Title:	Soil Geochemical Survey of part of the Emma Claim
Claim:	Emma 1199 (1) 16 units
Mining Division:	Lillooet
NTS Location:	50° 46'N 122° 49.5' W
Owner:	Hillside Energy Corporation
Consultant:	Nevin Sadlier-Brown Goodbrand Ltd.
Author:	John Ostler, M.Sc.
Work Done:	November 12th - 18th, 1980

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SUMMARY

Nevin Sadlier-Brown Goodbrand Ltd. was retained by Hillside Energy Corporation as its technical consultant on the Emma Claim.

In November 12th - 18th, 1980, John Ostler, M.Sc. conducted a soil geochemical survey over the northern part of the claim and adjacent area as suggested by H.M. Jones, P.Eng.

Soils were tested for zinc, lead, gold and arsenic. Zinc distribution in soils revealed an anistmosing zone of high zinc probably reflecting tightly folded zinc-bearing strata in the underlying volcanic and sedimentary rocks. Lead distribution resulted in a crosshatch pattern of high lead across the claim. This may be due to lead-bearing conjugate shear zones, similar to those that host gold-veins in the nearby Pioneer Mine. One linear zone of comparatively very high lead extending across the central part of the claim may be caused by a large ore-bearing vein.

I recommend that the soil-lead anomaly be explored across the rest of the claim by extending the soil and geological survey.

1.0 INTRODUCTION

1.1 Terms of Reference

Nevin Sadlier-Brown Goodbrand Ltd. was retained by Hillside Energy Corporation as its technical consultant on the Emma Claim.

In November 1980, John Ostler, M.Sc. conducted a soil geochemical survey over the northern part of the claim and adjacent area as suggested by Mr. H.M. Jones, P.Eng., the consulting engineer on the project.

1.2 Location and Access

The Emma Claim is located at 50° 46' north latitude and 122° 49.5" west longitude. The property is near the southeast corner of NTS map sheet 92J/15W on a ridge between Carl and Noel Creeks, less than 1 km south of the town of Bralorne (Drawings 1 and 2).

Access to the Bralorne area is by a good gravel road from Lillooet to the east. In summer, access is also possible from the south by unimproved roads over the Hurley Pass or along Anderson Lake from the village of Pemberton. Access to the northern end of the property is by a trail from the Bralorne ski hill to the Native Son Adit, just north of the claim. The west side of the property is accessible by a trail east of Carl Creek that joins the Hurley Road.

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1.3 Terrain and Vegetation

The property is situated in the Coast Mountains of southern British Columbia. It is at elevations of between 1300 and 1900 m ASL on a moderately steep south-trending shoulder.

The property is covered with thick coniferous forest with abundant dead falls. Over most of the property, well-drained acidic soils predominate. Organic soils have developed in narrow bogs on the north-central part of the property.

Mining timber is available from the northern part of the claim.

1.4 Property

The Emma Claim comprises 16 units staked by G.A. Shore in January 1980, recorded and transferred to Hillside Energy Corporation shortley thereafter.

1.5 Previous Work

The follwoing is a regional historical summary condensed from W.R. Bacon (1978). Placer gold was found in the Bridge River area in 1863, many of the known gold veins were discovered in 1897, and the construction of a railway (the Pacific Great Eastern) from Vancouver to Lillooet in 1915 helped encourage development work on the lode claims. In 1928 the Pioneer Mine went into production with a 100 ton per day cyanite plant, which subsequently was increased to 400 tons per day. Nearby, Bralorne Mines Ltd. went into production in 1932 and by 1935 the capacity of the mill was increased to 475 tons per day.

. . .

Production ceased at the Pioneer in 1962 and at Bralorne in 1971. Statistics are as follows:

	Tonnage	Production oz. Au	Ag
Pioneer	2,476,693	1,333,083	244,648
Bralorne	5,474,238	2,821,036	705,862
Total	7,950,931	4,154,119	950,510
Grade Recoverable		0.5225 oz/t	0.1195 oz/t

The early production, indeed a great deal of the production, came from quartz veins 3-5 feet wide. Of the 30-odd veins in the two properties and the surrounding ore environment, 6 produced the bulk of the gold. Bralorne's '77' vein produced 2,100,000 tons of ore over a vertical range of 4650 feet in the bottom "level" (actually a decline) 6150 feet below the collar of the Empire Shaft, there has just been sufficient work to indicate a 530-foot length of vein, 6.8 feet wide and averaging better than 1 oz Au/ton.

Most of the area covered by the Emma Claim is previously unstaked land with very little rock outcrop. Evidence of previous work was not encountered on the northern part of the claim.

2.0 GEOLOGY

2.1 Regional Geology

The Emma Claim is in the Bridge-River-Bralorne gold camp area of the southwestern B.C. The area is underlain by Early Mesozoic

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rocks of the Fergusson Group, comprising a sequence of intermediate volcanics and sediments. These rocks are overlain by Middle Mesozoic volcanics and sediments of the Noel, Pioneer, and Hurley Formations (Drawing 3). All of these rocks have been intruded by the Bralorne Intrusives (Cairnes, 1934; Woodward, 1977).

2.2 Regional Structure and Mineralization

The Cadwallader Creek valley has been eroded into a fault system called the Cadwallader Break. Near the Pioneer Mine, just east of the Emma Claim, the break is between two west-northwesterly trending anticlines (Drawing 4A). The northerly anticline has been intruded by the Bralorne soda-granite (Joubin, 1948). Joubin recognized that gold mined in the Cadwallader Creek area was recovered from veins developed in rocks adjacent to the pluton. Also, he resolved the strain ellipse for the Cadwallader Creek area, discovering that mineralization occurs in tension gashes developed in the plane of least compressive stress (Drawing 4B). North of the Cadwallader Break the plane of least compressive stress strikes northeasterly and is subvertically-dipping. South of the Cadwallader Creek at the Emma Claim, the area of finite strain may be rotated somewhat.

2.3 Property Geology

No rock outcrop was seen on the northern part of the Emma Claim. There is good exposure upslope near the south end of the claim, but that has not yet been mapped in detail.

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Exposures at the Bralorne bridge and along Noel Creek at the northeast corner of the claim are tightly folded pyritic slates and siltstones fold axial planes strike east west and area sub-vertically dipping. The Native Son Adit, just north of the Emma Claim was excavated into pelitic metasediments and fine-grained mafic volcanics that are tightly folded with axial planes that are also striking east-west and sub-vertically dipping.

The above observations are consistent with the structure inferred from zinc determinations from the soil grid. (Section 3.0 to follow).

3.0 SOIL GEOCHEMISTRY

In November 1980, 7.15 km of grid lines were laid out over the northern part of the Emma Claim and adjacent area to cover a 1 km^2 area (Drawing 5).

Grid lines were laid out by compass and hip chain. Lines are 200 m apart and soils were sampled at 50 m intervals on each line. A total of 120 samples were taken.

Samples were taken from the alluviated "B" soil horizon that is well developed in the grid area.

Soils weredried in kraft paper envelopes and shipped to Chemex Labs Ltd. of North Vancouver, B.C. for analysis. Proceedure at the lab is described in Appendix A.

3.1 Interpretation of the Zinc Distribution in Soils

Zinc determinations were made on soils from 120 locations on the grid (Drawing 5). Concentrations above 100 ppm zinc in soils from the Bralorne area area considered by the writer

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to be high and are usually related to mafic volcanic rocks.

