MAR 20000020: STEEN RIVER

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NEW CLAYMORE RESOURCES LTD.

ASSESSMENT REPORT

STEEN RIVER PROSPECT

GROUND MAGNETOMETER SURVEYS AND DIAMOND DRILLING ON THE STEEN RIVER PROSPECT NORTH WESTERN ALBERTA

Metallic and Industrial Mineral Permits permits 9398070080, 9398070081, 9398070082, 9300020004 and 9300020005

> Geographic Co-ordinates 59° 30' N 117° 30' W NTS Map Areas 84 N/5,6,11,12

New Claymore Resources Ltd. 11003 - 84 Avenue Edmonton, Alberta T6G 0V6



November, 2000

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SUMMARY

New Claymore Resources Ltd. Steen River Prospect is located about 120 km north of the Town of High Level in northern Alberta. The prospect is comprised of 5 Metallic and Industrial Mineral permits which encompass an area of 40,192 hectares (99,316 acres). The permits are registered in the name of New Claymore Resources Ltd.

The prospect covers the area of the Steen River Impact Structure, a meteorite impact site which K-Ar dating of partially melted basement indicates an age of 95 ± 7 m.y. for the impact (Carrigy, 1968). Approximately 25% of the known structures of this type are associated with economic resources such as the Cu-Ni-PGM ores of the Sudbury Igneous Complex, which is interpreted as part of the impact melt system of the Sudbury Structure.

The Great Slave Lake Shear Zone, which transects the southern portion of the prospect area, is also a conduit for deep seated mineralizing hydrothermal fluids as evidenced by the Pine Point lead-zinc deposits along strike to the northeast.

During 1995, Sander Geophysics Limited was contracted to fly a high resolution aeromagnetic geophysical survey over the Steen River Impact structure. In total 5,053 line kilometers of data were collected. Published interpretation of the airborne data by Geophysical Exploration & Development Corporation (GEDCO) and Spectra Exploration Geoscience Group identified 10 positive magnetic anomalies which may be representative of kimberlitic diatremes. During January, 2000, ground magnetometer geophysical surveys were completed over 4 of the airborne anomalies selected because of their magnetic signatures and proximity to interpreted geologic structures; in total 19.7 line-km of ground magnetometer geophysical surveying was completed. All the ground surveys defined areas which warrant further investigation.

Interpretation of the ground geophysics and the public airborne data lead to a list of 8 priority targets. A diamond drill program was initiated to test these targets. Three holes spaced roughly 7 kilometres apart bottomed in similar rock which was later confirmed to be an impact breccia. No further work was done or is planned at this time.

Location, Prospect Description

The Steen River Prospect consists of 5 contiguous Metallic and Industrial Mineral (MAIM) permits located in northern Alberta which cover an area of 40,192 hectares (99,316 acres). The prospect is centered at about 59° 30' north latitude and 117° 30' west longitude, is located about 700 km northwest of the City of Edmonton and about 120 km north of the Town of High Level (Figure 1). The permits 9398070080, 9398070081, 9398070082, 9300020004 and 9300020005 are registered in the name of New Claymore Resources Ltd. (New Claymore) and their status and location are given in Table 1.

Permit Number	Commencement of term	Legal Description of lands	Area of Permit in hectares
9398070080	21-Jul-98	5-22-120: 32;33 5-22-121: 4;5;8;9;16-21;28-34. 5-23-121: 21;22;25-28;33-36. 5-23-122: 1;2;12.	8192
9398070081	21-Jul-98	5-21-122: 1-36.	9216
9398070082	21-Jul-98	5-22-122: 1-36.	9216
9300020004	8-Feb-00	5-21-120: 31;35 5-21-121: 2-11;14-18;19E;20-23. 5-22-120: 34-36. 5-22-121: 1-3;10;11W;12E;13- 15;24W	9216
9300020005	8-Feb-00	5-21-121: 26-35. 5-22-121: 22;23;25-27;35;36.	4352
		total area	40192
		ALL IL 17	1

TABLE 1 MAIM PERMIT DESCRIPTION

84N/5,12





Access, Infrastructure, Physiography

The Steen River Prospect is accessible by vehicle from the paved Mackenzie Highway (Highway 35) that travels between High Level, Alberta and Enterprise, N.W.T. At the site of the Bearspaw Petroleum camp, an all weather road travels west for 10 kilometres to a Gulf Oil camp and gas plant. Winter roads continue west and south with good access to most of the prospect. Seismic lines provide all terrain vehicle and/or snow machine access to remote areas of the prospect. Accommodation is available at either the Gulf camp or at the Bearspaw camps.

Previous Exploration

In 1995 the area an airborne magnetic survey was flown over the area. Since then, successful oil and gas exploration has resulted in intense activity with the construction and expansion of gas plants and a network of pipelines. Other than oil exploration and the scientific interest of the impact structure, the prospect has had no other work.

About 60 km east of the Steen River Prospect, Ashton Mining of Canada Ltd. has flown airborne magnetic surveys followed by ground geophysics and diamond drilling to test their properties in the Caribou Mountains.

EXPLORATION

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Airborne Geophysical Survey

In 1995, Troymin Resources Ltd. contracted Sander Geophysics Ltd. to fly a magnetic survey over the prospect. Several targets were identified but no further work was carried out. Because of the unique magnetics over the impact structure the area was given much attention by universities and geological groups such as the Alberta Geological Survey and the Geological Survey of Canada.

New Claymore's interest in the property was the first attempt to explain some of the unusual magnetic anomalies around the edge of the feature.

Ground Geophysical Surveys

During January, 2000, 4 ground magnetometer geophysical surveys were completed over airborne geophysical targets on the Steen River Prospect (Figure 3). The airborne targets identified for ground follow-up were selected based on magnetic signature and proximity to

3

interpreted geologic structures. In total, 19.7 line-km of ground magnetometer surveying was completed over the 4 grid areas. After a baseline was surveyed on an individual grid, cross lines were established at 100 m intervals and on each cross line, stations were chained by topofil and marked at 25 m intervals. At 12.5 m stations along each cross line, a magnetometer reading was collected using a GEM System GSM-19 integrated Overhauser effect proton precession magnetometer. The magnetic readings were corrected for terrestrial field magnetic variation using a GSM-19 basestation. The corrected magnetometer data was gridded, contoured, and used to generate Figure 4, Figure 5, Figure 6 and Figure 7.

