5547

REPORT ON THE

GEOLOGY, ROCK GEOCHEMISTRY & GEOPHYSICS (I.P.)

OF SIWASH CLAIM GROUP

92H/16W

SIMALKAMEEN MINING DIVISION
BRITISH COLUMBIA

N.T.S. 92 H/16
49° 50' N Latitude,
120° 20' E Longitude

BY: F. R. GATCHALIAN, SENIOR GEOLOGIST
AND
K. WITHERLY, GEOPHYSICIST

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FIGURE & PLATE IDENTIFICATION

INTRODUCTION

PROPERTY SIWASH (1-4) CLAIMS

CLAIM STATUS

The Siwash Claim group is owned by Don Agur of Summerland, British Columbia.

Of the original 28 claims, Siwash Nos. 1-18, 21-28, 31-32 and Siwash fraction 1, only four claims (Siwash 1-4) are in good standing.

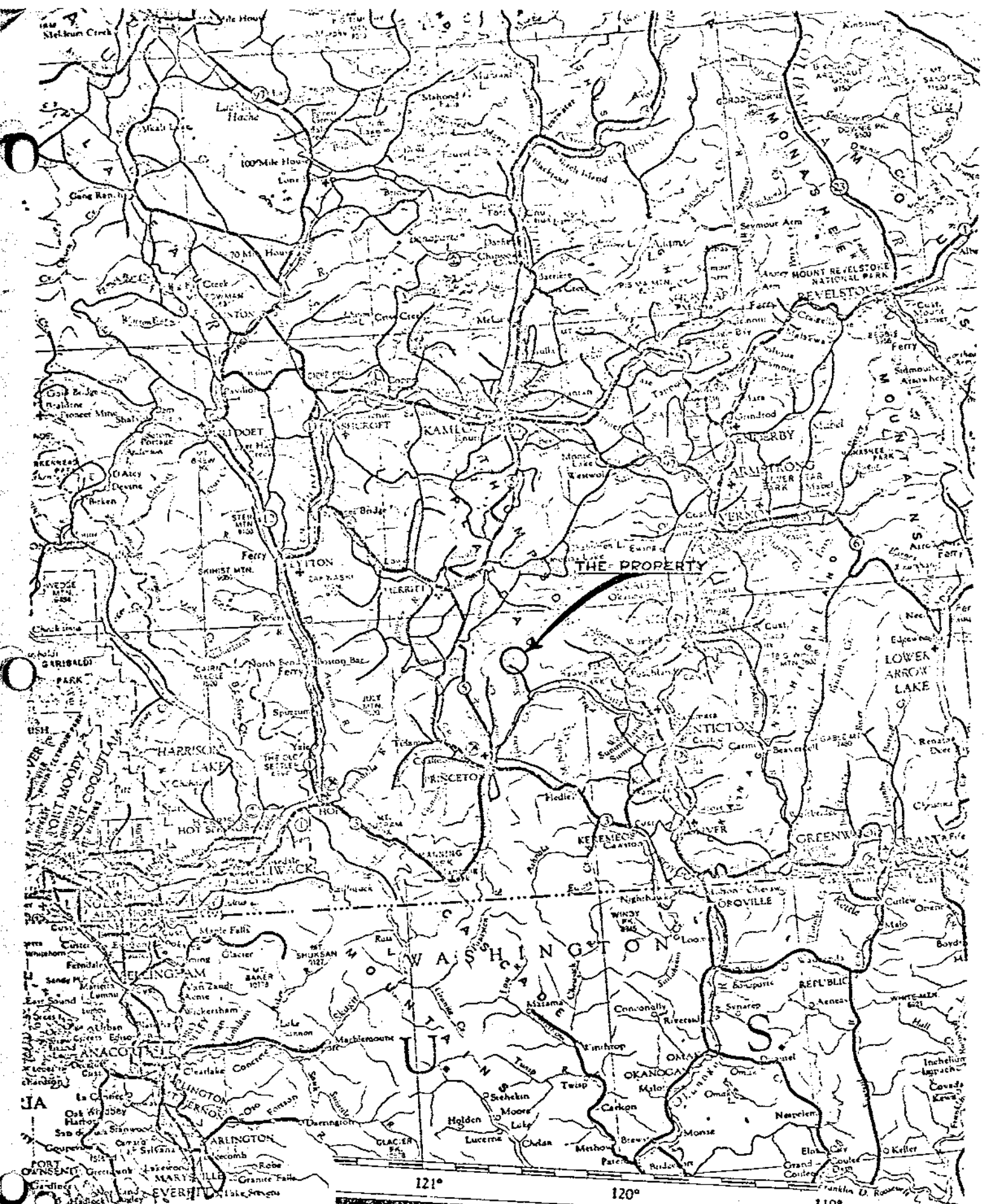
Record numbers of these claims are:-

Siwash #1-2	33820-33821
Siwash #3	36011
Siwash #4	33823

LOCATION AND ACCESS (Figure 1)

The property is located 30 air-miles north-northeast of Princeton, B.C., near the headwaters of Siwash Creek, Latitude 49° 50' N and Longitude 120° 20' W, N.T.S. 92 H/16.

The property can be reached by car via Princeton-Summerland road, a distance of 30 miles from Princeton to Forest Service Road junction at Teepee Lake and then 15 miles from Forest Service road junction following upstream the Siwash Creek to the property. The last 5 miles of road to the property is negotiable only by 4-wheel drive vehicle.