The 100 ppm isoline on the grid defines an anistmosing region that includes 28.33% of the data. It may reflect volcanic or metal-rich sedimentary beds deposited in barren sediments. The region resembles an interference pattern resulting from the gentle arching of tight upright folds. It is interpreted that tight upright first-phase folds that trend north-northeast have been gently refolded about a second-phase anticline that trends southeastward across the grid (Drawing 6). Fold axial plugs are northeastward on the north limb of the second phase anticline. The interpretation is supported by bedding and cleavage intersections at the Native Son Adit and is consistent with the character of folding in rocks near the property.

3.2 Interpretation of the Lead Distribution in Soils

Most of the lead concentrations in soils are low; about 1 ppm (Appendix C). Anomalous lead concentrations are those above 3 ppm; however all values above 1 ppm are useful in plotting of lead enrichment in soils (Drawing 7).

Sub-anomalous lead values are distributed in a crosshatch pattern across the grid. Anomalous lead concentrations; those above 4 ppm are restricted to three areas: a small area at 4+00S, 2+50W, a long linear zone extending from 0+00S, 6+50W to 6+00S, 6+00W and a small area around 0+00S, 14+00W.

The linears in the crosshatch pattern formed on the grid by sub-anomalous lead concentrations cross at obtuse angles of

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about 30°. These angles are similar to conjugate fault angles in rocks that have failed during compression. Using elementary rock mechanics theory the directions of the stresses and the directions of movements on the faults can be solved (Drawing 8). The directions of greatest compressive stress are north and south, the intermediate compressive stress is vertical and the direction of least compressive stress is east-west.

On consideration of the stress and fault directions the linear zone of lead enrichment is a very attractive exploration target.

Joubin (1948) solved the strain ellipse for the Pioneer Mine on the north side of the Cadwallader Break and found that ore-bearing crossovers developed in tension gashes in the plane of least-compressive stress. It is probable that the lead-enriched zone across the Emma grid is one of these ore-bearing cross overs.

The rocks that Joubin studied on the north side of the Cadwallader Break were competent andesites and soda-granites. The rocks underlying the Emma Claim are interbedded volcanics and siltstones that are tightly folded. The stresses have rotated from the north to south side of the Cadwallader Break and most importantly Joubin's fault sets B and C (Drawing 4B) have been rotated into pre-existing planes of weakness in vertical north-south trending bedding planes and fold areas.

Evidence for the preceeding theory was found in the Native Son Adit. The tunnel was dug into a theoretically barren fault cross over. From 20 to 30 m in the adit are numerous barren quartz filled shear planes striking generally north-south.

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3.3 Interpretation of the Arsenic Distribution in Soils

Most of the arsenic determinations in soils are low and apparently randomly distributed. Three areas of high arsenic concentrations (above 20 ppm) occur in stream gullies down stream from bogs containing organic soils (Drawing 9, Appendices B, C). It seems that reduction and weathering by bacteria in organic soils is more important in soil arsenic content than the lithology of the parent material. Arsenic doesn't seem to be useful as an ore indicator in this area.

3.4 Interpretation of the Gold Distribution in Soils

There were only four soil samples that contained reportable gold (Appendices B, C). Their distribution seems to be random.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The lead distribution in soils indicate that an ore-bearing cross-over similar to the gold veins in the mines at Bralorne may underlie the grid on the Emma Claim.

I recommend that this soil-lead anomaly be explored southward across the rest of the Emma Claim.

4.1 Recommended Program

Phase 1: Extend the grid southward to include the rest of the Claim. Line spacings of 200 m are adequate to complete the reconnaissance survey. When the lead anomaly has been defined over the whole grid, a detailed grid with line spacings of 50 m should be laid out over the anomalous area. In conjunction with

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the soil program, the geology at higher elevations near the south end of the grid should be mapped to aid control and data interpretation.

Phase 2: When the extent of the lead anomaly has been defined, it should be explored by trenching and, or drilling.

December 23, 1980

John Ostler, M.Sc.
Consulting Geologist

REFERENCES

Bacon, W.R.; 1978: Lode Gold Deposits in Western Canada; CIM Bulletin, July, 1978; pp. 100-102.

Cairnes, C.E.; 1934: Cadwallader Creek Area, Lillooet District, British Columbia, Geological Survey of Canada, Map 431A

1934: Gun Lake Area, Lillooet District, British Columbia, Geological Survey of Canada, Map 430A

Joubin, F.R., 1948: Bralorne and Pioneer Mines, in Structural Geology of Canadian Ore Deposits; Canadian Institute of Mining and Metallurgy, symposium

Woodsworth, G.J.; 1977: Geology of the Pemberton Map Area (92J); Geological Survey of Canada Open File 482.

APPENDIX A

Lab Proceedure

PPM Arsenic: A 1.0 gram sample is digested with a mixture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digested is acidified, reduced with K1 and mixed. A portion of the reduced solution is converted to arsine with $NaBH_4$ and the arsenic content determined using flameless atomic absorption.
Detection limit - 1 PPM

PPM Lead
PPM Zinc: A 1.0 gram sample portion of sample is digested in conc. perchloric-nitric acid ($HClO_4$-HNO_3) for approx. 2 hours. The digested sample is cooled and made up to 25 mls with distilled water. The solution is mixed and solids are allowed to settle. Zinc is determined by atomic absorption techniques.

PPM Gold: 5 gram samples ashed @ 800°C for one hour, digested with aqua regia - twice to dryness - taken up in 25% HCL-, the gold then extracted as the bromide complex into MIBK and analyzed via A.A.
Detection limit - 10 PPB

Note: Samples are dried and run through 80 mesh prior to above.

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CERTIFICATE OF ANALYSIS

TO : Nevin Sadlier-Brown Goodbrand Ltd.,
401 - 134 Abbott St.,
Vancouver, B.C.
V6B 2K4

CERT. # : A8011246-001-A
INVOICE # : 40953
DATE : 03-DEC-80
P.O. # : NONE
EMMA

CC: MR. J. OSTLER

Sample description	Prep code	Pb ppm	Zn ppm	As ppm	Au -(AA) ppb		
L00S 0+00W	202	2	54	10	<10	--	--
L00S 0+50W	202	2	66	12	<10	--	--
L00S 1+00W	202	1	82	11	<10	--	--
L00S 1+50W	202	2	144	11	<10	--	--
L00S 2+00W	202	2	162	6	<10	--	--
L00S 2+50W	202	1	108	10	<10	--	--
L00S 3+00W	202	1	46	10	<10	--	--
L00S 3+50W	202	2	76	7	<10	--	--
L00S 4+00W	202	1	44	5	<10	--	--
L00S 4+50W	202	2	120	17	<10	--	--
L00S 5+00W	202	1	76	12	<10	--	--
L00S 5+50W	202	1	60	77	<10	--	--
L00S 6+00W	202	1	114	16	<10	--	--
L00S 6+50W	202	6	58	7	<10	--	--
L00S 7+00W	202	1	138	12	<10	--	--
L00S 7+50W	202	1	68	11	<10	--	--
L00S 8+00W	202	1	148	16	<10	--	--
L00S 8+50W	202	2	50	10	<10	--	--
L00S 9+00W	202	4	94	14	<10	--	--
L00S 9+50W	202	1	74	12	10	--	--
L00S 10+00W	202	1	84	11	<10	--	--
L00S 10+50W	202	1	94	17	<10	--	--
L00S 11+00W	202	1	70	15	<10	--	--
L00S 11+50W	202	2	64	9	<10	--	--
L00S 12+00W	202	2	50	5	<10	--	--
L00S 12+50W	202	1	83	22	<10	--	--
L00S 13+00W	202	2	88	14	<10	--	--
L00S 13+50W	202	2	90	9	<10	--	--
L00S 14+00W	202	10	260	16	<10	--	--
L00S 14+50W	202	4	240	11	<10	--	--
L00S 15+00W	202	1	144	7	<10	--	--
L200S 00W	202	1	68	11	<10	--	--
L200S 50W	202	1	86	12	<10	--	--
L200S 100W	202	1	116	10	<10	--	--
L200S 150W	202	1	46	9	<10	--	--
L200S 200W	202	1	68	12	<10	--	--
L200S 250W	202	2	98	11	<10	--	--
L200S 300W	202	1	90	16	<10	--	--
L200S 350W	202	1	108	29	10	--	--
L200S 400W	202	1	84	10	<10	--	--

