall vein a one round adit was driven in the past where pods of galena and sphalerite occur in greater concentration



than elsewhere. With the exception of this main showing and a vein outcrop in the creek 130' north the zone is covered with debris and could not be traced to the north. To the south the veins do not outcrop on the south side of the east-west gulley indicating a probable fault. No indication of vein material could be seen for several hundred feet up or down the gulley. A study of the air photos shows that this could be a major fault extending to and across American Creek.

Figure 5 shows sample locations assayed. The highest value obtained was 0.85 oz/ton silver but several samples contained significant lead and zinc values. Despite the low assays, because of the widths observed the veins should be traced to the north by trenching and diamond drilling and a south extension, across the fault, should be sought by further prospecting and geochemical methods.

In the better mineralized sections minerals observed were pyrite, galena, sphalerite and minor chalcopyrite. Gangue was predominately quartz with some carbonate and barite is suspected because of weight.

TERMINUS WORKINGS

The main Terminus workings consist of a 650' crosscut adit with 200' of drift following the main vein at 300' from the portal and a short drift following a silicified shear at 540'. From surface a winze was sunk on the vein to a sub-level which was subsequently connected to the main level by a raise. Surface to main level is 75' in elevation. The workings are shown on Figure 7.

The geology and sampling is complicated by a dyke system which creates both hanging and footwall veins and by minor faulting. No attempt was made to map the geology and until this is done no estimate of tonnage or grade of ore in sight can be made. The vein and dyke strike northerly and dip to the east into the hillside. Mineralization varies from a few inches of massive sulphide, mostly galena and sphalerite with pyrite, to four to five feet stope widths of sulphide stringers, breccia and gouge.

Underground sample locations are shown on Figures 6 and 7. Assays varied widely but ore grade material was found in both the main level stopes and in the sub-level. The best values were obtained from the north sections of the

Fig. 7



main level and the sub-level. Also, two surface pits about 50' north of the winze collar showed excellent values though highly oxidized and only partly accessible to sampling. No further surface vein exposures could be located due to heavy drift cover.

The structures intersected in the crosscut could correlate with the Evans vein as dip and strike line up approximately but proof will have to wait on drilling.

Diamond drilling to the north and south is recommended rather than drifting as both lateral extent and depth will be required to prove tonnage for even a small operation despite the excellent silver assays obtained.' An interesting drill target might be the intersection of the main east dipping vein and the west dipping shear near the end of the crosscut.

VANCOUVER WORKINGS

The Vancouver adit was driven through a pyrite-pyrrhotite zone of volcanic rocks with a north-east trend and then followed a zone of shearing. The workings and geology are shown on Figure 8. Sampling of massive sulphide material from the dump and near the portal showed little of interest in precious metals. A line of cuts and a caved adit of unknown depth 300' to the northeast appear to prospect the same sulphide zone. No dump material is left from the caved adit.

Despite the low assays the zone is of considerable geological interest and should be further prospected and mapped.

HOPE PITS

These pits, the Upper and Lower, are located on the Hope #2 Fraction at elevations 4970' and 4690' as shown on Figure 4. The pits appear to prospect zones similar to the Vancouver. Both appear to be north trending but could not be traced without drilling and blasting. Both contain lenses and veins of massive pyrite often containing significant copper. Some silica and carbonate was noted but no definite vein structures. Precious metal content is low. A spectrographic analysis of sample 805 from the 8,

Fig. 8



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The East vein is exposed in a pit at elevation 4173 to the north of the Terminus crosscut. The vein appears strong with a width of from 8" to 24" but contains little sulphide. This vein could line up with the shear near the end of the Terminus crosscut.

Two narrow veins outcrop in a small creek west of the Pyrite shaft. These appear to strike northerly and dip to the east but could not be traced due to heavy drift. Sulphide content was low.

In the Vancouver area, above the caved adit, quartz-barite float assaying 12.5 oz/ton silver was found and several veinlets could be seen in the cliffs above. In addition, a number of narrow veins were observed in' creek walls and trenches east of the Vancouver area. Sulphide content was low but the entire zone should be uncovered and sampled.

