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**A GEOLOGICAL AND GEOPHYSICAL
SURVEY OVER THE EMPRESS STRUCTURE,
EMPRESS EAST CLAIM BLOCK,
SYINE TOWNSHIP, SANTOY LAKE AREA
TERRACE BAY, ONTARIO**

2.18425

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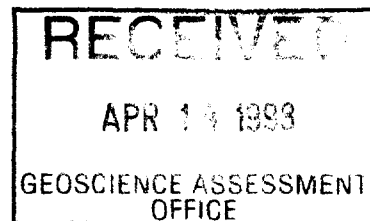
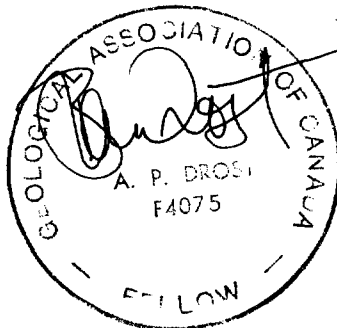




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EXECUTIVE SUMMARY

An initial site visit to the Empress Property (Lavigne, 1997) recognized the gold exploration potential of the "Empress Structure" on the Empress East Property of Landis Mining Corporation (LIS-ASE; 50%) and McArthur Minerals Inc. (50%), a private Ontario corporation.

As a result of the recommendations arising therefrom, a comprehensive integrated program of linecutting, ground geophysics (magnetics, VLF-EM), humus geochemistry, geological mapping and rock sampling was carried out over the Empress Structure, immediately east of the old Empress Mine lease.

Survey results indicate that the Empress Structure is an 800m long auriferous shear zone, a splayed portion of a system of altered and weakly sulphide mineralized structures which traverse a portion of the Empress East Property for 1.7km east of the Empress Mine lease.

A short program of diamond drilling (700m in 6 holes) is recommended initially to test the subsurface continuity and tonnage potential of gold-bearing quartz veins and pyritic sericite schists in the Empress Structure, in an area of elevated surface gold values (0.67 oz Au/t over 3m). In addition, a short program of surface stripping and sampling is recommended in the area of L6+00E, 0+25N and L9+00E, BL to better understand the controls on gold mineralization in this area.

INTRODUCTION

This report deals with the results of an integrated exploration program carried out on a portion of the Empress East Property extending east of the Empress Mine lease (Claim 459728) along an auriferous mineralized feature known as the "Empress Structure".

The Empress East Property consists of a series of 17 contiguous unpatented mining claims in Priske Township which are held under option by Calgary, Alberta-based Landis Mining Corporation (LIS-ASE; 50%) and McArthur Minerals Inc. (50%), a private Ontario corporation. All work in the present survey was carried out on portions of Claims 1208187, 1208188 and 1208190 (Figure 2).

The Empress Structure is an auriferous splay fault/shear extending east/northeast from the Empress Mine Lease onto the Empress East Property. Exploration work was conducted on a newly cut survey grid consisting of a 2.0km baseline oriented at 055° azimuth across the Property and 17.1km of linecutting in 17 survey lines oriented normal to the baseline. The survey lines were spaced at 100m along the baseline with pickets at 25m station intervals.

An integrated exploration database consisting of ground geophysics (total field magnetics and VLF-EM), humus geochemistry, geological mapping and rock sample assays was generated over the survey grid.

Dates/Personnel

Linecutting of the Empress East survey grid was sub-contracted to D.L. Gibson and Associates of Sault Ste. Marie and conducted by a 4-man crew under the supervision of David Gibson during the period July 5-19, 1997. A total of 20.1km of ground magnetics and VLF-EM were performed at 12.5m grid intervals over the entire survey grid by David Gibson during the period July 17-19, 1997.

A total of 347 humus soil samples for gold analysis were collected at 12.5m grid intervals over selected VLF-EM anomalies on the Empress Grid by a 3-man crew consisting of Abraham Drost, Yvan Boucher and Boyd Smith during the period September 17-20, 1997.

The Empress survey grid area was geologically mapped and prospected by a 4-man crew during the period October 18-21, 1997. A total of 101 rock samples were collected for gold analysis during this period. Personnel included geologists, Dino Kaoukis, Alain Garand, Nathaniel Noel and Abraham Drost.

Digitizing and plotting services were provided by Paul Nielsen, Geologist, Thunder Bay.

LOCATION, ACCESS & CLAIM STATUS (Table 1)

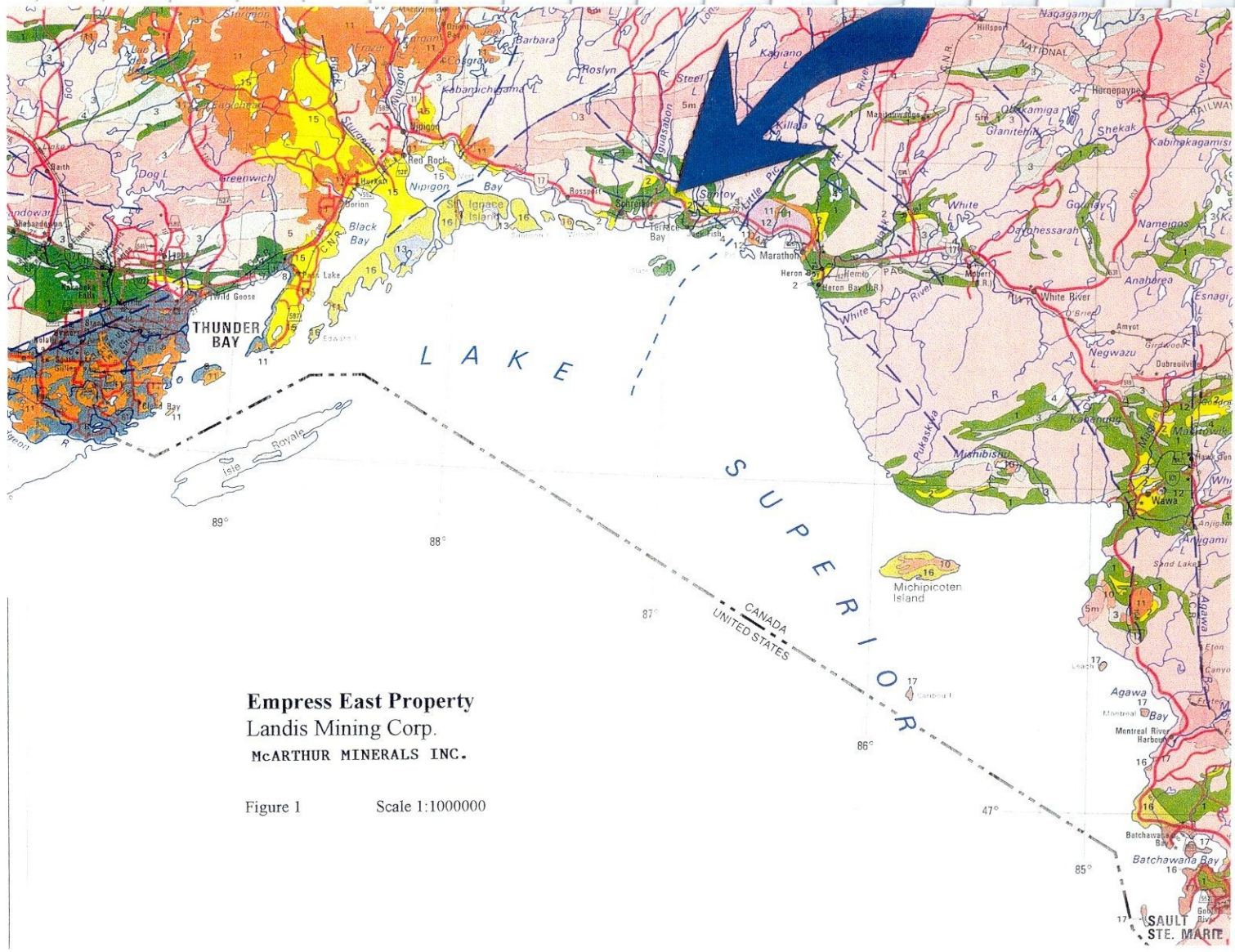
The Empress East property consists of 15 contiguous unpatented mining claims in Syine Twp. (Map G-634) (66 units; Claim numbers 845646, 1195779, 1196616, 1207878, 1207879, 1207880, 1207897, 1208187, 1208188, 1208189, 1208190, 1208719, 1210334, 1224854, 1224888) and an additional non-contiguous claim (4 units, 1207882) (Figure 2), in the Santoy Lake area (Map G-612) to the north, in the Thunder Bay Mining Division, Province of Ontario, Canada (Figure 1). The southern part of the property is traversed by Trans-Canada Hwy 17 along the north shore of Lake Superior. The highway leads to the communities of Terrace Bay, 14 km to the west, and Marathon, 60 km east. A serviceable gravel road leads into the lower portion of the Empress East Property.

TABLE 1
DESCRIPTION OF THE EMPRESS EAST AND URSA MAJOR PROPERTY
 Claims in Syine Township and Santoy Lake Area

Mining Claim	Units	Area	Expiry Date	Due
845646	1	Syine Twp.	1999-Dec-27	400.00
1195779	6	Syine Twp.	1998-Jul-15	2400.00
1196616	1	Syine Twp.	2001-Mar-28	400.00
1207878	8	Syine Twp.	1999-Jan-27	3200.00
1207879	4	Santoy Lk. Area	1999-Jan-27	1600.00
1207880	12	Syine Twp.	1999-Jan-27	4800.00
1207882	4	Santoy Lk. Area	2001-Jan-27	719.00
1207897	4	Santoy Lk. Area	1999-Jan-27	1600.00
1208187	4	Syine Twp.	1999-Feb-13	1600.00
1208188	1	Syine Twp.	2000-May-17	400.00
1208189	3	Syine Twp.	1999-Feb-13	1200.00
1208190	8	Syine Twp.	1999-May-17	3200.00
1208719	4	Syine Twp.	1998-Apr-16	1600.00
1210334	1	Syine Twp.	1999-Feb-12	400.00
1224854	6	Syine Twp.	1999-May-21	1950.00
1224888	3	Syine Twp.	1998-Dec-11	1200.00

REGIONAL GEOLOGY

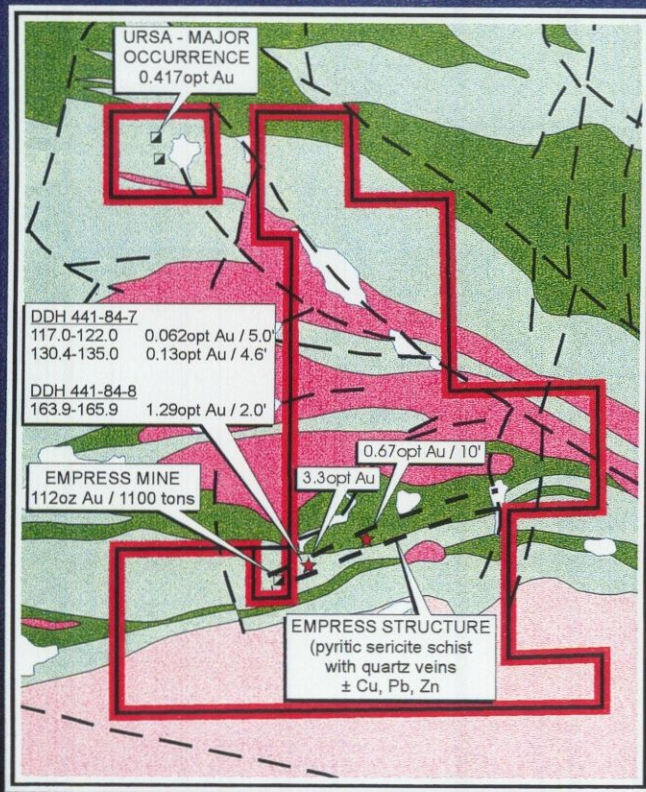
The former Empress Mine lies within the Schreiber-Hemlo greenstone belt. The immediate area is apparently underlain by both mafic and felsic volcanic flows and fragmentals (Figure 3). The core of the greenstone belt in this area contains a large volume of gabbroic intrusives and the belt is bound to the south by the granodioritic Terrace Bay Batholith. Intrusion of the Terrace Bay batholith has metamorphosed the rocks to epidote-amphibolite and amphibolite facies.



Empress East Property
Landis Mining Corp.
McARTHUR MINERALS INC.

Figure 1 Scale 1:1000000

EMPRESS EAST PROPERTY SCHREIBER - HEMLO GREENSTONE BELT GEOLOGICAL COMPILATION



LEGEND

- MAFIC VOLCANICS
- INTERMEDIATE VOLCANICS
- MAFIC INTRUSIVES
- FELSIC INTRUSIVES
- GOLD OCCURRENCE
- LANDIS MINING CORP. PROPERTY

LANDIS MINING CORPORATION (LIS - ASE)

Figure 2 (after ODM G.R. 50, Map 2107)

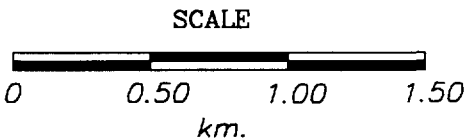
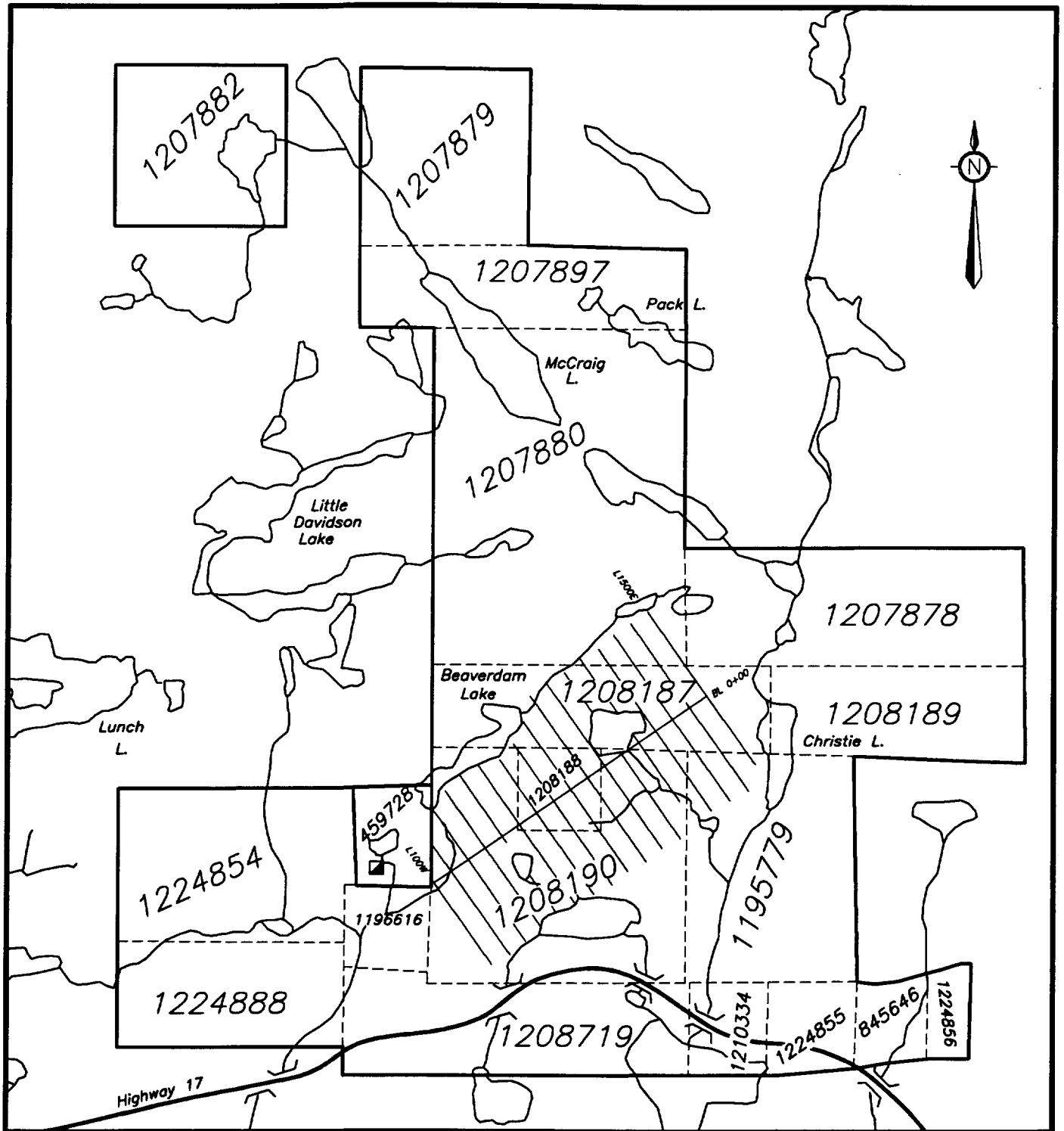


FIGURE 2

CLAIM MAP
 EMPRESS EAST PROPERTY
 LANDIS MINING CORPORATION
 McARTHUR MINERALS INC
 MAP NO. G-634 SYINE TWP.
 G-612 SANTOY LAKE AREA

EXPLORATION HISTORY

The adjacent Empress Mine was developed in the period 1895-99 and produced 112 ounces of gold from 1100 tons of ore. The property was extensively re-evaluated in 1936-37. The old trenches found on the Empress East property can be attributed to the later of these two periods of activity. The Empress Mine property lay dormant until the 1970's and the only significant activity on the Empress East property was undertaken by Micham Exploration Inc. from 1982 to 1984 under the supervision of David R. Bell Geological Services. A program of geological mapping, rock and soil sampling, magnetic, VLF-EM and IP geophysical surveys and diamond drilling were carried out. This work defined the "Empress Structure", a series of moderate to strong IP anomalies and Au, Cu, Zn anomalies coincident with quartz veining in the area of the Empress Mine adit and extending east onto the present day Empress East property (Figure 4).