John Ostler

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INVOICE # : 40953
DATE : 03-DEC-80
P.O. # : NONE
EMMA

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Sample description	Prep code	Pb ppm	Zn ppm	As ppm	Au -(AA) ppb		
L200S 450W	202	1	46	7	<10	--	--
L200S 500W	202	2	116	16	<10	--	--
L200S 550W	202	1	82	16	<10	--	--
L200S 600W	202	6	86	9	<10	--	--
L200S 650W	202	1	70	16	<10	--	--
L200S 700W	202	2	220	15	<10	--	--
L200S 750W	202	1	134	11	<10	--	--
L200S 800W	202	1	144	12	<10	--	--
L200S 850W	202	1	100	15	<10	--	--
L200S 900W	202	1	162	16	<10	--	--
L200S 950W	202	4	92	17	<10	--	--
L200S 1000W	202	2	104	16	<10	--	--
L200S 1100W	202	2	106	14	<10	--	--
L200S 1150W	202	1	86	12	<10	--	--
L200S 1200W	202	1	158	10	<10	--	--
L200S 1250W	202	2	88	9	<10	--	--
L400S 0+00W	202	2	100	27	<10	--	--
L400S 1+00W	202	1	106	12	<10	--	--
L400S 1+50W	202	2	84	19	<10	--	--
L400S 2+00W	202	4	116	16	<10	--	--
L400S 2+50W	202	8	74	7	<10	--	--
L400S 3+00W	202	2	90	15	<10	--	--
L400S 3+50W	202	1	84	14	<10	--	--
L400S 4+00W	202	1	134	16	<10	--	--
L400S 4+50W	202	2	56	9	<10	--	--
L400S 5+00W	202	1	74	25	<10	--	--
L400S 6+50W	202	1	76	27	<10	--	--
L400S 7+00W	202	1	90	15	<10	--	--
L400S 7+50W	202	1	58	15	<10	--	--
L400S 8+00W	202	1	134	20	<10	--	--
L400S 8+50W	202	2	64	7	<10	--	--
L400S 9+00W	202	1	76	11	<10	--	--
L400S 9+50W	202	2	78	7	<10	--	--
L400S 10+00W	202	1	92	11	<10	--	--
L400S 10+50W	202	2	36	3	<10	--	--
L400S 11+00W	202	1	96	6	<10	--	--
L400S 11+50W	202	1	102	17	<10	--	--
600S 00W	202	2	200	10	<10	--	--
600S 050W	202	4	112	6	<10	--	--
600S 100W	202	1	122	14	<10	--	--

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P.O. # : NONE
EMMA

CC: MR. J. OSTLER

Sample description	Prep code	Pb ppm	Zn ppm	As ppm	Au -(AA) ppb		
600S 150W	202	2	90	6	<10	--	--
600S 200W	202	1	64	7	<10	--	--
600S 250W	202	1	158	15	<10	--	--
600S 300W	202	1	56	22	10	--	--
600S 350W	202	1	76	35	<10	--	--
600S 400W	202	1	76	7	<10	--	--
600S 450W	202	2	34	5	<10	--	--
600S 500W	202	1	74	15	<10	--	--
600S 550W	202	6	92	11	<10	--	--
600S 600W	202	2	48	12	<10	--	--
600S 650W	202	1	100	9	20	--	--
600S 700W	202	1	56	10	<10	--	--
600S 750W	202	1	70	7	<10	--	--
600S 850W	202	2	62	15	<10	--	--
600S 900W	202	1	88	10	<10	--	--
600S 950W	202	1	44	6	<10	--	--
600S 1000W	202	1	92	5	<10	--	--
600N 1050W	202	1	68	14	<10	--	--
600N 1100W	202	2	142	12	<10	--	--
L800S 0+00W	202	1	70	12	<10	--	--
L800S 0+50W	202	1	62	9	<10	--	--
L800S 1+00W	202	1	62	7	<10	--	--
L800S 1+50W	202	2	64	12	<10	--	--
L800S 2+00W	202	1	90	17	<10	--	--
L800S 2+50W	202	2	80	11	<10	--	--
L800S 3+00W	202	1	56	10	<10	--	--
L800S 3+50W	202	1	68	22	<10	--	--
L800S 4+50W	202	1	52	7	<10	--	--
L800S 5+50W	202	2	62	9	<10	--	--
L800S 6+00W	202	1	72	15	<10	--	--
L800S 6+50W	202	1	46	10	<10	--	--
L800S 7+00W	202	1	66	11	<10	--	--
L800S 7+50W	202	1	54	57	<10	--	--
L800S 8+00W	202	2	68	22	<10	--	--
L800S 8+50W	202	1	84	22	<10	--	--
L800S 9+50W	202	1	116	14	<10	--	--
L800S 10+00W	202	1	46	2	<10	--	--
L800S 10+50W	202	2	86	7	<10	--	--
L800S 11+00W	202	2	76	9	<10	--	--
L800S 11+50W	202	1	60	12	<10	--	--

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CERT. # : A8011245-001-A
INVOICE # : 40824
DATE : 28-NOV-80
P.O. # : NONE
EMMA

CC: MR. J. OSTLER

	Sample description	Prep code	Pb ppm	Zn ppm	As ppm	Au -(AA) ppb		
FLOAT	L0+00S 100W	205	1	16	2	<10	--	--
	L0+00S 200W+48	205	1	74	12	<10	--	--
	L8+00S 10+60W	205	1	56	1	<10	--	--

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APPENDIX C

Metal Distributions in Soils

(a) Zinc Distribution

Concentration	No. of Determinations	Distribution
0 - 49 ppm	9	7.50%
50 - 99	77	64.17
100 - 149	26	21.67
150 - 199	4	3.33
200	4	3.33
	120	100%

100 ppm zinc isoline excludes 71.67% of the data.

(b) Lead Distribution

Concentration	No. of Determinations	Distribution
1 ppm	75	62.50%
2	35	29.17
3	0	0.00
4	5	4.17
5	0	0.00
6	3	2.50
7	0	0.00
8	1	0.83
9	0	0.00
10	1	0.83
	120	100%

2 ppm lead isoline excludes 62.5% of the data

4 ppm lead isoline excludes 91.67% of the data

(c) Arsenic Distribution

Concentration	No. of Determinations	Distribution
0 - 9 ppm	35	29.17
10 - 19	72	60.00
20 - 29	10	8.33
30 - 39	1	0.83
40	2	1.67
	120	100%

20 ppm arsenic isoline excludes 89.17% of the data

(d) Gold Distribution

Concentration	No. of Determinations	Distribution
10 ppb	116	96.67
10 - 19	3	2.50
20	1	0.83
	120	100%

APPENDIX D

Itemized Cost Statement: EMMA CLAIM, BRIDGE RIVER AREA, B.C.