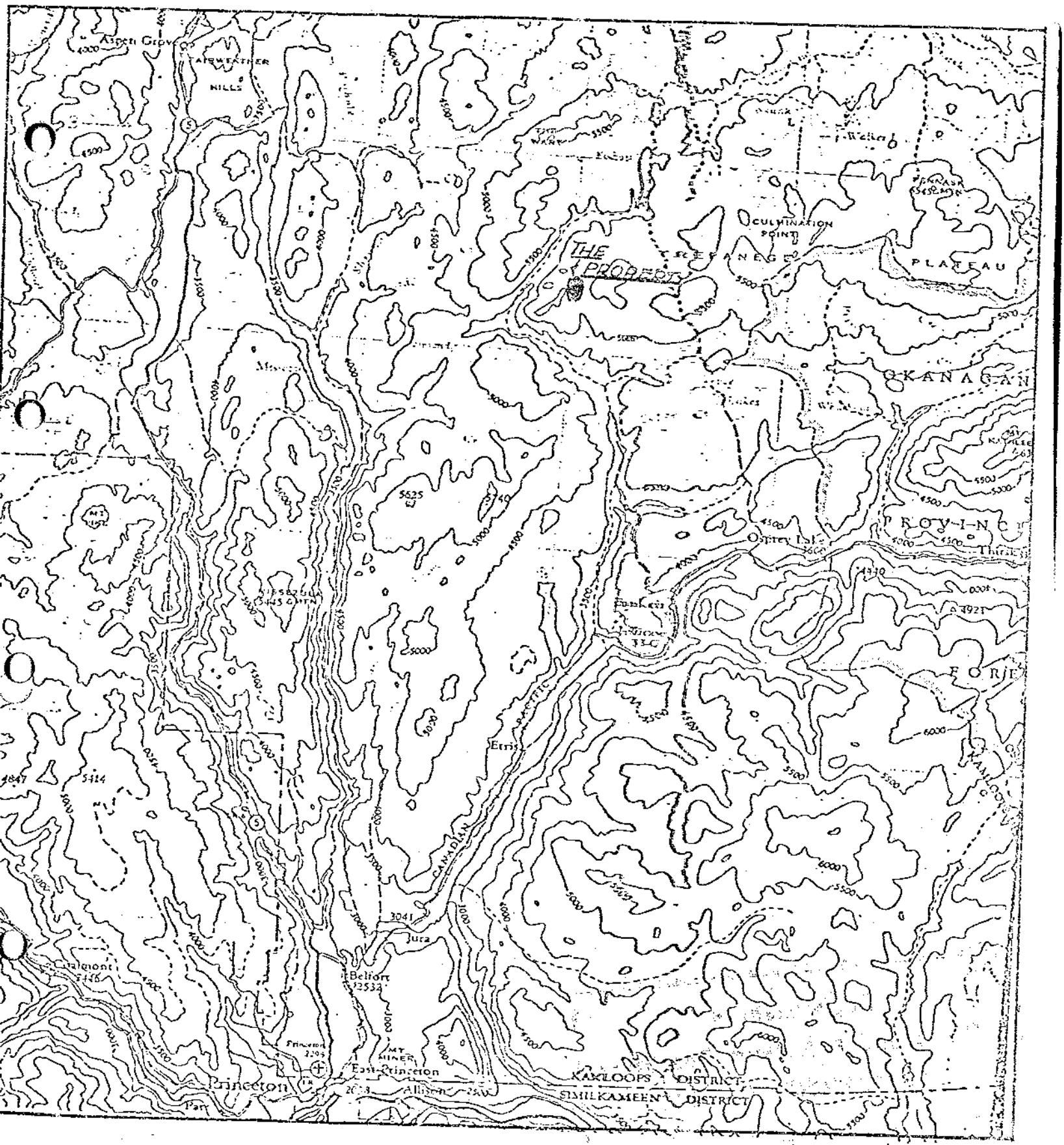


SEE ASSESSMENT REPORT #4077 FOR LOCATION ON SAME PROPERTY.

INDEX MAP SIWASH CLAIM GROUP

Fig. 1

5547 MAP 1



INDEX MAP

SIWASH CLAIM GROUP

fig. 1A

SCALE : 1": 250,000

SEE ASSESSMENT REPORT
A 4077
ALSO

5547
MAP 2

TOPOGRAPHY AND VEGETATION

The property covers an area of subdued rolling hills, with an elevation of 500 feet to 1,000 feet. The ground slopes gradually to the north so that drainage flows and joins a larger creek (Hayes Creek) to the south.

Tree growth is moderate. Alder and willows are present in the low areas, around Siwash Creek, while spruce, jackpine, larch and arbor vitae are scattered at the higher elevation of the property.

HISTORY

H.M.A. Rice, 1960 G.S.C. Memoir No. 243, has described the early history of the general area. Since the publication of this Memoir, several mining companies and individuals did at least initial geological investigation of most, if not all, of the reported mineral occurrences in the general area. The most recent work done, particularly in the Siwash claim area includes the following:

1) Prospecting by Don Agur in the area since 1968 which has encouraged him to stake the original Rob claim group. After two (2) years, the property was allowed to lapse.
2) In February, 1971, Agur restaked the property under the name of Snow and Siwash Claim Groups and since then a yearly clearing of the access road, some bulldozer trenchings and minor soil sampling has been done.
3) Between 10th June and 15th August, 1972, Phelps Dodge Corporation of Canada Ltd. conducted geological, geochemical and geophysical (magnetic) surveys on the property. This work was part of a pre-option agreement between Phelps Dodge and Agur. For some unknown reason, however, option of the property was not taken.

FIELD WORK

GENERAL

Between 27th July and 3rd August, 1974, Utah Mines Ltd. investigated the Siwash claim group. During this period, the following work was completed.

1) Geological mapping of the property covering an area of roughly 0.61 by 10.4 miles (1.0 Km by 16.8 Km).
2) Eighty-one (81) rock samples were collected and analyzed for copper and molybdenum.
3) Channel sampling of the two (2) showings; four (4) from showing #1 and ten from showing #2.
4) Induced Polarization survey; on fourteen (14) lines totalling approximately 6.8 line miles (11.0 Km).

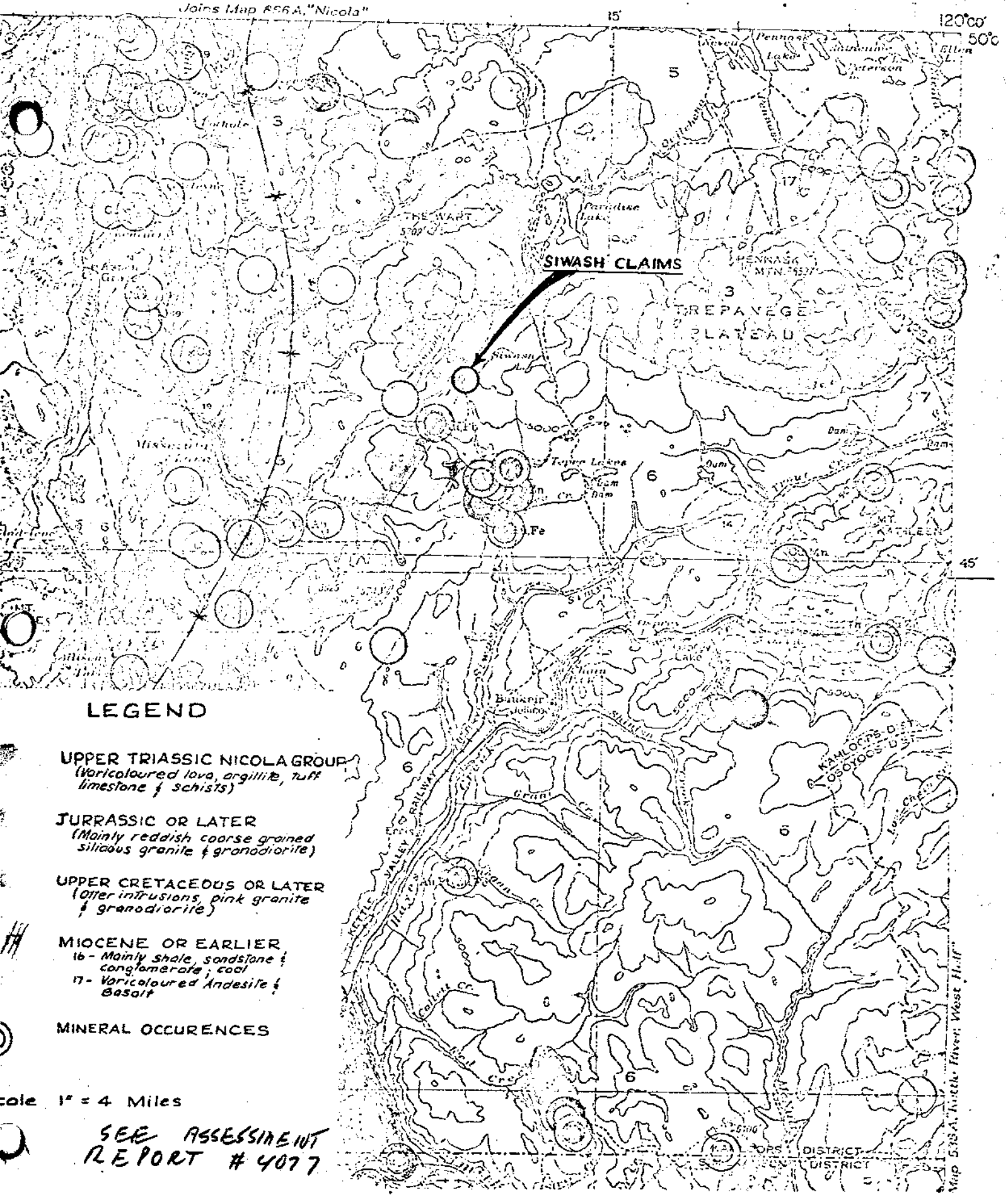
NOTE: Control used on these surveys was the pre-existing grid made by Phelps Dodge in 1973. This grid consists of fourteen (14) parallel lines oriented east to west and spaced at 400 feet apart with stations marked every 200 feet on each line.

