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TRIGAN RESOURCES INC.

ASSESSMENT REPORT

TITANIUM/AGGREGATE PROPERTY

METHUEN TOWNSHIP, SOUTHERN ONTARIO DISTRICT

2.22222

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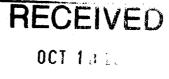
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Jan E SIR



GEOSCIENCE ASSESSMENT OFFICE

RECEIVED

OCT 10 2001

GEOSCIENCE ASSESSMENT

SUMMARY

During the period May 21 to August 21, 2000 Trigan Resources carried out preliminary work to obtain bulk samples of bedrock aggregate material for testing required to determine if this material is suitable for commercial production. The work consisted of 1) clearing bush for road access and site preparation, 2) road construction into the site, 3) drilling and blasting, 4) crushing, screening and stockpiling and 5) technical services.

A total of 19,467 tonnes of rock was processed into three products, passing through 2", 5/8", and 1/4" screens respectively.

A sample was submitted to the Ontario Ministry of Transport (MTO) for preliminary testing and investigation of new sources of high quality aggregates for asphalt pavements. The results of the tests show that the Trigan aggregate product from the Methuen property satisfies all the criteria required by high quality aggregates for asphalt pavements.

A preliminary estimate of the aggregate resource at this site is in excess of 200 million tonnes to a depth of 45 m. Additional testing of the area is required to fully confirm this estimate.

Approximately 2000 tonnes of the aggregate product will be required for highway strip testing by the MTO.

INTRODUCTION

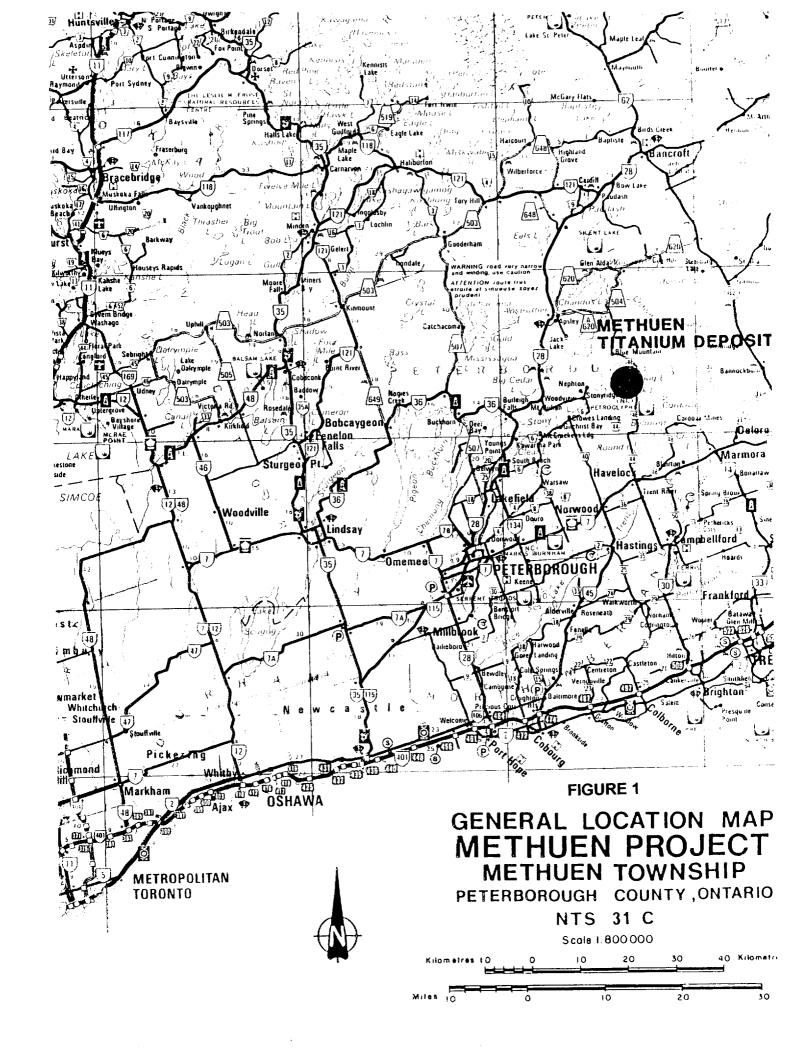
The Trigan Methuen Property was originally acquired and explored because of the presence on the property of semi-massive to massive titanium (ilmenite) mineralization. An open pit resource of 13 million tonnes grading 21.7% TiO₂ has been outlined. Attention turned to the possibility of using the waste rock from an open pit, titanium mining operation as aggregate. A composite sample of the gabbro hosting the ilmenite mineralization was prepared from borehole samples which intersected the surrounding barren gabbro. This sample was submitted for geotechnical testing and the material was found to satisfy all the geotechnical criteria required for high quality aggregate.

During the summer of 2000 activities were undertaken to obtain bulk sampling of the material for further MTO testing and to provide material for the laying down of highway test strip as required by the MTO. Plans are currently underway for the laying down of the test strip. This report documents initial aggregate testing and the fieldwork carried out between May 21st and August 21st 2000. The work is broken down into 1) Access and site preparation, 2) Access road construction, 3) Drilling and blasting, 4) Crushing and screening and 5) Technical services.

PROPERTY

Location and Access

The property is located in the south half of Methuen Township in southern Ontario (Figure 1). Paved Regional Highway 46 crosses the eastern part of the property approximately 20 km north of the town of Havelock situated on Hwy 7. Regional Road 46 passes close to the ilmenite mineralization; the site excavated for aggregate lies approximately 350 m east of the Road 46 close to the area of the ilmenite mineralization.



The CPR rail line, which services the Unimin's Blue Mountain Nepheline Syenite Mine, passes through the western limits of the property. The aggregate excavation site lies about 8 km due southwest of the termination of the CPR line at the Blue mountain Mine

Property Status

The property is registered in the name of Trigan Resources Inc. 445 Beacon Hall Drive, Aurora, Ontario, L4G 3G8. The property consists of contiguous Leased Claims and Staked Claims (Figure 2 and Table 1). The leased claims cover Lots 7, 8 and 9 Conc. IV, and lots 7, 8, 9 and 10 Conc. III except the southwest part of Lot 9 Conc. III. The Mining Leases were granted on June 18, 1986.

Additional claims were staked contiguous with the Mining Leases starting with Claim 1195074, recorded in December 1994. Claims adjoining to the west were staked more recently with recording dates ranging from December 9, 1999 to April 5, 2000. All the claims are currently in good standing.

Table 1
Trigan Resources Inc. Contiguous Mining Properties in Methuen Twp. South

| Mining 1 | Leases (27) | Mining Claims (15) |
|----------|-------------|--------------------|
| 39064 | 219758 | 1195074 |
| 39065 | 219759 | 1237260 |
| 41296 | 219760 | 1240115 |
| 41916 | 219761 | 1240118 |
| 41328 | 220785 | 1240120 |
| 41329 | 220786 | 1240130 |
| 41330 | 220787 | 1240138 |
| 41331 | 220788 | 1240141 |
| 41332 | 231489 | 1240142 |
| 41333 | 231490 | 1240148 |
| 41475 | 231491 | 1240150 |
| 41476 | | 1240151 |
| 41477 | | 1240154 |
| 41478 | | 1240155 |
| 41479 | | 1240164 |
| 41480 | | |

The work in the summer of 2000 was carried out mainly on Mining Lease 41332 with road access crossing Leases 39064 and 39065. It is intended to apply allowable assessment credits to certain mining claims within the contiguous property which are coming up for renewal.

GEOLOGY

Methuen Township is underlain by northeast-trending Late Precambrian, Grenville metasedimentary rocks intruded by younger granitic gneisses, granites syenites and gabbros. The metasedimentary rocks have been subjected to multiphase deformation and regional metamorphism. Contact metamorphism is evident especially around some of the gabbroic intrusives. Undeformed Ordovician limestone and dolomitic limestone occurs as outliers east of Oak Lake in the southeastern part of the Township.

Two ovoid-shaped basic to intermediate intrusions semi-conformably intrude the Grenville metasediments in the area of the property (Figure 2). These two intrusions, referred to as the East Gabbro and the West Gabbro, vary in composition through gabbroic anorthosite to gabbro to monzonite. The gabbroic anorthosite and gabbro portions of the intrusions are the focus for the establishment of an aggregate resource. The gabbroic anorthosite hosts a pipe-like occurrence of semi-massive to massive ilmenite mineralization in the easternmost part of the Eastern Gabbro.

WORK CARRIED OUT

Introduction

In October 1999 interest was focussed on the possibility of the gabbroic host rock to the ilmenite mineral zone being used as a source of aggregate. Preliminary aggregate testing of material from boreholes indicated that the anorthositic/gabbro gabbro had the necessary properties required for a high quality aggregate. With the satisfactory results from the aggregate testing, the next step was to prepare a bulk sample for further MTO testing. A site was selected for the quarrying of a bulk sample. Clearing of the site and access to the site was followed by road construction into the site, drilling and blasting, crushing and screening and the production of three graded products.

A summary of work and expenditures is shown in Table 2. Detailed documentation and costs of the aggregate testing and the work carried out to obtain a bulk sample, are filed in the Appendix.

The names and address of contractors carrying out the work are as follows:

Aggregate Testing:

John Emery Geotechnical Engineering Ltd., 109 Woodbine Downs Blvd., Toronto, Ont., M9W 6Y1 MOT Soils and Aggregates Section, Building C, 1201 Wilson Ave., Downsview, Ont., M3M 1J8.

On Site Work:

MacBro Drilling and Blasting, R.R.1, Box 69 Denbigh, Ontario, K0H 1L0.

Robert Young Construction Ltd., 1488 Chemong Road, Peterborough, Ontario, K9J 6X2.

The work was supervised by Mr. J. Regan of 445 Beacon Hall Drive, Aurora, Ontario, L4G 3G8. Don Phipps of 98 Kingsmount Blvd., Sudbury, Ontario, P3E 1K6, wrote this report and oversees geological aspects of the project.

Preliminary Aggregate Testing

In October 1999, a composite sample from boreholes intersecting barren gabbro outside of the ilmenite mineralized zone, was assembled and submitted to John Emery Geotechnical Engineering Ltd. for a series of standard tests to determine the suitability of the gabbro as an aggregate source with the results as shown below:

| Micro-Deval Abrasion, % loss | 7.9 |
|--------------------------------|-------|
| Bulk Relative Density | 3.066 |
| Absorption, % | 0.12 |
| Petrographic Analysis | 101 |
| Unconfined Freeze-Thaw, % loss | 6.0 |

With favourable results of this testing, the sample was sent to the MOT for a Polished Stone Value (PSV) test in December 1999. A PSV value of 51 obtained from the sample meets the MOT requirements (PSV>50) for HL1 material.

Bulk Sample Site

With the satisfactory results from the above aggregate testing, the next step was to prepare a bulk sample for further MTO testing. For the quarrying of a bulk sample, a site was selected close to the eastern contact of the gabbro, approximately 150 m east of the zone of ilmenite mineralization (Figure 3). Work on the site started on May 15, 2000 and finished August 21, 2000. Documentation of all the work carried out and the costs of this work are appended. Contractors used in the work consisted of:

MacBro Drilling and Blasting Ltd.

Robert Young Construction Ltd.

Site clearing, road construction, drilling and blasting.

Crushing, screening and stacking.

Starting May 15, 400 m of access into the site and the site area (sufficient to allow quarrying of the bulk sample, set up crushing and screening plant, and area for product storage), was cleared. This was followed by drilling and blasting of bedrock. A crushing, screening and stacking plant was brought into the site. Crushing equipment consisted of primary and secondary jaw crushers and a tertiary rolls crusher. Crushed material was passed over three screen sizes, 2", 5/8" and \(\frac{1}{2} \)". A total of 19,467 tonnes were processed.

The Ontario Ministry of Transportation, Soils and Aggregates Section, took a sample of HL1 coarse aggregate (HL1 CA) from the stockpile for further testing of "production material". With the positive results of this testing the MTO conditionally approved the site as a source of HL1 coarse aggregate, and placed the site on the Designated Source for Materials list (DSM #3.05.25).

Table 2 gives a summary of the costs incurred for the above work. Details and invoices for the work are in Appendix I. Documentation of the results of the various aggregate tests are included in Appendix II.

FUTURE WORK

In order for the material from the site to be listed for DFC (Dense Friction Course) coarse and fine aggregate approval, a test section trial must be carried out. This requires the laying down of a 500 m length, full width section of highway (driving and passing lane) in a typical DFC location (100 km/hr speed limit; near horizontal and straight section; typical truck percentage of AADT).

STATEMENT OF QUALIFICATIONS

The writer of this report, Don Phipps, acts as the Geological Consultant to Trigan Resources Inc. He is a member of the Association of Geoscientists of Ontario and a prospective member of the Association of Professional Geoscientists of Ontario. The professional qualifications of the writer include the following.

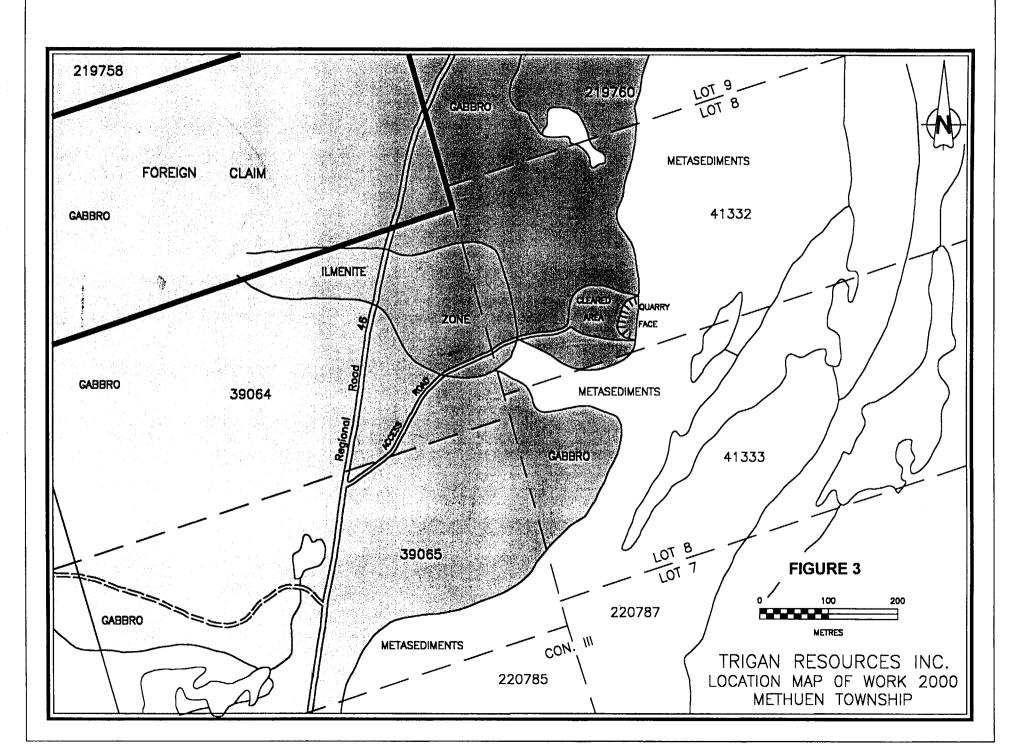
Graduate of the Camborne School of Mines with Mining Diploma

Graduate of McGill University, B.Sc.Honours Geology

Graduate of the Massachusetts Institute of Technology, M.Sc. in Oceanography

Over 30 years as a practicing professional geologist, mainly in the field of mineral exploration.

.....



| TABLE 2 | | | | | |
|----------------------------|------------|-------------------------------|---|------------|------------|
| TRIGAN RES | OURCES INC | C EXPENDITURES OCT. 14 19 | 999 TO SEPT. 10 2000 | | |
| Site Activities | | | | | |
| Date | Invoice #. | Contractor | Description | Amount | Totals |
| May 31/2000 | 1 | MacBro Drilling and Blasting | Clearing roadway and site area | 17,384.00 | |
| June 30/2000 | 2 | " | Drilling and blasting for raodway and stie preparation | 58,588.31 | |
| July 31/2000 | 3 | И | Roadway drilling and blasting, culverts, gates, rock base | 20,075.71 | |
| July 31/2000 | 4 | II . | Quarry drilling blasting and excavating | 19,274.98 | |
| Sept 1/2000 | 5 | 11 | Gravelling roadway to quarry | 2,675.00 | |
| Sept 1/2000 Sept 1/2000 | 5 | II . | Rock excavation | 5,589.10 | |
| Aug. 31/2000 | | Robert Young Construction Ltd | Crushing, screening and stacking | 100,880.67 | |
| Sept 10/2000 | L., | " | Crushing, screening and stacking | 13,682.62 | |
| Gept 10/2000 | | | Total expenses for site activites | | 238,150.39 |
| Technical Se | rvices | | | | |
| Oct. 14/1999 | 8 | John Emery Geotech. Eng. Ltd. | Aggregate testing of borehole material | 727.60 | |
| June 6/2000 | 9 | Oakridge Environmental Ltd | DGPS survey of site | 662.08 | |
| Sept. 7/2000 | 10 | Ministry of Transportation | Testing of high quality aggregate for ashpalt pavements | 5,350.00 | |
| Оора: //200 | | | Total expenses for Technical services | | 6739.68 |
| | | | Grand Total | | 244890.07 |
| | | | | | |
| | | | | | |

APPENDIX I

INVOICES FOR WORK CARRIED OUT

MACBRO DRILLING & BLASTING LTD.

INVOICE

11-00

R. R. 1 — Box 69 Denbigh, Ontario K0H 1L0 Tel. (613) 333-5578

| Trigan Resources Inc | DATE 11, 2000 |
|-------------------------|---------------|
| 445 Beacon Hall Dr. | |
| Aurora, Ontario L4G 3G8 | |
| c/o J. R. Regan | |

TERMS: 2% INTEREST PER MONTH

| QUANTITY | DESCRIPTION | PRICE | AMOUNT |
|----------|---|----------|-------------|
| | Building roadway to Quarry (May 15-17) | | |
| 30.5 hr | Excavator & Dozer | 130.00 | 3965 0 |
| 20 hrs | Skidder & men clearing quarry site (May 18,19,2 | 3) 65.00 | 1300 |
| | Stripping Quarry (May 18-30) | | |
| 71.5 hr | Excavator | 80.00 | 5720 |
| 36 hr | Dozer | 50.00 | 1800 |
| | Placing Culvert & Rock on Roadway (Mag 31) | ·k | |
| 11 hr | Excavator & Dozer | 130.00 | 1.430 |
| 10 hr | Truck | 45.00 | 450 |
| | Culverts - invoice attached | 1.110 | 1471 |
| | Subtotal | G0 + 13 | 16136 |
| | G.S.T. #R124816778 | | 1129 |
| | P.S.T on culvert invoice | | 117 |
| | PLEASE PAY | | 17384 |
| | Thank You | | PAY LAST AF |

Macbro Drilling & Blasting Ltd.

Box 69, Denbigh, Ontario KOH ILO Gordon (Pete) Malcolm 613 333-5578

INVOICE

12-00

| | esources Inc. | D | ATEJune. | 30, 2000 | • • • • • • |
|--------------|--------------------------------------|---|----------------------|------------|-------------|
| 445 Beac | on Hall Dr. | ••••• | | | |
| Aurora, | Ontario L4G 3 | G8 | | | |
| c/o Mr | J. R. Regan | • | | | |
| TERMS: 2% IN | ITEREST PER MON | TH | | | |
| QUANTITY | DESCRI | PTION | PRICE | AMOUNT | |
| June 1-30th | Equipment & Dr roadway and Qu | illing & Blast arry site prep | ing for aration & | trenching. | |
| | | | | | |
| 81.5 hrs | Excavator | | 80.00 | 6520 | 00 |
| 54 hrs | Dozer | T | 50.00 | 2700 | 00 |
| 31 hrs | Truck | | 45.00 | 1395 | 00 |
| | Drills & Drill | Product drill | ing | 14502 | 33 |
| | Explosives & L | | | 29004 | 66 |
| | Preblast Inspe | ction affahed | invoice) | 633 | 44 |
| | | | | | |
| 0 | 100 nos | | | | |
| //in | 5. O sk 1) " | SUBTOTAL | | 54755. | 43 |
| 1200 | SUBTOTAL G. C. 726 #1248 P.S.T. 8% | | 16778 | 3832. | 88 |
| / / The | | P.S.T. 8% | | | |
| , . • | | PLEANE PAY | | \$ 58588. | 31 |

THANK YOU

Macbro Drilling & Blasting Ltd.

Box 69, Denbigh, Ontario KOH ILO Gordon (Pete) Malcolm 613 333-5578

INVOICE

TO. Trigan Resources Inc. DATE July 31, 2000

445 Beacon Hall Dr.

Aurora, Ontario L4G 3G8

c/o Mr J. R. Regan

TERMS: 2% INTEREST PER MONTH

| QUANTITY | DESCRIPTION | PRICE | AMOUNT | |
|----------|---|------------|------------|-----------------|
| | Roadway to Quarry, Culverts, Gates, Rock Base | | | |
| 75 hrs | Excavator | 80.00 | 6000 | 00 |
| 52 hrs | Dozer | 50.00 | 2600 | 00 |
| 54.5 hrs | Truck | 50.00 | 2725 | 00 |
| | Roadway Drilling & Blasting Labour, Equipment, Product | | 6072 | 50 |
| 90 yds | (County Rd. #46) "A" Gravel for culvert | 6.50 | 585 | 00 . |
| | Culvert, Gates & Hardware Plate Packer Invoices attach | ed (6.57 ± | اددىمى 834 | 33 [*] |
| | | | | |
| | 100 de 6 18 00 de | 00,3 | | |
| | 1 (6, 6) | | | |

 SUBTOTAL
 18816.83

 G.S.T. 7% #124816778
 1258.78

 P.S.T. 8%
 20075.61

THANK YOU

#4

Macbro Drilling & Blasting Ltd.

Box 69, Denbigh, Ontario KOH ILO Gordon (Pete) Malcolm 613 333-5578

INVOICE

17-00

| 445 Bea Aurora, c/o Mr | Resources Inc. con Hall Dr. Ontario, L4G 30 J. R. Regan TEREST PER MON | ••••• | ATEJul | 7 31, 2000 | •••• |
|---|--|-----------------------|--------|------------------------------------|------|
| QUANTITY | DESCRII | PTION | PRICE | AMOUNT | |
| | Quarry Drilling Excavating | g, Blasting & | | | |
| 30 hrs | Excavator | | 80.00 | 2400 | 00 |
| (C) | Explosives, Deposite Drills, Drill | | cks | 8894 4200 | 00 |
| | Drillers, Blas | | | 2`520 | 00 |
| | Je gas | 13 Just Ook | | | |
| | l | SUBTOTAL | | 18014. | 00 |
| | | G.S.T. 7% #1248 | 16778 | 1260. | 98 |
| | | P.S.T. 8% PLEASE PAY | | 10274 | 0.8 |
| THAN! | K YOU | Plus Dro 1600 |)) | 19274. Joe <i>fs</i> - 39356 | 61 |

10TAL

+457 ...

Macbro Drilling & Blasting Ltd.

Box 69, Denbigh, Ontario KOH ILO Gordon (Pete) Malcolm 613 333-5578

INVOICE

21-00

| | Resources Inc. con Hall Dr. | D | ATESer | tember 1, 2 | 000 |
|--------------|----------------------------------|---------------------------------|--------------|-------------|-----|
| Aurora, | Ontario L4G 3(| | | | |
| c/o Mr | J. R. Regan | ••••• | | | |
| TERMS: 2% IN | TEREST PER MON | TH | | T | 1 |
| QUANTITY | DESCRI | PTION | PRICE | AMOUNT | |
| | Havelock Qua | arry | | | |
| | Placing "A" Gra to quarry Aug | avel on roadwa g 3-4 | у | | |
| 30.5 hrs | Trucks | | 50.00 | 1525 | 00 |
| 19.5 hrs | Dozer | Dozer | | 975 | 00 |
| | Excavating Rock & feed stock pi | k to feed Brea ile areas Aug | ker 3-11 | | |
| 61 hrs | Excavator | | 80.00 | 4880 | 00 |
| 5 hrs | Dozer | • | 50.00 | 250 | 00 |
| | () (| 100 10 | | | |
| | light | 16 ce 10 010 | | | |
| | Jep. | n Kelly | | | |
| | 1 | SUBTOTAL | | 7630. | .00 |
| | 1 | G.S.T. 7% #1248 | 16778 | 534. | 10 |
| | | P.S.T. 8% | | | |
| | | PLEASE PAY | | 8164 | .10 |

THANK YOU

INVOICE

| ROBERT YOUNG CONSTRUCTION LTD. | SAND • GRAVEL • | FILL • S | STONE • 1 | OPSOIL |
|--|-----------------|-----------------|---|---------------------------------|
| GRAVEL CRUSHING . LOADING & TRUCKING TO REGULATES INC. | Pet - | erboroug O | i88 Chemo h, Ontario filce 705 / 7 ence 705 / 7 Fax 705 / 7 | K9J 6X2 745-1488 292-8264 |
| Qurora, Ont. 149398 | Date | <u> au</u> | 9311 | 00 |
| To couse + stacklike with stackers. 2"Clan. IL3. 'H' scranings. Qua 8-21/00 17142 horner wey 3 1451 lear Holder 3325 to the control of th | 15° 200115 | 50 10/0 * | 94281 6599. loos8c | 00 67 61 |
| G.S.T. No. R104572490 | | | | |

INVOICE

| ROBERT YOUNG CONSTRUCTION LTDs | AND • GRAVEL • FILL • STONE • TOPSOIL |
|---|---|
| TO TEIGRA RESOURCES INC. | 1488 Chemong Road Peterborough, Ontarlo K9J 6X2 Office 705 / 745-1488 Residence 705 / 292-8264 Fax 705 / 745-6305 |
| Austra Dr. 146368 | Date Seft 10/00 |
| To crush & stocklile 3/4" materia | |
| aug 344/00 2325 tonne | 5 50 13181 50 |
| Japan 2000 \$10012 | 95/190 895/2 |
| J. Jagor chegree | # 13682.62 |
| | |
| TERMS: Net 30 days - 2% per month service charge on overdue | accounts |

G.S.T. No. R104572490

Nº 6289

JOHN EMERY GEOTECHNICAL ENGINEERING LIMITED

CONSULTING ENGINEERS

#1, 109 Woodbine Downs Boulevard, Toronto, Ontario M9W 6Y1 Telephone: (416) 213-1060 Facsimile: (416) 213-1070 E-Mail: jegel@comnet.ca www.jegel.com

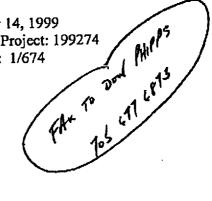
October 14, 1999

JEGEL Project: 199274

Invoice: 1/674

John B. Regan 445 Beacon Hall Drive Aurora, Ontario L4G 3G8

Attention: Mr. John Regan



INVOICE FOR PROFESSIONAL SERVICES

Laboratory Testing of Core Samples Provided by J.B. Regan.

Engineering and Technical Services to October 14/99:

LABORATORY TESTING

| Sample Crushing | 1@\$ | 20.00 | \$ 20.00 |
|-----------------------|--------|--------|-------------|
| Petrographic Analysis | 1@\$ | 225.00 | 225.00 |
| Bulk Relative Density | 1@\$ | 55.00 | 55.00 |
| Micro-Deval Abrasion | 1 @ \$ | 190.00 | 190.00 |
| Freeze-Thaw | 1 @ \$ | 190.00 | 190.00 |

680.00 Engineering and Technical Services \$ 47.60 GST on Services

TOTAL THIS INVOICE \$ 727.60

(This total includes \$47.60 GST. Our GST Number is 102687118RT.)

Notes: 1. Net 15 days from receipt of this Invoice, 11/2% per month (19.6% per annum) surcharge en overdue accounts.

2. We appreciate the opportunity to be of service and trust this Invoice is in order.

ac 18/9 850

Oakridge Environmental Ltd.

P.O. Box 431 Peterborough, Ontario K9J 6Z3

705-745-1181, (Fax: 705-745-4163)

Invoice

| DATE | INVOICE NO. |
|-----------|-------------|
| 10/6/2000 | 100562 |

#9

BILL TO

Trigan Resources Inc c/o Ridgeland Development 35 Lauren Road General Delivery Ashburn, ON LOB 1A0



| DESCRIPTION | AMOUNT |
|--|----------------|
| botain latest OBM map (1:10,000 scale) ligitize lot corner locations & other features site visit, DGPS survey of quarry laneway, etc brepare sketch map & letter supplementary land title search for Plan 45R-5802 botain copies supplementary meeting ncludes out-of-pocket expenses botal GST usiness Number: 13330 1200 RT | 43.31 |
| | TOTAL \$662.08 |

Ministry of Transportation

Transports

Ministère des OFFICIAL RECEIPT



LOCATION: 91

DATE:

Sept 7/00

RECEIVED FROM:

Trigan Resources Inc 445 Beacon Hall Drive Aurora, Ontario L4G 3G8

Attention: MR. J. B. Regan

Unmarked Cheque Cash Money order Certified Cheque

CHEQUE NUMBER: 0007

AMOUNT: \$5,350.00

PARTICULARS

Preliminary Testing & Investigation of New Sources of High Quality Aggregate for **Asphalt Pavements**

RECEIPT:

J05295

FOR MINISTRY USE **VENDOR CODE:** COC: 43870 R.C. 91-4450

ist 350 higher as los

APPENDIX II

DOCUMENTATION OF AGGREGATE TESTING RESULTS

JOHN EMERY GEOTECHNICAL ENGINEERING LIMITED

CONSULTING ENGINEERS

#1, 109 Woodbine Downs Boulevard, Toronto, Ontario M9W 6Y1
Telephone: (416) 213-1060 Facsimile: (416) 213-1070 E-Mail: jegel@comnet.ca www.jegel.com

October 13, 1999 JEGEL: 199274 JEGEL ID #: 002602

John B. Regan 445 Beacon Hall Drive Aurora, Ontario L4G 3G8

Dear Mr. Regan:

Aggregate Testing

As requested, John Emery Geotechnical Engineering Limited, Consulting Engineers (JEGEL), has completed testing of aggregate received as HQ cores (from BH 70432, 70445 and 70447), supplied by John B. Regan.

In order to prepare sample for the testing, the HQ cores were crushed and mixed. The testing consisted of:

| MTO LS-604 |
|-------------|
| MTO LS-614 |
| MTO LS-609 |
| MTO LS-618. |
| |

The test results are presented in Tables 1 and 2. The crushed rock consists of gabro, basalt and granite as shown in the attached Table 2. Gabro is dominant throughout the sample and is dark grey in colour, medium grained.

We trust that the results of this testing are satisfactory for your purposes. Please contact us with any questions or if you require any additional information.

Yours very truly,

JOHN EMERY GEOTECHNICAL ENGINEERING LIMITED

Branislava Vujanovic

Petrographer

Michael H. MacKay, M.Eng., P.Eng.

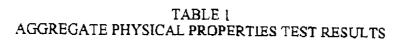
Principal Geotechnical Engineer

ISO 9001

Engineering / Research / Development / Education
Soil / Rock / Aggregates / Slags / Asphalt / Cement / Concrete / Byproducts
JEGEL • DYNATEST • PAVMATEC

nt By: JEGEL;

199274



| | TEST RESULT | SPECIFICATION REQUIREMENTS | | | |
|--|--------------|---|-----------------------------|----------------------------|-----|
| TEST | Crushed Core | OPSS/MTO Maximum Limits HL 1 and DFC | | | |
| | Sample | Dolomitic Sandstone | Traprock, Diabase, Andesite | Meta- Arcose, Gneiss | |
| | Sample | 7.9 | 15 | 10 | 15 |
| Micro-Deval Abrasion, % Loss | Control | 16.1 | | 15.8 - LCL 18.6 - UCL | |
| | Sample | 3.066 | - | | - |
| Bulk Relative Density | Control | 2.676 | | 2.655 - LCL 2.685 - UCL | |
| | Sample | 0.12 | 1.0 | 1.0 | 1.0 |
| Absorption, % | Control | 0.72 | 0.60 - LCL 0.83 - UCL | | |
| Hot Mix Surface Treatment and C Petrographic Number | 101 | 145 | 120 | 145 | |
| Corrected Granular and 16 mm T | 100 | - | - | _ | |
| Unconfined Freeze- Thaw, % Los | 6.0 | 6 | 6 | б | |

TABLE 2

COARSE AGGREGATE PETROGRAPHIC ANALYSIS PIT NAME-John B. Regan JEGEL: 199274 October 12, 1999 DATE FRACTION 19.0 9.5 mm ANALYST B.V. ID #: 2602 TYPE TYPE MASS % **GRANULAR &** NO. 16.0 mm TYPE B CORRECTION CARBONATE (hard; silty, hard) 20 CARBONATE (surface weathered; silt, surface weathered; medium hard; silty, medium hard) 2 CARBONATE (sandy, hard or medium hard) 21 CARBONATE (slightly cherty: <5% chert) 23 MARBLE (hard or medium hard) 3 CONGLOMERATE-SANDSTONE-ARKOSE (hard) 22 CONGLOMERATE-SANDSTONE-ARKOSE (medium hard) 6 GREYWACKE-ARGILLITE (hard or medium hard) 4 GNEISS-AMPHIBOLITE-SCHIST (hard) 5 QUARTZITE 8 GRANITE-DIORITE-GABBRO-BASALT (hard) 1028.1 97.7 VOLCANIC (hard or medium hard) 9 TRAP (<20% sulphide) 10 QUARTZ (vein or pegmatitic) 71 IRON FORMATION 18.2 1.7 TOTAL GOOD AGGREGATE 99.4 1046.3 35 CARBONATE (soft; silty, soft; slightly shaley) x 2 41 CARBONATE (soft, pitted) x 2 42 CARBONATE (deeply weathered; silty, deeply weathered) 40 CARBONATE (sandy, soft) x 2 24 MARBLE (brittle) x 2 26 CHERT-CHERTY CARBONATE (<20% leached chert) x 2 30 CONGLOMERATE-SANDSTONE-ARKOSE (brittle) x 2 29 GREYWACKE (brittle) x 2 52 ENCRUSTATION <u>x</u>_2 25 GNEISS-AMPHIBOLITE-SCHIST (brittle) x 2 34 ARGILLITE (medium soft) x 2 27 GRANITE-DIORITE-GABBRO (brittle) 5.3 x 2 28 VOLCANIC (soft) x 2 TOTAL FAIR AGGREGATE 43 CARBONATES (shaley; clayey; silty, clayey) 44 CARBONATE (ochreous; sandy, ochreous) 49 MARBLE (friable) x 3 45 CHERT-CHERTY CARBONATE (<20% leached chert) <u>x</u> 5 46 CONGLOMERATE-SANDSTONE-ARKOSE (friable) <u>x 3</u> 56 SILTSTONE x 3 53 CEMENTATION (partial) x 3 54 CEMENTATION (total) 50 GNEISS-AMPHIBOLITE (friable) x 3 55 SCHIST (soft) x 3 51 GRANITE-DIORITE-GABBRO (friable) x 3 48 VOLCANIC (very soft, porous) x 3 TOTAL POOR AGGREGATE 60 **OCHRE** 61 SHALE 62 CLAY 63 VOLCANIC-GNEISS-SCHIST (decomposed) TOTAL DELETERIOUS AGGREGATE **TOTALS** 1051.6 | 100.0 1.2 % GOOD $99.4 \times 1 =$ 99.4 % FAIR $0.6 \times 3 =$ 1.8 % POOR x 6 = EST. PERCENT CRUSHED 100.0 % DELETERIOUS x10 = <5 EST. PERCENT FLATS & ELONGATED HOT MIX, SURFACE, TREATMENT AND CONCRETE P.N. 101.2 100.0 CORRECTED GRANULAR AND 16.0 mm TYPE B P.N.



Soils and Aggregates Section Materials Engineering and Research Office Central Building, Room 220 1201 Wilson Avenue Downsview, Ontario, Canada M3M 1J8 Tele: (416) 235-3734/Fax: (416) 235-4101

January 28, 2000

File No.: 3162-2-0-1

Mr. John Regan 445 Beacon Hall Drive Aurora, Ontario L4G 3G8

Dear Mr. Regan:

Re: Polished Stone Value Test Results for your Gabbro Sample

Further to your telephone conversation with Bob Gorman in December, 1999, we have completed the Polished Stone Value (PSV) testing on the diamond drill core samples you provided to our laboratory. We crushed the drill core samples pass 5/8" in our laboratory crusher. The testing was completed in accordance with British Standard BS 812, 1989. The test results are portrayed in Table 1.

Although there are no Ontario Provincial Standard Specifications for the PSV and Aggregate Abrasion Value (AAV) tests, we require values greater than 50 for the PSV test and less than 6.0 for the AAV test.

When we perform the PSV test, we measure the ability of your aggregate to retain or develop microtexture. Microtexture is the fine scale (less than 0.5 mm) texture possessed by the individual aggregate particles. The higher the PSV obtained, the better the frictional properties of the aggregate. I note from Table 1 that your PSV result was 51.

If you require further information, please do not hesitate to contact our office.

Yours Truly,

Chris A. Rogers, Manager, Soils and Aggregates Section.

- pc: B. Gorman
 - B. Grant
 - D. Phipps /
 - D. Williams
 - N. Zohorsky

Table 1
Polished Stone Value Test Result
John Regan Property
Belmont Township, Near Oak Lake
Melhuen

| , | : | Polished | | Basalt mple Range | British Standard Control Material Value | |
|--------------------|-----------------------|----------------------|---------|----------------------|---|--|
| Lab. Sample No. | Sample Type | Stone Value (PSV) | Minimum | Maximum | | |
| 99-B-9058 | diamond drill core | 51 | 49.5 | 55.5 | 52 | |



Soils and Aggregates Section Materials Engineering and Research Office Room 220, Building C, 1201 Wilson Avenue Downsview, Ontario, Canada M3M 1J8 Tele: (416) 235-3734/Fax: (416) 235-4101

September 8, 2000

File No.: 3162-2-0-1

John B. Regan, President Trigan Resources Inc. 445 Beacon Hall Drive Aurora, Ontario L4G 3G8

Dear Mr. Regan:

Re: Approval of Meta-Gabbro for HL1 Asphalt Pavement from Your Quarry Located in Lots 6 to 10, Conc. 3, Methuen Township, Peterborough County

We are pleased to advise you that your HL1 coarse aggregate produced from the meta-gabbro in your Methuen Township Quarry is now conditionally approved as a source of HL1 coarse aggregate. While approval is effective on the date of this letter, it will take a few weeks to place your quarry on the Designated Sources for Materials list (DSM #3.05.25). Approval is based on acceptable test results (Table 1) and petrographic and physical quality comparison with other meta-gabbro bedrock that is similar to yours and has been performing satisfactorily in existing HL1 pavements elsewhere in Ontario.

From Table 1, I note that both your Gradation and Loss by Washing test results for Lab. Sample No. OO-B-9035 are out of specification. I expect that you will take steps to deal with these production problems before you intend to supply.

As you know, we are familiar with the bedrock in your quarry. Thin section slides produced from the rock reveal significant feldspar. Since some feldspars are susceptible to asphalt stripping, we will require that, each time before the aggregate is used on ministry contracts, test method LS-283, "Resistance to Stripping of Asphalt Cement in Bituminous Mixture by Immersion Marshall", be carried out to establish whether an anti-stripping additive is required for the mix. If it is required, the cost of supply and application will not be our responsibility. The cost of such testing will also not be our responsibility.

In order for your material to be listed for DFC coarse and fine aggregate approval on the ministry's DSM list (#3.05.25), a test section trial will have to be secured. You will be responsible for all of the arrangements for the DFC trial. The trial must be on ministry work and in the context in which the material is offered for use, e.g. a DFC candidate must be tested in a typical DFC location which has a 100 km/hr speed limit, at or near horizontal, straight section of highway, in the driving lane, with typical truck percentage of AADT. For DFC mixes, the coarse and fine aggregate used in the trial must come from your source. The trial section must be at least 500 m in length across the full width of the pavement in one traffic direction in both driving and passing lanes. The trial section must be in place for at least two winters before a decision can be made regarding the acceptability of the aggregate for DFC use.

Approval of your aggregate for HL1 is conditional upon: 1) it meeting the requirements of OPSS 1001, 1003, and such special provisions that alter these specifications; and 2) maintaining an average PSV of no less than 50 with no value less than 48.

As you are aware, in order to be listed on our DSM list, you also have to be registered on "The Road Authority" website. I understand from Bob Gorman that you have already submitted this fee directly. Information can be accessed on the www.roadauthority.com website or by telephone at (905) 670-0469. Should you require any further information, please do not hesitate to contact either Bob Gorman at (416) 235-3736 or myself.

Yours Truly,

Chris A. Rogers, Manager,

Soils and Aggregates Section.

Table 1 Laboratory Test Data Trigan Resources Inc.

| Laboratory Test | Methuen To | | | |
|---|---------------------|------------------------------------|-------------|--------------------------------|
| Lab. Sample No. | 99-B-9058 | 00-B-9035 | 00-B-9036 | |
| Field Sample No. | 99-VM-1039 | 00-VM-1022 | 00-VM-1023 | Specification |
| Date Sampled | | 00 08 09 | 00 08 09 | Limit |
| Type of Material | original drill core | HL1 CA | screenings | HL1 CA |
| Rock Type | meta-gabbro | meta-gabbro | meta-gabbro | |
| Granular PN | - | 102 | - | N.A. |
| HL + Conc PN | - ; | 113 | - | 145 (max.) |
| Absorption, % | - / | 0.351 | 0.411 | 1.0 (max.) |
| Bulk Relative Density | - | 2.871 | 2.836 | N.A. |
| Loss by Washing, % | - | 1.7 | - | 1.0 (max.) |
| Crushed, % | - | 100 | - | N.A. |
| `lats & Elongated, % | - | 12 | - | 15.0 (max.) |
| Micro-Deval Abrasion, % | - | 11.8 | 13.4 | 15.0 (max.) |
| Polished Stone Value | 51 | 52 | - | 50 (min.) |
| Aggregate Abrasion Value | - | 4.9 | _ | 6.0 (max.) |
| Freeze-Thaw, % | 1.0 | 1.0 | - | 6.0 (max.) |
| Insoluble Residue, % | N.A. | N.A. | - | N.A. |
| Pass 75 μm, % | - | - | 10.4 | N.A. |
| Plasticity Index | - | - | N.P. | N.A. |
| Los Angeles Abrasion, % | - | 25 | - | |
| Gradation, % Passing 16.0 mm 13.2 mm 9.5 mm 4.75 mm | | 100 99.6 90.5 29.1 3.7 | | 100 96-100 50-73 0-10 |



31C12NW2002

2.22242

METHUEN

020

Don Phipps 98 Kingsmount Blvd Sudbury

Ontario, P3E 1K6 Phone: 705-673-2510

E-mail: don.phipps@sympatico.ca

JAN - 4 2002 Recognization and destruct

January 4, 2002

Ron Gashinski Senior Manager Mines and Minerals Division Ministry of Northern Development and Mines Geoscience Assessment Office 933 Ramsey Lake Road Sudbury, Ontario, P3E 6B5

Re: 45-Day Notice - Submission No. 2.22242; Transaction No. W0190.30919

Dear Sir:

In reply to your request of November 21 2001 for additional information to complete the submission, the information required is listed below.

Re Revisions:

1. Drill core sample submitted to John Emery Geotechnical Engineering Ltd.

Three BQ sized boreholes (70432, 70445, 704470) were sampled to make up a combined sample of approximately 60 lbs of medium grained gabbro representing the host rock for the associated ilmenite mineralization. The location of each borehole is shown on the accompanying Borehole Location Sketch. A 4 to 6 inch sample of core was taken at approximately 10 ft intervals. Borehole 70432 was sampled from 30 to 244 ft, borehole 70445 from 12 to 152 ft, and borehole 70447 from 10 ft to 246 ft. The core is stored at the Inco Core Farm.

Locating, accessing and sampling the core plus packaging and shipping of the sample was completed in one day at a cost, including shipping of \$425.00

2. Drill core sample submitted to MTO for PSV.

The same rock type was sampled from five boreholes (70409, 70412, 70413, 70416, 70418). The location of each hole is indicated on the accompanying Borehole Location Sketch map. Sampling was carried out with a 4 to 6 inch core sample taken at approximately 10 ft intervals down each hole. The five holes are between 100 and 158 ft in depth.

Locating, accessing and sampling the core plus packaging and shipping of the sample was completed in one day at a cost, including shipping of \$425.00

3. Land survey by Oakridge Environmental Ltd.

There is no report for this work; only an invoice. This cost will be removed.

4. Cost of preparation of Technical Report by D. Phipps

2.5 days @ \$400/ day \$1000.00

Drafting services \$88.00

Total \$1088.00

Re Reduction:

Attached is a letter from Gordon Malcolm of Macbro Drilling and Blasting stating that the cost of a trail for mobilization and demobilization of the crushing and screening equipment into the site totals \$16,990.73. This is claimed as a valid assessment cost.

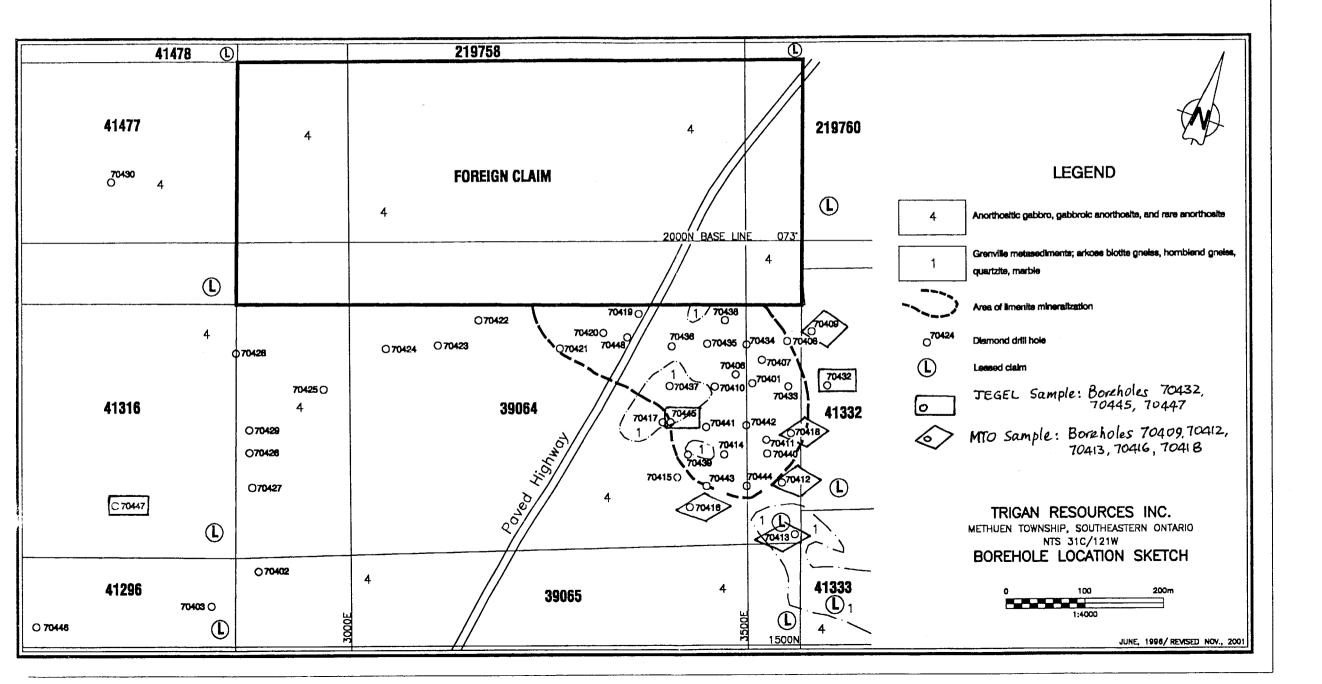
A revised Statement of Costs for Assessment Credit is attached.

Yours sincerely

Don Phipps

Agent for Trigan Resources Inc.

Donald Phippe.



MACBRO DRILLING & BLASTING LIMITED

Box 69 Denbigh Ontario KOH 1L0

Gordon (Pete) Malcolm 613-333-5578

December 17, 2001

Trigan Resources Inc. 445 Beacon Hall Dr. Aurora, Ontario L4G 3G8

To Whom This May Concern,

This would be the price just to build a rough roadway to new quarry site near Havelock for mobilization of crushing equipment.

| Skidder and cutting of right of way | 2040.00 |
|---|----------|
| Excavator and dozer | 3965.00 |
| Placing culvert & Rock base - Dozer & Excavator | 1430.00 |
| - Culverts | 1471.69 |
| - Trucks | 900.00 |
| Roadway drilling & Blasting | 6072.50 |
| | |
| Subtotal | 15879.19 |
| G.S.T. | 1111.54 |
| TOTAL | 16990.73 |

Gordon Malcolm

Macbro Drilling & Blasting



Work Report Summary

Transaction No:

W0190.30919

Status: APPROVED

Recording Date:

2001-OCT-10

Work Done from: 2000-MAY-15

Approval Date:

2002-JAN-07

to: 2000-AUG-21

Client(s):

392610

TRIGAN RESOURCES INC.

Survey Type(s):

BULK

| Work Report Details: | | | | | | | | | | |
|----------------------|--------|-----------|--------------------|---------|--------------------|--------|-------------------|-----------|--------------------|----------|
| Claim | # | Perform | Perform Approve | Applied | Applied Approve | Assign | Assign Approve | Reserve | Reserve Approve | Due Date |
| G 90 | 090001 | \$244,890 | \$36,708 | \$0 | \$0 | \$0 | 0 | \$244,890 | \$36,708 | |
| | | \$244,890 | \$36,708 | \$0 | \$0 | \$0 | \$0 | \$244,890 | \$36,708 | |

External Credits:

\$0

Reserve:

Reserve of Work Report#: W0190.30919

(\$52,400)

Applied by W0190.31143 2001-NOV-26

Total Remaining

Status of claim is based on information currently on record.

METHUEN

900

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Date: 2002-JAN-08



GEOSCIENCE ASSESSMENT OFFICE 933 RAMSEY LAKE ROAD, 6th FLOOR SUDBURY, ONTARIO P3E 6B5

Tel: (888) 415-9845 Fax: (877) 670-1555

Submission Number: 2.22242 Transaction Number(s): W0190.30919

TRIGAN RESOURCES INC. ATTEN: J.B. REGAN 445 BEACON HILL DRIVE AURORA, ONTARIO L4G 3G8 CANADA

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

The revisions outlined in the Notice dated November 21, 2001 have been corrected.

Assessment work credit has been approved as outlined on the attached Work Report Summary. The TOTAL VALUE of assessment credit that will be allowed is \$36,708.00, as per the amended Statement of Costs submitted on January 4, 2002.

If you have any question regarding this correspondence, please contact BRUCE GATES by email at bruce.gates@ndm.gov.on.ca or by phone at (705) 670-5856.

Yours Sincerely,

Ron Gashinski

Supervisor, Geoscience Assessment Office

In codil.

Cc: Resident Geologist

Trigan Resources Inc. (Claim Holder)

Donald Phipps (Agent)

Assessment File Library

Trigan Resources Inc. (Assessment Office)

MINING LAND TENURE



