3368

KENNCO EXPLORATIONS, (WESTERN) LIMITED

REPORT

ON

SOIL AND SILT GEOCHEMICAL SURVEY

BLACK NO. 1 GROUP
(Black Mineral Claims 1-36)

Situated 17 miles north of Thutade Lake,
Omineca Mining Division,
British Columbia

57°19'N; 126°58'W

94 E /7W

By

R.W. Stevenson, P. Eng.

Work done from August 22 to 27, 1971

November 18, 1971

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LIST OF ILLUSTRATIONS

Kennco Explorations, (Western) Limited

BLACK CLAIMS

Situated 15 miles northwest of Thutade Lake

Omineca Mining Division
British Columbia

57° 127° SE

R. St. Stevenson

LOCATION MAP

Scale:
1 : 250,000

INTRODUCTION

The mineral property discussed in this report is situated about 17 miles north of Thutade Lake, British Columbia. The exploration work done on this property consisted of a silt geochemical survey, and a preliminary soil geochemical survey. The position of these surveys is shown on the Location Map.

The personnel employed are listed in the Statement of Costs. The work was done under the supervision of R.W. Stevenson, P. Eng.

LOCATION AND ACCESS

The property is situated at Latitude 57°19'N; 126°58'W, about 17 miles north of Thutade Lake, and 285 miles northwest of Prince George. The survey area ranges from 5000' to 6200' above sea level. The ridges are above treeline, but there is considerable scrub alpine fir in the valleys and on the lower slopes.

Acess to the property is by fixed wing aircraft from Smithers to Black Lake, a distance of about 180 miles, and by helicopter from there. Local travel in the survey area is hampered by the thick growths of scrub alpine fir, and by the differences in valley and ridge elevations.

SILT GEOCHEMICAL SURVEY

Silt Survey Field Work

Sample Site Control

Sample sites were plotted in the field, on a topographic map having a scale of 1" = 2640'. These maps were obtained by enlarging portions of the 1:250,000 topographic map. Each sampling traverse was started from a point which could be identified easily on the topographic map. Sample site locations were plotted by pace and compass until another easily identifiable checkpoint was reached. Crews were set out by helicopter so as to utilize as much as possible of the working day in sample collection. A drainage base map with a scale of 1" = 400' was compiled for use in plotting the sample results for office interpretation.

Silt Sample Collection

In general, the samples were taken at 400 to 800 foot intervals on the main streams, depending on where suitable silt could be found. More detail was added in areas containing side streams.

Samples were taken from "active" material; that is under flowing water, either in streams or seepages. The samples were taken with a shovel. Fine-grained silt was selected. Care was taken to avoid high organic material, and well washed clay.

The sample site and number were then plotted on the field map. A note was made of the sample number; the width, depth, and speed of flow of the stream; the type of sediment sampled; and any peculiarities of nearby drainage, such as above or below a pond or swamp.

Packaging

The samples were placed in 3" x 4 1/2" brown paper envelopes on which the sample numbers had been marked. These were closed with a triangular triple fold. (The bags are not anomalous in trace metals).

Sample Preparation

The samples were taken to base camp, and partly air-dried. The samples were then shipped to our laboratory in North Vancouver, where they were oven-dried at 80°C and sieved through an 80-mesh size stainless steel screen. (These sieves do not show noticeable wear even after several thousand samples have been sifted). The minus 80 mesh fraction was collected for all the analyses involved.

Analysis

The samples were analysed in the North Vancouver laboratory of Kennco Explorations, (Western) Limited, under the supervision of H. Goddard, laboratory manager. Total extraction from a weighed sample is achieved by digestion with concentrated nitric acid and 70% perchloric acid. Determination of the Cu, Mo, Zn, Pb, Ag, Co, Ni content is made by aspiration in a Techtron AA5 Atomic Absorption Spectrophotometer. To determine the gold content, a weighed sample is digested in aqua regia, filtered, and the gold removed by solvent-solvent extraction in an organic solvent, MIBK (methyl-isobutyl-keytone). This is aspirated in the Techtron AA5.