Micham Exploration Inc. conducted an 8 hole diamond drilling program at 200 foot centers, extending from the Empress Mine east to Beaverdam Creek, well within the Empress East property. The easternmost two holes (Folio 4) 441-84-7 and 441-84-8 were drilled from the same collar location at -50 degrees and -80 degrees to test an IP anomaly. These holes intersected a "carbonatized sericitic shear" from 48.0' - 184.1' (441-84-7) and 51.0' - 203.0' (441-84-8). The carbonate-sericite shear contained gold values in DDH 441-84-7 of 0.062 opt Au over 5' (117.0' - 122.0') and 0.134 opt Au over 4.6' (130.4' - 135.0'). These values occur within a 60' wide pyritic envelope of elevated gold values up to 588 ppb Au (85.0' - 145.0'). The follow-up hole, DDH 441-84-8, intersected 1.29 opt Au over 2' (163.9' - 165.9') within a 100' wide envelope of elevated gold values up to 704 ppb Au. Similar targets east of Beaverdam Creek, where IP anomalies coincide with soil geochemical anomalies were not tested by this drilling program.

WORK PROGRAM

Linecutting and Geophysics (Map Folio 1,2,5)

During the month of July, from July 05/97 to July 19/97, D.L. Gibson and Associates participated in an exploration program on the Empress East project, located east of Terrace Bay, Ontario. Work performed included grid construction and a ground magnetic and VLF-EM geophysical survey on behalf of SDA Geological of Thunder Bay, Ontario. Linecutting was performed by a four man crew of cutters, contracted in by Gibson and Associates and all geophysical survey/preparations were performed by D.L. Gibson, Gibson and Associates.

Survey Specifications

A total of 17.1km of grid lines were constructed on the property with fluorescent painted pickets marked in pencil at 25 meter station intervals. Survey readings were taken at 12.5 meter intervals

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along established grid lines (Figure 2).

VLF-EM/Total Field Magnetic Survey

The VLF-EM/Total Field Magnetic survey was performed simultaneously by David L. Gibson on July 17-19, 1998. The survey was performed with the use of two Scintrex Envi-Mag portable magnetometers. One unit was used as a base station to correct for diurnal variations. The other unit/field unit, was a Envi-Mag/Grad/VLF unit configured to take total field readings and VLF readings simultaneously at each 12.5 meter station. The VLF survey used the Cutler, Maine station at 24 mhz. The field unit was operated in the stop and go mode configured for advanced mineral exploration. The total field sensor and VLF receiver unit were mounted on a backpack frame for ease of handling along the grid. Magnetic data from the field unit was corrected nightly with the use of the base station unit and both VLF-EM and Magnetic data was downloaded to a portable PC.

Maps were generated by Gibson and Associates from the collected data with the use of Geopac™ software and printed on vellum in black and white format. Additional copies were made and sent to SDA Geological for interpretation. Magnetic maps were produced and contoured at 100nt along with a separate datum plot of the readings. VLF-EM In-phase and Quadrature profiles were produced, using the same software and plotted on black and white vellum (Folio 5).

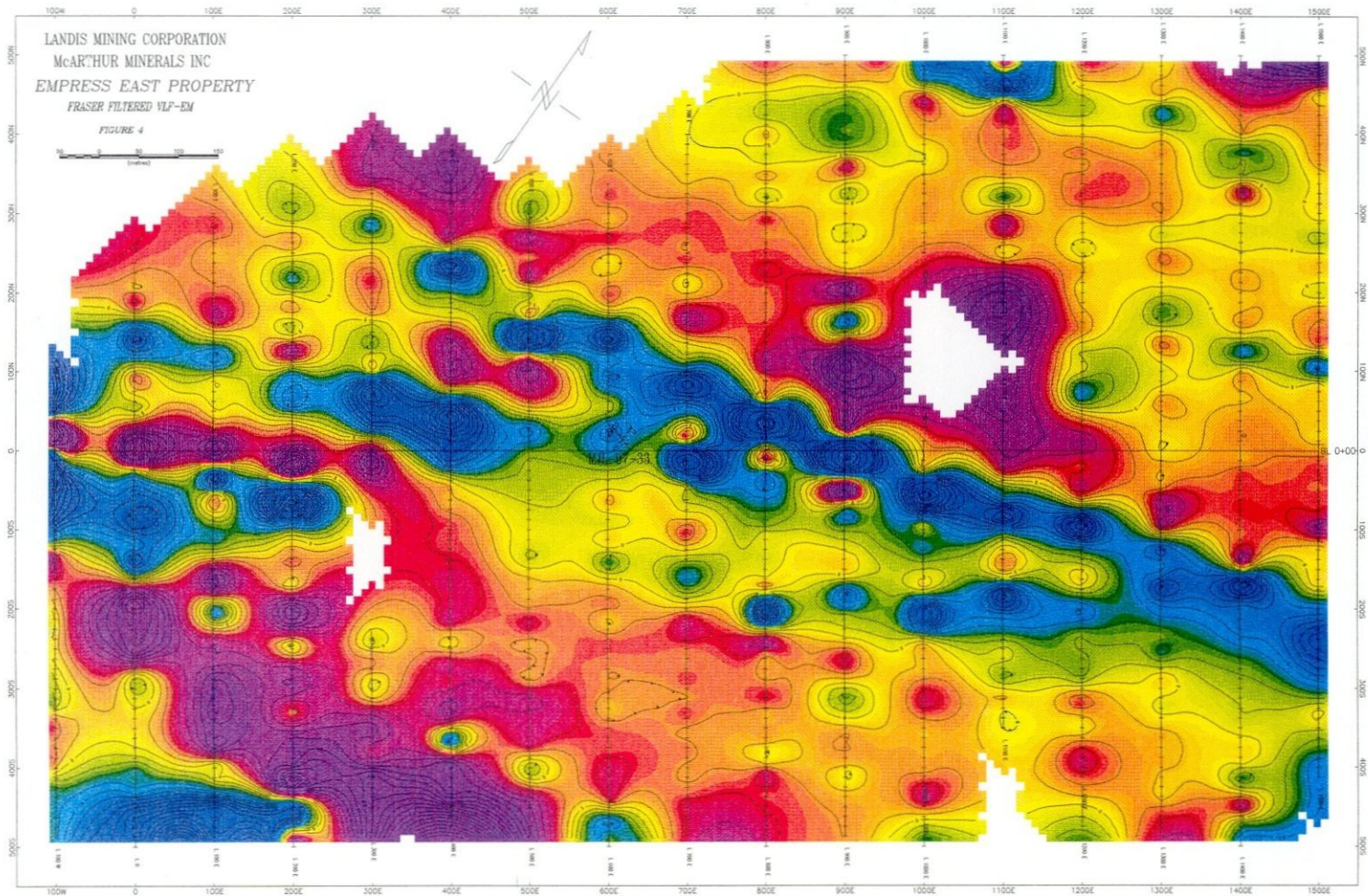
Shadowed total field magnetic and Fraser Filtered VLF-EM color contoured maps were produced from the profile data by Paul Nielsen in Geosoft™ format (Map Folios 1,2). The Fraser Filter is a moving average filter $[(a+b)-(c+d)]$ applied to the raw in-phase VLF-EM profile data. The Fraser-filtered data set emphasizes VLF-EM conductive crossover points which are shown in high negative blue values in the Empress data set (Figure 4; Folio 1). Whereas the profile data are of limited utility, the color contoured Fraser –Filter VLF-EM and total field magnetics present an immediate and empirically obvious tool for guiding prospecting and mapping activities on the Empress East Property.

Geochemistry (Appendix 1; Map Folio 4)

A thin veneer of sands and gravels, mineral soils, humus and sphagnum moss cover the Precambrian rocks of the Empress East Property. The humus (Ao) horizon is typically the best developed and persistent soil horizon over the Empress East Grid, and is the medium of choice for geochemical sampling in areas of overburden cover. Humus is a useful tool in establishing dispersion of gold and other metal cations in overburden where the potential metal ion-bearing groundwater circulation is relatively unimpeded by clays or deep overburden and groundwater has contact with mineralized bedrock and the humus horizon. Gold molecules are chemically complexed by the humic acid molecule in the humus horizon and form a residual target for

LANDIS MINING CORPORATION
McARTHUR MINERALS INC
EMPRESS EAST PROPERTY
FRASER FILTERED VLF-EM

FIGURE 4



sampling.

A total of 347 humus soil samples for gold analysis were collected at 12.5m grid intervals over selected VLF-EM anomalies on the Empress Grid by a 3-man crew consisting of Abraham Drost, Yvan Boucher and Boyd Smith during the period September 17-20, 1997.

In order to economize with analytical and sample selection costs, first phase geochemical target selection was based on the color-contour Fraser-filtered VLF-EM data set. The crossover field outlining the auriferous Empress Structure and related Empress Formational Structure and Empress Splay Structure was sampled where possible at 12.5m station intervals except where prevented by swamp, outcrop or lack of a sample-worthy humus horizon. The humus program was also designed to profile known bedrock gold occurrences on the Empress Property on an orientation basis in order to determine the humus response (eg. 0.67 oz Au/t over 3m at L6+12E, 0+25N).

Humus samples were collected by hand at specific station intervals after the leaf litter was brushed aside and the humus layer exposed. The humus sample (cleaned of as much root material as possible) was placed in a porous kraft brown paper sample bag. The sample bags were numbered with the station location. Samples were hand-delivered to Chemex Laboratories in Thunder Bay, for sample preparation and analysis by fire assay and atomic absorption methods (FA-AA). Analytical results were reported in ppb Au to a detection limit of 1ppb Au. Great care was taken at the sample collection stage not to include mineral soils in the humus samples, as this could affect the assay procedure.

Sample Preparation

At Chemex Laboratories, the humus samples were dried, manually disaggregated and screened out to provide 30g of -10 mesh clean humus material. In the fire assay process, the humus material is completely dissolved and the precious metals extracted using molten lead. The lead and precious metals are then separated in a secondary process called cupellation. The lead bead is then dissolved in nitric acid and the gold content of the solution, representative of the humus sample with appropriate correction factors for sample size, is determined by the atomic absorption method in ppb gold.

Geological Mapping (Map Folio 3; Appendix 2,3)

Geological mapping was undertaken at 100m line intervals on the Empress Grid with data collection off lines in areas of interest. The geological mapping while stratigraphically faithful, was prospecting oriented and focused more particularly on areas of hydrothermal alteration, structural deformation, presence of quartz veining and/or the presence of sulphide mineralization. Since these attributes and known gold occurrences are more typically developed in the various throughgoing structural features identified geophysically on the Empress Property (eg. "Empress Structure"), the mapping relied quite heavily on colored magnetic and VLF-EM data maps carried

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by each geologist in the field.

Outcrop location information along with notations on lithology, alteration, structure, veining and sulphide mineralization were recorded on loose leaf lined vellum sheets by each mapper on a daily basis. Completed sheets were then digitized in Autocad by Paul Nielsen in Thunder Bay, prior to final edit.

Prospecting and Rock Sampling (Map Folios 3,4; Appendix 2, 3)

Rock sampling and prospecting were carried out by each geologist at the time the geological mapping was being conducted. Rock samples typically were taken in areas of anomalous deformation (shearing), alteration (sericite, silica, Fe-carbonate), quartz veining and sulphides.

4-5lb rock samples were collected at each sample location and placed in a plastic sample bag for shipment to Accurassay Laboratories in Thunder Bay. Sample particulars were recorded on preprinted sample tags in triplicate, with one tear-off tag placed in the sample bag. Sample locations were recorded on the geological mapping notes.

Sample descriptions and locations, and ultimately assay results, were transcribed each evening onto a Sample Spreadsheet (Appendix 3).

Sample Preparation

At Accurassay Laboratories, the rock samples were dried and rough crushed to $-3/8''$ material (reject). From this homogenized material, a 120 gram portion was completely crushed to -80 mesh pulp and homogenized, from which a 29.16g cut of -80 mesh material was taken. In the fire assay process, the rock pulp material is completely dissolved and the precious metals extracted using molten lead. The lead and precious metals are then separated in a secondary process called cupellation. The lead bead is then dissolved in nitric acid and the gold content of the solution, representative of the rock sample after application of various calculations to account for sample weight, is determined in ppb gold by the atomic absorption method.

RESULTS & ANALYSIS

Geophysics (Map Folios 1,2,5)

Two sets of geophysical survey data were generated on the Empress East Property, namely total field magnetics and VLF-EM data.

VLF-EM data outlines several structural features on the Property including the key Empress Structure which is also outlined by a series of old prospector pits. This feature is a sericitic shear zone which trends at 070° azimuth between L0+00, 1+25N to L8+00, BL along which several ore-grade gold assays were obtained including 3.3 oz Au/ton in a grab sample (64953) and 0.67 oz Au/ton over 3m (Lavigne, 1997).

The Empress Structure appears from the geophysics to be a splayed shear zone which converges with a throughgoing structural feature termed the “Empress Formational Feature” trending at 090° azimuth between L2+00E, 3+00N to L15+00E, 2+00S. Geological mapping shows this feature to be a sheared structure exhibiting weakly pyritic, yellowish, bleached and sericitic, occasionally fissile wallrocks and gossanous quartz stringers locally where exposed. Several old prospector pits were also resampled southeast of the baseline along the Empress Formational Feature, with low geochemically anomalous gold values obtained. Best grab sample values obtained during the present program included 651 ppb Au (64918) and 775 ppb Au (Lavigne, 1997).

