MAR 20060021: ARCADIA VALLEY

Received date: Oct 06, 2006
Public release date: Oct 15, 2007

DISCLAIMER
By accessing and using the Alberta Energy website to download or otherwise obtain a scanned mineral assessment report, you (“User”) agree to be bound by the following terms and conditions:

a) Each scanned mineral assessment report that is downloaded or otherwise obtained from Alberta Energy is provided “AS IS”, with no warranties or representations of any kind whatsoever from Her Majesty the Queen in Right of Alberta, as represented by the Minister of Energy (“Minister”), expressed or implied, including, but not limited to, no warranties or other representations from the Minister, regarding the content, accuracy, reliability, use or results from the use of or the integrity, completeness, quality or legibility of each such scanned mineral assessment report;

b) To the fullest extent permitted by applicable laws, the Minister hereby expressly disclaims, and is released from, liability and responsibility for all warranties and conditions, expressed or implied, in relation to each scanned mineral assessment report shown or displayed on the Alberta Energy website including but not limited to warranties as to the satisfactory quality of or the fitness of the scanned mineral assessment report for a particular purpose and warranties as to the non-infringement or other non-violation of the proprietary rights held by any third party in respect of the scanned mineral assessment report;

c) To the fullest extent permitted by applicable law, the Minister, and the Minister’s employees and agents, exclude and disclaim liability to the User for losses and damages of whatsoever nature and howsoever arising including, without limitation, any direct, indirect, special, consequential, punitive or incidental damages, loss of use, loss of data, loss caused by a virus, loss of income or profit, claims of third parties, even if Alberta Energy have been advised of the possibility of such damages or losses, arising out of or in connection with the use of the Alberta Energy website, including the accessing or downloading of the scanned mineral assessment report and the use for any purpose of the scanned mineral assessment report so downloaded or retrieved.

d) User agrees to indemnify and hold harmless the Minister, and the Minister’s employees and agents against and from any and all third party claims, losses, liabilities, demands, actions or proceedings related to the downloading, distribution, transmissions, storage, redistribution, reproduction or exploitation of each scanned mineral assessment report obtained by the User from Alberta Energy.
Project Name: Arcadia Valley
Permit Number(s): 9304070984
Permit Holder: Paradigm Canadian Diamonds Pty Ltd
Author: Bernard Rowe BSc(Hons), MAIG
Date: 03/10/2006
Part B – Assessment Report
# Table of Contents

1  Introduction .......................................................................................................................... 1
2  Summary ............................................................................................................................... 1
3  Location ............................................................................................................................... 1
4  Geological Setting ............................................................................................................. 1
5  Work Completed .................................................................................................................. 2
6  Results of Till Sampling ..................................................................................................... 3
7  Conclusions .......................................................................................................................... 5
8  References ........................................................................................................................... 5
9  Appendices (Part C) ............................................................................................................. 6
   9.1  Tenement Location Map .............................................................................................. 7
   9.2  Sample Location Map .................................................................................................. 8
   9.3  Sample Data ................................................................................................................ 9
   9.4  Sample Processing Flow Sheet ...................................................................................... 10
1 Introduction
Paradigm Canadian Diamonds Pty Ltd (Paradigm) is the holder of the Arcadia Valley project (exploration permit number 9304070984) in southeastern Alberta. Paradigm regards the area to be prospective for diamond bearing Kimberlite and exploration efforts have been focussed accordingly.

This report was prepared by Mr Bernard Rowe. Mr Rowe is an employee of Paradigm and exploration geologist with 17 years experience including seven years in diamond exploration with Ashton Mining Ltd. Ashton Mining was part-owner of the Argyle diamond mine in Western Australia until it was taken over by Rio Tinto. Mr Rowe holds a Bachelor of Applied Science (Honours) degree in Geology from the University of Ballarat, Australia and is a member of the Australian Institute of Geoscientists.

2 Summary
Paradigm Geoscience Pty Ltd conducted a regional structural study over Alberta to identify areas considered most prospective for diamondiferous Kimberlite. Subsequent to the regional study, Paradigm Canadian Diamonds Pty Limited applied for mineral tenure over seven target areas. Regional data sets covering the targets were acquired, processed and reviewed in order to further evaluate the targets and to plan appropriate field programs. A program of surface till sampling was undertaken on the Arcadia Valley target. One sample contained anomalous numbers of Kimberlitic indicator minerals. Further work is proposed to better define the indicator mineral dispersion train and to identify discrete targets for drill testing.

3 Location
The Arcadia Valley property is located in south-eastern Alberta close to the Saskatchewan border and about 150km north of the weakly diamondiferous Sweetgrass Intrusions in Montana. The property lies 50km northeast of the city of Medicine Hat and 5km northwest of the small town of Schuler. Access to the area is excellent with the sealed highway from Medicine Hat and a network of well formed and maintained gravel roads providing local access.