REGIONAL GEOLOGY

Figure 2, a map reproduced from the Geology of Princeton map area by Rice, depicts the regional geology of the general area.

One important feature in the general area is the density of mineral occurrences appears favouring the Mezozoic rocks, particularly the Nicola Group (3) and the two (2) intrusive bodies (Otter (14) and the Coast Intrusions (6)).

The Nicola Group is the oldest rock in the region. They are primarily flows, tuffs, minor argillite, limestone and schist. Where these rocks are found intruded by, and or nearby an



LEGEND

UPPER TRIASSIC NICOLA GROUP
(Varicoloured lava, argillite, tuff limestone & schists)

JURRASSIC OR LATER
(Mainly reddish coarse grained siliceous granite & granodiorite)

UPPER CRETACEOUS OR LATER
(Offer intrusions, pink granite & granodiorite)

MIOCENE OR EARLIER
16 - Mainly shale, sandstone & conglomerate; coal
17 - Varicoloured Andesite & Basalt

MINERAL OCCURENCES

cale 1" = 4 Miles

SEE ASSESSMENT REPORT # 4077

FIGURE 2, REGIONAL GEOLOGY
SIWASH CLAIM GROUP

After: Rice 1950

5547
MAP 3

intrusive bodies they are metasomatized and locally mineralized.

The Coast Range intrusions which intrudes the Nicola are light coloured, coarse grained, silicious rocks. They are characterized by grey, red and white granodiorites, but in this area the red granodiorites are more common. Although prophyllitic type alterations and local pyritization in the Coast Range are present, they are largely regional and or deuteric origin.

The Coast Range intrusions has been cut by two small bodies of the so-called Otter intrusion. Rock types of the Otter are very similar to the Coast Range being also granitic and granodioritic. The principal mineral of a typical Otter are pink white orthoclase or microdine, white plagioclase and biotite. Quartz is present, but scarse, that the rock look like a syenite. Similarly, the Otter intrusions are altered to a certain degree, with local hydrothermal alteration accompanied by metallization (copper, lead and zink).

The above briefly described Mesozoic rocks are overlain, with angular discordance, by two units of Tertiary rocks, a sedimentary unit and a volcanic unit. The sedimentary unit consists of shale sandstone and conglomurate and; the volcanic unit is mainly basaltic and andesitic lava. These rocks which may be more extensive than what is indicated are, however, considered poor for mineral potential.

Structurally the general area has been only mildly deformed. Obvious deformation is restricted near the margin of the intrusive rocks. The intrusives are also, locally, fractured and faulted. Bedding of the Nicola rocks although rare indicate a fold structure. West of the region a north-south trending syncline axis is present.

LOCAL GEOLOGY

Geological map of the Siwash property, as shown in Figure 3, illustrates rock distribution, their extent, and their lithological descriptions.

The most common and oldest appearing rocks on the property are the Nicola rocks. Basically, the rocks are largely volcanic in origin and consists of four varieties. They are megascopically described as follows:-

1) ANDESITE/OR DIORITIC ANDESITE: Medium-fine grained texture, medium-dark grey colour, generally magnetic ranging about 5-10% Fe_3O_4, usually with calcite veinlets, matrix may or may not be limy, and contains between 1-2% euhedral augite and hornblende phenocryst. Sulfide content range from nil to 2%; Chalcopyrite is present locally.

2) ANDESITE TUFF/OR MICRO-PORPHYRITIC ANDESITE: Grainy medium grained texture, dark grey to greenish grey colour, with volcanic fragments up to 5 mm, it may or may not be porphyritic with (1-5%) hornblende phenos, slightly magnetic (2% Fe_3O_4), and slightly limy matrix. Sulfide from nil to less than 1%. No chalcopyrite is found.

3) PORPHYRITIC ANDESITE: Porphyritic texture, grey - light grey colour, phenocryst from 20-30% of largely augite and hornblende, and little amount of lath-like feldspar, in grey aphanatic ground mass. Specks of chalcopyrite are present in places. Sulfide are generally poor.

4) FRAGMENTAL OR VOLCANIC BRECCIA: Fragmental texture rock with angular fragments from 2 inches up to 6 inches of largely volcanics (andesite) and some sub-rounded calcite. They are welded on limy, or reddish-brownish (hematitic) matrix.

Flourite fragments are present in small amounts. Rock is non-magnetic and is void of sulfide mineralization.

The relationship of the above volcanic rocks are not known, but in places, contacts are gradational.

Three types of intrusive rocks are mapped at Siwash property. These include diorite, monzonite and syenite of probably phases of the Jurassic Coast Range Intrusion.

The diorite phase which is the bulk of the intrusion, intrudes sharply the Nicola volcanics. Lithologically, the diorites are light to medium grey in colour and medium grained and leucocratic to mesocratic. Mafic minerals (e.g. hornblende, angite & biotite) range from nil to 20%; the rock is generally magnetic, with 5-20% Fe_3O_4; and is limy in places. Pyrite and chalcopyrite is locally present.

The monzonite occurs as dykes which intrude both the volcanics and the diorite. It shows a very sharp contact with minor brecciation indicating a forceful emplacement. The dykes are characterized by a pinkish to greyish colour, are non-magnetic and show a slightly porphyritic texture with feldspar, hornblende and augite phenocrysts. Pyrite and chalcopyrite is locally present.

The syenite or feldspar porphyry phase consists of non porphyritic to porphyritic rocks. It occurs as a narrow dyke body found to intrude only the diorite. Pinkish shades with

occasional K-spar phenocyrsts, medium grained and leucratic is the typical rock type. Pyrite is locally present.

The felsitic rock is characterized by light grey, aphanitic to slightly or porphyritic rock. It outcrops mainly near the margin of the intrusives southeast of the property and is believed to be the chilled margin of the intrusives. This is an indication that the country rock was fairly cold during the implacement of the intrusives. The felsitic rock is barren.

In the Siwash property there does not appear to be any major structural trend. Dykes trends align with the country rock fracture pattern and are either NE-SW, or NW trends and usually with a steep or vertical dip. Shear zones located northwest of the property bear northwest and east-west and do not indicate major displacement. Some of these fractures are important to the localization of copper mineralization.

ALTERATION AND MINERALIZATION

Prophyllitic type alteration, such as chloritization of mafics and carbonitization of feldspar; in both volcanics and the intrusives, is universal. The pinkish cast in the monzonite and syenite is thought possibly to be potash alteration, although maybe indigenous K-spar in the rock. A limited area of albitization of the feldspars is found mainly in the volcanics along the volcanic-diorite contact. At showing #2 there is an example of this type of alteration. The formation of skarn minerals consisting of epidote, garnet, chlorite and actinolite is restricted to the contacts as it was found in showing #1.

These alterations are hydrothermal and believed related to intrusive activity in the area. Alteration, in general, is weak and of limited size but it was accompanied by significant copper mineralization.

Two copper showings, shown in Figures 3, 4 & 5, show the exposed extent of mineralized outcrops and assays.

