5077

ASSESSMENT WORK REPORT

MAPLELEAF GROUP

NANAIMO MINING DIVISION

Van Anda, Texada Island, B. C.

92F/10E & 15E

Ideal Basic Industries, Inc.

by
Thomas Patrick Anderson
Thomas Patrick Anderson
8/18/74

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5077 MAP

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

APPENDIX

A. Statement of Qualifications
B. Procedures for Determination of cxHM
C. " " " " cxCu

INTRODUCTION

This report is made and submitted to substantiate application for credit for assessment work accomplished on the Mapleleaf Group of claims in the vicinity of Van Anda, Texada Island, within the Nanaimo Mining District. The Mapleleaf Group is owned by Ideal Basic Industries, Inc. and includes the following:

Name of Claim	Record Number	Tag Number	Date of Recording
I.C. #1	17608	560133	1 Feb. 65
I.C. #2	17609	560134	1 Feb. 65
I.C. #3	17610	560135	1 Feb. 65
I.C. #4	17611	560136	1 Feb. 65
I.C. #11	18126	60861	18 Aug. 65
I.C. #12	18127	60862	18 Aug. 65
I.C. #13	18128	60863	18 Aug. 65
I.C. #14	18129	60864	18 Aug. 65
I.C. #15	18130	60865	18 Aug. 65
I.C. #16	18131	60866	18 Aug. 65

	Name of Claim	Lot Number
*	Copper Queen	40
*	Cornel	201
*	McLeod #3	515
	McLeod #4	516
*	McLeod #5	517
	McLeod #6	518 B
	McLeod #7	519 B
	McLeod #8	520
*	McLeod #1	521
	McLeod #2 Fraction	522
	Lap #1 Fraction	523
	Lap #2 Fraction	524 B
	Lap #3 Fraction	525
	Lap #4 Fraction	526
	Lap #5	527
	Lap #6	528
	Lap #8 Fraction	530 B

* Claims on which work was performed.

The work was performed by the writer, whose professional qualifications are outlined in Appendix A, Statement of Qualifications, between July 22nd and August 18th, 1974, and was paid for by Ideal Basic Industries, Inc. The claim area is easily accessible by paved or gravel roads from Van Anda which is situated within the Mapleleaf Group.

The assessment work consists of a Brunton-pace-triangulation survey and a magnetic and geochemical reconnaissance-orientation investigation in two limited areas to determine and evaluate certain parameters to be used for guidence in the planning and execution of

Continued....

Introduction -- continued

a subsequent more-comprehensive survey of a larger area. The two areas consist of: (aO The Little Billy-Copper Queen Area, and (b) The Cornell Area. Logistical support was obtained from P.M. Stiles.

DESCRIPTION OF THE WORK DONE

Base Maps: Since an adequate base map at a suitable scale was not available, a Brunton-pace triangulation survey, augmented by stereophoto interprelation, was made for control. Survey posts and other markers encountered or found nearby were tied into, where commensurate with the scope of the investigation.

Magnetic Survey: The magnetometer used in the magnetic survey was a total intensity instrument of the fluxgate type, Sabre Mark II. The instrument, obtained on a rental basis from Adams Marine & Electronics, Ltd. of Vancouver, was reported to be a 10 gamma instrument but because of a drifting null meter was found to be about a 50 gamma instrument in ordinary use. However, by very careful leveling and tedious repeat readings, the sensitivity was increased to the order of 20-30 gammas. Readings were secured at base stations, set within the survey areas, and by periodic reoccupation of field stations in order to make a diurnal correction. The sensitivity of the instrument was finally determined to be such as to render the diurnal correction an effort in unwarranted precision. The areas surveyed are not large enough to require a regional or latitude correction. Therefore, the readings recorded on the maps are essentially raw field data. All seriously suspect or spurious readings have been deleted and questionable readings are so indicated and have not been used in contouring the data. All values recorded are absolute, within the capability of the instrument but have not been tied into or correlated with Government or other established magnetic stations. Values are in the range of 53760 to 57140 gammas but only the last 4 significant figures are recorded on the maps.

Geochemical Survey: The geochechemical survey performed was essentially an orientation effort for the purpose of determining what elements should be sought and what materials should be sampled. Original plans to do sample sit, i.e. cold extraction determinations on heavy metals (HM), Cu, and Mo and to do laboratory hot acid extractions on stream sediments, soils and ashed vegetation for Cu, Zn, Mo and possibly As, had to be modified because of non-delivery or late-delivery of reagents from Vancouver. Therefore, it was only possible to do cold extraction HM and cold extraction Cu, hereafter referred to as cxHM and cxCu. Also due to delays in receiving reagents, it was not possible to set up standard series in order to convert from numerical field values determined (i.e. milliliters) to parts per million. Thus all numerical values recorded on the geochemical maps are in milliliters (ml) of dithizone required for titrating to a blue-green end point. Since it is the relative values determined that are of significance, the numerical milliliter values are as meaningful as results reported in part per million.

The methods used for sample site determinations of cxHM and cxCu are standard geochemical analytical procedures with minor

Continued....