4 Geological Setting
Achaean basement rocks of the Hearne Sub-province (2.6-2.8Ga) are overlain by thick sequences of Phanerozoic sediments of the Western Canada Sedimentary Basin. In this area, the youngest of the platform sedimentary cover rocks are of Upper Cretaceous age. Quaternary glacial deposits overlie the bedrock and range in thickness from 15m to 45m.
5 Work Completed
Initial work involved the acquisition, reprocessing and review of the following datasets to assist in planning field programs:

- Aeromagnetic data
- Bedrock geology (published maps)
- Quaternary geology (published maps)
- Quaternary isopachs
- Ice directions
- Topography
- Bore holes
- Kimberlite occurrences
- Indicator mineral data (mineralogy and mineral chemistry)

Aeromagnetic data was acquired from the Geological Survey of Canada. The SASK VI Maple Creek survey was flown over the area in 1995-96 at a flying height of 150m and a line spacing of 800m. Figure 1 shows a grid image of the first vertical derivative of the total field. A large circular anomaly is present in the southwestern corner of the tenement. It is possible that the anomaly could represent a large and deep pipe-like body.

An examination of the bedrock geology shows that the area is underlain by Late Cretaceous Bearpaw Formation and that the tenement is located on the northern flank of a bedrock topographic high (800m asl). The Bearpaw formation consists of argillaceous sandstone, silty shale and shale.

The quaternary geology consists of flat to hummocky moraine. Two dominant ice-directions have been measured in the region: WNW and NNE. The WNW direction is most evident in the local area and on that basis our sample lines were oriented in a NE direction (at right angles to the dominant ice-direction). Quaternary isopach maps show that the moraine in the local is unusually thin when compared elsewhere in southern Alberta. Moraine thickness ranges from 0-45m making it an ideal area for surface till sampling. Field investigation confirmed the presence of hummocky moraine which is often fissile, well compacted and contains abundant rock fragments (sub-glacial).

Whilst no kimberlites are known in the area, indicator minerals have been previously recovered and described. The area has been referred to by the Alberta Geological Survey as the Brooks Trend and multiple samples have contained pyrope garnet and chrome diopside.

PCDPL undertook a program of surface till sampling during the 2004 summer. Samples were collected from between 2km and 7 km down-ice of the target area. A total of nine individual samples of 15-20kg (-1mm fraction) were collected at intervals of between 500m to 1000m along roadside profiles perpendicular to the dominant ice direction. Neighboring samples were composited into four samples.
for processing. Samples were collected from basal till where possible and all
sites were positioned with GPS (+/- 10m).

The samples were processed by SRC Geoanalytical Laboratories in Saskatoon
to produce a heavy mineral concentrate from the 0.25mm-1.0mm fraction. The
concentrates were then dispatched to Global Diamond Exploration Services in
Perth Western Australia for mineral observation. Sample locations and results
are tabulated in Appendix 3. Appendix 4 shows a sample processing flow sheet.

6 Results of Till Sampling

Two of the four composite samples contained kimberlitic indicator minerals.
Sample AV002, a three-site composite till sample totaling 53kg contained 3
pyrope, 2 chrome diopside and one picroilmenite. The grains were recovered
from the +0.4, +0.5 and +0.8mm fractions and were described as displaying only
minor surface wear. The neighboring sample collected by the GSC (48-3-1-T)
contained 4 pyrope and 2 chrome diopside. The pyrope grains were probed and
are classified as G2 high-titanium and G9 chrome pyrope (Appendix 1).

Previously, the Geological Survey of Canada (GSC) collected two samples in
close proximity to the property. Sample results support the idea of a dispersion
train with a source in the area of the property. The best results in this area have
come from two neighboring samples (one Paradigm, one GSC) located 3km
down-ice of the property (Figure 2). Of the three remaining down-ice samples,
one contained a single pyrope and two did not contain indicator minerals.

Regional sampling by the GSC, AGS and SRC identified the broader area as
anomalous in indicator minerals. Seven samples within a 50km radius of the
property contain pyrope and/or chrome diopside including several samples with
G10 pyrope grains. In light of this, a weak indicator mineral background would
be expected from samples in this area.

The presence of two neighboring samples, both containing six indicator mineral
grains, amongst negative to weakly positive samples suggests a local source.
The size distribution and freshness of the indicator minerals support this
interpretation.
Indicator Minerals in Till Samples

- Pyrope
- Picro
- Chromite
- Chrome_Diopside

Exploration Permit

Ice Direction

Aeromagnetic Image (1st VD) & Surface Till Sample Results

PARADIGM CANADIAN DIAMONDS

Arcadia Valley Project, AB

Date: 3/2007

Author: lrl

Office: Sydney

Figure 1

Scale: 1:100000

Projection: UTM Zone 12 (NAD 83)
7 Conclusions
Surface till sampling has located an area of anomalous concentrations of kimberlitic indicator minerals down-ice of the project area. Additional till sampling is required to further define the dispersion train and pinpoint the source area. A detailed airborne magnetic/EM survey would lead to the identification of discrete targets for drill testing.