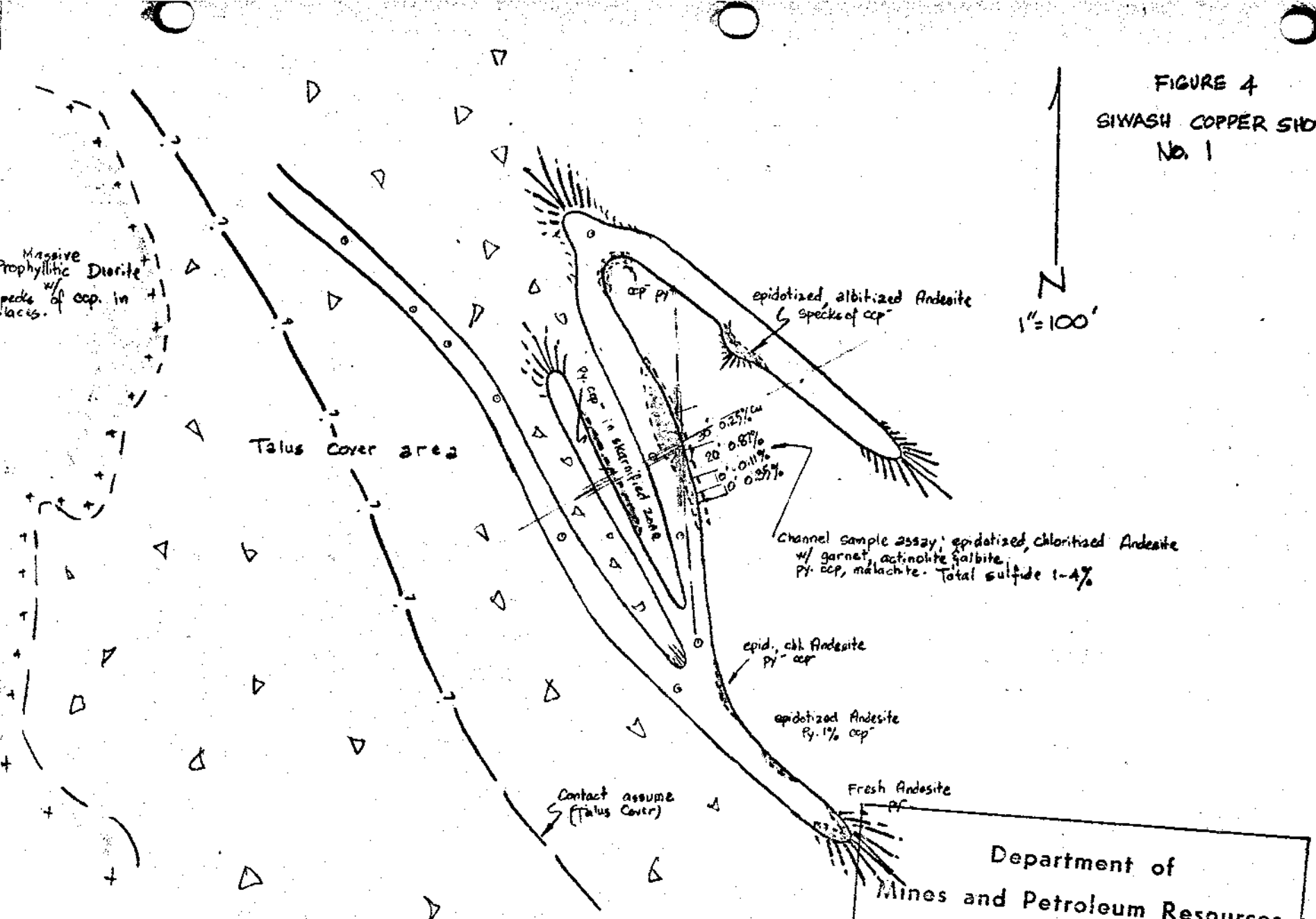
Showing #1, Figure 4, is mineralized mainly with chalcopyrite and malachite in skarnified andesite. It would appear that the locus of the mineralization is several intersecting shear zones that could have some relation to the nearby talus cover diorite contact. The mineralization in the showings includes chalcopyrite as pods, veinlets and dissemination, and malachite as stains and floodings on fractures. A 70 foot channel sample on a bulldozer cut gave an average grade 0.42% copper. Average total sulfides in outcrop in about 4%.

Showing #2, Figure 5, is mineralized primarily with chalcopyrite in an albitized, slightly silicified andesite. This mineralization is believed to be related to the diorite located north of the showing. There is also a pinkish monzonite which has intruded the pre-existing shear in the volcanic. This intrusion has produced hybridization and minor brecciation near the intrusive margin. The dyke shows signs of potash alteration, some pyritization and has minor amounts of chalcopyrite. In the shear zone there is, however, a black layer of manganiferous gouge containing grounded sulfide suggesting that the shearing is post mineral. From the assay plan a 70 foot bulldozer