Two other VLF-EM crossover features are evident on the VLF-EM dataset in the area of line L1+00W to L2+00E, at 1+00S and 4+50S respectively. These features are unexplained geologically due to overburden cover, but appear to extend grid west along strike onto Claim 1196616 on the Empress East Property. Several minor, low intensity Fraser-filter crossover anomalies are noted locally on the Empress East grid. These apparently mimic topographic features locally.

Colored total field magnetics was of limited utility in the overall mapping and prospecting program other than to confirm broad geological and structural trends. Geological mapping confirmed that isolated and locally continuous magnetic highs appear to outline late diabase intrusive plugs, evidently emplaced into pre-existing structural features.

Geochemistry (Appendix 1; Map Folio 4)

Humus sampling generated several area of interest on the Empress East Property, for humus values exceeding the analytical detection limit of 1 ppb Au. These are prioritized on a straight-line basis (Table 2). Only 3 area attain classical “anomalous” status on the basis of exceeding the mean + 2(standard deviation) **anomaly threshold of 58 ppb Au.**

It is not the purpose of this report to downgrade the potential exploration significance of other

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lower intensity sites at this time, due to the site specific vagaries of overburden thickness and composition (eg. clays) and local groundwater regime.

Table 2 Humus Sampling Results, Empress East Area

SITE PRIORITY	GRID POSITION	HUMUS VALUES (ppb Au)	LITHOTECTONIC SETTING (FOLIO 4)
1	6+00E, 0+25N	117, 120	Empress Structure near 0.67 oz Au/t over 3m in rock
2	9+00E, BL	32, 92	N. margin of Empress Formational Structure 775 and 651 ppb Au in rock
3	11+00E, 2+75S	75	S. margin of Empress Splay Structure
4	13+00E, 2+25S	3, 30	S. margin of Empress Formational Structure
5	12+00E, 1+00N	22	Empress Structure
6	0+00, 1+25 to 1+75N	11, 12, 18	Empress Structure
7	14+00E, 2+75S	18	S. margin of Empress Formational Structure
8	15+00E, 2+75S	3, 6, 15	N. Margin Empress Formational Structure
9	10+00E, 1+25S	3,3,3,3,9	Altered mafic volcanics between domains

Sites 1 and 2 are associated with gold assay results in rock. These are targeted for further followup work by power stripping and diamond drilling. The remaining sites are suggested as a possible focus for additional prospecting work.

Geology (Map Folio 3)

Results of geological mapping (Folio 3) show that this portion of the Empress East Property is predominantly a mafic volcanic protolithic sequence. The mafic volcanics are in turn transected by several "lithotectonic domains" or "alteration-structural zones" within which structural deformation (shearing / faulting) and alteration facies (predominantly sericite and silica) have altered and overprinted the mafic volcanics creating several distinct lithological marker horizons. The mafic volcanics are in turn apparently intruded by a large quartz diorite stock in the north portion of the grid and a granodioritic to granitic sill in the southwest portion of the mapping area. This latter feature may represent an apophyse or fractionated sill off the main Terrace Bay Batholith to the south.

Geological mapping of available outcrop exposure confirms the initial geophysical interpretation of at least 3 main lithotectonic domains on the Empress East Property, namely:

Empress Structure	070° azimuth
Empress Formational Structure	090° azimuth
Empress Splay Structure	060° azimuth

(Map Folio 4)

The dominant Empress Structure appears to be a convergent splay feature with the throughgoing, but less strongly developed, Empress Formational Structure (Folios 3,4). These converge in the area of L7+00E, 0+35N. These features may represent a conjugate set of shearing or a typical subsidiary splay fault model. Both zones appear to be displaced somewhat by a northeast block fault trending at 020° azimuth, crossing the baseline at L5+00E, BL. The fault has topographic expression and appears to have an east-side-up orientation.

The **Empress Structure** is characterized by a moderately to strongly sheared, laminated and occasionally fissile core of bleached, sericitic rock with with intense medium buff brown to light yellow sericitic hydrothermal alteration. The zone is locally biotite-rich along strike and features variable addition of silica, calcite, chlorite, fuchsitic and iron-carbonate alteration facies.

A series of locally sulphide-rich discontinuous and boudinaged quartz veins up to 1m wide and various quartz stringers and lenses pinch and swell along strike within the Empress Structure. Sulphide mineralization varies from trace to 10% disseminated and blebby pyrite within the sericite schist. Minor chalcopryrite, galena and specular hematite are locally present within the quartz veins.

In terms of gold grade, the sericite schist can run up to 2 g/t over 1.5m (Lavigne, 1997). Spectacular gold grades, 0.67 oz Au/t over 3m (Lavigne, 1997) and 3.3 oz Au/t (grab sample; 64953) are only obtained in conjunction with quartz vein enrichment. In prospector pits at L6+00E, 0+25N, a dominant **easterly plunging lineation to the quartz veins** and sericite schists was **measured at 070°/50°**. The quartz veins appear to be strongly rodded as pencils, lozenges and lenses at this location.

A fine-grained biotitic (potassic alteration) and siliceous overprint also persists in the mafic volcanics outwards from the sheared sericitic core for a total width of some 100m. Remnant lithologies within the Empress Structure include silicified and biotitic mafic volcanics, quartz – muscovite/biotite schists, and so-called “felsic lapilli tuffs”, an alteration/deformation product distinguished by a sheared, white siliceous appearance and transposed flattened heterolithic fragments, and quartz stringers locally, in the matrix.

The **Empress Formational Structure** is a sporadically developed and less well exposed zone of medium buff to to light creme yellow sericite schists with 2-5% disseminated pyrite. Minor rusty and pyritic quartz veining is also present locally, and although these rocks look highly prospective, the best gold values obtained were a moderately elevated 651 ppb Au (64918) and 775 ppb Au

(Lavigne, 1997).

A secondary splay structure trending at 060° azimuth is developed in the area of L8+00E, 2+00S to L12+00E, 2+00S. This feature is termed the **Empress Splay Structure** and appears from the VLF-EM data to be spatially-related as a low-angle splay feature developed off the main Empress Formational Feature. The splay feature exhibits iron-carbonate and silica alteration locally and low gold values where sampled, but remains largely unexplored due to cover by a large wet boggy area. Widespread “flinty” silicification of the mafic volcanic sequence occurs south of the domain boundary. Particular prospecting attention is needed in the area of several as yet unexplained, potentially significant humus anomalies (Table 2), ie.

3	11+00E, 2+75S	75	S. margin of Empress Splay Structure
9	10+00E, 1+25S	3,3,3,3,9	Altered mafic volcanics between domains

CONCLUSIONS & RECOMMENDATIONS

Survey results indicate that the Empress Structure is an 800m long auriferous shear zone, a splayed portion of a system of altered and weakly sulphide mineralized structures which traverse a portion of the Empress East Property for 1.7km east of the Empress Mine lease. Identification of shoots of gold mineralized sericite schists and quartz vein arrays within the Empress Structure should be the initial focus to test the potential for developing a gold tonnage and grade resource on the Empress East Property.

A short program of diamond drilling (700m in 6 holes) is recommended initially to test the subsurface continuity and tonnage potential of gold-bearing quartz veins and pyritic sericite schists in the Empress Structure, in an area of elevated surface gold and humus values in rock (0.67 oz Au/t over 3m) (Table 3). In addition, a short program of power stripping, washing and channel sampling is recommended in the area of L6+00E, 0+25N and L9+00E, BL to better understand the controls on gold mineralization in this area, which is accessible from the east end of the Empress grid.

Table 3 Proposed Diamond Drill Program – Empress East Property

DDH	LENGTH (m)	GRID REFERENCE	AZIMUTH/DIP
EMP-1	150m	3+50E, 0+12S	325°/-45°
EMP-2	110m	4+50E, 0+12S	325°/-45°
EMP-3	110m	5+50E, 0+25S	325°/-45°
EMP-4	110m	6+00E, 0+25S	325°/-45°
EMP-5	110m	6+50E, 0+25S	325°/-45°
EMP-6	110m	9+00E, 0+50S	325°/-45°
TOTAL	700m		Mag. Decl. 4°W

Costs-Diamond Drilling

All in costs per metre for a small diamond drilling program on the Empress East Property are estimated at **\$110.00-\$130.00 per metre**. This will include charges for mobilization and demobilization of drill crews and equipment, diamond drilling costs, geological supervision, core logging and core splitting, assay costs, report writing, room and board and travel costs. **Total drilling costs are estimated at \$77,000.00 to \$91,000.00** depending on the need for helicopter access to the topographically challenging drill sites.

Costs-Power Stripping

30 hours backhoe time		\$4000.00 including float
7 days geological supervision	@\$350.00/day	\$2450.00
7 days washing and sampling crew	@\$350.00/day	\$2450.00

sda geological services, limited

300 rock sample assays – gold	@\$15.00/ea	\$4500.00
Misc. equipment rentals, blades etc.		\$2000.00
Room and Board/Travel		\$1500.00
TOTAL		\$16,900.00

The above programs are designed to test previously unexplored areas on the Empress East Property which show greatest gold exploration potential on surface. Depending on the results obtained, the suggested power stripping and drilling programs could be expanded as warranted.

REFERENCES

- LAVIGNE, M. 1997** Empress East Property – Recommendations for Exploration
Matawin Mineral Exploration
August 26, 1997
- WALKER, J.W.R., 1967** Geology of the Jackfish – Middleton Area
O.D.M. Geological Report 50, 38p.
Accomp. By Map 2107

sda geological services, limited

**APPENDIX 1
HUMUS ASSAY RESULTS**



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

5175 Timberlea Blvd., Mississauga
 Ontario, Canada L4W 2S3
 PHONE: 905-624-2806 FAX: 905-624-6163

To: SDA GEOLOGICAL SERVICES, LTD. ##

215 VAN NORMAN ST.
 THUNDER BAY, ON
 P7A 4B6

Project : EAST EMPRESS
 Comments: ATTN: ABRAHAM DROST

Page Number : 1
 Total Pages : 4
 Certificate Date: 28-SEP-97
 Invoice No. : 19742440
 P.O. Number :
 Account : NCW

CERTIFICATE OF ANALYSIS

A9742440

SAMPLE	PREP CODE	Au ppb EXT-AA										
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L1W-1+25.0S	240 205	< 1										
L1W-1+12.5S	240 205	< 1										
L1W-1+00.0S	240 205	< 1										
L1W-0+87.5S	240 205	5										
L1W-0+75.0S	240 205	< 1										
L1W-0+62.5S	240 205	1										
L1W-0+50.0S	240 205	1										
L1W-0+37.5S	240 205	< 1										
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L1W-0+25.0N	240 205	< 1										
L1W-0+37.5N	240 205	< 1										
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L1W-0+75.0N	240 205	< 1										
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L0-1+62.5S	240 205	< 1										
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L0-1+12.5S	240 205	1										
L0-1+00.0S	240 205	< 1										
L0-0+87.5S	240 205	< 1										
L0-0+75.0S	240 205	< 1										
L0-0+62.5S	240 205	< 1										
L0-0+50.0S	240 205	< 1										
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L0-0+25.0S	240 205	< 1										
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L0-1+62.5N	240 205	< 1										
L0-1+75.0N	240 205	18										
L0-1+87.5N	240 205	< 1										

CERTIFICATION: _____



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215 VAN NORMAN ST.
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 P7A 4B6

Project: EAST EMPRESS
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Page Number : 2
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 P.O. Number :
 Account : NCW

CERTIFICATE OF ANALYSIS A9742440

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L2E-1+25.0S	240 205	< 1									
L2E-1+12.5S	240 205	< 1									
L2E-1+00.0S	240 205	< 1									
L2E-0+87.5S	240 205	2									
L2E-0+75.0S	240 205	< 1									
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L2E-0+25.0S	240 205	< 1									
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L2E-0+50.0N	240 205	< 1									
L2E-0+62.5N	240 205	< 1									
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L2E-2+62.5N	240 205	< 1									
L2E-2+75.0N	240 205	1									

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P7A 4B6

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Page Number :3
Total Pages :4
Certificate Date: 28-SEP-97
Invoice No. : 19742440
P.O. Number :
Account : NCW

CERTIFICATE OF ANALYSIS

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L4E-1+62.5N	240	205	< 1									
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L4E-1+87.5N	240	205	< 1									
L4E-2+12.5N	240	205	< 1									

CERTIFICATION: _____

Handwritten signature



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To: SDA GEOLOGICAL SERVICES, LTD. ##

215 VAN NORMAN ST.
THUNDER BAY, ON
P7A 4B6

Project: EAST EMPRESS
Comments: ATTN: ABRAHAM DROST

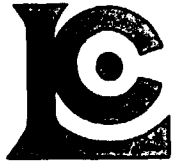
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Certificate Date: 28-SEP-97
Invoice No. : 19742440
P.O. Number :
Account : NCW

CERTIFICATE OF ANALYSIS

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L4E-2+50.0N	240 205	< 1									
L4E-2+62.5N	240 205	< 1									

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 Invoice No. : 19742442
 P.O. Number :
 Account : NCW

CERTIFICATE OF ANALYSIS

A9742442

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L5E-0+25.0S	240 205	< 1									
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L6E-0+25.0N	240 205	120									
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 THUNDER BAY, ON
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Project : EAST EMPRESS
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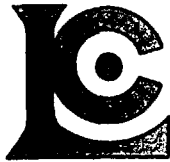
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 Account : NCW

CERTIFICATE OF ANALYSIS

A9742442

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L6E-0+87.5N	240	205	< 1									
L6E-1+00.0N	240	205	< 1									
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L7E-1+25.0S	240	205	3									
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L7E-1+00.0S	240	205	not/ss									
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L7E-0+75.0S	240	205	< 1									
L7E-0+62.5S	240	205	3									
L7E-0+50.0S	240	205	< 1									
L7E-0+37.5S	240	205	< 1									
L7E-0+25.0S	240	205	< 1									
L7E-0+12.5S	240	205	< 1									
L7E-BLO	240	205	< 1									
L7E-0+12.5N	240	205	3									
L7E-0+25.0N	240	205	< 1									
L7E-0+37.5N	240	205	< 1									
L7E-0+50.0N	240	205	< 1									
L7E-0+62.5N	240	205	< 1									
L7E-0+75.0N	240	205	< 1									
L7E-0+87.5N	240	205	< 1									
L7E-1+00.0N	240	205	< 1									
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L7E-1+25.0N	240	205	< 1									
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L8E-1+00.0S	240	205	< 1									
L8E-0+87.5S	240	205	< 1									

CERTIFICATION: _____



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L8E-0+62.5S	240	205	< 1								
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L9E-0+62.5S	240	205	< 1								
L9E-0+25.0S	240	205	< 1								
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L9E-0+12.5N	240	205	92								
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CERTIFICATION: _____



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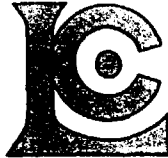
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 Invoice No. : 19742742
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CERTIFICATE OF ANALYSIS

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L10E-0+12.5s	240	205	< 1										
L10E-0+25.0s	240	205	< 1										
L10E-0+37.5s	240	205	< 1										
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L11E-0+75.0s	240	205	< 1										
L11E-0+87.5s	240	205	3										
L11E-1+00.0s	240	205	< 1										
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L11E-1+37.5s	240	205	< 1										
L11E-1+50.0s	240	205	< 1										
L11E-1+62.5s	240	205	< 1										
L11E-1+87.5s	240	205	< 1										
L11E-2+00.0s	240	205	< 1										
L11E-2+12.5s	240	205	< 1										
L11E-2+25.0s	240	205	< 1										
L11E-2+37.5s	217	--	< 1										
L11E-2+50.0s	240	205	< 1										
L11E-2+62.5s	240	205	< 1										
L11E-2+75.0s	240	205	75										
L12E-4+62.5N	240	205	3										
L12E-4+50.0N	240	205	< 1										
L12E-4+37.5N	240	205	< 1										