Just south of the old Terminus cabin, now in ruins, a 12" quartz vein with 3" of massive galena-sphalerite was found. The sulphides assayed 86 oz/ton silver but the vein could not be traced due to heavy overburden. Shallow drill holes will be required to trace this vein.

All of the above occurrences and sample locations are shown on Figure 4.

10. COST STATEMENT

The following cost breakdown shows the total costs incurred that can fairly be charged to exploration. No costs for camp equipment have been included other than those of a definitely non-salvageable nature.

Costs have been rounded for convenience but are known to be accurate as the writer was responsible for all finances for the project.

The total costs have been broken down in what is thought to be a fair manner between Physical Work and Prospecting. The following breakdown shows the costs applied to the Statement of Exploration.

l. Wages		TOTAL	Assigned Phys Work	Assigned Prospecti
G. Trowsdale, coo	ok-expediter Žlda @ 100	\$ 2,100	300	1,800
F. Banners, prosp	pector, 15 da @ 120	1,800	360	1,440
D. Green, prospec	tor, 1 <u>5</u> ¹ da @ 120:	1,860	360	1,500
M. Harris, studer	nt, 1 mo @ 1000	1,000	200	800
A. Harris, studer	nt, 1 mo @ 500	500	100	400
2. Supervision & Eng	gineering			
C. R. Harris, P.H	ng. 30 da @ 150	4,500	1,000	3 , 500
P. Green, P.Eng.	3 da & Report	650		650
3. Food & Lodging				,
Total Food Purcha	ses	1,900	400	1,500
Accommodation, St	ewart, B. C.	300	50	250
Meals, Stewart, H	3. C.	150		150
4. Camp Supplies				
Lumber, Timber, H	ldg Supplies	700	200	500
Fuel - Gas, Propa	ne	650	100	550
Misc, Non Salvage	able	1,400	300	1,100
5. Transportation				
Return Air Fares, M.Harris, A.H	G. Trowsdale, C.R.Harris, Iarris. Vancouver-Stewart	1,400	300	1,100
Freight, Arrow Co	ntainer, Jun. 24	900	100	800
Helicopter, July	5	1,300	250	1,050
July July	10, 11,14	670 720	350 100	320 620
July	22,28	950	-	950
Truck Rental, Ste	wart	200		200
6. Assay				
90 samples, avera	ge \$ 24 each, incl frt.	2,160		2,160
7. Preparation of Re	port			
C. R. Harris, P.E	ng	500		500
		\$ 26,310	4,470	21,840
	TOTAL	\$ 26,310		
	TOTAL PHYSICAL		\$ 4,470	
	TOTAL PROSPECTING			\$ 21,840

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CERTIFICATE

I, Charles R, Harris, of 2709 Wembley Drive, North Vancouver, B. C., hereby Certify that;

- I am a graduate of the University of British Columbia with a degree of Bachellor of Applied Science in Mining Engineering, (1964).
- 2. I am a registered member in good standing of the Association of Professional Engineers of B. C.
- 3. I have been practicing my profession continuously for the past seventeen years.