Interpretation

The purpose of the silt survey was to explore the potential of the property in conjunction with the soil survey. The configuration of streams made this a practicable goal. The results are plotted on the same maps as the soil samples.

Copper is strongly anomalous on the south side of the north stream. This corresponds to the soil anomaly on claims 17,29,30. Copper is also anomalous on the other two streams, and indicates more widespread mineralization than is revealed by the soil sampling. Molybdenum anomalies are more restricted than copper, but they give more emphasis to the area drained by the central stream.

Zinc is generally co-anomalous with copper, but higher values at the heads of some streams indicates a somewhat broader distribution in rock. Lead also appears to have a broader distribution than copper.

Silver and gold are only anomalous in a few sample sites. Cobalt is not anomalous. The low values for nickel are consistent with the absence of basic rocks in the drainage area.

SOIL GEOCHEMICAL SURVEY

Soil Survey Field Work

Control Survey Lines

A control grid was established by chain and compass survey. The lines were laid out so as to explore as much of the property as possible in the limited time available. They were run on contour lines in areas where soil sampling was practicable. The intersections of the grid with drainage lines were used as control points. Stations were marked with surveyor's flagging. The grid was compiled on a map with a scale of 1" = 400'.

Soil Sample Collection

The samples were taken at 100-foot intervals along the grid lines. They were taken from the top of the "B" (rusty) horizon where possible. In some rocky areas, sufficient soil could not be found to take a sample. Dense growths of scrub alpine fir were avoided because soil conditions are generally unsuitable for sampling.

The samples were collected by digging a small hole with a spade. By this means it was possible to examine the soil horizon development. A note was made of the grid line location, the sample number, the depth of sample, the horizon sampled, the direction of drainage, the type of vegetation, and the soil type.

Packaging

The samples were placed in 3" x 4 1/2" brown paper envelopes on which the sample numbers had been marked. These were closed with a triangular triple fold. (The bags are not anomalous in trace metals).

Sample Preparation

The samples were taken to base camp, and partly air-dried. The samples were then shipped to our laboratory in North Vancouver where they were oven-dried at 80°C, and sieved through an 80-mesh size stainless steel screen. (These sieves do not show any noticeable wear even after several thousand samples have been sifted). The minus 80 mesh fraction was collected for all the analyses involved.

Analysis

The samples were analysed in the North Vancouver laboratory of Kennco Explorations, (Western) Limited under the supervision of H. Goddard, laboratory manager.

The analytical procedures used on the soil samples were the same as those used on the silt samples. These are described in the section entitled 'Silt Geochemical Survey'.

Interpretation

The depth of overburden varies from a few feet to probably about 10' over most of the area sampled. Considering the type of soil, it would seem likely that soil geochemistry is a reliable technique on these parts of the property. The samples were analysed for total metal content in copper, molybdenum, zinc, lead, silver, gold, cobalt, and nickel.

Sample stations that are considered to be background are uncoloured. Sample stations that are considered to be only weakly anomalous are coloured yellow. The weakly anomalous levels are 150 ppm to 299 ppm for copper, 10 ppm to 19 ppm for molybdenum, 200 ppm to 499 ppm for zinc, 70 ppm to 149 ppm for lead, 2.0 ppm to 3.9 ppm for silver, 0.10 ppm to 0.29 ppm for gold, 50 ppm to 99 ppm for cobalt, and 200 ppm to 499 ppm for nickel. Sample stations that are definitely anomalous are coloured red.

Copper is anomalous in the east-central part of the claim group. This anomaly appears to continue on the next ridge to the south. Molybdenum has a similar distribution to copper, except that there are several other small, weak anomalies.

Zinc and lead form anomalies that are co-extensive with the anomalous copper and molybdenum, but also continue beyond the copper in what may be a halo effect. Silver has an anomaly pattern that is similar to copper. Gold, cobalt, and nickel are virtually non-anomalous.

Vancouver, B.C.

November 18, 1971

R.W. Stevenson, P. Eng.