CERTIFICATION: _____



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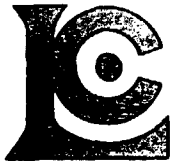
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A9742742

SAMPLE	PREP CODE	Au ppb EXT-AA										
L12E-4+25.0N	240 205	< 1										
L12E-4+12.5N	240 205	< 1										
L12E-4+00.0N	240 205	< 1										
L12E-0+50.0S	240 205	< 1										
L12E-0+62.5S	240 205	< 1										
L12E-0+75.0S	240 205	< 1										
L12E-0+87.5S	240 205	< 1										
L12E-1+00.0S	240 205	< 1										
L12E-1+12.5S	240 205	< 1										
L12E-1+25.0S	240 205	< 1										
L12E-1+37.5S	240 205	< 1										
L12E-1+50.0S	240 205	< 1										
L12E-1+62.5S	240 205	< 1										
L12E-1+75.0S	240 205	< 1										
L12E-1+87.5S	240 205	< 1										
L12E-2+00.0S	217 --	< 1										
L12E-2+12.5S	240 205	< 1										
L12E-2+25.0S	240 205	< 1										
L12E-2+37.5S	217 --	< 1										
L12E-2+50.0S	217 --	< 1										
L12E-2+62.5S	217 --	< 1										
L12E-2+75.0S	240 205	< 1										
L12E-2+87.5S	240 205	< 1										
L13E-0+87.5S	240 205	< 1										
L13E-1+12.5S	240 205	< 1										
L13E-1+25.0S	240 205	< 1										
L13E-1+37.5S	240 205	< 1										
L13E-1+50.0S	240 205	3										
L13E-1+62.5S	240 205	< 1										
L13E-1+75.0S	217 --	< 1										
L13E-1+87.5S	240 205	< 1										
L13E-2+00.0S	240 205	< 1										
L13E-2+12.5S	240 205	< 1										
L13E-2+25.0S	240 205	3										
L13E-2+37.5S	240 205	30										
L13E-2+50.0S	217 --	< 1										
L14E-1+37.5S	240 205	< 1										
L14E-1+50.0S	217 --	< 1										
L14E-1+75.0S	217 --	< 1										
L14E-2+00.0S	240 205	< 1										

CERTIFICATION: _____



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

5175 Timberlea Blvd., Mississauga
 Ontario, Canada L4W 2S3
 PHONE: 905-624-2806 FAX: 905-624-6163

To: SDA GEOLOGICAL SERVICES, LTD. ##

215 VAN NORMAN ST.
 THUNDER BAY, ON
 P7A 4B6

Project: EAST EMPRESS
 Comments: ATTN: ABRAHAM DROST

Page Number : 3
 Total Pages : 3
 Certificate Date: 28-SEP-97
 Invoice No. : 19742742
 P.O. Number :
 Account : NCW

CERTIFICATE OF ANALYSIS

A9742742

SAMPLE	PREP CODE	Au ppb EXT-AA										
L14E-2+12.5S	240 205	< 1										
L14E-2+25.0S	240 205	< 1										
L14E-2+37.5S	217 --	< 1										
L14E-2+50.0S	217 --	< 1										
L14E-2+62.5S	240 205	< 1										
L14E-2+75.0S	240 205	< 1										
L14E-2+87.5S	240 205	18										
L14E-3+00.0S	240 205	< 1										
L14E-3+12.5S	240 205	3										
L14E-3+25.0S	217 --	< 1										
L14E-3+37.5S	240 205	< 1										
L15E-1+50.0S	217 --	6										
L15E-1+62.5S	240 205	< 1										
L15E-1+75.0S	240 205	3										
L15E-1+87.5S	217 --	15										
L15E-2+00.0S	217 --	< 1										
L15E-2+25.0S	240 205	< 1										
L15E-2+37.5S	240 205	6										
L15E-2+50.0S	217 --	< 1										
L15E-2+62.5S	240 205	< 1										
L15E-2+75.0S	217 --	< 1										
L15E-2+87.5S	240 205	< 1										
L15E-3+00.0S	240 205	< 1										
L15E-3+25.0S	217 --	< 1										
L15E-3+37.5S	217 --	< 1										
L15E-3+50.0S	240 205	< 1										
L15E-3+62.5S	240 205	< 1										
L15E-3+75.0S	217 --	< 1										
L15E-3+87.5S	240 205	< 1										
L15E-4+00.0S	217 --	< 1										
L15E-4+12.5S	240 205	< 1										
L15E-4+37.5S	240 205	< 1										

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sda geological services, limited

**APPENDIX 2
ROCK ASSAY RESULTS**



ACCURASSAY LABORATORIES

A DIVISION OF ASSAY LABORATORY SERVICES INC.

1070 LITHIUM DRIVE, UNIT 2
THUNDER BAY, ONTARIO P7B 6G3
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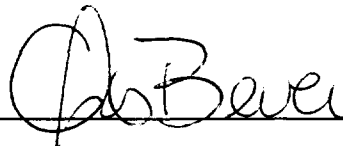
SDA GEOLOGICAL
215 VAN NORMAN ST.
THUNDER BAY, ONTARIO
P7A 4B6

Oct 22, 1997

Job# 9740962

Accurassay	SAMPLE # Customer	Gold ppb	Gold Oz/t
	1 64820	22	<0.001
	2 64821	9	<0.001
	3 64822	<5	<0.001
	4 64823	<5	<0.001
	5 64824	7	<0.001
	6 64825	7	<0.001
	7 64826	37	0.001
	8 64827	6	<0.001
	9 64828	<5	<0.001
	10 64829	<5	<0.001
	11 Check 64829	<5	<0.001
	12 64830	<5	<0.001
	13 64831	<5	<0.001
	14 64832	<5	<0.001
	15 64833	<5	<0.001
	16 64834	<5	<0.001
	17 64835	13	<0.001
	18 64836	<5	<0.001
	19 64837	10	<0.001
	20 64838	<5	<0.001
	21 Check 64838	<5	<0.001
	22 64839	<5	<0.001
	23 64840	8	<0.001
	24 64841	19	<0.001
	25 64842	6	<0.001
	26 64843	23	<0.001
	27 64844	11	<0.001
	28 64845	8	<0.001
	29 64846	14	<0.001

Certified By:





ACCURASSAY LABORATORIES

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SDA GEOLOGICAL
215 VAN NORMAN ST.
THUNDER BAY, ONTARIO
P7A 4B6

Oct 22, 1997

Job# 9740962

Accurassay	SAMPLE # Customer		Gold ppb	Gold Oz/t
	30	64847	6	<0.001
	31 Check	64847	<5	<0.001
	32	64848	<5	<0.001
	33	64849	<5	<0.001
	34	64850	11	<0.001
	35	64851	10	<0.001
	36	64852	7	<0.001
	37	64853	30	<0.001
	38	64854	<5	<0.001
	39	64855	<5	<0.001
	40	64856	13	<0.001
	41 Check	64856	8	<0.001
	42	64857	96	0.003
	43	64858	16	<0.001
	44	64859	<5	<0.001
	45	64860	<5	<0.001
	46	64861	<5	<0.001
	47	64862	<5	<0.001
	48	64863	<5	<0.001
	49	64864	<5	<0.001
	50	64865	<5	<0.001
	51 Check	64865	<5	<0.001
	52	64866	6	<0.001
	53	64867	<5	<0.001
	54	64868	8	<0.001
	55	64869	<5	<0.001
	56	64870	<5	<0.001
	57	64871	<5	<0.001
	58	64872	<5	<0.001
	59	64873	<5	<0.001

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215 VAN NORMAN ST.
THUNDER BAY, ONTARIO
P7A 4B6

Oct 22, 1997

Job# 9740962

Accurassay	SAMPLE # Customer		Gold ppb	Gold Oz/t
	60	64874	<5	<0.001
	61 Check	64874	<5	<0.001
	62	64875	<5	<0.001
	63	64876	<5	<0.001
	64	64877	<5	<0.001
	65	64878	<5	<0.001
	66	64901	<5	<0.001
	67	64902	<5	<0.001
	68	64903	<5	<0.001
	69	64904	<5	<0.001
	70	64905	<5	<0.001
	71 Check	64905	<5	<0.001
	72	64906	<5	<0.001
	73	64907	6	<0.001
	74	64908	16	<0.001
	75	64911	<5	<0.001
	76	64912	<5	<0.001
	77	64913	<5	<0.001
	78	64914	<5	<0.001
	79	64915	11	<0.001
	80	64916	35	<0.001
	81 Check	64916	21	<0.001
	82	64917	15	<0.001
	83	64918	651	0.019
	84	64951	<5	<0.001
	85	64952	9	<0.001
	86	64953	114172	3.330
	87	64954	230	0.007
	88	64955	262	0.008
	89	64956	88	0.003

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215 VAN NORMAN ST.
THUNDER BAY, ONTARIO
P7A 4B6

Oct 22, 1997

Job# 9740962

Accurassay	SAMPLE # Customer		Gold ppb	Gold Oz/t
	90	64957	7	<0.001
	91 Check	64957	7	<0.001
	92	64958	<5	<0.001
	93	64959	<5	<0.001
	94	64960	<5	<0.001
	95	64961	<5	<0.001
	96	64962	<5	<0.001
	97	64963	<5	<0.001
	98	64964	<5	<0.001
	99	64965	<5	<0.001
	100	64966	<5	<0.001
	101 Check	64966	<5	<0.001
	102	64967	<5	<0.001
	103	64968	<5	<0.001
	104	64973	<5	<0.001
	105	64974	<5	<0.001
	106	64975	282	0.008
	107	64976	<5	<0.001
	108	64977	<5	<0.001
	109	64978	<5	<0.001
	110	64979	<5	<0.001
	111 Check	64979	<5	<0.001
	112	64980	<5	<0.001

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sda geological services, limited

APPENDIX 3
ROCK SAMPLE DESCRIPTIONS

Date (dd/mm/yy)	Sample Number	Easting	Northing	Sample Type	Rock Type	Description	Sample Number	Au (ppb)	Au (oz/ton)
18/10/97	64820	1400	5	grab	1a	siliceous looking fine-med grained. Slightly altered.	64820	22	
18/10/97	64821	1400	47	grab	5d	representative sample	64821	9	
18/10/97	64822	1400	85	grab	5d	representative sample	64822	<5	
18/10/97	64823	1405	465	grab	1a	med grained...biotite bearing?	64823	<5	
18/10/97	64824	1515	395	grab	5d	>10% pyrite + chalcopyrite. Blue qtz eyes.	64824	7	
18/10/97	64825	1515	395	grab	5d + qv	Sample contains cpy bearing quartz vein.	64825	7	
18/10/97	64826	1500	350	grab	5d	Host rock plus quartz vein in sample. Tourmaline in quartz vein.	64826	37	
18/10/97	64827	1500	350	grab	qv	qtz, chlorite, cpy bearing vein in 5d	64827	6	
18/10/97	64828	1500	-10	grab	1a	Moderately altered (silicified). Qtz veins	64828	<5	
19/10/97	64829	1400	-225	grab	1a	Strongly silicified and moderately altered. Small quartz veinlets. Trace pyrite	64829	<5	
19/10/97	64830	1360	-210	grab	1a	Brittle fractured and silicified. Narrow shear zones in outcrop	64830	<5	
19/10/97	64831	1400	-160	grab	1a	Moderately altered. Narrow shears and some brittle fracturing. Pyritic veins. Strong foliation.	64831	<5	
19/10/97	64832	1520	-150	grab	1a,n	Silicified, mod-strong alteration with minor sericite.	64832	<5	
19/10/97	64833	1500	-190	grab	1a	silicified 1a with 1-3% pyrite. Weak-mod alteration.	64833	<5	
19/10/97	64834	1500	-240	grab	3m	Strong cataclastic fabric. Completely altered.	64834	<5	
19/10/97	64835	1305	-310	grab	1a	Sample of float. Silicified with 5% pyrite	64835	13	
19/10/97	64836	1300	-182	grab	1n, 3m	Moderate-strong alteration. Sheared and silicified.	64836	<5	
20/10/97	64837	1200	-263	grab	1n,a,c?	Trace pyrite with calcite filled vugs	64837	10	
20/10/97	64838	1200	-163	grab	1n	Calcite veinlets. Also contains minor sericite?	64838	<5	
20/10/97	64839	1200	-140	grab	3m	Qtz sericite schist. 1% pyrite.	64839	<5	
20/10/97	64840	1100	-70	grab	5a	Diabase...med-coarse grained. 1-3% pyrite	64840	8	
20/10/97	64841	1100	-83	grab	5a?	Trench location with silicified and mineralized shear zone in 5a unit?	64841	19	

Date (dd/mm/yy)	Sample Number	Easting	Northing	Sample Type	Rock Type	Description	Sample Number	Au (ppb)	Au (oz/ton)
20/10/97	64842	1100	-87	grab	5a?	Cherty like mineralized zone in sheared 5a? In trench.	64842	6	
20/10/97	64843	1100	-87	grab	5a?	Totally silicified zone in trench. Trace pyrite.	64843	23	
20/10/97	64844	1100	-170	grab	1a?	Totally altered and silicified. Trace pyrite. Small felsite veinlets.	64844	11	
20/10/97	64845	1100	-223	grab	1a	Strongly sheared. Trace pyrite.	64845	8	
20/10/97	64846	1000	-477	grab	1h,1n,3f	Pyrite 2%	64846	14	
21/10/97	64847	8000	-112	grab	1n,3m	mod-strong alteration...silicification	64847	6	
21/10/97	64848	8000	-378	grab	1n	Mod-strong silicification. Rusty weathering.	64848	<5	
21/10/97	64849	910	-490	grab	1a	garnet bearing + biotite	64849	<5	
21/10/97	64850	900	-405	grab	5a, 1a?	Coarse grained, foliated and magnetic. Py 1-3%	64850	11	
18/10/97	64851	-85	40	grab	1a,f	Massive tuff, wk carb, tr py	64851	10	
18/10/97	64852	7	220	grab	1a	wk carb, tr py	64852	7	
18/10/97	64853	10	140	grab	3m	Qtz ser schist, st sil, st carb, st ser, 5-8% py	64853	30	
18/10/97	64854	-60	140	grab	1m	chlorite schist, on strike with last sample but only tr py and lacks alt and shearing of last	64854	<5	
18/10/97	64855	-20	35	grab	1a,f	rep sample	64855	<5	
19/10/97	64856	300	35	grab	1a	mod sil, mod ser, 1-2% py	64856	13	
19/10/97	64857	300	85	grab	3m	st sil, st ser, mod carb, 5-8% py	64857	96	
19/10/97	64858	310	135	grab	1a	mod sil, tr py	64858	16	
19/10/97	64859	295	312	grab	1a	Med gr, st sil, 2-4% py	64859	<5	
19/10/97	64860	425	237	grab	1a	mod sil, 1-2% py	64860	<5	
19/10/97	64861	415	188	grab	1m	chlorite schist wk sil, tr-1% py	64861	<5	
19/10/97	64862	405	60	grab	3m	4-6% py	64862	<5	
19/10/97	64863	400	-90	grab	1a	coarse grained with hem staining, mod sil, tr-1% py	64863	<5	