Description of Work Done -- Continued

modifications and are contained in the current literature (See: Smith, A.Y., "Cold Extraction Heavy Metals in Soil and Alluvium", GSC P. 63-49; Holman, R.H.C., "A Method for Determining Readily -- Soluble Copper in Soil & Alluvium", GSC P. 63-7; Hawkes, H.E., "Dithizone Field Tests", Economic Geology Vol. 58, p. 579-586.). However in compliance with paragraph II, P. 51 (e) details of the procedures are contained in Appendix B & C.

Since the prime purpose of the geochemical survey was to orient a much larger field program, a great many different soil and sediment products, various size fractions, and amount (volumes) of samples were investigated. In order to avoid clutter and to unify the map units, the following scheme was used for map presentation to represent the material sampled and the analytical results, for example:

```
0.1 / B / 8 / U : 4/9
 :    :   :   :   : :
 :    :   :   :   : Cu: ml 0.001% Dz req'd for end point.
 :    :   :   :   :
 :    :   :   :   HM:   "    "    "    "    "    "    "
 :    :   :   :
 :    :   :   Size fraction:
 :    :   :   U = unscreened
 :    :   :   C = Coarse screen (-16 mesh)
 :    :   :   F = Fine screen (-80 mesh)
 :    :   :
 :    :   Depth of sample, inches below surface
 :    :
 :    Soil horizon or media sampled
 :    B = Top of B horizon
 :    H = Humus; usually containing silt, clay or soil particles.
 :    P = Peaty material; in wet drainages, swamp, etc.
 :
Weight (volume) of sample used (0.1 or 0.2 g. scoop).
```

At each sample site, especially in the early part of the field work, a great many different soil products were run. However, in order to avoid a considerable amount of clutter on the geochemical maps only the most commonly encountered sampled material is recorded, i.e. 0.2/B/6/U:HM/Cu. A few representative sample sites, where map space permits recording the details, show typical variations for the different products sampled. However, the entire data are used in the interpretation and evaluation of the work as discussed in a following section.

INTERPRETATION & EVALUATION OF THE RESULTS OF THE WORK

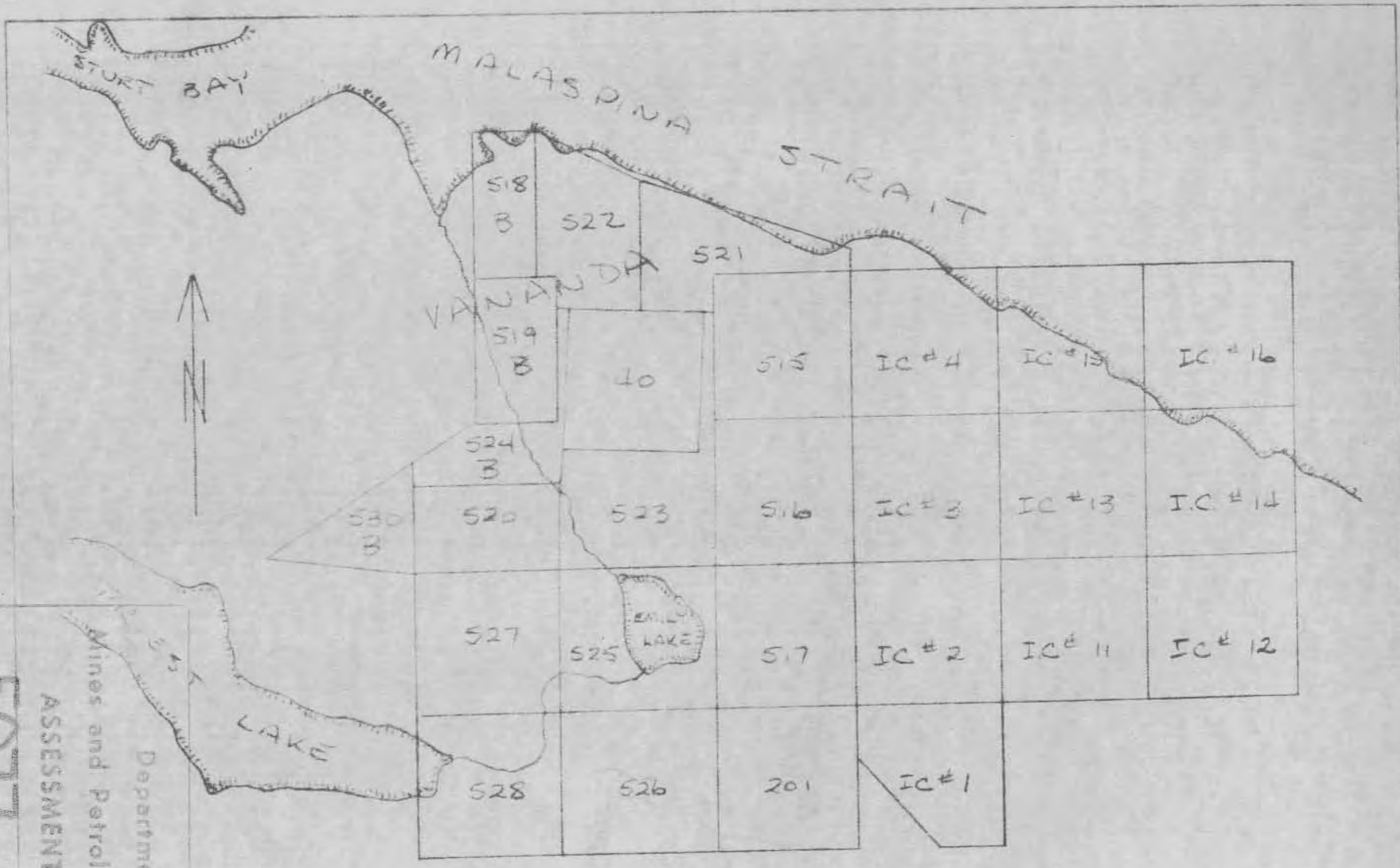
The prime purpose of the magnetic survey was to assess the value of the method in delineating known or surmised geologic features and, more importantly, to obtain an estimation of the type of magnetic configuration and gradients that might be obtained in a future low level helicopter-airborne magnetic survey of a considerably larger area. The data clearly reveals that sufficient magnetic details would be attainable in such a survey in spite of the fact that both of the areas are shown as rather featureless areas on the February 8th, 1957 Open File Aeromagnetic Map.

