

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 104K/112E

ASSESSMENT REPORT

GEOLOGICAL - GEOCHEMICAL REPORT

CLAIMS: Pat, Birds, Ross, Big Bull No. 4, CO-1, CO-2, CO-3, CO-4, CO-5

CROWN GRANTS: Big Bull, Big Bull No. 6, Big Bull No. 5, Big Bull No. 1, Jean, Hugh,
Tulsequah Chief, Tulsequah Bonanza, Tulsequah Bald Eagle,
Tulsequah Elva Fr., River Fraction

ATLIN MINING DISTRICT

TULSEQUAH VALLEY AREA

LATITUDE: 58°41'N

LONGITUDE: 133°35'W

Work Performed: June 1 - August 6, 1981

30 NOVEMBER 1981

9825

J. PAUL SORBARA

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ASSESSMENT REPORT
GEOLOGICAL - GEOCHEMICAL REPORT
ATLIN MINING DISTRICT
TULSEQUAH VALLEY AREA

I. INTRODUCTION

Cominco Ltd.'s Tulsequah properties include 11 crown grants and 15 located claims (96 units), which are listed below:

<u>CROWN GRANTS</u>		<u>LOCATED CLAIMS</u>	
<u>Name</u>	<u>Lot No.</u>	<u>Name</u>	<u>Record No.</u>
Big Bull	6303	Big Bull Extension	37121
Bull No. 1	6304	Bruce Fraction	303
Bull No. 5	6306	Bull Nos. 2 to 4	141/32, 142/32, 143/32
Bull No. 6	6305	Bull No. 8	142
Hugh	6308	Bull No. 9	149
Jean	6307	Birds, Pat, Ross	5224 to 5226
River Fraction	5669	CO Nos. 1-3(20 units ea)	995 to 997
Tulsequah Bonanza	5668	CO No. 4 (8 units)	999
Tulsequah Bald Eagle	5676	CO No. 5 (18 units)	998
Tulsequah Chief	5670		
Tulsequah Elva Fr.	5679		

During 1981, the writer, and two assistants, J.D. Weir and P.L. Armstrong, conducted exploration work on the above properties for Cominco Ltd. This work included both geological and geochemical surveys. Geologic mapping at a scale of 1:5,000 was conducted at both the Tulsequah Chief and Big Bull Mines, and reconnaissance mapping and prospecting, at a scale of ½ mile to the inch, was done on the CO claims.

Soil geochemical surveys were conducted at both the Tulsequah Chief and Big Bull mine areas, and a stream silt geochemical survey was conducted on the CO claims.

The major part of the mobilization effort started on June 1, 1981 with the crew moving from Vancouver to Whitehorse, and a camp was established at the Tulsequah Chief on June 4, 1981. The final camp was broken and the crew returned to Whitehorse on August 3, 1981. The return to Vancouver took place on August 6, 1981.

II. LOCATION AND ACCESS

The properties are located along the east side of the Tulsequah River Valley, north of the Taku River (see Map 1). This area is within the Atlin Mining District being situated 100 km south of Atlin, B.C., and 43 km northeast of Juneau, Alaska. Access to the area is gained by air from Atlin or by boat, up the Taku River, from Juneau Alaska. The properties include the sites of the Tulsequah Chief and Big Bull mines which were operated by Cominco Ltd. between 1952 and 1957, but have remained inactive since that time.

The Tulsequah area is within the Coast Range of mountains and is quite rugged topographically. Slopes average 30^o, are heavily forested, and contain thick undergrowth, especially along the lower portions close to the Tulsequah River (elevation ≈ 150m). The tree line occurs at an elevation of roughly 1200m and the mountain tops at 1500m.

III. GEOLOGICAL SURVEYS

A. Tulsequah Chief

Geologic mapping was conducted at a scale of 1:5,000 in the area of the Tulsequah Chief mine. This work was aided by a grid consisting of 6.7 kilometers of cut lines with 25 meter station intervals, and a 1:5,000 scale orthophoto map produced for the writer by McElhanney Surveying of Vancouver. Mapping at the Tulsequah Chief included both on-line and off-line traverses, and was carried out intermittently by the writer, aided by J.D. Weir and P.L. Armstrong, between June 6 and July 16, 1981.

B. CO Claims

Mapping and prospecting on the CO claims was done on a scale of roughly ½ mile to the inch using B.C. air photo 5614 No. 180 as a base map. Traverses were mainly east to west and were helicopter assisted. Approximately 20.1 line kilometers were mapped by the writer and assistants between June 12 and July 30. No lines were cut on the CO claims.

Note: An Assessment Report covering 1 days work on the CO-2 mineral claim (NTS: 104K/12E) was filed by the writer on August 12, 1981. The total expenditures claimed in that report are deducted from the expenditures claimed in this report (see Appendix I).

C. Big Bull

Geologic mapping, also conducted by the writer, in the area of the Big Bull mine, was completed between July 22 and July 29. This work was aided by an 8.9 line kilometer cut grid and another orthophoto map at 1:5,000 scale. Work included both on-line and off-line traverses.

IV. GEOLOGICAL TECHNICAL DATA

A. General

Cominco Ltd.'s Tulsequah properties occur in the Upper Triassic Stuhini

Group of volcanics. These rocks comprise massive flows, pyroclastics, and intrusives of mainly intermediate composition. The group unconformably overlies Permian limestones, argillites and quartzites and is overlain by the late Triassic Sinwa Formation.

In the Tulsequah area the Stuhini volcanics are believed to occupy a large, steeply south-plunging syncline, the west limb of which runs along the Tulsequah River. Due to the massive nature and limited exposure of the Stuhini volcanics in this area the detailed or local structure has not been determined. It is believed however, that the rocks in the area of the Tulsequah Chief mine occupy a small second-order fold on the west limb of the regional anticline.

B. Tulsequah Chief (see Map 2)

The rocks mapped by the writer in 1981 in the area of the Tulsequah Chief mine were exclusively volcanic. Lithologies included rhyolitic tuffs, breccias and altered felsic rock, dacitic pyroclastics, andesitic flows and intrusives, and basaltic flows and dikes. Almost all of the rocks were extremely massive and few lithological orientations could be taken. Several major northwest-southeast faults cut the area causing pronounced topographic lineaments.

Description of Units

a. Rhyolite

Rhyolitic tuffs comprise a small portion of the felsic rock mapped. This rock type is very fine-grained, buff-white weathering, finely laminated and quite hard. Reddish brown staining occurs on the bedding planes and very fine-grained disseminated pyrite is found in thin section. No other sulphides are seen in this rock type, which is almost entirely quartz.

Rhyolitic breccias in the area are also buff-white weathering and quite hard. These rocks contain angular fragments of rhyolite up to several centimeters in length in a fine-grained rhyolitic matrix. The breccias are very poorly sorted and no bedding was seen. In thin sections these rocks also have some minor disseminated pyrite but are predominantly quartz with minor plagioclase feldspar remnants and sericite.