FIGURE 4

SIWASH COPPER SHOWING

No. 1



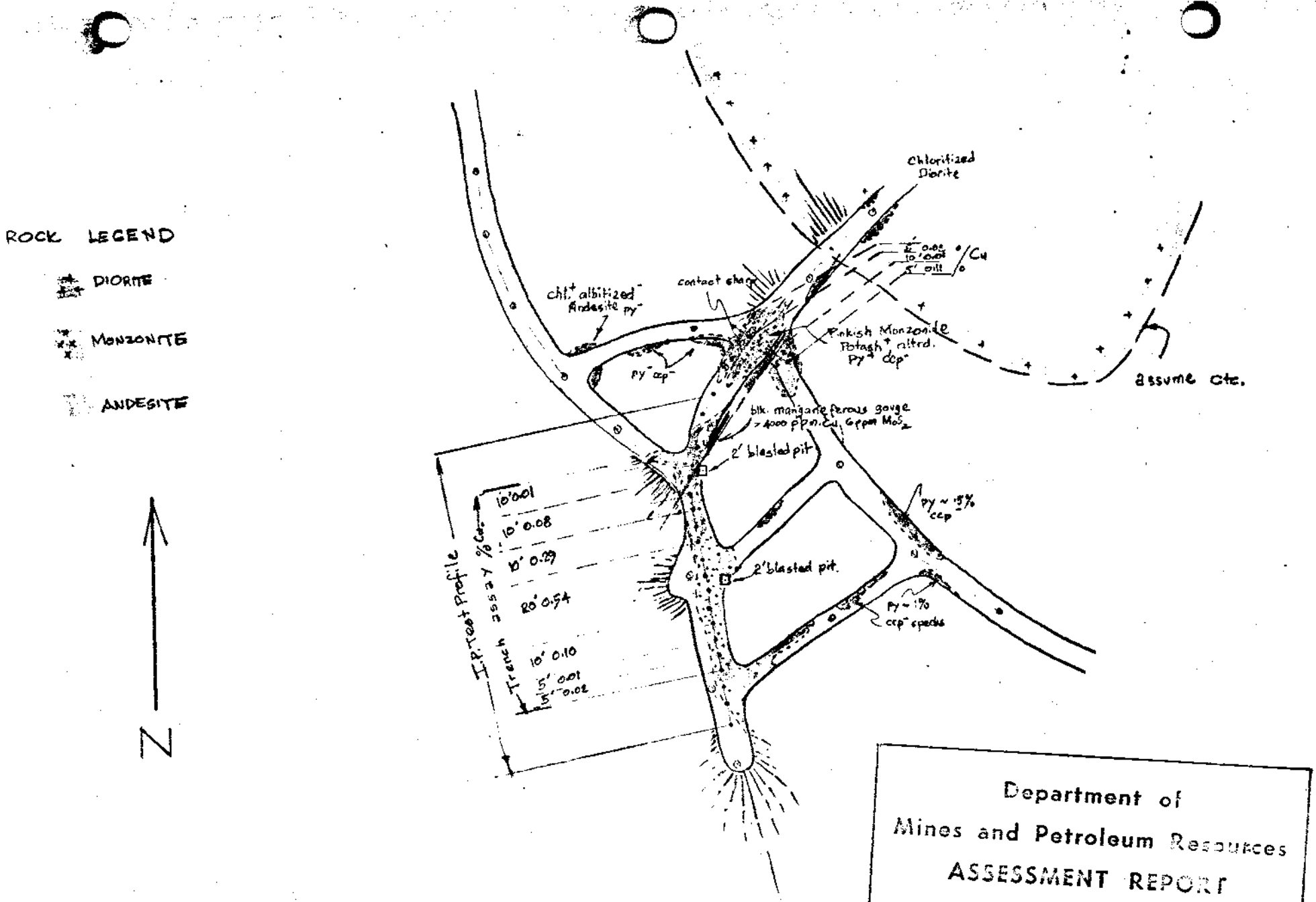


FIGURE 5

TRENCH 2 SIWASH COPPER SHOWING

1"=40'

cut assays ranging from .01% to 0.54% copper is indicated. The best 30 feet section averaged 0.43% Cu., and in the one foot black gouge zone yielded more than 0.40% copper and 6 ppm MoS_2. The nature of chalcopyrite mineralization in this exposure is primarily dissemination and more rarely in veinlets. The total sulfide content is generally low but where present, chalcopyrite is the main constituent.

Several other mineralized outcrops of less significance are located on the property. South of showing #1, a few specks of impregnated chalcopyrite are found in a weakly chloritized diorite. Another minor showing is found in the northern part of the property in a sheared andesite; here small amounts of chalcopyrite is restricted in the shear zone.

In general, the total sulfide abundance on the property is low (1%), but locally may exceed 4% total sulfide.

ROCK GEOCHEMISTRY

A total of 81 rock chips samples were collected on various outcrops over the property. These were analyzed for total copper and molybdenum in units of parts per million (ppm). Of the 81 samples, 30 samples are intrusive rocks and 50 samples are volcanics rocks.

METHOD OF ANALYSIS (SEE APPENDIX C)

RESULTS:

A range of values between 13 ppm to more than 4000 feet ppm

copper and less than 1 ppm to 13 ppm moly is indicated. In general, it appears that the same samples with the higher copper values also show higher molybdenum values. In the volcanic rocks, the copper content varied from 22 ppm to more than 4000 feet ppm copper. A background of roughly 150 ppm copper is estimated. This is compared to the very low background of about 50 ppm copper in the intrusive rocks. Above these the values are possibly anomalous.

A plot of the sample site with the corresponding values and outcrop geology is shown in Figure 6. Despite a few erratic data points, the copper values were roughly contoured so that areas of probably anomalous could be isolated. From this, two possible anomalous areas greater than 150 ppm copper are indicated. One anomaly in part, corresponds to the showing #1 and is about 600 feet wide, at least 1500 feet long and is open to the northwest end. The second possible anomaly is in part coincident with the showing #2. It is about 500 feet wide, at least 2400 feet long and is open to the northeast end. These two anomalies also coincide over the diorite margin.

I.P. SURVEY

METHOD OF SURVEY (SEE APPENDIX D)

I.P. RESULTS ON GRID SURVEY (PLATES 7 TO 10)

The I.P. results show a range of chargeability values between

1 to 20 milliseconds, with a background of about 4 milliseconds.

Anomalous readings are considered as 2.5 times background or above 10 milliseconds. The apparent resistivity varies from several hundred ohm feet to over 6,000 ohm feet. The mean of both the n=1 and n=3 results is about 1,300 ohm feet.

The chargeability results for n=1 show four small anomalies located in the southern half of the grid. The anomalies form roughly a circular pattern with a center at approximately 10.5 W on 18S. The largest of the group is centered at about 2W on 17.5S. This anomaly is approximately circular in shape with a diameter of about 550 feet. The other three anomalies consist of two readings or less and are irregular in shape. The overall grain of chargeability pattern is NW-SE, although the western edges of lines 24S to 4S show a moderate rise in chargeability as is indicated by following the 8 millisecond contour.

The n=3 chargeability pattern shows a large twin peaked anomaly running up the central portion of the grid. The anomaly is about 2,300 feet long (between lines 6S to 4N) and 900 feet wide (centered on approximately 6.5W). The anomaly has a rough L shape to it, with the top being closed off while the bottom jog to east is open. The centers of both the peaks inside the anomaly are large negatives, indicating the possibility that faults are associated with the greater amounts of mineralization.

The resistivity results for both n=1 and n=3 show a gradual

increase in resistivity moving easterly across the grid. On both separations as well, the 1,000 ohm foot contour roughly corresponds to the eastern edge of the n=3 chargeability anomaly. This means that over the chargeability anomaly itself, resistivity values are generally lower than average.

TEST PROFILE IN TRENCH #2 (PLATE 11)

Since outcrop was either at or very near surface in the trench, a very short dipole separation was used for the electrode spread. The range in chargeability values is almost the same as it is for the grid survey, varying from 0.5 to 14 milliseconds. Resistivity values show somewhat less of a variation, ranging from 220 ohm feet to just over 1700 ohm feet. The profile shows only one anomalous hump, lying at the north end of the trench. This anomaly reaches 14 milliseconds and has a half width of 14 feet. The resistivity shows a saw-tooth pattern for the first 20 feet at the south end of the trench, then makes a gradual rise in resistivity moving to the north.

CONCLUSIONS

Geological, rock geochemical, and induced polarization surveys conducted at Siwash property gave favourable results. The Nicola rocks, particularly the albitized andesite unit, are anomalous geologically, geochemically and geophysically. The intrusive rocks, although only locally altered and sparsely mineralized gave a weak geochemical and geophysical response

obviously because of weak sulfide surface mineralization, but geophysical evidence indicated improvements at depth.

Florencio Gatchalian,
Senior Geologist.

Ken E. Witherly,
Geophysicist.

APPENDIX A

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

The field work for this report was done either by or under the direction of the persons whose qualifications are listed below:-

1) F.GATCHALIAN

Senior Geologist for Utah Mines Ltd., Vancouver, British Columbia.

Completed a B.A. in geology at Adamson University, Manila, Philippines, 1959; worked as a field geologist for American Asiatic Oil Corp., Philippines, 1959 to 1963; geologist, in charge Base Metal Exploration for Elizalde Ycia (Samar Mining)1963 to 1968, Philippines; employed as a senior geologist, Utah Construction & Mining (now Utah Mines Ltd.) 1968 to the present under the supervision of E.S. Rugg, P.Eng., and M.J. Young, P.Eng.

2) K. WITHERLY

Geophysicist for Utah Mines Ltd., Vancouver, British Columbia.

Completed B.Sc., (Geophysics) at the University of British Columbia in 1971; employed by Utah Mines Ltd., and Tri-Con Exploration Surveys during 1969 and 1970 summer field seasons respectively as a geophysicist's assistant; employed by Utah Mines Ltd., from May 1971 to date as a geophysicist under the supervision of E.S.Rugg, P.Eng., and M.J.Young, P.Eng.

3) TED WATCHUK

Geologist Assistant. A third year summer student enrolled at the University of British Columbia. Was instructed and supervised by Utah personnel as to how to map and what samples were to be taken.