The data, though sparse in coverage, suggests that it may be possible with more detailed work to differentiate two dike systems: (1) a dense, very fine-grained trap or greenstone, possibly andesitic in composition and assumed to be early; and (2) a later dike system of diorite, diorite porphyry or hornblend diorite porphyry. Additionally, the two areas are revealed to be of interest and will warrant additional fill-in data. These are magnetic low areas, one in the east central and the other at the west margin of the Little Billy-Copper Queen Area.

The two areas were particularly poor areas for performing an orientation type of investigation since both are cluttered with contaminating trash and mining scrap-junk, and both transported ore down the only drainages available for testing metal dispersion in stream sediments. However, the work on the Cornell drainage suggests that the pre-mine discovery dispersion characterized by high copper to zinc ratio could be differentiated from post-mine opening contamination, which appears to be high zinc. Therefore, reconnaissance and detailed work involving stream sediment sampling in a larger area may be used with reasonable assurance of success. The use of cold extraction sample site determinations on residual soils is not quite as clearly proved. However, the number of soil geochemical anomalies revealed by the orientation survey should, on fill-in detailing, furnish enough data to confirm the possibility, should it become necessary not to rely on hot extractions of Cu, Zn and Mo.

COST STATEMENT

a)	The assessment work covered by this report spans a 28-day period from July 22nd, 1974 to August 18th, 1974, inclusive. All the work was carried out by Thomas P. Anderson.	
b)	Fees -- 28 days @ $150/day	$ 4,200.00
c)	Accommodation -- 28 days @ $20/day	560.00
d)	Transportation -- Datsun 1200 Pickup 4 weeks @ $40/week	160.00
e)	Aerial support -- nil	
f)	Magnetometer -- 1 week	40.00
g)	Analyses -- labour in (b) chemicals & supplies	210.00
h)	Cost of report -- preparation time of 4 days included in (b). Typing and printing of manuscript and drawings.	30.00
	TOTAL	$ 5,200.00



MAPLE LEAF GROUP
TEXADA ISLAND
IDEAL BASIC INDUSTRIES, INC

8-16-74

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ASSESSMENT REPORT
NO. 5077 MAP #1

APPENDIX A -- Statement of Qualifications

DATA SHEET

Thomas Patrick Anderson
Mining Exploration Engineer
1070 Zang Road, Golden, Colorado
Phone 233-0924

Personal Data:

Born March 13, 1915, Hill, New Mexico.
Height - 5 feet, 11 inches. Weight - 170 pounds. Health - excellent.
Marital status - married, three children.

Professional Activities:

Member-American Institute of Mining and Metallurgical Engineers, 1938; Society of Exploration Geophysicists, 1948; Registered Professional Engineer, 1951; Geological Society of America, 1952; Society of Economic Geologists, 1952; Geochemical Society, 1954; Colorado Scientific Society, 1956.

Education:

Colorado School of Mines, degree of Engineer of Mines, 4 years.
Post graduate work: 2 years, degree of Master of Science in Geological Engineering (mining); plus completion of academic work for DSc (mining geology with minors in geophysics and geochemistry).

Major Pertinent Courses of Study: (* indicates graduate work in subject)

Geology: general, crystallography*, mineralogy*, petrology, optical mineralogy*, petrography*, mineralography*, structural petrology*, historical geology, sedimentation, paleontology, structural geology*, field geology*, ore deposits*, economic geology*, photogeology*, stratigraphy*, research on fracture patterns*.

Geophysics and Geochemistry: geophysical methods-general, electrical methods of prospecting, magnetic methods of prospecting*, research on radioactive methods of prospecting*, geochemical prospecting techniques (review, evaluation and application of methods*), x-ray diffraction-clays*, spectrographic analysis-qualitative and quantitative*, and colorimetric analysis-metal trace elements*.

Mining Engineering: mineral land surveying, mine surveying and mapping, principles of mining, mining practice, mining methods, mine plant design, mine development and production planning, ore dressing, hydrometallurgy*, mining law*, mine valuation, mine economics, industrial and financial organization, investment analysis*.

Employment Record:

Prior to 1935 Mucker, machine man (some diamond drilling), timbering, shaft work.

1935-36 Sampler, assistant assayer, and surveyor.
North London Gold Mining Company, Alma, Colorado
Gold, silver, lead, zinc operation, 100 ton flotation mill.

