

Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report



Prepared for Shore Gold Inc. by:

Ted Eggleston, P.Geo Harry Parker, P.Geo Ken Brisebois, P.Eng Alexandra Kozak, P.Eng Gary Taylor, P.Eng

Effective Date: 9 June 2008 Project No.: 149018





CERTIFICATE OF QUALIFIED PERSON

Ted Leonard Eggleston, Ph.D., P. Geo. AMEC E&C Services, Inc. 2001 W Camelback Road Phoenix, AZ, USA, 85015 Tel: (303) 476-0199 Fax: (719) 942-4418

I, Dr. Ted Leonard Eggleston, Ph.D., P.Geo., am employed as a Principal Geologist with AMEC E&C Services, Inc.

This certificate applies to the technical report entitled "Shore Gold Inc., Star Diamond Project Fort à la Corne, Saskatchewan, Canada, NI 43-101 Technical Report" (the "Technical Report"), dated 9 June, 2008.

I am registered as a Professional Geologist by the State of Wyoming Board of Professional Geologists (#PG-1830). I graduated from Western State College of Colorado, Gunnison, Colorado, in 1976 with a B.A. degree and from New Mexico Institute of Mining and Technology, Socorro, New Mexico, in 1987 with a Ph.D.

I have practiced my profession for over 30 years. In that time I have been directly involved in review of exploration, geological models, exploration data, sampling, sample preparation, assaying and other analyses, quality assurance-quality control, databases, and resource estimates for a variety of mineral deposits, including diamond deposits.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I have visited the Star Diamond Project on a number of occasions: 13–15 April 2005; 27–28 September, 2005; 2 June 2006; 30 August–2 September, 2006; 3–6 October, 2007; and 27–30 November, 2007.

I am responsible for Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 20, 21, 22, and 23 of the Technical Report. I was assisted by Howard Coopersmith, P.Geo., AMEC Associate Geologist, who reviewed aspects of the process plant and audits (Section 14), and Tinus Oosterveld, AMEC Associate Technical Specialist, who reviewed the diamond distributions, compared LDD sample results to underground sample results, and reviewed the valuation data (Sections 13, 14 and 17).

I am independent of Shore Gold Inc. as independence is described by Section 1.4 of NI 43–101.

I have previously provided technical assistance to the Star Diamond Project, during the period 2005 to 2008. I have had no other involvement with the project.

I have read NI 43–101 and this report has been prepared in compliance with that Instrument.



As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

"Signed and sealed"

Ted Eggleston Ph.D., P.Geo

21 July, 2008



CERTIFICATE OF QUALIFIED PERSON

Harry Parker, P.Geo. AMEC E&C Services, Inc. 780 Vista Blvd., Suite 100 Sparks, Nevada USA 89434 Tel: (775) 331-2375 Fax: (775) 331-4153

I, Harry Parker, Ph.D., P.Geo., am employed as a Technical Director with AMEC E&C Services, Inc.

This certificate applies to the technical report entitled "Shore Gold Inc., Star Diamond Project Fort à la Corne, Saskatchewan, Canada, NI 43-101 Technical Report" (the "Technical Report"), dated 9 June, 2008.

I am a Professional Geologist in California (#3402) and a Geologist in Arizona (#13317). I graduated from Stanford University with BSc and PhD degrees in Geology in 1967 and 1975. I graduated from Harvard University in 1969 with an AM degree in Geology. I graduated from Stanford University with an MSc degree in Statistics in 1974.

I have practiced my profession for 41 years. I have been involved in various mineral exploration projects and operating mines. I have previously estimated or audited Mineral Resources for diamond projects, including, in Canada, the Diavik and Snap Lake diamond projects.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I visited the Star Diamond Project between January 17 and 19, 2007.

I am responsible for Section 17 of the Technical Report.

I am independent of Shore Gold Inc. as independence is described by Section 1.4 of NI 43–101.

I have previously provided technical assistance to the Star Diamond Project, during the period 2006 to 2008. I have had no other involvement with the project.

I have read NI 43–101 and this report has been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

"Signed and sealed"

Harry Parker, Ph.D., P.Geo

21 July, 2008



CERTIFICATE OF QUALIFIED PERSON

Ken R. Brisebois, P. Eng. AMEC E&C Services, Inc. 780 Vista Blvd., Suite 100 Sparks, NV 89434 Tel 602-343-2400 ken.brisebois@amec.com

I, Ken R. Brisebois, P.Eng., am a Professional Engineer and a Consulting Engineer for AMEC E&C Services, Inc., ("AMEC") located at 780 Vista Blvd., Suite 100, Sparks, NV 89434, USA, and have been so since September, 1995.

This certificate applies to the technical report entitled "Shore Gold Inc., Star Diamond Project Fort à la Corne, Saskatchewan, Canada, NI 43-101 Technical Report" (the "Technical Report"), dated 9 June, 2008.

I graduated from the University of Waterloo, Ontario with a Bachelor of Applied Science in Geological Engineering in 1986. I am a member of the Association of Professional Engineers of B.C. (#21146).

Since 1987 I have been involved in geostatistical and resource modelling studies in the mining industry. Past projects have included resource estimation and geostatistical studies in ore deposits of various types including gold, silver, copper, diamonds, iron ore, coal and base metals. Other areas of study have included tar sands deposits, grade control for operating mines, geostatistical software development and auditing assignments for the above mentioned deposit types.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I have visited the Star Diamond Project on a number of occasions: 13–15 April 2005; 30 August–2 September, 2006; 17–19 January 2007; 3–6 October, 2007; and 27–30 November, 2007.

I am responsible for Section 17 of the report. I was assisted by Howard Coopersmith, P.Geo., AMEC Associate Geologist, who reviewed aspects of the process plant and audits (Section 17), Tinus Oosterveld, AMEC Associate Technical Specialist, who reviewed the diamond distributions, compared LDD sample results to underground sample results, and reviewed the valuation data (Section 17), and Jay Melnyk, AMEC Principal Engineer, who reviewed the Lerchs-Grossman pit shell parameters used to constrain mineral resources (Section 17).

I am independent of Shore Gold Inc. as independence is described by Section 1.4 of NI 43–101.

I have previously provided technical assistance to the Star Diamond Project, during the period 2005 to 2008. I have had no other involvement with the project.

I have read NI 43–101 and this report has been prepared in compliance with that Instrument.



As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

"Signed and sealed"

Ken R. Brisebois, P. Eng.