8 References
9 Appendices (Part C)
### Appendix – Sample Data

<table>
<thead>
<tr>
<th>SampleID</th>
<th>UTM Zone</th>
<th>Easting</th>
<th>Northing</th>
<th>Prospect Zone</th>
<th>Sample Type</th>
<th>Sample Weight kg</th>
<th>Observed Weight g</th>
<th>Positive/Negative</th>
<th>Pyrope</th>
<th>Picro</th>
<th>Chromite</th>
<th>Chrome Diopside</th>
</tr>
</thead>
<tbody>
<tr>
<td>AV001</td>
<td>12</td>
<td>562918</td>
<td>5582957</td>
<td>Arcadia Valley</td>
<td>till</td>
<td>18.9</td>
<td>9.5</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AV002a</td>
<td>12</td>
<td>562816</td>
<td>5580005</td>
<td>Arcadia Valley</td>
<td>till</td>
<td>46.3</td>
<td>18.0</td>
<td>P</td>
<td>3</td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>AV002c</td>
<td>12</td>
<td>562538</td>
<td>5579724</td>
<td>Arcadia Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AV003a</td>
<td>12</td>
<td>560323</td>
<td>5577331</td>
<td>Arcadia Valley</td>
<td>till</td>
<td>53.3</td>
<td>25.0</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>AV003b</td>
<td>12</td>
<td>560323</td>
<td>5577331</td>
<td>Arcadia Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AV3c</td>
<td>12</td>
<td>559583</td>
<td>5576458</td>
<td>Arcadia Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AV4a</td>
<td>12</td>
<td>554559</td>
<td>5578576</td>
<td>Arcadia Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AV4b</td>
<td>12</td>
<td>554555</td>
<td>5579168</td>
<td>Arcadia Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Details of heavy mineral samples (till)

<table>
<thead>
<tr>
<th>Sample</th>
<th>SiO2</th>
<th>TiO2</th>
<th>Al2O3</th>
<th>Cr2O3</th>
<th>FeO</th>
<th>MnO</th>
<th>MgO</th>
<th>CaO</th>
<th>Na2O</th>
<th>K2O</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>48-3-1-T</td>
<td>42.33</td>
<td>0.89</td>
<td>16.78</td>
<td>6.09</td>
<td>7.00</td>
<td>0.32</td>
<td>20.97</td>
<td>5.92</td>
<td>0.05</td>
<td>0.02</td>
<td>100.37</td>
</tr>
<tr>
<td>48-3-1-T</td>
<td>42.41</td>
<td>0.18</td>
<td>20.50</td>
<td>3.08</td>
<td>7.95</td>
<td>0.45</td>
<td>20.60</td>
<td>4.53</td>
<td>0.03</td>
<td>0.01</td>
<td>99.94</td>
</tr>
<tr>
<td>48-3-1-T</td>
<td>42.54</td>
<td>0.90</td>
<td>18.80</td>
<td>3.59</td>
<td>7.74</td>
<td>0.31</td>
<td>21.15</td>
<td>5.18</td>
<td>0.06</td>
<td>0.01</td>
<td>100.28</td>
</tr>
<tr>
<td>48-3-1-T</td>
<td>42.56</td>
<td>0.87</td>
<td>19.87</td>
<td>1.93</td>
<td>8.94</td>
<td>0.33</td>
<td>20.74</td>
<td>4.88</td>
<td>0.06</td>
<td>0.01</td>
<td>100.19</td>
</tr>
</tbody>
</table>

Table 2. Analyses of pyrope from Arcadia Valley (Alberta Geological Survey)
Field Sample (Weigh=SWT)

Deslime, Wet Screen ±1.00mm±0.25mm

+1.0mm (Save)

-1.0+0.25mm (Weigh=MWT)

Dry, Weigh, High Intensity Magnetic Separation

Mags (Weigh=Mag)

Nonmags (Weigh=NmagSave)

TBE SG Verified 2.96±0.01

Heavy Liquids TBE

SG < 2.96 (Discarded)

SG > 2.96 (Weigh=TRI+SG)

Heavy Liquids MI SG 3.30

SG < 3.30 (Weigh=MIF, Save)

SG > 3.30 (Weigh=MIS)

MIL SG Verified 3.30±0.01

Remove Ferro mags with a weak hand magnet

Non Ferro mags

Frantz Magnetic Separation @ 0.37amps

Ferro mags (Weigh=FM, Saved)

Frantz Operation Verified

Frantz Uppers UP (Weigh=UP)

Frantz Lowers L.W (Weigh=L.W)

Picroilmenites Chromites

Pyrope Cr Diopsides Eclogites Olivine

Report all weights

Return to Client

Return all concentrates to client (no observation required)