STATEMENT OF COSTS

The costs incurred on assessment work on the Black No. 1 Group of mineral claims were as follows:

Analysis of 314 soil and silt samples for Cu, Mo, Zn, Pb, Ag, Au, Co, Ni			$1,727.00
Wages & Board:			
R.W. Stevenson	August 26,27	@ $50.00 + $10.00	120.00
S.C. Gower	August 24-27	@ $35.00 + $10.00	180.00
A. Vanderhorst	August 22,23	@ $22.00 + $10.00	64.00
G.J. Allen	August 22-27	@ $16.00 + $10.00	156.00
B. Froebel	August 24-26	@ $21.00 + $10.00	93.00
A.B. Flower	August 25	@ $21.00 + $10.00	31.00
E.A. Black	August 25	@ $21.00 + $10.00	31.00
D.R. MacKay	August 27	@ $17.00 + $10.00	27.00
Helicopter setoutson the property; 5:20 hrs @ $175/hr			933.00
Drafting & Typing			110.00
		Total=	$3,472.00

R.W. Stevenson

R.W. Stevenson, P. Eng.

LEGEND

- ○ Silt Sample
- • Soil Sample
- — Soil Sample Line

3368
M-2

To Accompany Soil and Silt Geochemical Survey Report by R. W. Stevenson P. Eng., on Black No. 1 Group, 17 Miles North of Thutade Lake, Omineca M.D., B.C., Dated Nov. 18, 1971