Dated: 21 July, 2008



CERTIFICATE OF QUALIFIED PERSON

Alexandra J. Kozak, P.Eng. AMEC Americas Limited 111 Dunsmuir Street, Suite 400 Vancouver, BC Tel: (604) 664-4578 Fax: (604) 664-3057

I, Alexandra J. Kozak, P.Eng., am a Professional Engineer, employed as Manager, Process Engineering with AMEC Americas Limited.

This certificate applies to the technical report entitled "Shore Gold Inc., Star Diamond Project, Fort à la Corne, Saskatchewan, Canada, NI 43-101 Technical Report" (the "Technical Report"), dated 9 June, 2008.

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). I graduated from the University of Alberta with a Bachelor of Science degree in Mineral Process Engineering in 1985.

I have practiced my profession continuously since 1985 and have been involved in operations in Canada and Guyana and preparation of scoping, pre-feasibility, and feasibility level studies for gold, base metals and diamond properties in Canada, United States, Peru, Mexico, Mongolia, Ghana, and New Guinea. I am currently a Consulting Engineer and have been so since September 1996.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 *Standards of Disclosure for Mineral Projects* (NI 43–101).

I have not visited the Star Diamond Project.

I am responsible for Section 16 of the Technical Report. I was assisted by Howard Coopersmith, P.Geo., AMEC Associate Geologist, who reviewed aspects of the process plant and audits (Section 16), and Harry Ryans, AMEC Process Specialist, who also reviewed aspects of the process plant.

I am independent of Shore Gold Inc. as independence is described by Section 1.4 of NI 43–101.

I have not previously been involved with Star Diamond Project.

I have read NI 43–101 and this report has been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

"Signed and sealed"

Alexandra J. Kozak, P.Eng.

21 July, 2008



CERTIFICATE OF QUALIFIED PERSON

Gary W. Taylor, P.Eng AMEC Americas Limited 301–121 Research Drive, Saskatchewan, Canada S7N 1K2 Tel: (306) 477-1155 Fax: (306) 477-1161 gary.taylor@amec.com

I, Gary W. Taylor, P. Eng., am employed as a Manager, Mining with AMEC Americas Limited.

This certificate applies to the technical report entitled "Shore Gold Inc., Star Diamond Project Fort à la Corne, Saskatchewan, Canada, NI 43-101 Technical Report", (the "Technical Report") dated 9 June, 2008.

I am a member of the Association of Professional Engineers of Saskatchewan. I graduated from McGill University with a M. Eng. (Mining) in 1973.

I have practiced my profession for 35 years. I have been directly involved in mine operations of mines, mine design and management of Feasibility Studies for gold, diamonds and other mining projects throughout my career.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 *Standards of Disclosure for Mineral Projects* (NI 43–101).

I have visited the Star Diamond Project on a number of occasions: 13–15 April 2005; 27–28 September, 2005; 2 June 2006; 3–6 October, 2007; and 27–30 November, 2007.

I am responsible for Sections 18 and 19 of the Technical Report.

I am independent of Shore Gold Inc. as independence is described by Section 1.4 of NI 43–101.

I have provided ongoing technical assistance to the Star Diamond Project, during the period 2005 to June 2008, and I am AMEC Project Manager for a Prefeasibility Study for this project which is currently underway. I have had no other involvement with the project.

I have read NI 43–101 and this report has been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

"Signed and sealed"

Gary W. Taylor, P.Eng.

21 July, 2008

IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 Technical Report for Shore Gold Inc (Shore Gold) by AMEC Americas Limited (AMEC). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in AMEC's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Shore Gold subject to the terms and conditions of its contract with AMEC. This contract permits Shore Gold to file this report as a Technical Report with Canadian Securities Regulatory Authorities pursuant to National Instrument 43-101, *Standards of Disclosure for Mineral Projects*. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk.



CONTENTS

1.0	SUMN	/ARY	1-1
	1.1	Location and Access	1-1
	1.2	Tenure and Surface Rights	1-2
	1.3	Geological Setting	1-3
		1.3.1 General Geology	
		1.3.2 Kimberlite Geology	1-3
	1.4	Geological Model	
	1.5	Sampling, Sample Preparation, and Sample Processing	1-6
		1.5.1 Underground Sampling	
		1.5.2 LDD Sampling	1-6
		1.5.3 Diamond Recovery	
	1.6	Diamond Results (Underground and LDD Sampling Programs)	1-8
		1.6.1 Underground Bulk Samples	1-8
		1.6.2 LDD Drilling Mini-Bulk Samples	
	1.7	Valuation	
	1.8	Mineral Resource Estimate	
		1.8.1 Mineral Resource Classification	
		1.8.2 Reasonable Prospects of Economic Extraction	
	1.9	Mineral Resource Statement	
	1.10	Conclusions	1-16
		1.10.1 Risk Assessment	
	1.11	Recommendations	1-17
2.0	INTRO	DDUCTION	2-1
	2.1	Qualified Persons	
	2.2	Site Visits	
	2.3	Effective Dates	
	2.4	Report Preparation	
	2.5	Units and Currency	2-5
3.0	RELIA	NCE ON OTHER EXPERTS	
	3.1	Mineral Tenure	3-1
	3.2	Surface Rights, Access and Permitting	
	3.3	Environmental and Socio-Economic	
	3.4	Diamond Valuations	3-2
4.0	PROF	PERTY DESCRIPTION AND LOCATION	4-1
	4.1	Location	
	4.2	Tenure	4-1
		4.2.1 History	4-1
		4.2.2 Tenure Details	
		4.2.3 Surface Rights	
		4.2.4 Net Profits Interests	
		4.2.5 Environment	4-12
5.0		SSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND IOGRAPHY	5-1