The magnetic patterns for the survey areas correlate with the airborne signatures and provide sharpened definition and ground verification and placement of the airborne anomalies. A review of the airborne and ground geophysical anomalies follows:

<u>Ortho Grid:</u>	A large (800 metre) circular anomaly has an amplitude of about 200 nT (Figure
	4). Target 1.
<u>Ynot Grid:</u>	A large elliptical shaped anomaly about 800 metres in an east-west direction and
	about 500 metres in a north-south direction and has an amplitude of 280 nT.
	(Figure 5). Target 6.
Pot Grid	A well defined but smaller anomaly about 600 by 400 metres and an amplitude of 80 nT. (Figure 6). Target 2.
Jack Grid	An anomaly 500 by 300 metres and an amplitude of 70 nT. (Figure 7) Target 4.

Several other airborne magnetic targets were classified based on their position and amplitude and were then given the names Target 3, Target 5, Target 7 and Target 8 (Figure 3).

DIAMOND DRILLING

Interpretation of ground and airborne geophysical data resulted in a diamond drill program to test up to 8 anomalies. The diamond drill program began on February 20, 2000 to test the high priority target at the Ortho grid, Target 1. Hole ST00-01 bottomed in impact breccia at 1277 feet (389 metres). Hole number ST00-02 was drilled to test Target 6 and began on February 29, 2000. This hole bottomed in impact breccia at a depth of 837 feet (255 metres). Hole ST00-03 began on March 3, 2000 to test Target 8 and bottomed in impact breccia at 1237 feet (377 metres).

Complete drill logs, analysis and interpretation are being done by the Alberta Geological Survey and are not included in this report.

Road Work and Drill Hole Locations

The following target areas had new road construction and existing cut lines cleared. No other targets had road construction or snow removal.

 Target 1. Site of drill hole ST00-1 UTM coordinates (NAD 27, Zone 11) 462500E, 6605425N Township 122, Range 22, Section 11, west of the 5th

Access to this site is 2.5 km along an existing seismic line that was cleared of snow and new growth (under 2 metres high). From the end of this line, 200 metres of new road (3 m wide) were built through the tree cover (2 to 6" diameter spruce and poplar) to the drill pad which was enlarged to approximately 20 metres by 40 metres due to problems encountered after hitting gas in the hole.

 Target 6. Site of drill hole ST00-2 UTM coordinates (NAD 27, Zone 11) 468772E, 6593075N Township 121, Range 21, Section 4, West of the 5th

Access to this site is 4.1 km along existing seismic lines that were cleared of snow and new growth (under 2 metres high). From the seismic line, 275 metres of new road (3m wide) were built through the tree cover (1 to 3" diameter swamp spruce) to the drill pad which is 20 metres by 20 metres.

 Target 8. Site of drill hole ST00-3 UTM coordinates (NAD 27, Zone 11) 467825E, 6599675N Township 121, Range 21, Section 29, West of the 5th

Access to this site is 9.1 km along existing seismic lines that were cleared of snow and new growth (under 2 metres high). From the seismic line, 600 metres of new road (3m wide) were built through the tree cover (1 to 4" diameter swamp spruce) to the drill pad which is 20 metres by 20 metres.

CONCLUSIONS

Petrographic and Diamond Indicator work by Lakefield Research concluded that the drill core did not contain kimberlite or diamond indicator minerals. Detailed core logging by Boris Molak of the Alberta Geological Survey (AGS) describes the core as impact breccia. This report is unavailable at this time but will be made public by the AGS.

STATEMENT OF EXPENDITURES, COST ALLOCATION

A statement of expenditures for work completed on MAIM permits 9398070080, 9398070081, 9398070082, 9300020004 and 9300020005 is given in Table 1 (Appendix 1); total exploration expenditures amount to \$264,806.00. The Steen River permits are contiguous and the allocation of exploration expenditures is given in Table 2 (Appendix 1) and shown on Figure3.

STATEMENT OF QUALIFICATIONS

I, Anthony Rich, state that:

- 1 Together with Robert Ryziuk, I am author of this report;
- 2 I am a Professional Geologist in the Province of Alberta and member of A.P.E.G.G.A. since 1969;
- 3 I am the President of New Claymore Resources Ltd., registered holder of the Permits;
- 4 The work carried out in this exploration program was directed by me;
- 5 I have worked in mineral exploration since 1964. I have been engaged in exploration in most Canadian Provinces and Territories;

Respectfully Submitted this 17th day of November, 2000

Anthony Rich, P.Geol.

AUTHORIZATION TO REPRODUCE THIS REPORT

I, Anthony Rich, P.Geol., hereby authorize the reproduction of all or any part of this report after the end of the one-year confidentiality period.

New Claymore Resources Ltd. GED Anthony Rich, P.O. November 16, 2000





SYMBOLS



New Claymore Resources Ltd. Steen River Prospect Wood Buffab National High Clave Park Park Park Port MoMurray Consol Peace River Orande Praite Lave Orande Praite Lave Alternational Lave Alternati

Contour interval, 10 nT











APPENDIX 1

STATEMENT OF EXPENDITURES,

COST ALLOCATION

In the matter of Exploration Costs incurred in the Exploration of the Steen River Prospect, Alberta between January 1st and May 31st 2000:

Permits 9398070080,81,82, 9300020004,05

I, Anthony Rich of Edmonton, Alberta DECLARE THAT:

The costs shown on the attached Statement of Expenditures at Steen River, Alberta are true costs;

I was personally involved in the direction of the field program;

as President of New Claymore Resources Ltd., the permit holder, I authorized the payment of the costs of the exploration program.

New Claymore Resources Ltd.

Anthony Rich, P.Geol. President New Claymore Resources Ltd.