The breccias seem in some localities to grade into a much more altered-looking felsic rock. This rock type weathers to a rusty yellow-green scale and contains no discernable internal structure. In thin section, the rock is comprised of quartz, chlorite and sericite with minor plagioclase remnants, disseminated pyrite and some carbonate. Numerous irregular rusty fractures permeate the rock which is believed to be a sheared equivalent of the other rhyolitic units.

b. Dacitic Pyroclastics

The dacitic rocks in the area of the Tulsequah Chief mine are medium to dark green in colour and often have a mottled appearance. These rocks are fragmental in places, with a dark grey to greenish chlorite-rich matrix containing feldspar phenocrysts, fine-grained disseminated pyrite, and small lithic fragments. In some ways these rocks are similar

to the rhyolitic pyroclastic breccias except that they are darker in colour and softer in nature. They may actually be closer to andesite in composition.

c. Intrusive Andesite

Small irregular bodies and dikes of intrusive andesite occur in the central area of the Tulsequah Chief mine. This unit is a fine to medium-grained, dark green, sucrosic rock that is very massive in nature. Occasionally it contains the odd small angular hornblende fragment. In thin section finely disseminated pyrite is apparent.

d. Andesite Flows

Andesitic flows lie generally to the south of the main mine area and are generally dark grey to green weathering massive rocks, rich in chlorite and in places contain epidote. These rocks contain up to 30% plagioclase (~ An 40), in phenocrysts as well as in the groundmass, and occasionally contain up to 10% disseminated pyrite. The andesite flows are distinguished from the dacite pyroclastics by their darker colour and in that they do not contain lithic fragments.

e. Basaltic Rocks

Minor amounts of basic rocks occur just to the southwest of the mine area. These rocks constitute small dikes and flows and are black, very fine-grained, dense, and in one location contain angular scoriaceous fragments, and calcite amygdules. This is only a minor rock type in the area.

C. CO Claims

The CO claims also lie in the west limb of the regionally folded Stuhini volcanics. The CO claim area between the Tulsequah Chief and Big Bull mines was mapped on nine different traverse lines at a scale of roughly $\frac{1}{2}$ mile to the inch. This area was found to comprise mainly andesite flows with a few outcrops of rhyolitic rock and quartzite (see Map 3).

The andesitic rocks are massive medium to dark green rocks with plagioclase phenocrysts to 3 mm and some hornblende fragments in a fine matrix, which locally had some minor disseminated pyrite. No bedding or structural orientations were seen in the andesites.

The rhyolitic rocks included two outcrops of very fine-grained laminated rhyolite tuffs whose strikes were roughly north-south with almost vertical dips. These rocks contained some fine-grained pyrite but no economic-type mineralization. A second rhyolitic unit seen in the area was a fine-grained intrusive rock (PS 81-47) with abundant quartz and feldspar and irregular hairline fractures along which sericitic alteration has taken place. This rock contained no pyrite.

Right along the edge of the Tulsequah River, a few outcrops of grey and white streaked quartzite were seen (PS 81-40). These rocks are believed to be part of the underlying Permian sedimentary rocks and indicate that the west limb of the Stuhini fold ends at the Tulsequah River. These rocks also contained no pyrite.

D. Big Bull (See Map 4)

The Big Bull ore deposit also occurs in the volcanic rocks of the Stuhini group. Its location in the Stuhini section is unknown. The principal rock exposed in the mine workings is a unit with andesitic to dacitic affinities that weathers dark to medium green and is fine-grained. In places this rock is ignimbritic, with a well defined eutaxitic foliation with elongate fiamme which locally may be welded. In other areas this rock is finely laminated, with thin grey and green wispy siliceous lenses in a very fine-grained green matrix, and is believed to be a tuffite.

Immediately west of the mine is a southwesterly dipping unit of very fine-grained, soft, grey rock with a well defined wavy cleavage, and a silky sheen on the cleavage surfaces. This rock type is locally cut by narrow chloritic quartz veins that in some places are haematite stained. This unit has been referred to in the past as a chloritic tuff but is now interpreted to be a phyllite.

Further north of the mine workings the predominant rock type is andesite of both an intrusive and extrusive nature. The extrusive andesites are fine-grained flows that are fairly massive and occasionally have small dark green fragments in a slightly lighter green matrix. Rounded to euhedral plagioclase crystals of composition An 35 are fairly common and the odd rounded quartz grains can be seen. However, the rock has been heavily altered to chlorite and sericite and has some very fine calcite stringers.

The intrusive andesite is very similar to that found at the Tulsequah Chief and is a medium green sucrosic rock with angular hornblende phenocrysts in at least one location.

V. GEOCHEMICAL SURVEYS

A. General

Soil sample surveys were conducted by the writer and assistants on the Tulsequah Chief and Big Bull mine areas, and a stream silt survey was conducted on the CO claims during 1981. All chemical analyses were done by the Cominco Ltd. Exploration Research Laboratory, 1486 East Pender Street, Vancouver. Samples were sieved in the lab to -80 mesh. Copper, lead, zinc and silver analyses were done using 20% hot HNO₃ digestion followed by atomic absorption spectroscopy. Gold analyses were done using Aqua Regia digestion, solvent extraction and atomic absorption.

B. Tulsequah Chief

Soil sampling at the Tulsequah Chief was conducted on the cut grid between June 30 and July 10, 1981. A 25 meter spacing was used whenever possible, but in some locations samples could not be obtained (see Map 5). Samples were taken at an average depth of 10 inches, and in many locations the only obtainable material was the A₁ soil horizon. In total 110 soil samples were taken from this area.

Interpretation

The results of this survey, shown on Map 5, are in ppm (except Au in ppb) and indicate some irregularly scattered anomalous samples. Clearly defined anomalies do not seem to occur. This may result from the generally poor nature of the soil with regards to exploration geochemistry. Some anomalous values may also be the result of contaminations from ore spills, etc., during the operating life of the mine. In any case, no conclusive results can be derived from the data.

C. CO Claims

Stream silt samples were collected from 13 locations within claims CO-1, CO-2 and CO-3. These samples were analysed in the manner outlined above, for copper, lead, zinc, silver and gold. Sample locations and analytical results are shown on Map 6 (values in ppm, except Au in ppb).

Interpretation

None of the samples obtained were deemed to be anomalous. The average values were: Cu, 44 ppm; Pb, 5.7 ppm; Zn, 71 ppm; Ag, 0.4 ppm; and Au, 12 ppb. The "flat" nature of the results cannot be attributed to poor sample quality as in general the streams contained abundant silty material, and no other outside factors can be blamed for the results. The obvious interpretation of these results is that the streams sampled do not drain areas containing significant mineralization.

D. Big Bull

Soil sampling was conducted on the cut grid immediately north of the Big Bull grid between July 22 and July 29, 1981. Samples were obtained from a depth of about 8 inches using a 25m station spacing. Here, as at the Tulsequah Chief, the lack of obtainable B horizon made sampling of the A₁ necessary.