C. R. Harris, P.Eng.

January 28, 1982

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NUMBER	DESCRIPTION	ASSAYS						
		Cu.%	Pb.%	Zn.%	Ag.oz/t	Au.oz/t	Ca.%	SЪ.%
778	Evans Vein - FW vein, N enc o'c, 2" sulph veinlet.	.018	.58	2.47	.74	.001	.044	- 02
779	" " FW vein, 5° QC vein, fw side				.85	.027		
780	" " FW vein, 5' Qc vein, FW side				.09	.009		
781	" " FW vein, 2' QC, HW side				.13	.008		
782	" " FW vein, 2' qtz, HW side .				.09	.008		
783	" " FW vein, 3' rusty qtz, FW side				.16	.014		
784	" " FW vein, 3' rusty qtz, FW side	1			.09	.004		
78 <u>5</u>	" " FW vein, 3' QC, HW side				.07	.003		
786	" " HW vein, 5' QC vein, HW side				.10	.003		
787	" " HW vein, 6' QC vein, HW Side				.03	.002		
788	" " HW vein, 6' Qc vein, HW side	.002	3.49	.61	.80	.002		
789	" " HW Vein, 4'vein, Face of 5' adit.				.10	.008		
790	" " HW vein, 3' QC, 7' from HW				.20	.003		
791	" HW vein, 3' QC, 12' from HW				.22	.003		
792	" " HW vein, 3' QC, 10' from HW			1	.14	.004		
793	" " 20' volc seds between veins				.03	.001		
794	" " 3' QC in creek, some sulph				•33	.142		
795	" HW Vein, 2' brecc, FW side				.08	.002		
796	" " HW vein, picked high sulphide	.001	.38	4.09	.19	.002		
797	Pyrite Shaft - 2' massive coarse gr pyrite				.16	.002	,	
798	" " l' massive fine gr pyrite, qtz.				.29	.001		
· 799	Pit S of Py Shaft - heavy py in volc, weathered	.033	.01	.01	.09	.002		
800	Terminus - Trench 45' N of winze, 1' weathered vein	.118		47	28.90	.003		
801	" - Cut just N of 800, 2' weathered vein	.860	.52	1.99	137.00	.004		
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DESCRIPTION

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NUMBER	DESCRIPTION			ASSAYS						
		·	· · · ·	Cu.%	Рь.%	Zn.%	Ag.oz/t	Au.oz/t	Ca.%	ŚЪ.%
802	Terminu	s - W:	inze dump, hi-grade stockpile	.718	10.42	4.99	238.00	.008		
803	i i	-	" " , hi-grade stockpile	•952	6.15	16.15	162.00	.003	.464	.84
804	Upper H	ope Pi	it - massive py in volc seds, dump		.04	.11	1.30	.001		
805		11 1	' - as 804, higher sulph.	.030	.10	.30	3.72	.001		
806	Mike Ve	in, 6'	'QC vein, no vis sulph.		l		.29	.001	}	
515	Terminu	s Adi	t - 6+40', l" vein, HW of dyke				.33	.001		
516	Ŧŧ	IJ	- " , 18" dyke				.18	001		
517	**	**	- " , 12" qtz vein, FW dyke				.30	.001		
518	**	"	- 5+55', 12" qtz vein.				1.11	.001		1
519	17	f T	- 5+40', 18" vein shear end drift.		.01	.02	.43	.001		
520	н	"	- Main Vein by X-cut, 8" gouge				6.03	.001		
521	n	11	- N2 Stope, 18" vein, N end pillar		.85	2.50	5.19	.001		
522	łī		- Floor HW drift, 8" vein		.24	.91	3.00	.001		
523	11	"	- End S drift, 4" FW vein	ł			.17	.001		
524	17	17	- " " , 6" HW vein				.11	.001		1
525	11	11	- N end Nl Stope, 7' vein shear		.48	1.19	10.60	.001		
526	**		- 0+15', 6" gouge, rusty	ļ]	.13	.001		
527	**		- 3+70', 6" gouge, rusty				.70	.002		
528	11		- E wall N drift, 8" HW vein				22.95	.002		
529	11	17	- N end N2 stope, 8" HW vein	1			222.50	.010		
530	17	11	- E wall N drift, 7" FW vein				28,90	.008		
<i>5</i> 31	**		- S end N2 stope, 12" vein				23.85	.002		1
532	**	*1	- Nl Stope, 8" HW vein				102.00	.002		