1938-39 Mining Engineer and Superintendent.
Odecia Gold Mining Company, Cripple Creek, Colorado
Work involved geological, engineering and supervisory work for mining company engaged in exploration and development of several mining properties.

1939-41 Lessee and Operator. Mining property in Cripple Creek.
Exploration, development and operation of mining leases for my own account; plus consulting work for above company.

1941-46 USAAF, Muroc Flight Test Base, Muroc, California
Capt., Engineering Officer - Research and Development.

1947-49 Graduate Student and part time instructor.
Colorado School of Mines, Golden, Colorado.

1949-52 Assistant Chief Geologist, Denver Exploration Branch,
Division of Raw Materials, AEC., Denver, Colorado.
Coordination, supervision and/or performance of reconnaissance and detailed investigations in California, Nevada, Arizona, New Mexico, Utah, Colorado, Wyoming, North and South Dakota, exclusive of the Colorado Plateau area. The work required a broad geologic and engineering background and a familiarity with methods of exploration, development, mining and production, processing and problems of access in order to recommend either to the Commission or to private companies the initiation, continuance or termination of exploration and development work. Designed and supervised physical exploration projects involving trenching, test pitting, mine workings, longhole, churn and diamond drilling. A considerable amount of radiometric work was done including some airborne work and a limited amount of geophysical investigation.

1952- Consulting Mining Exploration Engineer and Geologist, plus independent work for my own account. A substantial portion of this work concerned mining exploration geology (including helicopter reconnaissance mapping), geophysics (considerable aeromagnetic work), and geochemical prospecting on various projects in Southwestern U. S. with a major emphasis on porphyry copper deposits.

A few projects outside of the above field, and including a number of valuation studies, are as follows: Wisconsin and Michigan Lake Superior region (copper, iron, cement raw materials); East Tennessee (copper-lead-zinc, titanium); New York (zinc, talc); Florida and Southeast Atlantic coast (heavy mineral beach sands, titanium); Wyoming (bentonite, fire clay, vermiculite, copper-molybdenum); South Dakota (gold, iron, feldspar-mica-beryllium-lithium minerals, rare earths-thorium); North Dakota (uraniferous lignites); New Mexico (iron, uranium, fluorite, manganese, gold, lead-zinc-silver, gypsum); Colorado (gold-lode and placer, copper-lead-zinc, manganese-tungsten, molybdenum, perlite); California (copper, cobalt-nickel, boron, mercury, asbestos, high grade limestone, glass sand); Mexico (tungsten, copper-lead-silver, bismuth, mercury, antimony, gypsum, cement raw materials); British Columbia (copper-zinc-gold); Eastern Townships, Quebec and portion of Vermont and Maine (a regional aeromagnetic and photogeologic study mainly concerning chrysotile asbestos); Ontario and Quebec (iron, copper-zinc, titanium, columbium).

Reconnaissance and detail work on a number of metal and mineral commodities, but with some emphasis on placer deposits, in the following Alaskan regions and districts: Upper Yukon River Region (Bonnifield, Hotsprings, Rampart and Koyukuk River districts); Kuskokwim River Region (McGrath, Tonzona); Copper River Region (Nizina, Chistochina, Prince William Sound); N. W. Alaska Region (Noatak, Kugururok, Kobuk districts); Seward Peninsula (Kougarok, Serpentine); S. E. Alaska Region (Admiralty, Juneau, Prince of Wales).

Numerous office investigations including reviews and analysis of reports or proposals concerning exploration and development projects for interpretation, feasibility appraisal and economic evaluation. Laboratory investigations have included petrographic and mineralogic studies; determination of physical properties of minerals, mainly non-metallics; geochemical prospecting analytical methods.

APPENDIX B

Procedure for Determination of cxHM: The procedure for the determination of cold extractable heavy metals (cxHM) is a modification of standard methods described by Smith and by Hawkes in the references cited in the text of the report. The extractant used is made at 5 times the strength of the extractant used in the field by dissolving 200 g. of analytical reagent grade (ARG) ammonium citrate in one liter of metal-free water. Concentrated ARG ammonium hydroxide is added and the acidity adjusted to, or slightly over, 8.5 using thynol blue as an indicator. Since even the best ARG reagents often contain interfering amounts of metals, particularly Zn, these are removed by successive washing with 0.1% dithizone in ARG carbon tetrachloride and a final wash with clear ARG chloroform. A final check is made for pH of 8.5 and adjusted as required. For field use, the 5X strength ammonium citrate is diluted 1:4 with metal-free water and ARG hydroxyalamine hydrochloride added in the amount of 8 g. per liter of field strength ammonium citrate.

A stock or high strength solution of 0.010% dithizone in toluene (DZ/tol.) is made by dissolving 0.010 g. of dithizone in 100 ml of ARG toluene (zylene, benzene, chloroform, or carbon tetrachloride may be substituted). At this strength, the DZ/tol. is stable for several weeks when stored in a glass-stoppered pyrex bottle that has been wrapped in aluminum foil to shield from light and when wrapped with cloth or paper towel and stored in a quick-fix evaporative cooler, i.e. plastic or glass vessel with sides draped with cloth to effect an evaporating surface and water added periodically.