Interpretation

The results for the soil geochemical survey are shown on Map 7. Values are in ppm except for Au in ppb. Of the 171 samples from the Big Bull analysed, only 1 was anomalously high. This may be due to the nature of the soil in this area. However, a better response in the same type of soil was obtained at the Tulsequah Chief. One must interpret therefore that the area covered by the survey does not overlie any near-surface mineralization.

VI. CONCLUSIONS

During 1981, the author and two assistants conducted geological and geochemical surveys in 3 parts of Cominco Ltd.'s Tulsequah properties. Geologic mapping at the Tulsequah Chief Mine, (Pat, Birds and Ross claims, combined with the Tulsequah Bonanza, Tulsequah Bald Eagle, Tulsequah Chief, River fraction and Elva fractions crown grants), resulted in the subdivision of 5 lithologic units. Very limited structural data was obtained at this location due to the massive nature of the rocks and limited outcrop. A soil geochemical survey on the same area gave some scattered anomalous values in Cu, Pb, Zn and Ag. These are believed

to result from known sub-surface ore and surface contamination during the working life of the Tulsequah Chief Mine.

Reconnaissance mapping, prospecting and silt sampling on claims CO-1, CO-2, CO-3 and CO-5 did not locate any outcropping mineralization or streams with anomalous Cu, Pb, Zn, Ag or Au. This area was found to comprise mainly andesitic flows with 2 or 3 rhyolitic outcrops.

Geologic mapping immediately north of the Big Bull mine (Big Bull, Bull No. 1, Bull No. 5, Bull No. 6 crown grants, and Bull No. 4 claim) resulted in the subdivision of 4 lithologic units. Again, due to the massive nature of the rocks, local structure could not be determined. New, significant mineralization was not found. Soil sampling in the same location resulted in 1 of 171 samples being anomalous.

It is believed as a result of 1981 field work that new mineralization at the Tulsequah Chief and Big Bull mines is unlikely to be found by surface geochemistry and prospecting. It is therefore recommended that in order to look for more ore in these locations, deep penetrating geophysical methods or diamond drilling be used.

Report by: J. Paul Sorbara
J.P. Sorbara, Geologist

Endorsed by: J.A. Collins
for J.D. Gill, Assistant Manager

Approved for
Release by: J.A. Collins
for G. Harden, Manager
Exploration
Western District

JPS/skg
Distribution
Mining Recorder (2)
Western District (1)
JPS (1)

APPENDIX I

STATEMENT OF EXPENDITURES

Salaries

J.P. Sorbara, 67 days @ \$161.04	\$ 10,789.00
J.D. Weir, 67 days @ \$105.60	7,075.00
P.L. Armstrong, 67 days @ \$ 93.28	6,249.00

Report Writing

J.P. Sorbara 5 days @ \$161.04	805.00
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Expense Accounts

(Sorbara, Weir, Armstrong)	2,522.00
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<u>Mobilization</u> (rotary & fixed wing)	9,420.00
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<u>Service Flights</u> (rotary wing)	10,845.00
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<u>Topographic Map Preparation</u>	6,690.00
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<u>Communications</u> (incl. rental of SBX-11 radio)	1,438.00
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<u>Linecutting</u> (15.6 km @ 200./km plus 715. expenses)	3,835.00
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<u>Camp Equipment</u> (7,863 x 40%)	3,145.00
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<u>Food & Fuel</u> (183 man days in camp x 25.28/day)	4,627.00
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Geochemistry

281 soil samples @ 7.75	2,177.75
13 silt samples @ 7.75	100.75
38 thin sections @ 6.50	247.00
227 slabs @ 1.50	175.50
Sample bags, boxes, etc.	<u>185.00</u>

TOTAL:	\$70,326.00
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Less \$410. reported on CO-2 in Aug./81 =	<u>\$69,916.00</u>
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APPENDIX II

IN THE MATTER OF THE B.C. MINERAL ACT AND
IN THE MATTER OF A GEOLOGICAL AND GEOCHEMICAL
PROGRAM CARRIED OUT ON THE
Pat, Birds, Ross, Big Bull No. 4, CO-1,
CO-2, CO-3, CO-4, CO-5 MINERAL CLAIMS

AND

CROWN GRANTS: Big Bull, Big Bull No. 6, Big Bull No. 5, Big Bull No. 1, Jean, Hugh,
Tulsequah Chief, Tulsequah Bonanza, Tulsequah Bald Eagle,
Tulsequah Elva Fr., River Fraction
LOCATED IN THE ATLIN MINING DISTRICT
OF THE PROVINCE OF BRITISH COLUMBIA
MORE PARTICULARLY NTS: 104K/112E

A F F I D A V I T

I, JAMES PAUL SORBARA, OF THE CITY OF NORTH VANCOUVER IN THE PROVINCE OF BRITISH COLUMBIA, MAKE OATH AND SAY:-

1. THAT I am employed as a geologist by Cominco Ltd., and as such have a personal knowledge of the facts to which I hereinafter depose;
2. THAT annexed hereto and marked as Appendix I to this my affidavit is a true copy of expenditures for geological mapping on the above mentioned mineral claims and crown grants;
3. THAT the said expenditures were incurred between June 1, 1981 and August 6, 1981, for the purpose of mineral exploration on the above noted claims and crown grants.

Signed: J. Paul Sorbara
J.P. Sorbara, Geologist.

30 November 1981

APPENDIX III

STATEMENT OF QUALIFICATIONS

I, J. PAUL SORBARA, OF THE CITY OF NORTH VANCOUVER, IN THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY:-

1. THAT I am a geologist residing at 1209-2012 Fullerton Avenue, North Vancouver, British Columbia, with a business address at 409 Granville Street, Vancouver, British Columbia.
2. THAT I graduated with a B.Sc. in geology from the University of Toronto, Toronto, Ontario in 1976, and with a M.Sc. in geology from the University of Toronto in 1979.
3. THAT I have practised geology with Cominco Ltd. from 1979 to 1981.

Signed: J. Paul Sorbara
J.P. Sorbara, M.Sc.