	5.1 5.2 5.3	Accessibility Physiography and Climate Infrastructure, Water, Local Resources, and Current Land Use	5-1
6.0	HISTO	RY	6-1
7.0	GEOLO 7.1 7.2 7.3	DGICAL SETTING Regional Geology Fort à la Corne Area Property Geological Setting 7.3.1 Geology of the Star Kimberlite 7.3.2 Geological Description – Star Kimberlite Stratigraphy 7.3.3 3-D Geological Model – Star Kimberlite	7-1 7-4 7-6 7-6 7-11
8.0	DEPOS 8.1 8.2 8.3	SIT TYPES Overview of Primary Diamond Deposits Kimberlite-hosted Deposits 8.2.1 Group 1 Kimberlites Fort à la Corne Kimberlite Model	8-1 8-1 8-2
9.0	MINER	ALIZATION	9-1
10.0	EXPLO 10.1 10.2 10.3 10.4	RATION Grids and Surveys Geological Mapping Geophysics 10.3.1 Airborne Geophysics 10.3.2 Ground Geophysics Research Studies 10.4.1 Geological Survey of Canada/ Saskatchewan Ministry of Industry and Resources 10.4.2 Petrographic Studies	10-1 10-1 10-1 10-6 10-6 10-6
11.0	11.1 11.2	NG Surface, Underground Core Drilling, and Large Diameter Drilling (LDD) Programs 11.1.1 Surface Core Drilling Program 11.1.2 Underground Core Drilling Program 11.1.3 Core Logging Procedures and Sample Selection 11.1.4 Large Diameter Drilling Program Collar and Downhole Surveying	11-1 11-2 11-4 11-6 1-10 1-10 1-12 1-13 1-14
12.0	SAMPL 12.1 12.2	ING METHOD AND APPROACH Underground Bulk Sample Program 2003–2007 12.1.1 Bulk Sampling Program Progress to March 2005 12.1.2 Site Set-Up and Processing Plant Construction 12.1.3 Underground Kimberlite Sampling Program and Exploration Large Diameter Drill Sampling 1	12-1 12-1 12-6 12-6
13.0	SAMPL 13.1	E PREPARATION, ANALYSES, AND SECURITY Introduction	





	13.2	Shore Gold's Sample Processing Circuit 13.2.1 Process Plant – Crushing and Scrubbing Circuit 13.2.2 DMS Circuit	13-1 13-4
		 13.2.3 Slimes Tailings and Settling Pond 13.2.4 Diamond Recovery Plant Sample Handling and Processing Procedures 13.2.5 X-ray Sortex Diamond Sorter	13-6 13-7
		13.2.7 Chain of Custody and Security Protocols.	
	13.3	13.2.8 Process Plant Production Statistics and Sampling Results Diamond Picking and Sorting Procedures	
	13.4	Audit Programs (QA/QC)	13-13
		13.4.1 2004 Grease Table Tailings and Coarse Reject Kimberlite Audit Program13.4.2 2005 to Present Grease Table Tailings Audit Program	
		13.4.3 AMEC Comments on Process Plant and QA/QC	13-17
	13.5	Density Determinations	
14.0		/ERIFICATION	
	14.1 14.2	Introduction Process Plant	
	14.2	14.2.1 DMS QA/QC Operating Protocols	
		14.2.2 SORTEX QA/QC Operating Protocols	. 14-2
		14.2.3 Grease Table QA/QC Operating Protocols	
		 14.2.4 Process Plant – Prevention of Sample Contamination 14.2.5 Process Plant – Diamond Recovery Efficiency 	
	14.3	Independent Laboratory Audits	. 14-4
	14.4	AMEC Project Site Audits	
	14.5	Project Database	
15.0		ENT PROPERTIES	
16.0	MINER 16.1	AL PROCESSING AND METALLURGICAL TESTING	16-1
	10.1	Production and Sampling Results – Phases 1 to 3 Underground Bulk Sampling Program	. 16-1
	16.2	Production and Sampling Results – LDD Mini-Bulk Sampling Program	. 16-1
	16.3	Diamond Grade and Statistics.	
	16.4	Diamond Characteristics	
		16.4.2 LDD Mini-Bulk Samples	
	16.5	Diamond Valuation	16-13
17.0		AL RESOURCE ESTIMATES	
	17.1 17.2	Introduction Resource Estimate	
	17.2	17.2.1 Geological Model	
		17.2.2 Sampling and Composites	. 17-2
		17.2.3 Exploratory Data Analysis (EDA) and Diamond Distribution Analyses	
		17.2.4 Estimation Domains17.2.5 Density Modelling	
		17.2.6 Block Model Setup	
		17.2.7 Estimation Plan	
	17.3	17.2.8 Validation of Estimates Mineral Resource Classification	
	11.0		., 15





	17.3.1 Summary	17-19
	17.3.2 Classification Parameters	17-19
	17.3.3 Reasonable Prospects of Economic Extraction	17-22
	17.4 Mineral Resource Tabulation	17-24
18.0	ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORT ON DEVELOPMENT	
	PROPERTIES AND PRODUCTION PROPERTIES	
19.0	OTHER RELEVANT DATA AND INFORMATION	19-1
	19.1 Environmental Assessment	
	19.2 Hydrogeology	19-1
	19.3 Geotechnical	19-1
	19.4 Mining and Process Studies	19-1
20.0	INTERPRETATION AND CONCLUSIONS	20-1
	20.1 Conclusions	
	20.2 Risk Assessment	
21.0	RECOMMENDATIONS	21-1
22.0	REFERENCES	22-1
23.0	DATE AND SIGNATURE PAGE	23-1