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NUMBER	DESCRIPTION	ASSAYS							
·		Cu.%	Pb.%	Zn.%	Ag.oz/t	Au.oz/t	Cd.%	Sb.%	
533	Terminus Adit - Nl Stope, 14" dyke				2.93	.009		{	
534	" " - " " , 8" vein				73.50	.002			
<i>5</i> 3 <i>5</i>	""-"", 6" gouge, some qtz.				.96	.002			
536	" " - " " , 24" gouge & fractures				1.22	.002			
537	Qtz. Vein - 60' NE of sta 40, 24" QC				.06	.001			
<i>5</i> 38	Volcanics, pyritized, by sta 44	•006	[.09	.001			
539 ·	W Pits - Qtz, 6" vein				.08	.001			
540	" - volc wall rocks				.10	.001			
541	" - 3" qtz vein, weathered		{		.10	.001			
<i>5</i> 42	Terminus Sub Level - 0-08', 4" qtz, HW Vein		1.22	15.50	8.80	-			
543	" " " - " , 6" brecc & gouge		5.94	.93	2.62			ļ	
5/44	"" " - End S drift, 6" qtz vein		10.80	10.30	26.45				
545	" " " - " " " , 12" breccia		10.00	12.95	44.00		•		
546	" " - 0 <i>-</i> 25', 6" HW vein,		13.15	13.60	13.35				
547	" " " - " , 8" altered dyke		2.71	.65	2.09				
<i>5</i> 48	"" " - " , 4" mass sulph vein.	.233	6.50	30.80	32.15	.002			
<i>5</i> 49	" " " - 0+13', 18" altered dyke		1.90	6.13	10.60				
550	" " " - " , 12" breccia		4.23	3.68	58.25				
551	" " " - " , 12" silic dyke, brecc		5.48	3.52	45.00				
552	" " - 0+21', 8" qtz brecc, FW of dyke		7.90	2.33	112.50				
553	" " - End N drift, 5" silic shear		4.34	1.12	41.60				
554	Camp Vein - 3" massive sulphide vein		9.80	30.70	86.00	.001			
			-						
								1	

