MAR 20060023: HIGH HILL RIVER

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Project Name: High Hill River
Permit Number(s): 9304070988
Permit Holder: Paradigm Canadian Diamonds Pty Ltd
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Date: 04/10/2006
Part B & C – Assessment Report
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1 Introduction
Paradigm Canadian Diamonds Pty Ltd is the holder of the High Hill River project (exploration permit 9304070988) in central eastern Alberta. Paradigm regards the area as 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 Geoscience and an 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 most prospective for diamondiferous kimberlite. Subsequent to the regional study, Paradigm Canadian Diamonds Pty Limited (PCDPL) 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/gravel sampling was undertaken on the High Hill target. Further work is proposed to more effectively test the project area and to identify discrete targets for drill testing.

3 Location
The High Hill River project is located 55km east of Fort McMurray at the confluence of the Clearwater and High Hill rivers in central eastern Alberta. The area is heavily forested and access to the area is only possible by boat or helicopter. A tenement location/index map is included in Appendix 1.

4 Geological Setting
Proterozoic rocks of the Taltson Magmatic Arc (2.0-1.8Ga) are overlain by thick sequences of Phanerozoic sediments of the Western Canada Sedimentary Basin. In this area, the youngest of platform cover rocks belong to the Early Cretaceous Grand Rapids Formation.
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 from the Alberta #28 survey was acquired from the Geological Survey of Canada. The survey was flown in 1952 at a flying height of 305m and a line spacing of 1609m. Appendix 2 shows an image of the first vertical derivative of the total magnetic field. Several circular anomalies (positive and negative) of interest are present and could be caused by pipe-like bodies. The wide line spacing and age of the survey render the data not particularly useful for kimberlite exploration.

An examination of the bedrock geology showed that the area is underlain by Early Cretaceous Grand Rapids Formation at an average elevation of 350m asl. Underlying rocks of the Clearwater, McMurray and Waterways Formations are exposed in the valley of the Clearwater River. Kimberlites younger than the Early Cretaceous are the target for exploration.

Glacial deposits are not well described from the area but are generally thin (0-20m). Till is likely to be present in the more elevated area whereas the deep and narrow valley of the Clearwater River is dominated by thin glacifluvial deposits overlying Mesozoic sediments.

The Geological Survey of Canada (GSC) and the Alberta Geological Survey have recovered moderate numbers of eclogitic garnet and chrome diopside grains from the general area but sampling is sparse. Dufresne et al (1996) referred to this area as the Fort Mackay Trend. No kimberlites are known from the area.

Paradigm attempted a program of heavy mineral sampling in the area. The area was accessed by boat from Fort McMurray along the Clearwater River. Low water levels prevented access up the High Hill River. Two gravel samples were collected from small tributaries of the Clearwater River. Both sites were positioned with GPS (+/- 10m). Attempts to locate till for sampling were unsuccessful. A sample location map is included as Appendix 3.

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 4 and a sample processing flowsheet is included in Appendix 5.

6 Results
No indicator minerals were recovered in the two gravel samples collected. The target has not been conclusively tested and further work is required.

7 Conclusions
Surface sampling at the High Hill River project is difficult due to access problems which include rugged terrain, dense vegetation and no road access. Further work is required to better evaluate the project and a helicopter supported sampling program is recommended.

8 References
9 Appendices (Part C)
### Appendix 4 – Sample Data

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<th>SampleID</th>
<th>UTM Zone</th>
<th>Easting</th>
<th>Northing</th>
<th>Prospect</th>
<th>Type</th>
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<th>Observed Weight g</th>
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<th>Picro</th>
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</table>
Appendix – Sample Processing Flow Sheet

Field Sample (Weigh=SWT)

- Deslime, Wet Screen
  ±1.00mm, ±0.25mm
  Screen Operation Verified ≥ 95% efficiencies

- +1.0mm (Save)

- -1.0+0.25mm (Weigh=MWT)

- -0.25mm (Save)

  - Dry, Weigh, High Intensity Magnetic Separation
    Magnetic Separation Verified

  - Mags (Weigh=Mag)

  - Nonmags (Weigh=NMagSave)

    - Heavy Liquids TBE
      Heavy Liquids MI SG 3.30
      MI SG Verified 3.30 ± 0.01

    - SG < 2.96 (Discarded)

    - SG > 2.96 (Weigh=MIF, Save)

      - Heavy Liquids MI SG 3.30
        MI SG Verified 3.30 ± 0.01

      - SG < 3.30 (Weigh=MIF, Save)

      - SG > 3.30 (Weigh=MIS)

    - Remove Ferro mags with a weak hand magnet

      - Non Ferro mags

        - Frantz Magnetic Separation @ 0.37amps

          - Frantz Uppers UP (Weigh=UP)

          - Frantz Lowers LW (Weigh=LW)

            - Picroilmenites Chromites

            - Pyrope Cr Diopsides Etclogites Olivine

          - Report all weights

      - Ferro mags (Weigh=FM, Saved)

        - Frantz Operation Verified

          - Return to Client

          - Return all concentrates to client (no observation required)