30 November 1981

APPENDIX IV

Complete Soil Sample Data From Tulsequah Chief

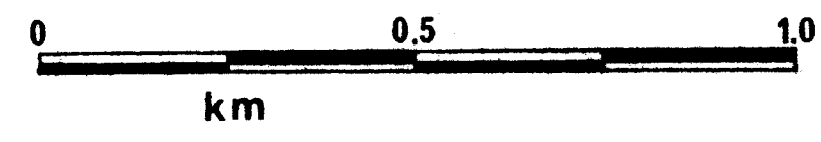
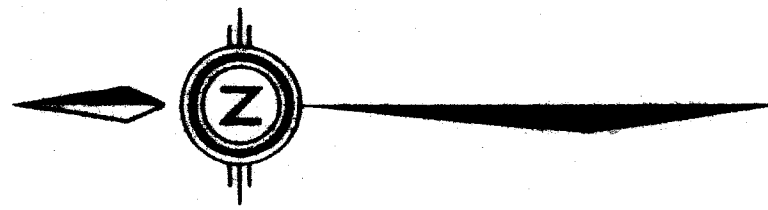
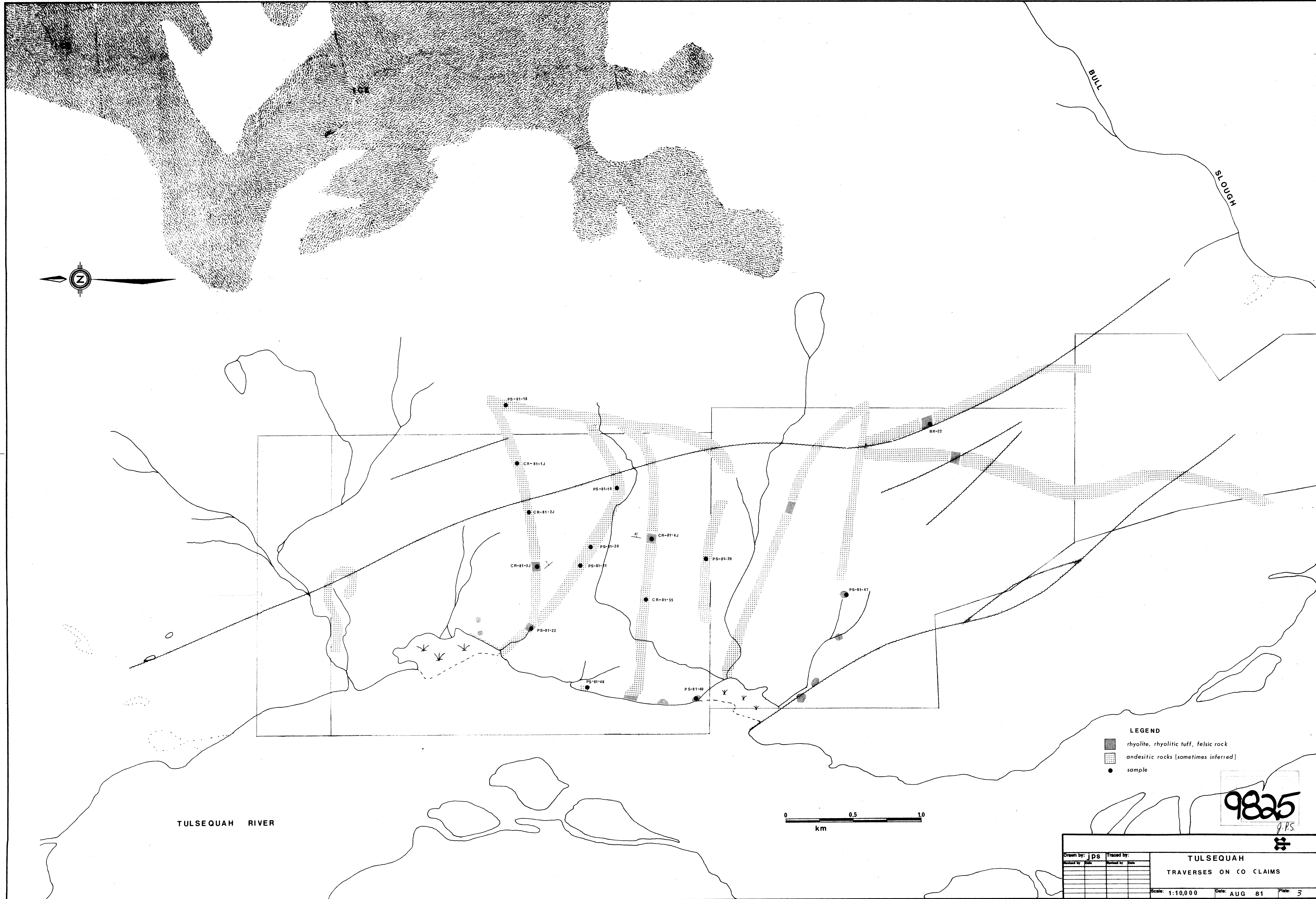
<u>Sample</u>	<u>Cu(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>	<u>Ag(ppm)</u>	<u>Au(ppb)</u>
PA-1	103	6	119	.4	10
PA-2	29	4	113	.4	20
PA-3	31	4	28	.4	20
PA-4	48	4	81	.4	10
PA-5	1	4	4	.4	10
PA-6	9	5	32	.4	10
PA-7	1	4	3	.4	10
PA-8	2	4	16	.4	10
PA-9	4	4	33	.4	20
PA-10	3	4	19	.4	20
PA-11	1	4	7	.4	10
PA-12	9	12	11	.5	10
PA-13	1	4	3	.4	10
PA-14	1	4	3	.4	10
PA-15	236	148	1470	.4	20
PA-16	4	5	22	.4	20
PA-17	41	21	118	.6	20
PA-18	4	4	103	.9	10
PA-19	3	4	9	.4	10
PA-20	7	6	81	1.1	20
PA-21	4150	8270	750	19	40
PA-22	199	117	974	2.3	20
PA-23	1110	4410	430	44.6	150
PA-24	68	93	60	2.2	10
PA-25	24	46	18	1.3	50
PA-26	8	9	6	.4	10
PA-27	43	30	162	.4	10
PA-28	30	42	219	2.2	20
PA-29	8300	643	1630	2.2	20
PA-30	136	147	193	.4	20
PA-31	49	5	36	.4	10
PA-32	31	6	28	.4	20
PA-33	57	4	26	.4	20
PA-34	19	4	31	.4	20
PA-35	18	4	22	.4	20
PA-36	22	5	75	.4	20
PA-37	16	4	80	.4	50
PA-38	33	4	20	.7	10
PA-39	60	4	62	.4	10
PA-40	28	4	32	.4	20
PA-41	29	4	81	.4	20
PA-42	10	4	150	.4	20
PA-43	11	4	145	2.3	50
PA-44	12	4	67	.4	20
PA-45	8	4	123	.4	20
PA-46	35	10	38	.4	20

2.

<u>Sample</u>	<u>Cu(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>	<u>Ag(ppm)</u>	<u>Au(ppb)</u>
PA-47	5	4	5	.4	10
PA-48	9	4	30	.4	20
PA-49	10	13	16	.4	10
PA-50	9	4	27	.4	10
PA-51	5580	2780	1610	2.6	20
PA-52	55	17	38	.4	10
PA-53	30	4	21	.4	20
PA-54	35	4	15	.4	20
PA-55	21	4	26	.5	20
PA-56	37	4	37	6.4	20
PA-57	70	4	75	.4	20
PA-58	40	5	72	.4	20
PA-59	65	8	180	.4	20
PA-60	4	8	36	.8	20
PA-61	20	8	28	.8	50
PA-62	6	8	36	.8	20
PA-63	70	10	66	.8	20
PA-64	1880	476	4500	.8	20
PA-65	24	8	228	.8	20
PA-66	19	10	25	.4	10
PA-67	33	5	80	.7	20
PA-68	6	8	14	.8	20
PA-69	24	8	14	.8	20
PA-70	12	8	14	.8	20
PA-71	4	8	22	.8	20
PA-72	48	7	125	.4	10
PA-73	274	118	2290	2.2	10
PA-74	5	5	32	.4	10
PA-75	14	16	30	13.8	10
PA-76	8	150	9	1.9	10
PA-77	6	8	30	4.4	20
PA-78	4	8	16	3.0	20
PA-79	8	7	16	.4	20
PA-80	18	8	16	1.8	20
PA-81	4	8	34	.8	20
PA-82	2	8	18	.4	20
PA-83	6	8	38	.8	20
PA-84	8	8	48	.8	20
PA-85	8	8	22	.8	50
PA-86	10	8	46	.8	--
PA-87	13	5	16	.5	20
PA-88	6	8	30	.8	20
PA-89	120	10	258	.8	20
PA-90	8	8	78	.8	50
PA-91	1	4	4	.4	10
PA-92	4	8	26	.8	20
PA-93	6	8	34	.8	50
PA-94	16	8	28	.8	50
PA-95	12	8	22	.8	50
PA-96	24	8	38	.8	20
PA-97	41	14	65	.5	20
PA-98	36	30	254	1.8	20

3.