Date (dd/mm/yy)	Sample Number	Easting	Northing	Sample Type	Rock Type	Description	Sample Number	Au (ppb)	Au (oz/ton)
19/10/97	64864	400	-190	grab	1a	rep sample	64864	<5	
19/10/97	64865	300	-380	grab	1a	rep sample	64865	<5	
19/10/97	64866	300	-315	grab	1a	wk sil, tr-1% py	64866	6	
20/10/97	64867	800	50	grab	1a,m	massive mafic volcanic with layers of ch schist, mod sil., tr py	64867	<5	
20/10/97	64868	815	135	grab	1a	cg, mod sil, tr-1% py	64868	8	
20/10/97	64869	890	465	grab	1a	med gr, tr py, hem st, mod sil	64869	<5	
20/10/97	64870	1090	285	grab	1a	med gr, tr py, hem st, mod sil	64870	<5	
20/10/97	64871	1100	485	grab	1a,m	massive mafic volcanic with layers of ch schist, mod sil., tr py	64871	<5	
20/10/97	64872	900	240	grab	1a	rep sample	64872	<5	
20/10/97	64873	900	70	grab	1a	rep sample	64873	<5	
21/10/97	64874	585	0	grab	1a	mod sil, tr py	64874	<5	
21/10/97	64875	600	-160	grab	1a	rep sample	64875	<5	
21/10/97	64876	600	-305	grab	1a	mod sil tr-1% py	64876	<5	
21/10/97	64877	700	-405	grab	1a	rep sample	64877	<5	
21/10/97	64878	700	-38	grab	1a	st sil, fol, tr py	64878	<5	
21/10/97	64901	900	-325	grab	1a	fine grained, magnetic. Beige weathering like diabase unit	64901	<5	
21/10/97	64902	915	-343	grab	1a, 5a?	fine -med grained. Zones of 1n. 1-2% pyrite.	64902	<5	
21/10/97	64903	900	-225	grab	1a	Fine-med grained.	64903	<5	
21/10/97	64904	900	-175	grab	1n,3m	Trace pyrite....moderately altered	64904	<5	
21/10/97	64905	900	-75	grab	3f, 3m	Altered? With quartz veins. Shearing fabric. Fine disseminated pyrite.	64905	<5	
21/10/97	64906	900	-75	grab	1n	sample of qv in 1n	64906	<5	
21/10/97	64907	937	-10	grab	3m	contact with diabase. Pyrite stringers.	64907	6	

Date (dd/mm/yy)	Sample Number	Easting	Northing	Sample Type	Rock Type	Description	Sample Number	Au (ppb)	Au (oz/ton)
21/10/97	64908	1075	-87	grab	3m	Strong silicification. Pyritized	64908	16	
21/10/97	64911	600	100	grab	1a,k	fine grained with mafic clots; tr-1% py; rusty partings	64911	<5	
21/10/97	64912	600	280	grab	1a	medium grained; trace-1% pyrite	64912	<5	
21/10/97	64913	700	330	grab	5a	med grained 5a at cliff edge; tr-1% pyrite	64913	<5	
21/10/97	64914	705	175	grab		Med grained granodiorite w/ quartz -kspar stringers; py clots locally; tr - 1% pyrite	64914	<5	
21/10/97	64915	700	60	grab		mafic flow; trace-1% pyrite	64915	11	
21/10/97	64916	893	0	grab; loose		altered felsic fragmental sericite schist; pyrite-chlorite seams; 3-5% fracture fill pyrite	64916	35	
21/10/97	64917	893	0	grab		oxidized coarse grained quartz vein with chlorite partings; 2-3% blebby pyrite	64917	13	
21/10/97	64918	975	-25	grab		oxidized coarse grained quartz vein with pyrite-chlorite partings; 3-5% blebby pyrite	64918	651	
18/10/97	64951	100	-5	grab	1a	Dark green fine grained mafic volcanic, recrystallized and amphibolized, massive and tr	64951	<5	
18/10/97	64952	120	85	grab	3m	Qtz-Ser schist sheared mod-strong ser, wk sil mod Fe-Carb 1% py	64952	9	
18/10/97	64953	90	122.5	grab	qv	well mineralized mixed hosted in 3m, 5-10%py	64953	114172	3.33
18/10/97	64954	90	122.5	grab	3m	fine grained, light green-gray, mod silicified, sericitized Fe carb. Sheared with 5% py	64954	230	
18/10/97	64955	110	120	grab	3m	fine grained, light green-gray, mod silicified, sericitized Fe carb. Sheared with 5% py	64955	262	
18/10/97	64956	110	120	grab	qv	white, slightly rusty, 1m wide with 1-2% py	64956	88	
18/10/97	64957	100	142.5	grab	1a	Dark green fine grained mafic volcanic, wk-mod silicified, wk ser, 1-3% py	64957	7	
18/10/97	64958	100	310	grab	1a	Dark green fine grained mafic volcanic, wk-mod silicified, 1-2% py	64958	<5	
18/10/97	64959	200	197	grab	1a	rep sample	64959	<5	
18/10/97	64960	200	115	grab	1a	wk sil, mod Fe-carb tr py fine grained massive mafic volcanic	64960	<5	
18/10/97	64961	200	90	grab	1a	Altered st sil, wk ser, tr py fine grained	64961	<5	
18/10/97	64962	200	-117	grab	1a	rep sample	64962	<5	
18/10/97	64963	188	-275	grab	6a	Med grained granodiorite, tr py	64963	<5	

Date (dd/mm/yy)	Sample Number	Easting	Northing	Sample Type	Rock Type	Description	Sample Number	Au (ppb)	Au (oz/ton)
19/10/97	64964	1300	0	grab	1a	Wk sil, fine-med gr, green to grey weathered surface with tr py (intrusive, dioritic ?)	64964	<5	
19/10/97	64965	1292	79	grab		No description	64965	<5	
19/10/97	64966	No descrip.		grab		No description	64966	<5	
19/10/97	64967	1131	BL	grab		No description	64967	<5	
19/10/97	64968	1115	0+01	grab		No description	64968	<5	
21/10/97	64973	410	0	grab	1a	Foliated wk Fe-ox, wk sil, rare py	64973	<5	
21/10/97	64974	500	15	grab	1a	mod-st sil, fine grained, re sample	64974	<5	
21/10/97	64975	?	?	grab	1a	Strong sil qv 2-4% in host, tr-1% in qv.	64975	282	
21/10/97	64976	500	232	grab	5e	Gabbro, coarse grained	64976	<5	
21/10/97	64977	505	-127	grab	1a	rep sample	64977	<5	
21/10/97	64978	500	-315	grab	1a	rep sample	64978	<5	
21/10/97	64979	500	-455	grab	1a	Rep sample in cnct with granodiorite	64979	<5	
21/10/97	64980	500	-455	grab	6a	granodiorite	64980	<5	

sda geological services, limited

MAP FOLIO 1
COLOR CONTOURED FRASER-FILTERED VLF-EM

sda geological services, limited

MAP FOLIO 2
COLOR CONTOURED SHADOWED TOTAL FIELD MAGNETICS

sda geological services, limited

**MAP FOLIO 3
GEOLOGY OF THE EMPRESS EAST GRID AREA**

sda geological services, limited

**MAP FOLIO 4
INTEGRATED COMPILATION OF
GEOPHYSICS, GEOCHEMISTRY AND GEOLOGY
WITH PROPOSED DRILLHOLE LOCATIONS
EMPRESS EAST PROPERTY**

sda geological services, limited

**MAP FOLIO 5
TOTAL FIELD MAGNETICS – DATA AND CONTOURS
VLF-EM PROFILES**



Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use) W-9840-06/01
Assessment Files Research Imaging



2D15NW2001 2.18425 SYINE

900

2.18425

Priority of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Act, you are required to review the assessment work and correspond with the mining land holder, the Mining Recorder, Ministry of Northern Development and Mines, 6th Floor,

- Instructions:**
- For work performed on Crown Lands before recording a claim, use form 0240.
 - Please type or print in ink.

1. Recorded holder(s) (Attach a list if necessary)

Name AUDREY FERGUSON	Client Number 131386
Address P.O. Box 1058 Terrace Bay, Ontario POT-2W0	Telephone Number (807) 825-9214
Name JOHN DUDLEY FERGUSON	Client Number 131447
Address P.O. Box 1058 Terrace Bay, Ontario POT-2W0	Telephone Number (807) 825-9214

(see attached Schedule)

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

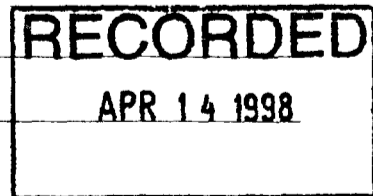
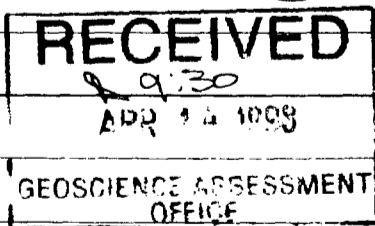
- Geotechnical: prospecting, surveys, assays and work under section 18 (regs) Physical: drilling, stripping, trenching and associated assays Rehabilitation

Work Type Geophysical, geological and geochemical survey on out grid with assays and report.	Office Use
Dates Work Performed From 05 07 97 To 25 10 97	Commodity
Global Positioning System Data (if available)	Total \$ Value of Work Claimed 28,100.00
Township/Area SYINE TWP / Sanfoyl Lk. Area	NTS Reference
M or G-Plan Number G-634. G-612	Mining Division Thunder Bay
	Resident Geologist District Thunder Bay

- Please remember to:
- obtain a work permit from the Ministry of Natural Resources as required;
 - provide proper notice to surface rights holders before starting work;
 - complete and attach a Statement of Costs, form 0212;
 - provide a map showing contiguous mining lands that are linked for assigning work;
 - include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name SDA Geological Services Ltd. Mr. Abraham P. Drost	Telephone Number (807) 345-3330
Address 215 Van Norman St., Thunder Bay ON P7A-4B6	Fax Number (807)
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number



4. Certification by Recorded Holder or Agent

I, Abraham P. Drost, do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent <i>Abraham P. Drost</i>	Date 08/04/98
Agent's Address 215 Van Norman St., Thunder Bay ON P7A-4B6	Telephone Number (807) 345-3330
	Fax Number (807) 345-1177

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

W-9840.00 401

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg TB 7827	16 ha	\$26,825	N/A	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	0
eg 1234568	2	\$8,892	\$4,000	0	\$4,892
1 1208190	8	9835.00	3033.00	6802.00	∅
2 1208187	4	8430.00	1600.00	6830.00	∅
3 1208188	1	7025.00	400.00	4226.00	2399.00
4 1195779	6	1405.00	2400.00	∅	∅
5 1207880	12	1405.00	4800.00	∅	
6 1207878	8	∅	3200.00	∅	
7 1207879	4	∅	1600.00		
8 1207897	4	∅	1600.00		
9 1208189	3	∅	1200.00		
10 1208719	4	∅	1600.00		
11 1210334	1	∅	400.00		
12 1224854	6	∅	1950.00		
13 1224888	3	∅	1200.00		
14 1224855	1	∅	350.00		
15 1224856	1	∅	368.00	∅	∅
Column Totals		28100.00	25701.00	17858.00	2399.00

I, Abraham P. Drost, do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Person Authorized in Writing: [Signature] Date: DMY 08/04/98

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- 3. Credits are to be cut back equally over all claims listed in this declaration; or
- 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

<div style="border: 2px solid black; padding: 5px; display: inline-block;"> <p>RECORDED</p> <p>APR 14 1998</p> </div>	Received Stamp	Deemed Approved Date	Date Notification Sent
		Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)		

SCHEDULE

1. Recorded holders) continued W.9840.00401

Name: GEORGE RAY DANIELS Client: 124014

Address: P.O. Box 526
Terrace Bay, Ontario 2.18425
POT-2W0

Telephone: (807) 825-9097 Fax: (807) 825-9318

RECEIVED
9:30
APR 14 1998
GEOSCIENCE ASSESSMENT
OFFICE

RECORDED
APR 14 1998

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 6 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

2.18425

Work Type	Units of Work <small>Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.</small>	Cost Per Unit	Total Cost
Field Linecutting ^{Baseline} Ties, Grid lines	17.1 km gridline 2.0 km baseline 10ft line	360.00/km	7236.00
Field Geophysics ^{Combined} magnetics/VLF-EM	17.1 km	154.03/km	2634.00
Field Geological Mapping			
Sr. Geologists (2)	6 days @ \$350.00/day	\$ 350.00/day	2100.00
Jr. Geologists (2)	8 days @ \$275.00/day	\$ 275.00/day	2200.00
Field Geochemistry Supervision/Sampling (Sr. Geologist)	2 days @ \$350/day	\$ 350.00/day	700.00
Office Project Supervision/Report Writing (Sr. Geologist)	7 days @ \$350/day	\$ 350.00/day	2450.00
Associated Costs (e.g. supplies, mobilization and demobilization).			
Mob/Demob	4 men @ .75 day/ea		937.50
Humus Assays (347)		12.10	4200.00
Rock Assays (101)		11.04	1116.00
Students (2) humus sampling	52 hrs @ \$12.00/hr		624.00
Drafting/Digitizing Services			1175.98
Transportation Costs			
4x4 trucks (2)	3600 km @ \$.35/km	\$0.35/km	1260.00
Food and Lodging Costs Schreiber.			
	(Sept. 17-20; October 18-21, 1997)		1469.45
Total Value of Assessment Work			\$28,102.93

RECORDED
APR 14 1998

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK \times 0.50 = Total \$ value of worked claimed.

Note:

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

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APR 16 1998
GEOSCIENCE ASSESSMENT OFFICE

Certification verifying costs:

I, Abraham Drost (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Agent I am authorized (recorded holder, agent, or state company position with signing authority) to make this certification.

ASSOCIATION OF PROFESSIONAL GEOLOGISTS OF CANADA
A. P. DROST
F4015

Signature: Abraham Drost
Date: 08/04/98

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines



Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

June 23, 1998

AUDREY FERGUSON
P.O. BOX 1058
TERRACE BAY, Ontario
P0T-2W0

Telephone: (888) 415-9846
Fax: (705) 670-5881

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

Dear Sir or Madam:

Submission Number: 2.18425

Status

Subject: Transaction Number(s): W9840.00401 Deemed Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. **WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.**

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Lucille Jerome by e-mail at jeromel2@epo.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Work Report Assessment Results

Submission Number: 2.18425

Date Correspondence Sent: June 23, 1998

Assessor: Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9840.00401	1208190	SYINE	Deemed Approval	June 22, 1998

Section:

14 Geophysical MAG
14 Geophysical VLF
12 Geological GEOL
17 Assays GCHMET

Correspondence to:

Resident Geologist
Thunder Bay, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):