For field use, the 0.010% DZ/tol. is diluted 1:9 and carried in a 250 ml. polyethylene bottle equipped with tubular delivery spout. The field strength 0.001% DZ/tol. is not nearly as stable as the stock strength but if wrapped in foil, then wrapped in cloth or paper towel and kept wet in a plastic bag, it is stable much beyond a working day. In fact it has been found to be usable even after 5 days when cared for as described above.

Field Procedure: 1. Measure a level scoop (0.1 or 0.2 g.) of soil or sediment into a culture tube calibrated at 3, 5, 10 & 15 ml. 2. Add 3 ml of cxHM extractant to 3 ml mark. 3. Add 1 ml of the green 0.001% DZ/tol. solvent. 4. Close with polyethylene stopper and shake with vigor for 30 seconds. 5. Allow the solvent-extractant layers to separate and note the colour of the top (solvent) layer; if green, record as 0; if blue-green, record as $\frac{1}{2}$; if blue or blue-grey, record as 1; if purple, reddish-purple or red, proceed to Step 6. 6. Add successive increments of DZ/tol. with brish shaking until blue-green, blue, or blue-grey and point is reached and record the total number of milliliters of DZ/tol. used as a measure of the cxHM content. It is immaterial whether the blue-green, blue or blue-grey end point is used so long as the same end point colour is consistently used.

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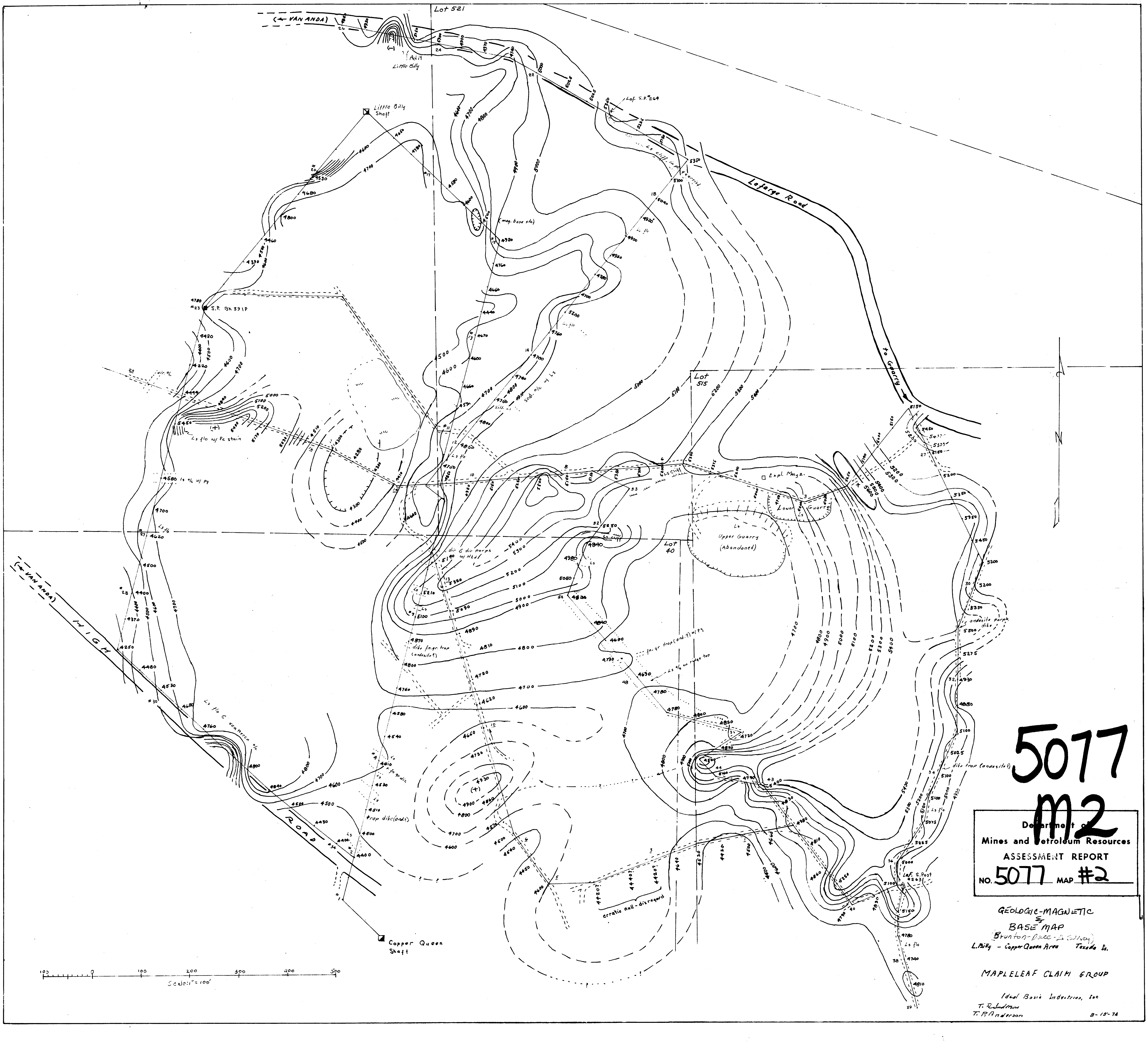
To reduce the amount of D2/tol. to be carried in the field kit, the following procedure is used, particularly in reconnaissance work. The titration of the sample is stopped at 10 ml and the colour is recorded, e.g. 10 PR (purplish-red). After allowing any sediment or emulsion to settle out and clarify in the upper portion of the D2/tol. layer, the top 5 or top 1 ml (depending on colour at 10 ml) is removed by use of a bulb-topped pipet and placed in a 2nd culture tube and the titration continued to an end point. In the case of the 10 PR determination in which the top 1 ml was removed and further titrated to end point of say 4 ml, it would be recorded as 10 PR 4 and would be equivalent to 50-odd milliliters of D2/tol., though only 14 ml were actually consumed in the determination. For each new batch of 5x extractant a standard series made on known amounts of Zn or equivalent metal could be made in order to interpolate the significance of the "PR" in the above example and,for instance, it might then be recorded as 58 ml. However, in view of the limitations of the method such as taking a volumetric measure of unsized material of varing density and the fact that the ammonium citrate extracts only the loosely bonded metal, which is only a few percent of the total heavy metal in the sample, renders such refinements an exercise in unjustified precision.