TABLES

Table 1-1:	Mineral Resource Estimate for That Portion of the Star Kimberlite Within the 100%- Shore Gold-Owned Property, Effective Date 2 June 2008, K. Brisebois, P.Eng., T. Eggleston,	
	P.Geo, H. Parker, P.Geo.	. 1-14
Table 1-2:	Mineral Resource Estimate for That Portion of the Star Kimberlite Within the FalC Joint Venture Property, Effective Date 2 June, 2008, K. Brisebois, P.Eng., T. Eggleston,	
	P.Geo., H. Parker, P.Geo.	1-14
Table 1-3:	Mineral Resource Estimate for the Star Kimberlite, Effective Date 2 June 2008, K.	
	Brisebois, P.Eng., T. Eggleston, P.Geo., H. Parker, P.Geo.	
	QP Site Visits and Areas of Responsibility	
	Tenure Listing	4-2
Table 6-1:	Combined Production and Sample Results for Star Kimberlite and Star West Kimberlite,	
	from Star Underground, RE, Geotechnical and Surface Stockpile Clean-up Piles	
	Cretaceous-age Rocks	
	Comparison of Historical and Current Geological Nomenclature	
Table 7-3:	Core hole Statistics for the October 2007 Star Kimberlite 3-D Geological Model	7-15
Table 10-1	Exploration Summary	10-2
Table 11-1	: Surface Core Drilling Statistics (SPF, SND, STR Series Drill Holes)	11-3
	: Underground Drilling Statistics	
Table 12-1	: Lateral Drift Sampling Statistics (as at December, 2007)	12-4
	: Summary of Combined Production and Sample Results (Underground, RE, and	
	Geotech) for Star Kimberlite and Star West Kimberlite	16-2
Table 16-2	Combined Production, Underground, RE and Geotechnical Sample Results for Star	
	Kimberlite and Star West Kimberlite	16-2
Table 16-3	: Summary UG ROM Diamond Grade from the Various Star Kimberlite Units	16-8
Table 16-4	LDD Mini-Bulk Sample Details and Diamond Recovery (as at 18 December 2007)	16-9
Table 16-5	LDD Mini-Bulk Sample Details and Diamond Recovery (as at 18 December 2007)	16-9
Table 16-6	Diamond Population Comparison for >1 Carat Stones (EJF and Cantuar)	16-12
Table 16-7	Summary of 2007 WWW Diamond Valuation for Star Kimberlite	16-15
	Summary of 2008 WWW Re-Valuation for Star Kimberlite	
	Diamond Data Used in the LDD Adjustment Study	
Table 17-2	Example of Methodology for Adjustment Calculation	17-8
	: Development of Mean Adjustment Factor and Example Adjustment	
	Summary of 2008 WWW Re-Valuation for Star Kimberlite	
	: Mineral Resource Estimate for That Portion of the Star Kimberlite Within the 100% Shore	
	Gold-Owned Property, Effective Date 2 June 2008, K. Brisebois, P.Eng., T. Eggleston, P.Geo, H. Parker, P.Geo.	
Table 17.6	Mineral Resource Estimate for That Portion of the Star Kimberlite Within the FalC Joint	11-20
	Venture Property, Effective Date 2 June, 2008, K. Brisebois, P.Eng., T. Eggleston,	
	P.Geo., H. Parker, P.Geo.	17 26
Table 17 7	Mineral Resource Estimate for the Star Kimberlite, Effective Date 2 June 2008, K.	17-20
	Brisebois, P.Eng., T. Eggleston, P.Geo., H. Parker, P.Geo	17_26
	Discuss, r. Ling., r. Lygicston, r. Oco., n. r dikel, r. Oco	11-20





FIGURES

Figure 1-1: Schematic of L–G Open Pit Area Used to Constrain Mineral Resources by Property Red-	
dashed Line denotes FalC Joint Venture/Shore Mineral Disposition Boundary 1-1	
Figure 2-1: Location Plan	
Figure 4-1: Tenure Layout	
Figure 7-1: Regional Geology	
Figure 7-2: Schematic Stratigraphic Column of the Fort à la Corne Area	
Figure 7-3: Plan View, Star Kimberlite	
Figure 7-4: Cross-section, Star Kimberlite	
Figure 7-5: 3-D View, Star Kimberlite Geological Model	14
Figure 8-1: Idealized Model, South African Kimberlite Pipe 8-	-3
Figure 10-1: Airborne LIDAR Survey 10-	-3
Figure 10-2: GeoTEM Survey 10-	
Figure 11-1: Schematic of the Bauer BG-36 Drill Rig (Kelly Drilling Configuration) 11-	-7
Figure 11-2: LDD Rig in Kelly Drill Mode 11-	
Figure 11-3: Schematic of the Bauer BG-36 Drill Rig (RC Configuration) 11-	-9
Figure 11-4: Bauer BG-36 Drill Rig 11-1	
Figure 11-5: Schematic of the Bauer Desander and Classifying Plant 11-1	12
Figure 12-1: Star Kimberlite 235 Metre Level Plan 12-	-5
Figure 13-1: Process Plant Flowsheet – Primary Kimberlite Processing	-2
Figure 13-2: Recovery Plant Flowsheet	-3
Figure 17-1: Diamond Sampling – All Sampling Types by Domain (cpht) 17-	-4
Figure 17-2: Diamond Sampling – EJF, CPK, PPK, by Sampling Type (cpht) 17-	-4
Figure 17-3: Diamond Sampling – LJF, MJF, by Sampling Type (cpht) 17-	-5
Figure 17-4: Contact Plot Showing Cpht (adjusted) in EJF Domain 17-	-7
Figure 17-5: Application of LDD Factors	
Figure 17-6: Diamond Sampling – EJF, CPK, PPK by Sampling Type (adjusted cpht) 17-1	13
Figure 17-7: Directional Variogram Example – EJF Domain (adjusted cpht) 17-1	13
Figure 17-8: Example Section Showing Block Grades and LDD Sample Grades	18
Figure 17-9: Grade Profile Example – Indicated Blocks, Cpht, EJF Domain	20
Figure 17-10: Plan View Showing Resource Classification Boundaries and LDD Sampling 17-2	23
Figure 17-11: Schematic of L–G Open Pit Area Used to Constrain Mineral Resources by Property	
Red-dashed Line denotes FalC Joint Venture/Shore Mineral Disposition Boundary 17-2	27





1.0 SUMMARY

Shore Gold Inc. (Shore Gold) commissioned AMEC Americas Limited (AMEC) to prepare a Technical Report (the Report) on its Star Diamond Project, situated in the Fort à la Corne area Saskatchewan, Canada, which incorporates a first-time mineral resource estimate for the project.

The Star Diamond Project is defined as encompassing the Star Kimberlite, which straddles a mineral disposition boundary between ground that is held 100 percent by Shore Gold, and ground that is held by the Fort à la Corne (FalC) Joint Venture, between Kensington Resources Ltd. (a wholly-owned subsidiary of Shore Gold Inc; 60 percent) and Newmont Mining Corporation of Canada Limited (40 percent). The Star Diamond Project is operated by Shore Gold, and is being explored and developed as a single entity. The deposit is sufficiently separated in distance from the remainder of the FalC Joint Venture exploration areas to make the approach reasonable.

The models and interpretations presented in this Report supersede all previous models and interpretations of the Star Kimberlite that have been presented in earlier technical reports.

The Qualified Persons (QPs), as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101) prepared this report in compliance with requirements for Technical Reports under the Instrument. The QPs responsible for the preparation of the technical report, or for supervising the report preparation, include:

- Ted Eggleston, P.Geo., Principal Geologist (AMEC Denver)
- Harry Parker, P.Geo., Technical Director Geostatistics (AMEC, Reno)
- Ken Brisebois, P.Eng., Principal Engineer (AMEC, Reno)
- Alexandra Kozak, P.Eng., Manager Process Engineering, (AMEC, Vancouver)
- Gary Taylor, P.Eng., Manager Mining, (AMEC, Saskatoon).