Abraham Peter Drost
THUNDER BAY, ONTARIO

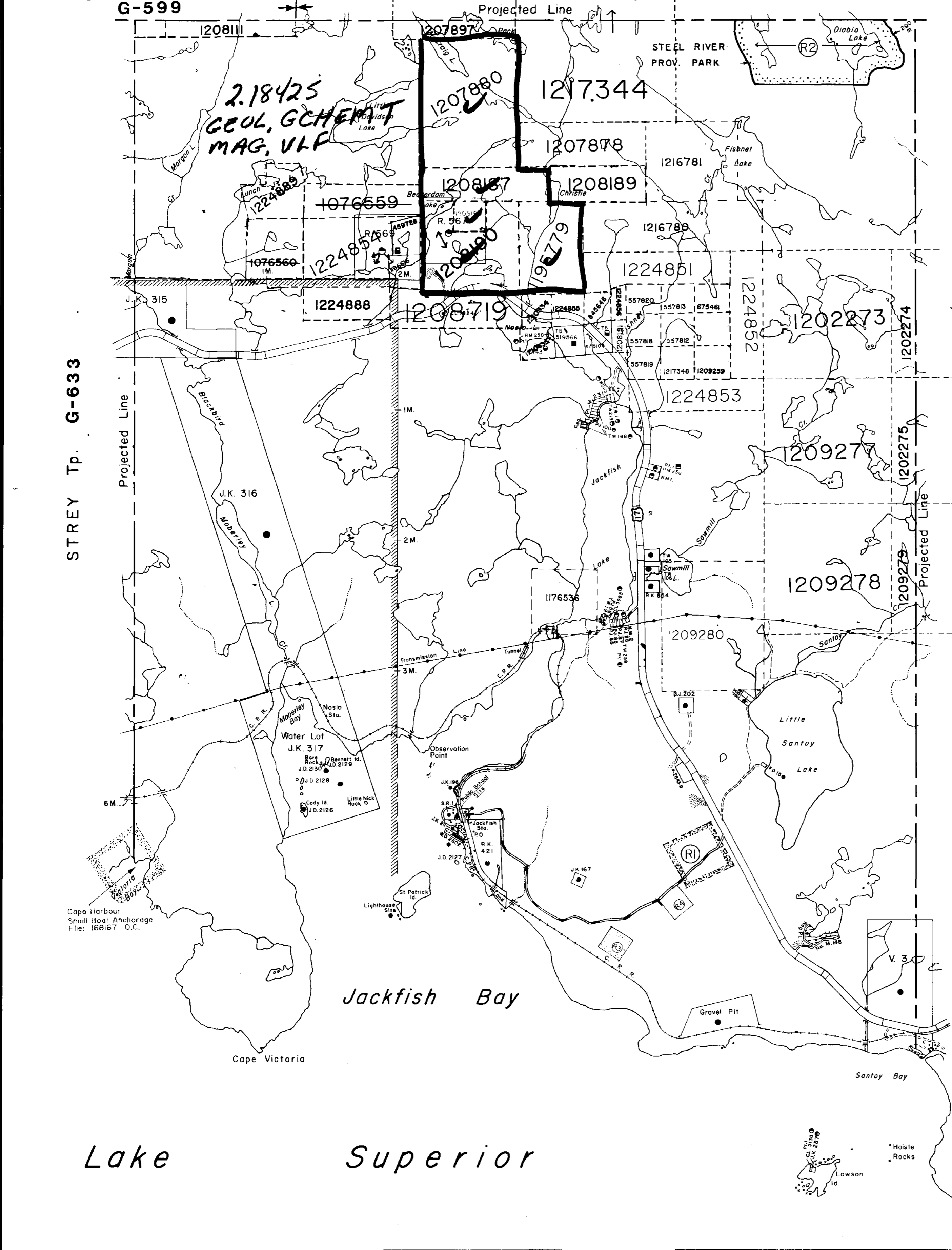
AUDREY FERGUSON
TERRACE BAY, Ontario

JOHN DUDLEY FERGUSON
TERRACE BAY, Ontario

GEORGE RAY DANIELS
TERRACE BAY, Ontario

Lower Aguasabon Lake Area
G-599

Santoy Lake Area G-612

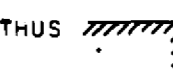


REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

Description	Order No.	Date	Disposition	File
(R) NCR	W40/81	13/4/81	S.R.	153452
(R2) PARK RESERVE	W51/83	6/9/83	M.B.S. R.	188516
Disposition by Exploratory Licence of Occupation only --- Apply to Mining Recorder.				
(R3)	Surface and mining rights withdrawn from staking Order W TB 47/95 95/37/14 NWR For Forest Research Sample Plots			
(R4)	Surface and mining rights withdrawn from staking Order W TB 47/95 95/37/14 NWR For Forest Research Sample Plots			

NOTICE:
The information that appears on this map has been compiled from various sources, and accuracy is not guaranteed. Those wishing to stake mining claims should consult with the Mining Recorder, Ministry of Northern Development and Mines, for additional information on the status of the lands shown thereon.

THUS 

LAND UNDER LAKE SUPERIOR WITHDRAWN FROM STAKING BY O.C. APRIL 30, 1912.

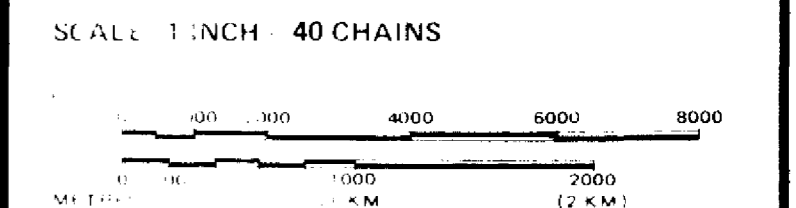
LEGEND

Projected Line	
Non-Perennial Stream	
Perennial Stream	
Railway	
Transmission Line	
Tunnel	
Water Lot	
Observation Point	
Gravel Pit	
Hoiste Rocks	
Lawson Id.	

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT SURFACE & MINING RIGHTS	
SURFACE RIGHTS ONLY	
MINING RIGHTS ONLY	
LEASE SURFACE & MINING RIGHTS	
SURFACE RIGHTS ONLY	
MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER IN COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	
LAND USE PERMITS FOR COMMERCIAL TOURISM, OUTPOST CAMPS	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1920, CHAP. 380, SEC. 43, SUBSEC. 1.





TOWNSHIP
SYINE

M.N.R. ADMINISTRATIVE DISTRICT
TERRACE BAY

MINING DIVISION
THUNDER BAY

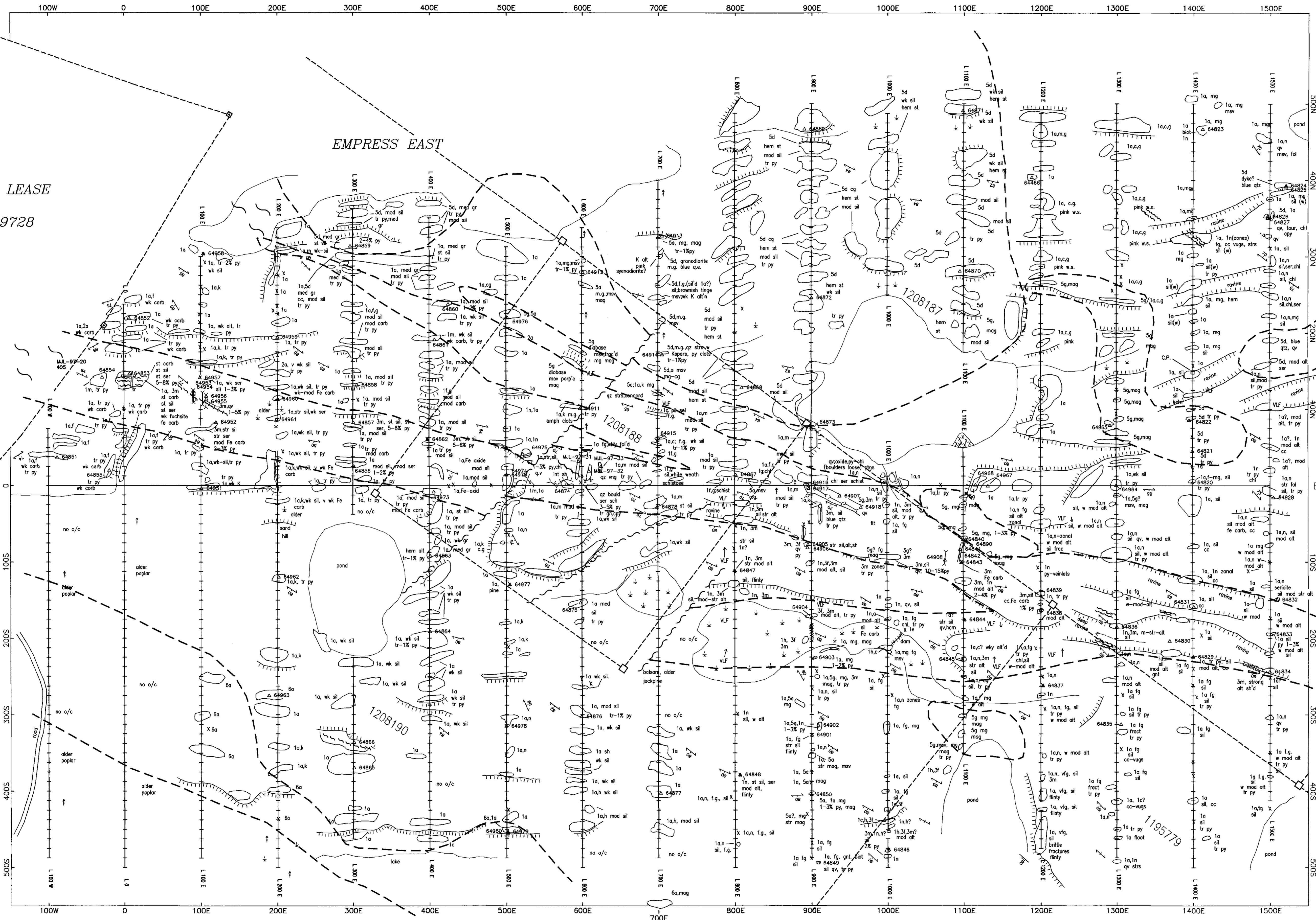
LAND TITLES / REGISTRY DIVISION
THUNDER BAY

 Ministry of Natural Resources
Land Management Branch

Date  Number
In service Nov. 04/94. **G-634**

EMPRESS LEASE
CLM. 459728

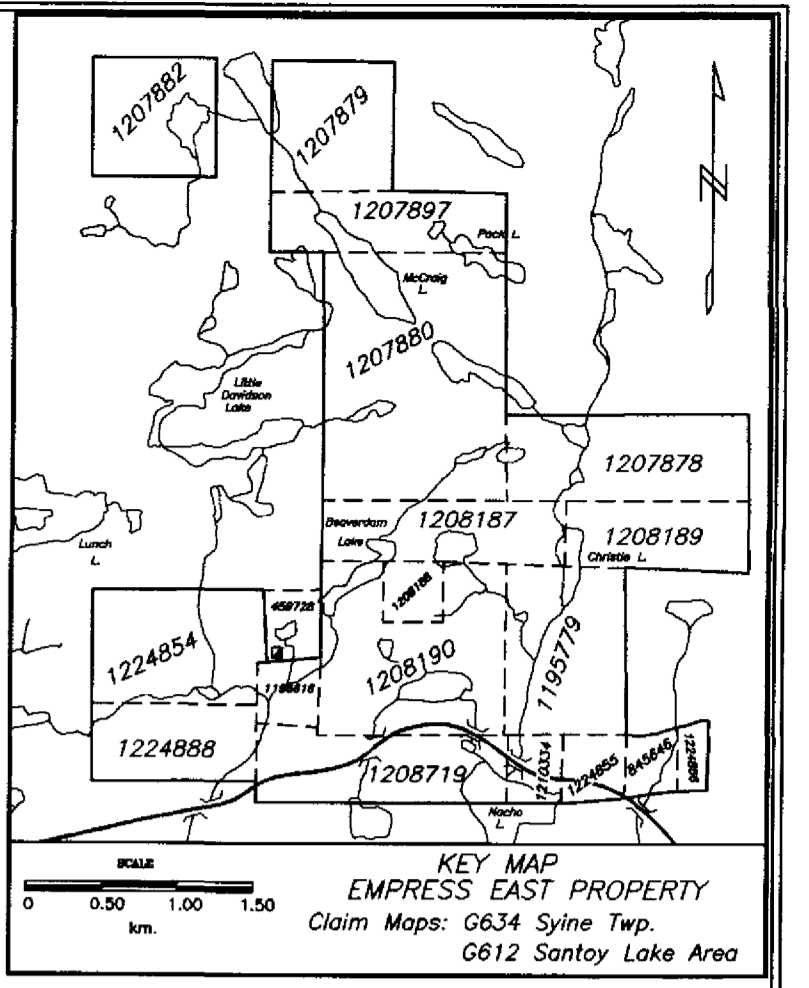
EMPRESS EAST



BL 0+00 @ 055' Az.

GEOLOGY LEGEND

- RECENT
Lake, stream, and wetland deposits
- PLEISTOCENE
Sand and gravel deposited by glacial outwash, lacustrine clay, boulder and clay till
- UNCONFORMITY
- ROCK UNITS
1. Mafic Metavolcanics
- 1a Flows: massive, fine to coarse grained, green to dark green
1f Tuff: green to dark green; often contains white feldspar grains
1g Lapilli tuff, lapillistone; nonclastic to heterolithic; pyroclastic to epiclastic in origin
1h Breccia, tuff breccia; heterolithic containing white opatic fragments and green basaltic fragments in a mafic tuff matrix
1k Amphibolite: dark green to black, recrystallized to schistose
1m Talc-chlorite schist: dark green, fine grained, fissile
1n Talc-chlorite schist: dark green, black, reddish brown, pervasively calcite or iron-carbonate altered, may contain sulphides
3. Felsic to Intermediate Metavolcanics
- 3m Quartz-muscovite schist: white to yellow, quartz porphyroblasts, may contain garnet, crenulated
5. Mafic intrusions
- 5a Gabbrø-diorite: fine to medium grained, dark green to black; often contains large (up to 1 cm) hornblende phenocrysts
5d Quartz diorite: grey, medium grained, equigranular
5g Diabase: massive, ophitic texture, magnetic
6. Felsic intrusions
- 6a Granodiorite to granite: pink; medium to coarse grained; biotite bearing, quartz rich
- 3f Lapilli Tuff, lapillistone; heterolithic mafic and felsic fragments
- ABBREVIATIONS
- | | | | |
|------|--------------------|-------|------------------|
| sil | silicified | py | pyrite |
| carb | carbonatized | cpy | chalcocopyrite |
| oxid | oxidized | tour | tourmaline |
| o/c | outcrop | vn | veining |
| salv | salvaged | hem | hematite |
| qtz | quartz | fract | fracture filling |
| q.v. | quartz vein | plag | plagioclase |
| mass | massive | gale | galeena |
| amph | amphibole | alt'd | altered |
| mag | magnetic | cc | calcite |
| cg | coarse grained | fg | fine grained |
| ir | iron formation | int | intermediate |
| py | pyrite | loc'y | locally |
| DDH | diamond drill hole | tl | tie-line |
| tr | trace | C.P. | claim post |
| | | wk. | weak |
| | | s | strong(y) |
| | | mod | moderate(y) |
| | | med | medium |
- SYMBOLS
- | | | | |
|-----------|---|--------|---------------------|
| - - - - - | geological contact/ithotectonic domains | xxxxxx | beaver dam |
| X | small outcrop | ↑ | bush; various types |
| ○ | not mappable at scale | + | swamp; wet ground |
| 78 | outcrop | | gully |
| 78 | cleavage; strike and dip | | pond / lake |
| 78 | cleavage vertical dip | | road |
| 78 | bedding; strike and dip | | trail |
| 78 | bedding; vertical dip | | claim line; post |
| 48 | plunge | | |
| △ 64848 | sample location; number | | |
| △ 64877 | sample location; number; > 5 ppb Au | | |
| --- | shear zone / fault | | |
| | rock scarp | | |



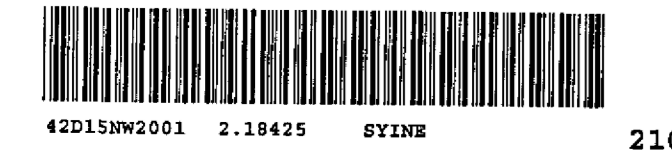
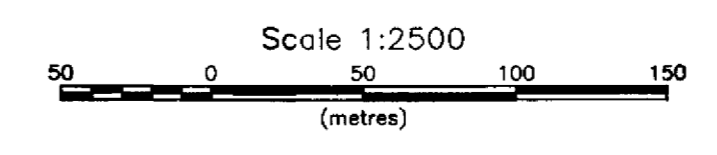
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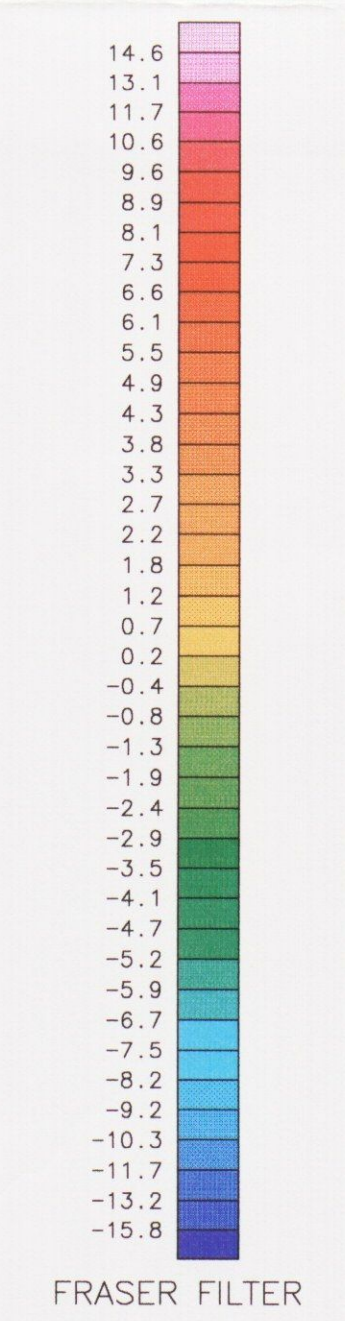
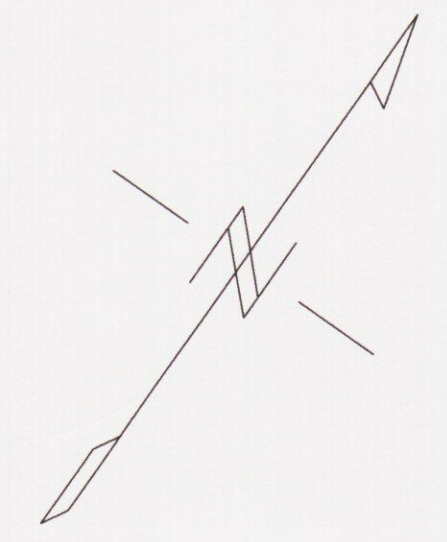
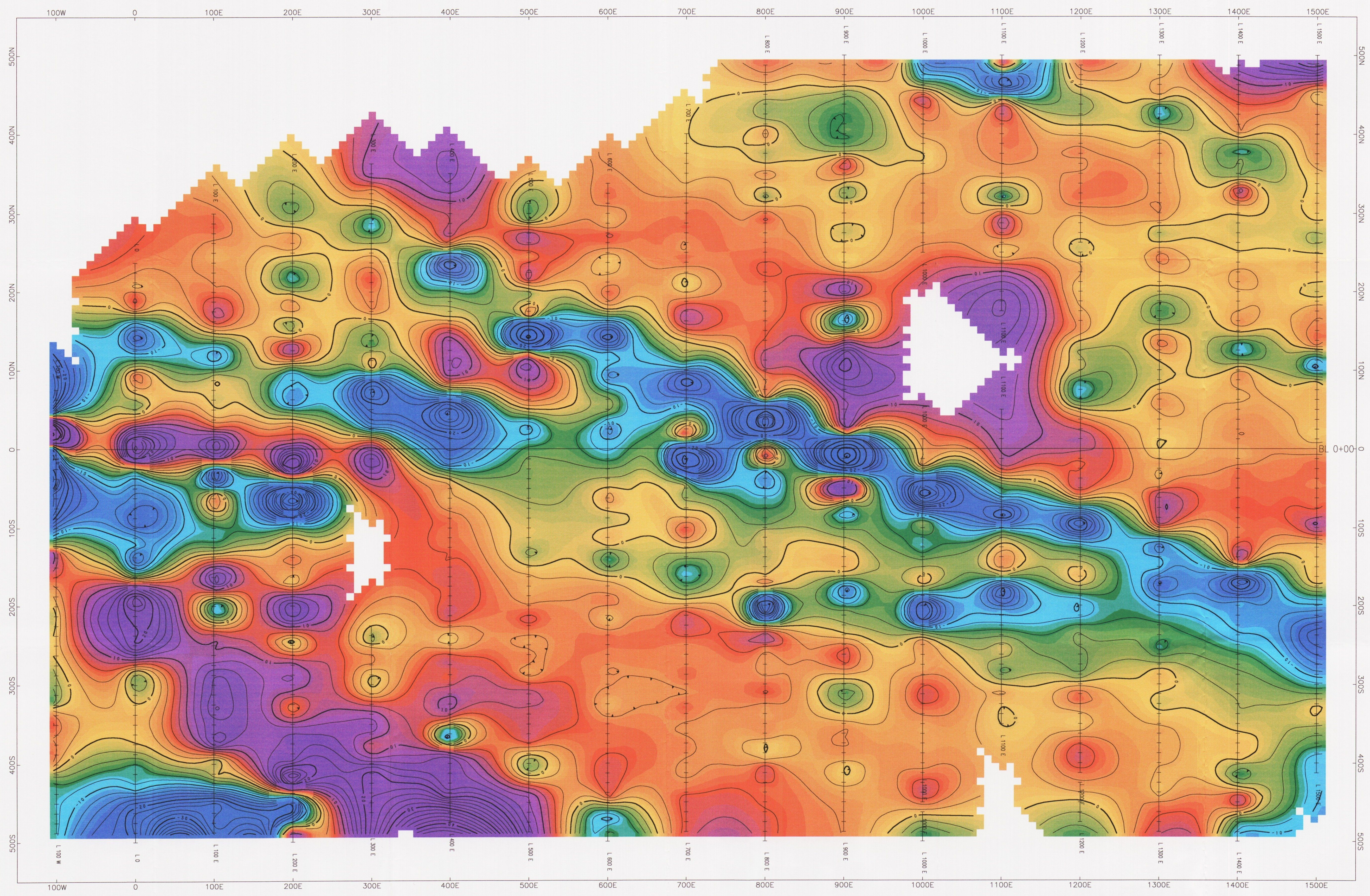
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GEOSCIENCE ASSESSMENT
OFFICE

LANDIS MINING CORPORATION
McARTHUR MINERALS INC.

**GEOLOGY OF THE
EMPRESS EAST PROPERTY**

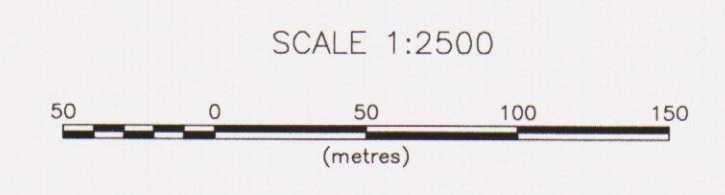
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SDA Geological Services Limited



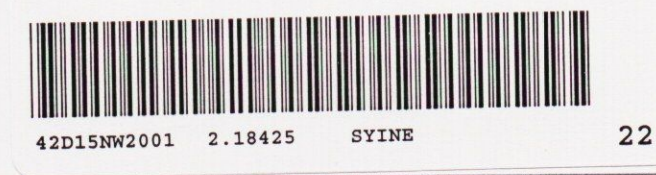


FRASER FILTER

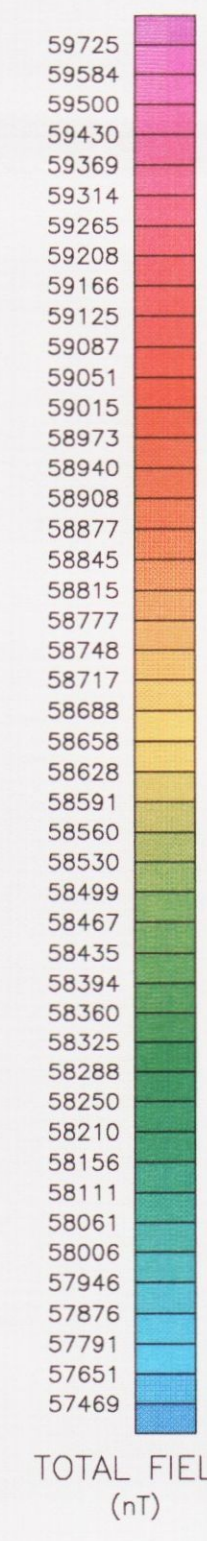
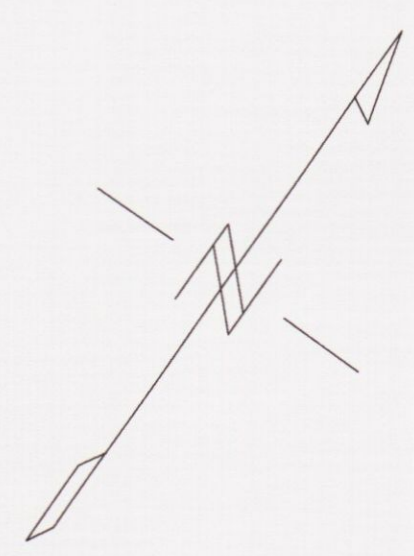
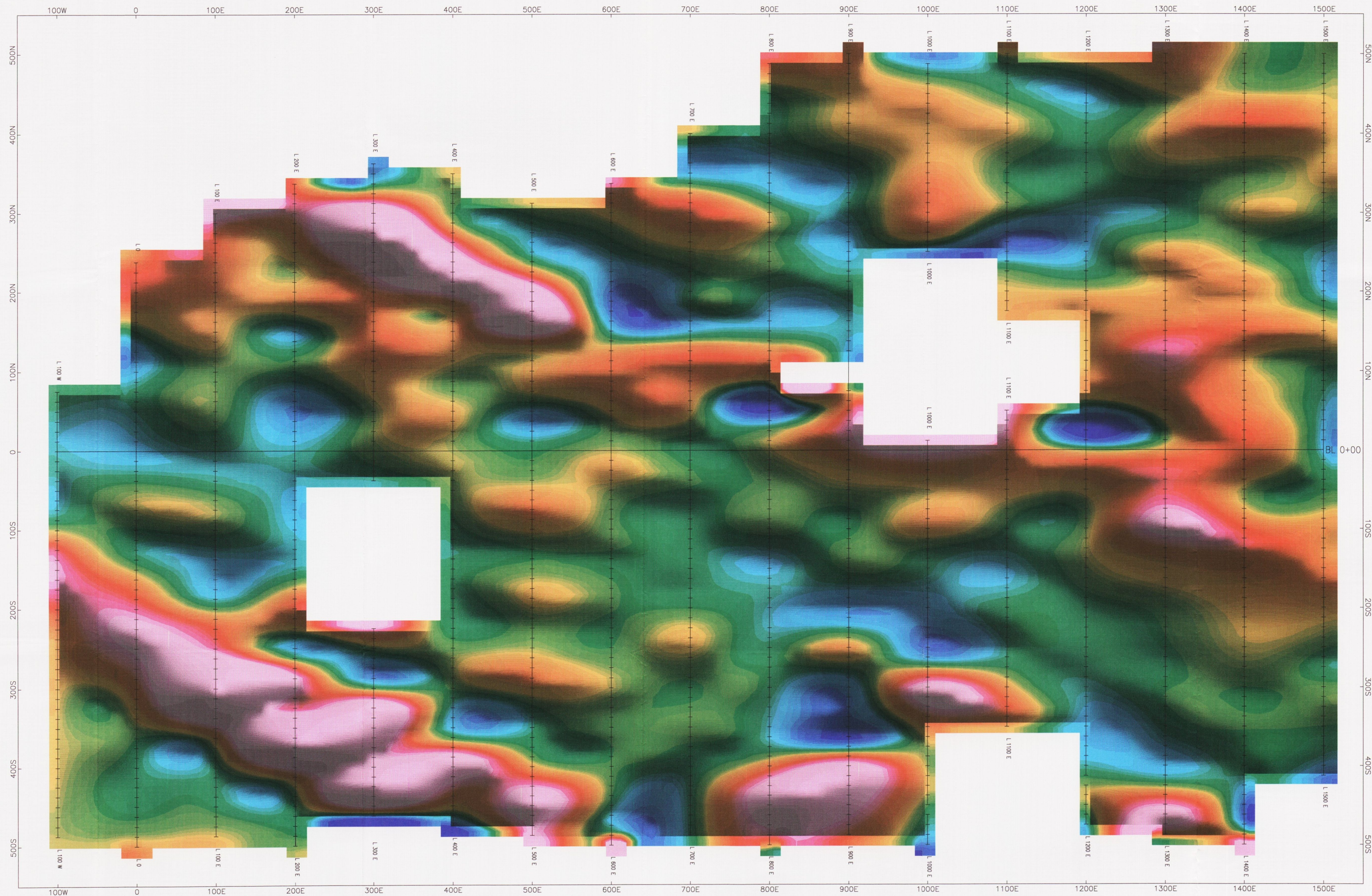
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 APR 14 1998
 GEOSCIENCE ASSESSMENT OFFICE



SCALE 1:2500



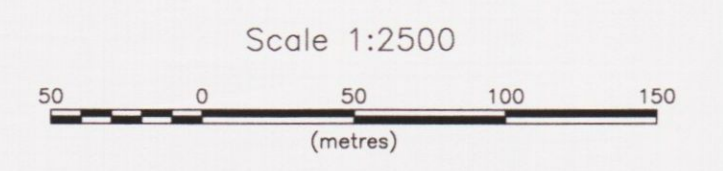
LANDIS MINING CORPORATION / McARTHUR MINERALS INC.
 EMPRESS EAST PROPERTY
 FRASER FILTERED VLF-EM DATA
 CONTOUR INTERVAL: 2%
 GIBSON AND ASSOCIATES



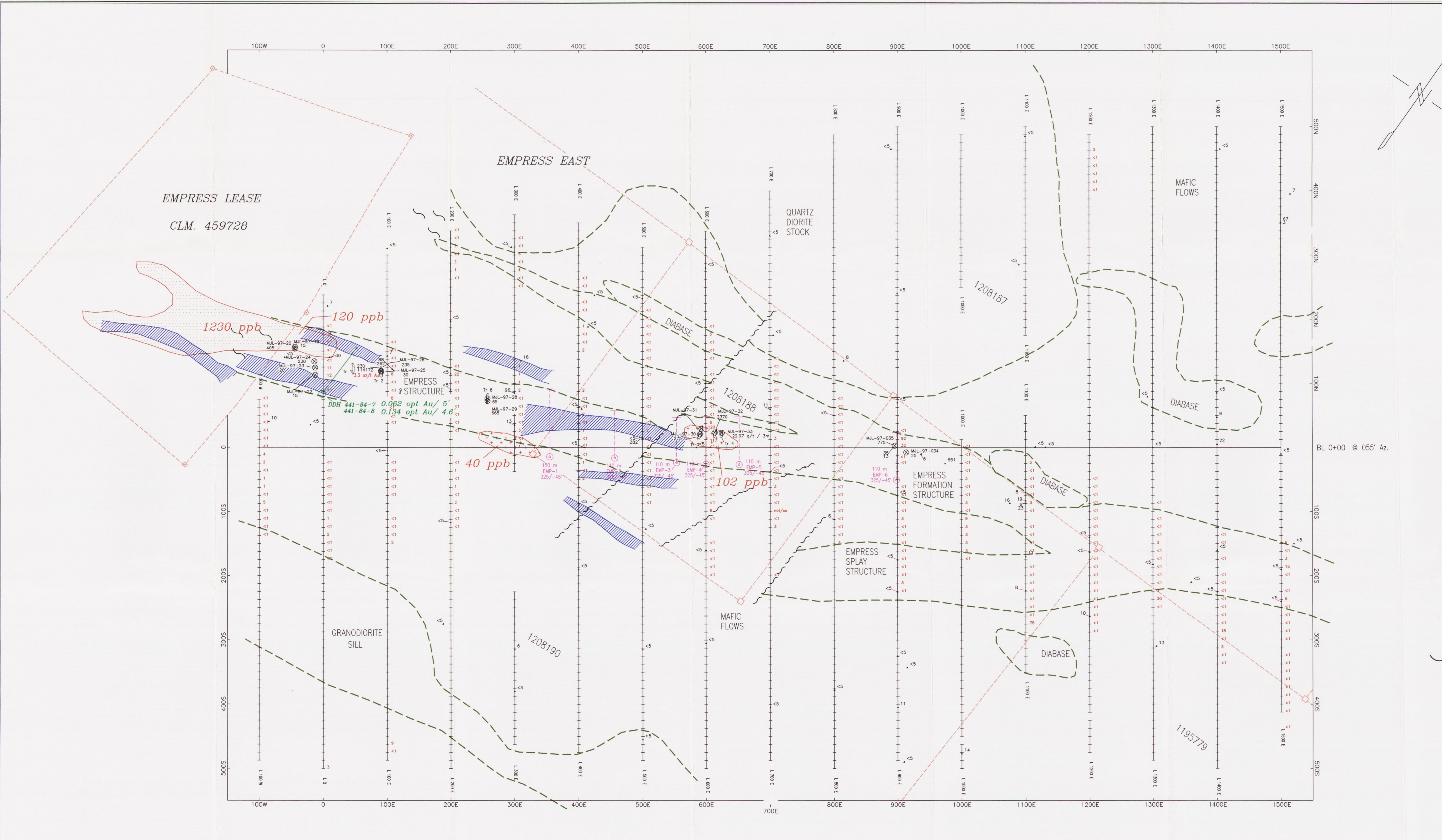
TOTAL FIELD (nT)

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GEOSCIENCE ASSESSMENT OFFICE



LANDIS MINING CORPORATION / McARTHUR MINERALS INC.
EMPRESS EAST PROPERTY
SHADOWED GROUND MAGNETICS
SUN AZIMUTH 030 DEG. DECLINATION 35 DEG.
GIBSON AND ASSOCIATES



- LEGEND**
- Proposed Diamond Drill Hole
 - Diamond Drill Hole (1984)
 - Grab Sample-Au ppb (Lavigne, 1997)
 - Rock/Overburden Trench
 - IP Anomaly (1984)
 - Soil Geochem Anomaly (1984)
 - Geological Contact / Lithotectonic Domain
 - Fault/Shear Zone
 - Humus Geochemistry (ppb Au)
 - Rock Sample (ppb Au)
 - Shear Fabric

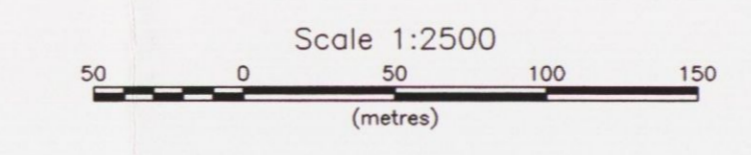
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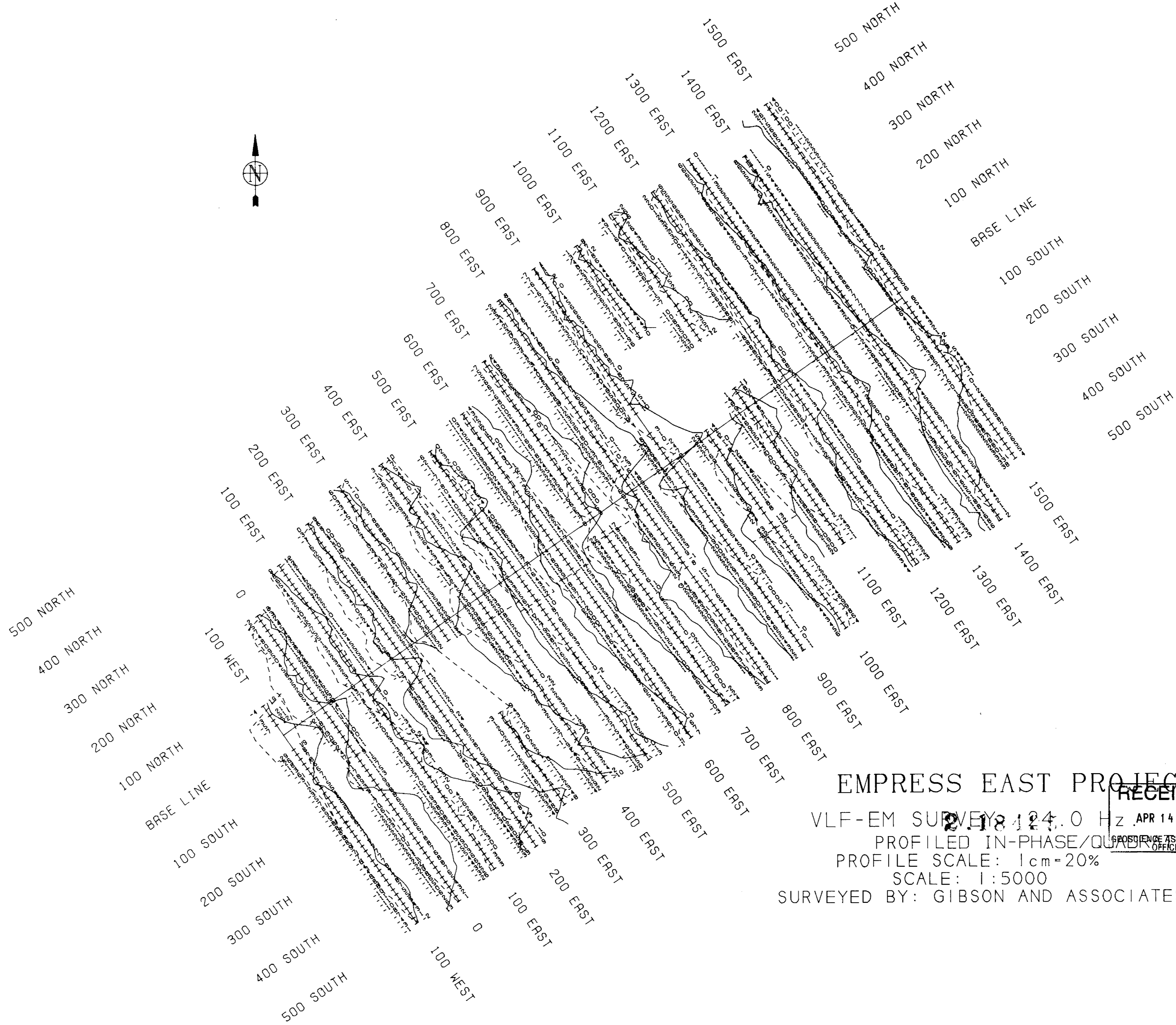
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GEOSCIENCE ASSESSMENT
OFFICE

LANDIS MINING CORPORATION
McARTHUR MINERALS INC.

COMPILATION MAP OF THE
EMPRESS EAST PROPERTY

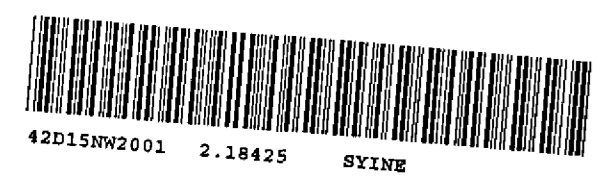
MARCH, 1998	SCALE 1:2500	DRAWN BY: P.E.N.
SDA Geological Services Limited		

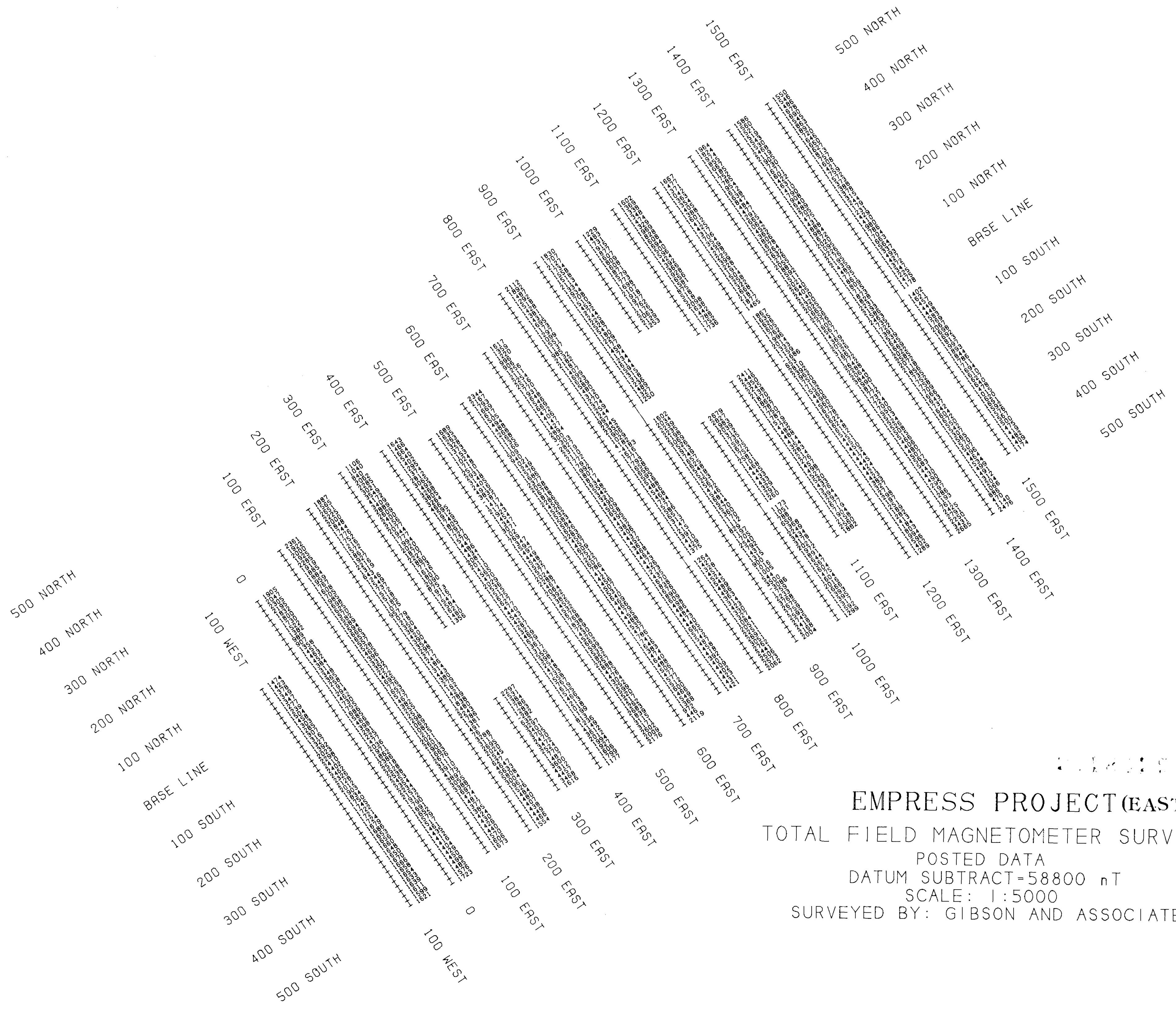




EMPRESS EAST PROJECT

RECEIVED
VLF-EM SURVEY @ 124.0 Hz APR 14 1993
PROFILED IN-PHASE/QUADRATURE ASSESSMENT
PROFILE SCALE: 1cm=20%
SCALE: 1:5000
SURVEYED BY: GIBSON AND ASSOCIATES

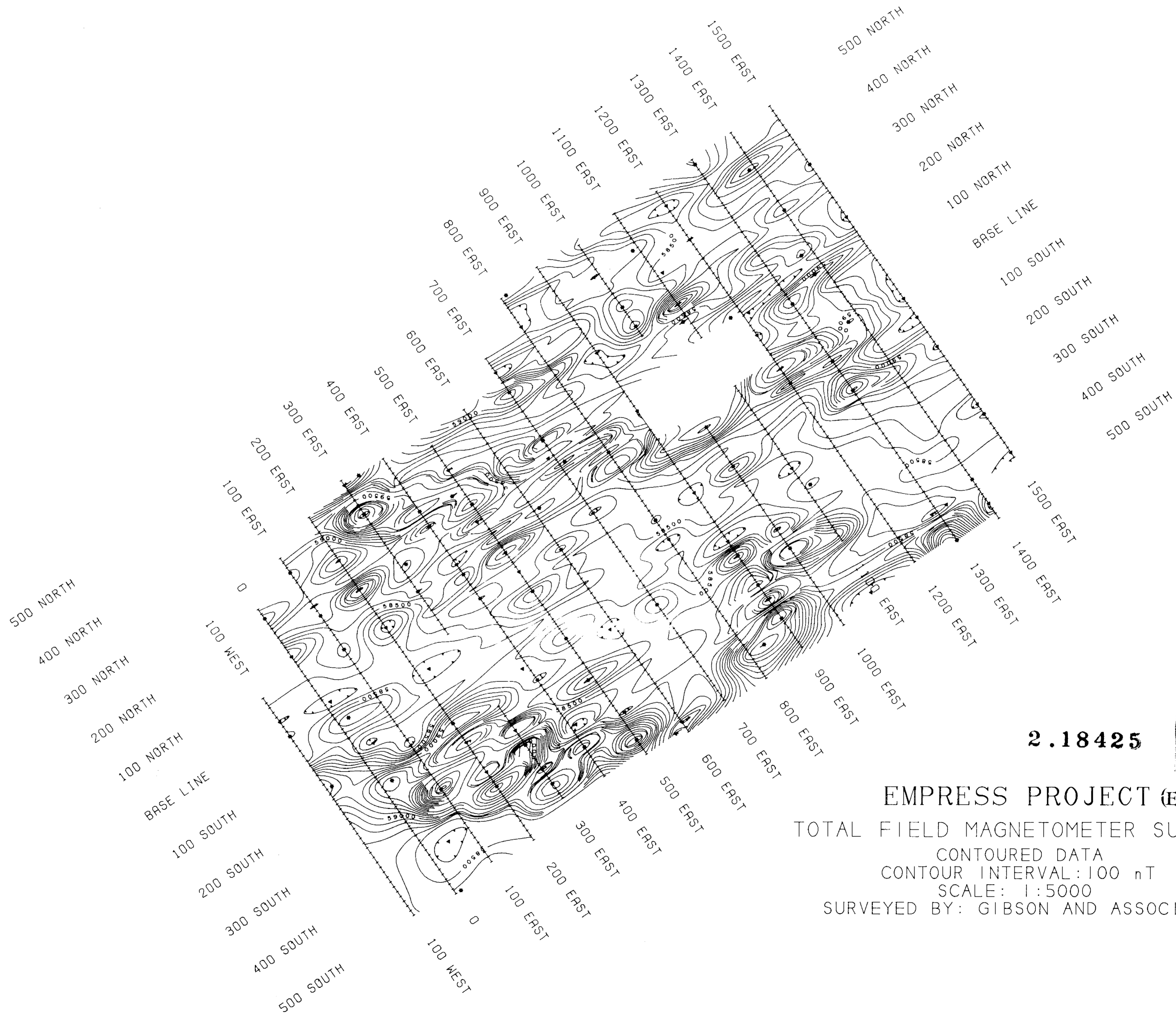




RECEIVED
 APR 14 1993
 GEOSCIENCE ASSESSMENT OFFICE

EMPRESS PROJECT (EAST)
 TOTAL FIELD MAGNETOMETER SURVEY
 POSTED DATA
 DATUM SUBTRACT=58800 nT
 SCALE: 1:5000
 SURVEYED BY: GIBSON AND ASSOCIATES





2.18425

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 SCIENCE ASSESSMENT
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EMPRESS PROJECT (EAST)
 TOTAL FIELD MAGNETOMETER SURVEY
 CONTOURED DATA
 CONTOUR INTERVAL: 100 nT
 SCALE: 1:5000
 SURVEYED BY: GIBSON AND ASSOCIATES

