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KENNCO EXPLORATIONS (WESTERN) LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT
THM CLAIMS-Little White Lake Area
Skeena M. D. British Columbia
55 - 129 N.E. 103P-14

By: C. S. Ney, P.Eng. March 22, 1967

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KENNCO EXPLORATIONS, (WESTERN) LIMITED

Geological and Geochemical Report

THM Claims

(Little White Lake Area)

Skeena M.D., B.C.

55 - 129 N.E.

-by-

Charles S. Ney P. Eng.

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Maps in Pocket

THM Claims, Geology and Geochemistry,
Scale 1" = 200' # 1

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(Little White Lake Area)

Skeena M.D., B.C.

$5 - 129 N.E.

Introduction:

The THM claims were located by C.S. Ney, agent for Kennco Explorations, (Western) Limited in May and June 1966 on showings of molybdenum which had been discovered during a short reconnaissance in 1965. A weak geochemical stream anomaly had been known in the area from 1960. Examination of tributary streams resulted in the discovery of mineralized float.

In June and in September, 1966 streams in the area were sampled in detail, the ground was prospected, and a geological map was made under the supervision of C. S. Ney.

Location:

The claims are about 23 miles N 5° E of Alice Arm, B.C. on a moderate sloping gullied hillside northeast of a small lake draining to White River. Elevation ranges from 2500 to 4500 feet a.s.l. Timberline is at about 4200 feet. Geographic Coordinates of the area are: Lat. 55°49'N; Long 129°26'W.

Methods Employed:

Geochemistry: Samples of active stream sediment were taken at intervals of about 600 feet where possible. The location of actual sites was dictated by snow cover and by the character of the stream bed. Samples of soil and of disintegrated rock were taken along traverse lines at irregular intervals where information on metal content was desired. Samples were dried and screened to minus 80 mesh in a field lab located in Nass Valley. Some of the samples were tested for molybdenum at this point. All the samples were later sent to Kennco Explorations, (Western) Limited laboratory at North Vancouver, where they were tested quantitatively for molybdenum, copper, zinc and lead by standard analytical techniques.

Surveys: Tape-compass surveys were run to tie in the principal stream sample sites and establish continuity of the streams. Claim posts were also tied in. Countours were drawn from elevations obtained in these surveys. Additional traverse lines and point locations were made by compass and range finder.

Geological Mapping: The mapping is based mainly on observations made along traverse lines. This was sufficient to outline the distribution of intrusive rocks and zone of mineralization. Complete delineation of all outcrops were not attempted.

Geochemical Data

Analytical data are detailed at the top of the accompanying map in parts per million of each metal. Stream and soil sites are separately indicated on the map. Molybdenum values only are shown by a color coding along streams and at the soil sites.

Molybdenum: All streams carry anomalous amounts of molybdenum. The generally weak anomalies in the streams on the west draining THM 7, 9, and 10 are considered to indicate that mineralization if anyin this area is very tenuous. Moderate anomalies on THM 5 & 6, represented by sites 84365 (29 ppm), 85573 (17 ppm) and 85574 (48 ppm) are consistent with traces of molybdenum observed in this area, in the granodiorite and its contact zone. Consistently strong anomalies are found in the easterly creeks, draining THM 1-4 and 17. Sites 84368 (82 ppm, 85564 (75 ppm) and 85514 (135 ppm) are indicative of a better tendency for mineralization in the eastern part of the claim group. Upstream cutoffs are indicated by sites 85578 (6 ppm), 87231 (7 ppm) and 87238 (17 ppm). This is in agreement with prospecting data that the abundant exposures of greywacke north of the claims are barren. Molybdenum values in the soil and rock debris samples are significantly high in the eastern part of the area, as the stream data would suggest.

Copper: Copper values in both stream sediments and soils are usually low. There is little correlation with molybdenum except in some of the high soils. Many strongly anomalous molybdenum values (100 ppm) have only background amounts of copper (50 ppm).

Zinc: Zinc values are consistently high and the moderate anomalies (200 ppm) are independent of and more widespread than molybdenum. High values (500 ppm) have moderate to high molybdenum values associated with them. Moderate zinc anomalies persist upstream above the molybdenum cutoffs.