DESCRIPTION per Hope cut, high pyrite sty o'c north of 555 sty o'c top of mountain	Cu.%	Pb.%	ASSA Zn.%	YS	·····		
per Hope cut, high pyrite sty o'c north of 555 . sty o'c top of mountain		10./0	μ <u>υμ.</u> 70				
rer Hope Cut, N side, massive py. "", S side, heavy py. rtz-carb vein, 16". Fast of sta 50	,083	.07	.19	.71 .18 .16 .66 .22	.001 .001 .001 .002 .001		
<pre>per Hope Cut, 6" shear, leached " ", 24" heavy py, south wall ver Hope Cut, mass coarse grained py. " ", " fine " " " , Quartz brecc. with Cu stain e vein, 10" Quartz-carb, little sulph. couver Area, Barite float, some sulph. south of sta. 3. pyrite</pre>	.241 3.350			.02 .15 .19 .44 .42 1.68 .02 12.50 .13	.001 .002 .002 .001 .001 .003 .001 .001		
<pre>minus Adit dump, qtz-carb, little sulph """, "", fair sulph. "", "", "", """, couver Adit, 12" vein in portal, "", dump, some py. hch 50' east of Vancouver Adit, grab bouver Adit dump, mass pyrrhotite """, sulph, black stain.</pre>	.209	3.90	.71 4.61	2.20 55.00 21.60 .17 .11 .07 .11 .10	.002 .002 .003 .001 .001	Ni.% .004 .003	4/5
	<pre>" ", S side, heavy py. tz-carb vein, 16", East of sta 50 r Hope Cut, 6" shear, leached " ", 24" heavy py, south wall r Hope Cut, mass coarse grained py. " ", " fine " " " , quartz brecc. with Cu stain vein, 10" quartz-carb, little sulph. ouver Area, Barite float, some sulph. south of sta. 3. pyrite inus Adit dump, qtz-carb, little sulph " " , " " , fair sulph. " " , " " , fair sulph. " " , " " , sulph, some py. ch 50' east of Vancouver Adit, grab ouver Adit dump, mass pyrrhotite " " , sulph, black stain.</pre>	<pre>" ", S side, heavy py. tz-carb vein, 16", East of sta 50 rr Hope Cut, 6" shear, leached " ", 24" heavy py, south wall rr Hope Cut, mass coarse grained py. " ", " fine " " " , quartz brecc. with Cu stain vein, 10" quartz-carb, little sulph. ouver Area, Barite float, some sulph. south of sta. 3. pyrite inus Adit dump, qtz-carb, little sulph " " , " " , fair sulph. " " , " " , fair sulph. " " , " " , " " ouver Adit, 12" vein in portal, " , dump, some py. ch 50' east of Vancouver Adit, grab puver Adit dump, mass pyrrhotite " " , sulph, black stain.</pre>	" ", S side, heavy py. tz-carb vein, 16", East of sta 50 rr Hope Cut, 6" shear, leached " ", 24" heavy py, south wall rr Hope Cut, mass coarse grained py. " ", " fine " " " , quartz breec. with Cu stain vein, 10" quartz-carb, little sulph. ouver Area, Barite float, some sulph. south of sta. 3. pyrite inus Adit dump, qtz-carb, little sulph " " , " " , fair sulph. " " , " " , fair sulph. " " , dump, some py. ch 50' east of Vancouver Adit, grab puver Adit dump, mass pyrrhotite " " , sulph, black stain. " " , sulph, black stain.	" ", S side, heavy py. tz-carb vein, 16", East of sta 50 r Hope Cut, 6" shear, leached " ", 24" heavy py, south wall r Hope Cut, mass coarse grained py. " ", " fine " " " ", quartz brecc. with Cu stain vein, 10" quartz-carb, little sulph. ouver Area, Barite float, some sulph. south of sta. 3. pyrite inus Adit dump, qtz-carb, little sulph " " , " " , fair sulph. " " , " " , fair sulph. " " , dump, some py. ch 50' east of Vancouver Adit, grab puver Adit dump, mass pyrrhotite " " , sulph, black stain. .209	" ", S side, heavy py. tz-carb vein, 16", East of sta 50 r Hope Cut, 6" shear, leached " ", 24" heavy py, south wall r Hope Cut, mass coarse grained py. " ", quartz brecc. with Cu stain vein, 10" quartz-carb, little sulph. ouver Area, Barite float, some sulph. south of sta. 3. pyrite " " , " " , fair sulph. " " , dump, some py. ch 50' east of Vancouver Adit, grab suver Adit dump, mass pyrrhotite " " , sulph, black stain. " " , sulph, black stain. " " , Sulph, black stain. " " , Side, heavy py. 	"", S side, heavy py. .22 .001 tz-carb vein, 16", East of sta 50 .22 .001 ir Hope Cut, 6" shear, leached .15 .002 "", 24" heavy py, south wall .19 .002 ir Hope Cut, mass coarse grained py. .241 .44 .001 "", " fine " .241 .44 .001 "", " quartz brecc. with Cu stain 3.350 .68 .002 .001 ouver Area, Barite float, some sulph. .02 .001 .02 .001 south of sta. 3. pyrite 3.350 .168 .002 .001 "", ", ", ", ", fair sulph. 3.90 .71 2.20 .001 inus Adit dump, qtz-carb, little sulph 3.90 .71 2.20 .001 "", ", ", ", ", ", ", ", " " .02 .001 .02 .001 ouver Adit, 12" vein in portal, " .17 .002 .11 .002 .07 east of Vancouver Adit, grab .209 .11 .001 .001 "", ", sulph, black stain. .209 .11 .001 .001	<pre>" ", S side, heavy py. tz-carb vein, 16", East of sta 50 rr Hope Cut, 6" shear, leached " ", 24" heavy py, south wall rr Hope Cut, mass coarse grained py. " ", " fine " " " ", quartz breec. with Cu stain " ", quartz breec. with Cu stain ouver Area, Barite float, some sulph. south of sta. 3. pyrite " ", " ", " ", fair sulph. " " ", " ", " ", fair sulph. " " , dump, some py. ch 50' east of Vancouver Adit, grab puver Adit dump, mass pyrrhotite " " , sulph, black stain.</pre>

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	Rock Geochem, p.p.m.						%		
	Мо	Cu	Ni	Co	Sn	F	Mo.%	WO %	Sn.%
Special Assays									
G 5		•			< 2	540			
G 11					- 2	510			
G 12		1870	32	260	< 2	110	l		
G 15	4	1290	25	59	2	75			
G 17 .				ľ	2	160			
G 28					< 2	165		 i	
541							.001	.001	.01
793								.001	
797							.001	,001	.01
804		,					.001:	.001	.01
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APPENDIX II	1/1
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Mr hereby Certify that the following are the results of semi quantitative spectrographic analysis made on ______ samples submitted.