Steen River Permits 9398070080, 81, 82 & 9300020004, 5

Statement of Expenditures January - May 2000

\$ Cost

Lorrnel Consulting, Calgary	\$1,563.81	Permitting
Lorrnel Consulting	\$1,750.79	11
Lorrnel Consulting	\$100.00	"
Aggressive Diamond Drilling	\$30,000.00	advance on drilling
Aggressive Diamond Drilling	\$50,000.00	drilling
Aggressive Diamond Drilling	\$50,089.87	drilling
D& G Water	\$4,494.00	water truck
Carter Industries	\$20,773.23	cat work - line clearing & drill moves
TFS Food Service	\$7,789.60	food and accomodation
TFS Food Service	\$6,676.80	food and accomodation
Rainbow Transport	\$1,374.47	core to Edmonton
Sangel	\$8,002.92	cementing hole
United Group, Hay River	\$623.80	core boxes
Telba Oilfield Services	\$1,340.18	equipment rental
CFE Equipment	\$505.64	field supplies
Skidoo rental	\$4,930.00	
Trailer rental	\$600.00	
Magnetometer rental	\$1,566.00	
GPS Rental	\$200.00	
Fuel	\$1,400.00	
- Lakehead U	\$531.53	petrography
Lakefield Research	\$1,615.70	petrography and report
Lakefield Research	\$2,824.80	caustic fusion diamond analysis
Lakehead University	\$85.60	lab prep - petrography
Dahrouge Geological	\$2,118.60	ground magnetometer survey
Dahrouge Geological	\$2,106.57	geological work & supervision of drill
	\$1,557.87	Expenses
	\$1,362.62	Expenses
Geolink Exploration	\$181.78	field expenses
Geolink Exploration	\$4,882.68	ground magnetometer survey
Geolink Exploration	\$3,250.13	geological work
Geolink Exploration	\$1,030.68	field expenses
Geolink Exploration	\$8,203.56	supervision of drill
Geolink Exploration	\$6,200.00	core logging, splitting
		geology & supervision

subtotal \$240,733.23 Overhead & report preparation 10% \$24,073.32 Total Costs \$264,806.55

Compiled November 15th 2000

Schedule for Application of Assessment Work

Work was carried out on all five permits comprising the Steen River Prospect. However, only the three Permits 9398070080 - 82 have come to the end of their first two year term. At this time, it is these three permits which are being reduced in size with the work credits to be applied to these reduced areas. The reduced areas and credits requested are shown on **Table 3**.

Permits 9300020004 and 05 do not reach the end of their first two year term until February 2002 and so the work credits requested for these permits do not at this time apply to any particular area. These two permits will be retained in their entirety until 2002 at which time we may request a reduction in area for their continuance into the second two year term.

New Claymore Resources Ltd. November 17th 2000

TABLE 3

Request for Allocation of Assessment Credits Steen River Permits 9398070080,81,82 & 9300020004,05

Permit Number	Commence-	Legal Description	Area	Legal Description of	renewed	year 1-2	year 3-4	year 5-6	year 7-8 year 9-10	credits
	ment of term	of Lands	hectares	Lands to be Retained	permit area	\$5/hectare	\$10/hee	ctare	\$15/hectare	applied
9398070080	21-Jul-98	5-22-120: 32;33 5-22-121: 4;5;8;9;16-21;28-34. 5-23-121: 21;22;25-28;33-36. 5-23-122: 1;2;12.	8192	5-22-121: 28N;33;34W	512	\$2,560	\$5,120	\$5,120	\$7,680 \$7,680	\$28,160
9398070081	21-Jul-98	5-21-122: 1-36.	9216	5-21-122: 7;8;17;18.	1024	\$5,120	\$10,240	\$10,240	\$15,360 \$15,360	\$56,320
9398070082	21-Jul-98	5-22-122: 1-36.	9216	5-22-122: 11-14.	1024	\$5,120	\$10,240	\$10,240	\$15,360 \$15,360	\$56,320
9300020004	8-Feb-00	5-21-120: 31;35 5-21-121: 2-11;14-18;19E;20-23. 5-22-120: 34-36. 5-22-121: 1-3:10:11W:12E:13-15:24W	9216	all	9216					
9300020005	8-Feb-00	5-21-121: 26-35. 5-22-121: 22;23;25-27;35;36.	4352	all	4352		t	wo permit	s combined	\$124,007
		total area	40192	-	15616	-		Total E	xploration Costs	\$264,807



APPENDIX 2

(Activity

1.

LAKEFIELD RESEARCH

MINERALOGICAL SERVICES

PETROGRAPHIC DESCRIPTIONS OF SIX

DRILL CORE SAMPLES

LakefieldResearch

Mineralogical Services

Petrographic Descriptions of Six Drill Core Samples

submitted by New Claymore Resources Ltd.

Project Managed by: Bruce Craig Jago, Ph.D.

Submission Date: April 10, 2000

Project No.: 8901-250/LIMS#MAR5008.R00

Note

This report refers to the samples as received. The practice of this Company in issuing reports of this nature is to require the recipient not to publish the report or any part thereof without the written consent of Lakefield Research Limited.

Neither Lakefield Research Limited, nor its subcontractors, consultants, agents, officers, or employees shall be held responsible for any loss or damage resulting directly or indirectly from any default, negligence, error or omission. The liability of Lakefield Research Limited, if any, shall be limited in total to the invoiced value of this project.

Summary of Petrographic Examination

Detailed petrographic and hand specimen descriptions were prepared for six drill core samples provided by New Claymore Resources.

The drill core samples are interpreted as poly-lithic breccias, of probable meteorite impact origin. They are composed of a chaotic, unsorted mixture of sub-rounded to sub-angular felsic igneous rock (granite or granodiorite; up to 5 cm long) and derived, crystal fragments, mafic rock fragments of uncertain origin and a fine-grained, crustal fragment-rich, siliceous matrix. The asreceived drill core sample intervals generally are non-magnetic (standard hand-magnet) and react weakly with a 10% HCl acid solution.

In the thin section (See Appendix A), the samples are composed of:

- 1. An intermediate to felsic matrix exhibiting quench and fluidal textures and containing rare flattened vesicles (?).
- 2. Dark, reddish-brown rock fragments containing abundant quartz and feldspar crystal fragments and exhibiting quench and fluidal textures
- 3. Granitic to granodioritic rock fragments.
- 4. Mono- and poly-mineralic quartz and feldspar crystal fragments.