Consulting fees	$ 2,280.50
Geological/geochemical surveys	3,067.50
Meals & accommodation	348.55
Assays	1,084.05
Reproductions & drafting	185.63
TOTAL COSTS	$ 6,966.23

APPENDIX E

CERTIFICATE OF QUALIFICATION

I, John Ostler, of 1902-1501 Haro Street in the City of Vancouver, Province of British Columbia do hereby certify:

That I am a consulting geologist with business address at 1902- 1501 Haro Street, City of Vancouver, British Columbia;

That I am a graduate of Carleton University of Ottawa, Ontario where I obtained my Master of Science degree in Geology in 1977;

That I have been engaged in the study and practice of the geological profession for over 10 years and that I am a fellow the the Geological Association of Canada;

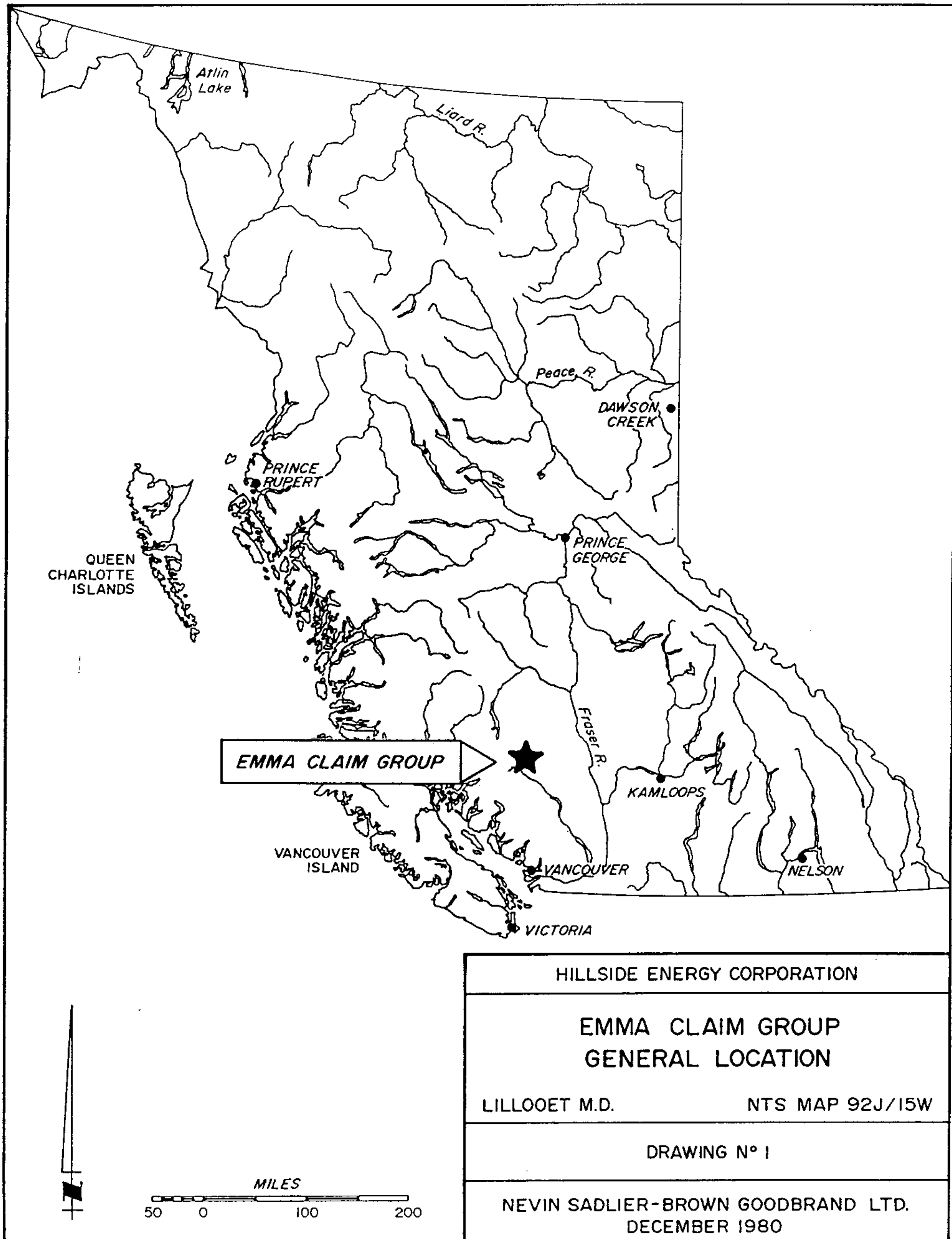
That this report is based on a personal examination of the Emma Claim from November 14th to 19th, 1980;

That I have no interest in the Emma Claim nor in the securities of Hillside Energy Corporation, nor do I expect to receive any;

My wife owns 2000 common shares of Hillside Eneryg Corporation;

Dated at Vancouver, British Columbia this 23rd day of December, 1980.

John Ostler, M.Sc.
Consulting Geologist



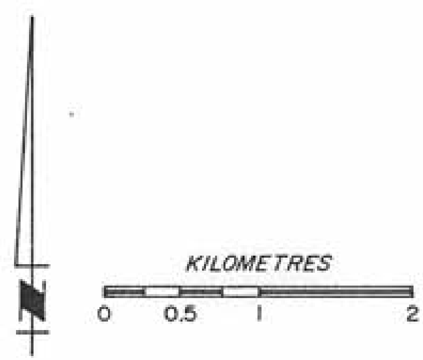
HILLSIDE ENERGY CORPORATION

EMMA CLAIM GROUP
GENERAL LOCATION

LILLOOET M.D. NTS MAP 92J/15W

DRAWING N° 1

NEVIN SADLIER-BROWN GOODBRAND LTD.
DECEMBER 1980



HILLSIDE ENERGY CORPORATION

EMMA CLAIM GROUP
LOCATION: CLAIM MAP

LILLOOET M.D.	NTS MAP 92J/15W
DRAWING Nº 2	SCALE 1:50 000

NEVIN SADLIER-BROWN GOODBRAND LTD.
DECEMBER 1980

LEGEND

CENOZOIC

MODERN

15	*PLEISTOCENE and RECENT: recent alluvium and glacial drift*

MESOZOIC OR CENOZOIC

CRETACEOUS OR TERTIARY

BENDOR INTRUSIVES

14	*Hornblende-biotite-quartz diorite; some granite, granodiorite and diorite*
13	*Porphyritic diorite; feldspar porphyrite, hornblende porphyrite; felsite, aphanite*

MESOZOIC

JURASSIC (?)

BRALORNE INTRUSIVES

9	*Soda granite*
8	*Gabbro, augite diorite, quartz diorite, meta-diorite*

PRESIDENT INTRUSIVES

11	*Serpentine*
10	*Sumner diallage gabbro*

TRIASSIC AND (OR) JURASSIC

7	*HURLEY FORMATION: argillaceous and tuffaceous sediments, in part calcareous; limestone, conglomerate, tuff, lava flows*
6	*PIONEER FORMATION: andesite, meta-andesite; tuff, breccia*
5	*NOEL FORMATION: argillaceous and tuffaceous sediments; conglomerate; tuff, breccia; some chert and greenstone*

PALAEOZOIC (?)