APPENDIX C

Procedure for Determination of cxCu: The procedure for the determination of cold extractable Cu (cxCu) is a modification of standard methods described by Holman and by Hawkes in the references cited in the text of the report. A 5X strength solution is made by dissolving 250 g of ARG ammonium citrate in 250 ml of concentrated ARG hydrochloric acid, and then diluted to 1 liter with copper-free water. Usually this yields a pH of 2.0 using the pink-blue colour change of thymol blue. If the indicator colour is not at the first definite pink colour, the pH can be adjusted with concentrated hydrochloric acid or ammonium hydroxide as required. A blank is run at this point to determine if the extractant is free of interfering amounts of Cu. With good stocks of ARG ammonium citrate and hydrochloric acid, Cu-free blanks are normally obtained, otherwise it is necessary to wash the extractant with 0.01% DZ/carbontet. as described in the Procedure for Determination of cxHM (see Appendix D). For field use, the 5X Cu extractant is diluted 1:9 with metal-free water and ARG hydroxyalamine hydrochloride added in amounts of 20 g. per liter of field strength extractant.

The stock strength 0.010% DZ/tol. used in the cxHM method is diluted 1:9 with ARG hexane, but petroleum ether, mineral turpentine, Skelly Solve-B, Blazo and some grades of white gasoline may often be substituted. Normally, ARG hexane is free enough of oxidents to use as received. However, occasional stocks of hexane, and invariably the substitutes listed, require scrubbing with concentrated sulphuric acid (usually 2 scrubbings suffice) and 3 or 4 successive washings with metal-free water are required before a stable DZ/hex. solvent, free of oxidizing agents is obtained.

The field procedure is the same as that described for cxHM. The reason hexane or other aliphatic hydrocarbons are used in the Cu determination is to reduce the shaking time to 30 seconds, so that both cxHM and cxCu can be determined simultaneously with the same shaking time. If, for any reason, the DZ/tol. solvent for HM had to be used for the Cu determination (eg. running out, salting or oxidation of the Cu solvent), the shake was extended to 60 seconds in order to obtain a comparable determination.



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M2

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ASSESSMENT REPORT
NO. 5077 MAP #2

GEOLOGIC-MAGNETIC
&
BASE MAP
(Brunton-pace-△ survey)
L. Billy - Copper Queen Area Texada Is.