APPENDIX B

STATEMENT OF COST

STATEMENT OF COSTS

SIWASH CLAIMS

SALARIES

F. Gatchalian	9 days at $48.00 per day	$ 432.00	
T. Watchuk	9 days at $27.00 per day	243.00	
K. Witherly	4 days at $37.50 per day	150.00	
K. Roxburgh	9 days at $35.00 per day	315.00	
G. Clouthier	9 days at $21.00 per day	189.00	
J. Pratt	9 days at $19.00 per day	171.00	
J. Opre	9 days at $19.00 per day	171.00	
Ken Orleski	4 days at $39.50 per day	158.00	$1,829.00

VEHICLE RENTALS (PLUS OIL & GAS) COSTS

One (1) 1973 Suburban 4x4 from July 27 to August 3, 1974.
9 days at $10.00 per day $90.00

One (1) Jeep Wagoneer 4x4 from July 31 to August 3, 1974.
4 days at $6.25 per day 25.00

One (1) 1973 Jimmy 4x4 from July 27 to August 3, 1974.
9 days at $9.00 per day 81.00

One (1) 1972 Chev. 4x4 from July 23 to July 26, 1974.
4 days at $14.00 per day 56.00 $252.00

CAMP COSTS - Food at $12.00 a day per man.

F. Gatchalian	9 days at $12.00 per day	$108.00	
K. Witherly	4 days at $12.00 per day	58.00	
T. Watchuk	9 days at $12.00 per day	108.00	
K. Roxburgh	9 days at $12.00 per day	108.00	
K. Orleski	4 days at $12.00 per day	58.00	
G. Clouthier	9 days at $12.00 per day	108.00	
J. Pratt	9 days at $12.00 per day	108.00	
J. Opre	9 days at $12.00 per day	108.00	$764.00

MISC. (HARDWARE, FREIGHT, PROPANE, TELEPHONE, EXPENSE ACCOUNTS).....$350.00

ASSAY COSTS

Chemex Labs:

81 rock samples geochemically analyzed for Cu, & Mo @ $3.00 per sample $243.00

14 rock samples assayed for Cu, Mo & Au @ 9.75 per sample 136.50

I.P.EQUIPMENT COSTS

(Transmitter, Motor Generator, Receiver, F.M. Walkie-Talkies)
From July 27 to August 3, 1974.
8 days at $46.00 per day $368.00

REPORT & MAP PREPARATION 300.00

TOTAL COST $4,242.50

APPENDIX C

METHOD USED AND ASSAY & GEOCHEMICAL DATA

SIWASH - DATA ON ANALYSIS

Number of Rock Samples Analyzed Geochemically (Cu. & Mo) 81

Number of Rock Samples Assayed (Cu-Mo-Au) 14

ANALYTICAL LAB: Chemex Labs.Ltd.
212 Brooksbank Avenue
North Vancouver, B.C.

ROCK GEOCHEMISTRY

Element Analyzed	Cu.	Mo.
Mesh Size	150	150
Amount (Wt.) of Material	1/2 Gram	1/2 Gram
Reagents	3 ml. 70% $HCLO_4$	3 ml. 70% $HCLO_4$
	2 ml.Cons.HNO_3	2 ml.Cons.HNO_3
Method of Analysis	Atomic Absorption	Atomic Absorption

ROCK ASSAY

Elements Analyzed	Cu.	Mo.	Au.
Mesh Size	150	150	150
Amount (Wt.) Material Analyzed	2 Grams	2 Grams	10 Grams
Regeants	(5 ml.) 70% $HCLO_4$	(5 ml.) 70% $HCLO_4$	Aqua Regia
	Cons. (3 ml.) HNO_3	Cons.(3 ml.) HNO_3	Cons.75% $HCLO_4$ Cons.25% HNO_3
Method of Analysis	Atomic Absorption	Atomic Absorption	Atomic Absorption

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA
TELEPHONE: 985-0648
AREA CODE; 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

CERTIFICATE NO. 23171

TO: Utah Mines Ltd.,
#412 - 510 W. Hastings
Vancouver 2, B.C.

INVOICE NO. 12091

RECEIVED Aug 8/74

ATTN:

ANALYSED Aug 12/74

SAMPLE NO. :	% Cu		% Mo	oz/ton Au
44053 - [illegible]	0.35		0.001	0.003
44054 - [illegible]	0.11	<	0.001	0.003
44055 - [illegible]	0.87		0.001	0.015
44056 - [illegible]	0.25		0.001	0.003
44057 - [illegible]	0.02	<	0.001	0.003
44058 - [illegible]	0.01	<	0.001	0.003
44059 - [illegible]	0.10	<	0.001	0.003
44060 - [illegible]	0.54		0.001	0.003
44061 - [illegible]	0.29	<	0.001	0.003
44062 - [illegible]	0.08	<	0.001	0.003
44063 - [illegible]	0.01	<	0.001	0.003
44064 - [illegible]	0.01	<	0.001	0.003
44065 - [illegible]	0.11		0.001	0.008
44066 - [illegible]	0.02	<	0.001	0.003

RECEIVED AUG 13 1974

CTA MEMBER CANADIAN TESTING ASSOCIATION

REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 27939
INVOICE NO. 12118
RECEIVED Aug. 8/74
ANALYSED Aug. 13/74

TO: Utah Mines Ltd.,
#412 - 510 W. Hastings St.,
Vancouver, B. C.

ATTN:

SAMPLE NO.		PPM Copper	PPM Molybdenum	Rock Geochem
29/7	16	20	< 1	
	17	66	4	
	18	62	6	
	19	156	6	
	20	144	1	
	21	30	2	
	22	175	5	
	23	48	< 1	
	24	16	< 1	
	25	161	< 1	
29/7	26	800	4	
30/7	1	102	1	
	2	13	< 1	
	3	108	< 1	
	4	180	4	
	5	126	3	
	6	186	5	
	7	209	5	
	8	60	3	
	9	114	2	
	10	175	3	
	11	34	1	
	12	154	2	
	13	26	1	
	14	46	4	
	15	22	< 1	
	16	21	< 1	
30/7	17	28	1	
31/7	1	134	5	
	2	134	3	
	3	84	5	
	4	42	2	
	5	62	5	
	6	90	3	
	7	128	6	
	8	156	3	
31/7	9	146	2	
1/8	1	157	5	
	2	63	1	
1/8	3	197	7	
Std.		72	26	

RECEIVED AUG 14 1974

90 Rpts

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: A P Sheffer

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

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ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 27938
INVOICE NO. 12118
RECEIVED Aug. 8/74
ANALYSED Aug. 13/74

TO: Utah Mines Ltd.,
#412 - 510 W. Hastings St.,
Vancouver, B. C.

ATTN:

SAMPLE NO. :		PPM Copper	PPM Molybdenum	Rock Geochem
28/7	1	54	5	
	2	215	4	
	3	86	3	
	4	86	4	
	5	66	< 1	
	6	118	7	
	7	22	4	
	8	21	2	
	9	44	2	
	10	40	1	
	11	197	5	
	12	26	1	
	13	26	1	
	14	21	1	
	15	28	2	
	16	128	6	
	17	118	3	
	18	144	4	
	19	51	3	
	20	148	3	
	21	38	3	
	22	30	2	
	23	157	7	
	24	120	7	
28/7	25	38	2	
29/7	1	86	4	
	2	52	< 1	
	3	> 4000	13	
	4	106	3	
	5	191	2	
	6	38	1	
	7	22	< 1	
	8	44	2	
	9	88	2	
	10	38	3	
	11	21	1	
	12	20	< 1	
	13	31	5	
	14	323	5	
29/7	15	186	6	
	Std.	74	25	

RECEIVED AUG 14 1974

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: A. Chipley

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 27678
INVOICE NO. 11915
RECEIVED July 23/74
ANALYSED July 25/74

TO: Utah Mines Ltd.,
#412 - 510 W. Hastings St.,
Vancouver 2, B.C.