PERMIAN (?)

FERGUSSON SERIES

4	*Basalt, andesite; tuff, breccia; crystalline limestone*
3	*Mainly thinly interbedded chert and argillite; massive chert; crystalline limestone*

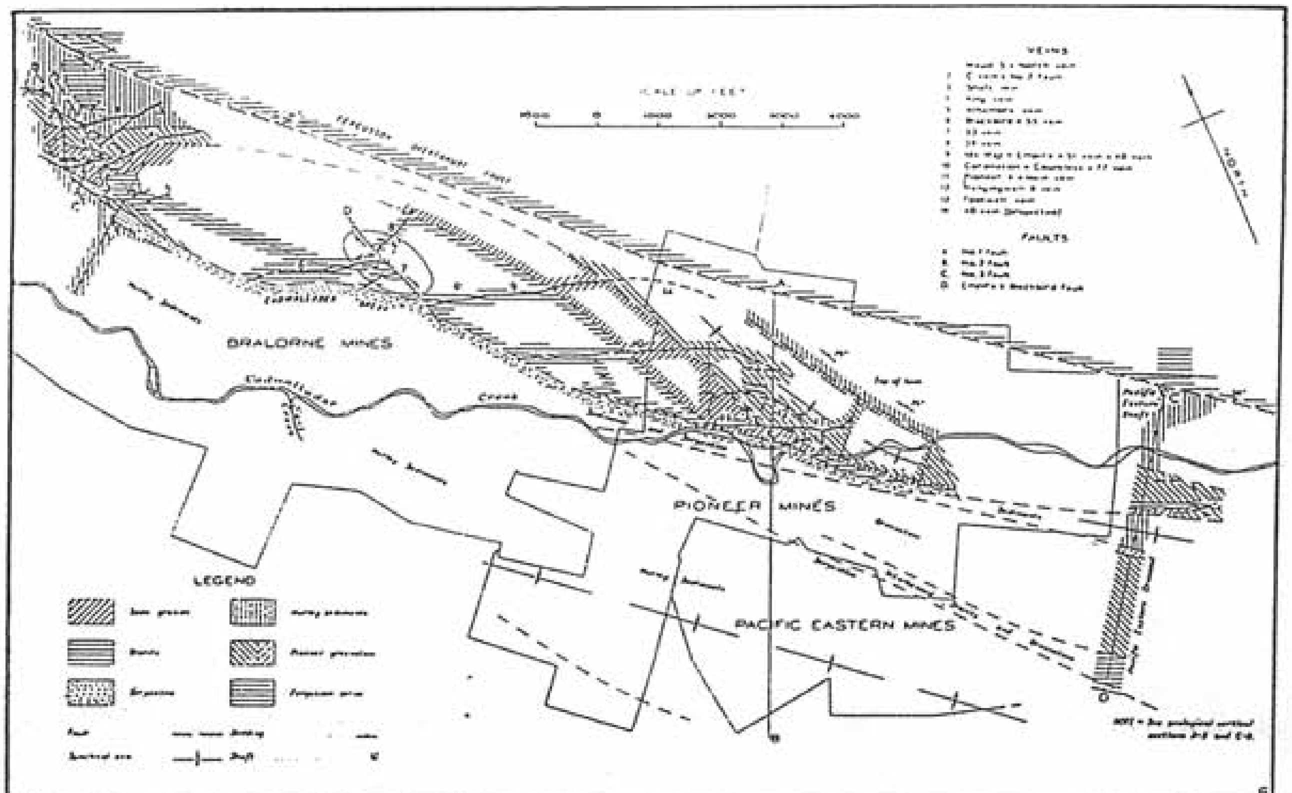
2	*Areas of augite diorite, etc. (8) in which bodies of soda granite (9) occur*
1	*Indistinguishable Pioneer greenstone and Bralorne intrusives: mainly fine-grained diorite and (or) greenstone*

N

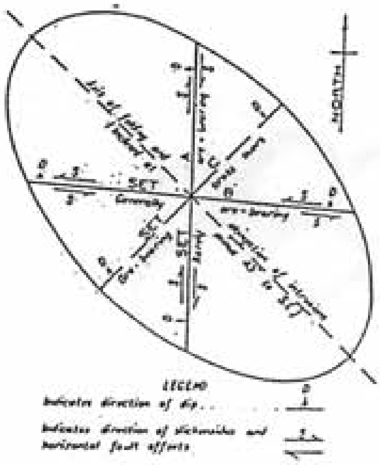
KILOMETRES

0 1 2

HILLSIDE ENERGY CORPORATION	
EMMA CLAIM GROUP GEOLOGY BRALORNE AREA LILLOOET M.D. GSC MAP 430A	
DRAWING Nº 3	SCALE 1:31,680
NEVIN SADLIER-BROWN GOODBRAND LTD. DECEMBER 1980	



4a Geological plan of Cadwallader gold belt on plane at elevation 3,200 feet.



4b Strain ellipsoid, Cadwallader gold belt.

DIAGRAMS FROM:

F.R. Joubin, 1948
Bralorne and Pioneer Mines

HILLSIDE ENERGY CORPORATION

EMMA CLAIM GROUP
STRUCTURE OF THE
CADWALLADER GOLD BELT

LILLOOET M.D. NTS MAP 92J/15W

DRAWING Nº 4

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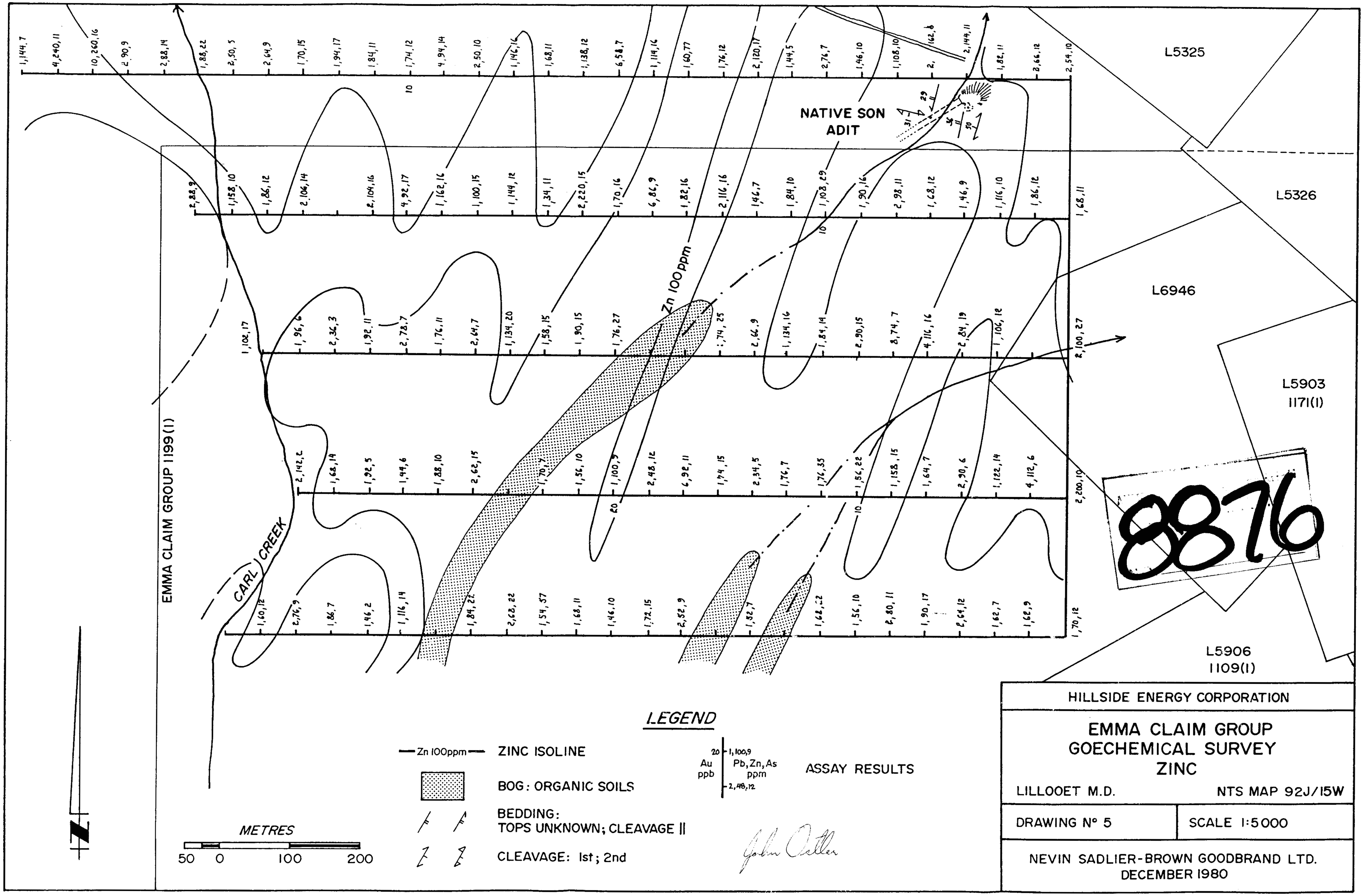
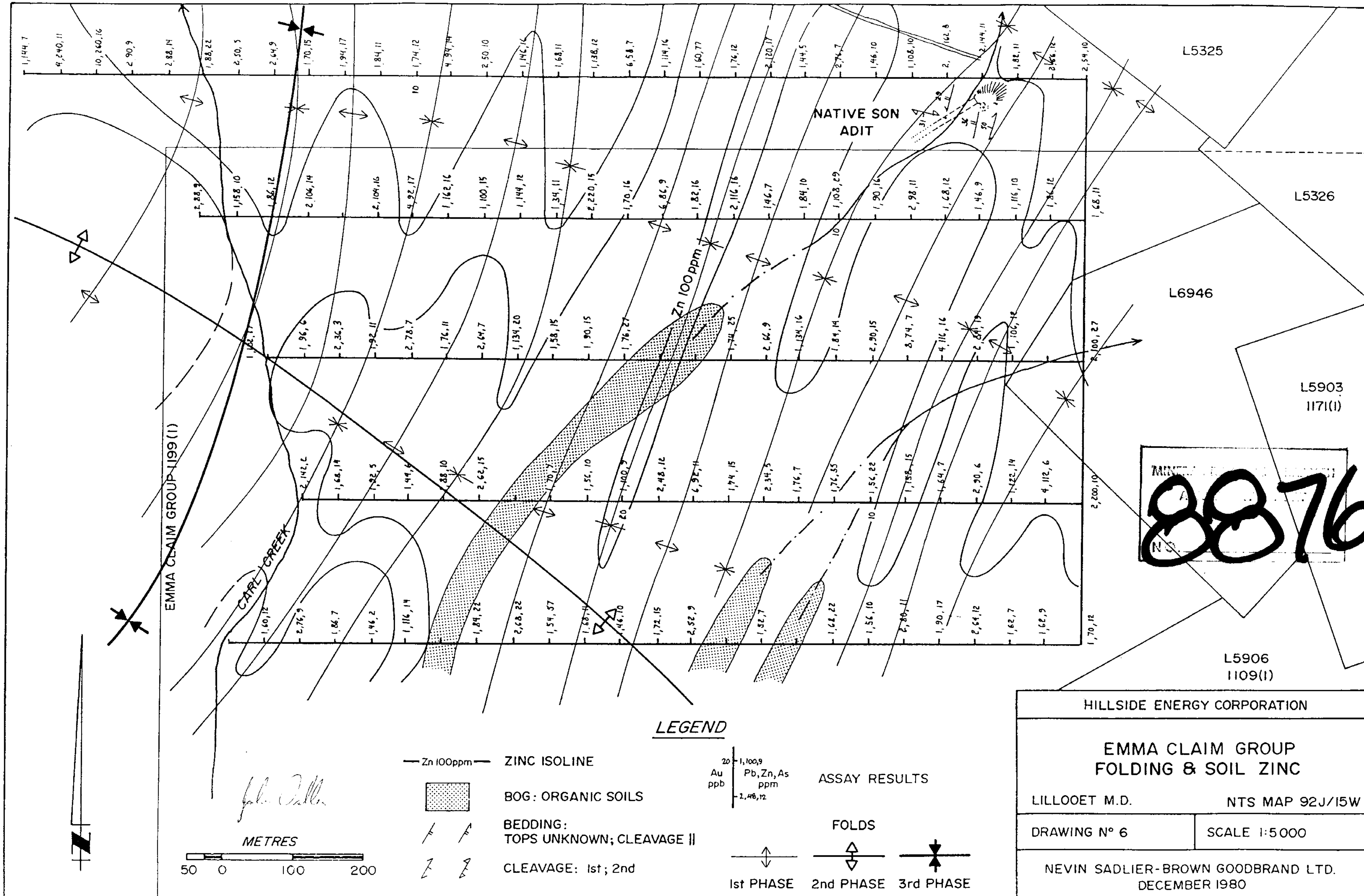
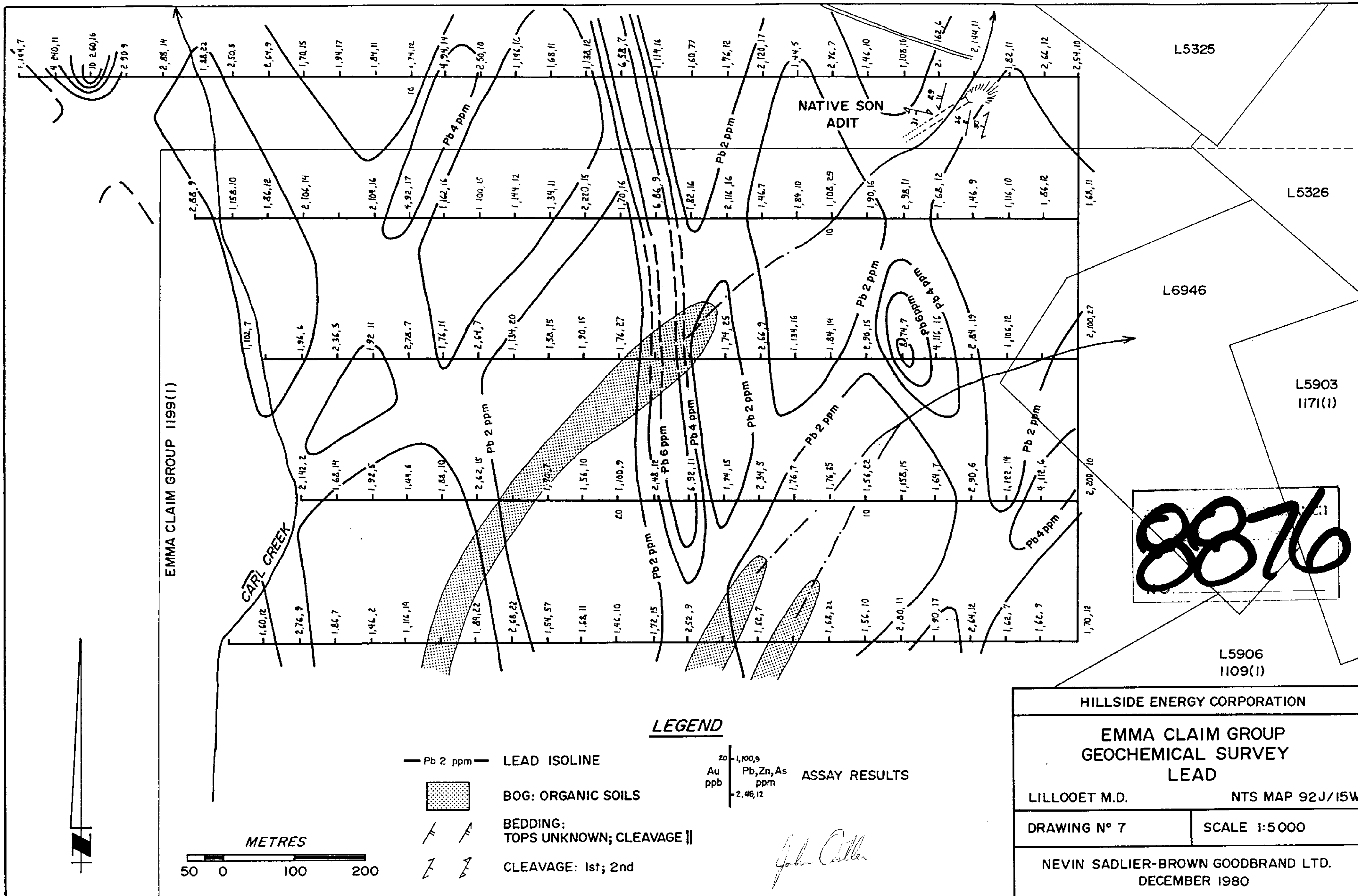


