MAR 20100006: LIEGE EAST

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NTS 84A

ASSESSMENT REPORT FOR SHEAR MINERALS LTD.'S LIEGE EAST PROPERTY, NORTHERN CENTRAL ALBERTA:977554 ALBERTA LTD. MINERAL AGREEMENTS # 9302050136, 9302050137, 9302050138 and 9302050141 , GEOLINK EXPLORATION LTD.MINERAL AGREEMENTS 9306011171 and 9306011170 AND SHEAR MINERALS LTD. MINERAL AGREEMENTS # 9308050871, 9308050872 and 9308050874

Approximate Property Location
Latitude: 56°54' N
Longitude: 112°32' W
60 Km West of Fort McMurray, North-Central Alberta

Shear Minerals Ltd.
Suite 220, 17010 – 103rd Avenue
Edmonton, Alberta, Canada
T5S 1K7

And

977554 Alberta Ltd.
Suite 4700, 888 – 3rd Street SW
Calgary, Alberta, Canada
T2P 5C5

And
Geolink Exploration Ltd.
P.O. Box 229
Cowley, AB
T0K 0P0

May 17, 2010
Edmonton, Alberta Canada

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Saz Yaqzan, BSc

ASSESSMENT REPORT FOR SHEAR MINERALS LTD.'S LIEGE EAST PROPERTY, NORTHERN CENTRAL ALBERTA:977554 ALBERTA LTD. MINERAL AGREEMENTS # 9302050136, 9302050137, 9302050138 and 9302050141 , GEOLINK EXPLORATION LTD.MINERAL AGREEMENTS 9306011171 and 9306011170 AND SHEAR MINERALS LTD. MINERAL AGREEMENTS # 9308050871, 9308050872 and 9308050874

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SUMMARY

The Liege East property, currently held by Shear Minerals Ltd., 977554 Alberta Ltd., and Geolink Exploration Ltd., is comprised of 10 mineral agreements encompassing 51,776 hectares and is located 370 km northeast of Edmonton. Shear's property covers portions of Townships 90 to 92, Ranges 14 to 18 and Townships 93 to 94, Range 14, west of the 4th meridian. Between the spring of 2008 and February 2010 Shear spent a total of $369,313.38 (not including GST) on exploration on the Liege East Property, the subject of this report. The report covers only nine of the permits and 48,704 ha. Exploration conducted on the Liege East property by Shear between 2008 and January 2010 consisted of ground checking access to 3 geophysical anomalies and drilling 3 holes.

The regional setting in the Buffalo Head Hills area is considered favourable for the presence of diamondiferous kimberlites. The Liege East permits are underlain by Early Proterozoic to Archean basement of the Buffalo Head Craton. The local bedrock geology and the underlying Archean to Proterozoic crystalline basement in association with deep seated, penetrative structures, such as the Peace River Arch, likely provided a favourable environment for the ascent of kimberlitic magmas in the Buffalo Head Hills region. The regional cratonic setting is also considered favourable for the formation and preservation of diamonds in the upper mantle and their transport to surface in kimberlitic magma during periodic tectonic activity associated with movement along the Peace River Arch.

To date, previous exploration work by other companies recovered a number of diamond indicator minerals from glacial outwash gravel, recent fluvial gravel and till on and around Shear's properties. The importance of these indicator minerals is unknown due to the presence of variable thicknesses of glacial drift and the poor sampling density. A limited number of samples collected from and around the Liege property have yielded significant numbers of indicator minerals including olivine, pyrope garnet, chromite and picroilmenite.

Therefore there is a strong likelihood that undiscovered kimberlites exist on or to the north of the Liege East property. The diamond potential of the property cannot be fully assessed with the limited amount of sampling that has been conducted to date. However, several airborne surveys were conducted and have delineated five targets in total on both the Liege East and Liege West properties.

Previous exploration by Shear Minerals includes a fixed wing HRAM survey was conducted over the property in 2006 from which a total of 1 magnetic anomaly (LD010) was identified on the Property and recommended for further follow-up. The three seismic anomalies (Seismic-3, Seismic-4, and Seismic-5) did not have corresponding magnetic anomalies from the airborne survey. In regards to the seismic anomalies, alternative geophysical methods such as ground gravity or electromagnetics should be investigated to explain the reason for the seismic discontinuities.

In the fall of 2006, ground truthing of the 13 high priority airborne geophysical anomalies was competed. Ground geophysical surveys were conducted over nine of the anomalies which could not be explained by cultural features. Additionally, three ground gravity surveys were completed over a seismic target.

INTRODUCTION AND TERMS OF REFERENCES

Shear Minerals Ltd retained APEX Geoscience Ltd. (APEX) as to compile all existing geological and geophysical data for the Liege East (previously referred to as the Legend Property) and Liege West properties and for the preparation of an independent evaluation of the potential of the properties to host diamondiferous kimberlites.

This assessment report documents the results of the work completed on the Liege East property between the spring of 2008 and January 2010 by Shear Minerals Ltd.. During the last year, Shear Minerals Ltd. spent a total of CAN$ 369,313.38 (not including GST) on exploration on the 977554 Alberta Ltd. and the Geolink Exploration mineral agreements on the Liege East Property for the ground checks and a diamond drill program.

DISCLAIMER

The authors, in writing this report, used sources of information listed in the references. The report, written by Saz Yaqzan, BSc., and Pamela Strand, M.Sc., P.Geol., a Qualified Person, is a compilation of proprietary and publicly available information as well as information obtained during a number of property visits. The government reports were prepared by a person or persons holding post secondary geology, or related university degree(s), prior to the implementation of the standards relating to National Instrument 43-101. The information in those reports is therefore assumed to be accurate. Those reports written by other geologists are also assumed to be accurate based on the property visits and data review conducted by the author, however are not the basis for this report.

PROPERTY DESCRIPTION AND LOCATION

The centre of the Liege East property is situated approximately 60 km west of Fort McMurray, Alberta and approximately 370 km northeast of Edmonton, Alberta (Figure 1). The property is located in North Central Alberta within 1:250 000 scale National Topographic System (NTS) map sheet 84A at 56°54' N latitude and 112°32' W longitude. The report concerns a part of the Liege East property which consists of 9 metallic and industrial mineral permits totalling hectares (Figure 2). A list of legal descriptions for the permits in this report on the Liege East property is provided in Table 1. The Legal Description column is Township, Range, Meridian and Section respectively. Copies of the mineral permit agreements and the land titles are included in Appendix 1.

TABLE 1
LEGAL PERMIT DESCRIPTIONS*

Permit Number	Record Date	Term Period	Legal Description	Permit Holder	Original Area(Ha)
Liege East Property					
9302050136	05/24/2002	14 years	91-14W4:16-21	977554 Alberta Ltd.	1,536
9302050137	05/24/2002	14 years	91-15W4: 17S,NW;18E	977554 Alberta Ltd.	320
9302050138	05/24/2002	14 years	91-15W4:19-36 91-16W4:35;36	977554 Alberta Ltd.	5,120
9302050141	05/24/2002	14 years	92-17W4:05;06;08; 19;20;25;26;35;36	977554 Alberta Ltd.	2,304
9306011171	01/18/2006	14 years	91-16W4:05-08;17-20;29;30	Geolink Exploration Ltd.	2,560
9306011170	01/18/2006	14 years	91-15W4:01-12 91-16W4:01-04;09-16;21-28;31-34	Geolink Exploration Ltd.	9,216
9308050871	05/23/2008	14 years	90-17W4:01-36	Shear Minerals Ltd.	9,216
9308050872	05/23/2008	14 years	90-18W4:01-36	Shear Minerals Ltd.	9,216
9308050874	05/23/2008	14 years	91-17W4:5-8;17-20;29;30 91-18W4:1-5;8-16;21-28;33-36	Shear Minerals Ltd.	9,216

*based on land titles search

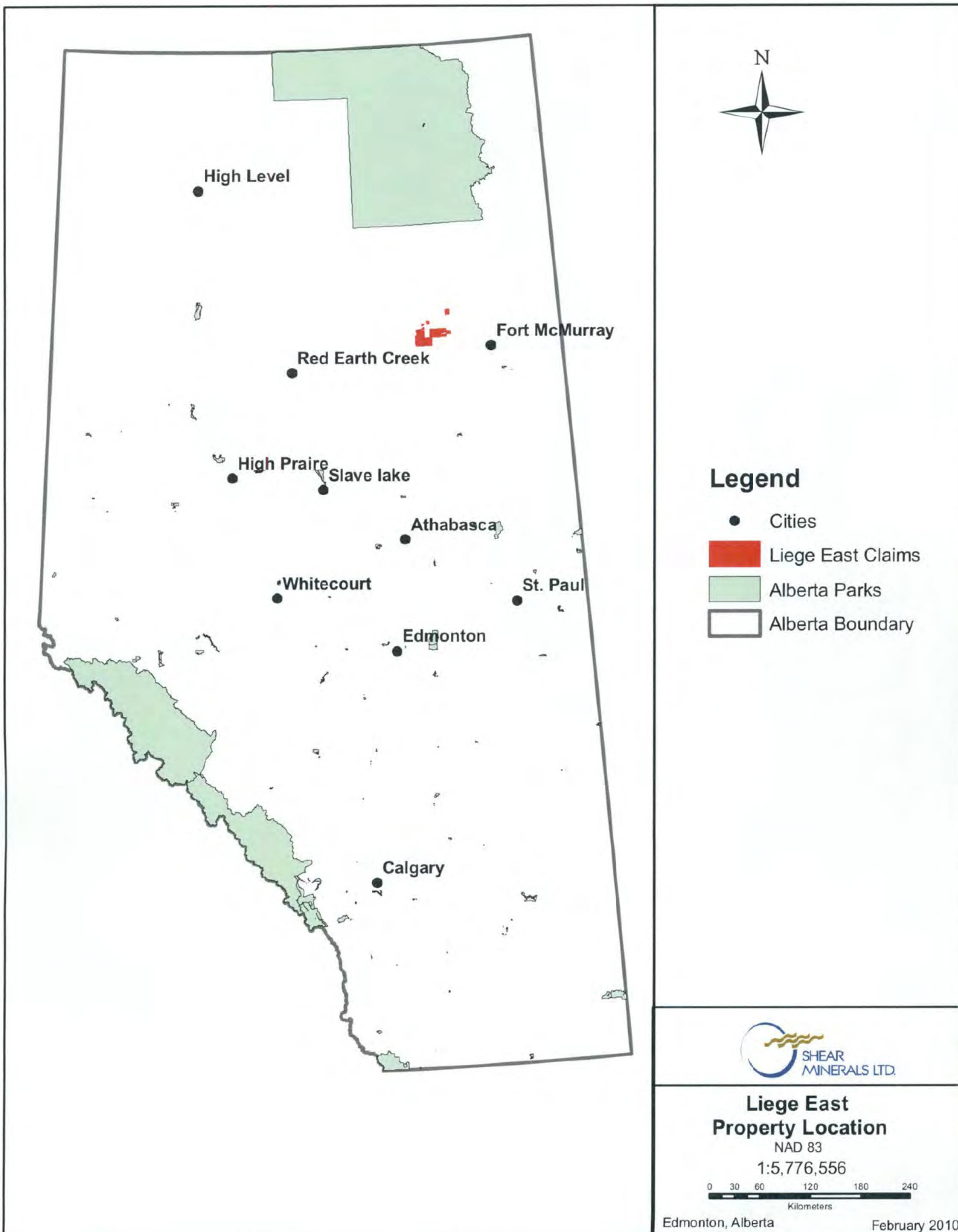

N
High Level
Fort McMurray
Red Earth Creek
High Praire
Slave lake
Athabasca
Whitecourt
St. Paul
Edmonton
Calgary
Legend
Cities
Liege East Claims
Alberta Parks
Alberta Boundary
SHEAR MINERALS LTD.
Liege East
Property Location
NAD 83
1:5,776,556
0 30 60 120 180 240
Kilometers
Edmonton, Alberta
February 2010

