87-399-15914
6/88

Province of British Columbia | Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOLOGICAL & GEOCHEMICAL SURVEY	$ 6,131.00

AUTHOR(S) Jan N. Helsen SIGNATURE(S) Helsen

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED YEAR OF WORK 1986

PROPERTY NAME(S) JRPM

FILMED

COMMODITIES PRESENT Au, As

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN N/A

MINING DIVISION Clinton NTS 92N/8W

LATITUDE U.T.M. 5686100N LONGITUDE U.T.M. 405500E

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

JRPM - 1 (20 units)

JRPM - 2 (16 units)

JRPM - 3 (16 units)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

OWNER(S)

(1) NORANDA EXPLORATION COMPANY, LIMITED. (No Personal Liability)

(2)

MAILING ADDRESS

P.O. Box 2380
Vancouver, B.C. V6B 3T5

OPERATOR(S) (that is, Company paying for the work)

(1) NORANDA EXPLORATION COMPANY, LIMITED. (No Personal Liability)

(2)

MAILING ADDRESS

P.O. Box 2380
Vancouver, B.C. V6B 3T5

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

The area consists of andesitic to basaltic breccias and tuffs (Kingsvale Group) of cretaceous age underlain by Triassic sediments and volcanics. Some pyrite mineralization was found as dissemination and in stockwork. In some andesite volcanic rocks occur abundant iron oxides (2nd). Anomalies, so far, occur in sediments and pans only.

REFERENCES TO PREVIOUS WORK N/A

(over)

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SUMMARY

At the beginning of july 1986, three claims with a total of 52 units were staked as a consequence of anomalous As and Au values in creek and river sedimants.

After the staking 3 1/2 days (7 mandays) of work were carried out on the property including two camp moves. The work consisted of an exploratory geological survey in order to familiarize with the rock types of the area, as well as a geochemical survey during which additional sediments were collected for confirmation of the geochemical anomalies. In addition, heavy metal concentrates (pan samples) were collected in association with the newly collected sediment samples.

The previous anomalous Au and As values were confirmed by both pans and sediments. As seems to be a more ubiquitous indicatorfor Au in sediments. No mineralization containing gold, either as free gold or in other minerals has been found. It should be mentioned, however, that the source for the Au and As has not been delineated either.

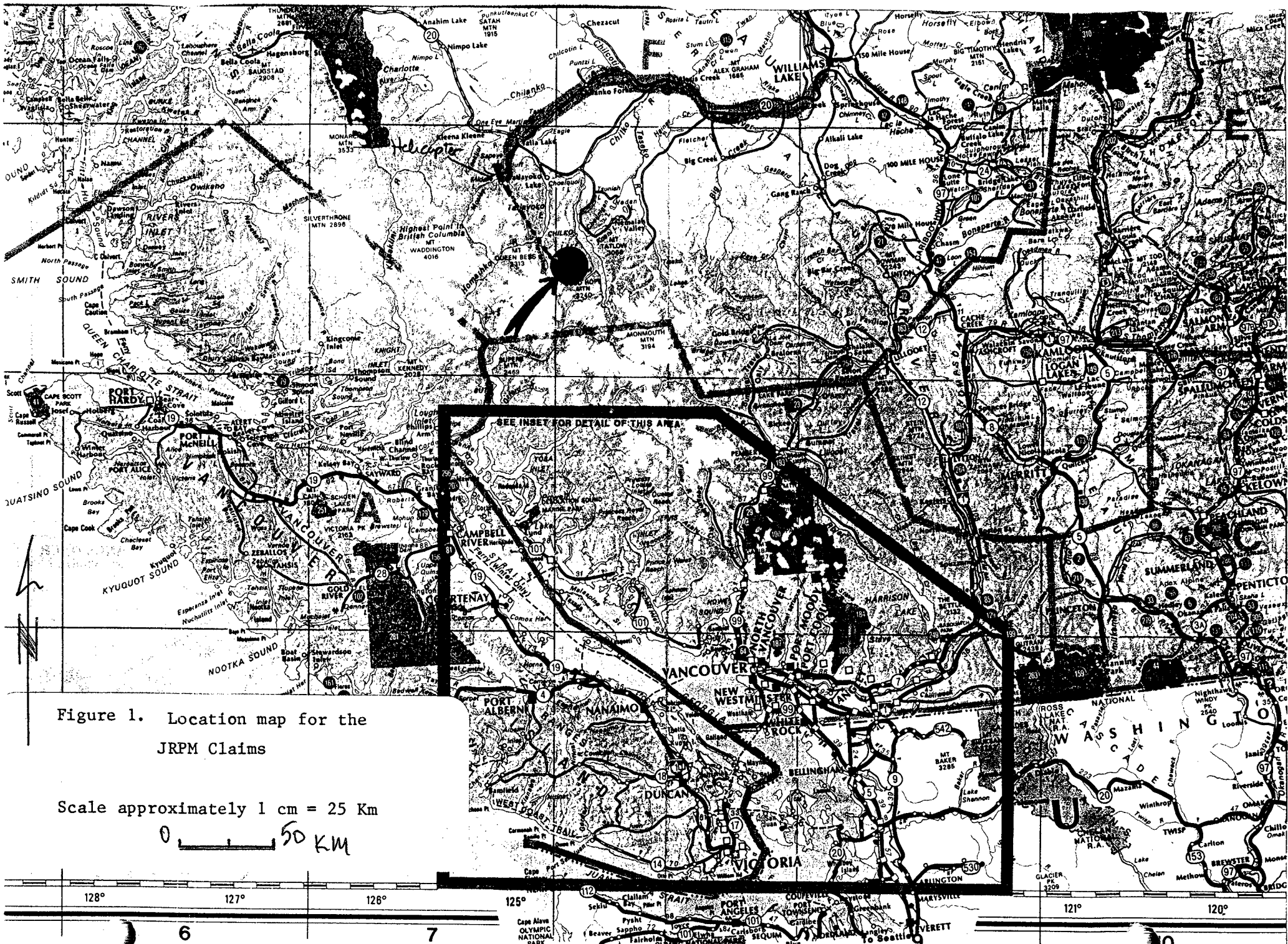


Figure 1. Location map for the JRPM Claims

Scale approximately 1 cm = 25 Km

0 50 KM

PROPERTY, DESCRIPTION AND LOCATION

The JRPM - claims are situated on the east flank of the Coastal Ranges, some 15 Km west of Chilko Lake and some 75 Km east of the Waddington Ranges (Fig. 1).

Table 1. JRPM - Claims details.

Name	Number of Units	Record No	Date Staked
JRPM - 1	20	2040	July 4th, 1986
JRPM - 2	16	2041	" "
JRPM - 3	16	2042	" "

The L.C.P. is located some 500 m north of the major tarn in a glacier valley (U.T.M. 405500 E/ 5686100N) and 3.6 Km due west of Mount Whitton Peak, and at an altitude of about 2,100 m above sea level. The claims are located north of the Stikelan Glacier and west of the Stikelane Creek which drains into Tatlayoko lake (Fig. 2).

Details of the claims which are situated in the Clinton Mining Division are given in Table 1.

The topography is very rugged and vegetation is predominantly alpine.

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES

Although some hunters' trails exist, the property is accessible only by helicopter. The nearest permanent helicopter base is operated by White Saddle Air Services Ltd. at Bluff Lake , some 25 Km from the Tatla Lake settlement. The radiophone via Vancouver is N710209 and via Williams Lake H699698.

Despite the fact that the property lies on the lee side of the coastal mountains, the snowfall is heavy and does not dissappear completely until the end of June.

Active logging is planned for the lower slopes of the Coastal Ranges where they go over into the Interior Plateau near Bluff Lake, but otherwise no logging activity occurs or is planned for the area close to the claims.

HISTORY

The area of interest has not seen very much mineral exploration activity lately. At the west side of the glacial fields to which the Stikelan Glacier belongs, but in another drainage system, occurs a group of 6 claims with a total of 46 units (Apache, Cheyenne, Cherokee, Comanche, Salish and Tlingit). These claims were staked by Mr. Mel de Quadros for himself but apparently no work was ever recorded. These claims have now been forfeited.

Some 12 Km to the northwest from the L.C.P. are the Tat, Tatlico, J.B. and Spokane claims as well as 6 crown grants which in fact make up the Morris mine property. The history of the Morris mine goes back as far as 1907 when gold bearing quartz veins were found outcropping on talus covered slopes. According to a G.S.C. Report (Dolmage V., 1924) the veins were described as containing quartz gangue, stibnite in the central portions and gold, arsenopyrite and pyrite along the margins of the veins. Later activities consisted in development of several drifts along veins, as well as testing of a copper zone in the late sixties. Stryker Resources optioned the property in 1980 and carried out prospecting, mapping and geochemistry. The suggested program ended with trenching and drilling in 1981 (Ass. Rep. #10,520 by C.W.Ball, December 1981).

GEOCHEMISTRY

The JRPM - claims were staked as a consequence of anomalous values for As and Au in sediments from the Stikelan Creek and one of its tributaries. After the staking was finished seven mandays were spent on the property by two geologists carrying out geology and geochemistry. During this period some 24 rock samples were collected as well as 9 heavy metal concentrates (pans) and 10 sediments. The rocks will be dealt with below in the chapter on geology. The pan samples and sediments were analyzed at the Noranda Exploration Company, Limited analytical labs in Vancouver. The sediments were analyzed for Cu, Zn, Pb, Ag, As, Mo and Au, whereas the pans were analyzed for Cu, Zn, Pb, Ag and Au. Results are in Appendix II. All values throughout the report are expressed in ppm except Au which is in ppb.

None of the sediments show anomalous values for any of the following elements: Cu, Zn, Pb, Ag and Mo. Table 2 shows the highest values for several elements obtained in the sediments.

Table 2. Highest Values in Sediment samples.

Element	Cu	Zn	Pb	Ag	As	Mo	Au*
PPM	56	100	10	0.4	180	2	80

* Gold values in ppb

Figure 3 shows the locations of samples taken on or near the property.

On the other hand the majority of the As values are slightly anomalous. The mean value for As is 51 ppm when not considering the highest value (180 ppm). Some of these silts are anomalous for Au as well. As, however, seems to be a better indicator because it is more widespread judging from the Au results in sediments and their associated pan samples. Figures 4 and 5 show As and Au values plotted at three levels (50, 100, and 150 ppm As; 20, 30, and 50 ppb Au).

All the pan samples are anomalous in Au with the exception of one sample. This low value is believed to be due to the fact that one of the geologists was quite inexperienced in panning for heavy metals. None of the other elements analyzed for showed anomalous values with the exception of Ag (samples #98001 and #98003). These slightly higher Ag values, however, are believed to be caused by traces of Ag in Au. Figure 6 shows the val-

ues for Au at the 150, 300 and 600 ppb level. The samples #98016 (pan) and #98017 (silt) were taken in a small loop of the main creek. At this level the main creek could not be sampled because the water rushes down in a canyon like environment. The samples #98014 (pan) and #98015 (silt) occur in a quieter section of the creek just before the sharp drop in altitude.

The information gathered from this short silt and pan sampling programme could be summarized as follows.