The sample matrix is defined as that portion of the drill core that is volumetrically dominant. In the case of these six samples, it is regarded as having an intermediate to felsic composition (based on colour index and petrographic observation) and is composed of quench-textured feldspar crystallites and a mafic interstitial phase that is tentatively identified as pyroxene or amphibole.

1. The intermediate to felsic matrix is composed of extremely fine-grained feldspar crystallites, optically unresolvable, fine-grained granular, interstitial mafic minerals (amphibole/pyroxene?) and fine- to coarse-grained fragments of quartz, plagioclase and alkali-feldspar (Plates 1, 11, 14, 17 and 18). The latter are interpreted to be xenocrysts derived from disaggregated fragments of granite and granodiorite. Feldspar crystallites display highly contorted fluidal textures similar to those that are observed in quenched

volcanic rocks (Plate 11). The presence of crystallites strongly suggests that the matrix has been quenched from a liquid state.

- 2. The dark-coloured fragments observed in drill core have quench (Plates 2, 5 and 12) and fluidal textures (Plates 1 and 2) that are similar to those observed in the intermediate to felsic matrix, although radial quench textures (Plate 5) are observed, rather than elongate crystallites which are characteristic of the felsic melt. These mafic (?) fragments also contain a similar size range and mineralogical population of mono- and poly-mineralic felsic xenocrysts (Plate 2) composed of quartz and feldspar.
- 3. The granitic to granodioritic rock fragments are composed of medium-grained (up to 2 mm grain size) granular quartz, moderately to strongly altered plagioclase and alkali-feldspar and intensely to wholly altered biotite and amphibole (?). Many of the feldspar grains exhibit melt/quench textures (Plates 10, 13, 15 and 16) similar in appearance to perlitic textures that are developed in rapidly quenched felsic volcanic melts.
- 4. Mono- and poly-mineralic crystal fragments of quartz, plagioclase and alkali-feldspar (Plates 1, 11 and 14) comprise up to about 30 volume percent of individual drill core samples. These crystal fragments range in size from 3-5 mm across, to less than 100 μm. The fragments typically are altered, exhibit melt/quench textures similar to those observed in the granitic rock fragments, and curving and distorted cleavage planes (Plates 3, 4, 9, 9 and 13) consistent with those ascribed to a meteorite impact origin. Highly irregular, extremely fine-grained, patchy, reddish-coloured intergrowths of Fe-oxide and optically unresolvable silicate minerals are tentatively identified as relic biotite and amphibole grains. These comprise less than 0.5 volume percent of the crystal fragment population and appear to be the sole occurrence of magnetite in the samples.

Interpretation

The protolith is interpreted as the product of a meteorite impact based on the presence of:

- 1. Melt/quench textures that are developed in felsic rock fragments.
- 2. Fluidal textures in the felsic matrix and mafic (?) rock fragments.
- 3. Complex, distorted and ornamented twin lamellae in plagioclase and alkali-feldspar.
- 4. Presence of "shocked" quartz which also exhibits very well developed ornamented deformation lamellae.

LAKEFIELD RESEARCH LIMITED

Bruce Craig Jago, Ph.D. Manager-Mineralogical Services

April 5, 2000 Technical Support: Jesse Payne.

APPENDIX A

DETAILED PETROGRAPHIC DESCRIPTION

Thin Section Description

8901-250/LIMS#MAR5008.R00

Sample# 1521007/PTS# 6571

Rock Name: Impact Breccia

Suggested Protolith: Granitic to Granodioritic Igneous rock/Gneiss

Metamorphic Facies: Unmetamorphosed/Compacted

Rock Description:

The drill core specimen is an unsorted, chaotic breccia composed of approximately 25 volume percent dark coloured, mafic (?) rock fragments, 10 volume percent granitic to granodioritic rock fragments, 10 volume percent derived felsic mineral xenocrysts and 55 volume percent very fine-grained intermediate to felsic matrix. The drill core specimen reacts weakly with 10% HCl acid and essentially is non-magnetic. Rock fragments generally are small than 4 cm across; some felsic rock fragments have partial coronas of mafic material similar to autoliths found in some hypabyssal-facies alkaline rocks.

Polished Thin Section Description:

The polished section highlights the contact between a highly distorted dark-coloured fragment and matrix.

The dark-coloured fragment is composed of a fluidal- and quench-textured (Plates 1 and 2), partially to wholly devitrified matrix, rare vesicles (some lined with green-coloured crystallites) and abundant mono- and poly-mineralic grains of quartz, plagioclase and alkali-feldspar. Discrete grains and poly-mineralic aggregates of quartz and feldspar can exhibit strongly developed deformation (Plate 3), fragmentation and melt/quench textures. Deformation textures include sweeping extinction and distorted and decorated twin, cleavage and deformation lamellae. These textures are consistent with an origin by meteorite impact. Melt/quench textures can have the form of "perlitic" textures that are observed in quenched, felsic volcanic melts. The felsic matrix is composed of irregular patches, clots and domains of quench feldspar crystallites, similarly shaped areas of proto-melt and melt/quench textures and abundant mono- and poly-mineralic fragments of quartz and feldspar similar to those observed in the mafic fragments.

The dark-coloured fragment is interpreted to have a mafic to intermediate composition. This interpretation is based of scanning electron microscope, energy dispersive X-ray analysis (SEM-EDX) of selected, fragment-free spots distributed throughout the fragment matrix. The X-ray spectra of these spots is similar to that observed for the felsic matrix but contains stronger peaks for Fe and Mg.





Thin Section Description 8901-250/LIMS#MAR5008.R00

Sample# 1631224/PTS# 6572

Rock Name: Impact Breccia

Suggested Protolith: Granitic to Granodioritic Igneous rock/Gneiss

Metamorphic Facies: Unmetamorphosed/Compacted

Rock Description:

The drill core specimen is a chaotic breccia composed of approximately 35 volume percent darkcoloured, moderately to strongly chloritized mafic (?) rock fragments, 15 volume percent granitic to granodioritic rock fragments, 15 volume percent derived felsic mineral xenocrysts and 35 volume percent of a very fine-grained intermediate to felsic matrix. The mafic rock fragments exhibit fluidal and vesicular textures. The drill core specimen reacts weakly with 10% HCl acid and essentially is non-magnetic. Chloritization of the sample matrix is patchy but can be extensive. The drill core specimen reacts weakly with 10% HCl acid and essentially is nonmagnetic.