<u>Sample</u>	<u>Cu(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>	<u>Ag(ppm)</u>	<u>Au(ppb)</u>
PA-99	50	10	46	.8	20
PA-100	14	8	46	.8	--
PA-101	32	8	68	.8	10
PA-102	12	8	34	.8	--
PA-103	6	8	24	.8	20
PA-104	7	4	13	.4	10
PA-105	10	8	22	.8	10
PA-106	6	8	28	.8	--
PA-107	8	8	10	.8	20
PA-108	8	4	15	.4	10
PA-109	5	4	10	.4	10



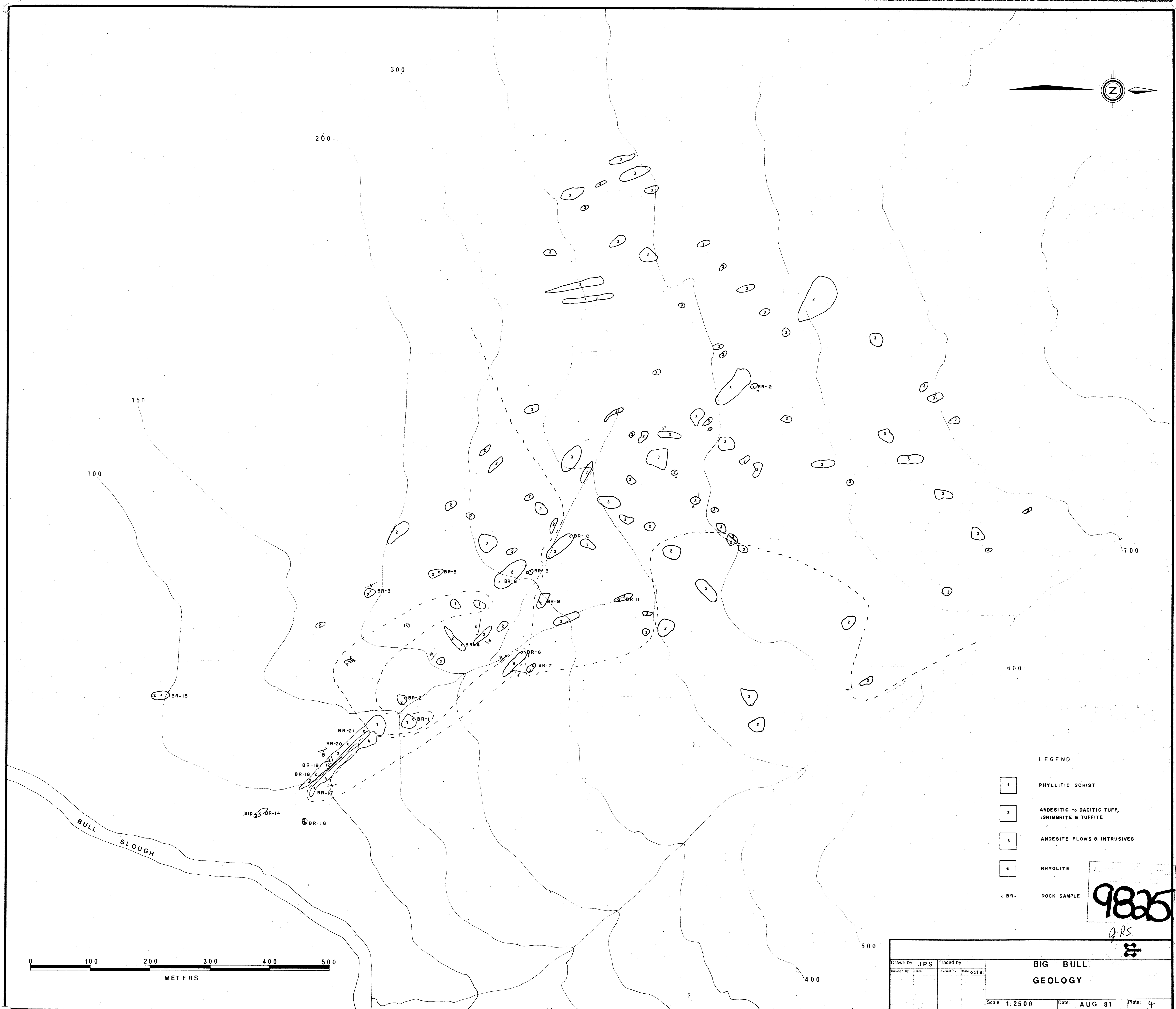
- LEGEND**
- rhyolite, rhyolitic tuff, felsic rock
 - andesitic rocks [sometimes inferred]
 - sample

9825

J.P.S.

TULSEQUAH RIVER

Drawn by: JDS		Traced by:		TULSEQUAH	
Checked by:	Date:	Checked by:	Date:	TRAVERSES ON CO CLAIMS	
				Scale: 1:10,000 Date: AUG 81 Plate: 3	