Lead: Almost all lead values on the claims are anomalous (20 ppm) and some are significantly so. Float of small quartz veins containing zinc and lead is fairly common in the area, and the veins are known to outcrop in gullies. With some exceptions high leads and zincs go together.

In general there is little evidence in the geochemical data of a zonal separation of the metals.

Geological Data:

Mapping indicates an easterly trending mass composed mainly of granodiorite at least 6500 feet long and 800-1200 feet wide. This intrudes folded sedimentary strata which are considered to be of the Bowser Group of Jurassic to Cretaceous age. A contact zone of aplite and pegmatitic dykes envelopes the easterly part of the intrusion. Scattered mineralization is found in the contact zone and in the intrusion mainly toward the north and easterly contacts.

Bowser Group Sediments: The sedimentary country rocks are predominantly graywacke in beds 1 - 5 feet thick, and such rock comprise the cliffs above the intrusion on THM 6. The cliffs on THM 7 are mainly dark, fine grained and thinly bedded sediments, slightly rusty weathering in places from pyrite. Identical rocks form a belt of steep cliffs on THM 16 and eastward.

The normal regional trend of the sediments is N 35°W. In this area strikes of 90 - 110° predominate. Folds with nearly horizontal axes and a southward overturn traverse the mountain north of the claims. Through the claims strikes are 100 - 110° and dips are 20 - 30° north above the intrusion, somewhat steeper on the average below it, with several open folds on easterly trending axes.

Intrusive Rocks: At the western exposures of the intrusion on THM 9 & 10 the rock is a mafic biotite granodiorite. Actual contacts were not found here. The width may be narrower than indicated and the western limit has not been mapped. On THM 5 & 6, 2400 foot to the northeast the intrusion is exposed over a width of 800 feet in a vertical distance of 700 feet. The lower (southerly) part is mafic granodiorite or diorite. Upward and northerly the rock becomes more leucocratic and locally approaches quartz monzonite in composition. The main mass on THM 1 & 3 is normal biotite granodiorite, locally inclining to quartz monzonite. On THM 17 the intrusion divides into at least two prongs which terminate abruptly to the east.

The upper contact is well exposed and shows considerable intrusive irregularity. A small amount of the irregularity may be accounted for by left hand offsets along northeasterly faults. The steep dips and departures from average strikes near the intrusion suggest locally forceful emplacement. The gross dip of the intrusion is nowhere well known.

Contact Zone: Dykes mainly of aplite, locally showing pegmatite textures, swarm in a zone 50 - 300 feet wide partly in the intrusion, mostly in the adjacent sediments. The dykes are two to 20 feet wide. Several clear cut dykes strike northwesterly and dip steeply northeast. At other points, notably above the intrusion on THM 2 - 4, the dykes form a stockwork and comprise 30% or more of the rock.

Alteration: On THM 9 the sediments south of the intrusion are highly altered to the point of granitization. Hornfels is weakly developed in the finer grained sediments near the intrusion, particularly on THM 1 & 15. A distinctive hornfels aureole is lacking, and on much of the contact zone there is merely an indication without any appreciable development of biotite. There is a slight but conspicuous development of sericite in the intrusion close to the contact zone. Quartz veinlets are present in the contact zone and in the sediments within a few hundred feet of the intrusion. They seldom make up more than 5% of the rock volume.

Mineralization:

Molybdenum mineralization found to date is spars and inconspicuous. Above the intrusion on THM 4 it is locally disseminated in aplite and pegmatite. At a few localities it is noted in quartz veinlets. It is widely distributed in small amounts in fractures in granodiorite. This type of occurrence is particularly common on THM 1 and THM 17. The fractures weather rusty at the surface and the molybdenite may not be conspicuous.

There are a few quartz veins, up to 1' wide, mineralized with pyrite, galena, and sphalerite. One in particular follows a northwesterly trending fault gulley on THM 5.

Conclusions:

The geochemical work indicated an area at the east end of the intrusion which is strongly anomalous and shows favourable mineralization tendency. The western part of the intrusion is indicated to be relatively barren.