Figure 1

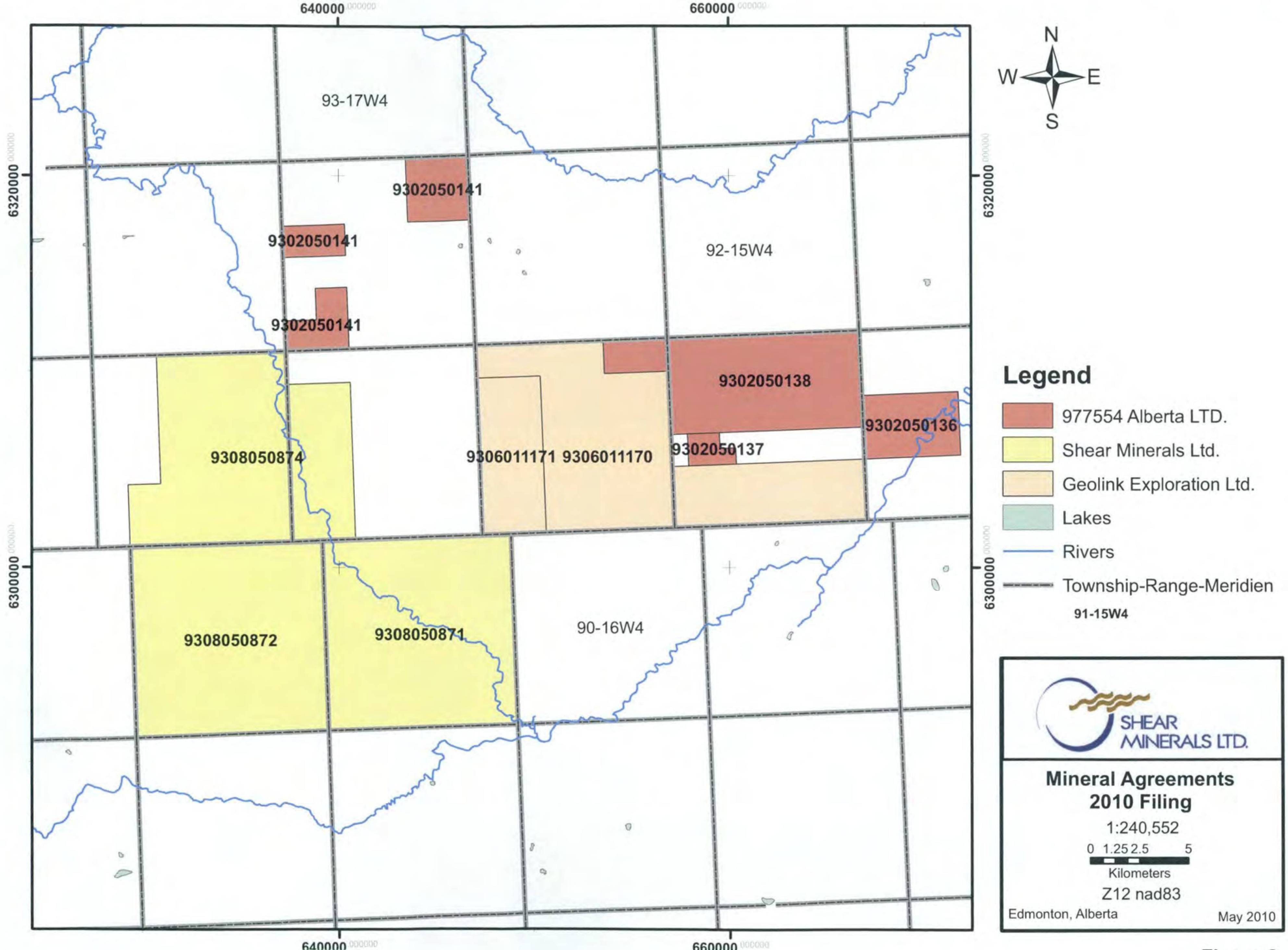

640000
660000
6320000
6300000
93-17W4
92-15W4
90-16W4
9302050141
9302050141
9302050141
9302050138
9302050136
9302050137
9308050874
9306011171 9306011170
9308050872
9308050871
N
W
E
S
Legend
977554 Alberta LTD.
Shear Minerals Ltd.
Geolink Exploration Ltd.
Lakes
Rivers
Township-Range-Meridien
91-15W4
SHEAR MINERALS LTD.
Mineral Agreements
2010 Filing
1:240,552
0 1.25 2.5 5
Kilometers
Z12 nad83
Edmonton, Alberta
May 2010

Figure 2.

Alberta Mining regulations grant metallic mineral permits to the permittee in 14 year terms, during which at any time after the initial two year term, the mineral permit may be converted into a lease. Leases are granted in 15 year terms and may be renewed. A metallic mineral permit gives 977554 Alberta Ltd., Geolink Exploration Ltd. and Shear Minerals Ltd. the exclusive right to explore for economic deposits of minerals, including diamonds, within the boundaries of the permit. The exclusive right to explore is subject to the Alberta Mines and Minerals Act and the contained Metallic and Industrial Mineral Exploration Regulations and the Metallic and Industrial Minerals Tenure Regulation 145/2005.

A permit holder shall spend or cause to be spent with respect to the location of his mineral permit on assessment work an amount equal to $5 for each hectare in the location during the first two year period; an amount equal to $10 per hectare for each of the second and third two year periods; and an amount equal to $15 per hectare for each of the fourth, fifth, six and seventh two year period. Mineral permits may be grouped and excess expenditures may be carried into the next two year period.

In addition to the financial commitment, a metallic mineral permit holder is required to file an assessment report that documents all of the work conducted as well as the results of the work to Alberta Energy. The assessment report must be filed within 60 days after the record date after each two year period.

ACCESSIBILITY, CLIMATE AND LOCAL RESOURCES

The Liege East property is located 370 km north of Edmonton and 60 km west of Fort McMurray and may be accessed via Provincial Highways 813 and 63, all weather and dry weather gravel roads, cart trails and seismic lines. Most portions of the mineral permits area may be accessed by four-wheel drive vehicles or all terrain vehicles (ATV's) during the summer and winter months. There are several airstrips in the area including one at Chipewyan Lake situated on the Liege property. Accommodation, food, fuel, and supplies are best obtained in the town of Fort McMurray or in open camps in the region.

The Liege East property is located within a forest containing mainly mixed poplar, spruce and birch trees on a flat lying plateau with numerous small lakes and ponds, meandering rivers and creeks as well as swamps and marshes. . Elevation in the region varies from 400 m to 600 m above sea level (ASL). Climate is typically long cold winters and short hot summers with annual temperatures ranging from -40°C in January to 25°C in July.

HISTORY: PREVIOUS EXPLORATION

Previous Exploration Buffalo Head Hills Region

Previous exploration in the Buffalo Head Hills region has focussed primarily on the search for hydrocarbon and aggregate deposits and for the determination of hydrogeological and geothermal regimes (Hackbarth and Nastasa, 1979; Mandryk and Richardson, 1988; Bachu *et al.*, 1993; Edwards *et al.*, 1994). Only recently has the focus of exploration been redirected towards diamonds (Dufresne *et al.*, 1996).

The Buffalo Head Hill region is well known for its wealth of energy resources. The primary established reserves are 47,196.4 x 10^3 m^3 of oil in 12 conventional fields and 808 x 10^6 m^3 of gas in 3 fields (Eccles *et al.*, 2001). The geology of the Utikuma Lake Keg River Sandstone A and Red Earth Granite Wash A oil pools, the largest pools in the area, was outlined by Angus *et al.* (1989), who suggested that the pools are hosted by Granite Wash sandstone reservoirs. The Granite Wash Formation is composed of interbedded sandstone, siltstone, and shale, with minor amounts of dolostone and anhydrite (Greenwalt, 1956), and is thought to resemble a diachronous basal nonmarine to shallow marine clastic unit, deposited farther from the Peace River Arch (Grayston *et al.*, 1964). The oil is trapped in Granite Wash sandstone reservoirs that pinch out against or drape over numerous paleotopographic features on the Precambrian surface and are sealed by the overlying Muskeg Formation anhydrite.

During 1950 to 1952, the Geological Survey of Canada (GSC) conducted aeromagnetic surveys of the Peerless Lake (NTS 84B) and Peace River (NTS 84C) map areas as part of a regional survey (Geological Survey of Canada, 1989 a, b). The surveys were flown at an altitude of 305 m (1,000 ft) with flight lines spaced every 1 mile (1.6 km) and cross-lines every 15 miles (24 km). Closer examination of the 1:250,000 scale aeromagnetic map for the Peerless Lake area indicates a predominance of north to northwest trending basement magnetic highs. These highs parallel the trend of the boundaries of the Buffalo Head Terrane. Unfortunately, the flight lines from the 1950 to 1952 surveys are too widely spaced to be useful for locating possible kimberlites. In addition, the digital data derived from these surveys is the result of manual digitization of the old maps and is not the true raw data, which would be required as part of any search for kimberlites.

The first strong indication that the region could host diamondiferous kimberlites came during September 1995, from sampling conducted by the Alberta Geological Survey (AGS). A single sample from a road cut yielded 152 possible pyrope garnets from 25 kg (60 lbs) of dark greyish brown, silty clay till. The sample was collected from a site about 45 km (28 miles) northwest of Red Earth Creek and about 127 km (78.9 miles) west of the center of Liege property

(Fenton and Pawlowicz, 1997). A total of 35 garnet grains were analyzed by electron microprobe; 27 were classified as Group 9 (G9) garnets according to Gurney's (1984) CaO versus Cr_2O_3 discrimination scatter plot. The same site was resampled in August 1996 and yielded 176 possible pyrope garnets, thus duplicating the high number of pyrope garnets initially recovered by the AGS (Pawlowicz *et al.*, 1998a). Based on later work conducted by the Buffalo Head Hills Joint Venture (BHHJV), a joint venture between Ashton Mining of Canada Inc. (Ashton), Alberta Energy Company (AEC) and Pure Gold Minerals Inc. (Pure Gold), it was determined that this till site is less than one kilometre (0.6 miles) southwest of their K4 Kimberlite. A number of other government surface and auger drill hole samples have also yielded high counts of Diamond Indicator Minerals (DIMs) in the Buffalo Head Hills (Pawlowicz *et al.*, 1998a, b; Eccles *et al.*, 2001).

Alberta Energy Company Ltd. (now known as EnCana Corporation) conducted a wide spaced (600 m or 2,000 ft line-spaced) high resolution, fixed-wing aeromagnetic (HRAM) survey in the search for oil and gas deposits over the Buffalo Head Hills during 1995. The survey identified several shallow based, short-wavelength, high frequency magnetic anomalies that also corresponded to areas of very strong diffraction's in seismic profiles (Rob Pryde, *personal communication*, 1998; Carlson *et al.*, 1999; Skelton and Bursey, 1999)). As a result, during October 1996 a joint venture option agreement, the Buffalo Head Hills Joint Venture (BHHJV), was signed by Ashton, AEC, and Pure Gold to investigate these anomalies.

In January 1997, Ashton announced a drill program to test 10 isolated geophysical anomalies in the Buffalo Head Hills area, approximately 35 to 45 km (21 to 27 miles) northwest of the town of Red Earth Creek. An initial two drill holes, located on Ashton's anomalies 7B and 7C, penetrated olivine-dominated fragmental and tuffaceous volcanic rocks underlying glacial overburden at depths of 34.0 m (111.5 ft) and 36.6 m (120 ft), respectively. The rock types were interpreted by Ashton to represent kimberlite pipes (diatremes) that intruded the basement into a thick column of overlying younger sedimentary rocks and the preglacial surface (Ashton Mining of Canada Inc., 1997a). Petrographic studies of core from K7B and K7C confirmed that the drill holes intersected kimberlites and yielded indicator minerals such as chromite, eclogitic garnet and peridotitic garnet (Ashton Mining of Canada Inc., 1997b). By March 1997, a total of 11 kimberlites within a 100 km^2 area (36 square miles) had been discovered, 10 by drilling and 1 by bulldozer, including kimberlites K2, K4A, K4B, K4C, K5A, K5B, K6, K7A, K7B, K7C, and K14 (Ashton Mining of Canada Inc., 1997c). The first microdiamond analyses of samples collected from kimberlites K2, K4, and K14 were released in April 1997 and confirmed that the pipes were diamondiferous and more significantly, 3 samples totaling 152.5 kg (387 lbs) from kimberlite K14 yielded significant numbers of diamonds, including 139 microdiamonds and 11 macrodiamonds (Ashton Mining of Canada Inc., 1997d). Mineralogical analysis of indicator minerals from the Buffalo Head Hills kimberlites indicates that although they are not abundant, a significant number of favourable G10 pyrope garnets, some with exceptionally high chromium contents (up to 17.8 wt% Cr_2O_3), along with abundant diamond inclusion quality chromites, have been obtained from several of the kimberlites in the central and northern portion of the cluster (Carlson *et al.*, 1999; Hood and McCandless, 2003). In addition, a large number of the kimberlites yielded euhedral to subhedral xenocrystic (mantle derived) garnet and clinopyroxene suggesting that resorption had been limited, therefore, the potential to preserve any carried diamonds may be considered high (Carlson *et al.*, 1999). These results ushered in a new era in the history of resource development in Alberta. To date, 38 kimberlites were found on the joint venture property, 26 of which are diamondiferous. Seven kimberlites, referred to as Legend kimberlites, were discovered north and northwest of the Liege and Legend properties by junior resource companies but none of these kimberlites are diamondiferous (Cavey and LeBel, 2003).

Previous Exploration: Shear's Liege and Legend Properties

Between 1997 and 2000, Ashton Mining of Canada Ltd. (Ashton) did exploration work on the former Rabbit Lake property which is now the Liege property and one-third of Legend property. Exploration work included several airborne and ground geophysical programs as well as diamond drilling of one target and a heavy mineral, kimberlite indicator mineral sampling program (Skelton and Willis, 2001; Ryziuk, 2004).