1) Both sediments and pans indicate anomalous values for gold in the Stikelan Creek headwaters as well as in one of its tributaries.

2) As in this area is certainly a good indicator for gold in the sediments. Moreover, As is more ubiquitous than Au itself.

3) At the southern edge of the JRPM 1 claim occurs a Au and As anomaly in both silt and pan, indicating that the source for this anomaly should be traced further upstream. This same conclusion is valid for the Au and As anomalies occurring on the JRPM 2 claim. Additional staking should be considered when carrying out the next program , in order to cover the headwaters of the Stikelan Creek to the south and to the west , as well as to the west of the JRPM 2 claim.

GEOLOGY

Regional Geology

The Mount Waddington area, predominantly N.T.S. 92N mapsheet, was mapped by Tipper (1969). According to Tipper the geology of the area could be summarized as follows. The northeastern part of the Mount Waddington map area is underlain mainly by Upper Triassic to Tertiary volcanic and sedimentary rocks. The Upper Jurassic and Lower Cretaceous rocks were deposited in the northwestern trending Tyaughton Trough. Small stocks of granitic rocks were emplaced in postCenomanian time within the mapped area as well as to the southwest.

In Late Cretaceous or Early Tertiary time the area was disrupted first by northeasterly directed thrust faults, later by repeated movement on northwesttrending, rightlateral transcurrent faults, and finally by northeasttrending normal faults.

Local Geology

Figure 7 shows the geology of the area in and around the JRPM claims. A stratigraphic column is also shown. According to this regional geology map (Tipper, 1969) the predominant rock on the property seems to belong to the andesitic and basaltic breccias and tuffs from the Kingsvale group (Unit 19) with only minor amounts of Triassic volcanics and sediments (Units 1, 2, and 3) as well as Cretaceous sediments (unit 12).

In fact the geology on the property is very complex. Outcrop of sediments, mainly siltstones and conglomerates of yet undefined age have been found on the eastern half of the JRPM -2 claim. In side-moraines on the western half of the JRPM -2 claim huge blocks of granodioritic composition were found suggesting that the intrusion itself lies in the southwest corner of above mentioned claim. Lack of time, however, precluded the detailed investigation of the property geology. Figure 8 shows the location of the rock samples collected. A multielement I.C.P. analysis was carried out on these rocks. The results are in Appendix II. Table 3 gives a short description of the rocks involved.

Table 3. Description of Rocks Collected on the JRPM Claims.

Number	Rock type with some details	Occurrence
	Stikelan Creek Area	
207	Andesite with 5% pyrite	creekbed
208	Green slate	outcrop
209	Carbonaceous sandstone/conglomerate in contact with 208.	"
210	Andesite breccia (monolithic) with hematite	"
211	Dacite/rhyodacite with 5 to 10% pyrite	"
212	Andesite breccia (below #210) with sec. iron	"
213	Silicified zone between andesite breccia and rhyodacite with pyrite	"
214	Heterolithic andesite breccia with very dense quartzveining but no sulfides	"
215	Quartz from slope. No sulfides	scree
	Tributary valley to Stikelan Creek	
216	Porph. andesite with specs or pods of pyrite	scree
217	Rhyodacite more felsic than #216	outcrop
218	Sandstone /conglomerate	"
219	Felsic quartz porphyry between LCP and N10E	"
220	Massive basaltandesite with very fine pyrite veinlets	float
221	Quartzitic (volc. sediment?)	outcrop
222	Poorly sorted sandstone	"
223	Andesite occasionally porph. Same as in Stikelan area assoc. with hematite rich breccia/ some quartz vein stockwork.	"
224	Big blocks of HblBte granite	morraine
225	Composite sample of red stained scree slope hematite(?) rich volcanic plug or neck(?)	scree
226	Magnetic andesite	float
227	Andesite block, glacial erratic, with hematite in fracture zone and pervasive feldspar alteration away from hematite zone	"
228	Dacitic rock taken in creekbed where sample # 98018 and #98019 were taken	creekbed
229	Andesite with minor diss. /blebs of pyrite	"
230	Porph. rhyolite	"

CONCLUSIONS AND RECOMMENDATIONS

A previous regional survey revealed anomalous values for As and/or Au in the Stikelan Creek and some of its tributaries. A follow-up programme, after staking 3 claims (52 units), confirmed the anomalous values in the sediments. Moreover, highly anomalous gold values were also obtained in panned samples. It seems that As, at least in this area, is a very good pathfinder for Au in the creek sediments. The source for these anomalies, however, has not been found yet.

With regards to the geology the following have been reached. The volcanic rock spectrum ranges from andesitic to rhyolitic breccias and tuffs, occasionally porphyritic. No granitic intrusives have been found in outcrop but evidence for a very nearby source is obvious in side moraines. Sedimentary rocks consist predominantly of poorly sorted conglomerates and/or sandstones. Mineralization consists generally of pyrite in blebs or pods as well as some dissemination and in veinlets. Quartz stockwork has been observed albeit very infrequently. Magnetite-hematite mineralization, hydrothermal or secondary in origin, occurs occasionally but very intensely in some andesites. The geology is very complex with several phases of faulting and folding.

Considering this information the following specific recommendations are made in addition to the normal property work:

1) sediment and pan sampling in both the Stikelan Creek and its anomalous tributaries should be continued upstream up to the glacier tongue.

2) staking of additional ground to the south and the west of the existing claims should be considered.

SUMMARY OF THE PROJECT COST

Wages	
No. of days: 7 mandays work + 4 mandays travel and preparation	
Rate/day: $ 210.00	$ 2,310.00
Food & Accomodation:	
No. of days: 4 mandays travel @ $ 55.00/day/man	$ 220.00
7 mandays flycamp @ $50.00/day/man	$ 350.00
Subtotal	$ 570.00
Transportation:	
Helicopter: 2.1 hrs. (after staking) @ $450.00/hr	$ 950.00
2.1 hrs. (fuel) @ $70.00/hr	$ 147.00
Truck rental: 6 days @ $ 35.00/day	$ 210.00
Fuel (800 km @ 13l/100km @ $ .40/l	$ 41.60
Subtotal	$ 1.348.60
Radio rental:	
SBX-11A (minimum charge)	$ 100.00
Analytical Costs:	
10 pan samples for Au, Cu, Zn, Pb, Ag @ $8.90 ($2.00 prep. +$3.50for Au+$1.60 for 1st el. +($0.60 per add. el.))	$ 89.00
10 silts for Au, Cu, Zn, Pb, Ag, As, Mo, @ $8.60 ($3.50 Au+ $1.60 1st el.+ $0.60/add. el.)	$ 86.00
24 rocks multiple trace element analysis (ICP) @ 9.00/ sample ($3.00 prep. +$6.00 all elements)	$ 216.00
18 rocks whole rock (major element anal.@ $9.00/sample ($3.00 prep. + $6.00 for elements)	$ 162.00
Subtotal	$ 553.00

Preparation Report:

Author		$ 500.00
Drafting		$ 500.00
Typing		$ 100.00
Postage, shipping charges, telephone		$ 150.00
	Subtotal	$ 1,250.00
	Grandtotal	$ 6,131.60

LIST OF REFERENCES

Ball C.W., 1981, Stryker Resources Limited, Geological Report GoldSilverAntimony and Copper Showings, Morris Mine Property, Tatlayoko Lake, Clinton Mining Division, B.C. Assessment Report # 10,520.

Dolmage V., 1924, G.S.C. Summary Report 1924, part A, pp. 70-73, in Hurst M.E.,1927, Arsenic-bearing Deposits in Canada, G.S.C. Economic Geology Series No.4 -(#2131).

Tipper H.W., 1969, Mesozoic and Cenozoic Geology of the Northeast Part of Mount Waddington MapArea (92N), Coast District, British Columbia, G.S.C. Paper 6833 with Map 51968

A P P E N D I X I

CERTIFICATE

C E R T I F I C A T E
****

I, J.N. Helsen, of the City of Richmond, Province of British Columbia, do hereby certify that:

1. I am a geologist residing at 3380 Newmore Avenue, Richmond.

2. I graduated from the University of Louvain, Belgium, with a 'Licenciaat in Geologie' in 1968.

3. I am a graduate of McMaster University, Hamilton, Ontario, with a M.Sc. (1970) and a Ph.D (1976) in geology.

4. I have worked in mineral exploration since 1967 and have been practicing my profession since 1978 with Mattagami Lake Exploration, Limited.

5. I have been employed with Noranda Exploration Company, Limited (no personal liability) since 1982.

6. I am a Fellow of the Geological Association of Canada.

7. I supervised the work described in this report.

Dated: September 15, 1986

J.N. Helsen
Project Geologist

GEOLOGICAL ASSOCIATION OF CANADA · J. HELSEN · FELLOW

A P P E N D I X II

ANALYTICAL DATA

NORANDA VANCOUVER LABORATORY

****

PROPERTY/LOCATION:STIKELANE CK STAKING CODE :8607-058

Project No. :157 Sheet:1 of 1 Date rec'd:JUL 10
Material :PAN/SILT Geol.:JK Date compl:JUL 21
Remarks :

Values in PPM, except where noted.

T. T. No.	SAMPLE No.	SAMPLE wt. (g)	PPB Au	Cu	Zn	Pb	Ag
90	PAN 98018	51.9	1000	104	84	1	0.2
92	98016	52.1	5900	80	62	1	0.2
94	98014	45.2	60	56	54	1	0.2
96	98012	61.4	210	70	140	6	0.2
98	98009	33.1	10	62	120	1	0.2
99	98007	52.9	540	54	64	1	0.2
43	DUPLICATE 98007	62.1	80	56	64	1	0.2
44	98005	91.3	730	50	62	1	0.2
45	98003	52.1	1800	54	68	1	1.2
46	98001	33.4	1500	56	80	1	1.6
47							

N.B. Pan-con: entire sample used for Au determination.
* Cu, Zn, Pb, Ag, values obtained from Aqua Regia sol'n.

T. T. No.	SAMPLE No.	Cu	Zn	Pb	Ag	As	Mo	PPB Au
138	98002	32	46	8	0.2	70	1	10
139	98006	34	66	8	0.4	180	1	80
140	98004	30	48	4	0.2	44	1	20
141	98008	26	42	4	0.2	52	1	10
142	98010	50	88	8	0.4	82	1	10
143	98011	52	100	8	0.2	18	2	10
144	98013	40	92	10	0.2	50	1	10
145	98015	42	52	4	0.4	20	1	10
146	98017	52	62	4	0.4	68	1	30
147	98019	56	86	4	0.4	58	1	30

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN,FE,CA,P,CR,MG,BA,TI,B,AL,NA,K,W,SI,ZR,CE,SN,Y,NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JULY 16 1986 DATE REPORT MAILED: July 21/86 ASSAYER. D. Toye ..DEAN TOYE. CERTIFIED B.C. ASSAYER.