1.1 Location and Access

The Star Diamond Project is situated about 60 kilometres east of Prince Albert, Saskatchewan, a major supply centre for Northern Saskatchewan, and about 180 kilometres from the main provincial centre of Saskatoon.

Good access is provided by paved highways, a grid gravel road system and an extensive network of forestry roads, passable by four-wheel drive and high-clearance two-wheel drive vehicles all year round.





The Star Kimberlite is situated to the north of the Saskatchewan River, which can be crossed at either Prince Albert to access the property from the west, or by a bridge north of Melfort (Wapiti) to access the area from the east.

Much of the surrounding land outside the Fort à la Corne Provincial Forest has been cleared for agriculture. A 230 kilovolt power line runs 9.6 kilometres south of the area, and a larger-capacity 230 kilovolt power line is located 21 kilometres to the east. A pool of mining personnel is available from the many small towns in the area.

The climate of Saskatchewan ranges from warm dry summers with temperatures up to 35 degrees Celsius to cold dry winters with temperatures down to -35 degrees Celsius. Precipitation averages 405 millimetres annually.

1.2 Tenure and Surface Rights

The Star kimberlite body and associated underground bulk sample program, processing, coarse tailings, settling pond, and camp infrastructure is located within mineral disposition S-132039 in Section 18 of Township 49, Range 19, west of the Second Meridian whereby Township 49 is located within the Regional Municipality of Torch River. This mineral disposition is in turn located within grouped claim block GC#45826, which comprises 23 contiguous mineral dispositions totalling 9,280 hectares. Ground is recorded as a claim when staked, and converts to a mineral disposition when a claim is registered with the Saskatchewan Ministry of Energy and Resources. The terms claim and mineral disposition are used interchangeably.

Initially 15 claims (S-132025 to S-132039) were staked by a third party, which retains a 3 percent net profit interest in the event the mineral disposition area achieves mineral production. Four of these initial 15 mineral dispositions are located within grouped claim block GC#45826. Shore Gold has the option to buy out this 3 percent net profit interest for CDN\$1 million. Shore Gold owns 100 percent interest and 100 percent working interest in the additional remaining 19 mineral dispositions in GC#45826.

Shore Gold owns a 100 percent interest and 100 percent working interest in an additional 315 mineral dispositions in the immediate area, for a total of 338 mineral dispositions covering 196,836 hectares. All mineral dispositions are in good standing.

Shore Gold's grouped claim block GC#45826 has been legally surveyed in accordance with the Saskatchewan Mineral Disposition Regulations of 1986, Part IV, Article 30(1) (d), which coincides with boundaries of the land survey system pursuant to the Saskatchewan Land Surveys Act and/or with the boundaries of existing surveyed land parcels.





Shore Gold also holds an interest in the Fort à la Corne (FalC) Joint Venture, which is partially contiguous with the Star Diamond Project (see Figure 4-1). The FalC Joint Venture is held by Kensington Resources Ltd. (a wholly-owned subsidiary of Shore Gold Inc as the operator; 60 percent) and Newmont Mining Corporation of Canada Limited (40 percent). Two of the mineral dispositions within the FalC Joint Venture are considered to be part of the Star Diamond project, namely S-127109 and S-127186 which lie to the north and west of S-132039 (Star). These two mineral dispositions are part of grouped claim block GC#44961 within the FalC Joint Venture.

AMEC did not perform a detailed review of the land tenure and has relied on Shore Gold's experts for that information.

The Crown retains all surface rights in the area of the Star mineral dispositions. However, the mineral dispositions over the project area provide Shore Gold with the access rights to explore the subsurface.

1.3 Geological Setting

1.3.1 General Geology

The property lies near the northeastern edge of the Phanerozoic Interior Platform that extends from the Rocky Mountains in the west to the Precambrian Canadian Shield to the northeast close to Lac La Ronge. The Phanerozoic cover consists of basal Cambro-Ordovician dolomitic carbonate rocks and clastic sedimentary rocks succeeded by Cretaceous shales and sandstones. The entire area is overlain by Quaternary glacial deposits ranging from 40 metres in thickness close to the Saskatchewan River and up to 120 metres in thickness elsewhere.

In the Fort à la Corne area, a northwest-trending kimberlite province that is approximately 50 kilometres long by 30 kilometres wide has been identified. Sixty-nine kimberlitic bodies have been discovered to date in the Fort à la Corne kimberlite province and are distributed along at least three linear trends. Kimberlite horizons form stacked, sub-horizontal lenses or shallow zones of crater-facies kimberlite of large lateral extent. The majority of bodies drilled to date lie just below the till/bedrock interface. The areas of the individual bodies range from 2.7 hectares to over 300 hectares.

1.3.2 Kimberlite Geology

Based on surface core drilling and underground mapping of the various kimberlite phases encountered in Shore Gold's underground bulk sampling program, the Star





Kimberlite consists of two distinct types of kimberlite: 1) eruptive kimberlite phases; and, 2) kimberlitic sedimentary rocks. The eruptive kimberlites are sub-divided into five main phases (Cantuar, Pense, Early Joli Fou, Mid Joli Fou and Late Joli Fou), each with distinct physical and chemical properties that enable their mapping and stratigraphic correlation in three dimensions.

The oldest kimberlite phases within the Star Kimberlite are enclosed by Cantuar Formation sandstone, siltstone, and mudstone and are thus termed Cantuar kimberlites. Cantuar kimberlites are typically thin (less than 40 metres and generally less than 20 metres), sheet-like, pyroclastic deposits that occur as three and possibly four time-stratigraphic deposits within the Cantuar Formation.

Two potential Cantuar-age kimberlite pipes occur on the southern portion of the Star Kimberlite. These pipes cross-cut older Cantuar kimberlites and are, in turn, cut by Early Joli Fou Kimberlite. The main vertical feeder vents are less than 150 metres in width with its edges bounded by the Cantuar Formation and at depth by Devonian carbonates (dolomites).

Pense Kimberlite is located in the central to northeastern portion of the Star Kimberlite and, in the east, is deposited directly on Pense sandstone and locally, on Pense mudstone. Towards the southwest, Pense Kimberlite rests directly on Cantuar Formation indicating either scouring into the older Cantuar–age sediments and/or prior erosion/denudation of Pense sandstone. Pense consists of pyroclastic kimberlite that is generally bedded on the 15 metre scale, although fine laminations are observed in very fine-grained varieties.