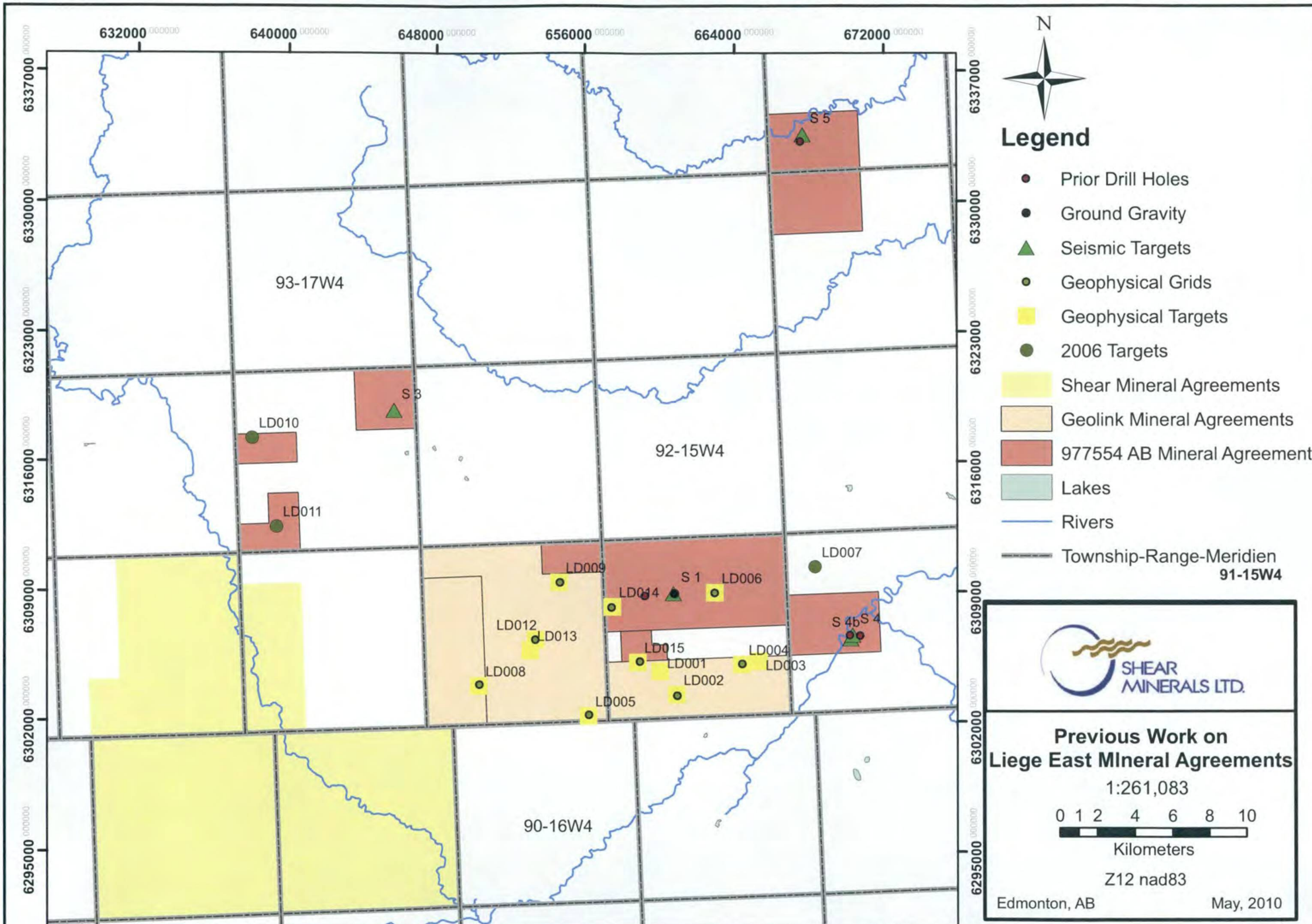
The geophysics exploration program on the former Rabbit Lake property included a fixed wing aeromagnetic survey, two detailed helicopter aeromagnetic surveys of selected anomalies, both conducted by High Sense Geophysics Ltd. and ground magnetic surveys on 18 targets (Skelton and Willis, 2001; Cavey and LeBel, 2003). The fixed wing aeromagnetic survey was flown with a terrain clearance of 100m and a 250m spacing, totaling 30,863 line-kms (Skelton and Bursey, 1999). The detailed helicopter aeromagnetic surveys were flown in 1998 with a terrain clearance of 50m and a 100m spacing over the property totaling in 2,079.48 line-kms covering 47 targets on 36 blocks (Skelton and Bursey, 1999). Ground magnetic surveys were conducted on the property between 1999 and 2000 on 18 selected targets using GEM System GSM-19 with two second measurement intervals and 50m station spacing (Skelton and Bursey, 1999; Skelton and Willis, 2001).

Ashton also conducted a sampling program on and around the properties, collecting 108 indicator minerals samples. Thirty-six (36) of these samples were collected on the Liege property of which eight (8) samples were anomalous, including three adjacent samples (AL04-0138, 0139, 0140) with 6, 11 and 29 indicator mineral grains (Cavey and LeBel, 2003) and two (2) anomalous samples (A104-137, 0138) with a total of 15 indicator mineral grains were collected from the Legend property (Skelton and Willis, 2001; Cavey and LeBel, 2003). The complete list of these samples' results is shown in one of Ashton's assessment reports (Ashton, 2001). Regional glacial ice direction in the area is from northeast of the Liege East property and with the known kimberlites (Figure 3) located northwest to north of the property could be the source responsible for the anomalous samples (Skelton and Willis, 2001).

Ashton only drilled one hole, DDHRL1-01, on one target on the Liege East property to test an aeromagnetic anomaly in February of 2000 (Skelton and Willis, 2001; Cavey and LeBel, 2003). The drill hole failed to intersect kimberlite to a depth of 94.5 metres resulting in termination of further work to be completed on the property and allowing the permits to expire in 2001.

977554 Alberta Ltd. (977554AB) then acquired the Liege and Legend claims in 2002 based on information of the possibility of diamondiferous kimberlites in the area. Alberta Ltd. conducted several exploration work on the properties including indicator minerals sampling, airborne geophysics and diamond drilling.

977554AB conducted work on the properties based on the results of seismic reflection surveys and drilling by Paramount Resources Ltd. (Paramount) who used the area for natural gas exploration (Cavey and LeBel, 2003). Seismic surveys are not a primary tool for diamond exploration; however, in a sedimentary environment the tool is useful in identifying a kimberlite diatreme through the sedimentary layering by interruptions and/or disruptions in seismic reflections (Cavey and LeBel, 2003). According to Skelton and Bursey (1999a) these seismic reflection surveys resulted in the identification of the K2, K4, K5, K6, K7, K32 and K92 kimberlites on the Buffalo Head Hills region west of the properties. The results from the surveys over the Liege and Legend properties revealed two seismic anomalies (Target A and B) on the Liege property and five seismic anomalies (1, 2, 3, 4 and 5) on the Legend property, which indicated kimberlite bodies (Cavey and LeBel, 2003; Figure 3). Seismic reflection surveys also aided in the geometry and structure of kimberlites (Cavey and LeBel, 2003) which determined the seismic signatures of the Buffalo Head Hills' kimberlites which are similar to the interrupted seismic reflections of the anomalies on both the properties. Seismic results from anomaly A bears resemblance to the K5 pipe in the Buffalo Head Hills region (Skelton and Bursey, 1999a) based on the appearance of a "bed" (Cavey and LeBel, 2003). Prior drilling on the Buffalo Head Hills region which intersected kimberlites revealed that some of the kimberlites appeared to be beds rather than pipes therefore anomaly A could be a kimberlite bed or a pipe with a shallow root (Cavey and LeBel, 2003).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92-15W4
91-15W4
90-16W4
S 5
S 3
S 1
S 4b
S 4
LD010
LD011
LD007
LD009
LD014
LD006
LD012
LD013
LD015
LD004
LD001
LD003
LD008
LD002
LD005
N
Legend
Prior Drill Holes
Ground Gravity
Seismic Targets
Geophysical Grids
Geophysical Targets
2006 Targets
Shear Mineral Agreements
Geolink Mineral Agreements
977554 AB Mineral Agreements
Lakes
Rivers
Township-Range-Meridien
SHEAR MINERALS LTD.
Previous Work on
Liege East MIneral Agreements
1:261,083
0 1 2 4 6 8 10
Kilometers
Z12 nad83
Edmonton, AB
May, 2010

Figure 3.

977554AB collected seven indicator mineral sampling on the property of which only two samples were anomalous with more than two indicator mineral grains with a total of six diamond indicator minerals, five G1-G10 garnets and one chrome diopside (Ryziuk, 2004). Results of all seven samples are shown in Table 2.

Fugro Airborne Surveys Corp. (Fugro) was contracted by 977554 Alberta Ltd. to conduct a helicopter borne magnetic and electromagnetic survey over the two targets on the Liege property and a third known kimberlite target for seismic recognition (Ryziuk, 2004). A total of 29.2 line-kms was completed and results revealed target B to be a large pipe-like resistor (Cain, 2004) and two drill holes were drilled to test the target. The drill holes (DDH04-5 and DDH04-6) were drilled to a depth of 103.6 metres and no bedrock was intersected, recovering only unconsolidated till with no core recovery (Ryziuk, 2004) and no explanation for the seismic anomalies. The locations of the drill holes are listed in Table 3 and shown on Figure 3.

TABLE 2

2003 PICKED RESULTS*

Sample Number	NTS Map	Possible Pyrope	Possible Chrome Diopside	Possible Olivine	Possible Ilmenite/ Chromite	Total	Other
LW03-1	84A/5	1	0	0	3	4	
LW03-2	84A/13	3	1	0	0	4	
LW03-3	84A/13	0	2	0	1	3	
LW03-4	84A/13	0	0	0	0	0	
LW03-5	84A/13	1	1	0	1	3	
LW03-6	84A/13	2	2	3	0	7	4
LWT03-1	84A/12	0	0	0	0	0	
TOTAL						21	

*based on information provided by Ryziuk (2004) and C.F.Mineral Research Ltd.

TABLE 3

LIEGE DRILL HOE LOCATIONS

DDH Number	Easting (NAD27/Z12)	Northing (NAD27/Z12)	NTS	Depth Drilled (metres)
DHH04-5	337886	6304239	84 A/13	103.6
DDH04-6	338220	6304263	84 A/13	103.6

Despite poor results on 977554AB work, a number of priority geophysical anomalies and diamond indicator mineral anomalies were identified on and in the vicinity of the Liege and Legend properties. Many of these anomalies were not followed up. Wood (1999) reported the presence of a large number of anomalous stream sediment samples with up to 137 and 66 kimberlite indicator minerals in two separate drainages along the north-western boundary of the Liege property.

Although the bulk of the kimberlite indicator minerals recovered by Monopros were chromite and ilmenite with a few pyrope garnets, Wood (1999) suggested that the grains were likely locally derived due to thin overburden and the limited drainage basin that most of the indicator was recovered from. Wood (1999) also suggested that a number of geophysical anomalies detected on the property could be kimberlites and be responsible for the indicator minerals in the drainages. The vast majority of these targets have not been ground surveyed or drill tested (Strand, 2008).

Government Diamond Indicator Mineral And Other Scientific Surveys

Diamond indicator mineral studies in the search for kimberlites were first conducted in the region by the AGS in 1993 (Fenton *et al*, 1994; Dufresne *et al.*, 1996). This initial survey and all of the early reconnaissance work prior to the discovery of the Buffalo Head Hills kimberlites are reviewed in Dufresne *et al.* (1996). The Buffalo Head Hills area yielded a few diamond indicator minerals within the "Wabasca River Trend", which was defined as a northerly belt of sites yielding anomalous diamond indicator minerals centred around the Wabasca and Loon rivers in the vicinity of Red Earth Creek and the Liege and Legend properties (Dufresne *et al.*, 1996). The first indication that the region may host diamondiferous kimberlites came from sampling conducted by the AGS during September 1995, when a single till sample from a road cut in close proximity to the BHHJV's K4 Kimberlite yielded 152 possible pyrope garnets (Fenton and Pawlowicz, 1997). A number of surveys have been conducted in the region since then (Fenton and Pawlowicz, 1998a, b; Pawlowicz *et al.*, 1998a, b; Pawlowicz and Fenton, 2001), with varying degrees of success since the initial 1993 survey. A recent multidisciplinary study included the collection of 338 samples in the Peerless Lake, Peace River, Bison Lake and Wadlin Lake Map areas (NTS 84B, 84C, 84F and 84G) by Eccles *et al.* (2001) and by Friske *et al.*

(2003). These surveys have resulted in the discovery of a number of diamond indicator mineral anomalies that potentially indicate the presence of a number of undiscovered kimberlites in the region.