R. W. Stevenson

KENNCO EXPLORATIONS (WESTERN) LIMITED

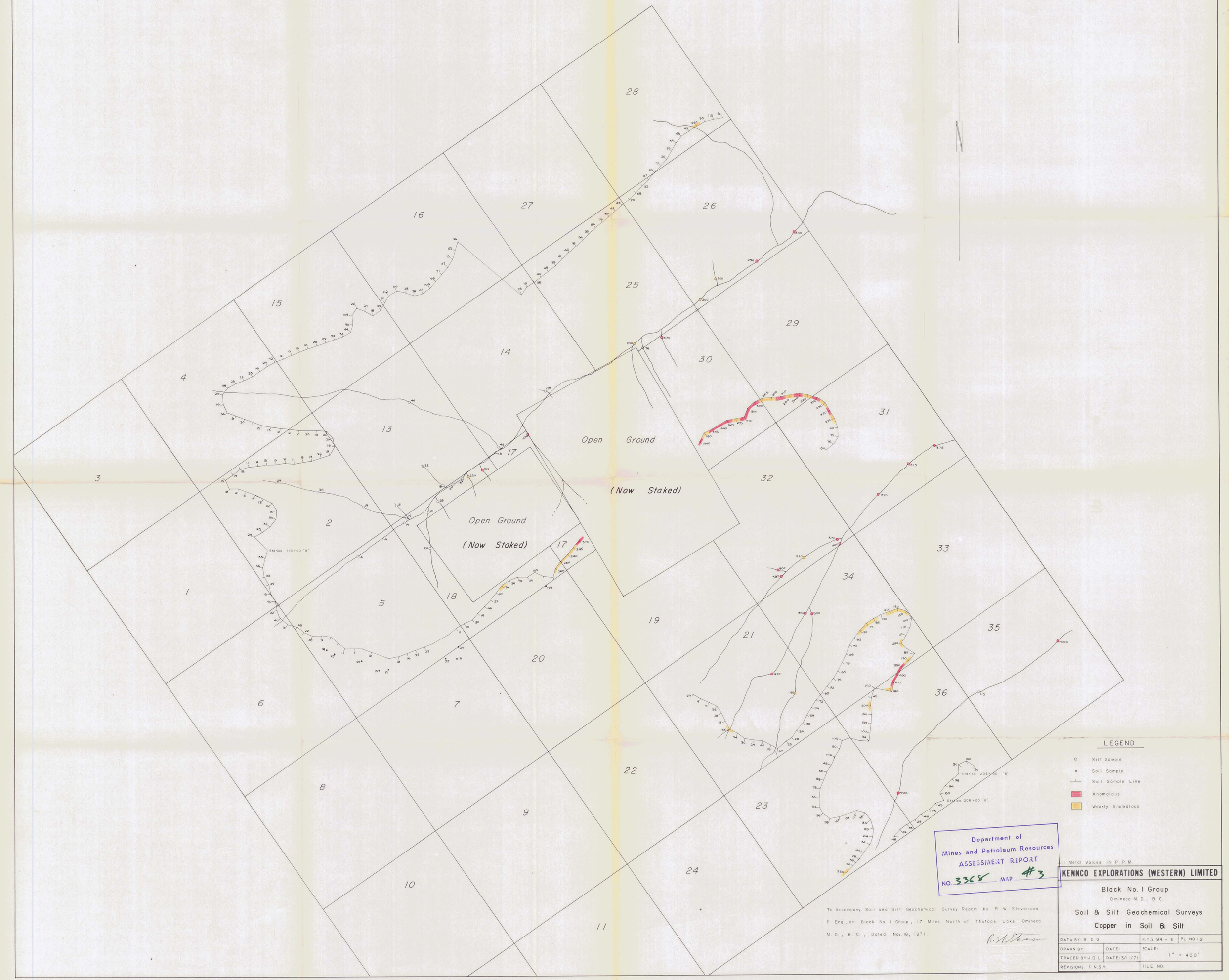
Black No. 1 Group

Omineca M.D., B.C.

Soil & Silt Geochemical Surveys

Soil & Silt Sample Sites

DATA BY: S.C.G.		N.T.S. 94 - E	PL. NO.: 1
DRAWN BY:	DATE:	SCALE:	1" = 400'
TRACED BY: J.Q.L.	DATE: 3/11/71		
REVISIONS: P.N.S.Y.		FILE NO.	



LEGEND

- Silt Sample
- Soil Sample
- Soil Sample Line
- Anomalous
- Weakly Anomalous

All Metal Values in P.P.M.

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
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To Accompany Soil and Silt Geochemical Survey Report by R. W. Stevenson P. Eng., on Block No. 1 Group, 17 Miles North of Thutade Lake, Omineca M. D., B. C., Dated Nov. 18, 1971