NORANDA EXPLORATION PROJECT - 157 8607-083 FILE # 86-1505 PAGE 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
2078	32	97	2	40	.3	68	52	276	4.56	97	5	ND	1	36	1	2	4	86	.73	.014	4	27	1.02	28	.10	2	1.82	.18	.03	2	-
2088	1	107	3	75	.1	47	13	346	2.92	2	5	ND	1	12	1	2	2	32	.33	.048	12	40	.77	96	.01	5	1.59	.02	.14	1	-
2098	1	6	8	47	.1	23	8	390	3.00	2	5	ND	2	21	1	3	2	16	.71	.018	13	20	.80	59	.01	7	1.55	.04	.11	2	-
2108	1	32	2	76	.1	22	11	554	3.84	2	5	ND	1	17	1	2	4	36	.23	.030	8	14	.51	93	.01	8	1.70	.01	.30	1	2
2118	1	52	2	67	.1	5	17	967	5.26	8	5	ND	2	34	1	2	2	157	5.33	.084	4	15	1.15	45	.01	2	1.58	.06	.02	1	-
2128	32	79	6	150	.4	41	9	823	4.60	27	5	ND	1	8	1	4	2	152	.17	.063	7	35	.75	19	.01	2	1.49	.03	.05	1	3
2138	1	19	2	52	.1	4	4	980	2.19	3	5	ND	2	34	1	2	2	15	7.81	.013	6	4	.60	38	.01	2	1.14	.02	.06	1	1
2148	1	74	2	58	.1	85	25	654	3.88	2	5	ND	1	40	1	2	2	110	1.67	.053	2	217	2.79	6	.20	6	2.36	.02	.01	1	1
2158	1	16	2	15	.2	6	2	195	1.06	3	5	ND	1	8	1	2	2	9	.21	.015	3	6	.22	16	.01	2	.46	.01	.02	1	1
2168	1	94	2	80	.1	23	26	1162	5.87	6	5	ND	1	64	1	2	2	180	2.02	.068	6	57	3.00	38	.46	2	3.24	.09	.03	1	1
2178	1	59	7	96	.3	15	19	1047	5.80	11	5	ND	1	37	1	2	3	138	1.74	.072	13	32	1.56	40	.45	2	2.49	.05	.03	1	-
2188	1	7	4	63	.1	13	9	693	3.42	5	5	ND	4	67	1	2	2	21	2.29	.024	16	13	.71	54	.01	2	1.58	.03	.11	1	-
2198	1	53	10	50	.1	193	23	506	3.42	8	5	ND	1	38	1	2	2	77	.96	.036	5	251	3.04	224	.29	4	2.16	.11	.02	1	-
2208	1	130	2	105	.1	44	19	444	4.28	32	5	ND	1	102	1	2	2	121	1.36	.051	3	48	1.21	259	.17	2	4.14	.44	1.19	1	1
2218	1	8	17	52	.3	11	5	269	2.11	2	5	ND	4	11	1	2	2	16	.16	.011	26	13	.35	49	.01	2	.98	.07	.09	1	-
2228	1	23	26	97	.2	20	12	313	3.43	10	5	ND	4	20	1	2	2	31	.19	.044	20	25	.61	63	.01	3	1.63	.07	.13	1	-
2238	1	42	3	41	.3	55	21	776	3.84	6	7	ND	2	26	1	2	2	101	5.54	.032	2	138	1.78	13	.34	5	2.48	.20	.05	1	1
2248	1	71	5	47	.2	19	11	259	2.39	3	5	ND	4	19	1	2	2	79	.47	.046	7	29	.80	147	.33	4	.97	.07	.64	1	-
2258	1	47	2	120	.1	47	17	1483	5.03	46	5	ND	1	19	1	7	2	82	.78	.079	9	60	1.34	116	.02	8	1.53	.04	.15	1	1
2268	1	3	12	195	.3	4	12	2962	9.07	8	5	ND	2	37	1	2	2	37	4.54	.313	11	2	2.82	184	.01	2	2.30	.03	.04	1	-
2278	1	37	2	87	.3	21	14	789	4.00	12	5	ND	2	53	1	2	2	103	2.14	.062	6	37	1.01	127	.33	2	2.56	.19	.57	1	2
2288	1	75	3	51	.1	220	33	818	5.11	21	5	ND	2	72	1	2	2	142	4.78	.041	4	388	5.48	24	.13	8	3.44	.12	.04	1	-
2298	1	83	2	14	.3	13	9	172	1.97	2	6	ND	2	81	1	2	2	80	6.63	.029	2	88	.85	45	.10	3	6.73	.32	.21	1	1
2308	1	45	2	51	.1	82	21	643	3.98	2	5	ND	2	95	1	2	2	127	5.25	.037	3	104	3.69	26	.01	2	3.22	.31	.08	1	-
STD C/MU-0.5	21	59	36	133	7.0	71	30	1128	3.97	39	19	8	34	49	18	15	22	64	.47	.104	39	59	.88	184	.09	40	1.72	.07	.14	15	495

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

WHOLE ROCK ICP ANALYSIS

A .1000 GRAM SAMPLE IS FUSED WITH .60 GRAM OF LIBO2 AND IS DISSOLVED IN 50 MLS 5% HNO3. SAMPLE TYPE: ROCK CHIPS

DATE RECEIVED: JULY 16 1986 DATE REPORT MAILED: July 21/86 ASSAYER. ..DEAN TOYE. CERTIFIED B.C. ASSAYER.

NORANDA EXPLORATION PROJECT - 157 8607-083 FILE # 86-1505

SAMPLE#	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba PPM	Loi %	Sum
207B	64.40	11.09	9.79	3.75	4.56	1.70	.05	.56	.03	.14	.01	131	3.6	99.71
210B	65.57	15.21	6.97	1.44	.40	.35	3.60	.60	.08	.07	.01	774	5.0	99.45
211B	52.96	15.10	8.55	2.27	6.70	6.40	.15	.65	.26	.12	.01	128	6.6	99.79
212B	67.15	12.65	7.02	1.52	.47	3.50	1.00	.54	.18	.10	.01	267	5.5	99.69
213B	67.65	7.41	3.55	1.25	8.66	1.30	.65	.18	.04	.11	.01	148	9.0	99.84
214B	53.76	15.02	9.45	5.13	9.14	1.75	.10	.40	.20	.13	.05	32	4.2	99.34
216B	50.40	18.11	9.82	5.60	4.02	4.90	.25	.95	.21	.15	.01	340	5.0	99.49
217B	54.65	16.87	8.82	2.82	3.22	6.05	.25	1.05	.20	.12	.01	227	5.6	99.70
219B	55.58	13.68	7.55	7.83	5.88	4.30	.35	.75	.14	.11	.11	759	3.2	99.63
220B	60.16	18.02	7.80	2.81	4.06	1.90	2.30	.78	.15	.09	.01	614	1.6	99.80
223B	47.78	14.32	9.14	5.57	12.98	3.90	.05	1.07	.11	.15	.06	60	4.4	99.54
224B	63.62	15.86	5.01	2.40	4.38	3.90	2.50	.69	.16	.06	.01	732	.5	99.23
225B	63.16	14.66	7.31	2.45	1.38	4.00	1.25	.73	.19	.16	.02	307	4.5	99.87
226B	45.09	14.15	13.91	4.97	5.57	4.80	.05	1.69	.95	.35	.01	326	8.0	99.60
227B	60.37	16.36	7.08	2.06	5.19	3.50	2.35	.72	.16	.16	.01	1191	1.6	99.79
228B	47.76	12.81	9.02	10.27	7.28	2.05	.10	.44	.12	.11	.17	159	9.3	99.46
229B	54.39	17.20	9.94	5.49	10.11	.50	.10	.64	.09	.14	.04	64	1.0	99.65
230B	49.61	15.41	6.98	6.92	7.60	2.95	.35	.47	.14	.08	.04	158	9.1	99.68
STD SO-4	67.80	10.27	3.46	1.00	1.64	1.35	2.00	.55	.22	.07	.01	773	11.3	99.82

A P P E N D I X III

ANALYTICAL PROCEDURES

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

The methods listed are presently applied to analyse geological materials by the Noranda Geochemical Laboratory at Vancouver.

Preparation of Samples

Sediments and soils are dried at approximately 80°C and sieved with a 80 mesh nylon screen. The -80 mesh (0.18 mm) fraction is used for geochemical analysis.

Rock specimens are pulverized to -120 mesh (0.13 mm). Heavy mineral fractions (panned samples * from constant volume), are analysed in its entirety, when it is to be determined for gold without further sample preparation.

Analysis of Samples

Decomposition of a 0.200 g sample is done with concentrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature. Pulps of rock or core are weighed out at 0.4 g and chemical quantities are doubled relative to the above noted method for digestion.

The concentrations of Ag, Cd, Co, Cu, Fe, Mn, Mo, Ni, Pb, V and Zn can be determined directly from the digest (dissolution) with a conventional atomic absorption spectrometric procedure. A Varian-Techtron, Model AA-5 or Model AA-475 is used to measure elemental concentrations.

Elements Requiring Specific Decomposition Method:

Antimony - Sb: 0.2 g sample is attacked with 3.3 ml of 6% tartaric acid, 1.5 ml conc. hydrochloric acid and 0.5 ml of conc. nitric acid, then heated in a water bath for 3 hours at 95°C. Sb is determined directly from the dissolution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0.2 - 0.3 g sample is digested with 1.5 ml of perchloric 70% and 0.5 ml of conc. nitric acid. A Varian AA-475 equipped with an As-EDL is used to measure arsenic content in the digest.

Barium - Ba: 0.1 g sample digested overnight with conc. perchloric, nitric and hydrofluoric acid; Potassium chloride added to prevent ionization. Atomic absorption using a nitrous oxide-acetylene flame determines Ba from the aqueous solution.

Bismuth - Bi: 0.2 g - 0.3 g is digested with 2.0 ml of perchloric 70% and 1.0 ml of conc. nitric acid. Bismuth is determined directly from the digest with an AA-475 complete with EDL.

Gold - Au: 10.0 g sample is digested with aqua regia(1 part nitric and 3 parts hydrochloric acid). Gold is extracted with MIBK from the aqueous solution. AA is used to determine Au.

Magnesium - Mg: 0.05 - 0.10 g sample is digested with 4 ml perchloric/nitric acid (3:1). An aliquot is taken to reduce the concentration to within the

range of atomic absorption. The AA-475 with the use of a nitrous oxide flame determines Mg from the aqueous solution.

Tungsten - W: 1.0 g sample sintered with a carbonate flux and thereafter leached with water. The leachate is treated with potassium thiocyanate. The yellow tungsten thiocyanate is extracted into tri-n-butyl phosphate. This permits colourimetric comparison with standards to measure tungsten concentration.