The volumetrically most important eruptive phase, the Early Joli Fou Kimberlite (EJF), is spatially widespread with the thickest intersections towards the western portion of the Star Kimberlite. Distal deposits of the kimberlite sit directly on lower Joli Fou shale (Spinney Hill Member) and are interpreted as Joli Fou-age equivalent. This kimberlite is also observed to rest directly on older Pense and Cantuar kimberlites. In the vicinity of the vent area, EJF is in direct contact with Cantuar Formation and Devonian carbonates (Souris River Formation) at depth. Two facies of EJF have been recognized; PK is fine to coarse pyroclastic kimberlite and KB is coarse kimberlite breccia.

A younger cross-cutting kimberlite eruptive phase, referred to as the Mid-Joli Fou Kimberlite (MJF) is restricted to the western portion of Star. MJF has erupted through the older EJF Kimberlite, as evidenced by rarely-preserved xenoliths of EJF.

The Star Kimberlite is dominated by crater facies rocks, which include well-defined pyroclastic flows that radiate away from the crater. Diatreme and hypabyssal facies





are not well documented. The sheet-like Cantuar Kimberlite and the Pense Kimberlite are likely pyroclastic kimberlite deposited from pyroclastic flows from nearby kimberlite volcanoes. EJF, as it is now known, is a combination of crater facies and pyroclastic flows away from the crater. MJF and LJF are a combination of vent-filling pyroclastic kimberlite and crater facies.

AMEC is of the opinion that the geological setting of the Star Kimberlite is sufficiently adequately known to support mineral resource estimation.

1.4 Geological Model

On October 17, 2006, Shore Gold disclosed the results of a preliminary threedimensional (3-D) geological model of the Star Kimberlite. The 3-D geological model was compiled from surface and underground drilling information combined with 1,050 in-situ bulk density measurements that were performed on lengths of complete drill core by Shore Gold during its advanced exploration work program. The 3-D geological model was constructed for all kimberlite phases above an elevation of 71 metres above sea level, which corresponds to a depth of approximately 350 metres below the existing land surface.

In November 2007, Shore Gold produced the current 3-D geological model utilizing an additional 157 surface and underground holes. Many of the additional holes were infill holes. Some of the holes were drilled along the edge of, and angled into, a north–northwest trending ravine which cross-cuts the Star property to recover geological information from a previously inaccessible area. Also included was an addition of 1,635 in-situ bulk density measurements. The updated geological model estimated that the Star kimberlite contained a total of 278 million tonnes of kimberlite.

The geological models for kimberlite and country rock were finalized by Shore Gold and AMEC on January 23, 2008. These models were created in the Gemcom modeling system and then imported to the Vulcan modeling system where the resource modeling was completed.

This model has been reviewed by AMEC. Large-scale structural geological offsets within the area of the Star kimberlite have not been observed in the data collected. AMEC believes the geological interpretation, based on collected data, is adequate for resource estimation. Volumes of kimberlite indicated by this model are believed by AMEC to accurately represent the volumes of kimberlite present in the deposit, although there may be local areas where the volume is not in its exact position in space because of potential small faults.





1.5 Sampling, Sample Preparation, and Sample Processing

1.5.1 Underground Sampling

In order to bulk sample the various kimberlite phases, Shore Gold sank a 250 metredeep shaft with a drill station at 175 metres and a working level at 235 metres. Shaft sinking began in January 2003 and was completed in May 2004. Bulk sampling began in May 2004 upon completion of pilot holes drilled for geotechnical and geological information from the 235 metre work station.

In May 2004, Phase 1 lateral drift development commenced on the 235 metre level and was completed in November 2004 when Shore Gold estimated that a minimum 25,000 tonnes of kimberlite had been mined (including a 1,000 tonne contingency). Approximately 1,000 metres of lateral drifting had been completed on both lateral drift levels during the Phase 1 bulk sampling program. Drifts range in dimension from 2.4 metres to 3 metres high and 2.4 metres to 4.3 metres wide. Underground batch sample sizes range from 250 dry tonnes to 350 dry tonnes.

From April to November 2005, Phase 2 of the bulk sampling program was completed in order to obtain an additional 15,000 dry tonne kimberlite batch sample from both the EJF and Cantuar kimberlites for diamond grade and diamond value estimation purposes. A total of 820 metres of lateral drifts (or 77 sample batches) were mined from the 235 metre level as well as from a ramp that exposed EJF from the 235 metre to the 215 metre level.

From February 2006 to April 2007, Phase 3 of the bulk sampling program recovered bulk samples from both the Pense and Cantuar kimberlites for diamond grade and diamond value estimation purposes. A total of 1,106 metres of lateral drifts were mined from the 235 metre level and the 215 metre level.

All underground openings were geologically mapped. AMEC reviewed those maps and is of the opinion that they are adequate to support resource estimation and mine planning.

1.5.2 LDD Sampling

From September 14, 2005 to December 27, 2007, 95 large diameter drill holes (1.20 metre diameter; LDD) totalling 19,350 metres were completed on the Star Kimberlite (80 LDD holes on the Shore property and 15 LDD holes on the FalC Joint Venture property). LDD holes were drilled at -90 degrees on a 100 metre by 100 metre grid pattern within the thicker central portion (proximal vent area) of the Star





Kimberlite and at 200 metre by 200 metre intervals on the thinner distal portion of the Star Kimberlite respectively.

Cuttings generated by the drill are forced into a cyclone that separates the solid and liquid component from the air. Cuttings then exit from the bottom of the cyclone (underflow discharge) onto the coarse screen shaker for initial sizing at -3 millimetres. The -3 millimetre size fraction and drill muds report to twin densifying cyclones and screens in the desanding plant for separating the solids (i.e. fine rock cuttings) from the drilling mud/fluid to produce a clean +0.85 millimetre product. The drilling fluid is then returned down the hole through a feed line. Mud chemistry and viscosity were carefully monitored to ensure that the mud was appropriate for conditions in the hole.

All cuttings returned by the drill rig were then processed through the desanding plant. Processed cuttings were collected in cubic metre bulk sample bags, which were labelled with a pre-determined sample interval and bag number once the bulk sample bag was full.

AMEC reviewed the LDD sampling process during several site visits and found that it was performed per the written protocols and meets or exceeds industry standard practices. AMEC is of the opinion the quality of the LDD samples is such that diamond grade and quality data generated from these samples is adequate for use in resource estimation; however, adjustment for breakage and stone loss is required.