ATTN: Mr. F. Gatchalian

SAMPLE NO. :	PPM Copper	PPM Molybdenum
R 28	63	< 1
29	52	< 1
30	33	< 1
31	63	< 1
32	62	< 1
33	42	1
34 Read ch.	70	< 1
35	56	1
36	24	< 1
37	16	< 1
38	20	1
39	40	< 1
40	24	1
41	41	1
42	40	< 1
43	30	< 1
44	16	1
45	72	2
R 46	41	< 1
#2 Showing Black Layer	> 4000	6 ← magnetic Siwash #2 Show
Std.	70	25

RECEIVED JUL 25 1974

CERTIFIED BY: B. Leaitaite

CTA MEMBER CANADIAN TESTING ASSOCIATION

APPENDIX D

METHOD USED ON I.P. SURVEY

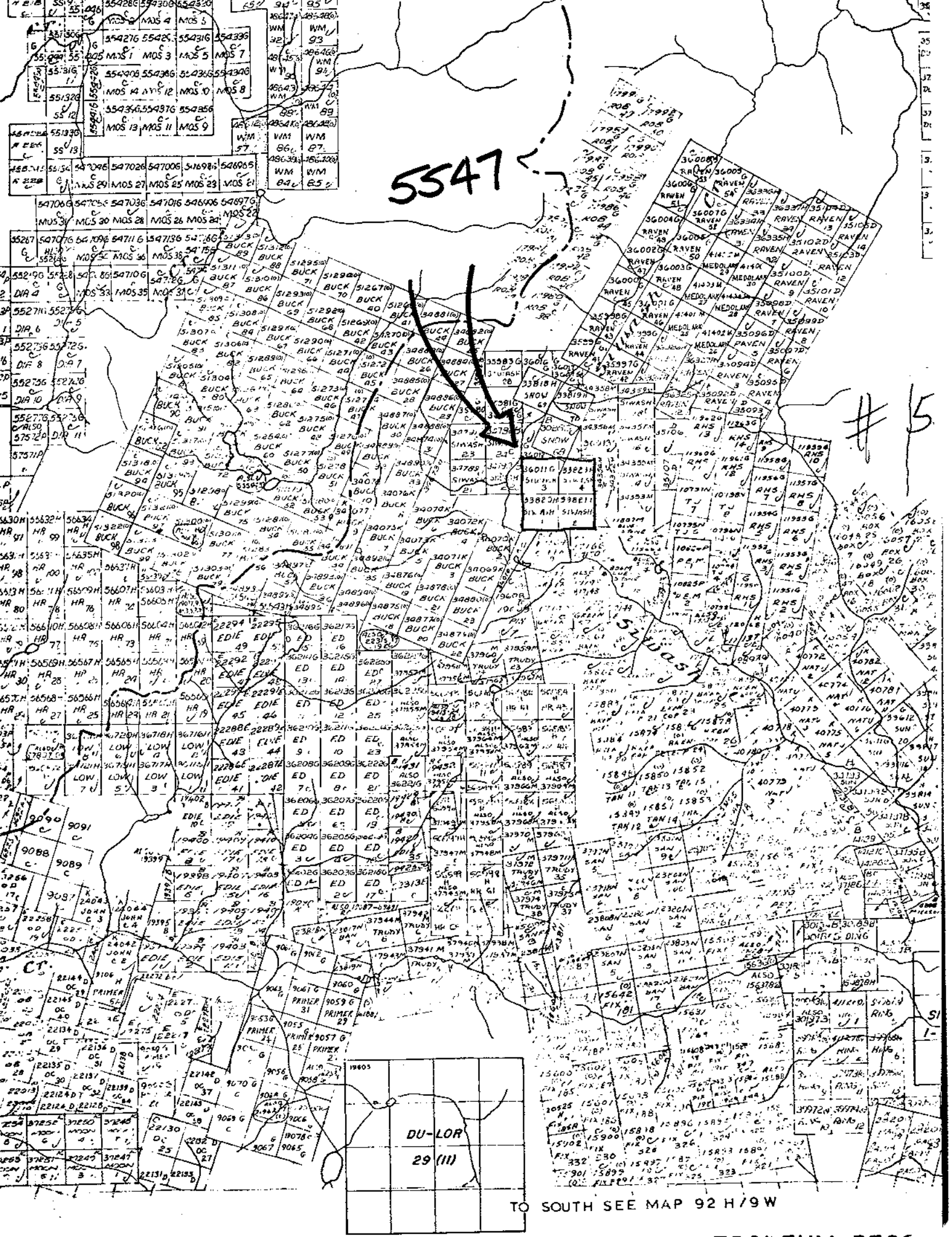
SIWASH CREEK

I.P. SURVEY

METHOD

The I.P. Survey was carried out in the time-domain using a Scintrex IPR-7 Receiver and an Elliot 1.5 kw pulse transmitter. For the grid lines, the pole dipole array was used with a dipole length of a=200' and with readings being taken at n=1 and n=3 separations. For the test profile run across the lower showing, a dipole-dipole array was used with a a=5' and a n=1 configuration.

For the surveying of the picket lines, the I.P. receiver was carried along the lines while the transmitter and its power supply, a 5 hp Briggs & Straton-gas generator, remained in the truck on the road. The road runs the length of the grid nearly perpendicular to most of the grid and thereby provides easy access to the lines. The transmitter puts out alternating positive and negative voltage pulses of two (2) second duration with a two (2) second off period between pulses. The unit convention used is that one chargeability reading is the sum of the integration of one positive pulse and one negative pulse. The apparent chargeability so obtained is measured in milliseconds. The apparent resistivity also measured in the course of the survey and is measured in ohm-feet. The n=1 and n=3 data is presented on four (4) plan maps. (see enclosed).