Previous Exploration by Shear Minerals

2006

Between February 17 and March 26, 2006, Firefly Aviation Ltd. completed a 3,898 line-km fixed wing high resolution airborne magnetic (HRAM) survey over the Liege West property. The survey was carried out using a Cessna U206G aircraft, equipped with a rigid-mount tail boom, specially designed for geophysical survey operations, a high sensitivity magnetometer, a full on-board real time compensation recording computer, and related equipment.

The high resolution airborne magnetic survey was flown using parallel flight lines in a traverse line direction of 270 degrees with 150 meter spaced line intervals flown at a height of best-fit 60-meter drape mode elevation. A number of interesting high frequency magnetic anomalies (greater than 30 nT) were identified during the review of the preliminary data by APEX and Kit Campbell of Intrepid Geophysics (North Vancouver, BC). Using Geosoft Oasis Montaj 6.0 and ERMapper 6.3, the data was reviewed on a line by line profile basis to look for high frequency, short wavelength magnetic anomalies that reflect small, shallow source magnetic anomalies potentially related to geological features such as kimberlites. A total of 11 magnetic targets were identified on the Liege property in the dataset and reviewed for kimberlite genesis potential. A number of the magnetic anomalies present in the survey were identified to be the result of man-made culture or part of linear arrays, most likely related to pipelines or oil and gas wells in the area The two seismic anomalies (Target A and Target B) did not have corresponding magnetic anomalies from the airborne survey. These anomalies require ground checking for man-made culture, and those that remain unexplained after ground truthing, should be followed-up with gridding and ground magnetic surveys and, if required, drilling. In regards to the seismic anomalies, alternative geophysical methods such as ground gravity or electromagnetics should be investigated to explain the reason for the seismic discontinuities.

2006 Ground checks

In 2006, sixteen airborne geophysical ground targets were ground truthed by Shear Minerals Ltd. (Table 4). It was determined that the airborne magnetic target was not caused by man-made culture, such as drill collars used in oil and gas exploration. The target was not explained by ground checking warranting follow-up work with a ground geophysical survey. If the target is found to be promising, it may be prioritized for drilling. . Airborne magnetic anomalies that were determined to be caused by man-made culture, such as drill collars used in oil and gas exploration will not be investigated any further. Several targets that could not be explained by ground checking warrant follow-up work with ground geophysical surveys.

TABLE 4
GROUND CHECK SITES

Liege East	X_NAD 27	Y_NAD 27
LD010	395037.4	6318597.32
S3	402773.8	6319817.3
S4	426683.8	6306317.3
S5	425633.8	6333352.3
LD001	416288.59	6304737.85
LD002	417109.89	6303454.56
LD003	421601.38	6304994.51
LD004	420677.42	6304866.18
LD005	412310.40	6302581.93
LD006	419471.13	6308793.03
LD008	406509.96	6304532.52
LD009	411155.45	6309845.32
LD012	409692.50	6306842.43
LD013	409384.52	6306277.79
LD014	413927.34	6308356.71
LD015	395983.87	6313788.29

2006 and 2007 Ground Geophysical Surveys

LD10 the high priority geophysical anomaly identified from the 2006 aeromagnetic survey that was deemed not to be the result of culture, by ground truthing, was selected to be surveyed by detailed ground magnetics. As well, 1 target identified from a seismic survey, S4 was also chosen to be surveyed by detailed ground magnetics (Table 5, Figure 5).

In 2007, Quadra Surveys conducted the ground gravity survey on the Liege East property. A ground gravity survey was completed over 2 seismic anomalies: Seismic 3 and Seismic 5 (Table 5, Figure 5). The gravity survey was conducted by Quadra Surveys in December 2007, using LaCoste & Romberg gravity meters and Topcon Hiper Plus GPS receivers. The L&R gravity meters have a reading resolution of 0.01 mGal with a very low daily drift rate. The ground gravity grid was approximately 500 m x 700 m, conducted at line spacings of 100 m and 50 m with station intervals of 100 m and 50m.

TABLE 5
LIEGE EAST TARGET LOCATION

Targets	Easting Zone 12 Nad 1927	Northing Zone 12 Nad 1927
LD010	394974.1	6318810.1
S3	402773.8	6319817.3
S4	426683.8	6306317.3
S5	425633.8	6333352.3

GEOLOGICAL SETTING

Precambrian Geology

The Liege property lies near the northeastern to eastern edge of the Western Canadian Sedimentary basin within the central segments of the Peace River Arch (Figure 4). Precambrian rocks are not exposed within the Buffalo Head Hills region. The basement underlying the Peace River Arch (PRA) is comprised of several terranes, including the Buffalo Head and the Chinchaga, both of which were accreted between 1.8 and 2.4 billion years (Ga) ago and collectively form the Buffalo Head Craton (Ross *et al.*, 1991, 1998). Due to their relatively stable history since accretion, the Buffalo Head and Chinchaga terranes (Figure 4) have been and are currently the focus of extensive diamond exploration in northern Alberta. Ashton along with EnCana and Pure Gold have discovered at least 38 kimberlite pipes proximal to the center of the proposed Buffalo Head Craton (Figure 5). To date, 26 of the 38 kimberlites, discovered in the region by the Buffalo Head Hills Joint Venture, have yielded diamonds.

The Liege property is underlain by basement comprised of the Buffalo Head Terrane (BHT). The BHT is an area of high positive magnetic relief with a north to northeasterly fabric (Villeneuve *et al.,* 1993). The diamondiferous Buffalo Head Hills Kimberlites and Grizzly's property lie near the geographic center of the Buffalo Head Craton (Figure 5). Part of the Churchill Structural Province (Rae Subprovince), the Buffalo Head Craton may represent either Archean crust that has been thermally reworked during the Hudsonian (Proterozoic) Orogeny (Burwash *et al.*, 1962; Burwash and Culbert, 1976; Burwash *et al.*, 1994) or an accreted Early Proterozoic terrane that may or may not have an Archean component (Ross and Stephenson, 1989; Ross *et al.*, 1991; Villeneuve *et al.*, 1993). Precambrian rocks intersected in drill core from the BHT comprise felsic to intermediate metaplutonic rocks, felsic metavolcanic rocks and high-grade gneisses (Villeneuve *et al.*, 1993). Even though Hood and

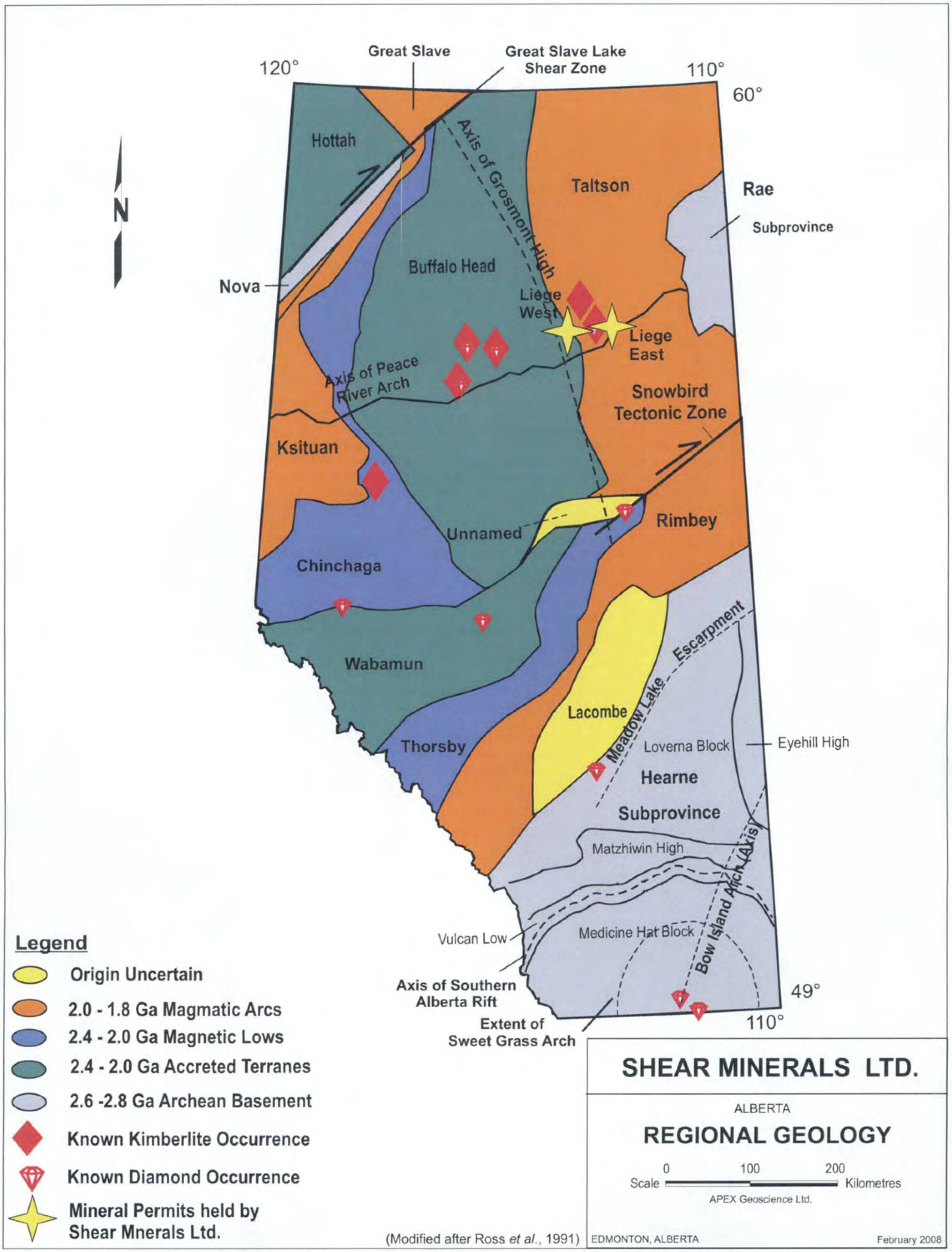
McCandless (2003) suggest that the paucity of subcalcic pyrope garnets in the Buffalo Head Hills is consistent with Proterozoic crust and mantle, recent work by Aulbach *et al.* (2003), indicates that a number of geochemical aspects of the xenoliths from the kimberlites is indicative of the presence of Archean mantle beneath the Buffalo Head Terrane which was likely reworked during Proterozoic crust formation from 2.3 to 2.0 Ga. Seismic refraction and reflection studies indicate that the crust beneath the Buffalo Head Craton is likely between 35 to 40 km (21 to 24 miles) thick, a trait favourable for the formation and preservation of diamonds in the upper mantle (Dufresne *et al.,* 1996). The favourable nature of the Buffalo Head Craton has been confirmed by the discovery of 26 diamondiferous kimberlite pipes near the center of the craton.

Phanerozoic Geology

Overlying the basement in the Buffalo Head Hills region is a thick sequence of Phanerozoic rocks comprised mainly of Cretaceous sandstones and shales near surface and Mississippian to Devonian carbonates and salts at depth (Glass, 1990). Bedrock exposure within the permit block is limited primarily to river and stream cuts and topographic highs. Table 6 describes the upper units found in the region. Further information pertaining to the distribution and character of these and older units can be obtained from well log data in government databases and various geological and hydrogeological reports (Green *et al.*, 1970; Tokarsky, 1972; Vogwill, 1978; Ceroici, 1979; Glass, 1990; Mossop and Shetson, 1994).

Underlying the near surface Cretaceous units in the Buffalo Head Hills area is a thick succession of Devonian to Mississippian carbonates, calcareous shales and salt horizons (Mossop and Shetson, 1994). Several of the Devonian carbonate units are part of the Grosmont Reef Complex, a large structure that extends in a northwesterly direction from east of Lesser Slave Lake to the N.W.T. (Bloy and Hadley, 1989). The Grosmont Reef Complex is likely the result of tectonic uplift along this trend during the Devonian. This structure, in conjunction with the PRA, may have played a significant role in the localization of faults and other structures that could have provided favourable pathways for kimberlite volcanism.

In general, the Cretaceous strata underlying the Liege property is composed of alternating units of marine and nonmarine sandstones, shales, siltstones, mudstones and bentonites. The oldest documented units exposed in the permit area belong to the Shaftesbury Formation, a sequence of Upper Cretaceous shales. However, older units from the base of the Fort St. John Group, such as the Peace River and Loon River formations, may be exposed in river and stream cuts.