Polished Thin Section Description:

The section was chosen to highlight the contact between a mafic fragment and the sample matrix.

The intermediate to felsic matrix is a micro-breccia composed abundant fine-grained quartz and feldspar crystal fragments and interlocking, amoeboid patches of partially to wholly devitrified intermediate to felsic glass dominated by feldspar crystallites and partially melted quartz and feldspar crystal fragments (Plates 4-6). Most crystal fragments have partial to complete coronas of feldspar crystallites (Plate 6). Deformation textures include sweeping extinction, distorted and decorated cleavage and deformation planes and intense grain fragmentation (Plate 4). The mafic to intermediate fragment that dominates the section comprises a reddish-brown, quench- and fluidal-textured matrix (Plate 5), abundant quartz and feldspar crystal fragments exhibiting melt/quench textures and mafic crystallite-lined vesicles (?) (Plate 6). The matrix appears to be composed of welded, discrete, interposed domains of partially devitrified glass.



Thin Section Description 8901-250/LIMS#MAR5008.R00

Sample# 346917/PTS# 6573

Rock Name: Impact Breccia

Suggested Protolith: Granitic to Granodioritic Igneous rock/Gneiss

Metamorphic Facies: Unmetamorphosed/Compacted

Rock Description:

The drill core specimen is a matrix-rich, chaotic breccia composed of 20 volume percent dark coloured mafic (?) rock fragments, five volume percent of granitic to granodioritic rock fragments, 10 volume percent of derived quartz and feldspar crystal fragments and 65 volume percent of a fine-grained, light greenish-coloured, intermediate to felsic matrix. Dark coloured rock fragments can contain abundant felsic mineral xenocrysts and exhibit weakly developed fluidal textures. Some felsic rock fragments have partial coronas of mafic material similar to autoliths found in some hypabyssal-facies alkaline rocks. The drill core specimen reacts weakly with 10% HCl acid and essentially is non-magnetic.

Polished Thin Section Description:

The polished thin section was chosen from an area of the drill core with abundant light and dark coloured fragments (max. 4 mm dia.).

The sample is best described as a poly-lithic micro-breccia. The fragment population includes abundant dark reddish-brown coloured fragments, mono- and poly-mineralic aggregates of quartz and feldspar, vesicular, wholly chloritized clasts of uncertain origin. The dark-coloured fragments are similar texturally and mineralogically to those observed in other samples. Monoand poly-mineralic aggregates of quartz, plagioclase and alkali-feldspar are derived from larger granitic to granodioritic clasts. These crystal aggregates exhibit strongly developed deformation, fragmentation, alteration and melt/quench textures consistent with an origin by meteorite shock. Vesicular mafic clasts are composed of fine-grained felted aggregates of chlorite and/or amphibole. These clasts are interpreted as devitrified and altered glass fragments on the basis of their often cuspate form, fine-grain size and vesicular nature.

The intermediate to felsic matrix is composed of finely intergrown, irregular, amoeboid-shaped patches of feldspar crystallites with interstitial granular pyroxene/amphibole (?), melt/quench-textured patches, interpreted as partially melted and quenched, quartz and feldspar aggregates (Plate 10) and abundant fine- to very fine-grained quartz and feldspar crystal fragments. Relic mafic mineral xenocrysts have been recrystallized to a fine-grained, felted mass composed of Fe-

oxides and a chlorite/amphibole (?) intergrowth. Quartz and feldspar crystal fragments exhibit textures similar to those described above.

Thin Section Description 8901-250/LIMS#MAR5008.R00

Sample# 3541068/PTS# 6574

Rock Name: Impact Breccia

Suggested Protolith: Granitic to Granodioritic Igneous rock/Gneiss

Metamorphic Facies: Unmetamorphosed/Compacted

Rock Description:

The drill core specimen is a xenolith-rich, chaotic breccia composed of 50 volume percent mafic (?) rock fragments, 15 volume percent granitic to granodioritic rock fragments, five volume percent of derived felsic mineral xenocrysts and 30 volume percent of a very fine-grained, intermediate to felsic matrix. Mafic (?) rock fragments exhibit well developed fluidal textures and cuspate fragment boundaries and can contain felsic rock fragments up to 2 cm across. Minor portions of the sample are porous and some felsic rock fragments exhibit gneissic textures. The drill core specimen reacts weakly with 10% HCl acid and essentially is non-magnetic.

Polished Thin Section Description:

The polished section was chosen to highlight a mafic fragment-rich portion of the drill core.

The mafic fragments have rounded to cuspate margins and exhibit very well developed fluidal textures. They are dominated by dark, reddish-brown coloured, weakly to moderately devitrified glass and fine- to medium-grained quartz and feldspar crystal fragments. The latter exhibit deformation (distorted cleavage and twin lamellae, ornamented cleavage planes, sweeping extinction, melt/quench textures), fragmentation, alteration and melt/quench textures to different degrees (Plates 8-10). Medium-grained granular granitic to granodioritic rock fragments can be partially enclosed by the dark reddish-brown quenched texture melt. The felsic matrix is best described as a micro-breccia/proto-melt with irregular patches of quench-textured feldspar crystallites, coarse patches of coarse, radiating aggregates of anhedral quartz prisms (Plate 7), extremely fine-grained, granular, interstitial pyroxene/amphibole (?) and abundant quartz and feldspar crystal fragments.



Thin Section Description 8901-250/LIMS#MAR5008.R00

Sample# 3591154/PTS# 6575

Rock Name: Impact Breccia

Suggested Protolith: Granitic to Granodioritic Igneous rock/Gneiss

Metamorphic Facies: Unmetamorphosed/Compacted

Rock Description:

The drill core specimen is a xenolith poor chaotic breccia. It is composed of approximately 10 volume percent of weakly to strongly chloritized mafic rock fragments, 5-10 volume percent relic, altered granitic to granodioritic rock fragments (some with mafic coronas), 10 volume percent derived felsic mineral xenocrysts and approximately 70 volume percent of a light-green coloured, very fine-grained intermediate to felsic matrix. The drill core specimen reacts weakly with 10% HCl acid and essentially is non-magnetic. The sample is more strongly weathered than those described above.