MAPLELEAF CLAIM GROUP

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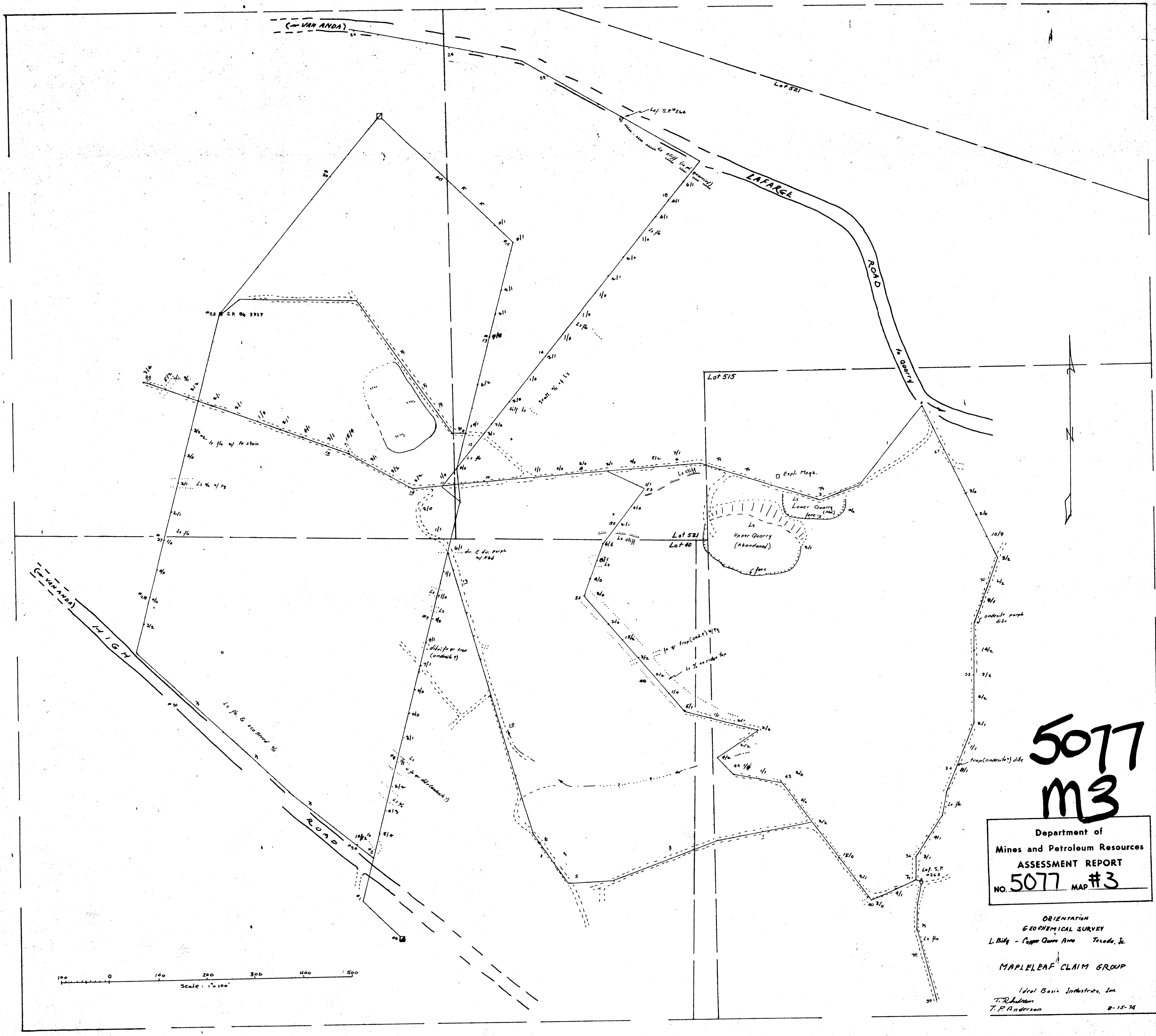

5077
M3

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ASSESSMENT REPORT
NO. 5077 MAP #3

ORIENTATION
GEOCHEMICAL SURVEY
L. Billy - Copper Queen Area Texada, Is.

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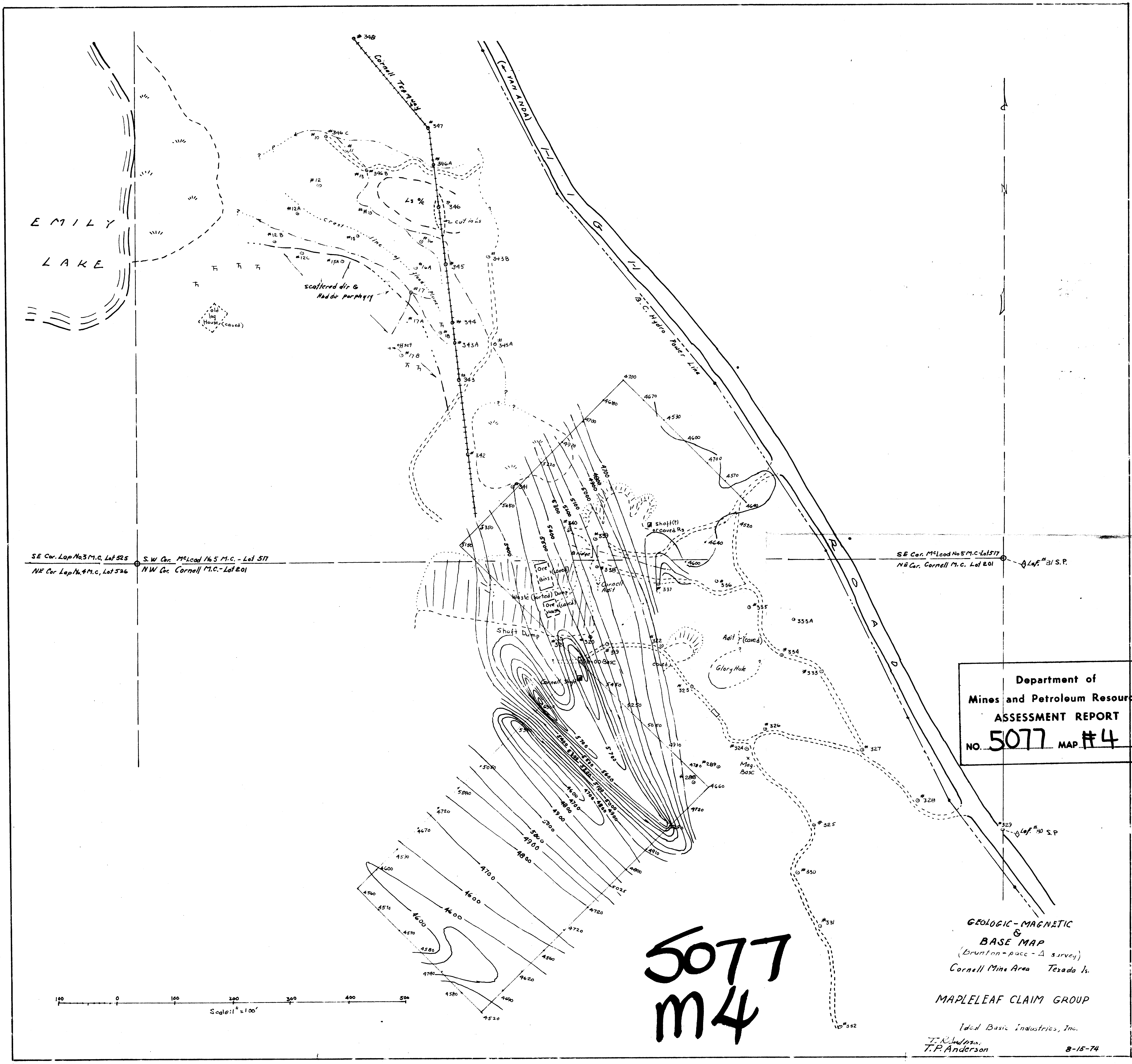
ASSESSMENT REPORT
NO. 5077 MAP #4