Great Slave
Great Slave Lake Shear Zone
120°
110°
60°
N
Hottah
Axis of Grosmont High
Taltson
Rae
Subprovince
Buffalo Head
Nova
Liege West
Liege East
Axis of Peace River Arch
Snowbird Tectonic Zone
Ksituan
Rimbey
Unnamed
Chinchaga
Escarpment
Meadow Lake
Wabamun
Lacombe
Loverna Block
Eyehill High
Thorsby
Hearne
Subprovince
Matzhiwin High
Bow Island Arch (Axis)
Vulcan Low
Medicine Hat Block
Axis of Southern Alberta Rift
Extent of Sweet Grass Arch
49°
110°
Legend
Origin Uncertain
2.0 - 1.8 Ga Magmatic Arcs
2.4 - 2.0 Ga Magnetic Lows
2.4 - 2.0 Ga Accreted Terranes
2.6 -2.8 Ga Archean Basement
Known Kimberlite Occurrence
Known Diamond Occurrence
Mineral Permits held by Shear Mnerals Ltd.
(Modified after Ross et al., 1991)
SHEAR MINERALS LTD.
ALBERTA
REGIONAL GEOLOGY
Scale 0 100 200 Kilometres
APEX Geoscience Ltd.
EDMONTON, ALBERTA
February 2008

FIGURE 4.

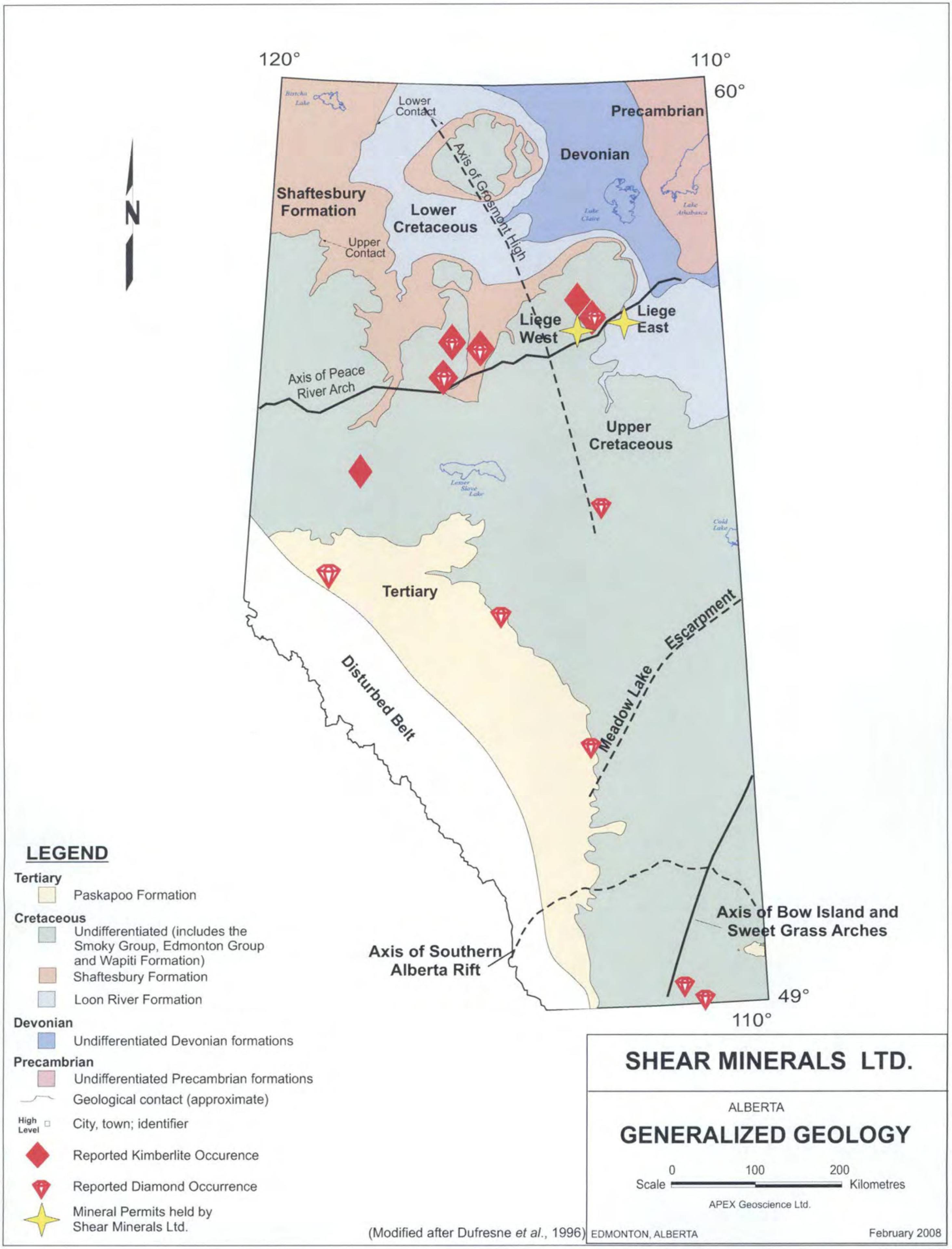

120°
110°
60°
Lower Contact
Precambrian
Devonian
Axis of Grosmont High
Shaftesbury Formation
Lower Cretaceous
Upper Contact
Liege West
Liege East
Axis of Peace River Arch
Upper Cretaceous
Tertiary
Meadow Lake Escarpment
Disturbed Belt
Axis of Bow Island and Sweet Grass Arches
Axis of Southern Alberta Rift
49°
110°
N
LEGEND
Tertiary
Paskapoo Formation
Cretaceous
Undifferentiated (includes the Smoky Group, Edmonton Group and Wapiti Formation)
Shaftesbury Formation
Loon River Formation
Devonian
Undifferentiated Devonian formations
Precambrian
Undifferentiated Precambrian formations
Geological contact (approximate)
High Level
City, town; identifier
Reported Kimberlite Occurence
Reported Diamond Occurrence
Mineral Permits held by Shear Minerals Ltd.
(Modified after Dufresne et al., 1996)
SHEAR MINERALS LTD.
ALBERTA
GENERALIZED GEOLOGY
0
100
200
Scale
Kilometres
APEX Geoscience Ltd.
EDMONTON, ALBERTA
February 2008

FIGURE 5.

Part of the Fort St. John Group, the Loon River Formation is Lower Cretaceous in age and is comprised of marine, dark grey, fossiliferous silty-shale and laminated siltstone. Nodules and thin beds of concretionary ironstone may be present within the unit. The Loon River Formation is correlative with the Spirit River Formation. The upper contact is abrupt, but conformable with the Peace River Formation.

The Peace River Formation is Lower Cretaceous in age and comprises three members, Cadotte, Harmon and Paddy. Correlative with the Pelican and Joli Fou formations, the unit averages 60 m in thickness and contains abundant graptolites and starfish. The lowermost member, the Cadotte, comprises massive, clean, fine-grained quartzose sandstone with alternating bands of thin sandstone and shale. Concretions ranging from 3 to 5 m in diameter are common. The middle member, the Harmon, comprises a fissile, non-calcareous,

TABLE 6
GENERALIZED STRATIGRAPHY
BUFFALO HEAD HILLS REGION

SYSTEM	GROUP	FORMATION	AGE* (MA)	DOMINANT LITHOLOGY
PLEISTOCENE			Recent	Glacial till and associated sediments
TERTIARY			6.5 to Recent	Preglacial sand and gravels
UPPER CRETACEOUS	Smoky	Kaskapau	88 to 92	Shale, silty-shale and ironstone; includes the Second White Specks unit
		Dunvegan	92 to 95	Sandstone and siltstone
	Fort St. John	Shaftesbury	95 to 98	Shale, bentonites, Fish-Scale Member
LOWER CRETACEOUS	Fort St. John	Peace River	>98 to <105	Quartzose and glauconitic sandstones and silty shale.
		Loon River	98 to 105	Shale, siltstone and glauconitic sandstone

*Ages approximated from Green *et al.* (1970), Glass (1990), Dufresne *et al.* (1996) and Leckie *et al.* (1997).

dark grey silty-shale with thin interbeds of bentonite and siltstone. Both the Cadotte and the Harmon members are laterally extensive, relatively thick and marine in origin. The third member, the Paddy, is comprised of fine-grained glauconitic sandstone with silty interbeds in the lower portions. Thin coal beds and marine fossils may be present. The Paddy is laterally discontinuous and varies from marine to continental (deltaic) in origin. If the Paddy unit is intact, the upper contact is conformable, but abrupt with the Shaftesbury Formation. In many regions, the upper contact of the Peace River Formation is an abrupt hiatus.

The Shaftesbury Formation is lower Upper Cretaceous in age and is comprised of marine shales with fish-scale marker bed bearing silts, thin bentonitic streaks and ironstones. The upper contact is conformable and transitional with the Dunvegan Formation. The Shaftesbury Formation may be exposed along river and stream cuts. Evidence of extensive volcanism during deposition of the Shaftesbury Formation exists in the form of numerous bentonitic horizons throughout the formation, especially within and near the Fish Scales horizon (Leckie *et al.*, 1992; Bloch *et al.*, 1993). The deposition of the Shaftesbury Formation is also chronologically correlative with the deposition of the Crowsnest Formation volcanics of southwest Alberta (Olson *et al.*, 1994; Dufresne *et al.*, 1995) and with kimberlitic volcanism near Fort á la Corne in Saskatchewan (Lehnert –Thiel *et al.*, 1992; Scott Smith *et al.*, 1994). In many cases, the Ashton kimberlite pipes contain extensive volumes of Cretaceous mudstone, most of which is likely derived from the Shaftesbury Formation.

Deltaic to marine, feldspathic sandstones, silty shales and laminated carbonaceous siltstones, characterize the Dunvegan Formation (Glass, 1990). Thin beds of shelly material, coal, siltstone and bentonite may be present. The formation is rich in shallow-water fauna, including abundant molluscs. The Dunvegan Formation becomes more arenaceous and thinner eastwards, where it grades into the LaBiche Formation. The upper contact of the unit is conformable and transitional with the shales of the Kaskapau Formation of the Smoky Group. The Ashton pipes exist just above or near the contact between the Kaskapau and the Dunvegan formations (Dufresne *et al.*, 2001).

The youngest bedrock units belong to the Smoky Group (Glass, 1990). The Smoky Group is Upper Cretaceous in age and is comprised of thinly bedded, marine, silty shale with occasional ironstone and claystone nodules and thin bentonite streaks. The group is divided into three formations: (a) a lower shale unit, Kaskapau, which includes the Second White Specks marker unit (SWS); (b) a middle sandstone, named the Bad Heart; and, (c) an upper shale, Puskwaskau, which contains the First White Specks marker unit. Bedrock exposures in the "Bison Lake" Property are likely comprised of the Kaskapau Formation, in particular, the SWS or lower. Most of the upper portions of the Smoky Group have been eroded away during tectonic uplift, possibly associated with uplift of the PRA. The Kaskapau Formation contains abundant ammonite fossils and concretions. In addition, foraminifera are present in the lower arenaceous units (Glass, 1990). Exposures of the Smoky Group are generally limited to topographic highs and stream cuts within the Buffalo Head Hills. There is strong evidence of volcanism associated within the depositional time span of the Smoky Group around the PRA (Auston, 1998; Carlson *et al.*, 1999). The BHHJV's recently discovered Buffalo Head Hills kimberlites yield emplacement ages of 86 to 88 Ma (Auston, 1998; Carlson *et al.*, 1999).

Quaternary Geology

Data and information about the surficial geology in central to northern Alberta is sparse and regional in nature. Prior to continental glaciation during the Pleistocene, most of Alberta, including the Buffalo Head Hills region, had reached a mature stage of erosion. Large, broad paleochannels and their tributaries drained much of the region, flowing in an east to northeasterly direction (Dufresne *et al.*, 1996). In addition, fluvial sand and gravel was deposited preglacially in these channels.

During the Pleistocene, multiple southeasterly and southerly glacial advances of the Laurentide Ice Sheet across the region resulted in the deposition of ground moraine and associated sediments (Figure 5 in Dufresne *et al.*, 1996). The advance of glacial ice may have resulted in the erosion of the underlying substrate and modification of bedrock topography. Dominant ice flow directions within the Buffalo Head Hills region appear to be topographically controlled, following the south-southwest trend of the BHH (Fenton and Pawlowicz, 2000). In addition, topographic variations may have locally channelled ice flow towards the south to south-southeast east of the BHH. Glacial sediments infilled low-lying and depressional areas, draped topographic highs and covered much of the area as veneers and/or blankets of till and diamict. Localised pockets of deposits from glacial meltwater and proglacial lakes likely infilled areas of low relief (Fenton and Pawlowicz, 2000).