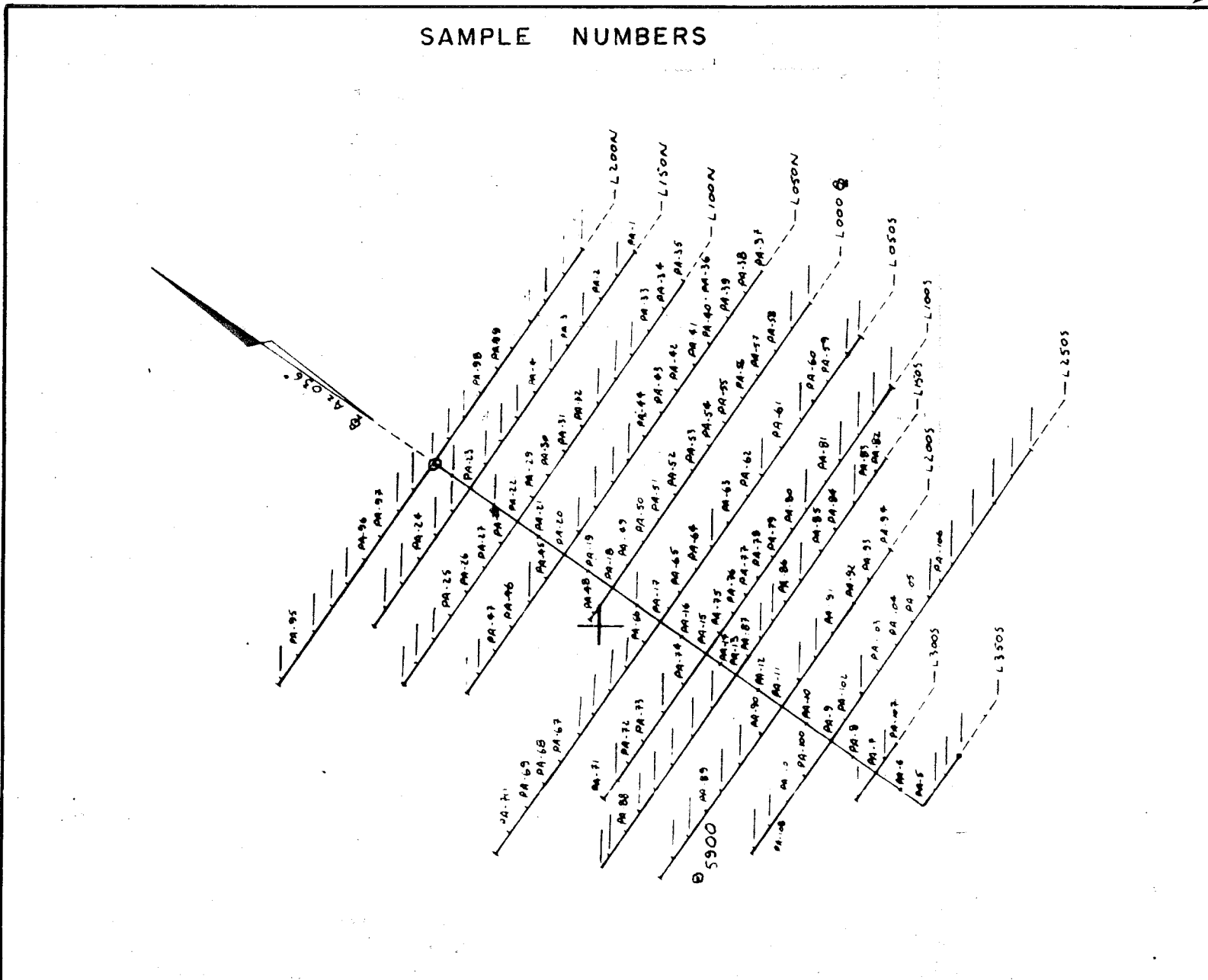
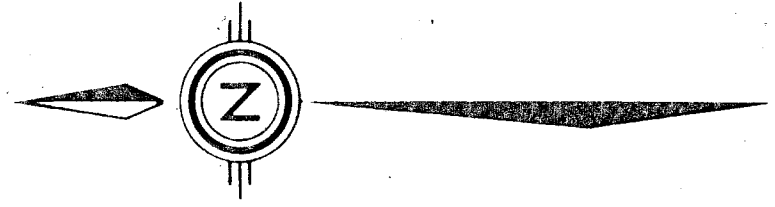
LEGEND

- 1 PHYLITIC SCHIST
- 2 ANDESITIC to DACITIC TUFF, IGNIMBRITE & TUFFITE
- 3 ANDESITE FLOWS & INTRUSIVES
- 4 RHYOLITE
- x BR- ROCK SAMPLE

9825
G.P.S.



Drawn by: JPS	Traced by:	BIG BULL GEOLOGY
Revised by: Date	Revised by: Date OCT 81	
Scale: 1:2500		Date: AUG 81
		Plate: 4

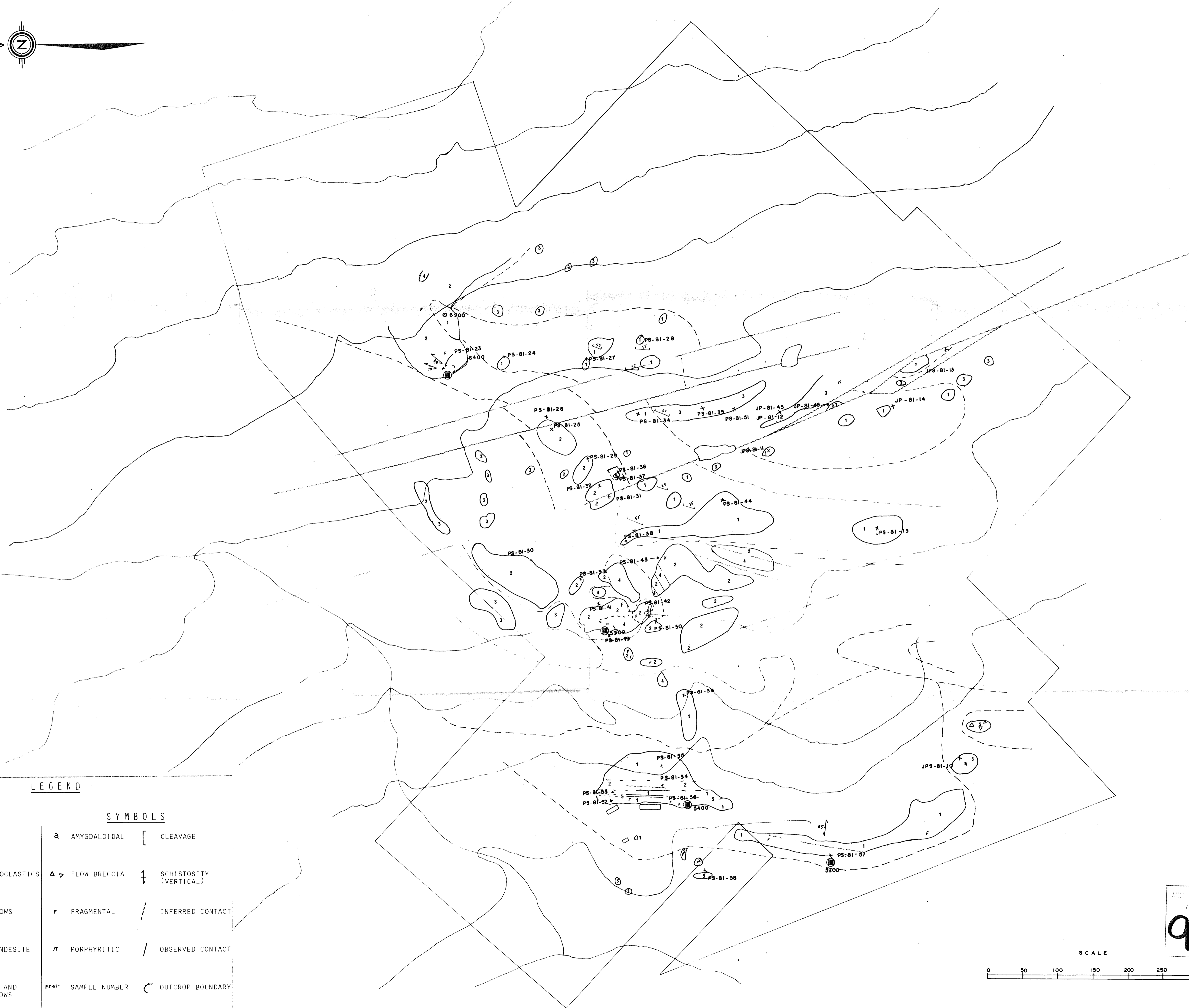
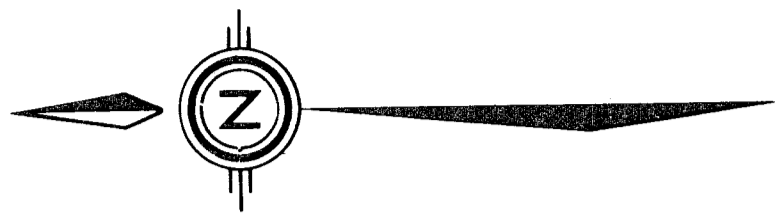