The geological mapping defined the contacts of the intrusion fairly well and indicated a progressive change to more leucocratic rock types toward the northeast.

A more detailed sampling and prospecting program is warranted on THM 1, 15, and 17.

Charles S. Ney

C. S. Ney

Vancouver, B.C.

March 22, 1967

Sample No.	Mo	Cu	Ni	Pb	ppm.
84336	4	23	188	16	
37	13	28	190	16	
38	5	30	228	16	
39	5	28	128	5	
40	10	48	150	19	
41	15	63	175	21	
42	44	53	192	47	
43	10	42	213	10	
44	5	39	213	24	
45	21	68	200	30	
46	54	37	175	31	
47	122	39	155	71	
48	26	45	310	13	
49	66	34	88	16	
50	56	58	196	46	
51					
52					
53	17	70	180	30	
54	20	58	180	26	
55	10	93	113	27	
56	70	58	167	52	
57					
58					
59					

Sample No.	Mo	Cu	Ni	Pb	ppm.
84360	14	68	725	14	
61	5	39	175	18	
62	30	30	140	27	
63	65	55	130	49	
64	4	43	108	11	
65	27	78	218	52	
66	64	35	98	14	
67	75	19	84	20	
68	82	95	228	147	
85514	135	93	200	59	
515	67	60	128	14	
16	45	35	128	33	
17	43	25	80	10	
18	30	21	150	62	
19	78	35	217	36	
20	60	37	337	25	
21	125	12	61	27	
22	2	7	14	6	
23	5	16	30	20	
24	59	60	153	86	
25	80	16	153	2	
26	5	14	80	2	
27	8	7	52	9	
28	2	10	32	5	
85561	66	18	80	37	
62	34	68	155	22	
63	175	108	110	19	
64	75	115	390	73	

Sample No.	Mo	Cu	Ni	Pb	ppm.
85565	87	90	175	45	
66	189	183	150	180	
67	152	130	660	199	
68	119	130	2298	269	
69	90	68	460	179	
70	64	179	195	11	
71	105	128	600	22	
72	34	113	310	9	
73	17	53	188	14	
74	48	78	274	5	
75	6				
76	6	38	257	6	
77	6	33	110	17	
78	6	65	242	20	
79	10	39	163	17	
80	8	39	137	10	
86028	38	43	153	58	
87221	86	75	170	186	
222	74	173	160	52	
23	88	180	200	11	
24	144	280	1170	452	
25	47	148	600	968	
26	46	80	425	71	
27	30	33	90	8	
28	36	45	100	23	
29	146	60	120	14	
30	8	53	103	7	
31	7	95	232	21	
32	168	80	188	290	
33	73	73	82	23	
34	59	85	224	44	
35	58	88	310	186	
36	51	37	84	14	
37	118	39	160	6	
38	17	50	150	10	

Sample No.	Mo	Cu	Ni	Pb	ppm.
87239	54	73	133	64	
40	62	75	210	302	
41	30	25	63	11	
42	16	45	123	28	
43	136	50	54	82	
44	232	133	21	58	
45	169	28	88	12	
46	590	260	282	241	
47	269	145	210	23	
48	311	173	210	31	
49	150	103	200	52	
50	156	18	54	15	

LEGEND

- Aplite + pegmatite — 6
- Quartz monzonite — 5
- Diorite + granodiorite — 4
- Hornfels — 3
- Graywacke — 2
- Argillite, fine dark graywacke — 1
- Bedding
- Fault
- Fold Axis
- Soil sample site
- Stream sample site
- Scale of molybdenum values
  - ppm. 0-5
  - 5-20
  - 20-100
  - 100 +
- Claim Post - Actual
- Witnessed

Astro North

Wooded Cliffs

talus

geology not mapped

deep talus

CAMP

955

Tape - Compass + Rangefinder Surveys

Charles S. Ney P.Eng.

KENNCO EXPLORATIONS (WESTERN) LIMITED

THM CLAIMS

SKEENA M.D., B.C.

Geology and Geochemistry

DATE: Feb 10, 1967	DRAWN BY: C.S.N.	PLATE NO:
REVISED BY	DATE	SCALE: 1"=200' Contour Interval 100'