1.5.3 Diamond Recovery

Shore Gold began construction of a pilot process plant concurrently with underground mine development. Bateman Mineral Pty Ltd. (Bateman) provided a modular ten tonne per hour diamond recovery plant that arrived in Canada on August 28, 2003. The plant started receiving kimberlite in late January 2004 and was deemed fully commissioned and handed over to Shore Gold in the latter part of February 2004.

Shore Gold's Bateman process plant consists of a 30 tonne per hour crushing circuit, a ten tonne per hour Dense Media Separation (DMS) circuit which consists of a 250 millimetre diameter separating cyclone and a recovery plant consisting of a Flow Sort® X-Ray diamond-sorting machine and a grease table. All kimberlite was stored in individual batch sample piles within a dedicated storage facility. Individual sample batches were designed to provide representative samples of the different geological units encountered, while, wherever possible, keeping individual sample batches of a similar size.





1.6 Diamond Results (Underground and LDD Sampling Programs)

1.6.1 Underground Bulk Samples

Final diamond results from the Star underground bulk sample program include a total of 10,861.16 carats of diamonds (greater than 0.85 millimetres) from a total of 75,404.87 dry tonnes of kimberlite processed through Shore Gold's batch sampling process plant, of which 10,582 carats from 69,056 dry tonnes were used to define the mineral resource estimate and the remaining 279.16 carats, from 6,348.87 dry tonnes recovered from the surface stockpile clean-up, were not included in the mineral resource estimate. Samples from both Shore Gold's Star Kimberlite and the Shore Gold–Newmont FalC Joint Venture's Star West large-scale underground bulk sampling programs were processed. Upon completion of processing underground bulk samples, the average 'run-of-mine grade' of the Star Kimberlite was 0.153 carats per metric tonne or 15.32 carats per hundred metric tonnes.

1.6.2 LDD Drilling Mini-Bulk Samples

A total of 1,336.29 carats of diamonds (greater than 0.85 millimetres) were recovered from a total of 9,788.78 processed dry tonnes of kimberlite representing 18,923.75 insitu tonnes from large diameter drilling (LDD). That kimberlite was processed through Shore Gold's processing plant giving an average in-situ grade of 7.06 carats per hundred metric tonnes.

A total of 5,831.10 dry tonnes representing a calculated tonnage of 11,078.26 tonnes of the volumetrically largest unit, Early Joli Fou Kimberlite, were processed and yielded 1,061.86 carats. The average grade estimated for EJF based on LDD drilling is 9.59 carats per hundred metric tonnes.

1.7 Valuation

During the third quarter of 2007, Shore Gold commissioned WWW International Diamond Consultants Limited (WWW), based in Antwerp, Belgium, to value the 10,309.07 carat diamond parcel recovered from its completed bulk sampling program on the Star Kimberlite. The valuation was completed on 4,359.19 carats of new stones, and the value of the 5,949.88 previously-valued carats was updated using the current price book.

On November 5th, 2007 Shore Gold announced that WWW model values for the parcel ranged from US\$97 to US\$300 per carat for the different kimberlite lithologies. The





entire parcel was given a present day value of US\$1,084,443 for a parcel price of US\$105 per carat.

Diamond values based on bulk samples are normally modeled because bulk sampling usually recovers fewer +5 carat stones than are typically recovered by actual mining. Much of the value of a diamond mine is in those stones. WWW modeled the value of the 10,309.07 carat parcel and reported that the average model value of US\$170 lies between a "minimum" of US\$140 and a "high" of US\$208. The modeled value is determined using statistical methods to estimate the average value of diamonds that will be recovered from a future mine on the Star Kimberlite, assuming that more, larger stones will be recovered.

Due to the positive performance of rough diamond prices in early 2008, the Star diamond parcel was revalued by WWW in March 2008, and the revised modeled diamond prices have been used in the resource estimate that is the subject of this Report. Model values for the parcel ranged from US\$103 to US\$309 per carat for the different kimberlite lithologies. WWW modeled the value of the 9,740.24 carat parcel, which could be separated by kimberlite lithology, and reported that the resource lithology weighted average model value of US\$177 lies between a 'minimum' of US\$146 and a 'high' of US\$225.

The 'high' price valuations in the 2008 revaluation were used for generation of open pit shells, using the Lerchs–Grossman algorithm. AMEC has accepted the WWW modeled values for diamonds, but has not independently verified the modeled values. WWW, with their Aboriginal partners, Aboriginal Diamonds Group Limited, comprise Diamonds International Canada Ltd., the valuers to the federal government of Canada for the Canadian diamond mines in the Northwest Territories and the provincial government of Ontario for the Victor Diamond Mine. AMEC believes that it is reasonable to rely on WWW's estimates of diamond values.

1.8 Mineral Resource Estimate

The resource model for the Star kimberlite deposit was completed using the diamond sampling database that was finalized on February 20, 2008. The database included the latest available sampling, up to drill hole LDD-080 and LDD-STR-07-015.

The diamond database comprised sampling from underground drifts (UG samples), large diameter drilling (LDD samples) and smaller size underground samples (RE samples—similar support size to LDD samples). The mineral resource estimate prepared by AMEC used kimberlite thickness and density data collected during the surface and underground core drilling program comprising 270 surface core holes (18,020 metres of kimberlite) and 211 underground core holes (15,933 metres of





kimberlite), diamond and tonnage data from underground bulk sampling (69,056 dry tonnes, 10,582 carats and 80,669 stones) and diamond and tonnage data from the mini-bulk samples recovered from the extensive large diameter drilling (LDD) program on Star (88 holes, 8,447 metres of kimberlite, 18,956 dry tonnes, 1,337 carats and 14,433 stones). This mineral resource estimate uses a 1.0 millimetre bottom diamond size cut-off and considers all kimberlite above 71 metres above sea level or to a depth of 350 metres below the current land surface.

Grade estimates were made for 25 metre x 25 metre x 5 metre blocks using partial blocking within the five principal kimberlite types. These types include the EJF, Pense, Cantuar, MJF and LJF. The five principal types are also represented in the UG sampling that has been used for valuation of the diamonds.