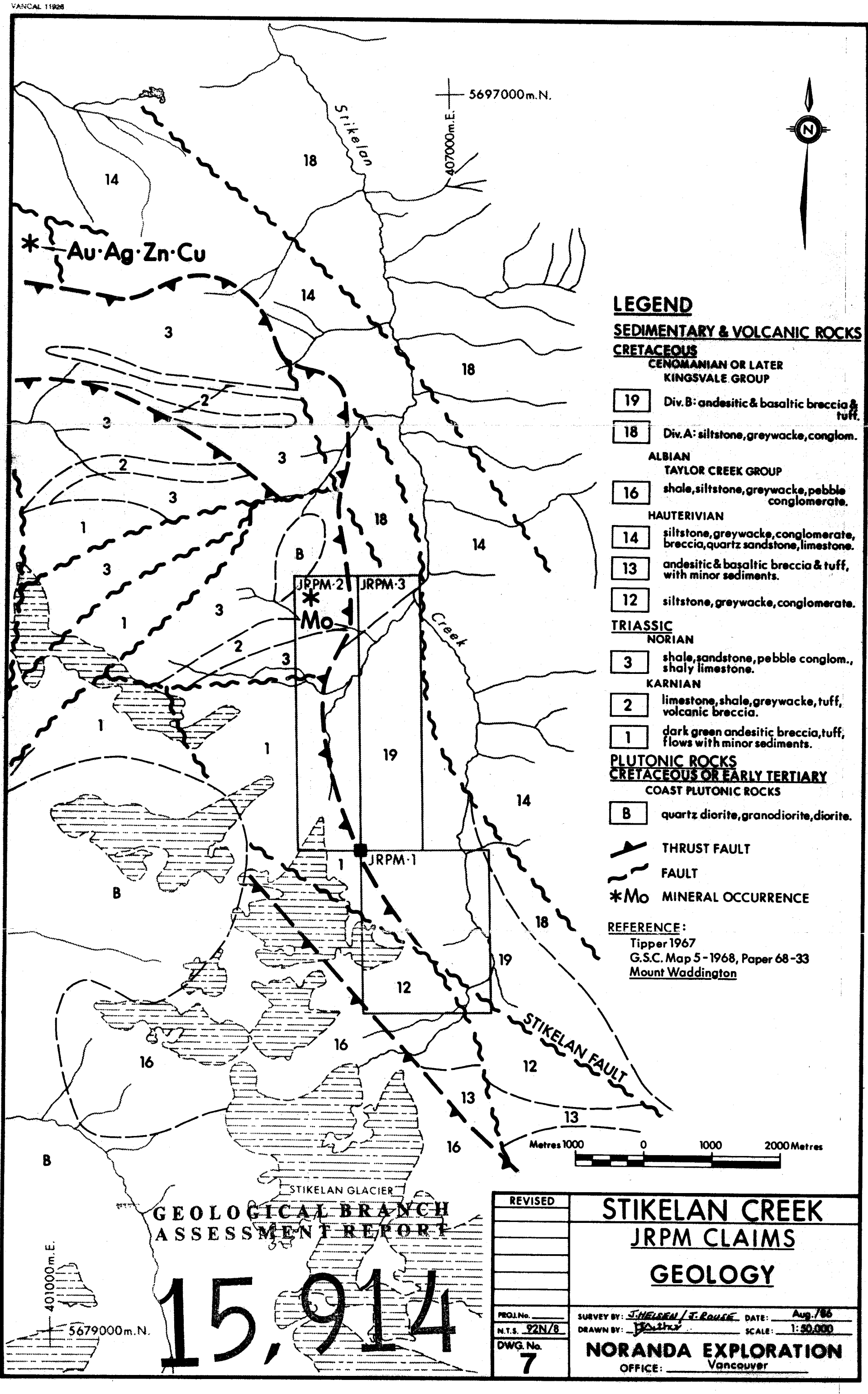
Uranium - U: An aliquot from a perchloric-nitric decomposition, usually from the multi-element digestion, is buffered. The aqueous solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

* N.B. If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

LOWEST VALUES REPORTED IN PPM

Ag - 0.2	Mn - 20	Zn - 1	Au - 0.01
Cd - 0.2	Mo - 1	Sb - 1	W - 2
Co - 1	Ni - 1	As - 1	U - 0.1
Cu - 1	Pb - 1	Ba - 10	
Fe - 100	V - 10	Bi - 1	

EJvL/ie
March 14, 1984



LEGEND

SEDIMENTARY & VOLCANIC ROCKS

CRETACEOUS

CENOMANIAN OR LATER

KINGSVALE GROUP

- 19 — Div. B: andesitic & basaltic breccia & tuff.
- 18 — Div. A: siltstone, greywacke, conglom.

ALBIAN

TAYLOR CREEK GROUP

- 16 — shale, siltstone, greywacke, pebble conglomerate.

HAUTERIVIAN

- 14 — siltstone, greywacke, conglomerate, breccia, quartz sandstone, limestone.
- 13 — andesitic & basaltic breccia & tuff, with minor sediments.
- 12 — siltstone, greywacke, conglomerate.

TRIASSIC

NORIAN

- 3 — shale, sandstone, pebble conglom., shaly limestone.

KARNIAN

- 2 — limestone, shale, greywacke, tuff, volcanic breccia.
- 1 — dark green andesitic breccia, tuff, flows with minor sediments.

PLUTONIC ROCKS

CRETACEOUS OR EARLY TERTIARY

COAST PLUTONIC ROCKS

- B — quartz diorite, granodiorite, diorite.

THRUST FAULT

FAULT

*Mo MINERAL OCCURRENCE

REFERENCE:

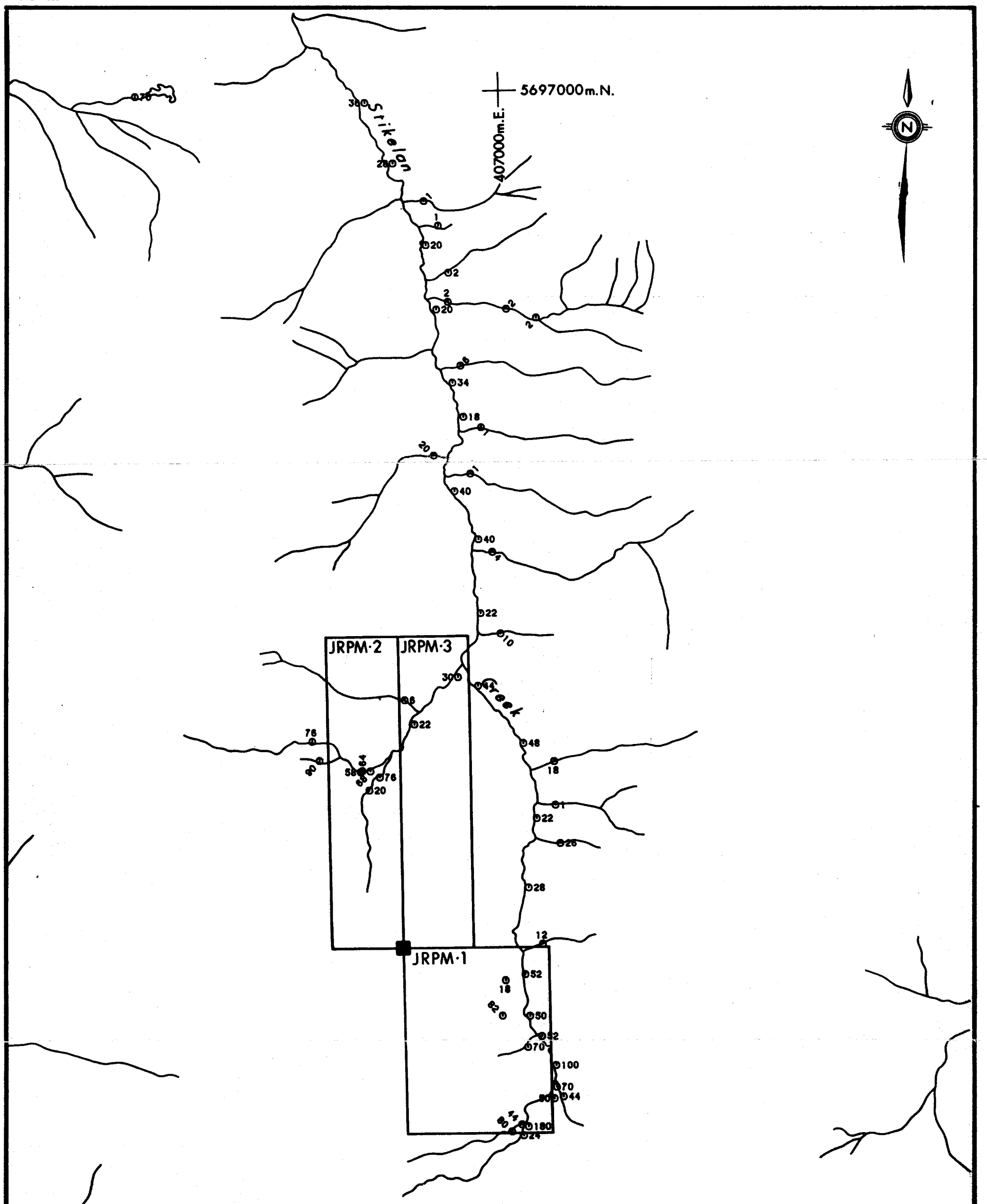
Tipper 1967
G.S.C. Map 5 - 1968, Paper 68-33
Mount Waddington

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	STIKELAN CREEK JRPM CLAIMS GEOLOGY
PROJ. No.	SURVEY BY: J. HELSKEN / T. ROUSE DATE: Aug./86
N.T.S. 92N/8	DRAWN BY: [illegible] SCALE: 1:50,000
DWG. No. 7	NORANDA EXPLORATION OFFICE: Vancouver

