

GEOPHYSICAL REPORT

On A,

PROTON PRECESSION MAGNETOMETER SURVEY

TRANS COLUMBIA INDUSTRIES LTD.

78-#94-#691

Doe, Dill, Daf and Fo mineral claims

Grandforks area, Greenwood Mining Division

Lat.  $49^{\circ}03'30''$ N Long.  $118^{\circ}24'W$  N.T.S. 82 E/1

AUTHOR: Glen E. White, B.Sc., P. Eng., Geophysicist

DATE OF WORK: March 1 - 21, 1978

DATE OF REPORT: April 21, 1978

MINERAL RESOURCES BRANCH

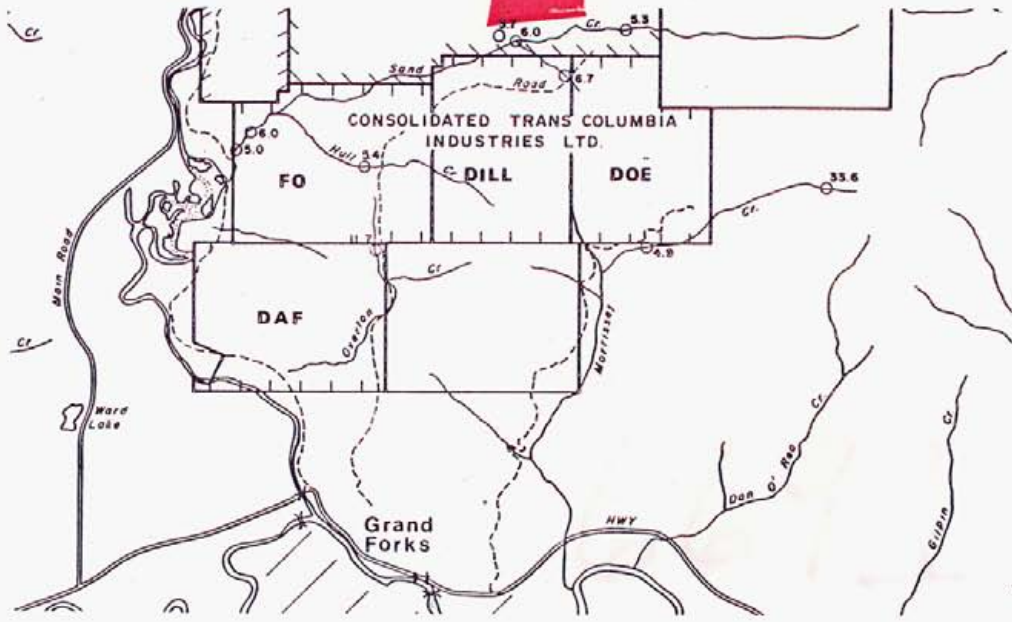
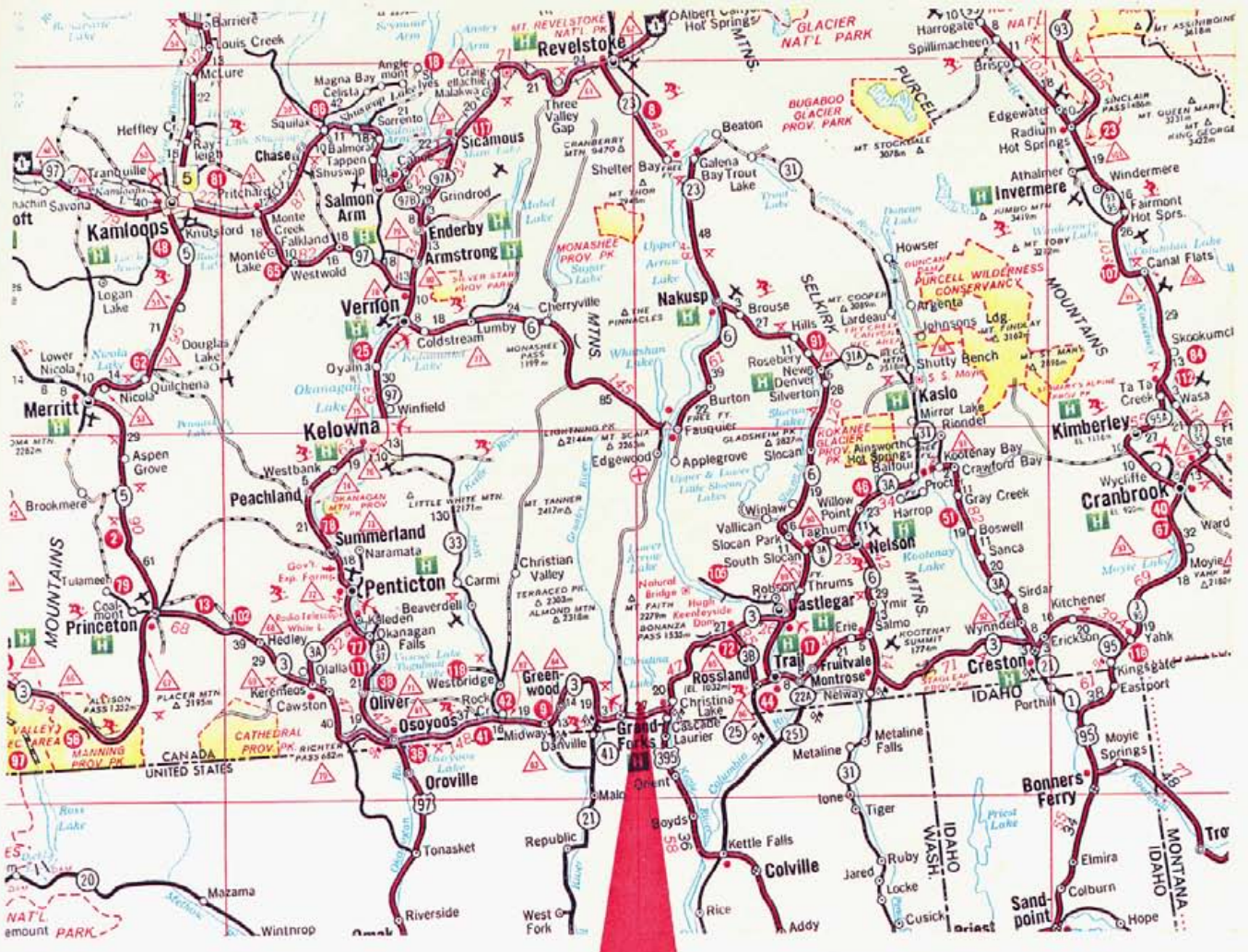
ASSESSMENT REPORT

6691

NO. \_\_\_\_\_

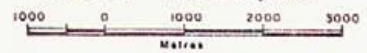
*Glen E. White*

GEOPHYSICAL CONSULTING & SERVICES LTD.



CONSOLIDATED TRANS COLUMBIA  
INDUSTRIES LTD.  
LOCATION AND CLAIM MAP  
GRAND FORKS, B.C.

*Glenn & White  
geophysical consulting  
services ltd*



SCALE: 1" = 40 MILES

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## INTRODUCTION

During the period March 1 - 21, 1978, a program of proton precession magnetometer surveying was conducted over the Daf, Fo, Dill and Doe mineral claims in the Grandforks area by Glen E. White Geophysical Consulting & Services Ltd.

The surveys were conducted on behalf of Kargen Development Corporation and Consolidated Trans Columbia Industries Ltd.

The purpose of the survey was to determine if the magnetically sensitive proton precession magnetometer could be used in tracing subtle differences in rock type to assist in the exploration for uranium mineralization.

## PROPERTY

The property consists of the Daf, Fo, Dill and Doe mineral claims comprising some 80 contiguous units. The claims are registered under the name of T. MacKenzie of Vancouver, B.C. and are held in trust by Jonnson-Tupper and Co. on behalf of Kargen Dev. Corp. and Consolidated TransColumbia Industries Ltd.

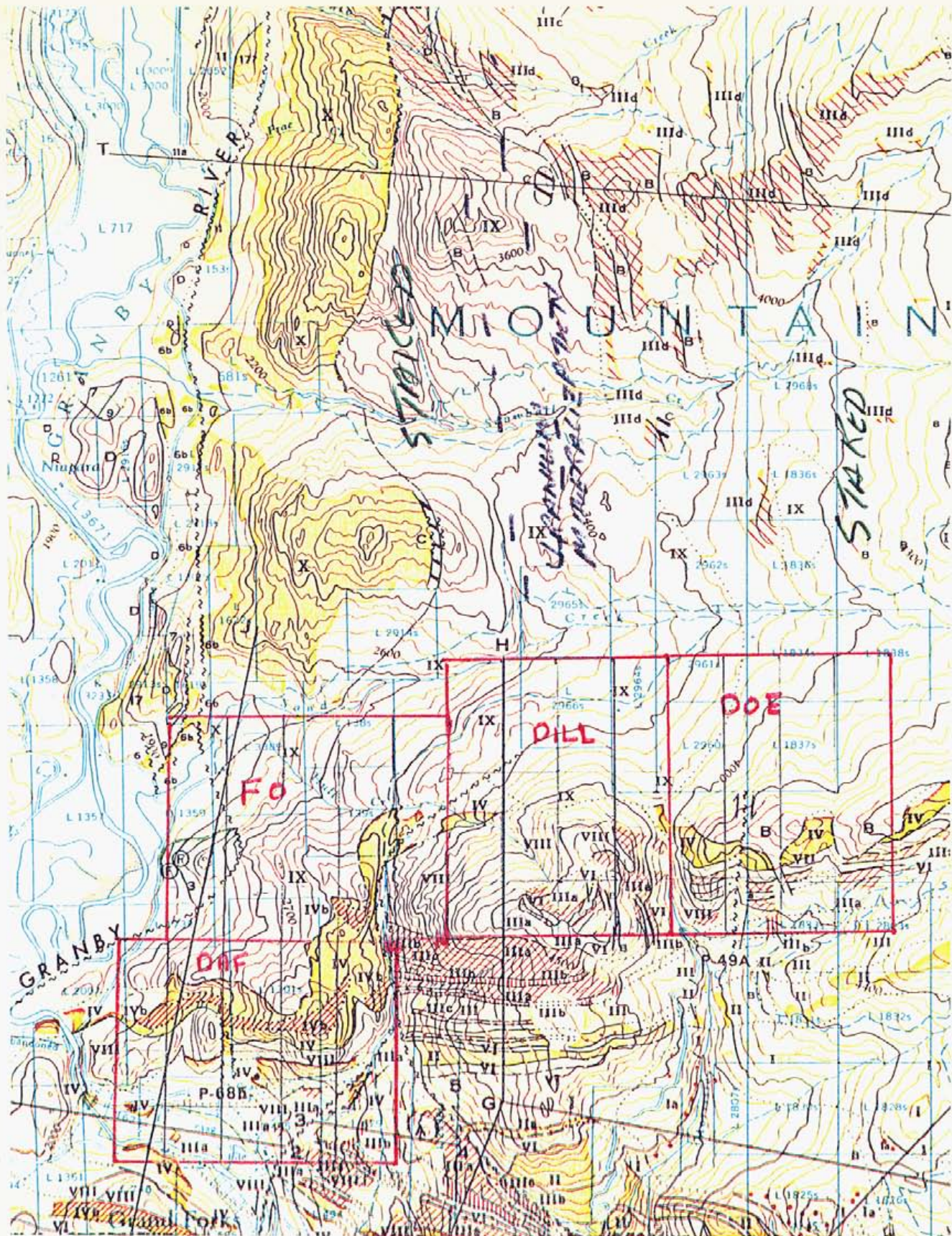
### LOCATION AND ACCESS

The claims are located immediately north of the town of Grandforks, Lat.  $49^{\circ}03'N$ , Longitude  $118^{\circ}24'W$ , n.t.s. 82 E/1, Greenwood Mining Division, B. C. Access is by gravel and bush road.

### GENERAL GEOLOGY

The general geology of the area is illustrated on Plate 1 from GSC Paper 69-22 (out of print) by V.A. Preto. For facile reference, the geology within the property boundary and rock descriptions have been transcribed onto the basemap for the ground magnetometer survey. The Roman numerals have been changed to arabic numbers.

The property lies in the Monashee Mountains and varies from an elevation of 1000 feet ASL at Grand-Forks to some 5000 feet on the Doe claim. Geologically the area is underlain by a metamorphic complex of biotite-hornblende gneiss, clinopyroxene, ortho-amphibolite gneiss, interlayered marble and/or calc-silicate biotite hornblende schist, tremolite schist, graphitic calcareous schist, which can contain coarse grained garnets and sillimanite with interlayered pegmatite. The principal granitic rock occurs as a medium grained slightly porphyritic biotite quartz monzonite.



GEOLOGY AND TOPOGRAPHY

Geology by V.A. Preto 1965, 1966

GSC Paper 69-22, by V.A. Preto

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Uranium mineralization occurs immediately north of the claims area as primary uraninite and secondary autunite associated with a biotite rich pegmatite.

### SURVEY SPECIFICATIONS

#### Survey Grid

The claims were staked in the spring of 1977 when there was no foliage and very little snow. Thus a magnetometer program was planned for spring 1978; however the snowfall was very much greater and progress and access difficult. Survey lines were run in a north direction spaced 100 - 200 m apart using the north and south staking lines for control.

Readings were obtained at 50 m intervals  
44 km of surveying was conducted as follows:

Daf claim	-	12 km
Fo claim	-	12 km
Dill claim	-	10 km
Doe claim	-	10 km

#### Magnetometer Survey

The magnetic variations over the property were expected to be of fairly low magnetude, Plate 2. Thus, a Scintrex MP-2 proton magnetometer with a sensitivity of  $\pm$  one gamma was used. To facilitate the large amount of area to be covered, a second MP-2 was used with an analogue console as a permanent record



recording base station. The base station was established at a residence in the outskirts of Grandforks near the property in a magnetically quiet area.

#### DISCUSSION OF RESULTS

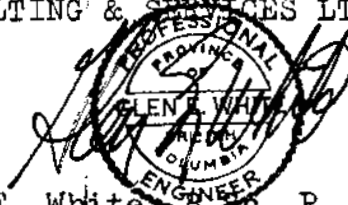
Plate 2 illustrates the airborne magnetometer data over the survey area. Here it can be seen that there is a general magnetic low trending northeastward through the claims. The Mount Morrissey area just to the southeast of the claims is a large single line airborne magnetic high which suggests the lines may parallel the magnetic trends. The original plan was to determine the magnetic trends and variations. However, this had to be abandoned due to the amount of deep wet snow. Instead, specific areas were surveyed to try and localize any trends that may be detected. Figure 2 illustrates the ground magnetometer data so obtained. In general, the magnetic gradient increases from the southwest to the northeast as depicted by the airborne survey. However, whereas the airborne data shows a smooth gradient (aircraft terrain clearance would be a problem) the ground data delineates a number of east-west orientated 200 - 300 gamma trends which parallel the known geology. Interesting localized magnetic highs were obtained on the western portion of the survey area indicating

a definite localization of higher magnetic susceptibility minerals. The east-west trends appear to extend eastward to the easternmost survey area where the rocks which are mapped as biotite-hornblende gneiss have a higher background of magnetic intensity.

#### CONCLUSION AND RECOMMENDATIONS

The ground magnetometer survey indicated that there are definite east-west directed magnetic trends associated with the strike of the geology such that they may possibly be of assistance in evaluating any areas of geochemical activity. Thus, it is recommended that the claims be covered by a reconnaissance geochemical survey with lines spaced 200 m apart and samples taken every 100 m. Since the geology is favourable for basemetal deposits, the samples should be analysed for uranium, copper, zinc and silver. Specific areas could then be detailed geochemically and correlated with geology and ground magnetometer data.

Respectfully submitted,  
GLEN E. WHITE GEOPHYSICAL  
CONSULTING & SERVICES LTD.



Glen E. White, P. Eng.  
Consulting Geophysicist

A P P E N D I XInstrument SpecificationsMAGNETOMETERA. Instrument

- (a) Type - Proton Precession
- (b) Make - Scintrex MP-2 and MBS-2 Base Station Console

B. Specifications

- (a) Measurement - Total Field
- (b) Range -  $\pm$  100 K gammas in 13 ranges
- (c) Sensitivity - 1/gammas
- (d) Accuracy -  $\pm$  one gamma

C. Survey Procedures

- (a) Method - Establish continuous recording basestation
- (b) Corrections - Diurnal
- (c) Station Relationship - Each station read for total field intensity of magnetic field.

STATEMENT OF QUALIFICATIONS

Name: WHITE, Glen E.

Profession: Geophysicist

Education: B.Sc. Geophysics - Geology  
University of British Columbia

Professional Associations: Associate member of Society of  
Exploration Geophysicists.

President of B. C. Society of  
Mining Geophysicists

Experience: Pre-Graduate experience in Geology -  
Geochemistry - Geophysics with  
Anaconda American Brass.

Two years Mining Geophysicist with  
Sulmac Explorations Ltd. and Airborne  
Geophysics with Spartan Air Services Ltd.

One year Mining Geophysicist and Technical  
Sales Manager in the Pacific north-west  
for W. P. McGill and Associates.

Two years Mining Geophysicist and  
supervisor Airborne and Ground Geophysical  
Divisions with Geo-X Surveys Ltd.

Two years Chief Geophysicist Tri-Con  
Exploration Surveys Ltd.

Seven years Consulting Geophysicist.

Active experience in all Geologic  
provinces of Canada.

Professional Engineer registered in  
the Province of British Columbia.

COST BREAKDOWNDaf Claim

<u>Personnel</u>	<u>Date</u>	<u>Wages</u>	<u>Total</u>
E. MacKenzie....	Mar.1-5/78....	\$130/day.....	\$750.00
T. MacKenzie.....	".....	\$95/day.....	475.00
Meals and accomodation @ \$30/day/man.....			300.00
Vehicle 4x4 including gas @ \$40/day.....			200.00
Proton Magnetometer & basestation @ \$85/day...			425.00
Materials.....			30.00
Supervision interpretation and report.....			250.00
12 km @.....			Total.....\$2430.00

Fo Claim

<u>Personnel</u>	<u>Date</u>	<u>Wages</u>	<u>Total</u>
E. MacKenzie....	Mar.6-10/78....	\$130/day.....	\$750.00
T. MacKenzie.....	".....	\$95/day.....	475.00
Meals and Accomodations.....			300.00
Vehicle lease 4x4 including gas.....			200.00
Proton magnetometer and basestation.....			425.00
Materials .....			30.00
Supervision, interpretation and report.....			250.00
12 km @.....			Total.....\$2430.00

Dill Claim

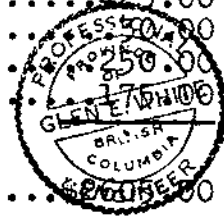
<u>Personnel</u>	<u>Date</u>	<u>Wages</u>	<u>Total</u>
E. MacKenzie....	Mar.11-15/78....	\$130/day.....	\$750.00
T. MacKenzie.....	".....	\$95/day.....	475.00
Meals and Accomodations.....			300.00
Vehicle 4x4 including gas.....			200.00
Proton magnetometer and basestation.....			425.00
Materials.....			30.00
Supervision interpretation and report.....			250.00
Skidoo rental @ \$35/day.....			105.00
10 km @.....			Total.....\$2535.00

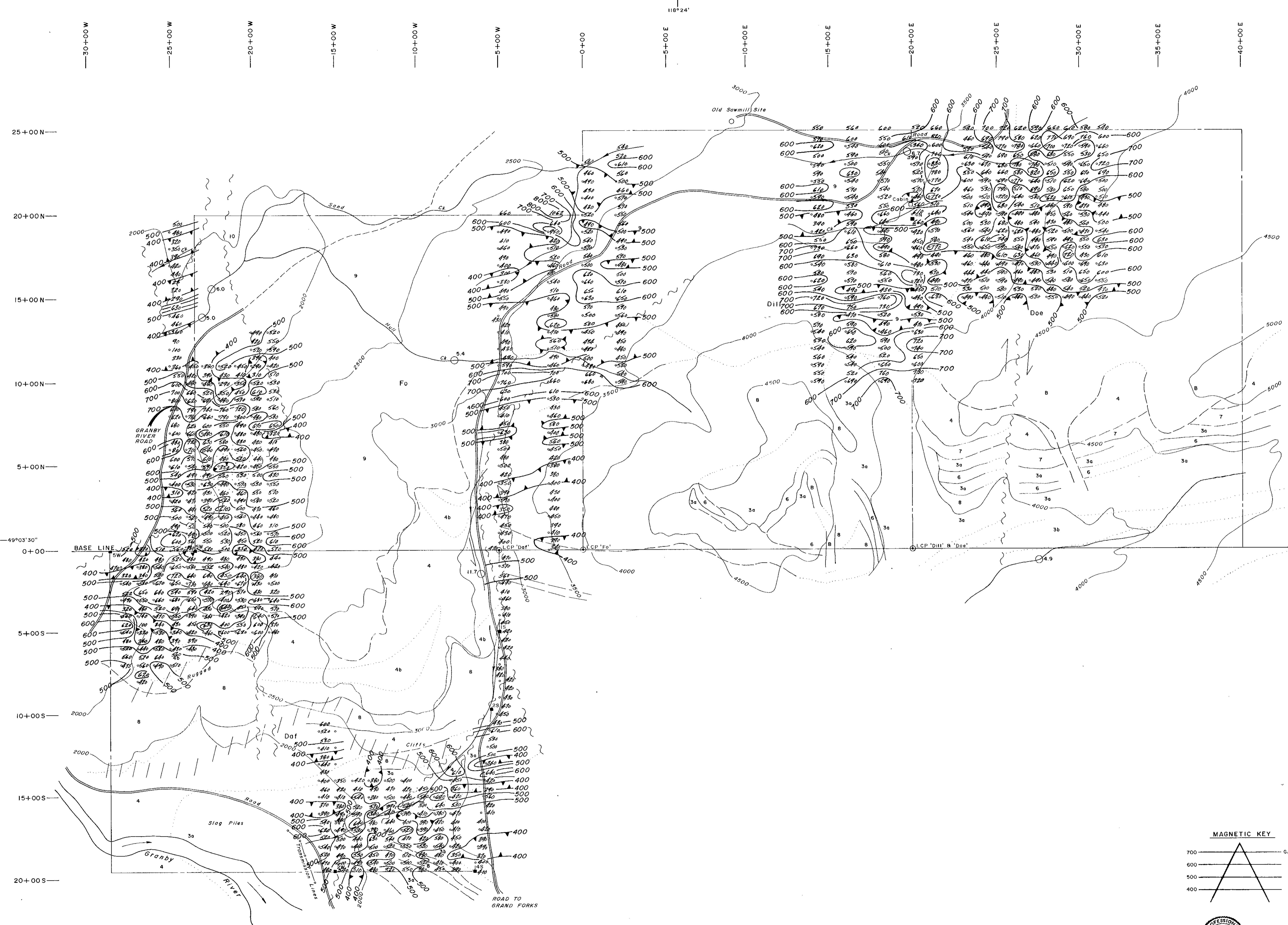
Glen E. White

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Cost Breakdown Cont...Doe Claim

<u>Personnel</u>	<u>Date</u>	<u>Wages</u>	<u>Total</u>
E. MacKenzie.....	Mar.17-21/78....	\$130/day....	\$750.00
T. MacKenzie.....	" .....	\$95/day....	475.00
Meals and accomodations.....			300.00
Vehicle 4x4 including gas.....			200.00
Proton magnetometer and basestation.....			425.00
Materials.....			50.00
Supervision, interpretation and report.....			175.00
Skidoo rental.....			250.00
10 km @.....		Total.....	2250.00

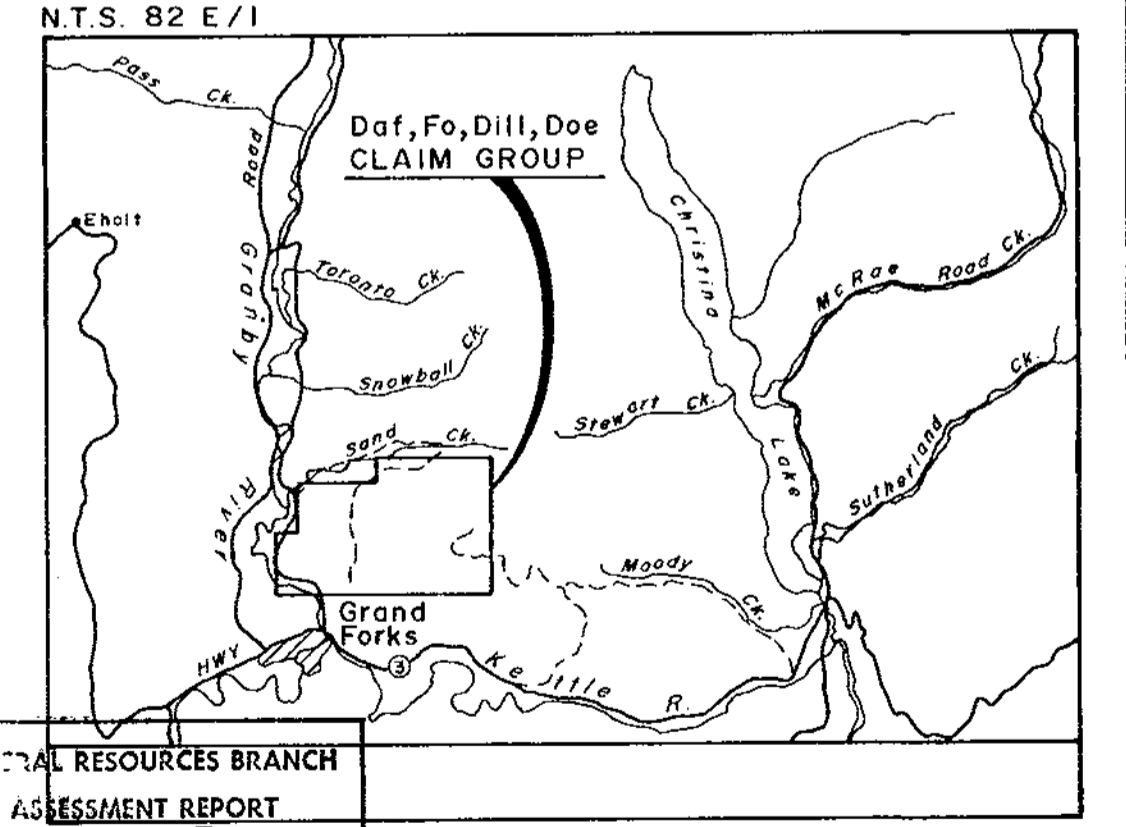




- LEGEND**
- Contour Line. Contour Interval: 400,500,600,700,800 Gammas
  - Stations
  - - - Outline of Claims
  - Claim Posts
  - == Unpaved Roads

- EXPLANATION**
- GRANITIC ROCKS**
- 8 Medium Grained, Slightly Porphyritic Biotite Quartz Monzonite, Minor Biotite-Hornblende Quartz Monzonite & Leucogranite
- PERMIAN AND/OR EARLIER**
- Black to Grey Bedded Argillite and Siltstone; Minor Chert and Calcareous Shale
- STRUCTURAL UNITS OF THE METAMORPHIC COMPLEX**
- 10 Crushed and Mylonitized Biotite Leuco-Quartz Monzonite, and Biotite-Hornblende Leucogranodiorite
  - 9 Biotite-Hornblende Granodiorite Gneiss
  - 8 Clinopyroxene-Hornblende Leucosyenite, Locally Grading into Leucogranite
  - 7 Biotite Leucogranodiorite Gneiss, Commonly Garnetiferous
  - 6 Ortho-Amphibolite Gneiss
  - 4 Amphibolite Gneiss and Schist with Interlayered Marble and/or Calc-Silicate, Biotite-Hornblende Schist Tremolite Schist and Graphitic Calcareous Schist
  - 4b Biotite Schist and Calcareous Schist
  - 3 Mainly Coarse-Grained Garnet-Biotite Schist, Sillimanite Locally Abundant; Interlayered Pegmatite, Marble and/or Calc-Silicate, Quartzite, and Amphibolite
  - 3a Coarse-Grained Sillimanite-Garnet-Biotite Schist with more than 30% Pegmatoid Material
  - 6.7 Uranium P.P.M. Stream Sediments 1975

INSTRUMENT: SCINTREX PROTON PRECESSION TOTAL FIELD MAGNETOMETER AND BASE STATION.



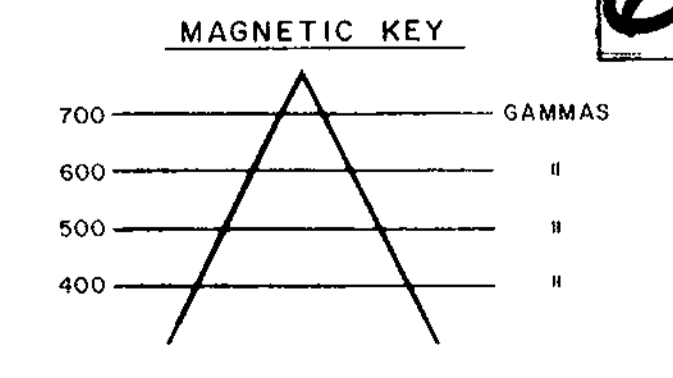
MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**6691**

**CONSOLIDATED TRANSCOLUMBIA INDUSTRIES LTD.**  
Daf, Fo, Dill & Doe Claims  
GREENWOOD MINING DIVISION - BRITISH COLUMBIA

**GEOPHYSICAL MAP**  
MAGNETIC INTENSITY  
TOTAL FIELD GAMMAS

Glen C. White  
geophysical consulting services Ltd.

INTERPRETED BY: G.E.W.  
DRAWN BY: T.M.  
CHECKED BY:  
DATE: APRIL 1978  
FIG. No.: 2



To Accompany Assessment Report on the Daf, Fo, Dill & Doe Claims  
Date: April 1978  
By: GLEN C. WHITE, GEOPHYSICIST