NATIVE SON ADIT
Zn 100ppm
CARL CREEK
EMMA CLAIM GROUP 1199(1)
L5325
L5326
L6946
L5903
1171(1)
L5906
1109(1)
8876
LEGEND
Zn 100ppm ZINC ISOLINE
BOG: ORGANIC SOILS
BEDDING: TOPS UNKNOWN; CLEAVAGE ||
CLEAVAGE: 1st; 2nd
20 1,100,9
Au ppb
Pb, Zn, As ppm
2,48,12
ASSAY RESULTS
METRES
50 0 100 200
N
HILLSIDE ENERGY CORPORATION
EMMA CLAIM GROUP
GOECHEMICAL SURVEY
ZINC
LILLOOET M.D.
NTS MAP 92J/15W
DRAWING Nº 5
SCALE 1:5000
NEVIN SADLIER-BROWN GOODBRAND LTD.
DECEMBER 1980



L5325
L5326
L6946
L5903
1171(1)
L5906
1109(1)
NATIVE SON
ADIT
Zn 100ppm
EMMA CLAIM GROUP 1199(1)
CARL CREEK
8876
LEGEND
Zn 100ppm
ZINC ISOLINE
BOG: ORGANIC SOILS
BEDDING:
TOPS UNKNOWN; CLEAVAGE ||
CLEAVAGE: 1st; 2nd
Au ppb
Pb, Zn, As ppm
ASSAY RESULTS
FOLDS
1st PHASE
2nd PHASE
3rd PHASE
METRES
50 0 100 200
HILLSIDE ENERGY CORPORATION
EMMA CLAIM GROUP
FOLDING & SOIL ZINC
LILLOOET M.D.
NTS MAP 92J/15W
DRAWING Nº 6
SCALE 1:5000
NEVIN SADLIER-BROWN GOODBRAND LTD.
DECEMBER 1980