R. W. Stevenson

KENNCO EXPLORATIONS (WESTERN) LIMITED

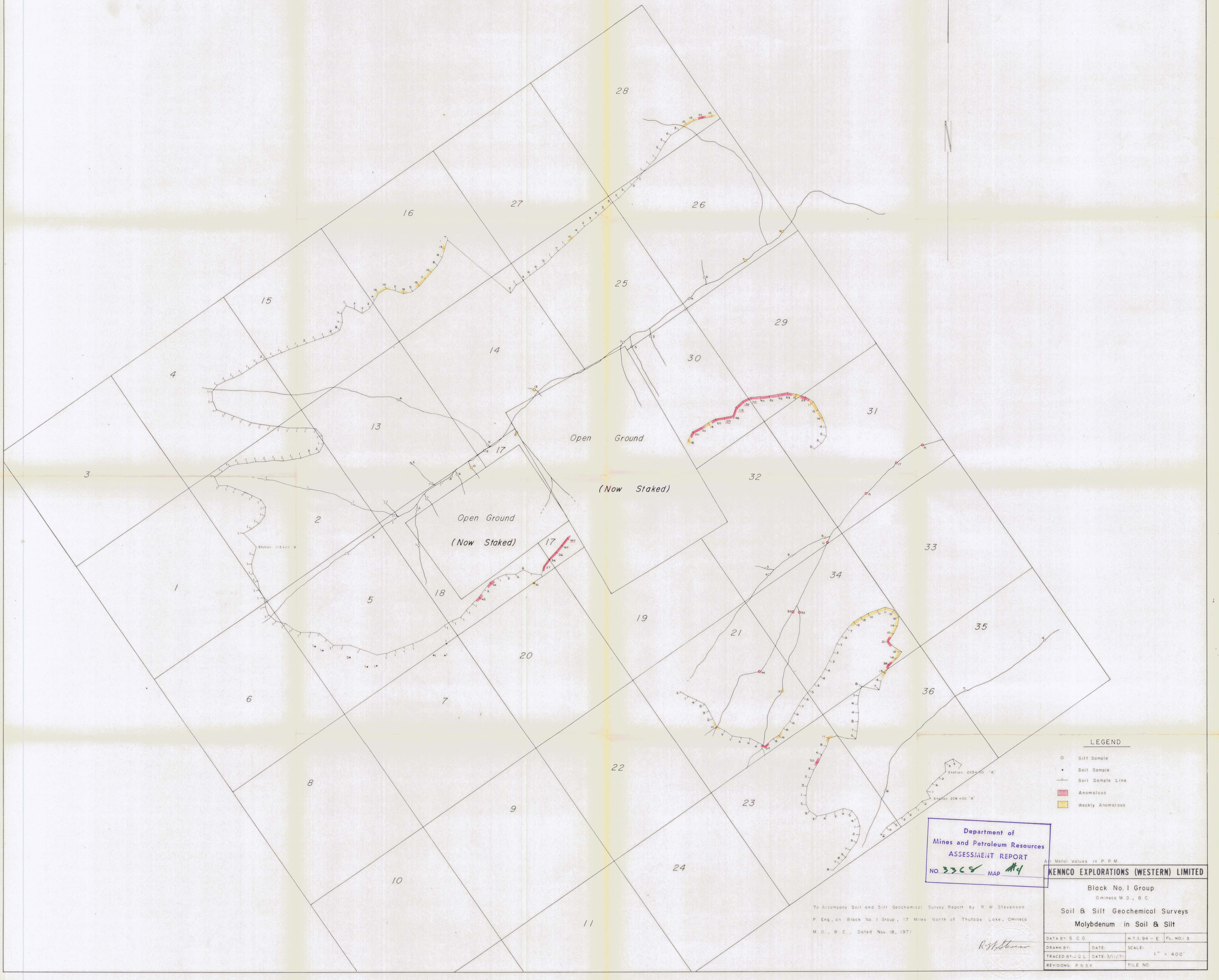
Black No. 1 Group

Omineca M. D., B. C.

Soil & Silt Geochemical Surveys

Copper in Soil & Silt

DATA BY: S. C. G.		N.T.S. 94 - E	PL. NO.: 2
DRAWN BY:	DATE:	SCALE:	1" = 400'
TRACED BY: J. Q. L.	DATE: 3/11/71		
REVISIONS: P.N.S.Y.		FILE NO.	



All Metal Values in P. P. M.

To Accompany Soil and Silt Geochemical Survey Report by R. W. Stevenson P. Eng., on Black No. 1 Group, 17 Miles North of Thutade Lake, Omineca M. D., B. C., Dated Nov. 18, 1971