	1	1	2	3	4	5	Sample Identification
Atumioum	١٨	1.					
Astimony	Ci Sh	NT					Sample 1: File #1-482:#805
Arsenio	40	TRACE					
Barum	р. С.	TRACE					Sample 2:
Bandhum	Bo	סטוווג					
Berymun	De	ND					Sample 3:
Remath	в.	ND					
Bismuin		TRACE					Sample 4:
Codmum		ND					
Calomium		4.	' J				Sample 5:
Calcium		*		-			
Coromium	Ur j						
\sim		0.05	[Percentages of the various elements expressed in these
	Co	0.05					minus 35 to 50% of the amount present.
Copper	Cu	ND					Semi-quantitative spectropraphic analytical results for
Gailium	Ga	TRACE	Í				gold and silver are normally not of a sufficient degree
Gold	AU	MATOR	ļ				of precision to enable calculation of the true value of
Iron	Fe	INJOK					ores Therefore, should exact values be required, it is recommended that these elements be associated by the
							conventional Fire Assay Method Quantitative and Fire
Lead	Pb /	0.03					Assays may be carried out on the retained pulp samples.
Magnesium	Mg	3.	ł	1	ļ		Silicon, aluminum, magnesium, calcium and iron are
Manganese	Mn !						normal components of complex silicates.
Molybdenum	Mo	U.1	1				MATBIX - Major constituent
Niobium	Nb	ND					MAJOR – Above normal spectrographic range
				{	i		TRACE — Detected but minor amounts
Nickel	Nī	0.01					* - Suggest assay (above 0.3%
Polassium	к	MAJOR			ł		
Silicon	Si	MATRIX	ĺ	-	í		
Silver	Ag	0.03					Percent
Sodium	Na	0.5		Í	1		All results expressed as
		ļ	1				Note. Pulps retained one week
Strontium	Sr	ND		1			
Tantalum	Та	ND					
Thorium	Th	ND		1			
Tin	Sn	ND					
Titanium	Ti	TRACE		1			ALL REPORTS ARE THE CONFIDENTIAL PROPERTY OF
				1			CLIENTS PUBLICATION OF STATEMENTS CONCLUSION OP
Tringsten	w	ND			Ì		PERMITTED WITHOUT OUR WRITTEN APPROVAL ANY LIABIL
(h	υ	ND		1			
MuibeneV	· v	TRACE				i	
Zinc	Ζn	*	1				
							CAN TEST I TO
						Ĩ	CAN IEST LID.
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		1		l			
							Specirics, opist

APPENDIX III

GEOLOGICAL REPORT ON

EVANS SHOWING

TERMINUS TUNNEL

VANCOUVER TUNNEL

STEWART, B.C. NTS 104-A/4W

for

GATROW RESOURCES INC.

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P.W. Green, P.Eng.



July 31, 1981.

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CONCLUSIONS AND RECOMMENDATIONS	•	•	٠	1				
INTRODUCTION	•	•	٠	2				
STEWART AREA GEOLOGY AND MINERAL DEPOSITS	•	•	•	2				
PROPERTY GEOLOGY	•	•	•	3				
PROPERTY MINERAL DEPOSITS								
EVANS SHOWING	•	•	•	5				
TERMINUS TUNNEL	•	•	•	6				
VANCCUVER TUNNEL	•	•	•	8				
CERTIFICATE		•		9				

CONCLUSIONS AND RECOMMENDATIONS

1. Silver and gold mineralization occurs in north trending structures which have been faulted and cut by dykes.

2. Sufficient geological evidence exists in the Terminus main workings and in the Evans showing to justify diamond drilling both targets.