GEOLOGIC - MAGNETIC
&
BASE MAP
(Brunton - pace - Δ survey)
Cornell Mine Area Texada Is.

MAPLELEAF CLAIM GROUP

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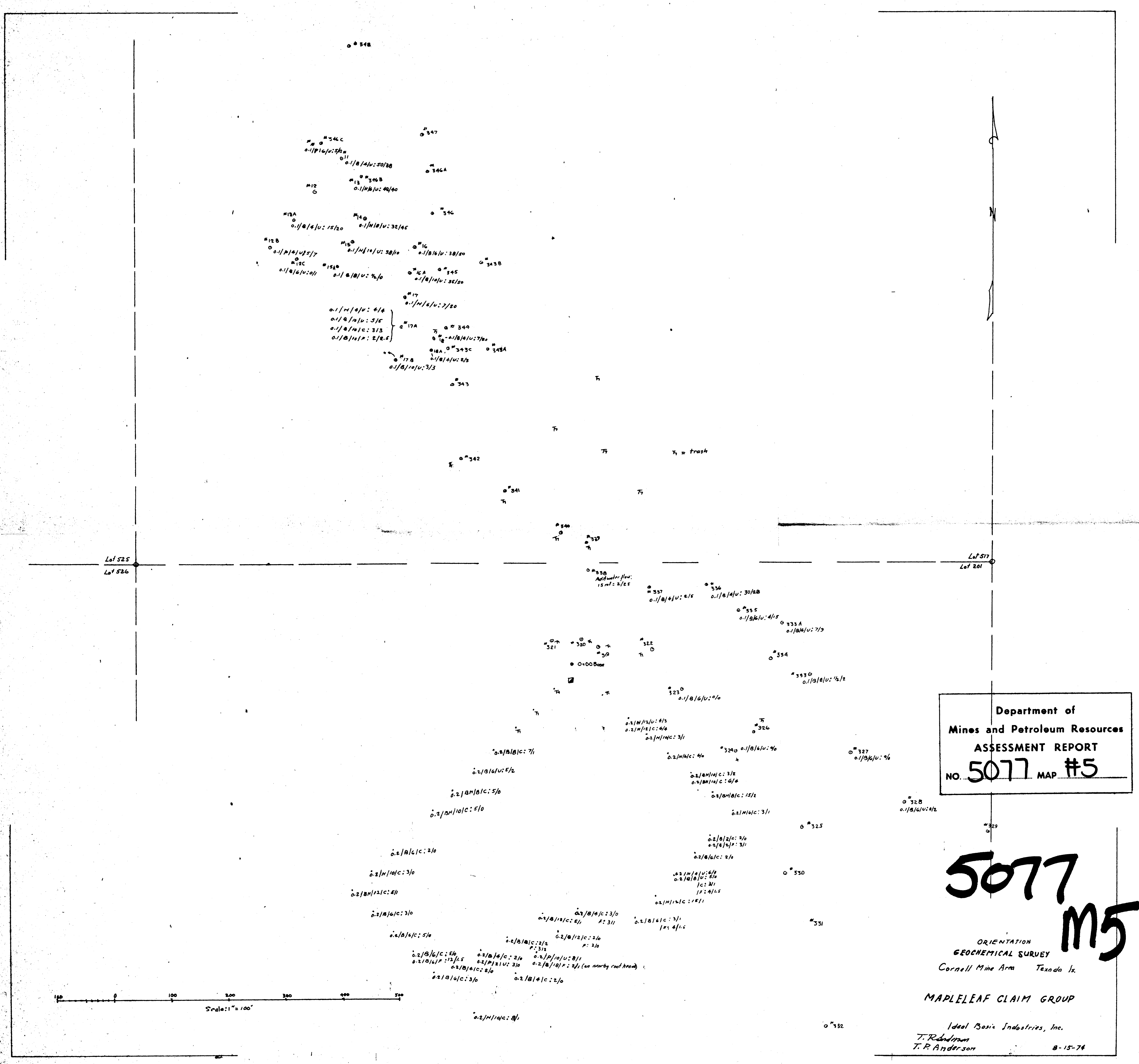
5077
M4



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ASSESSMENT REPORT
NO. 5077 MAP #5

5077
M5

ORIENTATION
GEOCHEMICAL SURVEY
Cornell Mine Area Texada Is.

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