R. W. Stevenson

KENNCO EXPLORATIONS (WESTERN) LIMITED

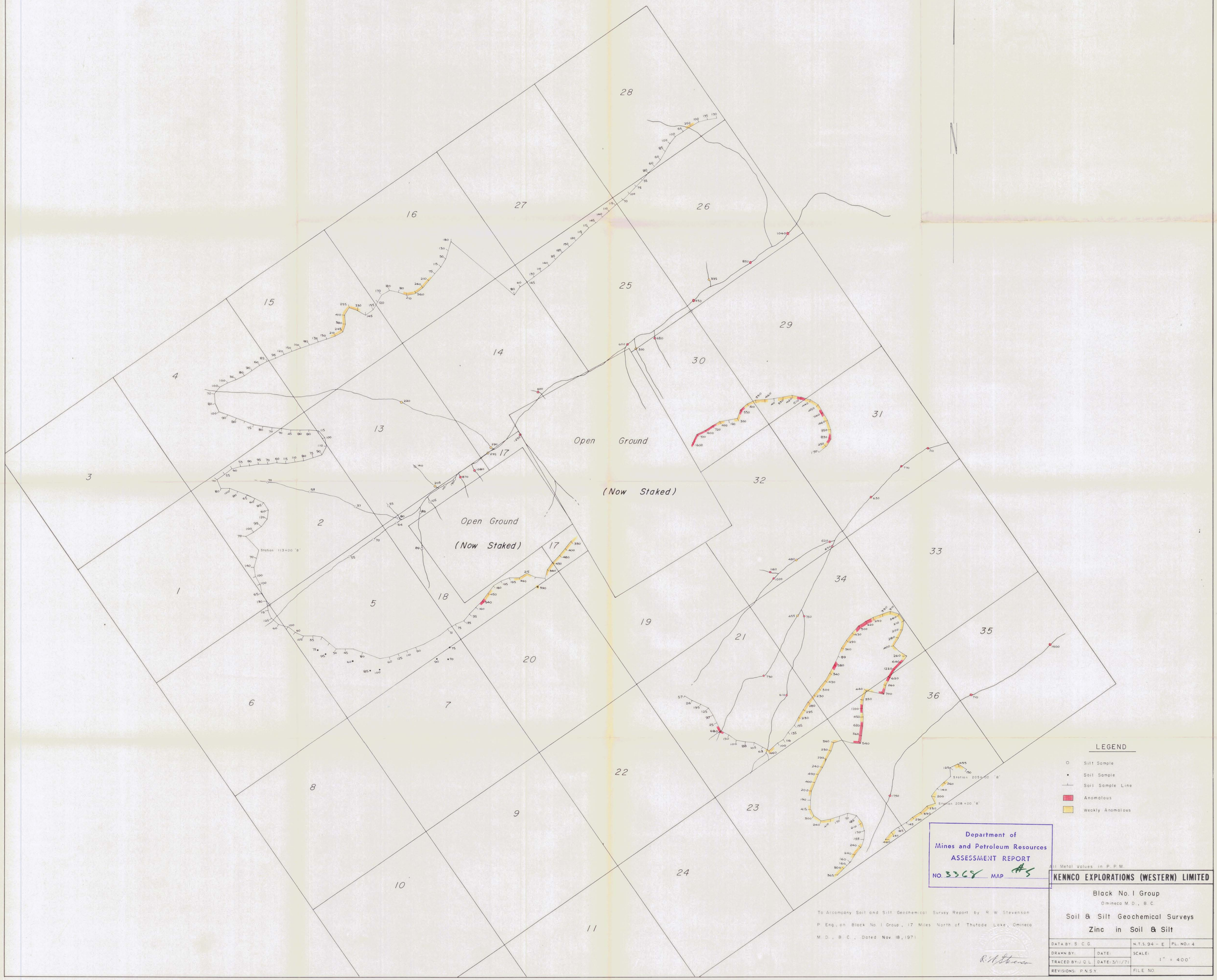
Black No. 1 Group

Omineca M. D., B. C.

Soil & Silt Geochemical Surveys

Molybdenum in Soil & Silt

DATA BY: S. C. G.		N.T.S. 94 - E	PL. NO.: 3
DRAWN BY:	DATE:	SCALE: 1" = 400'	
TRACED BY: J. Q. L.	DATE: 3/11/71		
REVISIONS: P. N. S. Y.		FILE NO.	



LEGEND

- Silt Sample
- Soil Sample
- Soil Sample Line
- Anomalous
- Weakly Anomalous

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ASSESSMENT REPORT
NO. 3368 MAP #5

All Metal Values in P.P.M.

To Accompany Soil and Silt Geochemical Survey Report by R.W. Stevenson P. Eng., on Black No. 1 Group, 17 Miles North of Thutade Lake, Omineca M.D., B.C., Dated Nov. 18, 1971

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KENNCO EXPLORATIONS (WESTERN) LIMITED

Black No. 1 Group

Omineca M.D., B.C.

Soil & Silt Geochemical Surveys

Zinc in Soil & Silt

DATA BY: S.C.G.		N.T.S. 94 - E	PL. NO.: 4
DRAWN BY:	DATE:	SCALE: 1" = 400'	
TRACED BY: J.Q.L.	DATE: 3/11/71		
REVISIONS: P.N.S.Y.		FILE NO.	

Open Ground

(Now Staked)

Open Ground

(Now Staked)

Station 113+00 'B'

Station 205+00 'B'

Station 208+00 'B'

LEGEND

- Silt Sample
- Soil Sample
- Soil Sample Line
- Anomalous
- Weakly Anomalous

All Metal Values in P.P.M.