The majority of the Buffalo Head Hills area is covered by drift of variable thickness, ranging from 15 m to over 250 m (Pawlowicz and Fenton, 1995a, 1995b, 2005a, 2005b and Balzer and Dufresne, 1999). The vast majority of the property is thought to be covered with drift ranging from about 75 m to 150 m thick. Drift thickness may be thinner locally, in areas of higher topographic relief. Unfortunately, local drift thickness for Grizzly's Buffalo Head Hills properties can not be easily delineated due to the paucity of publicly available data for the region. Limited general information regarding bedrock topography and drift thickness in northern Alberta is available from the logs of holes drilled for petroleum, coal or groundwater exploration and from regional government compilations (Tokarsky, 1972; Mossop and Shetson, 1994; Pawlowicz and Fenton, 1995a, 1995b, 2005a, 2005b; Dufresne *et al.*, 1996). It should be noted that the drift thickness over the Buffalo Head Hills Kimberlites is extremely variable ranging from more than 120 m to kimberlites that outcrop or subcrop. Several of the kimberlites intersected in drilling to date exist as positive topographic features relative to the local bedrock surface beneath the glacial overburden. For example, the BHHJV's K6 Kimberlite was initially intersected beneath 13 m of overburden (Ashton Mining of Canada Inc., 1997c). The K6 Kimberlite yields depths of overburden of more than 70 m at the margins of the pipe and even thicker depths of overburden over the mudstone bedrock surrounding the pipe (Mr. B. Clements, *personal communication*, 2002). The K6 Kimberlite is one of a number of kimberlites in the Buffalo Head Hills that display this relationship. The implications of this are that in areas where the overburden is estimated to be 75 to 150 m, there is still a chance that any kimberlites found could be covered by substantially less overburden.

Glacial ice is believed to have receded from the BHH region between 15,000 and 10,000 years ago. After the final glacial retreat, lacustrine clays and silts were deposited in low-lying regions along with organic sediments. Rivers previously re-routed due to glaciation, re-established easterly to northeasterly drainage regimes similar to that of the pre-Pleistocene. Extensive colluvial and alluvial sediments accompanied post-glacial river and stream incision.

Structural Geology

In north-central Alberta, the PRA is a region where the younger Phanerozoic rocks, which overlie the Precambrian basement, have undergone periodic vertical and, possibly, compressive deformation from the Proterozoic into Tertiary time (Cant, 1988; O'Connell *et al.*, 1990; Dufresne *et al.*, 1995, 1996). This pattern of long-lived, periodic uplift and subsidence has imposed a structural control on the deposition patterns of the Phanerozoic strata in northern Alberta. In addition, this periodic movement has resulted in a rectilinear pattern of faults that not only is responsible for structurally controlled oil and gas pools, but may have provided potential pathways for later deep-seated intrusive kimberlitic magmas. Eccles *et al.* (2000) show that several of the Buffalo Head Hills kimberlites occur at the intersection of north and east-northeast trending lineaments likely related to underlying faults that have been reactivated during periodic tectonic activity associated with the Peace River Arch. Eccles *at al.* (2000) used a combination of very detailed digital elevation data and RadarSat data to identify the intersecting lineaments.

During the mid-Cretaceous and Early Tertiary, compressive deformation occurred as a result of the orogenic event that eventually led to the formation of the Rocky Mountains. The PRA was emergent during this period resulting in the reactivation of many prominent basement faults. The Phanerozoic rocks beneath the Red Earth Creek region lie along the axis of the PRA, and are underlain by and proximal to basement faults related to the Grosmont Reef Complex, which formed over the Grosmont High (Bloy and Hadley, 1989; Dufresne *et al.*, 1996). There is strong evidence that basement faults that have manifested themselves in the overlying Phanerozoic sedimentary succession may have controlled the emplacement of the Buffalo Head Hills kimberlites west-northwest from the Liege property (Dufresne *et al.*, 1996; Leckie *et al.*, 1997; Eccles *et al.*, 2000). Similar structures observed on the property could have resulted from tectonic activity associated with movement along the PRA or the Grosmont High and therefore could have provided pathways for kimberlitic volcanism.

DEPOSIT MODEL

Kimberlites

Kimberlite is best described as a hybrid igneous rock (Mitchell, 1986, 1989, 1991; Skinner, 1989; Scott Smith, 1995). Kimberlites are igneous in nature since they have crystallised from a molten liquid (kimberlitic magma) originating from the earth's upper mantle. Kimberlite magma contains volatile gases and is relatively buoyant with respect to the upper mantle. As a result, pockets of kimberlitic magma will begin to ascend upward through the upper mantle and along a path of least resistance to the earth's surface. As the kimberlitic magma ascends, the volatile gases within the magma expand, fracturing the overlying rock, continually creating and expanding its own conduit to the earth's surface. As a kimberlitic magma begins to ascend to the earth's surface it rips up and incorporates fragments or xenoliths of the various rock types the magma passes through on its way to surface. As the magma breaks down and incorporates these xenoliths, the chemistry and mineralogy of the original magma becomes altered or hybridised. The amount and type of foreign rock types a kimberlite may assimilate during its ascent will determine what types of minerals are present in the kimberlite when it erupts at surface.

When kimberlitic magma reaches or erupts at the earth's surface, the resulting volcanic event is typically violent, creating a broad shallow crater surrounded by a ring of kimberlitic volcanic ash and debris ("tuffaceous kimberlite"). The geological feature created by the emplacement of a kimberlite is referred to as a diatreme or kimberlite pipe (Mitchell, 1986, 1989, 1991). In a simplified cross section a kimberlite diatreme appears as a near vertical, roughly "carrot shaped" body of solidified kimberlite magma capped by a broad shallow crater on surface that is both ringed and filled with tuffaceous kimberlite and country rock fragments (Mitchell, 1986, 1989, 1991).

Diamond Indicator Minerals

Diamonds do not crystallise from a kimberlitic magma: they crystallise within a variety of diamond bearing igneous rocks in the upper mantle called peridotites and eclogites. Peridotites and eclogites are each made up of a diagnostic assemblage of minerals that crystallise under specific pressure and temperature conditions similar to those conditions necessary to form and preserve diamonds ("diamond stability field"). Diamond bearing peridotite can be further broken down into three varieties which are, in order of greatest diamond bearing significance, garnet harzburgite, chromite harzburgite, and, to a lesser extent, garnet lherzolite. For a kimberlite to be diamond bearing, the primary kimberlitic magma must disaggregate and incorporate some amount of diamond bearing peridotite or eclogite during its ascent to the earth's surface. The type and amount of diamond bearing peridotite or eclogite the kimberlitic magma incorporates during its ascent will determine the diamond content or grade of that specific kimberlite as well as the size and quality of diamonds. Diamond bearing peridotite and eclogite occur as discontinuous pods and horizons in the upper mantle, typically underlying the thickest, most stable regions of Archean continental crust or cratons (Helmstaedt, 1993). As a result, almost all of the economic diamond bearing kimberlites worldwide occur in the middle of stable Precambrian (typically Archean) cratons. The Buffalo Head Hills Craton is an example of such a craton.

Diamond indicator minerals (DIMs) include minerals that have crystallised directly from a kimberlitic magma (phenocrysts), or mantle derived minerals (xenocrysts) that have been incorporated into the kimberlitic magma as it ascends to the earth's surface. Examples of DIMs are picroilmenite, titanium and magnesium rich chromite, chrome diopside, magnesium rich olivine, pyropic and eclogitic garnets. Varieties of garnet include G1, G2, G9, G10, G11, G12 pyropes as defined by Dawson and Stephens (1975), G9 and G10 pyropes as defined by Gurney (1984) and Gurney and Moore (1993) and G3, G4, G5, and G6 eclogitic garnets as defined by Dawson and Stephens (1975). From this paragraph on, reference to G1, G2, G3, G4, G5, G6, G11 and G12 pyrope garnets refers to Dawson and Stephens' (1975) classification and G9 and G10 refers to Gurney's (1984) G9 and G10 pyrope garnets of lherzolitic and harzburgitic origin, respectively.

DIMs are used not only to assess the presence of kimberlites in regional exploration programs but also to assess whether the kimberlites have the potential to contain diamonds. There are a limited variety of DIMs from which information pertaining to the diamond bearing potential of the host kimberlite can be gained. Typically, these are DIMs which have been derived from diamond bearing peridotite and eclogite in the upper mantle (Mitchell, 1989). The most common examples of these would include sub-calcic, G10 Cr-pyrope garnets (harzburgitic), G9 pyrope garnets (lherzolitic), Cr- and Mg-rich chromite (diamond inclusion quality or "DIF" chromite from chromite or spinel harzburgite), diamond inclusion quality "DIF" eclogitic garnets and chemically distinct jadeite clinopyroxene (diagnostic of diamond bearing eclogites).

Other indicator minerals that have crystallised from a kimberlitic magma can provide information as to how well the diamonds in a given kimberlite have been preserved during their ascent to surface. For instance, the presence of low iron and high magnesium picroilmenites in a kimberlite is a positive indication that the oxidising conditions of a kimberlitic magma were favourable for the preservation of diamonds during their ascent to surface in the kimberlitic magma.

Exploration

Due to the unique geometry of a kimberlite pipe and the manner in which the kimberlite has intruded a pre-existing host rock type, there are often differences in the physical characteristics of a kimberlite and the host rock. Sometimes these contrasting physical characteristics are significant enough to be detected by airborne or ground geophysical surveys. Two of the most commonly used geophysical techniques are airborne or ground magnetic surveys and electromagnetic (EM) surveys. A magnetic survey measures the magnetic susceptibility and EM surveys measure the electrical conductivity (or resistivity) of the material at or near the earth's surface. When magnetic or resistivity measurements are collected at regular spaced intervals along parallel lines, the data can be plotted on a map and individual values can be compared. If a geophysical survey is conducted over an area where the bedrock and overburden geology is constant and there are no prominent structures or faults, there will be little variation in magnetic or resistivity response. However, when a kimberlite intrudes a homogenous geologic unit and erupts on surface, there is often a detectable change in the geophysical signature or anomalous magnetic or resistivity response over the kimberlite diatreme. When the data are contoured the anomalous results often occur as a circular or oval anomaly outlining the surface or near surface expression of the diatreme (Stand, 2008).

The effectiveness of geophysical methods in kimberlite exploration is dependent on the assumption that the difference between the geophysical signature of the hosting rock unit and a potential kimberlite is significant enough to be recognised by the geophysical techniques available. There are many examples of economic kimberlites that produce very subtle, unrecognisable geophysical responses as well as non kimberlite geologic features and man made structures (referred to as “cultural interference”) such as oil wells, fences, bridges, buildings which can produce kimberlite like anomalies. In addition, in areas of thick overburden, such as the Buffalo Head Hills region, sand and gravel with water and placer accumulations of heavy oxide minerals, can yield both 2magnetic and EM anomalies that are easily confused with those due to kimberlite. For these reasons, it is extremely important that other information such as DIM surveys be used in tandem with geophysical evidence to confirm whether there is other information to support the presence of a kimberlite pipe (Fipke *et al.*, 1995).

2008-2010 Exploration

2008 Helicopter Checks

In July 2008, 3 sites were checked by helicopter to determine access for either a helicopter or road based drill program (Table 7).

TABLE 7
HELICOPTER SUPPORTED
TARGET CHECKS FOR DRILL ACCESS

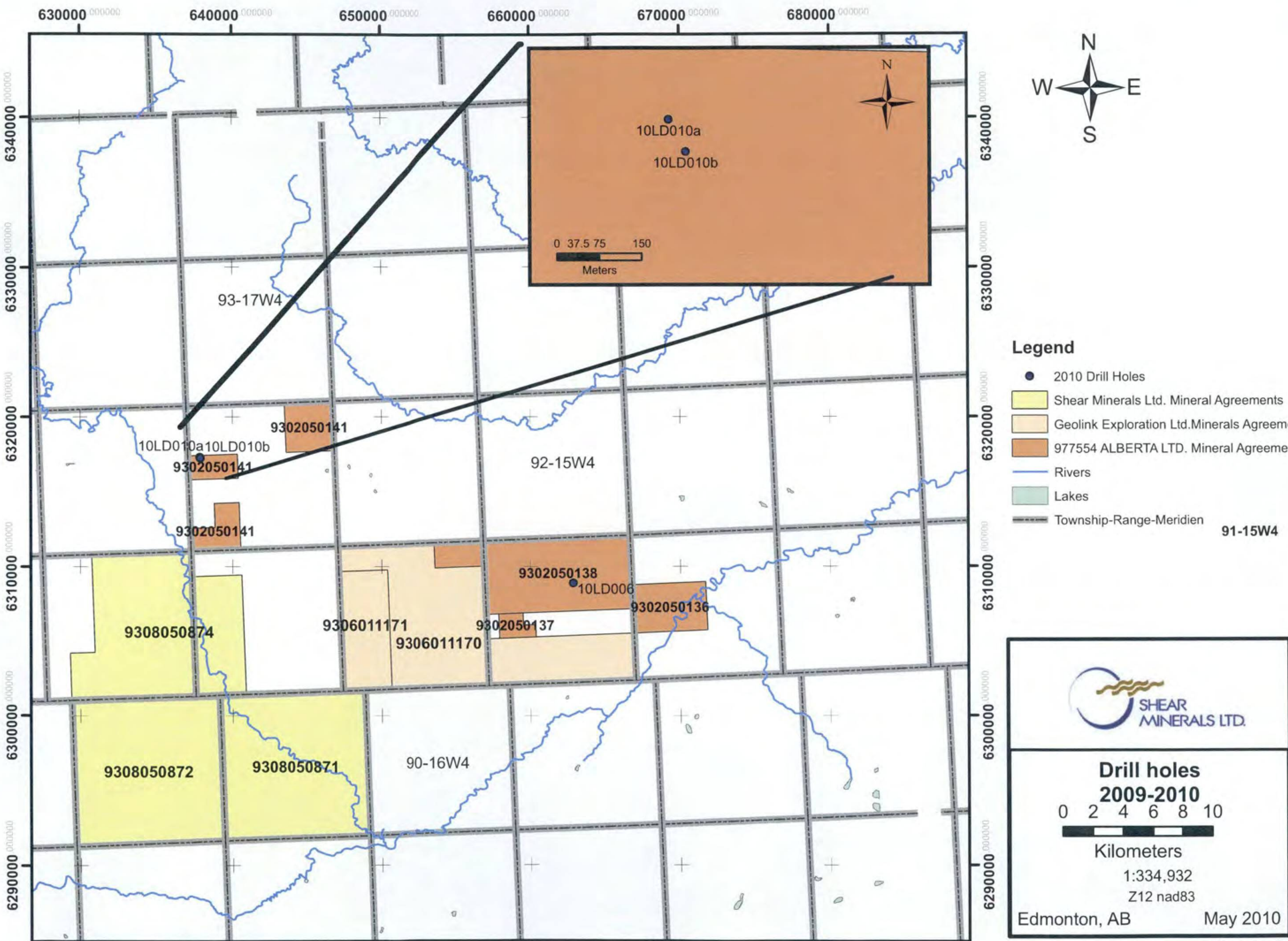
Target	X_nad83	Y_nad83	Comments
S1	417233.8	6309097.3	~200m south of winter road
S3	402773.8	6319817.3	Possible access 2 km east of target.
LD010	394957.1	6318883.9	Less than 100 m from NS winter road