Polished Thin Section Description:

The polished thin section was prepared from the contact between a mafic (?) rock fragment and the sample matrix.

The mafic rock fragment is composed of reddish-brown-coloured, optically unresolvable fluidaland quench-textured material (Plate 12) with a mafic to intermediate composition as indicated by SEM-EDX analysis. Approximately 30 volume percent of the fragments are composed of monoand poly-mineralic xenocrysts of quartz, plagioclase and alkali-feldspar (Plates 11 and 14). Each of these phases exhibits some degree of deformation (e.g. bent twin lamellae; Plate 13, ornamented twin lamellae), fragmentation and alteration and in some cases melt/quench textures. Fragments exhibit well developed fluidal textures and have irregular to cuspate margins typical of material that was in a plastic state prior to complete cooling. The intermediate to felsic matrix is dominated by quenched textured, tabular, feldspar crystallites, highly comminuted quartz and feldspar crystal fragments (Plates 11 and 14), irregular gas cavities lined with very fine-grained prismatic amphibole and intensely chloritized structures interpreted as glass (?) fragments that are similar in appearance to fiammé. Quartz and feldspar grains exhibit similar textures to those of the same phases that are included in the mafic fragments noted above.



Thin Section Description 8901-250/LIMS#MAR5008.R00

Sample# 3611195/PTS# 6576

Rock Name: Impact Breccia

Suggested Protolith: Granitic to Granodioritic Igneous rock/Gneiss

Metamorphic Facies: Unmetamorphosed/Compacted

Rock Description:

The drill core specimen is a very xenolith-rich (80 vol. percent), unsorted, chaotic breccia composed of 65 volume percent, dark coloured, mafic (?) rock fragments, 25 volume percent massive to foliated, moderately chloritized granitic to granodioritic rock fragments and 10 volume percent of a felsic-mineral xenocryst-rich, intermediate to felsic matrix. The drill core specimen reacts weakly with 10% HCl acid and essentially is non-magnetic. At least some of the mafic (?) rock fragments exhibit a well-developed fluidal texture and all contain minor concentrations of felsic mineral crystal fragments.

Polished Thin Section Description:

The polished thin section was prepared from the contact area of a felsic rock fragment and the sample matrix.

The felsic rock fragment is composed of major quartz (35 volume percent), plagioclase (20 volume percent), alkali-feldspar (20 volume percent) and interstitial, strongly chloritized biotite (15 volume percent) and relic, intensely chloritized amphibole (10 volume percent). Melt/quench textures are suggested by sweeping extinction and perlite-like fractures that are developed in globular-shaped segregations of quartz and feldspar (Plates 15 and 16). The contact with the enclosing matrix has a micro-brecciated appearance. The host/matrix is a chaotic mixture of angular granitic rock fragments, derived felsic mineral xenocrysts and an extremely fine-grained mesostasis composed of alkali-feldspar crystallites and optically unresolvable mafic (?) minerals interpreted as pyroxene or amphibole (Plate 18). Dark reddish-brown coloured felted aggregates composed of extremely fine-grained Fe-oxides and unidentifiable silicates exhibiting relic basal cleavage are interpreted as strongly altered biotite and amphibole xenocrysts. Quartz and feldspar grains exhibit very well developed deformed and ornamented cleavage planes typical of those developed at meteorite impact sites. Felsic mineral fragments commonly have well developed coronas of quenched feldspar crystallites oriented at right angles to the fragment margins.





Plate 1/PTS6571: Low magnification view of contact between mafic fragment and matrix. Note vesicular and fluidal textures in mafic fragment. Felsic matrix contains quartz crystal fragments, cuspate patches of quenched melt and quenched feldspar crystals with an interstitial mafic phase (pyroxene/amphibole?). Field of view 1.2x1.0 mm.



Plate 2/PTS6571: High magnification view of mafic fragment. Note fluidal texture and finegrained quartz crystal fragments. Field of view 0.8x0.65mm.



Plate 3/6571: Low magnification view of distorted deformation lamellae in an elongate quartz crystal fragment and rounded melt/quench textures developed in adjacent rounded quartz fragment. Field of view 1.2x1.0 mm.



Plate 4/6572: Low magnification view of highly fragmented alkali-feldspar grain. Field of view 1.2x1.0 mm.



Plate 5/6572: High magnification view, in cross-nicols, of quench texture in mafic fragment and quartz grain fragment inclusion. Field of view 0.8x0.65 mm.



Plate 6/6572: Low magnification view of felsic matrix. Note quartz grains with abundant inclusions and feldspar crystallites lining ovoid and cusp-shaped vesicles. Field of view 1.2x1.0 mm.



Plate 7/6574: Low magnification view of radial aggregates of quench-textured quartz crystals. Field of view 1.2x1.0 mm.



Plate 8/6574: Low magnification view, in crossed-nicols, of distorted cleavage planes in alkalifeldspar crystal. Field of view 1.2x1.0 mm.



Plate 9/6574: Low magnification view, in crossed-nicols, of distorted deformation lamellae and ornamentation in shocked quartz grain fragment. Field of view 1.2x1.0 mm.



Plate 10/6574: Low magnification view of complex melt/quench texture developed in an irregular quartz/alkali-feldspar grain aggregate. Note strong, fine-grained ornamentation (seen as inclusions) in relic feldspar and quartz. Field of view 1.2x1.0 mm.

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Plate 11/6575: Low magnification view of the contact area between quenched felsic melt and mafic fragment. Note fluidal textural in quench-textured felsic melt and abundance of quartz crystal fragments in matrix. Field of view 1.2x1.0mm.



Plate 12/PTS6575: Low magnification view of quench textured mafic fragments. Note the presence of partially resorbed quartz grains with cusp-shaped particle boundary. Field of view 1.2x1.0mm.



Plate 13/6575: High magnification view of highly distorted cleavage planes in alkali-feldspar. Not strongly decorated quartz grain fragment at bottom-centre of plate. Field of view 0.8x0.65mm.



Plate 14/6575: Low magnification view of sample matrix in chaotic micro-breccia. Plate illustrates fluidal-textured felsic fragment, abundant, anhedral quartz grains (clear) and feldspar fragments with distorted cleavage planes. Field of view 1.2x1.0mm.