- LEGEND**
- ◇ SOIL SAMPLE SITE
 - ◆ Cu Pb Zn
SOIL SAMPLE HIGH
Ag Au
 - PORTAL

9825

J.P.S.

Drawn by: J.P.S.		Traced by:		TULSEQUAH CHIEF	
Reviewed by:	Date:	Reviewed by:	Date:		
Scale: 1:2500				Date: AUGUST 81	
				Plate: 5	



LEGEND

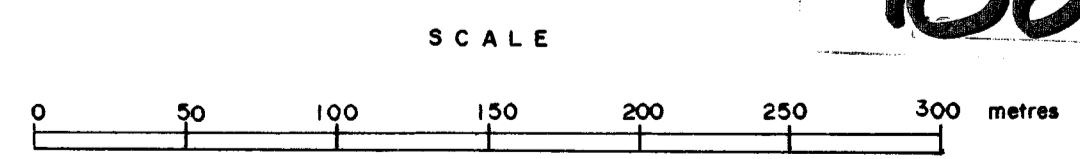
LITHOLOGY

- 1 RHYOLITE
- 2 DACITIC PYROCLASTICS
- 3 ANDESITE FLOWS
- 4 INTRUSIVE ANDESITE
- 5 BASIC DIKES AND BASALTIC FLOWS

SYMBOLS

- a AMYGDALOIDAL
- Δ ▽ FLOW BRECCIA
- F FRAGMENTAL
- π PORPHYRITIC
- PS-81* SAMPLE NUMBER
- [CLEAVAGE
- ⊥ SCHISTOSITY (VERTICAL)
- - - INFERRED CONTACT
- / OBSERVED CONTACT
- ⌒ OUTCROP BOUNDARY
- { FAULT

9825



J.P.S.

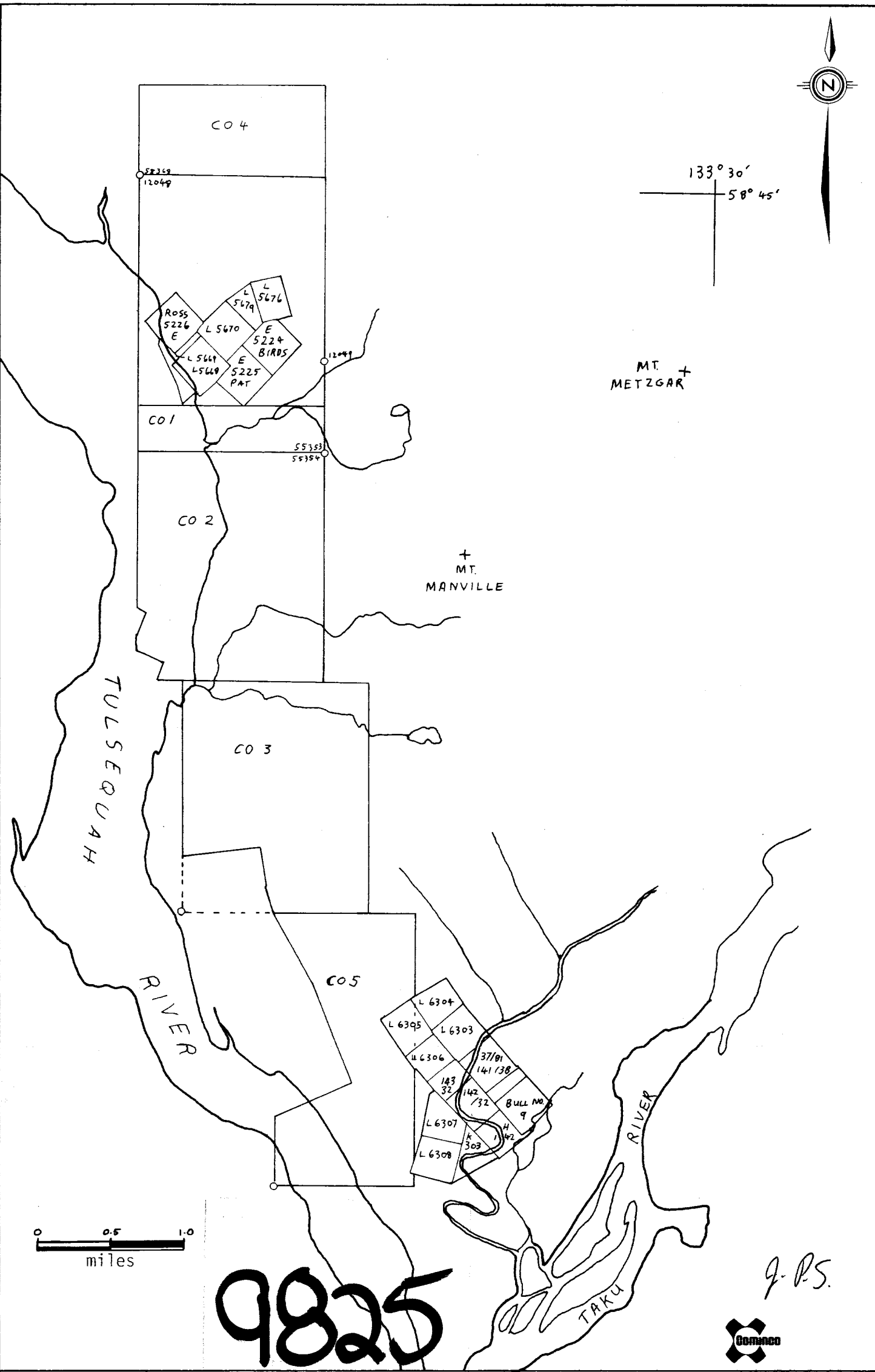
TULSEQUAH			
TULSEQUAH CHIEF			
GEOLOGY			
Drawn by:	Traced by:	Scale: 1:2500	Plate: 2
Revised by:	Revised by:	Date:	Date:



133° 30'
58° 45'