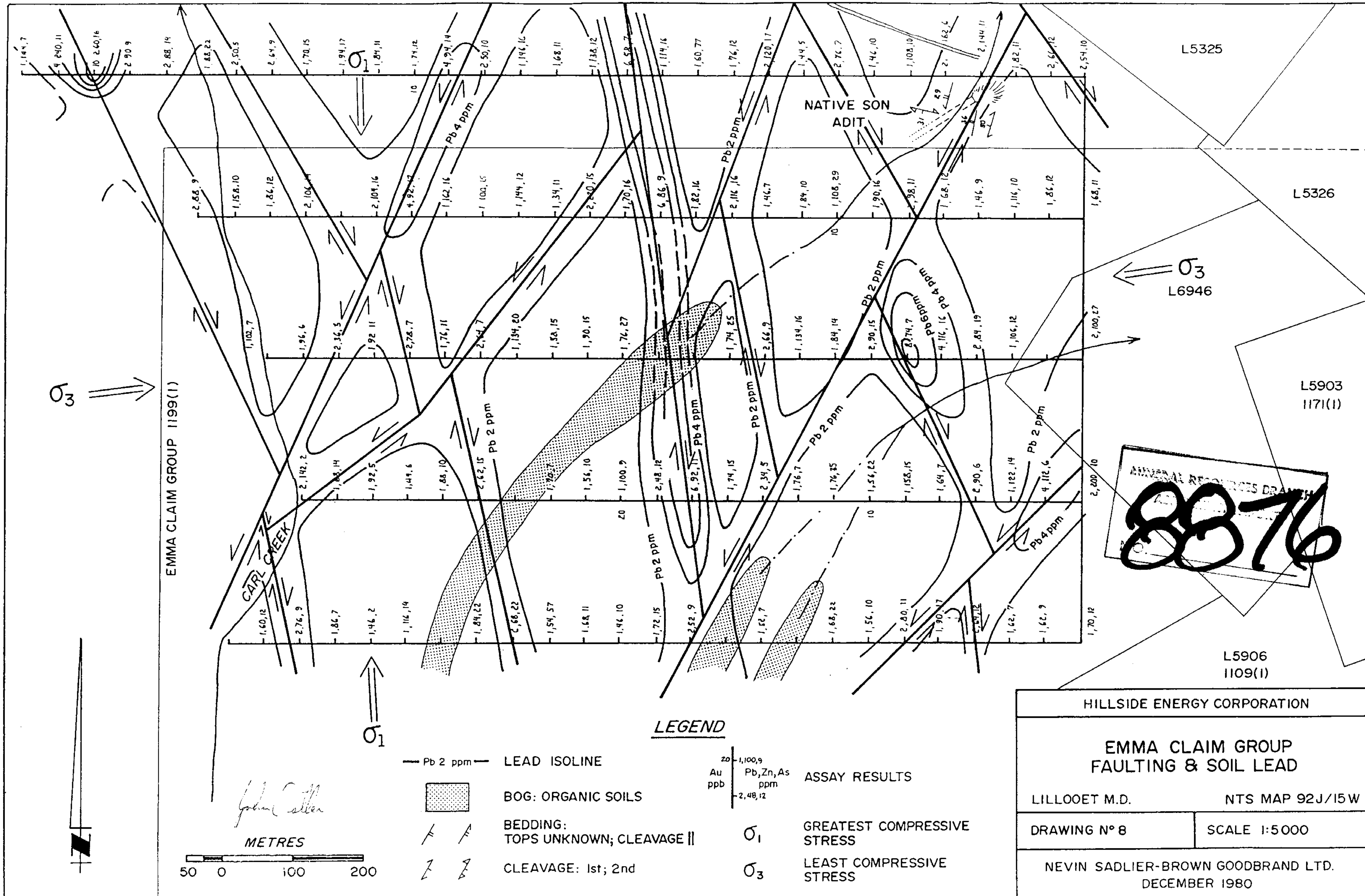
HILLSIDE ENERGY CORPORATION

EMMA CLAIM GROUP
GEOCHEMICAL SURVEY
LEAD

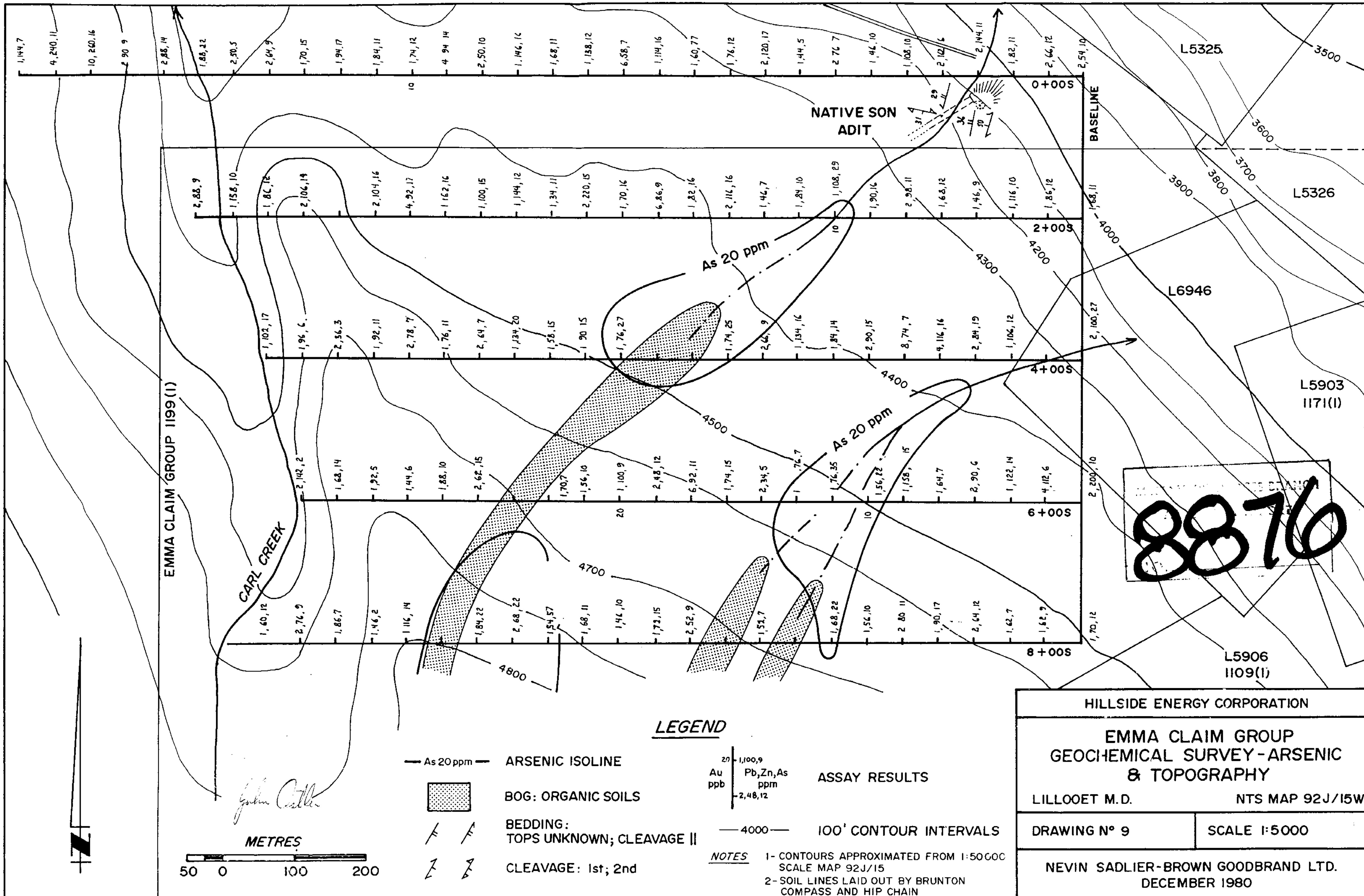
LILLOOET M.D. NTS MAP 92J/15W

DRAWING Nº 7 SCALE 1:5000

NEVIN SADLIER-BROWN GOODBRAND LTD.
DECEMBER 1980



L5325
L5326
L6946
L5903
1171(1)
L5906
1109(1)
NATIVE SON
ADIT
EMMA CLAIM GROUP 1199(1)
CARL CREEK
σ1
σ3
Pb 2 ppm
Pb 4 ppm
Pb 6 ppm
MINERAL RESOURCES BRANCH
8876
LEGEND
Pb 2 ppm — LEAD ISOLINE
BOG: ORGANIC SOILS
BEDDING: TOPS UNKNOWN; CLEAVAGE ||
CLEAVAGE: 1st; 2nd
20 1,100,9 Au ppb Pb,Zn,As ppm 2,48,12 ASSAY RESULTS
σ1 GREATEST COMPRESSIVE STRESS
σ3 LEAST COMPRESSIVE STRESS
METRES
50 0 100 200
HILLSIDE ENERGY CORPORATION
EMMA CLAIM GROUP
FAULTING & SOIL LEAD
LILLOOET M.D.
NTS MAP 92J/15W
DRAWING Nº 8
SCALE 1:5000
NEVIN SADLIER-BROWN GOODBRAND LTD.
DECEMBER 1980



HILLSIDE ENERGY CORPORATION
EMMA CLAIM GROUP
GEOCHEMICAL SURVEY - ARSENIC & TOPOGRAPHY
LILLOOET M.D.
NTS MAP 92J/15W
DRAWING Nº 9
SCALE 1:5000
NEVIN SADLIER-BROWN GOODBRAND LTD.
DECEMBER 1980
LEGEND
As 20ppm ARSENIC ISOLINE
BOG: ORGANIC SOILS
BEDDING: TOPS UNKNOWN; CLEAVAGE ‖
CLEAVAGE: 1st; 2nd
Au ppb
Pb,Zn,As ppm
ASSAY RESULTS
4000 100' CONTOUR INTERVALS
NOTES
1- CONTOURS APPROXIMATED FROM 1:50000 SCALE MAP 92J/15
2- SOIL LINES LAID OUT BY BRUNTON COMPASS AND HIP CHAIN
METRES
50 0 100 200
NATIVE SON ADIT
BASELINE
0+00S
2+00S
4+00S
6+00S
8+00S
As 20 ppm
CARL CREEK
EMMA CLAIM GROUP 1199(1)
L5325
L5326
L6946
L5903 1171(1)
L5906 1109(1)
3500
3600
3700
3800
3900
4000
4200
4300
4400
4500
4700
4800
8876