Plate 15/6576: High magnification, plane polarised light view of pseudo-perlitic texture comprising melt/quench textures in quartz grain in granite clast. The greenish-coloured sub-circular structures are interpreted as partially devitrified quench melt. Field of view 1.2x1.0mm.



Plate 16/6576: High magnification, cross-nicols view of area shown in Plate 15/6576. Curving areas now are isotropic indicating the presence of quenched glass. Field of view 0.8x0.65mm.



Plate 17/6576: Low magnification view of alkali-feldspar crystal fragment with corona of quench feldspar crystallites. The sample matrix also is composed of similar crystallites plus a granular, interstitial mafic mineral, possibly pyroxene or amphibole. Field of view 1.2x1.0mm.



Plate 18/6576: High magnification cross nicols view of quenched felsic matrix. The matrix is composed of elongate prismatic quenched feldspar crystallites and an interstitial mafic mineral, possibly pyroxene or amphibole. Field of view 0.8x0.65mm.

APPENDIX 3

LAKEFIELD RESEARCH

MINERALOGICAL SERVICES

MICRODIAMOND AND DIAMOND INDICATOR MINERAL EXTRACTION, SELECTION AND DESCRIPTION

Lakefield Research

Mineralogical Services

Microdiamond and Diamond Indicator Mineral Extraction, Selection, and Description

submitted by New Claymore Resources

Project Managed by: Bruce Craig Jago, Ph.D.

Submission Date: July 10, 2000

Project No.: 8901-250/LIMS#MAY0023 and MAY1002.R00

Note

This report refers to the samples as received. The practice of this Company in issuing reports of this nature is to require the recipient not to publish the report or any part thereof without the written consent of Lakefield Research Limited.

Neither Lakefield Research Limited, nor its subcontractors, consultants, agents, officers, or employees shall be held responsible for any loss or damage resulting directly or indirectly from any default, negligence, error or omission. The liability of Lakefield Research Limited, if any, shall be limited in total to the invoiced value of this project.

Summary

Microdiamond Extraction, Selection and Description

Microdiamond and diamond indicator mineral extraction, selection and description were completed on single sample of composited core labelled Steen 1. Our standard caustic fusion technique (with collection of caustic residues on a 150 mesh screen) was used for the recovery of microdiamonds and staged crushing, wet screening and heavy liquid separation for the extraction and concentration of indicator minerals.

Microdiamond results are reported as a Certificate of Analysis in Appendix A, a generalised flowsheet and explanation of the technique are given in Appendix B and the indicator mineral selection results in Appendix C.

LAKEFIELD RESEARCH LIMITED

Bruce Craig Jago, Ph.D. Manager – Mineralogical Services Head – Diamond Exploration Services Lakefield Research Limited

July 7, 2000

Technical Support: Rob Gill, Scott Young, Jeff Voyer and Rick Wittekoek.

APPENDIX A

CERTIFICATE OF ANALYSIS RESULTS OF MICRODIAMOND EXTRACTION, SELECTION AND DESCRIPTION

LAKEFIELD RESEARCH LIMITED

P.O. Box 4300, 185 Concession St., Lakefield, Ontario, KOL 2HO Phone : 705-652-2019 FAX : 705-652-3123

New Claymore Resources Limited 11003, 84 Avenue Edmonton, Alberta, T6G 0V6 - Canada

Attn : Anthony Rich Fax : (780) 433-1721 Lakefield, June 14, 2000

Date Rec.	:	May 30, 2000
LR. Ref.	:	MAY0023.R00
Reference	:	LR2001366
Project	:	8901-250

CERTIFICATE OF ANALYSIS

No.	Sample ID	Sample wt kg	# Pours	Dia #	Dia Ct
1	STEEN 1	38.964	5	0	0.000



Accredited by the Standards Council of Canada to the ISO/IEC Guide 25 Standard for specific registered tests.

This report refers to the samples as-received. Lakefield Research Limited is not responsible for the determination of origin, quality, or value of any diamonds recovered.



Lakefield Research Limited 185 Concession St., Box 4300 Lakefield, Ontario KOL 2H0, CANADA

Tel: (705) 652-2112 Fax: (705) 652-3123 Email: bjago@lakefield.com

DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8901-250

Client: New Claymore Resources Limited

Date: June 15, 2000 LIMS No. May0023.R00 Sample No. STEEN

Mesh	Fraction	Description
+6	Ferromagnetic Non-mag	Not applicable
-6+20	Ferromagnetic Non-mag	Rock fragments, silicates, and oxides
+100	Ferromagnetic Mag	Oxides ·
-20+100	Paramagnetic Mag (0.1 amp)	Not applicable
-20+100	Paramagnetic Mag (0.3 amp)	Not applicable
-20+100	Diamagnetic Mag (0.5 amp)	Oxides and silicates
-20+100	Diamagnetic Non-mag (0.5 amp)	Oxides and silicates

Sample Weight: 38.964 kg Number of Syndites: 32

Total Weight (carats)*: 0.000 Number of Diamonds: 0

* Total Weight (carats) was calculated from mg weights. All reported mg weights are measured to within 0.002 mg.

Selection and Description Maria Mezei Assistant Rare and Precious Gem Mineralogist



Quality Control Robert Buchan Consulting Mineralogist

Note:

Lakefield Research Limited is not responsible for the determination of the origin, quality or value of any diamonds recovered. Each +35 mesh (Tyler sieve; +0.420 mm) stone was individually weighed, and the -35 mesh stones were weighed in groups. Stone dimensions are limited to accuracy of three dimensional measurements of irregular shapes using a petrographic microscope.

Accredited by the Standards Council of Canada to the ISO/IEC Guide 25 standard for specific registered tests.