MT +
METZGAR

+
MT
MANVILLE



0 0.5 1.0
miles

9825

J. P.S.



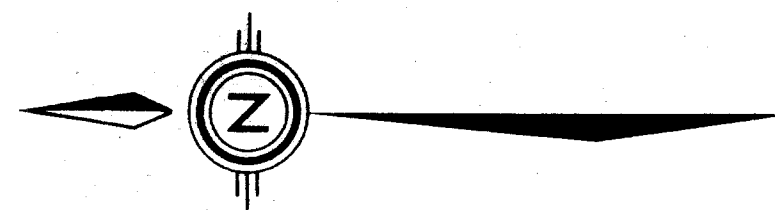
Drawn by:		Traced by:		TULSEQUAH Index and Claim Location (From Minerals Titles Reference Map 104K/12E)			
Revised by	Date	Revised by	Date				
				Scale: 1:50,000		Date: November 1981	
						Plate: 1	

ICE

ICE

BULL

SLOUGH



CO-1

CO-2

CO-3

CO-5

45 4 54
0.4 10

47 4 76
0.4 10

28 5 72
0.4 20

30 4 76
0.4 20

50 10 59
0.4 20

34 4 71
0.4 10

22 4 43
0.4 10

33 4 85
0.4 10

47 11 112
0.4 10

48 14 111
0.4 40

29 4 53
0.4 10

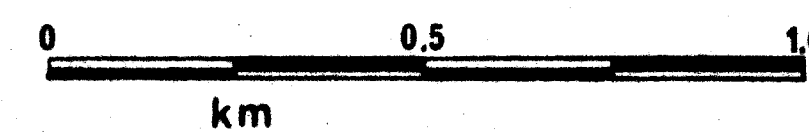
37 4 73
0.4 10

35 4 43
0.4 10

LEGEND

Cu Pb Zn
sample *
Ag Au

TULSEQUAH RIVER



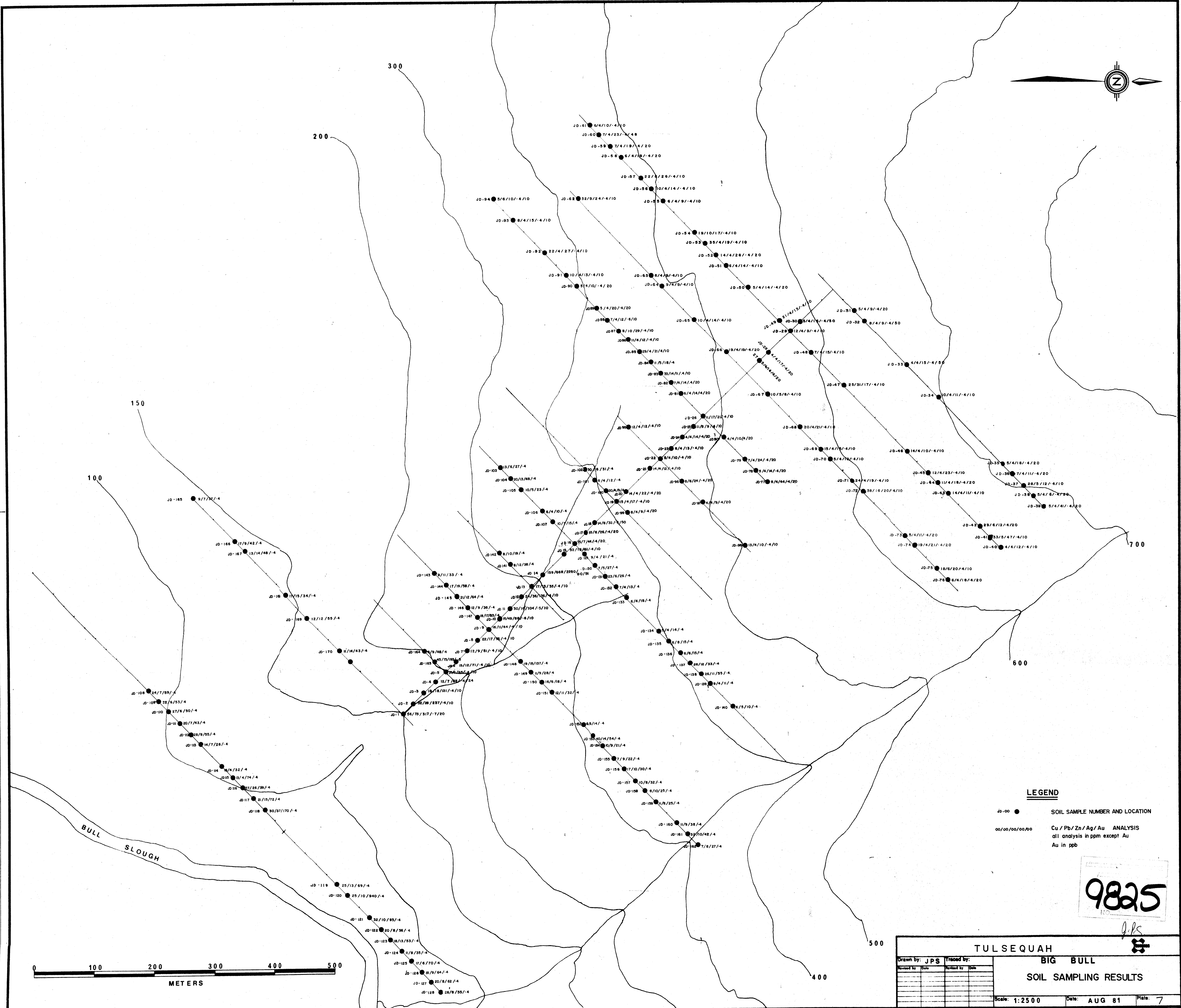
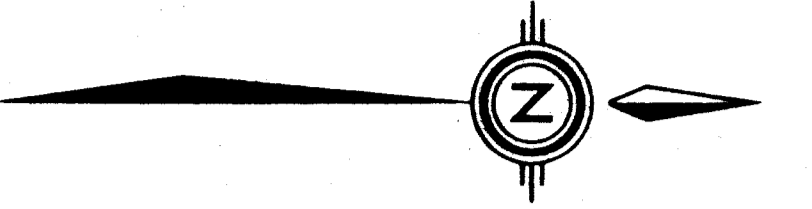
9825

J.P.S.
[Signature]

Drawn by:	DS	Checked by:	
Revised by:		Revised by:	

CO CLAIMS
SILT SAMPLING RESULTS

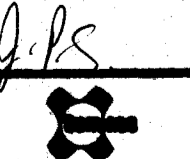
Scale 1:2500 Date AUG 81 Plate 6



LEGEND

- JD-00 ● SOIL SAMPLE NUMBER AND LOCATION
- 00/00/00/00/00 Cu / Pb / Zn / Ag / Au ANALYSIS
all analysis in ppm except Au
Au in ppb

9825



TULSEQUAH

BIG BULL

SOIL SAMPLING RESULTS

Drawn by: JPS	Traced by:
Checked by:	Date:
Reviewed by:	Date:

Scale: 1:2500 Date: AUG 81 Plate: 7