'ANCAL 11926

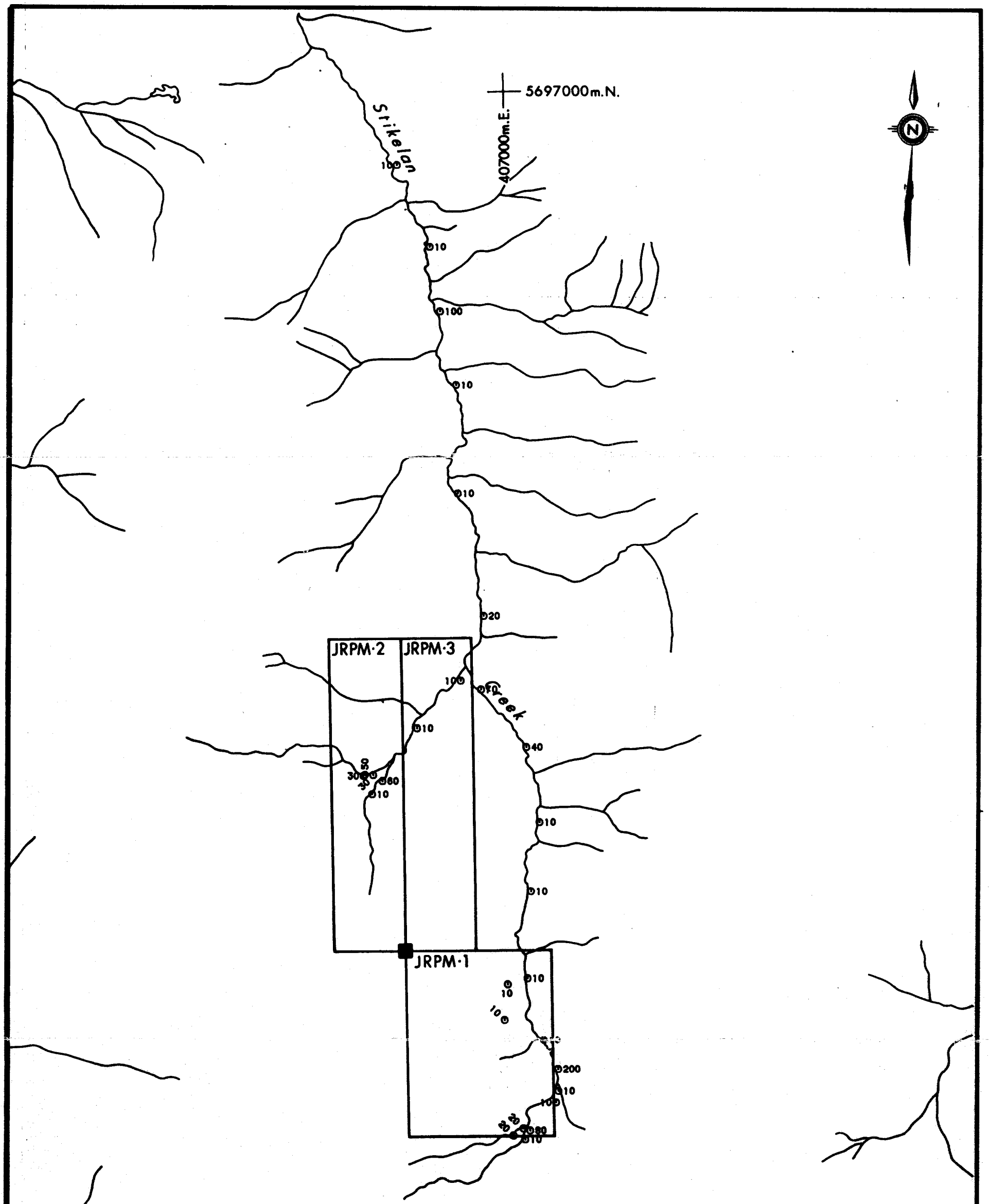


GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
PROJ. No.	STIKELAN CREEK
N.T.S.	JRPM 1-3 CLAIMS ARSENIC IN STREAM SEDIMENTS
DWG. No. 9f	SURVEY BY: J. HELGEN / J. ROUSE DATE: September '86 DRAWN BY: SCALE: 1:50,000 NORANDA EXPLORATION OFFICE:

ANCAL 11928

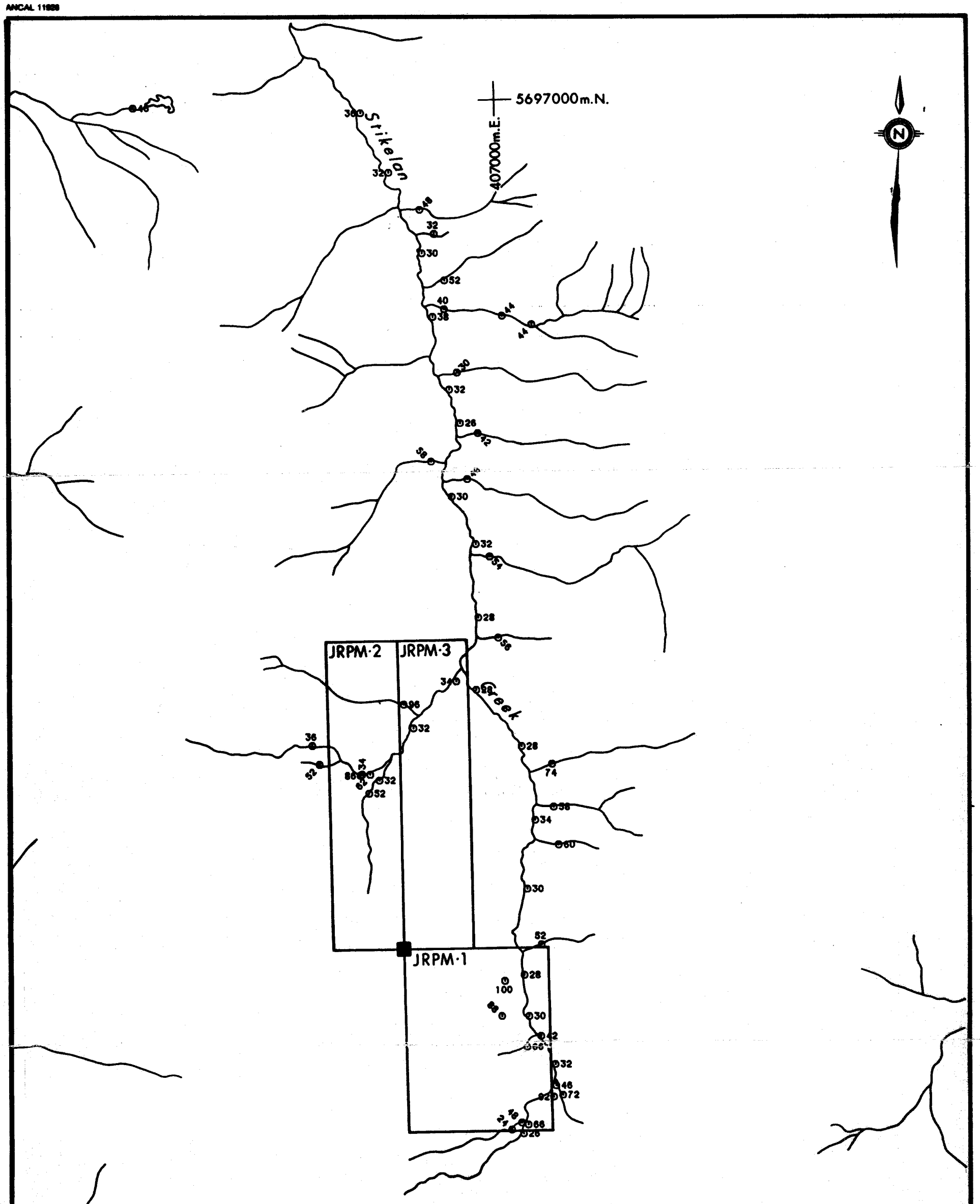


GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
	STIKELAN CREEK
	JRPM 1-3 CLAIMS
	GOLD IN STREAM SEDIMENTS
PROJ. No.	SURVEY BY: J. Weldon / J. Rouse DATE: September '86
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 9e	NORANDA EXPLORATION
	OFFICE:

ANCAL 11838

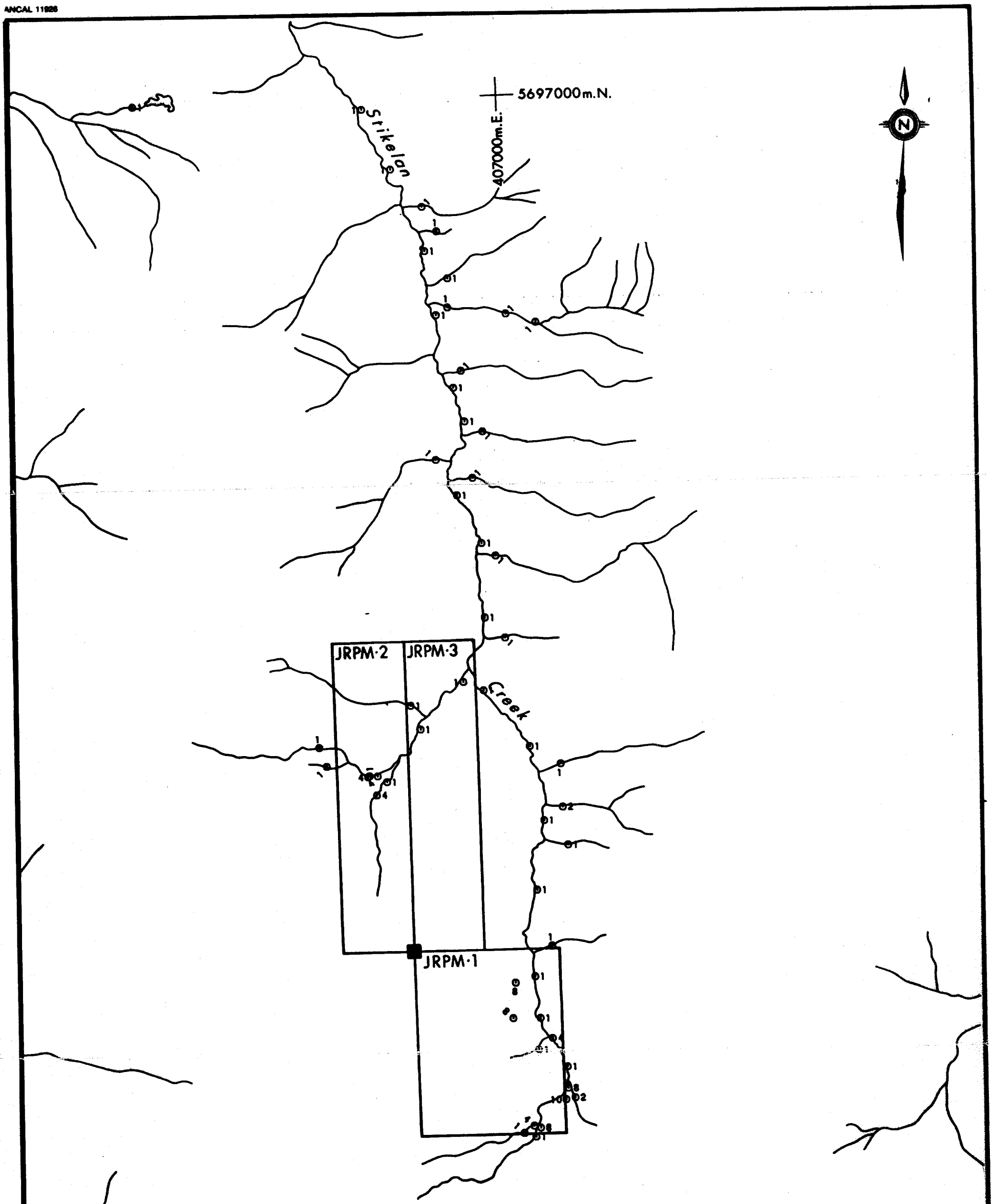


GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
	STIKELAN CREEK
	JRPM 1-3 CLAIMS
	ZINC IN STREAM SEDIMENTS
PROJ. No.	SURVEY BY: I. NELSEN/J. ROUSE DATE: September '86
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 9d	NORANDA EXPLORATION
	OFFICE:

ANCAL 11926

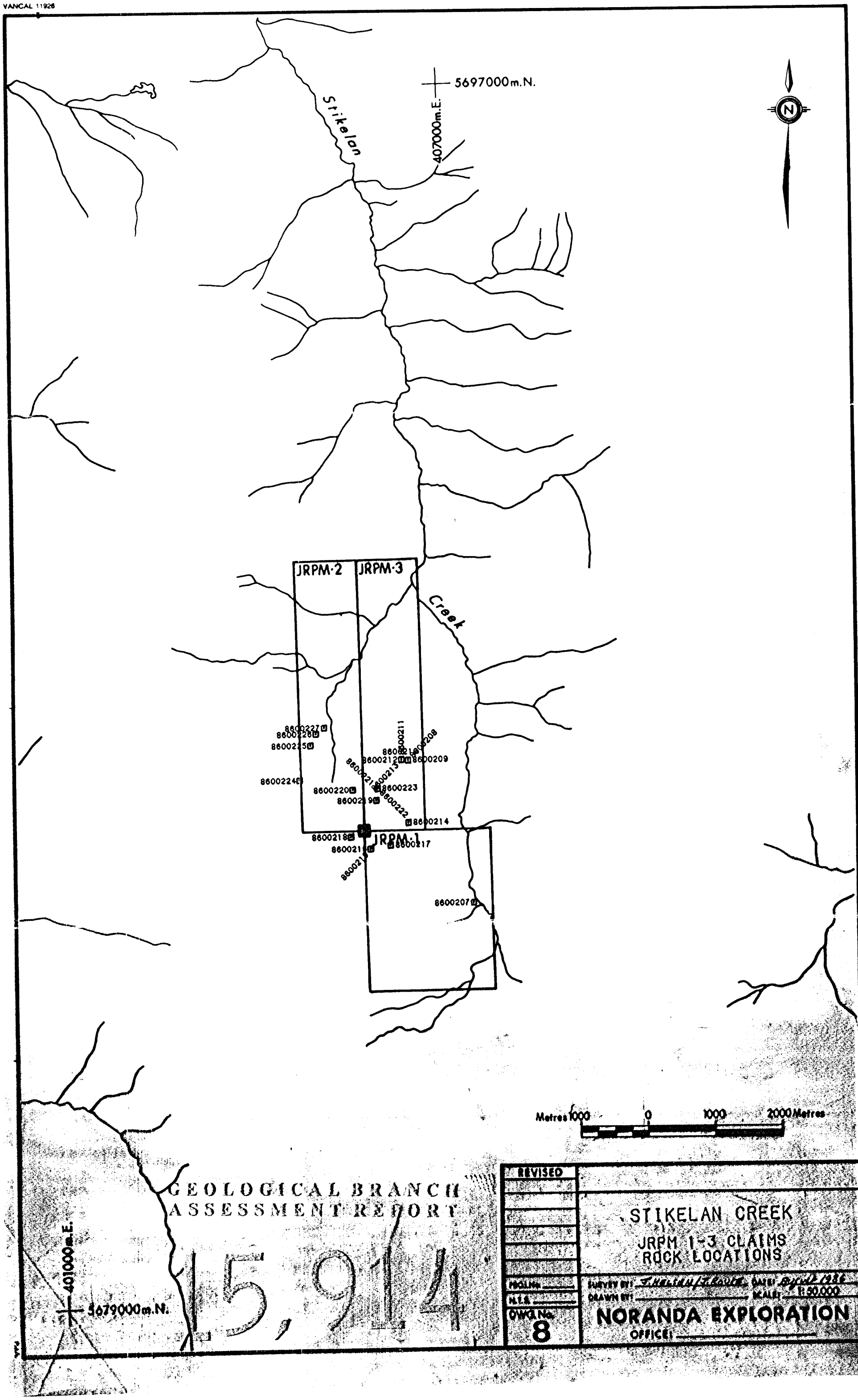


GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
	STIKELAN CREEK
	JRPM 1-3 CLAIMS
	LEAD IN STREAM SEDIMENTS
PROJ.No.	SURVEY BY: J.HELSEN / J.ROUSE DATE: September
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 9 C	NORANDA EXPLORATION
	OFFICE:

VANCAL 11928

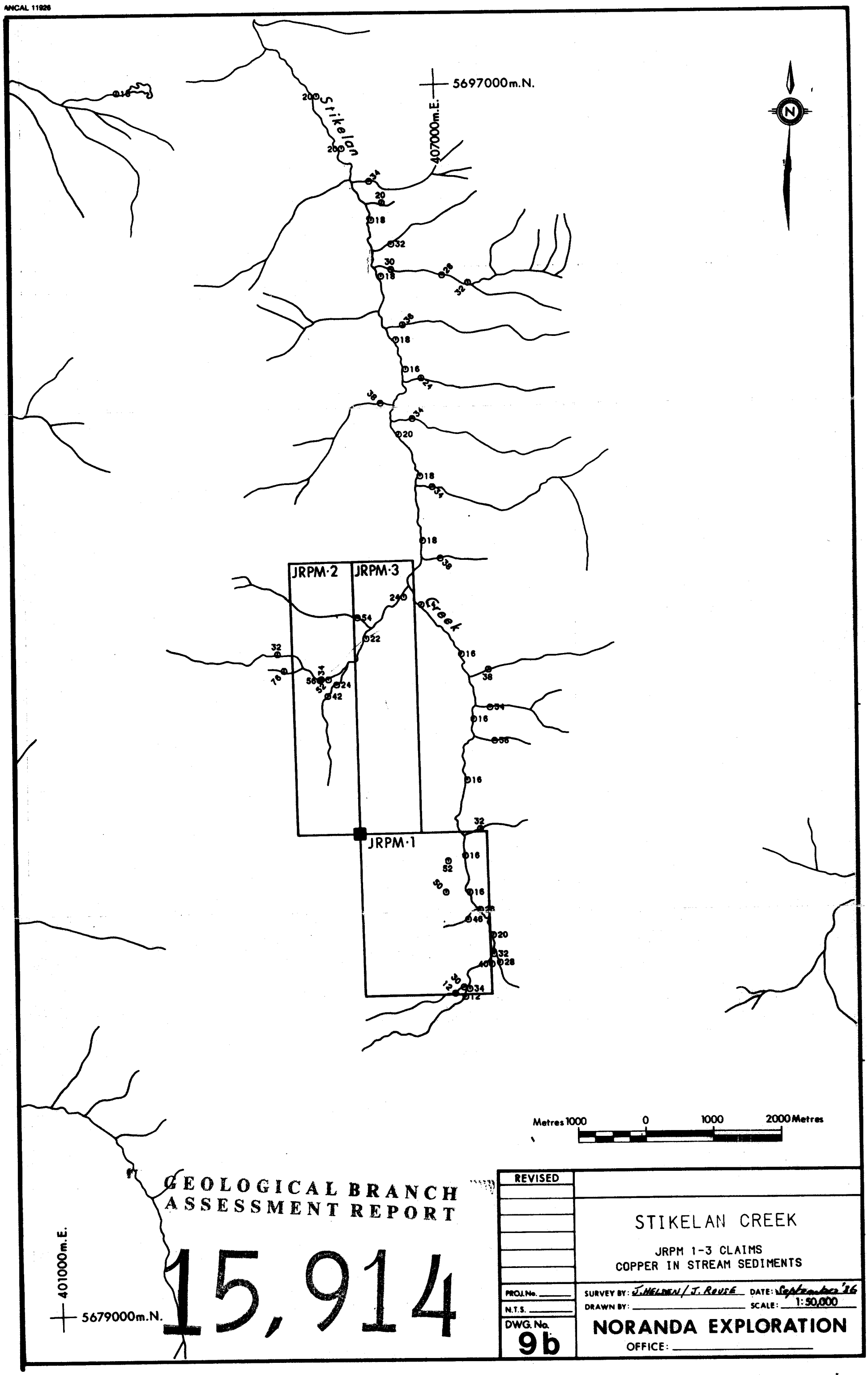


GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,911

REVISED	
	STIKELAN CREEK
	JRPM 1-3 CLAIMS
	ROCK LOCATIONS
MAP No.	SURVEY BY: J. Hall & J. Rowles DATE: August 1986
N.T.S.	DRAWN BY: SCALE: 1:50,000
OWG No. 8	NORANDA EXPLORATION
	OFFICE:

ANCAL 11926

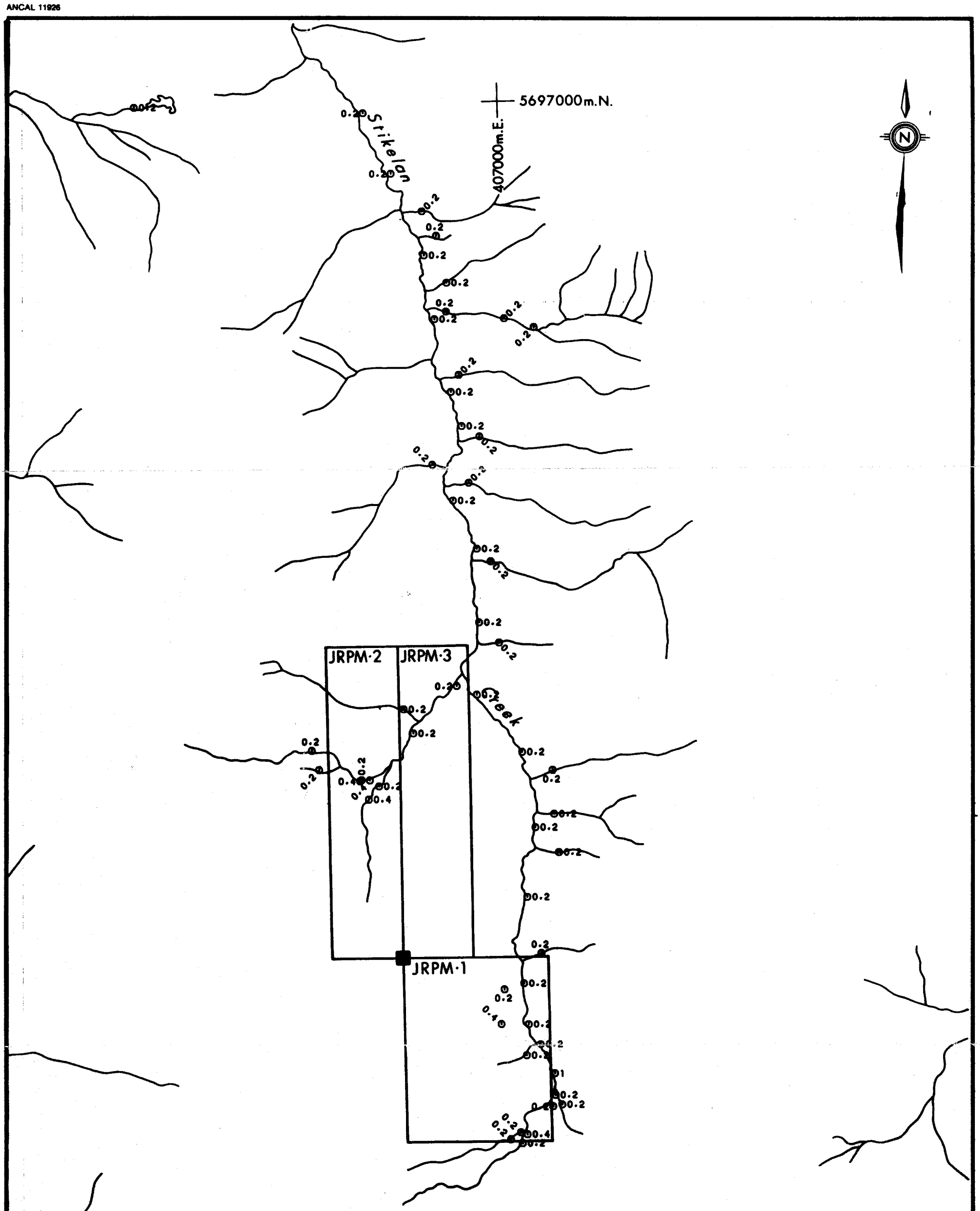


GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
PROJ.No.	STIKELAN CREEK
N.T.S.	JRPM 1-3 CLAIMS
DWG. No. 9b	COPPER IN STREAM SEDIMENTS
SURVEY BY: J. HELDEN / J. REUSE	DATE: September '86
DRAWN BY:	SCALE: 1:50,000
NORANDA EXPLORATION	
OFFICE:	

ANCAL 11926



GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
	STIKELAN CREEK
	JRPM 1-3 CLAIMS
	SILVER IN STREAM SEDIMENTS
PROJ. No.	SURVEY BY: J. HELSEN / J. ROUSE DATE: September '86
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 9a	NORANDA EXPLORATION
	OFFICE:

VANCAL 11926

5697000m.N.