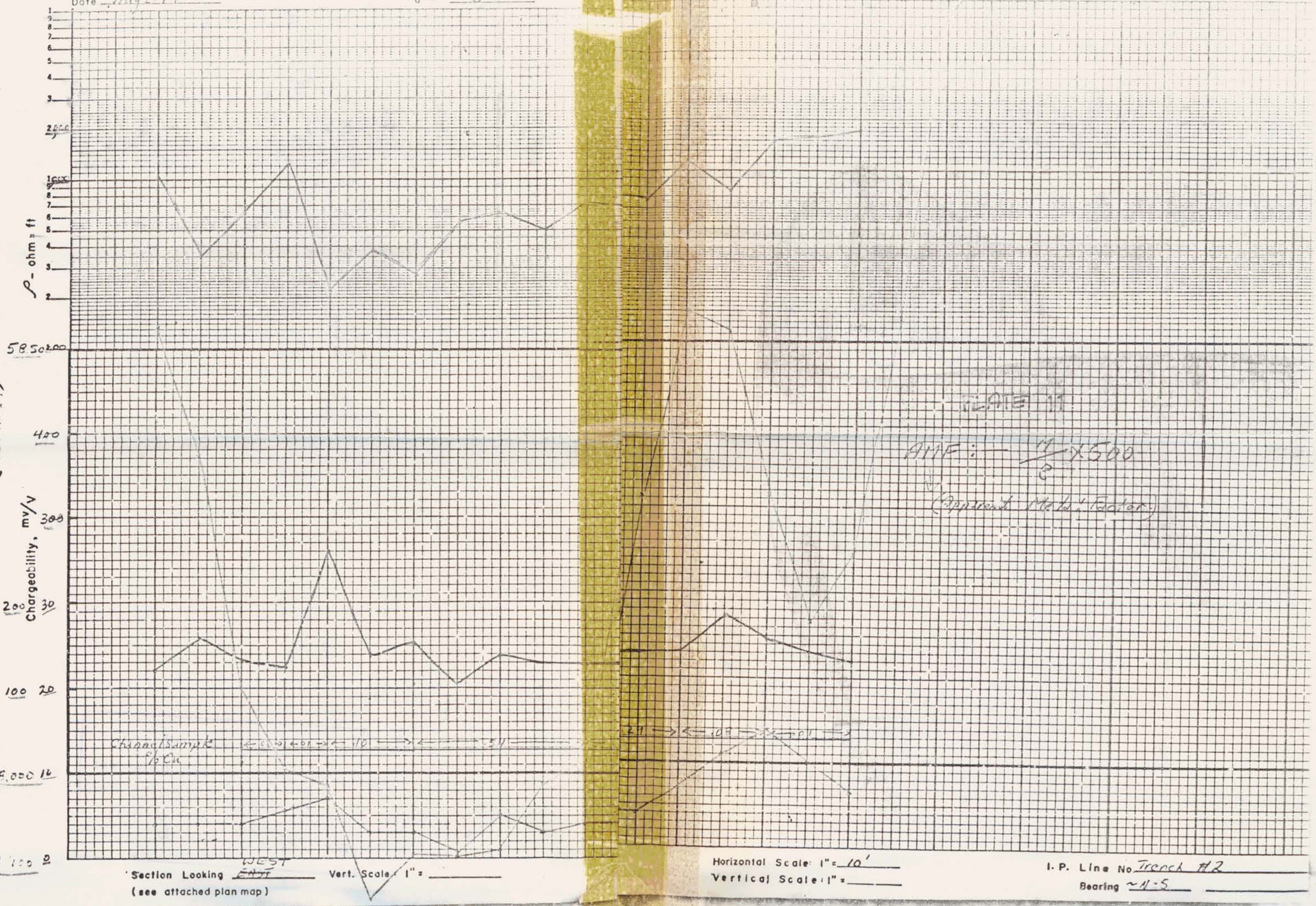

5547
#5
DU-LOR
29 (11)
TO SOUTH SEE MAP 92 H/9W

Operator KEN
Date Aug 2-74

Array Dipole-Dipole
"a" 5'

Union Const. & Mining Co.

Location Similkameen Co. B.C.
Area Princeton B.C.



Total Magnetic Field Strength (Gammas)

5547
MAP 6

16N
12N
08N
04N
0
04S
08S
12S
16S
20S
24S
28S

SILWASH CK - IP SURVEY - 1974

Pole - Dipole Array
a = 200'
n = 1

APPARENT METAL FACTOR : $\frac{M}{C} \times 1000 = M.F.$

CURRENT IN WEST

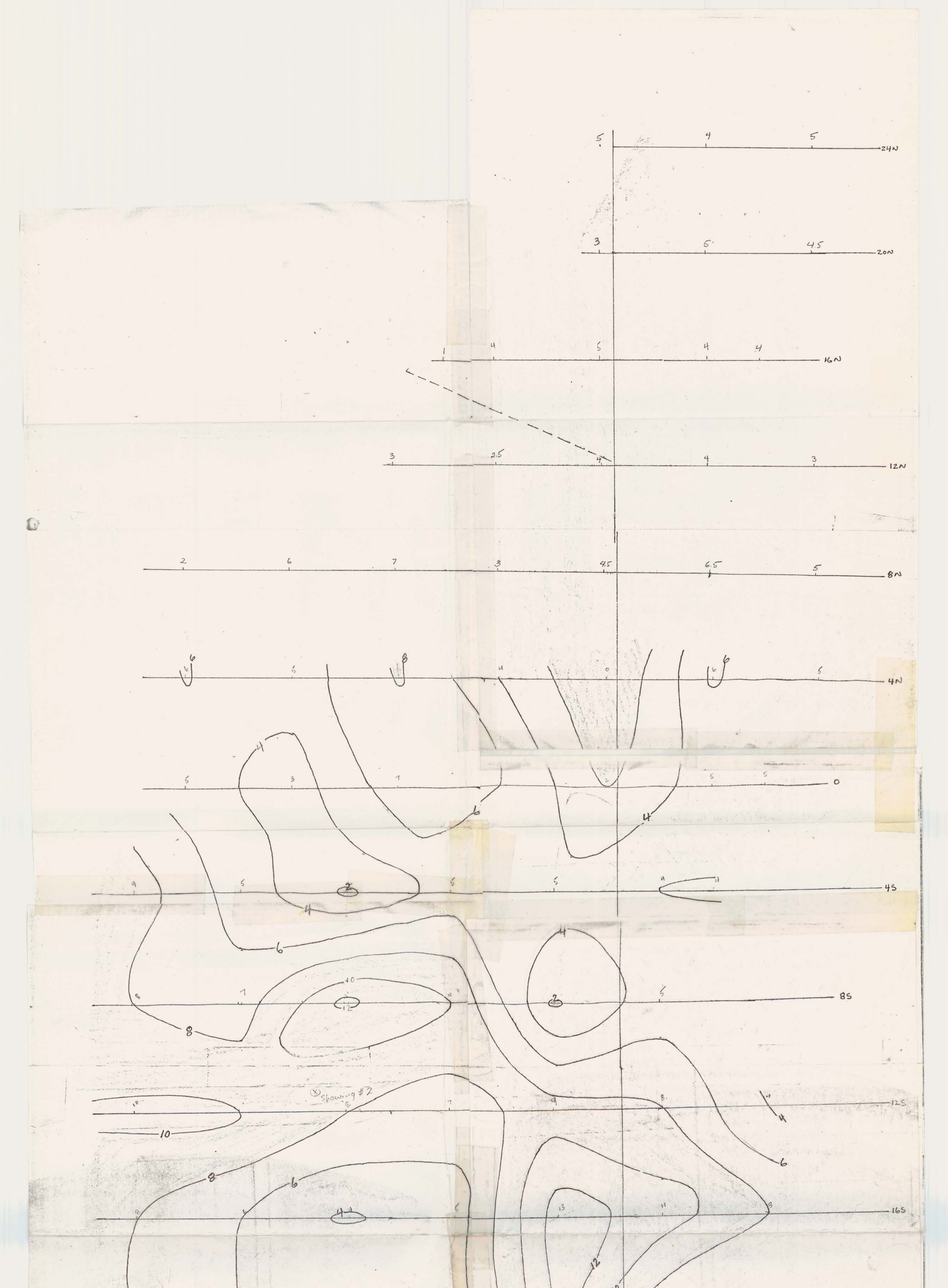
Trx: Elliot 1.5KW
Rec: IPR-7

> 18
< 18 > 12
< 2

1" = 200'

N

5547
MAP 7


24N
20N
16N
12N
8N
4N
0
4S
8S
12S
16S
20S
24S
28S
>10 Ms
<10 >8 Ms
<2 Ms
SIWASH CK. IP SURVEY - 1974
Pole-Dipole Array
a = 200'
n = 1
CHARGEABILITY in Milliseconds (one value sum of one +ve & one -ve pulse)
CURRENT IN WEST
Trx: Elliot 1.5KW
Rec: IPR-7
1" = 200'
N
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5547 MAP 8
5547
MAP 8