3. Further work is warranted on the pyrite-pyrrhotite showings which may eventually lead to a viable deposit.

4. The following field program is recommended:

a. Laying out one grid over all the known areas of interest and their environs.

b. prospecting.

c. mapping the surface and underground. Geologic information would be invaluable in the ensuing diamond drill program.

d. diamond drilling several short holes into each mineralized zone. The nature of the target dictates that such will be necessary to establish structure, continuity and grade.

e. soil sampling and sampling for rock geochemistry.

<u>KORCDUCTION</u>

Mr. G.A. Trowsdale, President of Gatrow Resources Inc., requested the writer to carry out a geological examination of the Evans showing and the Terminus and Vancouver tunnels.

This report is the result of that examination which was carried out during the greater portion of July 21 and 22, 1981 and is to be included in the report by Mr. C.R. Harris, P.Eng.

The snow was melting quickly in the warm, sunny weather making the underground workings quite wet.

STEWART AREA GEOLOGY AND MINERAL DEPOSITS

The Stewart Area, a major source of gold, silver as well as lead, zinc, copper and minor tungsten, has been reported on and mapped by such people as: Carmichael, 1906, Provincial Assayer for the B.C. Department of Mines; McConnell, 1913, and Hanson, 1935, for the Geological Survey of Canada; and Grove, 1971, for the B.C. Department of Mines and Petroleum Resources.

Stewart lies astride the irregular contact of the Cenozoic-Mesozoic plutonic rocks of the Coast Crystalline Belt to the west, and the Mesozoic Hazelton assemblage of volcanics and Bowser assemblage of sediments to the east.

Faulting and folding has created complex structures. Some areas, however, are relatively undisturbed. Thrust planes cannot be proved without fossil evidence. Folded thrust planes

easily explain the structure and ore control at the Premier Mine. Regional metamorphism is not greater than lower amphibolite facies.

The aptly descriptive term, Dyke Swarm, is applied to a large number of small, variable composition, later, narrow intrusives. These often have some control on the mineral deposits.

Wall rock alteration in the deposits consists primarily of silicification, carbonatization or pyritization although propylitization, hornblendization and potassium feldspar alteration are well known.

Mainly, the mineral deposits are in, or associated with, quartz breccia veins, quartz replacement zone systems or shears. Irregular bands, lenses, stringers or pods of pyrite, pyrrhotite, galena, sphalerite and minor chalcopyrite, contain the gold and silver minerals. Their emplacement is controlled by the well defined fracture systems in the underlying rocks.

The Premier, Big Missouri, Porter Idaho, Silverado and Dunwell mines are all well known for their precious metal content.

PROPERTY GEOLOGY

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The property is situated on the north-east edge of Grove's Stewart Area map, adjacent to a Dyke Swarm. The host rocks are green, fragmental volcanics which lie on the eastern limb of the north trending American Creek Anticline.

Many dykes cut the rocks in the immediate area of the showings.

Porphyry dykes with white feldspar phenocrysts up to an inch in length set in a gray-green groundmass, trend easterly and have steep rolling contacts. These dykes, a few tens of feet thick, appear to be tension fillings with only minor movement.

Cream coloured siliceous dykes with pyrite specks and some sericitic alteration are the most important dykes. They are termed White dykes from their white weathering. Some are pre-sulphide, some later. They have a multitude of strikes and dips. White dykes are usually cut by narrow gouge faults or have faulting associated with them.

Fine grained dark dykes of basaltic or lamprophyric composition are termed Black dykes. Usually, they are but a few feet in thickness. Some have a relatively consistent strike and dip while others show much variation.

Some Diorite dykes may be coarse grained flows or sills.

Northerly trending narrow gouge faults occur in the green volcanics, the Black dykes and the White dykes. Dastwest lineation may be evidence of faulting on a more major scale than represented in previous mapping. 4,

PROPERTY MILLERAL DEPOSITS

TVANS SHOWING

The Evans showing consists of several roughly parallel vein structures of quartz, carbonate and breccia, each a few feet thick, striking northerly and dipping steeply west. Barite was not proved conclusively.

A concentration of disseminated galena and sphalerite occurs in the central portion of the most westerly vein. Much lesser quantities were observed in the other vein structures.

A gully, possibly a major east-west fault, cuts off the showing on its south side. Prospecting should be carried out to locate any possible faulted extension.