407000m.E.

Stikelan

N

JRPM·2

JRPM·3

Creek

JRPM·1

401000m.E.

5679000m.N.

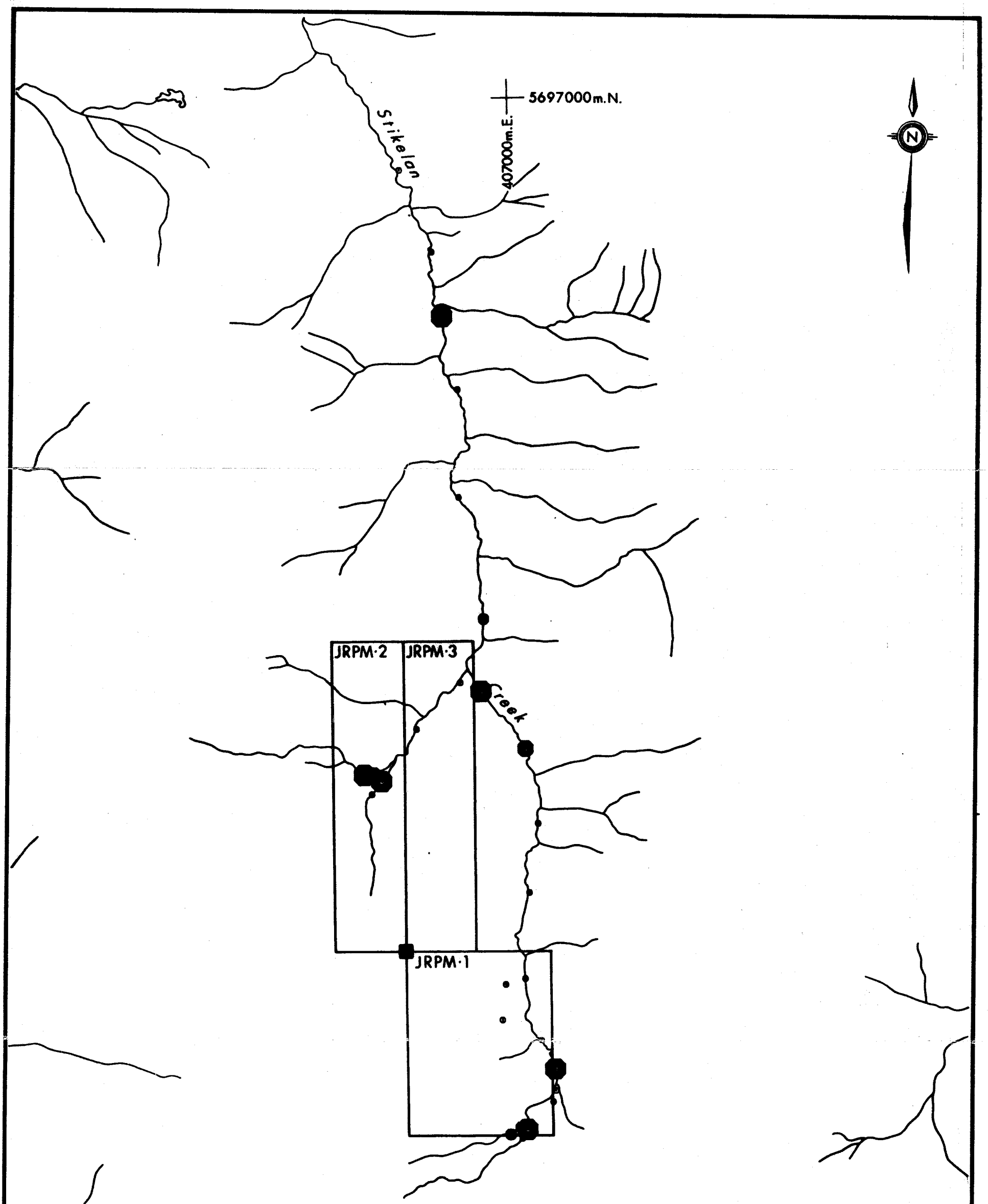
STIKELAN GLACIER

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

Metres 1000 0 1000 2000 Metres

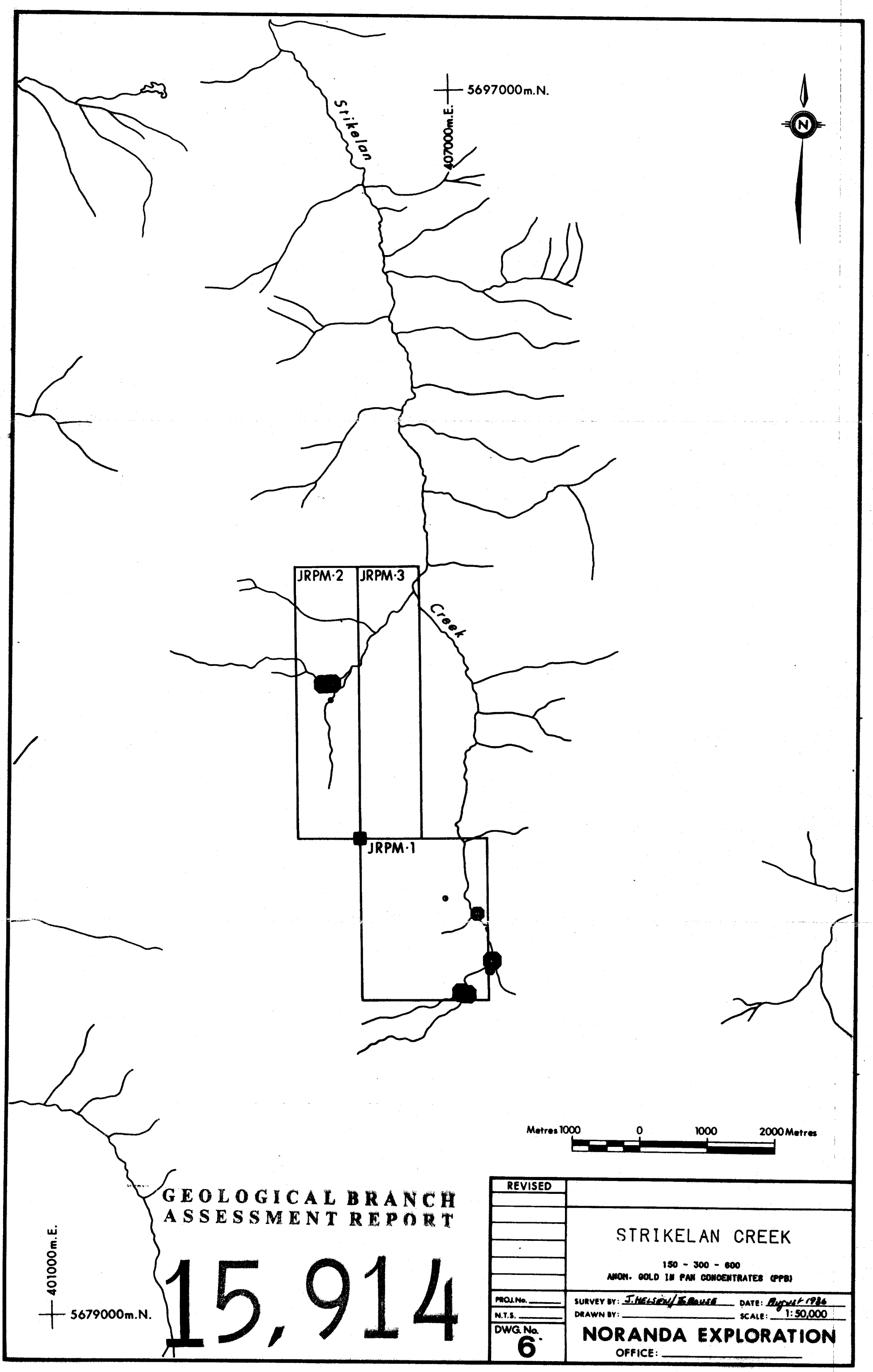
REVISED	STIKELAN CREEK JRPM CLAIMS
PROJ. No.	SURVEY BY: [illegible] DATE: Aug./86
N.T.S. 92N/8	DRAWN BY: [illegible] SCALE: 1:50,000
DWG. No. 2	NORANDA EXPLORATION OFFICE: Vancouver



GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

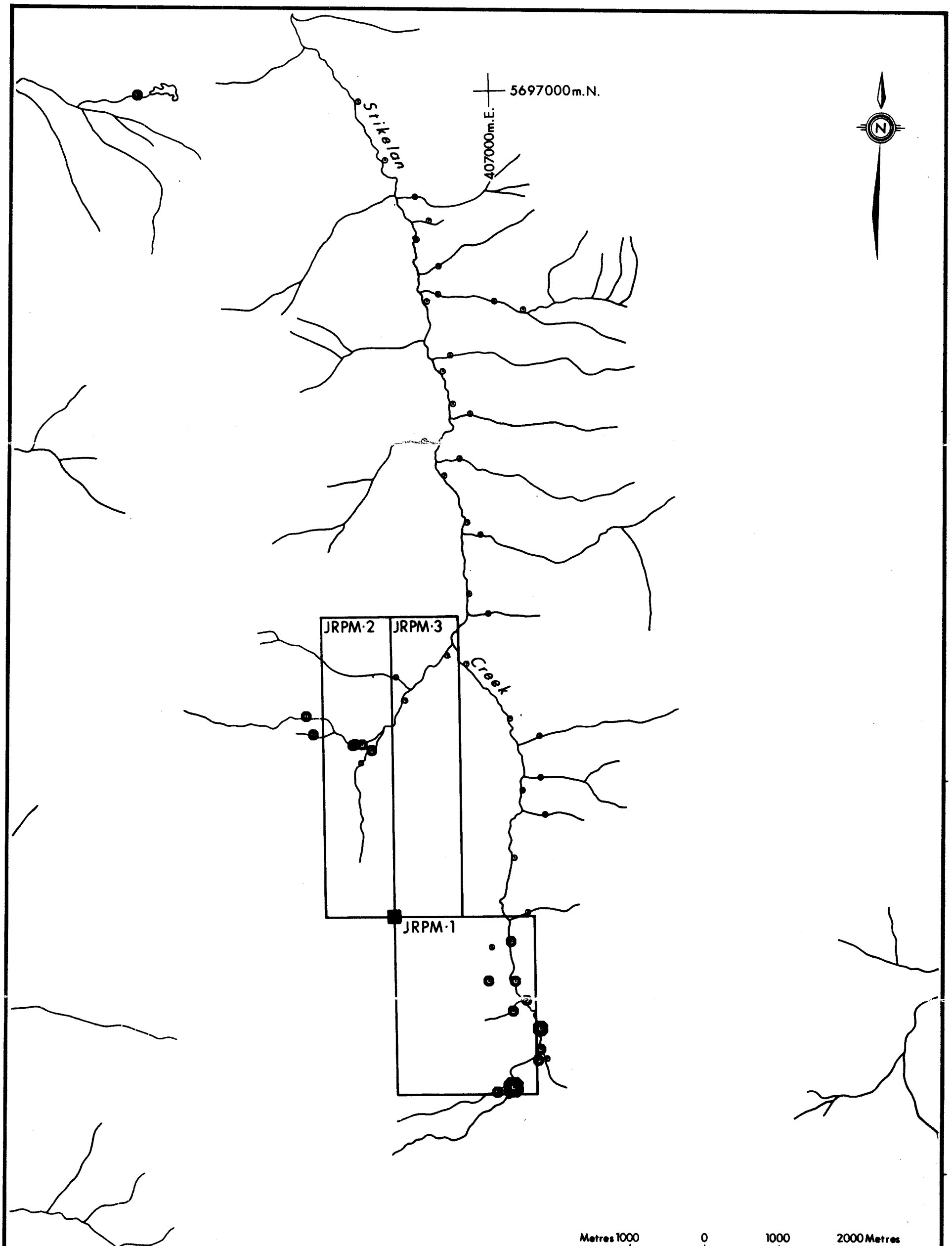
REVISED	
	STIKELAN CREEK
	20 - 30 - 50
	ANOM. GOLD IN STREAM SEDIMENTS (PPB)
PROJ. No.	SURVEY BY: J.HELSEN/J.ROUSE DATE: August 1986
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 5	NORANDA EXPLORATION
	OFFICE:



GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
	STRIKELAN CREEK
	150 - 300 - 600
	ANOM. GOLD IN PAN CONCENTRATES (PPB)
PROJ. No.	SURVEY BY: J. HELSEN/E. BOUSE DATE: August 1986
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 6	NORANDA EXPLORATION
	OFFICE:

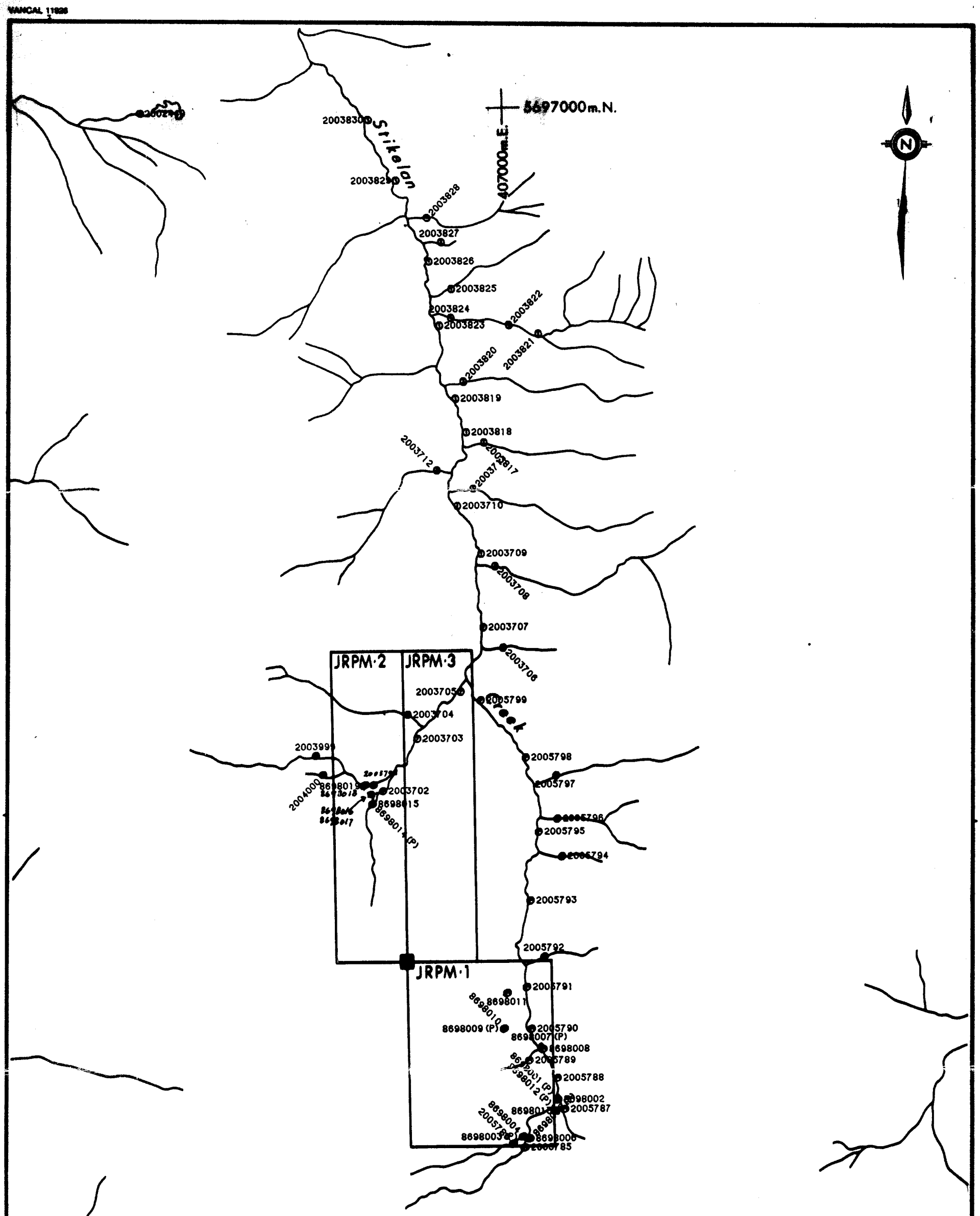


GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
	STIKELAN CREEK
	50 - 100 - 150
	ANOM. ARSENIC IN STREAM SEDIMENTS (PPM)
PROJ. No.	SURVEY BY: J. HOLSTEAD / J. ROUSE DATE: August 1986
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 4	NORANDA EXPLORATION
	OFFICE:

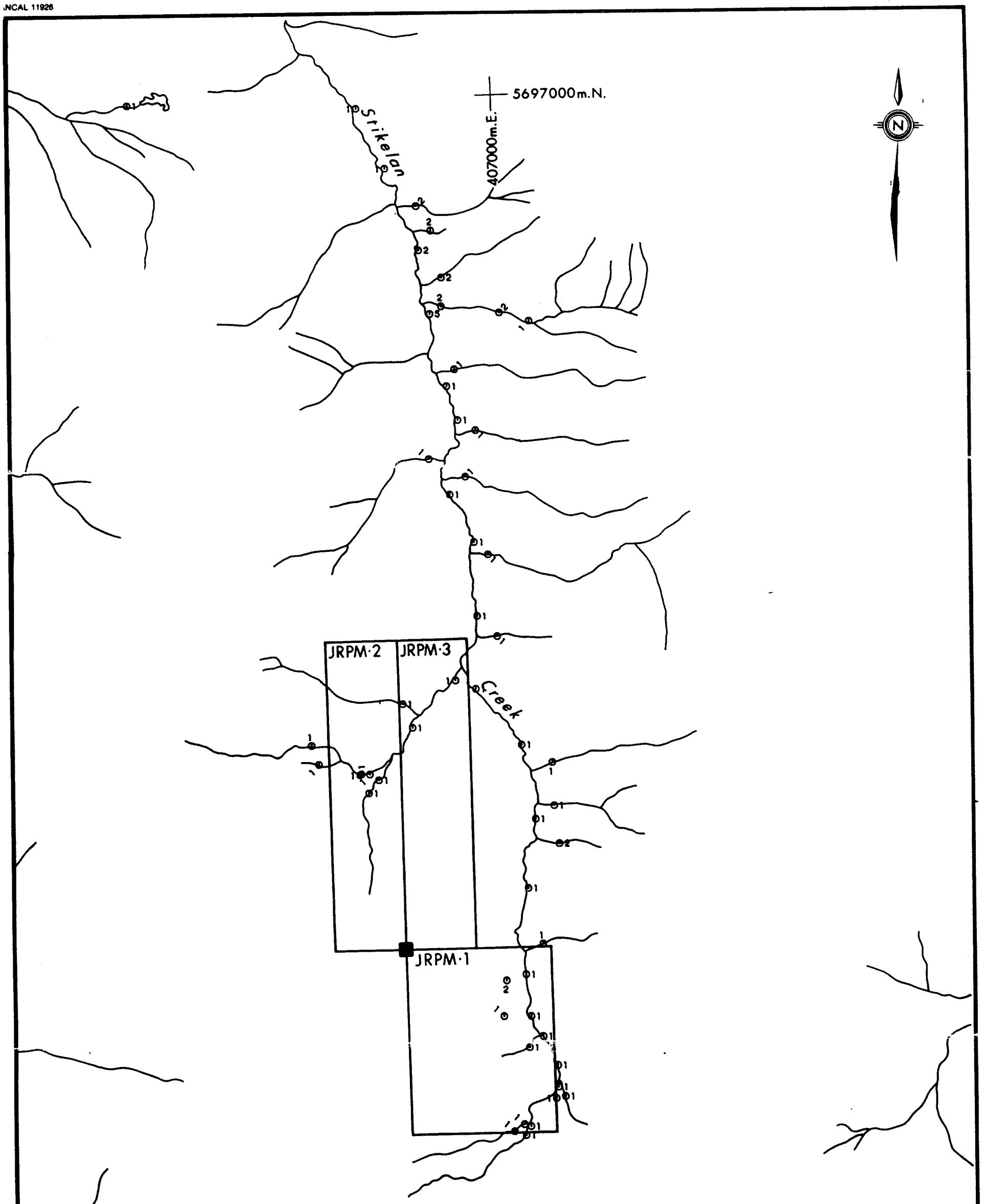
VANCAL 11926



GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,914

REVISED	
	STIKELAN CREEK JRPM 1-3 CLAIMS SILT/PAN LOCATIONS
PROJ. No.	SURVEY BY: J. NELSEN/J. ROUSE DATE: August 1986
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 3	NORANDA EXPLORATION OFFICE:



REVISED	
	STIKELAN CREEK
	JRPM 1-3 CLAIMS
	MOLY IN STREAM SEDIMENTS
PROJ. No.	SURVEY BY: J. NIELSEN / J. ROUSE DATE: September 86
N.T.S.	DRAWN BY: SCALE: 1:50,000
DWG. No. 9g	NORANDA EXPLORATION
	OFFICE: