TECHNICAL REPORT ON THE WINTER 2000
EXPLORATION DRILLING PROGRAM

Cargill Township
District of Cochrane
Ontario
NTS 42 G/7

Kapuskasing, Ontario
August, 2000

Reno Pressacco, M. Sc(A), FGAC
Geologist
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SUMMARY

A program of exploratory drilling was conducted on the site of the Kapuskasing Phosphate Operations during the period between January and April of 2000. The program was designed to search for additional phosphate-bearing material beyond the current limits of the proposed Open Pit Mine, and to attempt to expand the limits of selected ore zones.

A total of 2,483 metres of core were produced from 29 drill holes. For the most part, this method of drilling proved rather effective in the recovery of unconsolidated materials. Recoveries were somewhat variable with the different material types, but on an overall basis the recoveries were on the order of 70 to 80%. With some revisions to our procedures, this drilling technique provides a superior sample for our purposes to the alternatives of Reverse Circulation and Sonic Drilling. Specific advantages include increased depth penetration, ability to traverse hard / cemented sections, and a solid recovered core of unconsolidated material which is an immense aid in identification and analysis of the material.
TABLE OF CONTENTS

Summary i  
List of Figures ii  
List of Tables ii  
Certification iii  

1.0 INTRODUCTION 1  
2.0 LOCATION, ACCESS, AND CLAIMS 1  
3.0 PREVIOUS WORK 4  
4.0 GEOLOGICAL SETTING 4  
5.0 DESCRIPTION OF WINTER 2000 DRILLING PROGRAM 6  
6.0 CONCLUSIONS 6  
7.0 REFERENCES 7  

APPENDIX I Detailed Drill logs  

APPENDIX II Plans and Sections
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location Map</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Land Holdings Map</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Regional Geological Setting, Kapuskasing Phosphate Operations</td>
<td>5</td>
</tr>
</tbody>
</table>

LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>List of claims and mining leases, Winter 2000 drilling program</td>
<td>1</td>
</tr>
</tbody>
</table>
STATEMENT OF QUALIFICATIONS

I, Reno Pressacco, currently residing at 33 Clark Street, Kapuskasing, Ontario do hereby certify the following:

1) That I am employed by Agrium General Partnership in the capacity of Geologist at the Kapuskasing Phosphate Operations,
2) That I hold the following degrees:
   Applied Masters Degree in Mineral Exploration, 1986, McGill University
   B. Sc. in Geology, 1984, Lake Superior State College, Sault Ste. Marie, MI
   Geological Technology Certificate, Cambrian College, 1982,
3) That I have been practicing my profession since 1979, and
4) That I am a member of the following Associations:
   Geological Association of Canada
   Porcupine Prospectors and Developers Association
   Prospectors and Developers Association of Canada

Kapuskasing, Ontario
August, 2000

R. Pressacco, M. Sc(A), FGAC
Geologist
Phone: (705)337-4213
E-mail: Rpressac@agrium.com
1.0 INTRODUCTION

A program of exploratory drilling was conducted on the Agrium Kapuskasing Phosphate Operation Mine Site located in Cargill Township during the period between January and April, 2000. This program was designed to search for additional phosphate-bearing material beyond the current limits of the proposed Open Pit mine, and to attempt to expand the limits of selected ore zones.

2.0 LOCATION, ACCESS, AND CLAIMS

The mine site is located in the north western portion of Cargill Township, the southern portion of Cumming Township, and the eastern portion of Ecclestone Township, approximately 30 kilometres south west of the town of Kapuskasing, Ontario (Figure 1). Access to the mine site is provided by all-weather gravel roads departing from the town. The current land holdings are held in the name of Viridian Inc., a predecessor company to Agrium General Partnership, and constitute a series of Mining Leases, unpatented mining claims, and Licenses of Occupation (Figure 2). Table 1 provides the relevant details pertaining to the claims on which the work was done:

Table 1. List of claims and mining leases covered in the Winter 2000 drilling program.

<table>
<thead>
<tr>
<th>Claim No.</th>
<th>Lease No.</th>
<th>Area (Ha)</th>
<th>Amount Drilled (m)</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>89918</td>
<td>104714</td>
<td>19.89*</td>
<td>634</td>
<td>$52,646.85</td>
</tr>
<tr>
<td>89917</td>
<td>104714</td>
<td>21.63*</td>
<td>933</td>
<td>$84,933.52</td>
</tr>
<tr>
<td>78657</td>
<td>104714</td>
<td>16.32*</td>
<td>135</td>
<td>$9,474.34</td>
</tr>
<tr>
<td>78658</td>
<td>104714</td>
<td>18.66*</td>
<td>331</td>
<td>$20,099.83</td>
</tr>
<tr>
<td>413074</td>
<td>104395</td>
<td>2254.43</td>
<td>176</td>
<td>$11,015.67</td>
</tr>
<tr>
<td>413076</td>
<td>104395</td>
<td>2554.43</td>
<td>172</td>
<td>$15,543.22</td>
</tr>
<tr>
<td>413708</td>
<td>104395</td>
<td>2554.43</td>
<td>70</td>
<td>$4,332.32</td>
</tr>
<tr>
<td>424534</td>
<td>104381</td>
<td>625.68</td>
<td>32</td>
<td>$1,852.58</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>2483</td>
<td>$199,898</td>
</tr>
</tbody>
</table>

*Note: these claims are contained as individual parcels within the mining lease.
Figure 1: Location Map
Figure 2. Land Holdings Map
3.0 PREVIOUS WORK

The first record of exploration work on the property was by Continental Copper Mines Limited who conducted a diamond drilling program in 1955 to examine a magnetic anomaly for its potential of hosting copper-nickel mineralization. The phosphate potential of the property was first discovered in 1974, and subsequent work lead to a commencement of full scale production. A listing of the exploration and development activities on the property is given below:

1955: **Continental Copper Mines Limited**, Diamond drilling (rotary), 7 holes, 945 metres.


1975: **International Minerals and Chemical Corporation**, Reverse Circulation drilling, 201 holes, 18 515 metres.


1996: **Viridian Inc.**, Reverse Circulation drilling, 78 holes, 7 530 metres.

1997: **Agrium Inc.**, Diamond drilling (Rotary), 7 holes, 624 metres.

1998: **Agrium Inc.**, Sonic drilling, 5 holes, 403 metres.

4.0 GEOLOGICAL SETTING

The property overlies rocks situated within the Kapuskasing Structural Zone (KSZ). This is a northeasterly striking, fault-bounded feature which is interpreted be an up-thrust block of material from the lower portions of the earth’s crust. All of the rocks within the KSZ have been metamorphosed to either amphibolite or granulite facies.

The local geology consists of a core complex of multi-phased carbonatite rocks which are surrounded by a ring of pyroxenite, and have provided a U-Pb age date of 1907 Ma +/- 4 (Sage, 1988). These two rock types are in turn situated within quartz diorite gneisses that form a large portion of the Kapuskasing Structural Zone (Figure 3). The carbonatite host rock is sub-divided into two sub-types: sovite and rauhaugite. The sovite
Figure 3. Regional Geological Setting, Kapuskasing Phosphate Operations

Legend
- Pre-glacial Overburden
- Residium
- Leached Carbonatite
- Carbonatite
- Contact Zone
- Pyroxenite (Amphibolite)
- Quartz Diorite Gneiss
- Geological Boundary
- Fault

is a medium to coarse grained, white, banded rock in which calcite is the dominant carbonate species and it includes accessory minerals such as phlogopite, magnetite, clinohumite, apatite, olivine, pyrrhotite, and amphibole. Apatite can reach 15% abundance in this rock type (Sage, 1988). In sharp contrast to the sovite, the rauhaugite appears as a massive, fine grained, dense, beige to tan coloured rock in which dolomite is the dominant carbonate species. Phosphate values can range to 14% $P_2O_5$ in the rauhaugite.

The high grade ore at the Kapuskasing Phosphate Operations is derived from the weathering and dissolution of the soluble minerals in the host carbonatite rock (eg. phlogopite). This process has left behind a residue of the insoluble minerals, largely apatite crystals, which is termed residuum. This residuum is formed above the host carbonatite, and is in turn covered by glacial deposits of lacustrine clays, and boulder tills of the Pleistocene age. Limited data suggest that this weathering took place during the late Cretaceous period (Sage, 1988).

In terms of a reference grid, the UTM co-ordinate system has been adopted (NAD 27, Zone 17).

Additional details regarding the mining, milling, and processing at the Kapuskasing Phosphate Operations are given in Pressacco (2000).

5.0 DESCRIPTION OF THE WINTER 2000 DRILLING PROGRAM

A total of 2,483 metres of core were produced from 29 drill holes. All of the holes were spotted by means of a Trimble PRO XRS GPS system with referencing to known survey monuments. The collars of all of the holes were re-surveyed after their completion to determine the as-drilled hole location. The drilling was conducted by Bradley Bros. of Timmins, Ontario under the supervision of Peter Marenghi, (Geologist, Agrium Kapuskasing Phosphate Operation), with assistance from the author. The program began in late January, 2000 and was completed with the termination of hole AGR-00-030 on April 17, 2000. The drilling was conducted with the goal of recovering as much of the unconsolidated materials as possible, and to that end, a triple-tube arrangement using regular NQ-sized drill rods was utilized for those materials lying above the rock surface. Once the rock contact was reached, the drilling method switched over to a normal NQ-sized recovery method. All of the recovered material was logged by Peter Marenghi, and is currently stored at the mine site of the Agrium Kapuskasing Phosphate Operations. Copies of the detailed drill logs are provided in Appendix I, and plans and sections of the drill holes are given in Appendix II.

6.0 CONCLUSIONS

For the most part, this method of drilling proved rather effective in the recovery of unconsolidated materials. Recoveries were somewhat variable with the different material types, but on an overall basis the recoveries were on the order of 70 to 80%. With some revisions to our procedures, this drilling technique provides a superior sample for our
purposes to the alternatives of Reverse Circulation and Sonic Drilling. Specific advantages include increased depth penetration, ability to traverse hard/cemented sections, and a solid recovered core of unconsolidated material which is an immense aid in identification and analysis of the material.

7.0 REFERENCES


Reno Pressacco, M. Sc(A), FGAC
Geologist
Agrium, Kapuskasing Phosphate Operations
**Division:**

**Project:** Winter Exploration 2000

**Logged By:** P. Marenghi

**Date Logged:** Feb 9, 2000

**Drill Hole No.:** AGR-001

---

**Surface Grid:**
- **Easting:** 5462154
- **Nordage:** 367729
- **Elevation:** 242.3
- **Length:** 71.0 m

**Engineering Grid:**

<table>
<thead>
<tr>
<th>Level</th>
<th>Dist (m)</th>
<th>Azim (°)</th>
<th>Dip (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Start Date:** Feb 2, 2000

**Finish Date:** Feb 5, 2000

**Township:** Cargill Tp

**Claim No.:** 89917 (Lease # 104714)

**Drilling Contractor:** Bradley Bros

**Purpose:**

**Results:**

**Why Hole Terminated:** Normal Termination

**Core Size:** NA

**Casing:**
- **No. of Assays:** 3

**Hole Cemented:** No

**No. of ICP:**

**No. of WRA:**

**Rejects/PPS Saved:**

**Core Stored (Location):**

Agrium KPO Mine Site
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>14.3</td>
<td></td>
<td>Clay: Pleistocene glacial lake clay, medium brown to grey in color. 1st meter is lignite material from swamp deposits. Total recovery is 4m = 28%. No pebbles or boulders present in this section.</td>
<td>4m=28%</td>
</tr>
<tr>
<td>14.3</td>
<td>23.0</td>
<td></td>
<td>Boulder zone: Very poor recovery, 0.7m = 8%. Material lost in front of diamond drilling bit due to variance of hardness between the gravel material and the boulders. Mixed variety of granite/diorite gneiss boulders with minor mafics</td>
<td>0.7m = 8%</td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
<td>Lithological Code</td>
<td>Description</td>
<td>Recovery</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>23.0</td>
<td>32.5</td>
<td></td>
<td>Sand (quartz): Cretaceous pre-glacial sand composed of mainly quartz grains with minor lesser amounts of K-feldspar, mica, magnetite. Grain size is &lt;1 mm. Local granite gneiss boulders. Recovery = 6.5 m = 68%. Boulders are mostly located in the lower part of the section. (Check sample ACR001, from 23.0 to 24.0 m)</td>
<td>6.5 m = 68%</td>
</tr>
</tbody>
</table>

Note: Unit classified into Pleistocene due to granite gneiss boulders.
### Exploration Drill Hole Log

**Agrium Kapuskasing Phosphate Operation**

- **Hole Number:** AER-C01  
- **Page:** 3 of 3

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.5</td>
<td>47.0</td>
<td></td>
<td>Weathered Pyroxenite: olivine to olive green in color, soft, brittle texture, moderately magnetic, local</td>
<td>6.5 m = 45%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>large flakes/slabs ≤ 1 cm, Olivine crystals, local rust (hematite from breakdown). Total recovery</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.5 m = 45%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Check sample A110002 from 38.0 to 41.0 (m) (poor recovery)</td>
<td></td>
</tr>
</tbody>
</table>

| 47.0     | 71.0   |                   | Pyroxenite: pine green, badly broken, amphibole-olivine pyroxenite, very magnetic, blocks of hematite (red), locally weathered as above. Total recovery | 10.5 m = 44% |
|          |        |                   |                                                                          |          |
|          |        |                   | - Check sample A110003 from 68.0 to 71.0 (m) (poor recovery)              |          |

- **ECh.**
**Kapuskasing Phosphate Operations**

**DIVISION:**

**PROJECT:** Wave 2000

**LOGGED BY:**

**DATE LOGGED:** Feb 7, 2000

**DRILL HOLE NO.:** A67-00-02

<table>
<thead>
<tr>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>107</td>
<td>0</td>
<td>-90</td>
</tr>
</tbody>
</table>

**NORTHING:** 5462155

**EASTING:** 367680

**ELEVATION:** 242.8

**LENGTH:** 107.0 m

**TOWNSHIP:** Cornwall

**CLAIM NO.:** B9917 (Lease # 10714)

**DRILLING CONTRACTOR:** Bradley Bros

**PURPOSE:**

**RESULTS:**

**WHY HOLE TERMINATED:**

**CORE SIZE:** ¾” NQ

**CASING:** All recovered

**HOLE CEMENTED:**

**NO. OF ASSAYS:**

**NO. OF ICP:**

**NO. OF WRA:**

**REJECTS/PULPS SAVED:**

**CORE STORED (LOCATION):** Agrium Christie

**Location Sketch**
<table>
<thead>
<tr>
<th>Hole Number</th>
<th>AGR-007</th>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4.40</td>
<td>8.20</td>
<td>Lithological Code</td>
<td>Clay: Pleistocene glacial lake clay, medium brown to grey in color. Recovery = 2.2 m = 58% No pebbles present in this clay.</td>
<td>2.2 m = 58%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.20</td>
<td>19.70</td>
<td>Lithological Code</td>
<td>Quartz sand: Cretaceous pre-glacial sand of &lt;1mm grain size and containing up to 10% 0.5 - 1cm pebbles of varying composition, composed primarily of quartz, kaolinite with lesser amounts of feldspar, micas, magnetite. Recovery = 5.5 m = 49%</td>
<td>5.5 m = 49%</td>
</tr>
</tbody>
</table>

*Note: Unit is classified into the Pleistocene based on stratigraphic position and inclusion of polymictic pebbles.*
### Exploration Drill Hole Log

#### Agrium Kapuskasing Phosphate Operation

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.70</td>
<td>35.20</td>
<td></td>
<td>Boulder Till: Pleistocene? Light grey boulder till consisting of 35% 0.5m - 0.5m boulders/pebbles of varying composition contained in a matrix of clay/fine sand. Recovery = 5.7m = 37%. The boulders are probably the main cause of the low recovery.</td>
<td>5.7m = 37%</td>
</tr>
<tr>
<td>20 - 23m</td>
<td>0.6m</td>
<td></td>
<td>all rock/boulder</td>
<td></td>
</tr>
<tr>
<td>23 - 26m</td>
<td></td>
<td></td>
<td>no recovery</td>
<td></td>
</tr>
<tr>
<td>26 - 31m</td>
<td>0.6m</td>
<td></td>
<td>all rock/boulder</td>
<td></td>
</tr>
<tr>
<td>27 - 32m</td>
<td>2.6m</td>
<td></td>
<td>Till/boulder</td>
<td></td>
</tr>
<tr>
<td>32 - 35.2m</td>
<td>1.9m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A11004</td>
<td>From 27.0 to 28.0 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A11005</td>
<td>28.0 - 32.0 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A11006</td>
<td>32.0 - 35.2 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
<td>Lithological Code</td>
<td>Description</td>
<td>Recovery</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>35.20</td>
<td>60.45</td>
<td></td>
<td>Red Clay: Brick red to crimson in color, pastey and gritty texture. Fossan appearance. Visible chunks of limonite and bedding. Felation when core is split. Non magnetic overall. Locally, some sections are more ferrigenous than the rest of the section. Lower 5 meters grades into the following unit (red to brown). Total recovery = 15.23m = 52.0%. Weathered pyroxenite 5-10% stringers of py/siderite. Beige/or white.</td>
<td>15.23m = 52.0%</td>
</tr>
<tr>
<td>65.48</td>
<td>107.0</td>
<td></td>
<td>Pyroxenite: First 4m are weathered and broken. Dark green, coarse grained. Pyroxenite. Strongly magnetic. Total recovery = 19.5m = 47%</td>
<td>19.5m = 47%</td>
</tr>
<tr>
<td>107.0</td>
<td></td>
<td></td>
<td>EOH</td>
<td></td>
</tr>
</tbody>
</table>
**Project:** Winter 2000  
**Logged by:** P. Marenghi  
**Date Logged:** Feb 18, 2000  
**Drill Hole No.:** A6R-00-003

### Surface Grid
- **NORTHING:** 5462157
- **EASTING:** 367633
- **ELEVATION:** 24.9
- **LENGTH:** 301.0m

### Location Sketch
- **Winter 2000 Exploration Holes**

### Details
- **Start Date:** Feb 7, 2000  
- **Finish Date:** Feb 18, 2000
- **Township:**
- **Claim No.:** 89917 (Lease # 104714)
- **Drilling Contractor:** Bradley Box
- **Purpose:**
- **Results:** Inner tube got stuck in sand. Hole caved in. Rod got stuck.
- **Why Hole Terminated:**
- **Core Size:** No. 3
- **Casing:**
- **Hole Cemented:**
- **No. of Assays:**
- **No. of ICP:**
- **No. of WRA:**
- **Rejects/Pulps Saved:**
- **Core Stored (Location):** Agrium Minesite
- **Level:**
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>22.5</td>
<td>O*</td>
<td>Grey clay: Pleistocene glacial lake clay, grey in color, several 3m boulder zones where recuperation is very poor (&lt;10%). Some sandy sections locally. Total recuperation = 11 m = 49%</td>
<td>11 m = 49%</td>
</tr>
<tr>
<td>22.5</td>
<td>26.0</td>
<td></td>
<td>Quartz sand: Pre-glacial quartz sand with minor feldspar, mica, magnetite... Some 1m sections of clay which is probably boulder clay from the following unit. Boulders are mainly granitic gneiss. Total recuperation = 2.5 m = 71%</td>
<td>2.5 m = 71%</td>
</tr>
</tbody>
</table>

*Note: This unit is classified into the Pleistocene due to stratigraphic position and polymictic character.
### Exploration Drill Hole Log

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.0</td>
<td>30.0</td>
<td></td>
<td>Boulder Till: Greyish green clay containing about 30% boulders and pebbles of varying size. Boulders are mostly granitic gneiss. Some sandy (quartz) sections. Recovery = 3.5m = 88%</td>
<td>3.5m = 88%</td>
</tr>
<tr>
<td>30.0</td>
<td>92.0</td>
<td></td>
<td>Weathered Intrusive?: Coarse grained (0.5cm) red, non-magnetic intrusive? Rock that weathers to a bleached pink. Black coarse grained mineral that looks like garnet. Progressively weathering to mud down hole. Gradual lower contact. Recovery = 28.5m = 46%</td>
<td>28.5m = 46%</td>
</tr>
</tbody>
</table>

*Note: Subsequent examination leads to interpreting this unit as an oolitic unit of the red clay sequence. - Cretaceous age.*
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>92.0</td>
<td>172.0</td>
<td></td>
<td>Red Clay: Brick red homogeneous clay with some sections of the above unit. Some visible textures of protolith. No visible apatite xtal. Recovery = 76.5 m = 96%</td>
<td>76.5 m = 96%</td>
</tr>
<tr>
<td>172.0</td>
<td>218.0</td>
<td></td>
<td>Mixed zone: Mixture of red clay, siltite, boulders, sand (silica), brown mud and bleached mud. Proportion are about equal but locally the siltite prevails. Recovery = large magnetite xtal throughout</td>
<td>60%</td>
</tr>
<tr>
<td>218.0</td>
<td>287.0</td>
<td></td>
<td>Brown B2 ore: Tan to brown cemented, and unconsolidated B2 type ore. Very consistent and homogeneous. ~ 10 - 12% visible fine grained apatite xtal. Check A110030, A110031</td>
<td>60%</td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
<td>Lithological Code</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>287.0</td>
<td>301.0</td>
<td></td>
<td>Cemented ore/kaolinitic: Badly broken, fine grained, light grey to light tan rock with minor brown mud.</td>
<td></td>
</tr>
<tr>
<td>301.0</td>
<td></td>
<td></td>
<td>E0H</td>
<td></td>
</tr>
</tbody>
</table>

Recovery = 50%
Agrium
Kapuskasing Phosphate Operations

DIVISION: PROJECT: KAP_2000
NORTHING: 5462153 EASTING: 367571 ELEVATION: 241.7
Date logged: 23 Feb 2000

Surface Grid: LOGGED BY: P. MARENGHI
ELEVATION: DATE LOGGED: 23 Feb 2000

Engineering Grid: LENGTH: 116.0

DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP

START DATE: Feb 18
FINISH DATE: Feb 21

TOWNSHIP: Cessford
CLAIM NO.: 894B (Lease 4 104 714)

DRILLING CONTRACTOR: Brodley Bros

PURPOSE: BRODLEY BROS

RESULTS:

WHY HOLE TERMINATED: Lost water @ 109m, geologist stopped the hole

CORE SIZE: NW 3 1/4

CASING: NW 3 1/4

HOLE CEMENTED:

NO. OF ASSAYS:

NO. OF ICP:

NO. OF WPA:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION): Agrium Mine Site

[Location Sketch]

Winter 2000 Exploration Holes

Scale: 1:5000 Plan No: Date: 27-Jan-00
### Exploration Drill Hole Log

#### Agr - 004

<table>
<thead>
<tr>
<th>Hole Number</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agr - 004</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>14.0</td>
<td></td>
<td>Glacial Clay: Grey gumbo clay. Recovery = 12 m = 86%</td>
<td>12 m = 86%</td>
</tr>
<tr>
<td>14.0</td>
<td>32.0</td>
<td></td>
<td>Boulder till: Grey silty till containing up to 30% pebbles and boulders of predominantly granitic gneiss. Recovery = 5 m = 28%</td>
<td>5 m = 28%</td>
</tr>
<tr>
<td>32.0</td>
<td>44.0</td>
<td></td>
<td>Weathered granitic gneiss: Becoming progressively weathered with depth, turning to a brown clay sand/mud. Characteristic lime green mineral as fracture filling/plating. Recovery = 9.5 m = 79%</td>
<td>9.5 m = 79%</td>
</tr>
<tr>
<td>44.0</td>
<td>77.0</td>
<td></td>
<td>Brown sand/mud: Possibly weathered rauhaugite from the next unit. Dark to medium brown.</td>
<td>19 m = 58%</td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
<td>Lithological Code</td>
<td>Description</td>
<td>Recovery</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>72.0</td>
<td>116.0</td>
<td></td>
<td>mud/sand. Recovery = 19m = 58%</td>
<td></td>
</tr>
<tr>
<td>116.0</td>
<td></td>
<td></td>
<td>Rainbowite, tan brown ophiite with numerous cavities filled with xtaline calcite/quartz.</td>
<td>85%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EOH</td>
<td></td>
</tr>
</tbody>
</table>
### Agrium
Kapuskasing Phosphate Operations

<table>
<thead>
<tr>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7</td>
<td>0</td>
<td>-30</td>
</tr>
</tbody>
</table>

### Location Sketch

**Winter 2000 Exploration Holes**

- Scale: 1:1000
- Plan No.
- Date: 27-Jan-00

**NORTHING** 5462154
**EASTING** 367527
**ELEVATION** 841.7
**LENGTH** 37.6m

**DIVISION: GRA**

**PROJECT: Winter 2000**

**LOGGED BY:** P. MARENGHI

**DATE LOGGED:** Feb 22, 2000

**DRILL HOLE NO.:** AGR-00-01S

---

**START DATE:** Feb 21

**FINISH DATE:** Feb 22

**TOWNSHIP:** Car2i11

**CLAIM NO.:** 99918 (Lease d 104714)

**DRILLING CONTRACTOR:** Bradley Bros.

**PURPOSE:**

**RESULTS:**

**WHY HOLE TERMINATED:**

**CORE SIZE:** N.W. 3 in. x 15 ft. 6 in.

**CASING:**

**HOLE CEMENTED:**

**NO. OF ASSAYS:**

**NO. OF ICP:**

**NO. OF WRA:**

**REJECTS/PULPS SAVED:**

**CORE STORED (LOCATION):** Agrium Mine Site
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>11.0</td>
<td></td>
<td>Glacial clay: Grey gumbo clay, very soft and consistent. Recovery = 3.55 m = 32%</td>
<td>3.55 m = 32%</td>
</tr>
<tr>
<td>11.0</td>
<td>14.0</td>
<td></td>
<td>Pre-glacial Boulder Till: Grey boulder till containing 10-20% various sized boulder and pebbles of granitic gneiss (mainly) Recovery = 3m = 75%</td>
<td>3m = 75%</td>
</tr>
<tr>
<td>14.0</td>
<td>37.0</td>
<td></td>
<td>Granitic gneiss: Well foliated grey-green granitic gneiss (biotite, quartz, feldspar) Some local weathering turning the rock soft and a lime green color similar to epidote. Recovery = 12m = 52% Buddy broken core overall</td>
<td>12 m = 52%</td>
</tr>
</tbody>
</table>

*Note: This boulder till unit is classified as Pleistocene in age.*
<table>
<thead>
<tr>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>0</td>
<td>-90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

START DATE: March 20
FINISH DATE: March 22
TOWNSHIP: Coquil
CLAIM NO.: 413076 (Lease # 109 385)
DRILLING CONTRACTOR: Bradley Bar
PURPOSE: 
RESULTS: Core barrel got full of sand.
WHY HOLE TERMINATED:
CORE SIZE: Na-3 1/4a
CASING:
HOLE CEMENTED:
NO. OF ASSAYS: 
NO. OF ICP: 
NO. OF WRA: 
REJECTS/PULPS SAVED: 
CORE STORED (LOCATION): Agrium Warehouse

Location Sketch
## Exploration Drill Hole Log

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>5.00</td>
<td>VARVE CLAY</td>
<td>Blown, homogenous clay</td>
<td>1m =</td>
</tr>
<tr>
<td>5.00</td>
<td>17.00</td>
<td>GUMBO CLAY</td>
<td>Grey, homogenous clay</td>
<td>3m =</td>
</tr>
<tr>
<td>17.00</td>
<td>39.00</td>
<td></td>
<td>Cemented ORC? Medium to dark grey fragmented rock with some visible apatite crystals. Some potassium over the 1st 2m.</td>
<td>9m =</td>
</tr>
<tr>
<td>39.00</td>
<td>63.00</td>
<td>CARBONATE ROCK</td>
<td>Light to medium grey, badly broken, schistose c.a. to C.A. 1-2% coarse magnetite phen. local cemented sections</td>
<td>18m =</td>
</tr>
<tr>
<td>63.00</td>
<td>End of Hole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIST</td>
<td>AZIM</td>
<td>DIP</td>
<td>DIST</td>
<td>AZIM</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>44</td>
<td>0</td>
<td>-90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

START DATE: March 22
FINISH DATE: March 22
TOWNSHIP: Coesville
CLAIM NO: 78658 (Lease # 109714)
DRILLING CONTRACTOR: Bradley Bros.
PURPOSE: 
RESULTS: 
WHY HOLE TERMINATED: 
CORE SIZE: NO-3, NO
CASING: 
HOLE CEMENTED: 
NO. OF ASSAYS: 
NO. OF ICP: 
NO. OF WRA: 
REJECTS/PULPS SAVED: 
CORE STORED (LOCATION): Agrium courts
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>5.00</td>
<td></td>
<td>Gumbo clay</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grey to Brown VARVE/Gumbo</td>
<td>1m</td>
</tr>
<tr>
<td>5.00</td>
<td>17.00</td>
<td>Boulder Till</td>
<td></td>
<td>15m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40-50% Gneiss gneiss boulder (some rapids) in grey clay (last m = sand)</td>
<td></td>
</tr>
<tr>
<td>17.00</td>
<td>21.00</td>
<td></td>
<td>Conglomerate?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dark grey gneiss rock with traces of visible Apatite XRLS.</td>
<td></td>
</tr>
<tr>
<td>21.00</td>
<td>44.00</td>
<td></td>
<td>Carbonate rock (Gwi)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Light to medium grey carbonate with traces of coarse grains magnetite XRLS, locally cemented (R 32m)</td>
<td>21.5m</td>
</tr>
<tr>
<td></td>
<td>44.0</td>
<td>EOH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Agrium
Kapuskasing Phosphate Operations

DIVISION: 
PROJECT: Wmke 2000 
LOGGED BY: P.Marenghi 
DATE LOGGED: Feb 23/00 
DRILL HOLE NO: AHR 00-008 

NORTHING: 5462063 
EASTING: 367669 
ELEVATION: 240.7 
LENGTH: 110.0m 

DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP
110 0 20 

START DATE: Feb 22 
FINISH DATE: Feb 23 
TOWNSHIP: Coquih 
CLAIM NO: B9917 Lease # (04714) 
DRILLING CONTRACTOR: Bradley Bros. 
PURPOSE: 

RESULTS: 

WHY HOLE TERMINATED: 
CORE SIZE: NQ-3 NWQ 
CASING: 
HOLE CEMENTED: 
NO. OF ASSAYS: 
NO. OF ICP: 
NO. OF WRA: 
REJECTS/PULPS SAVED: 
CORE STORED (LOCATION): Agrium mining

Location Sketch

Winter 2000 Exploration Holes
Scale: 1: 5000 Plan No. 21-Jan-00
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>13.6</td>
<td></td>
<td>Glacial Clay:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grey gumbo clay, soft &amp; consistent.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recovery = 7.5 m = 55%</td>
<td></td>
</tr>
<tr>
<td>13.6</td>
<td>36.0</td>
<td>Rubble zone:</td>
<td>Mostly boulders + pebbles of various sizes of granitic gneiss (mainly). Could be part boulder till and part sand/clay. Very poor recovery.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Note: Unit classified as Miastocene boulder till.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5 m = 55%</td>
</tr>
<tr>
<td>5 m = 22%</td>
</tr>
<tr>
<td>From (m)</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>36.0</td>
</tr>
<tr>
<td>44.0</td>
</tr>
<tr>
<td>56.0</td>
</tr>
<tr>
<td>110.0</td>
</tr>
</tbody>
</table>
Agrium
Kapuskasing Phosphate Operations

Division: 
Project: Winter 2000
Logged By: P. Marenghi
Date Logged: Feb 25, 2000
Drill Hole No: A8R-00-019

NORTHING 3462057
EASTING 362614
ELEVATION 240.7
LENGTH 62.0

Surface Grid:
Engineering Grid:

DIST | AZIM | DIP | DIST | AZIM | DIP | DIST | AZIM | DIP | DIST | AZIM | DIP | DIST | AZIM | DIP | DIST | AZIM | DIP
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
62.0 | 0 | -90 | 

START DATE: Feb 24
FINISH DATE: Feb 25
TOWNSHIP: Crozill
CLAIM NO: 89917 (Lease #: 14714)
DRILLING CONTRACTOR: Bradley Bros.
PURPOSE: 
RESULTS: Bad seam 60 to 62 m, beds tight, had to cut @ 37m.
WHY HOLE TERMINATED: Change hole @ geologist request.
CORE SIZE: NC-3, 1.5%
CASING: 
HOLE CEMENTED: 
NO. OF ASSAYS: 
NO. OF ICP: 
NO. OF WRA: 
REJECTS/PULPS SAVED: 
CORE STORED (LOCATION): Agrium mine site

Location Sketch
Winter 2000 Exploration Holes
### Exploration Drill Hole Log

**Hole Number:** Agr-009

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>17.0</td>
<td></td>
<td>Glacial clay:</td>
<td>1.5m = 9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grey jumbo clay. Some peat at the beginning.</td>
<td></td>
</tr>
<tr>
<td>17.0</td>
<td>26.0</td>
<td></td>
<td>Boulten Till:</td>
<td>2.5m = 28%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mostly granitic gneiss boulders with very little till.</td>
<td></td>
</tr>
<tr>
<td>26.0</td>
<td>47.0</td>
<td></td>
<td>Weathered pyroxenite?:</td>
<td>6m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dark to medium brown weathered rock from 26.0 to 38.0 grading into a dark green chloritic part to 47.0. Weakly magnetic</td>
<td></td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
<td>Lithological Code</td>
<td>Description</td>
<td>Recovery</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>47.0</td>
<td>60.0</td>
<td></td>
<td>Grey silt clay: sandy clay grading into a coarser sandy clay over the last 3m. Hole stopped due to technical problems.</td>
<td>75m = 50%</td>
</tr>
<tr>
<td>62.0</td>
<td></td>
<td></td>
<td>EOH</td>
<td></td>
</tr>
</tbody>
</table>
Agrium
Kapuskasing Phosphate Operations

DIVISION: Surface Grid Engineering Grid

PROJECT: Winter 2000

NORTHING: 5462.054 EASTING: 3675.62

ELEVATION: 841.1

LENGTH: 216.0

DATE LOGGED: Feb 29, 2000

DRILL HOLE NO. 46R-00-010

LOGGED BY: PMARENGHI

<table>
<thead>
<tr>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>216</td>
<td>0</td>
<td>90</td>
</tr>
</tbody>
</table>

START DATE: Feb 25
FINISH DATE: Feb 29
TOWNSHIP: 64 (W6N11)
CLAIM NO.: 83918 (Lease # 104 714)

DRILLING CONTRACTOR: Birdley Bros
PURPOSE: Drilling

RESULTS:

WHY HOLE TERMINATED:

CORE SIZE: 3 in
CASING:

HOLE CEMENTED:

NO. OF ASSAYS:
NO. OF ICP:
NO. OF WPA:
REJECTS/PULPS SAVED:
CORE STORED (LOCATION): 

Location Sketch

Winter 2000 Exploration Holes
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
</table>
| 0.0     | 11.0   |                  | Glacial clay:  
Gray homogeneous gumbo clay | 6.2m=56% |
| 11.0    | 34.10  |                  | Glacial Boulder Till:  
Gray silty clay containing up to 30%  
granitic gneiss boulders (up to 0.5m) and  
pellets. Grades into a finer pebble till over  
The last 10m. | 13m=57% |
| 34.10   | 41.30  |                  | Cretaceous green Clay/weathered:  
Olive green, slightly silty clay/weathered  
granite? (medium grained white/quartzite?)  
where the green color comes from weathering  
of stockwerk veins within the rock. | 4m=56% |
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>41.30</td>
<td>42.0</td>
<td></td>
<td>Silty Clay:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grey, silty (quartz/feldspar) clay.</td>
<td>4.9m = 93%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Homogeneous with areas locally dark grey.</td>
<td></td>
</tr>
<tr>
<td>47.0</td>
<td>56.0</td>
<td></td>
<td>Peat:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>75% black, homogeneous peat (organic) which locally grades (interbedded) into a dark grey, silty clay.</td>
<td>9.0m = 100%</td>
</tr>
<tr>
<td>56.0</td>
<td>80.0</td>
<td></td>
<td>Medium Grained Silty Clay:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Locally almost a sand, grey, silty clay with locally medium grained zones (quartz/feldspar) locally. There are small beds (1m) of peat and sand clay (sandy horizons).</td>
<td>22m = 92%</td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
<td>Lithological Code</td>
<td>Description</td>
<td>Recovery</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| 80.0     | 110.0  |                   | **White clay:**  
|          |        |                   | Talcy white clay (very light) Sometimes  
|          |        |                   | Silty with local inclusions of the next unit.  
|          |        |                   | Gradual lower contact.  |
| 110.0    | 197.0  |                   | **Red Porphyry Clay:**  
|          |        |                   | Brick red clay with 15%, 0.5mm - 0.2cm  
|          |        |                   | Dark brown rounded mineral. Above  
|          |        |                   | Unit could be final weathered product of  
|          |        |                   | This unit. The porphyroblasts decrease with  
|          |        |                   | Depth. Clay then becomes homogeneous  
|          |        |                   | and aphanitic. Grade into aphanitic red  
|          |        |                   | Clay around 140m. (probably all the same  
|          |        |                   | unit)  |
|          |        |                   | * Note: The round porphyroblasts have since been |

18.5m = 60%

87m = 100%
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>197.0</td>
<td>216.0</td>
<td></td>
<td>interpreted as oolite rests within the red hematitic unit. Weathered Pyroxenite?: Dark green medium grained broken, weathered (to brown) pyroxenite. Rotted and rusty texture becoming more altered with depth. Brown caking due to drilling and poor water return. Weakly magnetic.</td>
<td>16m - 84%</td>
</tr>
<tr>
<td>216.0</td>
<td></td>
<td></td>
<td>COH</td>
<td></td>
</tr>
</tbody>
</table>
DIVISION: Agrium  
Kapuskasing Phosphate Operations  

PROJECT: Winter 2000  

LOGGED BY: P. MARENGHI  
DATE LOGGED: March 02/00  
DRILL HOLE NO: ABW-A-04  

NORTHING: 5462058  
EASTING: 367514  
ELEVATION: 240.8  
LENGTH: 69.00  

DIST  AZIM  DIP  DIST  AZIM  DIP  DIST  AZIM  DIP  DIST  AZIM  DIP  DIST  AZIM  DIP
69  0  30

START DATE: March 1  
FINISH DATE: March 2  
TOWNSHIP: Coq. 11  
CLAIM NO: 89918 (Core # 10474)  
DRILLING CONTRACTOR: Bradley Bros.  
PURPOSE: RESULTS:  
WHY HOLE TERMINATED:  
CORE SIZE: 3IWC  
CASING:  
HOLE CEMENTED:  
NO. OF ASSAYS:  
NO. OF ICP:  
NO. OF WRA:  
REJECTS/PULPS SAVED:  
CORE STORED (LOCATION): Agrium Mines  

Location Sketch  
Winter 2000 Exploration Holes
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithologic Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>11.0</td>
<td></td>
<td>Grayish Glacial Gumbo Clay</td>
<td>26m = 34%</td>
</tr>
<tr>
<td>11.0</td>
<td>32.0</td>
<td></td>
<td>Builder Till</td>
<td>43m = 20%</td>
</tr>
<tr>
<td>32.0</td>
<td>43.0</td>
<td></td>
<td>Weathered Aphanite</td>
<td>7m = 64%</td>
</tr>
<tr>
<td>43.0</td>
<td>69.0</td>
<td></td>
<td>Aphanite</td>
<td>7m = 35%</td>
</tr>
<tr>
<td>69.0</td>
<td>69.0</td>
<td></td>
<td>EDH</td>
<td></td>
</tr>
</tbody>
</table>
**Agrium**

Kapuskasing Phosphate Operations

<table>
<thead>
<tr>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>74</td>
<td>0</td>
<td>-90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Surface Grid:**

- **NORTHING:** 5462057
- **EASTING:** 367462
- **ELEVATION:** 241.8
- **LENGTH:** 74.0

**Start Date:** March 2
**Finish Date:** March 4
**TOWNSHIP:** Cass
**Claim No.:** 89918 (Lease # 10471A)
**Drilling Contractor:** Bradley Bros

**Purpose:**

**Results:**

**Why Hole Terminated:**

**Core Size:** NQ - 3 NQ
**Casing:**

**Hole Cemented:**

**No. of Assays:**
**No. of ICP:**
**No. of WRA:**
**Rejects/Pulps Saved:**
**Core Stored (Location):** Agrium Mul site

**Winter 2000 Exploration Holes**

*Scale: 1:5000  Plan No. Dated: 21-Jan-00*
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>11.0</td>
<td></td>
<td>Glacial Clay: Grey gumbo clay.</td>
<td>9.2m = 84%</td>
</tr>
<tr>
<td>11.0</td>
<td>29.0</td>
<td></td>
<td>Boulder Till: Mainly granitic gneiss with minor mafic</td>
<td>4.3m = 24%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>boulders and pebbles of varying sizes.</td>
<td></td>
</tr>
<tr>
<td>29.0</td>
<td>74.0</td>
<td></td>
<td>Weathered Granitic Gneiss: Badly weathered, coarse</td>
<td>15m = 33%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>grained granitic gneiss. Weathering gives greenish</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>brown gritty/sandy texture. Badly broken core.</td>
<td></td>
</tr>
<tr>
<td>74.0</td>
<td></td>
<td></td>
<td>E04</td>
<td></td>
</tr>
</tbody>
</table>
### DIVISION:
**Agrium**

**Kapuskasing Phosphate Operations**

**C7 Surface Grid:**

**Kapuskasing Phosphate Operations Engineering Grid:**

**PROJECT:** Winter 2000

**LOGGED BY:** P. MARENGH

**DATE LOGGED:** March 26/00

**DRILL HOLE NO:** ABR-00-013

---

**LOCATION**: **Location Sketch**

- Winter 2000 Exploration Holes
  - Scale: 1:5000
  - Plan No.
  - Date: 27-Jan-00

---

**DIVISION:**

**NORTHING:** 5462056

**EASTING:** 367414

**ELEVATION:** 240.8

**LENGTH:** 500 ft

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<th>AZIM</th>
<th>DIP</th>
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</tr>
</tbody>
</table>

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**START DATE:** March 4

**FINISH DATE:** March 5

**TOWNSHIP:** Coquil

**CLAIM NO.:** 89918 (Case # 109719)

**DRILLING CONTRACTOR:** Bradley Bros.

**PURPOSE:**

**RESULTS:**

**WHY HOLE TERMINATED:**

**CORE SIZE:** No. 3 Inq

**CASING:**

**HOLE CEMENTED:**

**NO. OF ASSAYS:**

**NO. OF ICP:**

**NO. OF WRA:**

**REJECTS/PULPS SAVED:**

**CORE STORED (LOCATION):** Agrium Mins. B
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>11.0</td>
<td></td>
<td>Glacial Clay: Grey gumbo clay</td>
<td>7.5m = 68%</td>
</tr>
<tr>
<td>11.0</td>
<td>29.0</td>
<td></td>
<td>Boulder Till: Mainly granitic gneiss and mafic boulders + pebbles of varying sizes. No mud or sand.</td>
<td>22m = 18%</td>
</tr>
<tr>
<td>29.0</td>
<td>50.0</td>
<td></td>
<td>Granitic gneiss: Badly weathered lime green to reddish grey granitic gneiss</td>
<td>11m = 52%</td>
</tr>
<tr>
<td>50.0</td>
<td></td>
<td></td>
<td>EOH</td>
<td></td>
</tr>
</tbody>
</table>
**Agrium**

Kapuskasing Phosphate Operations

**Division:**

**Project:** Winter 2000

**Logged By:** P. Harensha

**Date Logged:** March 05/00

**Drill Hole No.:** AHR-W-019

<table>
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<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>0</td>
<td>-90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

**Start Date:** March 5

**Finish Date:** March 5

**Township:** Coquitlam

**Claim No.:** 89918 Lease # 047/4

**Drilling Contractor:** Bradley Bros

**Purpose:**

**Results:**

Why Hole Terminated:

**Core Size:** NQ-3 NQ

**Casing:**

**Hole Cemented:**

**No. of Assays:**

**No. of ICP:**

**No. of WRA:**

**Rejects/Pulps Saved:**

**Core Stored (Location):**

![Location Sketch]

Winter 2000 Exploration Holes

Scale: 1:5000  Plan No.  Date: 27-Jan-00
### Exploration Drill Hole Log

**Hole Number**: Agr - 014

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>12.0</td>
<td></td>
<td>Glacial Clay: Grey gumbo clay, homogeneous and consistent</td>
<td>3.5m = 29%</td>
</tr>
<tr>
<td>12.0</td>
<td>20.0</td>
<td></td>
<td>Boulder Till: Mostly only boulders and pebble of granitic gneiss and mafic. No visible till (mud).</td>
<td>1.8m = 23%</td>
</tr>
<tr>
<td>20.0</td>
<td>44.0</td>
<td></td>
<td>Granitic gneiss: Banded/foliated granitic (quartz, feldspar, mica) gneiss. Local weathering (rotted aspect). Badly broken core. Foliation at 45° to core axis.</td>
<td>11m = 46%</td>
</tr>
<tr>
<td>44.0</td>
<td></td>
<td></td>
<td>EOH</td>
<td></td>
</tr>
</tbody>
</table>
DIVISION: Agrium
PROJECT: Winter 2000
LOGGED BY: Marenghi
DATE LOGGED: March 4

EASTING ELEVATION LENGTH
5462056 367 96 29 0

NORTHING LEVEL
5462056 293 0 29 0

CORE STORED (LOCATION): Agrium Mine site

START DATE: March 5
FINISH DATE: March 6
TOWNSHIP: Coquihalla
CLAIM NO.: 899168 (Claim # 104714)
DRILLING CONTRACTOR: Bradley Bros
PURPOSE:
RESULTS:
WHY HOLE TERMINATED:
CORE SIZE: ND-3 1/2
CASING:
HOLE CEMENTED:
NO. OF ASSAYS:
NO. OF ICP:
NO. OF WRA:
REJECTS/PULPS SAVED:

Location Sketch

Winter 2000 Exploration Holes
Scale: 1:5000 Plan No. 20 Date: 27-Feb-00
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
</table>
| 0.0     | 12.0   |                   | Glacial Clay:  
          Organic Matter over first 5m. Grey,  
          homogeneous gumbo clay | 5.5m = 46% |
| 12.0    | 18.0   |                   | Boulder Till:  
          All boulders and pebbles (no mud) of  
          granitic gneiss and mafic of varying sizes. | 1m = 17% |
| 18.0    | 29.0   |                   | Granitic Gneiss:  
          Reddish grey, foliated granitic gneiss. Badly  
          broken core. Local weathering. R.D. = 30%  
          Recovery = 8.7m = 79% could be spread out. | 8.7m = 79% |
|         | 29.0   |                   | EOH         |          |
**Agrium**
Kapuskasing Phosphate Operations

**DIVISION:**

**PROJECT:** Winter 2000

**LOGGED BY:** P. Marenghi

**DATE LOGGED:** March 06/00

**DRILL HOLE NO.:** M8-00-016

---

<table>
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<th>DIST</th>
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<th>AZIM</th>
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<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
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<tbody>
<tr>
<td>32</td>
<td>0</td>
<td>-30</td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
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</table>

---

**START DATE:** March 6

**FINISH DATE:** March 6

**TOWNSHIP:** Cargill

**CLAIM NO.:** 424534 (Lease # 04381)

**DRILLING CONTRACTOR:** Bradley Bros

**PURPOSE:**

**RESULTS:**

**WHY HOLE TERMINATED:**

**CORE SIZE:** No. 3 inq

**CASING:**

**HOLE CEMENTED:**

**NO. OF ASSAYS:**

**NO. OF ICP:**

**NO. OF WRA:**

**REJECTS/PULPS SAVED:**

**CORE STORED (LOCATION):** Agrium Mills

---

**Location Sketch**

Winter 2000 Exploration Holes

Scale: 1: 5000

Plan No.

Date: 27-Jan-00
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>11.0</td>
<td></td>
<td>Glacial Clay:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grey gumbo clay, some (0.5m) organic material at the beginning</td>
<td></td>
</tr>
<tr>
<td>11.0</td>
<td>32.0</td>
<td></td>
<td>Granitic gneiss:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reddish grey, white, green granite (feldspar, quartz, mica) gneiss. Well foliated (at 90° to core axis). Badly broken core. Some local weathering. Could be boulder fill at the beginning (1st and 2nd meter) but unsure.</td>
<td></td>
</tr>
<tr>
<td>32.0</td>
<td></td>
<td></td>
<td>EOH</td>
<td></td>
</tr>
<tr>
<td>DIST</td>
<td>AZIM</td>
<td>DIP</td>
<td>DIST</td>
<td>AZIM</td>
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<tr>
<td>------</td>
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<td>------</td>
<td>------</td>
</tr>
<tr>
<td>59</td>
<td>0</td>
<td>-90</td>
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**Start Date:** March 28

**Finish Date:** March 28

**TOWNSHIP:** Cecil

**Claim No.:** 78658 (Lease # 104748)

**Drilling Contractor:** Bradley Bros

**Purpose:**

**Results:**

**Why Hole Terminated:**

**Core Size:** No. 3

**Casing:**

**Hole Cemented:**

**No. of Assays:**

**No. of ICP:**

**No. of WRA:**

**Rejects/Pulps Saved:**

**Core Stored (Location):** Agrium Mine Site
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
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<tbody>
<tr>
<td>0.00</td>
<td>8.00</td>
<td></td>
<td>Gumbo Clay</td>
<td>2m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grey homogenous (some brown = vascular clay)</td>
<td></td>
</tr>
<tr>
<td>8.00</td>
<td>17.00</td>
<td>Boulder Till</td>
<td></td>
<td>6m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30% large (0.4m) granite gneiss + pebbles (some matrix) in a grey clay</td>
<td></td>
</tr>
<tr>
<td>17.00</td>
<td>35.00</td>
<td>Residual (A ore)</td>
<td></td>
<td>3m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Black margin rich (25%) sandy ore</td>
<td></td>
</tr>
<tr>
<td>35.00</td>
<td>59.00</td>
<td>Carbonatic Rock</td>
<td></td>
<td>23m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Sovite)</td>
<td>Light to medium grey carbonate, first 30m very soft and brittle, 5% coarse granite angular xenoblasts, schistosity well developed locally @ 70-80° to CA</td>
<td></td>
</tr>
<tr>
<td>59.0</td>
<td></td>
<td></td>
<td>e.o.h.</td>
<td></td>
</tr>
</tbody>
</table>
Agrium

Kapuskasing Phosphate Operations

DIVISION: Kapuskasing Phosphate Operations
PROJECT: Winter 2006
LOGGED BY: P. MARENSCH
DATE LOGGED: MARCH 07/06
DRILL HOLE NO. 4M-00-016

NORTHING 5461743
EASTING 366410
ELEVATION 233.9
LENGTH 231.0m

LEVEL

DIST  AZIM  DIP  DIST  AZIM  DIP  DIST  AZIM  DIP  DIST  AZIM  DIP

START DATE: March 6
FINISH DATE: March 7
TOWNSHIP: Coquil
CLAIM NO.: 413078 (Lease #: 104385)

DRILLING CONTRACTOR: 
PURPOSE: Exploration

RESULTS:

WHY HOLE TERMINATED:

CORE SIZE: NO. 3 IN

CASING:

HOLE CEMENTED:

NO. OF ASSAYS:

NO. OF ICP:

NO. OF ICP:

REJECTS/PULPS SAVED:

CORE STORED (LOCATION): Agrium Mine Site

Location Sketch

Winter 2006 Exploration Holes
Scale: 1:5000  Plan No. Date 27-Jan-00
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>5.5</td>
<td></td>
<td>Glacial Clay: Brown very clay with local organic and grey gumbo clay.</td>
<td>4m=73%</td>
</tr>
<tr>
<td>5.5</td>
<td>29.0</td>
<td></td>
<td>Mafic Unit (Rock): Medium to coarse grained pyroxene, amphibole, magnetite unit. Very homogeneous no veining. Specks of pyrite. Weakly to medium magnetic. Massive granular texture.</td>
<td>100%</td>
</tr>
<tr>
<td>29.0</td>
<td></td>
<td></td>
<td>E074</td>
<td></td>
</tr>
</tbody>
</table>
**Agrium**
Kapuskasing Phosphate Operations

**DIVISION:**

**Surface Grid:**

**EASTING:** 541,655

**ELEVATION:** 237.0

**LENGTH:** 41.0m

**DATE LOGGED:** March 87/00

**DRILL HOLE NO.:** 64R-00-019

<table>
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<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
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**START DATE:** March 7

**FINISH DATE:** March 7

**TOWNSHIP:** Coral

**CLAIM NO.:** 413,078 (Lease # 104385)

**DRILLING CONTRACTOR:** Bradley Bros.

**PURPOSE:**

**RESULTS:**

**WHY HOLE TERMINATED:**

**CORE SIZE:** No. 3 iron

**CASING:**

**HOLE CEMENTED:**

**NO. OF ASSAYS:**

**NO. OF ICP:**

**NO. OF WRA:**

**REJECTS/PULPS SAVED:**

**CORE STORED (LOCATION):** Agrium mine

---

Winter 2000 Exploration Holes

Scale: 1: 5000 Plan No. Date: 37-Jan-00
## Exploration Drill Hole Log

### Agrum Kapuskasing Phosphate Operation

<table>
<thead>
<tr>
<th>Hole Number</th>
<th>Agr - 019</th>
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</thead>
<tbody>
<tr>
<td>Lithological Code</td>
<td>Description</td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
</tr>
<tr>
<td>0.0</td>
<td>8.0</td>
</tr>
<tr>
<td>8.0</td>
<td>17.0</td>
</tr>
<tr>
<td>17.0</td>
<td>41.0</td>
</tr>
<tr>
<td>41.0</td>
<td></td>
</tr>
</tbody>
</table>
**Agrium**

Kapuskasing Phosphate Operations

---

**Division:**

**Project:**

**LOGGED BY:** P. Harenberg

**DATE LOGGED:** March 26/00

**DRILL HOLE NO.:** AHR-00-020

---

**NORTHING** 5461850

**EASTING** 367310

**ELEVATION** 238.8

**LENGTH** 105.0m

---

**DIST** | **AZIM** | **DIP** | **DIST** | **AZIM** | **DIP** | **DIST** | **AZIM** | **DIP** | **DIST** | **AZIM** | **DIP** | **DIST** | **AZIM** | **DIP**
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
105 | 0 | -80 | | | | | | | |

---

**START DATE:**

March 25

**FINISH DATE:**

March 26

---

**TOWNSHIP:** Coquille

**CLAIM NO.:** 76658 (Lease # 129 714)

**DRILLING CONTRACTOR:** Bradley Bros

---

**PURPOSE:**

---

**RESULTS:**

---

**WHY HOLE TERMINATED:**

No water return, geologist stopped the hole.

---

**CORE SIZE:**

No. 3 (1/4)

**CASING:**

---

**HOLE CEMENTED:**

No

---

**NO. OF ASSAYS:**

---

**NO. OF ICP:**

---

**NO. OF WRA:**

---

**REJECTS/PULPS SAVED:**

---

**CORE STORED (LOCATION):** Agrium Mine, To

---

Location Sketch
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>20.0</td>
<td></td>
<td>Boulder Till&lt;br&gt;60% Churnite gravels + matrix: pebbles (0.2-0.3mm) and&lt;br&gt;Boulders 0.5cm in a grey clay</td>
<td>5.5m²</td>
</tr>
<tr>
<td>20.0</td>
<td>50.0</td>
<td></td>
<td>Siliceous sandy clay&lt;br&gt;medium grained Sandy clay, colors ranging from white&lt;br&gt;to grey to brown. Local intervals of Peat material (2.5m)&lt;br&gt;and locally clay becomes fine grained. No results from&lt;br&gt;sludge indicating good 205 grade.</td>
<td>20m²</td>
</tr>
<tr>
<td>50.00</td>
<td>54.5</td>
<td></td>
<td>Red clay&lt;br&gt;Red homogeneous clay (Brick Red)</td>
<td>4.5m²: 100%</td>
</tr>
</tbody>
</table>
### Exploration Drill Hole Log

**Hole Number**: AGR-020  
**Page**: 3 of 3

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.50</td>
<td>60.0</td>
<td>Silt Clay</td>
<td>White to medium gray silty clay, weeping on bedding/layering visible locally, sharp lower contact with sericite.</td>
<td>6m =</td>
</tr>
<tr>
<td>60.0</td>
<td>65.0</td>
<td>Weathered Carbonite?</td>
<td>Greenish, red to yellowish carbonatite? Rusty green in color.</td>
<td>1.5m =</td>
</tr>
<tr>
<td>65.0</td>
<td>95.0</td>
<td>High Grade Residue (A ore)</td>
<td>A ore, black sandy residue containing up to 30% freeapatite crystals, very homogeneous section</td>
<td>10m =</td>
</tr>
<tr>
<td>95.0</td>
<td>105.0</td>
<td>Carbonatite (Saphe)</td>
<td>Rock, light grey carbonatite containing up to 15% very coarse opaque magnetite xtalas (up to 3cm). Sharp upper contact. Schistosity @ 30° to E, C.A.</td>
<td>10m =</td>
</tr>
</tbody>
</table>

105.0  
E.O.H.

Agrium Kapuskasing Phosphate Operation
### Data Log Sheet

**Division:**
- Surface Grid:
- Engineering Grid:

**Kapuskasing Phosphate Operations**

**Log Sheet Details:**
- **Logged By:** P. NaRe Schi
- **Date Logged:** March 24/00
- **Drill Hole No.:** AHP-00-021

**Grid Details:**
- **NORTHING:** 5461260
- **EASTING:** 367170
- **ELEVATION:** 247.0
- **LENGTH:** 352.0

**Section and Level:**

<table>
<thead>
<tr>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
<th>DIST</th>
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<th>AZIM</th>
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<tbody>
<tr>
<td>35</td>
<td>0</td>
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</tr>
</tbody>
</table>

**Start Date:** March 23
**Finish Date:** March 24
**Township:** Corq
**Claim No.:** 786 58 (Lease # 104 714)
**Drilling Contractor:** Bradley Bara

**Purpose:**

**Results:**

**Why Hole Terminated:**

**Core Size:** NA-3, INQ
**Casing:**
**Hole Cemented:**
**No. of Assays:**
**No. of ICP:**
**No. of WRA:**
**Rejects/Plups Saved:**

**Core Stored (Location):** Agrium Mutual

Location Sketch

Location Sketch

Location Sketch

Location Sketch

Location Sketch

Location Sketch
## Agrium Kapuskasing Phosphate Operation

### Exploration Drill Hole Log

**Hole Number**: A6R-021  
**Page**: 2 of 2

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>8.00</td>
<td></td>
<td>Boulder Till</td>
<td>6.0 m 13%</td>
</tr>
<tr>
<td>8.00</td>
<td>35.00</td>
<td></td>
<td>Carbonatic Rock (Smit')</td>
<td>26.0 m 96%</td>
</tr>
</tbody>
</table>
|          |        |                   | Light to medium grey carbonatic with local sections (1 m) of fragmental Rock (Semented?) and up to 5% medium grained (0.2-0.3") magnetite 
|          |        |                   | and Schistosity at about 80° to C.A. |          |
|          |        |                   | E.O.H. |          |
**Agrium**

**Kapuskasing Phosphate Operations**

**DIVISION:**

**PROJECT:** Wint 2000

**LOGGED BY:** P. Marchand

**DATE LOGGED:** March 25, 2000

**DRILL HOLE NO.:** ATRX-022

<table>
<thead>
<tr>
<th>Surface Grid: Northing</th>
<th>Engineering Grid: Easting</th>
<th>Elevation</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>5461200</td>
<td>367 270</td>
<td>247.0</td>
<td>58.0</td>
</tr>
</tbody>
</table>

**DIST** | **AZIM** | **DIP** | **DIST** | **AZIM** | **DIP** | **DIST** | **AZIM** | **DIP** | **DIST** | **AZIM** | **DIP** | **DIST** | **AZIM** | **DIP** |
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>0</td>
<td>50</td>
<td>50</td>
<td>0</td>
<td>50</td>
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<td>0</td>
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</tr>
</tbody>
</table>

**START DATE:** March 24

**FINISH DATE:** March 25

**TOWNSHIP:** Corgill

**CLAIM NO.:** 78658 (Lease # 104714)

**DRILLING CONTRACTOR:** Bradley Bros.

**PURPOSE:**

**RESULTS:**

**WHY HOLE TERMINATED:**

**CORE SIZE:** 3

**CASING:**

**HOLE CEMENTED:**

**NO. OF ASSAYS:**

**NO. OF ICP:**

**NO. OF WRA:**

**REJECTS/PULPS SAVED:**

**CORE STORED (LOCATION):** Aquinum Mines

**Location Sketch**
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>8.00</td>
<td>Gumbo Clay</td>
<td>Gray homogeneous clay</td>
<td>5.5m</td>
</tr>
<tr>
<td>8.00</td>
<td>17.00</td>
<td>Boulder Till</td>
<td>46% large 0.8m granite gravel, massive boulders, + rubble mixed in a grey clay</td>
<td>4.5m</td>
</tr>
<tr>
<td>17.00</td>
<td>50.00</td>
<td>Carbonatite Rock (Sparite)</td>
<td>Light to medium grey to light green carbonates, containing up to 90% coarse grained (0.2-0.5cm) well formed mineral crystals, schistosity 270-290°, E.D., up to 10% Massive crystals of various sizes, Very blocky ground</td>
<td>26m</td>
</tr>
<tr>
<td>50.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E.O.H.
Agrium
Kapuskasing Phosphate Operations

DIVISION:  
PROJECT: Winter 2000  
LOGGED BY: P. Marenghi  
DATE LOGGED: MARCH 26/00  
DRILL HOLE NO: AH8-00-023  

Surface Grid:  
NORTHING 5461818  
EASTING 367378  
ELEVATION 239.5  
LENGTH 38.0m  

DIST  AZIM  DIP  DIST  AZIM  DIP  DIST  AZIM  DIP  DIST  AZIM  DIP  DIST  AZIM  DIP
38.0  0  -90  

START DATE: March 26  
FINISH DATE: March 26  
TOWNSHIP: Coquille  
CLAIM NO: 78658 (lease d 09/71)  
DRILLING CONTRACTOR: Bradley Bros.  
PURPOSE:  

RESULTS:  

WHY HOLE TERMINATED:  
CORE SIZE: NQ - 3 NQ  
CASING:  
HOLE CEMENTED:  
NO. OF ASSAYS:  
NO. OF ICP:  
NO. OF WRA:  
REJECTS/PULPS SAVED:  
CORE STORED (LOCATION): Agrium MineSite
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>3.00</td>
<td></td>
<td>Boulder Till</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hi grade gritty boulders (0.3-0.5m) in grey clay</td>
<td>15m=</td>
</tr>
<tr>
<td>3.00</td>
<td>38.00</td>
<td></td>
<td>Carbonatic rock (Savite)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Light to medium grey carbonate with up to 15% well developed magnetic tails. Schistosity = 0° E.D.</td>
<td>27m=</td>
</tr>
<tr>
<td>38.0</td>
<td></td>
<td></td>
<td>E.O.H.</td>
<td></td>
</tr>
</tbody>
</table>

Agrium Kapuskasing Phosphate Operation

Hole Number A62-023

Page 2 of 2
**Agrium**
Kapuskasing Phosphate Operations

**Division:**

**Surface Grid:**

**NORTHING**
5461.8557

**EASTING**
367.5432

**ELEVATION**
240.9

**LENGTH**
135.0

**Date Logged:** April 13/00

**Drill Hole No.:** AR00-024

<table>
<thead>
<tr>
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<th>DIST</th>
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<th>DIP</th>
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<th>DIP</th>
<th>DIST</th>
<th>AZIM</th>
<th>DIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>135</td>
<td>0</td>
<td>-90</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Duration:**

**Start Date:** April 12

**Finish Date:** April 13

**Township:** Cargill

**Claim No.:** 78657 (L10E 4 104714)

**Drilling Contractor:** Bradley Bros

**Purpose:**

**Results:**

Lost of water return @ 41m. Rods stuck in sand.

**Why Hole Terminated:**

**Core Size:** 5.3 X 5.3

**Casing:**

**Hole Cemented:**

**No. of Assays:**

**No. of ICP:**

**No. of WRA:**

**Rejets/Pulps Saved:**

**Core Stored (Location):** Agrium Mine site

**Location Sketch:**

[Sketch Image]
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>10.6</td>
<td></td>
<td><strong>Cumbro Clay</strong>&lt;br&gt;Dark grey, homogeneous. <strong>Sovite</strong>&lt;br&gt;Coarse, grey, carbonate. Colors vary from greenish white, purple, red, brown to greyish white. About 10-15% coarse grain (&lt;0.5 cm - 0.5 cm) magnetite, 10-15% [dark green flaky] (0.3 - 0.4 mm). Local weathering displayed by residuum looking material. Some magnetite crystals reaching 1 cm. Numerous rounded cavities. Silica, (where visible), is ≤ 70-80% to C. M. 1st 30m looks fragmental (remained ore) but is probably just sovite as some section within the 30m has the same texture as the sovite below. Fragments are homogenous. ≤ 0.4%</td>
<td>7.5m = 75%</td>
</tr>
<tr>
<td>10.6</td>
<td>135.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>135.0</td>
<td></td>
<td></td>
<td></td>
<td>106.5 = 85%</td>
</tr>
</tbody>
</table>
**Kapuskasing Phosphate Operations**

**PROJECT:** Winter 2000

**LOGGED BY:** P. Marenghi

**DATE LOGGED:** Apr 13

**DRILL HOLE NO:** A61-00-025

---

<table>
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<td>-30</td>
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**DIST** | **AZIM** | **DIP**
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</tr>
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<tbody>
<tr>
<td>0</td>
<td>-30</td>
<td></td>
</tr>
</tbody>
</table>

---

**START DATE:** March 29

**FINISH DATE:** April 12

**TOWNSHIP:** Coq 11

**CLAIM NO:** 8997 (Lease # 104714)

**DRILLING CONTRACTOR:** Bradley Bros.

**PURPOSE:**

**RESULTS:**

**WHY HOLE TERMINATED:** Lost water return @13m, geological stopped hole @138m because Casing too tight.

**CORE SIZE:** NQ 3

**CASING:**

**HOLE CEMENTED:**

**NO. OF ASSAYS:**

**NO. OF ICP:**

**NO. OF WRA:**

**REJECTS/PULPS SAVED:**

**CORE STORED LOCATION:** Agrium mine site
<table>
<thead>
<tr>
<th>Hole Number</th>
<th>A6K-025</th>
<th>Page 2 of 3</th>
</tr>
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<tbody>
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<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>8.00</td>
<td></td>
<td>ORGANIC PEAT</td>
<td>0.6 m = 0.1%</td>
</tr>
<tr>
<td>8.00</td>
<td>20.00</td>
<td></td>
<td>Boulder Till, only boulders of granite gneiss + marls with no mud. There's local of weathered, fist consolidated rock.</td>
<td>2 m = 0.17%</td>
</tr>
<tr>
<td>20.00</td>
<td>77.00</td>
<td></td>
<td>CEMENTED ORE? FRAGMENTED CONSOLIDATED gray/brown/gray-green rock (1928) with local 0.5 m sections of rusty brown soft weathered rock and local sections of carbonatic (kalzite) 0.2 - 0.3 m. Very few visible matrix crystals. Grades into the adjacent green micaceous unit. Very clayey section.</td>
<td>14.3 m = 25%</td>
</tr>
<tr>
<td>77.00</td>
<td>85.50</td>
<td></td>
<td>WEATHERED MARL? Very micaceous, blue-brownish, medium green, very soft, grades locally into a gray, no visible matrix.</td>
<td>53 m = 62%</td>
</tr>
</tbody>
</table>
## Agrium Kapuskasing Phosphate Operations

### Table

<table>
<thead>
<tr>
<th>Hole Number</th>
<th>From (m)</th>
<th>To (m)</th>
<th>Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
</table>
| AGR-25      | 85.50   | 101.00|      | Weathered out?  
Tan to dark brown weathered micaceous unit. Local spots of green resembling the next unit. Remnant structure (schistosity) still visible.  
Matte unit  
Medium to dark green, weakly magnetic. Fine grained mafic.  
First 7m, the rock is very soft (weathered) but progressively becomes harder with depth. Very scarce phallicite looks slightly like a pyromellite.  
Rahmeyrite  
Tan to dark brown, locally strongly weathered, patchy while very badly broken; schistosity @ 70-80° to C.M. 10% small blebs of magnetite. Last 6m very weathered. | 7.3m = 47% |
|             | 101.00  | 131.00|      |             |          |
|             | 131.00  | 158.00|      |             |          |
|             | 158.00  |       |      |             |          |
**Division:** Agrium  
**Kapuskasing Phosphate Operations**

**Surface Grid:**  
**Northing:** 5461 902.3  
**Easting:** 367 635.8  
**Elevation:** 241.5  
**Length:** 124.8m

**Drill Hole No:** AHR-00-026

**Logged By:** P. Mareng  
**Date Logged:** March 29, 2000

<table>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Start Date:** March 27  
**Finish Date:** March 29

**Township:**  
**Claim No.:** B9917 (Lease # 04714)

**Drilling Contractor:** Bradley Bros.

**Purpose:**  
---

**Results:** Hole caved in, rode tight, no water return.

**Why Hole Terminated:**

**Core Size:**  
**Casing:**

**Hole Cemented:**

**No. of Assays:**

**No. of ICP:**

**No. of WRA:**

**Rejects/Pulps Saved:**

**Core Stored (Location):** Agrium Mines

---

**Location Sketch:**
## Exploration Drill Hole Log

**Hole Number**: ABK-026

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>14.0</td>
<td></td>
<td>Gumbo clay</td>
<td>11m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grey homogenous clay</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td>17.0</td>
<td>Boulder till</td>
<td>Rubble of granite gneiss</td>
<td>0.4m</td>
</tr>
<tr>
<td>17.0</td>
<td>83.0</td>
<td></td>
<td>Weathered pyroxenite</td>
<td>32m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dark green, micaceous, locally rust colored, soft with local sections (≤1m) of pyroxenite rock. 50% of this section completely disintegrated.</td>
<td></td>
</tr>
<tr>
<td>83.0</td>
<td>110.0</td>
<td></td>
<td>Brown Ressin (weathered pyroxenite)</td>
<td>11m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tone to dark brown mudstone graded, visible as 10% at 10m</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Local section of pyroxenite (≤1m) gradually turns to rock.</td>
<td></td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
<td>Lithological Code</td>
<td>Description</td>
<td>Recovery</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>110.0</td>
<td>124.0</td>
<td></td>
<td>Bauxite</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tan brown carbonate, displaying fractured iron rust throughout, schistosity close to 0° to E.A. locally looks cemented.</td>
<td></td>
</tr>
<tr>
<td>124.0</td>
<td></td>
<td></td>
<td>E.O.H.</td>
<td></td>
</tr>
</tbody>
</table>
Division: Agrium
Surface Grid: Kapuskasing Phosphate Operations Engineering Grid.

Logged By: P. Marenghi
Date Logged: April 15, 2000
Drill Hole No. A6R-00-028

NORTHING: 5461.7
EASTING: 366490.5
Elevation: 239.4

Length: 109.0

Start Date: April 14
Finish Date: April 15

Township: 4N
Claim No.: 3076 (Lease # 104895)

Drilling Contractor: Bradley Bar
Purpose:
Results:

Why Hole Terminated:

Core Size: No. 3

Casing:

Hole Cemented:

No. of Assays:

No. of ICP:

No. of WRA:

Rejects/Pulps Saved:

Core Stored (Location):

Agrium Mine.
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>5.0</td>
<td></td>
<td>ORGANIC MATTER/TOPSOIL</td>
<td>0.5 m</td>
</tr>
<tr>
<td>5.0</td>
<td>11.0</td>
<td></td>
<td>Boulder Till</td>
<td>2.5 m</td>
</tr>
<tr>
<td>11.0</td>
<td>32.0</td>
<td></td>
<td>70% granite gneiss + mafic boulders of varying sizes 30% gray clay</td>
<td>17 m</td>
</tr>
<tr>
<td>32.0</td>
<td>109.00</td>
<td></td>
<td>WEATHERED CARBONATITE (Sovite)</td>
<td>67 m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>70% gray to medium brown study assim (weathered Sovite) mixed with 30% tan colored Sovite (granulite 0.2 - 1m intervals). Sovite characterised by bledded to well formed 0.1 - 1cm magnetic xtabs. Sovite gradually becomes paler with depth</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sovite</td>
<td></td>
</tr>
</tbody>
</table>
|         |        |      | Light tan grading into white, 10-15% coarse grained magnetic xtabs (0.2 - 1cm). Some well formed xtabs. Schistosity = 3 70° to C.A. Body 
becomes white + Fresh + Sticky |    |

E.O.H.
**Agrium**

Kapuskasing Phosphate Operations

- **Division:**
- **Project:**
- **Logged By:** P. Marenghi
- **Date Logged:** April 15
- **Drill Hole No.:** 4A-02-029

<table>
<thead>
<tr>
<th>Surface Grid</th>
<th>Engineering Grid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northing</td>
<td>Easting</td>
</tr>
<tr>
<td>5461 114.6</td>
<td>367 041.5</td>
</tr>
<tr>
<td>Elevation</td>
<td>Length</td>
</tr>
<tr>
<td>240.0</td>
<td>50.0</td>
</tr>
</tbody>
</table>

- **Start Date:** April 15
- **Finish Date:** April 16
- **Township:** Coquit
- **Claim No.:** 413074 (Lease # 04395)
- **Drilling Contractor:** Bradley Inc.

- **Purpose:**
- **Results:**
- **Why Hole Terminated:**
- **Core Size:** Na-3\% Na
- **Casing:**
- **Hole Cemented:**
- **No. of Assays:**
- **No. of ICP:**
- **No. of WPA:**
- **Rejects/Pulps Saved:**
- **Core Stored (Location):** Agrium Mine, Co
<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>8.50</td>
<td></td>
<td>Gumbo clay</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>last 0.6m = boulder till</td>
<td>1.3m -</td>
</tr>
<tr>
<td>8.50</td>
<td>50.00</td>
<td></td>
<td>Carbonatic rock (Sovite)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>light grey to white carbonatic containing up to 20% coarse grained (0.2-0.4cm, locally 1-2cm) magnetic xTals. Schistosity about 30° to O.D.</td>
<td>41.5m = 100%</td>
</tr>
<tr>
<td>50.00</td>
<td></td>
<td></td>
<td>E.O.H.</td>
<td></td>
</tr>
</tbody>
</table>
Kapuskasing Phosphate Operations

DIVISION: 
PROJECT: Wink 2000

NORTHING: 5461098
EASTING: 3669383
ELEVATION: 238.8
LENGTH: 126.0 m

DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP
126 0 -30

Core Store Diagram

START DATE: April 16
FINISH DATE: April 17

TOWNSHIP: Cecili
CLAIM NO.: 41307A (Lease # 104385)
DRILLING CONTRACTOR: Bradley Bros.
PURPOSE:
RESULTS:

WHY HOLE TERMINATED:

CORE SIZE: No. 3 WQ
CASING:

HOLE CEMENTED:
NO. OF ASSAYS:
NO. OF ICP:
NO. OF WRA:
REJECTS/PULPS SAVED:

CORE STORED (LOCATION): Agrium Mississauga
<table>
<thead>
<tr>
<th>Hole Number: AKK-30</th>
<th>Page 2 of 3</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>From (m)</th>
<th>To (m)</th>
<th>Lithological Code</th>
<th>Description</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>10.0</td>
<td></td>
<td>Gumbo Clay</td>
<td>6m =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Clay homogenous clay</td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td>23.50</td>
<td></td>
<td>Boulder Till</td>
<td>12.2m =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40% pebble size to 0.6m boulders of grayish</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>gneiss and matrix in a gray clay</td>
<td></td>
</tr>
<tr>
<td>23.50</td>
<td>50.0</td>
<td></td>
<td>Clay + Organic material</td>
<td>15m =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mixture of sandy clay (gray), block organic units (Prist)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>with ve. wood, five light grey clays and Puxwe</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>clays Some visible quartz veils in the more sandy units</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>colors vary throughout and every 2-3m. Study samples</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>detected some good Purr values so this complete section</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>will be sampled. All contacts are gradual.</td>
<td></td>
</tr>
<tr>
<td>From (m)</td>
<td>To (m)</td>
<td>Code</td>
<td>Description</td>
<td>Recovery</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>56.0</td>
<td>95.0</td>
<td>56-0</td>
<td>RED CLAY</td>
<td>18m =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Light RED clay (graying from gray to pink to brown) with intervals (59-63m) of grey sandy clay. RED clay contains pieces of unknown coarse grained (oolitic?) rock from which it is the weathered product. RED clay has spotted texture.</td>
<td></td>
</tr>
<tr>
<td>95.0</td>
<td>126.0</td>
<td>95-0</td>
<td>CEMENTED ORE/ CARBONATITE</td>
<td>22.5m =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GREY FRAGMENTAL CEMENTED ORE / CARBONATITE. Very badly broken section with intervals of residual rhyolite from 1-2m. Fine grained visible apatite (10-15%). About 60% of this section is rock material. E.O.H.</td>
<td></td>
</tr>
<tr>
<td>126.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX II

MAPS AND SECTIONS
Declaration of Assessment Work Performed on Mining Land

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)

<table>
<thead>
<tr>
<th>Name</th>
<th>Client Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viridian Inc. (Agrium-Kapuskasing Property)</td>
<td>13876</td>
</tr>
<tr>
<td>Kapuskasing, Ont. P5N 2Y1</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Work Type</th>
<th>Office Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond Drilling</td>
<td>✓</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Name</th>
<th>Telephone Number</th>
<th>Fax Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pierre Pressac</td>
<td>(613) 337-4213</td>
<td></td>
</tr>
<tr>
<td>Kapuskasing, Ont. P5N 2Y1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Certification by Recorded Holder or Agent

I, Pierre Pressac, 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

Agent's Address

RECORDED

RECEIVED

AUG 31 2000

GEOSCIENCE ASSESSMENT OFFICE
<table>
<thead>
<tr>
<th>Mining Claim Number</th>
<th>Number of Claim Units</th>
<th>Value of work performed on this claim or other mining land.</th>
<th>Value of work applied to this claim.</th>
<th>Value of work assigned to other mining claims.</th>
<th>Bank. Value of work to be distributed at a future date.</th>
</tr>
</thead>
<tbody>
<tr>
<td>11217791</td>
<td>1 unit</td>
<td>0</td>
<td>0</td>
<td>8,000</td>
<td>0</td>
</tr>
<tr>
<td>11217793</td>
<td>1 unit</td>
<td>0</td>
<td>0</td>
<td>22,000</td>
<td>0</td>
</tr>
<tr>
<td>123,6916</td>
<td>6 units</td>
<td>10,000</td>
<td>10,000</td>
<td>12,000</td>
<td>0</td>
</tr>
<tr>
<td>123,6911</td>
<td>10 units</td>
<td>0</td>
<td>0</td>
<td>20,000</td>
<td>0</td>
</tr>
<tr>
<td>123,6912</td>
<td>9 units</td>
<td>0</td>
<td>0</td>
<td>18,000</td>
<td>0</td>
</tr>
<tr>
<td>Column Totals</td>
<td></td>
<td>$199,899</td>
<td>$106,000</td>
<td>$106,000</td>
<td>$93,899</td>
</tr>
</tbody>
</table>

I, , 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 Agent Authorized in Writing: ___________________ Date: Aug 29/00

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
- [X] 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.
## Statement of Costs for Assessment Credit

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this 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 a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

### Work Type

<table>
<thead>
<tr>
<th>Work Type</th>
<th>Units of work</th>
<th>Cost Per Unit of work</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond Drilling</td>
<td>2,403 metres</td>
<td>80.51</td>
<td>192,898</td>
</tr>
</tbody>
</table>

### Associated Costs (e.g. supplies, mobilization and demobilization).

### Transportation Costs

### Food and Lodging Costs

---

**RECORDED**

**AUG 3 1 2000**

**Total Value of Assessment Work**

$192,898

### 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:

\[
\text{TOTAL VALUE OF ASSESSMENT WORK} \times 0.50 = \text{Total $ value of worked claimed.}
\]

**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.

### Certification verifying costs:

I, [Recorded Holder's 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 [Recorded Holder, Agent, or State Company Position with signing authority].

I am authorized to make this certification.

---

**RECEIVED**

**AUG 3 1 2000**

**GEOSCIENCE ASSESSMENT OFFICE**

[Signature]

**Date**

[Date]
Dear Sir or Madam:

Submission Number: 2.20527

Subject: Transaction Number(s): W0060.00368 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 lucille.jerome@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

Steve B. Beneteau
Acting Supervisor, Geoscience Assessment Office
Mining Lands Section

ORIGINAL SIGNED BY
Steve B. Beneteau
Acting Supervisor, Geoscience Assessment Office
Mining Lands Section

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

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

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

Submission Number: 2.20527

Date Correspondence Sent: October 03, 2000

Assessor: LUCILLE JEROME

<table>
<thead>
<tr>
<th>Transaction Number</th>
<th>First Claim Number</th>
<th>Township(s) / Area(s)</th>
<th>Status</th>
<th>Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>W0060.00368</td>
<td>6000408</td>
<td>CARGILL</td>
<td>Approval</td>
<td>October 02, 2000</td>
</tr>
</tbody>
</table>

Section:
16 Drilling PDRILL

All future assessment work submissions must be accompanied with a breakdown of costs on the statement of cost form.

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.

Correspondence to:
Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):
Reno Pressacco
KASPUSKASING, ONTARIO

VIRIDIAN INC.
EDMONTON, ALBERTA
LITHOLOGIC LEGEND

MATERIAL TYPE
A ORE
B (GREB) ORE
WASTE
GREEN MICA CLAY
(SILICA SANDS)
(PEAT ORGANICS)
(ALL CLAY)
(UNDIFFERENTIATED)
•••••••••
ORE
GREEN MICA CLAY
(SILICA SANDS)
(PEAT ORGANICS)
(ALL CLAY)
(UNDIFFERENTIATED)

HETERZOIC:
ROCK - GNEISS
ROCK - ROCK - RAUHAUGITE
ROCK - SOVITE
ROCK - MISC. /••••UNDIFFERENTIATED

PLEISTOCENE:
BROWN, VARVED CLAY
GREY GUMBO (LEDDA) CLAY
QUARTZ-RICH SANDS
BROWN BOULDER TILL
OTHER

GENERAL CODES:
LOST CORE
RECOVERED

SURFACE
Old

= 100 m

Winter 2000 Drilling Program
Seals: 1500
Plan Me.
jatte 02-Aug-00
### ITHOLOGIC CODE

**GEOMETRICAL**
- 701: ORE
- 702: (GREY)
- 703: B ORE
- 704: B2 ORE
- 705: 7 GREEN MICA CLAY
- 706: WASTE (SILICA SANDS)
- 707: WASTE (PEAT fi ORGANICS)
- 708: WASTE (ALL CLAYS)
- 709: WASTE (UNDIFFERENTIATED / OTHER)
- 710: RESIDUUM (UNDIFFERENTIATED)

**PROTEROZOIC**
- 711: ROCK - GNEISS
- 712: ROCK - RAUHAUGITE
- 713: ROCK - SOVITE
- 714: ROCK - PYROXENITE
- 715: ROCK - MISC. 7 UNDIFFERENTIATED

**PLEISTOCENE**
- 716: BROWN, VARVED CLAY
- 717: GREY GUMBO (LEDDA) CLAY
- 718: QUARTZ-RICH SANDS
- 719: BROWN BOULDER TILL
- 720: OTHER 7 UNDIFFERENTIATED

**GENERAL CODES**
- 799: LOST CORE / NO RECOVERY / NO SAMPLE

---

**Winter 2000 Drilling Program**

**Scale: 1: 500**

**Date: 02-Aug-00**

SUHPAC2000 - SURPAC Software International
<table>
<thead>
<tr>
<th>Material Type</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setaceous</td>
<td>701</td>
<td>A ORE</td>
</tr>
<tr>
<td></td>
<td>702</td>
<td>(GREY) ORE</td>
</tr>
<tr>
<td></td>
<td>703</td>
<td>Bl ORE</td>
</tr>
<tr>
<td></td>
<td>704</td>
<td>B2 ORE</td>
</tr>
<tr>
<td></td>
<td>705</td>
<td>WASTE (SILICA SANDS)</td>
</tr>
<tr>
<td></td>
<td>706</td>
<td>WASTE (PEAT ORGANICS)</td>
</tr>
<tr>
<td></td>
<td>707</td>
<td>WASTE (ALL CLAYS)</td>
</tr>
<tr>
<td></td>
<td>708</td>
<td>WASTE (UNDIFFERENTIATED)</td>
</tr>
<tr>
<td></td>
<td>720</td>
<td>RESIDUUM (UNDIFFERENTIATED)</td>
</tr>
<tr>
<td>Proterozoic</td>
<td>709</td>
<td>ROCK</td>
</tr>
<tr>
<td></td>
<td>710</td>
<td>ROCK</td>
</tr>
<tr>
<td></td>
<td>711</td>
<td>ROCK</td>
</tr>
<tr>
<td></td>
<td>712</td>
<td>ROCK</td>
</tr>
<tr>
<td></td>
<td>713</td>
<td>ROCK</td>
</tr>
<tr>
<td></td>
<td>714</td>
<td>BROWN, VARVED CLAY</td>
</tr>
<tr>
<td></td>
<td>715</td>
<td>GREY GUMBO (LEQDA.) CLAY</td>
</tr>
<tr>
<td></td>
<td>716</td>
<td>QUARTZ-RICH SANDS</td>
</tr>
<tr>
<td></td>
<td>717</td>
<td>BROWN BOULDER TILL</td>
</tr>
<tr>
<td></td>
<td>718</td>
<td>OTHER</td>
</tr>
<tr>
<td>General Codes</td>
<td>799</td>
<td>LOST CORE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NO RECOVERY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NO SAMPLE</td>
</tr>
</tbody>
</table>

Scale: 1:500

Plan No, 2000 Drilling Program

Winter 2000 Drilling Program

100 metres
ITHOLOGIC CODE MATERIAL TYPE

SETACEOUS:
- 1A ORE
- 702A (GREY) ORE
- 703B ORE
- 704B2 ORE
- GREEN MICA CLAY

WASTE:
- 705 WASTE (SILICA SANDS)
- 706 WASTE (PEAT ORGANICS)
- 707 WASTE (ALL CLAYS)
- 708 WASTE (UNDIFFERENTIATED / OTHER)

PROTEROZOIC:
- 709 ROCK - GNEISS
- 710 ROCK - RAUHAUGITE
- 711 ROCK - SOVITE
- 712 ROCK - PYROXENITE
- 713 ROCK - MISC. / UNDIFFERENTIATED

PLEISTOCENE:
- 714 BROWN, VARVED CLAY
- 715 GREY GUMBO (LEDDA) CLAY
- 716 QUARTZ-RICH SANDS
- 717 BROWN BOULDER TILL
- 718 OTHER / UNDIFFERENTIATED

GENERAL CODES:
- 799 LOST CORE
- NO RECOVERY / NO SAMPLE

Winter 2000 Drilling Program
Scale: 1:500
Plan NO. 42GC7SW2010
Date: 02-Aug-00

SURPAC2000 - SURPAC Software International
Marine Sediments:

- GREY GUMBO (LEDDA) CLAY
- BROWN BOULDER TILL
- OTHER

Proterozoic:

- ROCK - GNEISS
- ROCK - RAUHAUGITE
- ROCK - SOVITE
- ROCK - PYROXENITE
- ROCK - MISC.

Pleistocene:

- BROWN, VARVED CLAY
- GREY GUMBO (LEDDA) CLAY
- QUARTZ-RICH SANDS
- BROWN BOULDER TILL
- OTHER

3ENHAL CODES:

- LOST CORE
- NO RECOVERY
- NO SAMPLE

Scale: 1:500

Plan No.

Date: 02-Aug-00

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100 meters