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3368 MAP #6

To Accompany Soil and Silt Geochemical Survey Report by R. W. Stevenson P. Eng., on Block No. 1 Group, 17 Miles North of Thutade Lake, Omineca M.D., B.C., Dated Nov. 18, 1971

R. W. Stevenson

KENNCO EXPLORATIONS (WESTERN) LIMITED

Black No. 1 Group

Omineca M.D., B.C.

Soil & Silt Geochemical Surveys

Lead in Soil & Silt

DATA BY: S.C.G.		N.T.S. 94 - E	PL. NO.: 5
DRAWN BY:	DATE:	SCALE:	1" = 400'
TRACED BY: J.Q.L.	DATE: 3/11/71		
REVISIONS: P.N.S.Y.		FILE NO.	

LEGEND

- Silt Sample
- Soil Sample
- Soil Sample Line
- Anomalous
- Weakly Anomalous

All Metal Values in P. P. M.

To Accompany Soil and Silt Geochemical Survey Report by R. W. Stevenson P. Eng., on Block No. I Group, 17 Miles North of Thutade Lake, Omineca M. D., B. C., Dated Nov. 18, 1971

R. W. Stevenson

KENNCO EXPLORATIONS (WESTERN) LIMITED

Block No. I Group

Omineca M. D., B. C.

Soil & Silt Geochemical Surveys

Silver in Soil & Silt

DATA BY: S. C. G.		N.T.S. 94 - E	PL. NO.: 6
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TRACED BY: J. Q. L.	DATE: 3/11/71		
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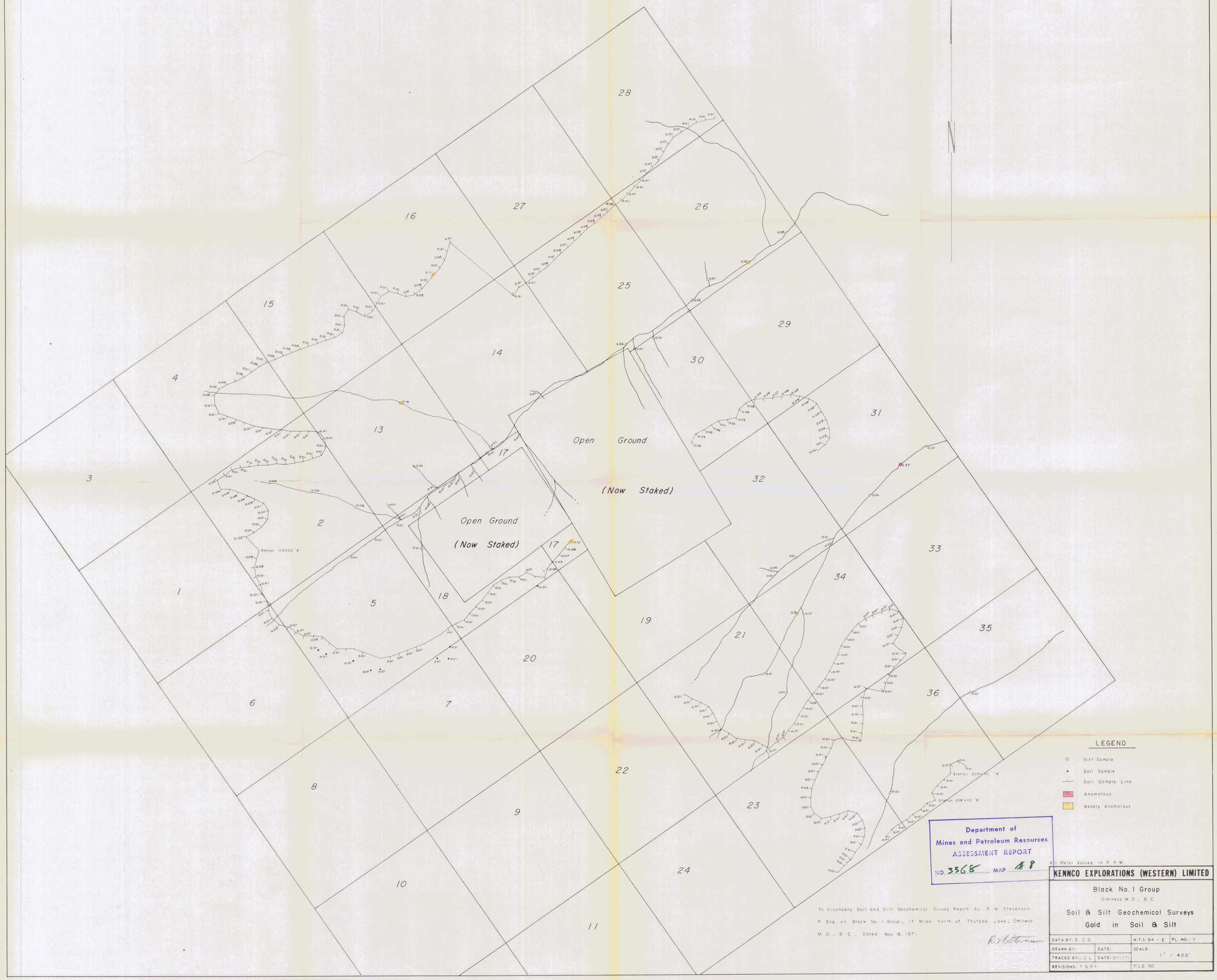