To the north, towards the Terminus tunnel, the linear along which the veins project, is encroached on by a Black dyke and a Diorite dyke. This same Black dyke, lying on the eastern edge of the showing, conforms with the volcanics and gives the appearance of having faulted off the structure.

Structurally, the veins could continue parallel down dip or be en echelon down dip or even relate to a west dipping thrust plane. Detail mapping might solve the structure.

PROPERTY MINDAL PERCENTS

TERMINE TELINEL

In the main workings, a relatively narrow, north trending, white dyke was differentially faulted and fractured prior to the quartz, carbonate and pyrite, galena, sphalerite mineralization. Chalcopyrite has been reported. Tetrahedrite was not positively identified. This irregularly mineralized structure was then faulted, intruded by Black dykes and faulted at least once more. The sulphides occur as bands, stringers, masses and coarse disseminations.

From surface through the subdrift and down to the hanging wall drift, the Black dykes are narrow, trend parallel but do not join, have relatively consistent dips, act as dilutants, and have been longitudinally faulted, sometimes producing an extra dyke lens.

From the collar of the inclined shaft a Black dyke trends off in a south easterly direction possibly toward the Evans showing.

In the subdrift, the White dyke is fractured and mineralized in one place and within a few feet, by a roll in a fault, the same White dyke is non-mineralized. Also, here in the subdrift, the mineralized vein sections occur on either side, both sides or, less commonly, neither side of the Black dyke.

Two small stopes were developed in the footwall drift. These stopes show gouge faults along which lenses of mineralized vein structure had occurred. This, and the vein structure in the crosscut between the hanging and footwall drifts, have no surface expression except as a debris covered depression adjacent to the original showing.

Wall rock alteration exists, being noticeable in the footwall drift.

There is a suggestion of vein structure splitting north from roll points.

At present, there is insufficient evidence to distinguish between a) parallel veins, b) on ochelon veins and c) veins related to a suspected thrust plane. Detail mapping could clarify the structural picture.

Another drift, about 80 feet from the face of the Terminus tunnel, was driven on a gouge faulted White dyke. The dip is steeper than the main workings. The Black dyke is not in evidence. Quartz, carbonate and minor pyrite were observed, but not galena or sphalerite. More work needs to be carried out on this structure before it, too, becomes a prime drill target.

PROPERTY MINIBAL DEPOSITS

VANCOUVER TUNNEL

The high concentration of pyrite and pyrrhotite (a trace of arsenopyrite is suspected) found as irregular interconnected semi-continuous blebs and threads is located adjacent to the portal. It is bounded on the north by a north-east striking white dyke and on the south by an easterly striking Porphyry , dyke.

The tunnel, in being driven straight and southerly, did not intersect the offset sulphide concentration south of the Porphyry dyke.

The cause of formation of the many pyrite-pyrrhotite showings is not clear. The sulphides could be an integral part of the volcanic sequence or they could have been caused by gaseous emanations from east-west faults.

Detail mapping of the fracture patterns could show a relationship between the sulphides and an unknown underlying plutonic intrusive or possibly be a lead to an economically viable deposit.

Respectfully submitted,

Green.

P.W. Green, P.Eng.

CERCIFICATE

- I, Peter V. Green, hereby certify that:
- I am a resident of British Columbia and my postal address is Box 587, Stewart, B.C. VOT 1WO.
- 2. I graduated from Queen's University (1957) with an Honours Bachelor of Arts degree in Geology; and further that I graduated from McGill University (1960) with the Master of Science (Applied) degree in Mineral Exploration.
- 3. I have been practising my profession continuously for over twenty years.
- 4. I am a registered member (#11861) in good standing of the Association of Professional Engineers of British Columbia.
- 5. This report is based on my personal investigations and observations of the property from July 21 to July 22, 1981 augmented by governmental references to the property.
- 6. I do not have, nor do I expect to receive, any interest, direct or indirect, in the properties or securities of Gatrow Resources Inc. or of any affiliated company.



Peter V. Green, P.Ing.

July 31, 1981.





