

## 1 Exploration History and Discovery – Mountain Lake

In 1995, Monopros Limited (the Canadian subsidiary of De Beers) publicly announced the discovery of two ultramafic diatremes (possible kimberlites), located directly north of Mountain Lake in northwestern Alberta, approximately 75 km northeast of Grande Prairie.

The diatremes were initially targeted as a result of a positive stream-sediment heavy-mineral sample in the adjacent Mountain Lake Creek and in April 1991 follow-up ground geophysics indicated two separate positive magnetic anomalies (Wood and Williams, 1994). In 1991, Monopros drilled nine drill holes totalling about 1,700 m and delineated two adjacent diatremes, Mountain Lake South and Mountain Lake North.

During a 1995 drill program, which was conducted jointly by the Alberta Geological Survey and Geological Survey of Canada, two drill holes penetrated the Mountain Lake South (hole ML95-3) and North (hole ML95-1). Leckie, Kjarsgaard et al. (1997) used the core to describe petrology, indicator-mineral geochemistry, aeromagnetic signature, age, stratigraphic position and the emplacement setting of the Mountain Lake diatreme. Skupinski and Langenberg (2002) and Eccles and Luth (in press) recently used the core for petrographic and whole-rock geochemical interpretations.

Because drilling has not penetrated depths greater than approximately 200 m, it is not known whether Mountain Lake is comprised of two separate diatremes, or if the south and north bodies join at depth to form a single intrusion.

In 2000, Monopros allowed the mineral permit to lapse. The Mountain Lake property was permitted, and is currently being explored, by New Claymore Resources Ltd.

## 2 References:

- Eccles, D.R. and Luth, R.W. (in press): Major and trace element geochemistry of ultramafic diatremes in Alberta. Alberta Energy and Utilities Board, Alberta Geological Survey, Earth Science Report 2001-15.
- Leckie, D.A., Kjarsgaard, B.A., Peirce, J.W., Grist, A.M., Collins, M., Sweet, A., Stasiuk, L., Tomica, M.A., Eccles, D.R., Dufresne, M.B., Fenton, M.M., Pawlowicz, J.G., Balzer, S.A., McIntyre, D.J. and McNeil, D.H. (1997): Geology of a Late Cretaceous possible kimberlite at Mountain Lake, Alberta – chemistry, petrology, indicator minerals, aeromagnetic signature, age, stratigraphic position and setting; Geological Survey of Canada, Open File Report 3441, 202 p.
- Skupinsky, A. and Langenberg, C.W. (2002): Petrography of the Mountain Lake Pipe; Alberta Energy and Utilities Board, Alberta Geological Survey, Special Report 15, 11 p.