LEGEND

- Silt Sample
- Soil Sample
- Soil Sample Line
- Anomalous
- Weakly Anomalous

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3368 MAP #8

To Accompany Soil and Silt Geochemical Survey Report by R. W. Stevenson P. Eng., on Block No. 1 Group, 17 Miles North of Thutade Lake, Omineca M.D., B.C., Dated Nov. 18, 1971

R. W. Stevenson

All Metal Values in P.P.M.

KENNCO EXPLORATIONS (WESTERN) LIMITED

Black No. 1 Group
Omineca M.D., B.C.

Soil & Silt Geochemical Surveys
Gold in Soil & Silt

DATA BY: S.C.G.		N.T.S. 94 - E	PL. NO.: 7
DRAWN BY:	DATE:	SCALE:	1" = 400'
TRACED BY: J.Q.L.	DATE: 3/11/71		
REVISIONS: P.N.S.Y.		FILE NO.	

Open Ground

(Now Staked)

Open Ground

(Now Staked)

Station 113+00 'B'

Station 205+00 'B'

Station 208+00 'B'

LEGEND

- Silt Sample
- Soil Sample
- Soil Sample Line
- Anomalous
- Weakly Anomalous

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
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All Metal Values in P.P.M.

To Accompany Soil and Silt Geochemical Survey Report by R.W. Stevenson P. Eng., on Black No. 1 Group, 17 Miles North of Thutade Lake, Omineca M.D., B.C., Dated Nov. 18, 1971

R.W. Stevenson

KENNCO EXPLORATIONS (WESTERN) LIMITED

Black No. 1 Group

Omineca M.D., B.C.

Soil & Silt Geochemical Surveys

Cobalt in Soil & Silt

DATA BY: S.C.G.		N.T.S. 94 - E	PL. NO.: 8
DRAWN BY:	DATE:	SCALE:	
TRACED BY: J.Q.L.	DATE: 3/11/71	1" = 400'	
REVISIONS: P.N.S.Y.		FILE NO.	

LEGEND

- Silt Sample
- Soil Sample
- Soil Sample Line
- Anomalous
- Weakly Anomalous

All Metal Values in P.P.M.

To Accompany Soil and Silt Geochemical Survey Report by R. W. Stevenson P. Eng., on Block No. 1 Group, 17 Miles North of Thutade Lake, Omineca M. D., B. C., Dated Nov. 18, 1971

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KENNCO EXPLORATIONS (WESTERN) LIMITED

Block No. 1 Group

Omineca M. D., B. C.

Soil & Silt Geochemical Surveys

Nickel in Soil & Silt

DATA BY: S. C. G.		N.T.S. 94 - E	PL. NO.: 9
DRAWN BY:	DATE:	SCALE:	
TRACED BY: J. C. L.	DATE: 3/11/71	1" = 400'	
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