2009-2010 Drill Program

The 2009-2010 winter drill program was conducted on the Liege East property on the 977554 AB Ltd mineral agreements, between December 28th, and January 22nd, 2010 (Table 8; Appendix 2 and Figure 6). Lyncorp Drilling Services Inc (Lyncorp) of Smithers BC was contracted by Shear Minerals Ltd in December 2009 to drill 3 targets on the 977554 Alberta Ltd. Mineral claims. An Atlas Copco 1000 Drill was used to drill a total of 150 m (491') of HQ core which ranged from sandy to clay rich.

Fuel, field supplies, vehicle rental, equipment rental and drill supplies were from Fort McMurray. Accommodations were in Fort McMurray and at the Blacksands Lodge.

The initial crew consisted of Saz Yaqzan of Shear Minerals Ltd and 2 Lyncorp Drilling Services drill crew. This first part of the program consisted of road access determination and a helicopter supported search for water and site access. Minor clearing of cut lines and trees for access off the ice roads was also undertaken between December 28 and January 7, 2010 in preparation for the drill program.



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Legend
2010 Drill Holes
Shear Minerals Ltd. Mineral Agreements
Geolink Exploration Ltd.Minerals Agreements
977554 ALBERTA LTD. Mineral Agreements
Rivers
Lakes
Township-Range-Meridien
SHEAR MINERALS LTD.
Drill holes
2009-2010
0 2 4 6 8 10
Kilometers
1:334,932
Z12 nad83
Edmonton, AB
May 2010

Figure 6

Upon drill mobilization on January 8, 2010, he crew consisted of two Shear Minerals Ltd. personnel, four drill crew, a drill foreman and a fifth man.

The drilling began on January 9 on hole 10LD006 and finished on January 13th. This 327 foot hole consisted of silt, siltstone, sand and shale with some carbonate. 10LD10a was drilled on January 15 and was 77' and composed of loosely consolidated silt with some clay. 10LD10b was drilled on January 16 to 87' and consisted of moderately consolidated sand, some silt and and shale.

Demobilization occurred from January 17 to January 22nd, 2010. All sites were cleaned and properly tagged.

TABLE 8
DRILL HOLE INFORMATION

Hole	Depth (feet)	X_nad83	Y_nad83
10LD006	327	419399	6309009
10LD10a	77	394944	6318867
10LD10b	87	394974	6318810

EXPLORATION EXPENDITURES

The cost to conduct the helicopter supported ground checks, and the drill program on the Liege East Property was CAN$ 369,313.38 (not including GST). A summary sheet of the expenditures is presented in Appendix 3.

CONCLUSION AND DISCUSSIONS

The regional setting for Shear's Liege property is considered highly favourable for the presence of diamondiferous kimberlites. The permits are predominantly underlain by Early Proterozoic to Archean basement of the Buffalo Head Craton. The local bedrock geology and the underlying Archean and Proterozoic crystalline basement in association with Phanerozoic structures, such as the Peace River Arch, likely provided a favorable environment for the formation and ascent of kimberlitic magmas in the Buffalo Head Hills area. This regional geological and structural setting is also considered favorable for the formation of kimberlitic magma in the upper mantle and its ascent to surface during periodic tectonic activity associated with movement along the Peace River Arch and the Grosmont High. Significant crustal thickness (35 to 40) underlying the area in combination with a number of important Gurney (1984) G10 subcalcic pyrope garnets are a strong indication that the area was underlain by upper mantle suitable for the formation and preservation of diamonds. This is confirmed with the discovery of at least 26 diamondiferous kimberlite pipes to date in the Buffalo Head Hills area by the BHHJV.

Limited bedrock exposures have been observed and reported within the area due to presence of extensive glacial deposits. Local bedrock exposed in the area or intersected in near surface drilling is age correlative to bedrock in other parts of the Buffalo Head Hills that has been intruded by kimberlites. The glacial history for the Buffalo Head Hills region is very complex with regions of thick glacial drift, extensive glacial gravel and evidence of extensive glacial tectonism. Drift thickness is known to range from less than 25 m (80 ft) to greater than 250 m (820 ft) with multiple layers of till and glacial outwash. The complex glacial deposits and glacial history can be a serious impediment to exploration for kimberlites. Future exploration programs for kimberlites and diamonds in the Buffalo Head Hills area should include a full compilation of the glacial deposits and drift thickness. Areas of thin drift and less glacial complexity should be the focus of any future exploration programs. Those areas underlain by thick drift in preglacial paleo-river channels should be omitted from future exploration.

RECOMMENDATIONS

Historically, there has been extensive exploration for oil and gas in the area, however, with respect to diamond potential, the Liege East property is still in the early stages of exploration. In addition, the results of current exploration completed by Shear Minerals Ltd. have shown the Liege East Property contains a number of geophysical targets that warrant further investigation. This illustrates the significant potential of Buffalo Head Craton and the Liege East property to host kimberlites. A follow-up exploration program focused on continued drilling is warranted to search for diamondiferous kimberlites. For the Liege East property, future exploration should consist of the following:
The till present in the holes should be processed and picked for diamond indicator minerals which should be probed.
A reinterpretation of the airborne geophysical survey should be completed to determine if there are any remaining targets for ground follow-up. A continuation of an aggressive spring drilling program on the recommended targets from ground geophysical grids, and further drilling of previously drilled targets if warranted by till results .If upon drilling target S1 a kimberlite is discovered then ground gravity should be completed on remaining non to weakly magnetic targets. The estimated cost to complete this program is $540,000 (6 drill holes x $90,000) for drilling and $20,000 for geophysical reinterpretation and $12,000 for sample processing and probing. The cost of the ground gravity program is to be determined. The total cost to complete the drilling and geophysical reinterpretation is CAN$ 572,000 (plus GST).

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CERTIFICATE OF AUTHOR

I, Pamela D. Strand, Residing at 10828-126 Street, Edmonton, Alberta, Canada do hereby certify that:

1. I am the President and CEO and Director of Shear Minerals Ltd, Suite 100 ,9797-45 Ave, Edmonton, Alberta, Canada.

2. I am a graduate of the University of Toronto with a B.Sc. Degree in Geology (1988) and a graduate of the University of Western Ontario, London, Ontario with a M.Sc. in Geology (1993) and have practiced my profession continuously since 1986.

3. I am a Professional Geologist registered with APEGGA (Association of Professional Engineers, Geologists and Geophysicists), and NAPEGG and a 'Qualified Person' in relation to the subject matter of this report. I am also the Responsible Member under Shear's Permit to Practice and Professional Practice Management Plan.

4. I have not received, nor do I expect to receive, any interest directly or indirectly, in the Liege West Diamond Property, Alberta.

5. I currently have an interest in Shear Minerals Ltd in the form of securities.

6. I am not aware of any material fact or material change with respect to the subject matter of the Report that is not reflected in the Report of the omission to disclose which makes the Report misleading.

7. I have not visited the property that is the subject of this report.

8. I hereby consent to the use of this Report and my name in the preparation of a prospectus for the submission to any Provincial or Federal regulatory authority and for assessment reporting purposes .

[redacted]

Pamela Strand, M.Sc., P. Geol.
Edmonton, Alberta
March 16, 2010

CERTIFICATE OF AUTHOR

I Saz Yaqzan, residing at 506, 10140-120 St Edmonton, AB. Hereby do certify that,

9. I am a graduate of the University of New Brunswick with a B.Sc. Degree in 1995 and attended the University of Victoria to study Earth and Ocean Sciences from 1999-2002 and have practiced geology continuously since 2000.

10. I have not received, nor do I expect to receive, any interest directly or indirectly, in the Liege East Diamond Property, Alberta.

11. I am not aware of any material fact or material change with respect to the subject matter of the Report that is not reflected in the Report of the omission to disclose which makes the Report misleading.

12. I have visited the property that is the subject of this report.

13. I hereby consent to the use of this Report and my name in the preparation of a prospectus for the submission to any Provincial or Federal regulatory authority and for assessment reporting purposes .

[redacted]

Saz Yaqzan
Edmonton, Alberta
March 16, 2010

APPENDIX 1

MINERAL AGREEMENTS

MINERAL AGREEMENT DETAIL REPORT

Report Date: February 10, 2010 4:22:38 PM

Agreement Number: 093 9306011171

Status: ACTIVE
Term Date: 2006-01-18
Agreement Area: 2560
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8057821
Client Name: GEOLINK EXPLORATION LTD.
Address: PO BOX 229
COWLEY, AB
CANADA T0K 0P0

LAND / ZONE DESCRIPTION

4-16-091: 05-08;17-20;29;30

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: February 10, 2010 4:19:55 PM

Agreement Number: 093 9306011170

Status: ACTIVE Term Date: 2006-01-18

Agreement Area: 9216 Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8057821

Client Name: GEOLINK EXPLORATION LTD.

Address: PO BOX 229

COWLEY, AB

CANADA T0K 0P0

LAND / ZONE DESCRIPTION

4-15-091: 01-12

4-16-091: 01-04;09-16;21-28;31-34

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: February 10, 2010 4:13:25 PM

Agreement Number: 093 9302050138

Status: ACTIVE
Agreement Area: 5120
Term Date: 2002-05-24
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8065185
Client Name: 977554 ALBERTA LTD.
Address: 888 3 ST SW SUITE 4700
CALGARY, AB
CANADA T2P 5C5

LAND / ZONE DESCRIPTION

4-15-091: 19-36
4-16-091: 35;36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: February 10, 2010 4:21:15 PM

Agreement Number: 093 9302050141

Status: ACTIVE
Agreement Area: 2304

Term Date: 2002-05-24
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8065185
Client Name: 977554 ALBERTA LTD.
Address: 888 3 ST SW SUITE 4700
CALGARY, AB
CANADA T2P 5C5

LAND / ZONE DESCRIPTION

4-17-092: 05;06;08;19;20;25;26;35;36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: February 10, 2010 4:21:45 PM

Agreement Number: 093 9302050137

Status: ACTIVE
Agreement Area: 320
Term Date: 2002-05-24
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8065185
Client Name: 977554 ALBERTA LTD.
Address: 888 3 ST SW SUITE 4700
CALGARY, AB
CANADA T2P 5C5

LAND / ZONE DESCRIPTION

4-15-091: 17S,NW;18E

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: February 10, 2010 4:22:04 PM

Agreement Number: 093 9302050136

Status: ACTIVE
Agreement Area: 1536

Term Date: 2002-05-24
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8065185
Client Name: 977554 ALBERTA LTD.
Address: 888 3 ST SW SUITE 4700
CALGARY, AB
CANADA T2P 5C5

LAND / ZONE DESCRIPTION

4-14-091: 16-21

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 20, 2010 3:59:10 PM

Agreement Number: 093 9308050871

Status: ACTIVE
Agreement Area: 9216

Term Date: 2008-05-23
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8052066
Client Name: SHEAR MINERALS LTD.
Address: 17010 103 AVE NW SUITE 220
EDMONTON, AB
CANADA T5S 1K7

LAND / ZONE DESCRIPTION

4-17-090: 01-36

METALLIC AND INDUSTRIAL MINERALS

Alberta

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 20, 2010 4:01:24 PM

Agreement Number: 093 9308050872

Status: ACTIVE
Term Date: 2008-05-23
Agreement Area: 9216
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8052066
Client Name: SHEAR MINERALS LTD.
Address: 17010 103 AVE NW SUITE 220
EDMONTON, AB
CANADA T5S 1K7