P.O. Bag 4300, 185 Concession Street, Lakefield, Ontario K0L 2H0

Phone: 705-652-2112 E-mail: bjago@lakefield.com

Fax: 705-652-3123

DIAMOND RECOVERY BY CAUSTIC DISSOLUTION

Project: 8901-250

Client: New Claymore Resources Limited

LIMS No. May0023.R00 Sample No. STEEN Sample Weight: 38.964 kg

No.	Stone	Dimensi	on, mm	We	eight			Percent	Stone Description	
	Х	Y	Z	mg	Carats	Colour	Clarity	Preservation	Morphology	
	Stones Weighed Individually									
0					0.000000					
				0.000	0.000000	Sub-Tota	I		· · · · · · · · · · · · · · · · · · ·	
	Stones	s Weigh	ied as a	a Group					·	
0					0.000000					
				0.000	0.000000	Sub-Tota	l			
•										

0.000000 TOTAL

Note 1: Diamond Fragments - No Crystal Faces - Preservation (Resorption) cannot be estimated.



June 15, 2000

APPENDIX B

EXPLANATION OF MICRODIAMOND EXTRACTION AND SELECTION PROCEDURE AND FLOWSHEET



DIAMOND EXTRACTION BY CAUSTIC DISSOLUTION

Introduction

Caustic dissolution of exploration samples efficiently produces a concentrate from which diamonds can readily be extracted during microscopic examination. The process uses diamond's property of high resistance to caustic soda (NaOH) and eliminates diamond size reduction and losses that often occur during extraction procedures that rely on crushing and attrition milling.

Procedure

The samples are processed according to the attached flowsheet. Very few minerals survive the harsh attack; therefore weight reductions commonly exceed 99% of the initial sample weight.

As-received samples are divided into equally sized charges of less than 8 kg. Smaller charge sizes are necessary if the sample contains a high proportion of carbonate minerals that are vigorously reactive with NaOH (evaluated by an acid test completed prior to charge preparation). If a high proportion of the sample is composed of fragments larger than 8 cm, simple breakage, crushing or attrition milling may be required, or the length of the dissolution process increased. Client consultation and approval is necessary before any size reduction of the sample is initiated.

After digestion in molten caustic soda, the sample is poured onto a large diameter 150 mesh screen. The + 150 mesh residue is liberated from the NaOH by washing the sample in a series of water and acid leach (HCl) baths. Once all of the NaOH is dissolved and removed, the concentrate is dried and screened on a 6 mesh screen to remove undigested material. The undigested material is examined microscopically by a mineralogist. If the + 6 mesh material is significant or consists of possible diamondiferous rock fragments, further digestion may be required. If the undigested material is of insignificant size or not considered as a possible source of diamonds, the - 6 mesh residue is further processed by a two (possibly three if the residue is large) stage magnetic separation procedure utilising a permanent magnet and a Frantz Barrier Magnetic Separator.

The magnetically characterised residue is then submitted for microscopic examination and diamond selection. (In addition to diamonds, the residue may contain partially undigested indicator minerals, colourless to opaque spinel, garnet, ilmenite, graphite, moissanite, zircon and kyanite.) Each of the magnetic fractions is examined at a magnification of 40x using a binocular microscope. Grains of questionable mineralogy are examined using a scanning electron microscope equipped with an energy dispersive spectral (SEM-EDS) analyser. Although each magnetically characterised fraction is examined, particular emphasis is given to the diamagnetic portion.

The X, Y and Z dimensions of selected microdiamonds are measured in millimetres. Macrodiamonds are weighed individually while microdiamonds are weighed in groups of 20 or 30 and the milligram weight, in each case, converted to carats. The colour, clarity and morphology of each diamond are determined and all observations reported in a Certificate of Analysis.

Quality Control

Routine quality control tests are utilised to evaluate the efficiency of the caustic dissolution processing technique by running blank samples spiked with "Congo Rounds". The chance of diamond or indicator mineral contamination is evaluated by running caustic soda blanks between client's samples and examining the residue for microdiamonds and indicator minerals. Recovery of the diamond spikes typically ranges from 97 to 100%. 1998 statistics showed that, on average, only a single indicator mineral grain was carried over into the caustic soda blanks run between different client's samples.

Each residue is picked twice by separate diamond pickers. Questionable grains are examined by SEM-EDS for verification.

Every effort is made at each stage of sample handling during caustic dissolution, residue preparation and diamond picking to eliminate the possibility of contamination. These steps include:

- A rigorous sample tracking procedure.
- Dedicated screens and equipment for each sample during sample processing.
- Replacement of screens between each sample after pouring caustic soda.
- Thorough washing and scrubbing of all sample containers.
- Thorough cleaning of equipment used to prepare caustic residues between each processed sample.
- Sandblasting of each kiln pot once a month to remove any scale build-up that might entrap microdiamonds or indicator minerals.

Customized flowsheets for sample processing utilising caustic dissolution and other sample preparation techniques (magnetic, gravity, flotation, acid leaching, etc.) can be developed, in consultation with the client, to meet specialised requirements.

Lakefield Research Limited is not responsible for the determination of the origin, quality or valuation of any diamonds recovered unless otherwise instructed by the client.

Caustic Dissolution Processing for Microdiamond Recovery



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Appendix C Results of Diamond Indicator Mineral Extraction and Selection P.O. 500 4300, 185 Concession Street, Lakefield, Ontario K0L 2H0 Phone: 705-652-2112

Fax: 705-652-3123

E-mail: bjago@lakefield.com





DIAMOND INDICATOR MINERALS

June12, 2000

Project: 8901-250 Clien

50 Client: New Claymore Resources Limited

LIMS No. May1002.R00

Size Fraction					-																						
-10 +60 mesh			PYR		ECL		CPX		ILM		CHR		OPX		OLI		OMP		KYN		GROSS		Ot	her	INITIALS		
No.	Sample ID	Sink Weight (g)	Pick 1	QC Pick	Pick 1	QC Pick	Pick 1	QC Pick	Pick I	QC Pick	Pick 1	QC Pick	Pick I	QC Pick	Pick 1	QC Pick	Picker	Time to Pick (min)	QC Picker								
1	Steen 1	24.14	0	-	0	-	0	1	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	MM		
2 3																											
4	Barris Barris																										
6																											
7 8									24.1. 1.6.%													inter Politika Politika					
о. 9																											
10											•											·					

Notes:

The selected grains must be chemically analysed to classify

the minerals as diamond indicators.



Bruce Craig Jago, Maneger- Mineralogical Services

Accredited by the Standards Council of Canada to the ISO/IEC Guide 25 standard for specific registered tests.