LAND / ZONE DESCRIPTION

4-18-090: 01-36

METALLIC AND INDUSTRIAL MINERALS

MINERAL AGREEMENT DETAIL REPORT

Report Date: May 20, 2010 3:58:51 PM

Agreement Number: 093 9308050874

Status: ACTIVE
Term Date: 2008-05-23
Agreement Area: 9216
Continuation Date:

DESIGNATED REPRESENTATIVE

Client Id: 8052066
Client Name: SHEAR MINERALS LTD.
Address: 17010 103 AVE NW SUITE 220
EDMONTON, AB
CANADA T5S 1K7

LAND / ZONE DESCRIPTION

4-17-091: 05-08;17-20;29;30
4-18-091: 01-05;08-16;21-28;33-36

METALLIC AND INDUSTRIAL MINERALS

APPENDIX 2

DRILLING

2009 Liege East

GEOLOGICAL DRILL LOG - SUMMARY PAGE

DRILL HOLE ID: 10LD10a		**PROJECT GEOLOGIST:**	S. Yaqzan
		CORE LOGGER:	A. Banas
LOCATION		**CORE DIAMETER:**	HQ (6cm)
EASTING:	394944 E	**DEPTH OF CASING:**	
NORTHING:	6318867 N	**COLLAR AZIMUTH (corr.)**	0
ELEVATION:	m amsl	**COLLAR DIP:**	-90
DATUM / ZONE:	12 V	**TOTAL DEPTH:**	77'
		DRILL CONTRACTOR:	Lyncorp Drilling Services
DATE COLLARED:	14/01/2010	**DRILL FOREMAN:**	Arnie Cockerill
DATE COMPLETED:	16/01/2010	**DRILL:**	Atlas Copco 1000
OBJECTIVE:	Magnetic high		

SUMMARY LOG

From (ft)	To (ft)	DESCRIPTION
0'	27'	8" recovery soil and organics
27'	48'	Light grey silt, unconsolidated to loosely consolidated
48'	77'	Loosely consolidated silt interspersed with clay rich areas
		eoh

Shear Minerals Ltd.

Liege East, Alberta

DETAILED GEOLOGICAL DRILL LOG

DH#: 10LD-10a ***Name: Anetta Banas*** ***Azimuth / Dip: -90*** ***Location:12 V 394944 6318867***

Depth (ft)	Graphic Log	Short description + lithology breaks	Diamond Count Results	Mag. Sus.	% Core Recovery	$CaCO_3$	Alteration	%Crustal Xenos	Major Types	Avg. Size (cm)	Detailed Description
											0-27'- 8" of recovery, compact soils with roots and pine cone, light brown
		soils									
				1.46							
				0.74							27'-38'11" - light grey, consolidated silt, no reaction with HCl, @ ~37'6" chunk of granite
		consolidated silt									38'11"-47' - the light grey silt becomes more unconsolidated, ' @ ~44' change in colour to dark brown-grey,
				3.25							becomes more consolidated but falls apart very easily, layers of dark brown materialnear bottom (organics?)
				-0.39							47'-48' - light grey unconsolidated silt
50											48'-77' - mixed lightgrey-brownish grey loosely consolidated silt, interspered with clay rich layers, near bottom
		unconsolidated									becomes quite fissile
		silt									EOH 77ft
		EOH 77'									
100											

2010 Liege East

GEOLOGICAL DRILL LOG - SUMMARY PAGE

DRILL HOLE ID: 10LD6		**PROJECT GEOLOGIST:**	S. Yaqzan
		CORE LOGGER:	A. Banas
LOCATION		**CORE DIAMETER:**	HQ (6cm)
EASTING:	419399 E	**DEPTH OF CASING:**	
NORTHING:	6309009 N	**COLLAR AZIMUTH (corr.):**	0
		COLLAR DIP:	-90
DATUM / ZONE:	12 V	**TOTAL DEPTH:**	327'
		DRILL CONTRACTOR:	Lyncorp Drilling Services
DATE COLLARED:	30/12/2009	**DRILL FOREMAN:**	Arnie Cockerill
DATE COMPLETED:	14/01/2010	**DRILL:**	Atlas Copco 1000
OBJECTIVE:	Magnetic low		

SUMMARY LOG

From (ft)	To (ft)	DESCRIPTION
0	48	
48'	127'	Grey silt ranging from uncosolidated to moderately consolidated. with insterspersed mud layers, clay layers and fine grand sand.
127'	158'9"	Fine grained sand, interbedded with consolidated silt with a few coal seams
158'9"	166'4"	Light grey massive silt stone
166'4"	172'8"	Intermixed sands and silts
172'8"	271'	Grey shale with intervals of mud. Brachipod shells and graptolites
271'	310'4"	Interbedded sand and shale
310'4"	321' 6"	Light grey shale varying from massive to fissile.
321' 6"	324' 5"	Carbonate
324' 5"	327'	Fine grained light grey sand with very fine bedding

Shear Minerals Ltd.

Liege East, Alberta

DETAILED GEOLOGICAL DRILL LOG

DH#: 10LD-06 ***Name: Anetta Banas*** ***Azimuth / Dip: -90*** ***Location: 12V 419399 E 6309009 N***

Depth (ft)	Graphic Log	Short description + lithology breaks	Diamond Count Results	Mag. Sus.	% Core Recovery	$CaCO_3$	Alteration	%Crustal Xenos	Major Types	Avg. Size (cm)	Detailed Description
		no recovery									0-48' - no recovery
50		unconsolidated									
		silt		3.25							48'-57' - dark grey, unconsolidated silt with pebbles, intermixed with very thin sandy layers, sand is greenish in colour
											@ 52'2" - 3"thick layers contain abundant pebbles; oragnic -rich layers interspersed throughout entire section
		consolidated silt		-0.98							57'-84'5" - lighter grey than above unit, very finely interbedded silts and muds, consolidated
											84'5"-87' - no recovery
		no recovery									87'-93'5" - same as aove but less consolidated, darker grey, tends to contain more mud layers with abundant clays
		consolidated silt		5.5							93'5"-97' - moderately consolidated silt,no bedding or layering evident, lightgrey
100		unconsolidated									97'-99'6" - intermixed silts and muds, very thin leyers, loosely consolidated, dark grey
		silt		-0.38							99'6"-104'- very well sorted fine sand (like fine beach sand), very losely consolidated, greyish-green colour
		interbedded silt-shale									104'-108' - intermixed in thick layers light grey silts (poorly consolidated) with shale (well condsolidated) layers
		unconsolidated		4.5							108'-118' - light grey, well sorted silts, unconsolidated fine sand with variable clay content
		silt									
		moderately		8.5							118'-127' - dark grey-brown, moderately consolidated silt, interperesed with clay/organics but not in layers
		consolidated silt									
		consolidated silt									127'-134' - fine grained sand like at 99'6"
		interbedded		3.3							134'-158'9" - interbedded thick layers (up to 2ft thick) layers of above sands with consolidated grey silts, a few coal
150		sand-silt									seams are recognised
		siltstone		3.96							158'9"-166'4" - light grey massive, lithified siltstone (real rock!!), very few beddingfeatures, reacts strongly with HCl
		interbedded									166'4"-172'8" - back into intermixed sands with silts as above
		sand-silt		4.34							172'8"-183' - interbedded shale with very little silt, fissile, dark grey-brown, towards bottom of section more silty
		interbedded silt-shale									
											179'5"-183' - very finely bedded silts, medium brown grey, moderately consolidated
		shale		2.07							183'-229'8" - very light grey shale, moderately consolidated, very fissile, some interbedding with
200											darker muds
											@ 203'6" shale become darker with more muddy intervals
											@207' shale becomes black (very dark grey)
											@224 fossils shells identified but fossils are rare in this section overall
				4.5							229'8"-264'8" - changes to more silty shale with lighter grey colour, less fisile, some parts show very fine bedding
											some parts are very fossiliferous and contain graptolites and shells (i.e. brachiopods)
				8.5							fine sand layers are interspersed at the bottom of the interval
250		shale									
				3.96							264'8"-265' - massive fine sand, greyish green colour, interspersed with light brown shale layers, well consolidated
		interbedded silt-shale		4.34							265'-271' - black/dark grey shale, very fissile with some interbedded sands, fossiliferous (graptolites, shells),
											ammonoid fossil at 267'
											271'-273'- consolidated grey sand
				2.07							273'-282' - dark grey/black shale with irregularly interspersed silt and sand pods, not bedded/layered
		interbededd									282'-286'3" - massive to finely bedded, light grey fine sand
		sand-shale									286'3"-310'4" - interspersed fine sand and shale irregular layers, shale layers are fossiliferous, thickness of layers
300				4.5							vary, in bottom part of section sand has a greenish colour
		consolidated silt		10.7							310'4"-321'6"- 1ft of massive fine grained, solid (consolidated) light grey shale, then into massive, fissile, light grey
											shale, no fossils, no bedding
		carbonate		4.4							321'6"-322'6" - 1ft of carbonate, solid, replacement
		moderately									322'6"-324'5" - same as before carbonate
		consolidated silt									324'5"-327' - fine grained sand with very fine bedding, light grey, moderately consolidated
		EOH 327									EOH 327ft
350											

2010 Liege East

GEOLOGICAL DRILL LOG - SUMMARY PAGE

DRILL HOLE ID: 10LD10b		**PROJECT GEOLOGIST:**	S. Yaqzan
		CORE LOGGER:	A. Banas
LOCATION		**CORE DIAMETER:**	HQ (6cm)
EASTING:	394974 E	**DEPTH OF CASING:**	
NORTHING:	6318810 N	**COLLAR AZIMUTH (corr.):**	0
ELEVATION:	m amsl	**COLLAR DIP:**	-90
DATUM / ZONE:	12 V	**TOTAL DEPTH:**	87'
		DRILL CONTRACTOR:	Lyncorp Drilling Services
DATE COLLARED:	15/01/2010	**DRILL FOREMAN:**	Arnie Cockerill
DATE COMPLETED:	16/01/2010	**DRILL:**	Atlas Copco 1000
OBJECTIVE: Magnetic low			

SUMMARY LOG

From (ft)	To (ft)	DESCRIPTION
0'	17'	soil
17'	57' '3"	unconsolidated to moderately consolidated grey sand
57' '3"	67'	medium grey loosely consolidated silt
67'	77'	no recovery
77'	77'7"	shale
77'7'	87'	unconsolidated sand
	eoh	

Shear Minerals Ltd.

Liege East, Alberta

DETAILED GEOLOGICAL DRILL LOG

DH#: 10LD-10b ***Name: Anetta Banas*** ***Azimuth / Dip: -90*** ***Location: 12 V 394974 6318810***

Depth (ft)	Graphic Log	Short description + lithology breaks	Diamond Count Results	Mag. Sus.	% Core Recovery	$CaCO_3$	Alteration	%Crustal Xenos	Major Types	Avg. Size (cm)	Detailed Description
		soil									0-17'- soil, slightly compacted, contains roots, light brown, reacts with HCl
				-0.75							
		moderately consolidated sand		72.5							17'-27' - moderately consolidated sand with high silt content, grey-brown colour
		unconsolidated sand		6.3							27'-36'3" - unconsolidated grey sand with cobbles up to 2" in size
		moderately consolidated									36'3"-56' - dark grey, moderatley consolidated silt with very fine (thin) mud layers
50		sand									
											56'-57'3" - light grey, loosely consolidated sand
		unconsolidated silt/sand									57'3"-67' - very loosely consolidated silt, medium grey
		no revoery									67'-77' - no recovery
											77'-77'7" - moderately consolidated shale mixed with silt, medium grey
		unconsolidated sand									77'7"-87' - light-medium grey unconsolidated sand
		EOH 87'									EOH 87ft
100											

APPENDIX 3

EXPENDITURES

MINERAL ASSESSMENT
EXPENDITURE BREAKDOWN BY TYPE OF WORK

☐ **Estimated Expenditure** (submitting with **Statement of Intent to File**)

☑ **Actual Expenditure** (**for Part B of Report**; Must match total filed in Part A)

Project Name: Liège East

	AMOUNT
1. Prospecting	$ 0
2. Geological Mapping & Petrography	$ 5000
3. Geophysical Surveys	
a. Airborne	$ 0
b. Ground	$ 0
4. Geochemical Surveys	$ 0
5. Trenching and Stripping	$ 0
6. Drilling	$ 328,461.89
7. Assaying & whole rock analysis	$ 0
8. Other Work: Communications: Internet, Long Distance, Satellite Phone	$ 2,277.55
SUBTOTAL	**$** 335,739.44
9. Administration (up to 10% of subtotal)	$ 33,573.94
TOTAL	$ 369,313.38

Saz Yaqzan

SUBMITTED BY (Print Name)

March 16 2010

DATE

[redacted]

SIGNATURE