LDD sample grades were adjusted (upward) to reflect the grade distribution of the UG sampling prior to their use in resource estimation. The LDD samples exhibit the effects of breakage and loss during drilling, resulting in lower recovered grades. A tracer breakage test that was completed by Shore Gold at an operating drill rig supports this contention. While the test does not provide quantitative results, AMEC believes that the results, in conjunction with detailed study of the diamond distribution characteristics, provide adequate qualitative evidence to support adjustment of LDD results prior to resource estimation. Although suggesting a lack of reliability in the LDD sampling, use of factors is historically common in diamond sampling, and similar factors in magnitude to these have been used to AMEC's knowledge in other project evaluations. The factors were developed by Tinus Oosterveld, AMEC Associate Technical Specialist, using methodology developed over several decades experience in diamond project development and operation.

An inner study area of sampling (Inner Area 1), occurring within 75 metres of the underground drifting, was established within which overall factors were developed for adjusting the LDD results to the comparable UG sample results. The mean factor derived from 58 LDD samples was 1.534. Factors (ratios of UG/LDD grades) developed from individual LDD samples vary considerably, ranging from 0.08 to 2.67, with a standard deviation of 0.55. AMEC has applied a risk assessment in deriving the LDD adjustment factors from the study area. The adjustment of LDD samples is based on experience in prior diamond deposit evaluations and statistical variation shown within the study results.

Because of the variability of factors (developed directly from individual samples), the overall mean factor is uncertain, and AMEC believes it is reasonable and prudent to make a risk-adjustment to obtain the factors used for resource estimation.





AMEC used the 10 percent confidence limit from the estimated distribution of the mean of factors (developed from individual samples) to risk-adjust the overall global factor in the Inner and the Outer Areas. This amounted to a 6.1 percent decrease in the factor for the Inner area to 1.44. A further risk-adjustment was applied in the Outer Area to reflect the understanding that the global factors were not developed from this lower-grade Outer Area grade distribution (in fact, the Outer Area factor only affects the Inferred Mineral Resource). For the Outer Area, the risk-adjusted factor was 1.39.

Local estimation has been applied using a weighted average estimator (kriging) for carats per hundred tonnes from a combination of adjusted LDD and UG samples.

The marginal break-even cut-off for each kimberlite lithology was calculated as the sum of the mining, process and overhead costs divided by the diamond price, such that all material above cut-off is capable of covering the operational costs. The marginal cut-off grades applied in the resource estimate are:

- Cantuar: 1.21 carats per hundred metric tonnes
- Pense: 4.03 carats per hundred metric tonnes
- EJF: 2.35 carats per hundred metric tonnes
- MJF and LJF: 3.34 carats per hundred metric tonnes.

Grades are predicted based on bulk sample pilot plant processing, and as such, are recovered grades. For this reason 100 percent recovery is used in both the cut-off calculations and pit optimization parameters.

1.8.1 Mineral Resource Classification

Mineral resource classification has been applied to the resource model that provides for Indicated and Inferred material. LDD adjustment factors, LDD sample spacing and geologic knowledge provided by core hole logging and geotechnical analyses have been taken into account in developing the mineral resource classification. The setting of the boundary for the Indicated Mineral Resource equates to a nominal 100 metre-spaced grid of LDD sampling. The delineation of the Inferred Mineral Resource boundary relies more on continuity of kimberlite from logged core holes. In general, the Inferred boundary is extended 150–200 metres beyond the outer LDD holes. The Inferred boundary includes the area around a cluster of four LDD holes on the east side of the 'ravine', where angled drilling has also confirmed the kimberlite continuity.





1.8.2 Reasonable Prospects of Economic Extraction

To adequately constrain the geological model, AMEC input parameters for a conceptual open pit operation into Lerchs–Grossman pit shells.

The conceptual mine for the Star Diamond Project is based on a large tonnage openpit operation. Mining would be performed with conventional large trucks and shovels, and would utilize an ore and waste in-pit crush and convey system to minimize haul truck requirements. A substantial period of pre-stripping would be required prior to any kimberlite production.

Geotechnical investigations to date suggest standard bench configurations with 18 degree slopes in the overburden and 30 degree slopes in the kimberlites and country rock are achievable, but a significant dewatering program consisting of both perimeter and in-pit vertical wells will be required to achieve these slopes.

The conceptual processing plant for the Star Diamond Project is expected to process 14.6 million tonnes of kimberlite annually or 40,000 tonnes per day. Material to be processed would be crushed, washed and screened to obtain the desired fraction for dense medium separation, where waste would be separated from heavy minerals. The waste would be processed further to recover smaller diamonds through recrushing, washing, screening, and dense medium separation operations. Diamonds would be separated from the heavy mineral concentrate using X-ray and grease technology. Processed kimberlite would be stored in a suitably-designed containment area.

The reported mineral resources for the Star deposit are constrained using the L–G economic pit shell, generated using the Whittle software package. The economic assumptions (in US\$) used are as follows:

- Diamond Prices: variable prices by kimberlite lithology were provided by WWW. The 'high' price valuations were used for pit shell generation.
- Metallurgical Recovery: 100 percent.
- Process and Overhead Costs: \$3.58 per tonne process costs; \$1.50/t general and administrative costs
- Mining Cost: \$0.99 per tonne mined for overburden and \$1.34 per tonne mined for kimberlite and country rock. These costs include a sustaining capital allowance of \$0.11 per tonne mined and a dewatering cost of \$0.03 per tonne mined. Waste rock received an additional waste rehabilitation cost of \$0.02 per tonne.

Costs were based on AMEC's experience with operations in Canada, and recent quotes for similar operations maintained by AMEC in its project database.





Variable diamond prices by kimberlite lithology were provided by WWW. The 'high' price valuations were used for pit shell generation. AMEC has reviewed the methodology and results of the valuation and has relied on WWW's results as being adequate for use in resource estimation for the project.

As part of the assessment of 'reasonable prospects for economic extraction', AMEC investigated whether the identified resources had the potential to pay back the capital on an undiscounted cash flow basis. A preliminary financial analysis was performed which achieved that criterion, supporting the resource declaration.

1.9 Mineral Resource Statement

The mineral resource estimate presented in Table 1-1 is summarized by kimberlite domain and resource classification for the 100 percent Shore Gold-owned portion of the Star Kimberlite. Table 1-2 summarizes the mineral resource estimate for that portion of the Star Kimberlite that falls within the FalC joint venture property. Table 1-3 shows the mineral resource estimate for the Star Kimberlite within both properties. The portions of the planned open pit within each property are shown in Figure 1-1. The mineral resource has an effective date of 2 June, 2008, and has been classified according to the CIM Definition Standards on Mineral Resources and Mineral Reserves (CIM, 2005) and supported by guidelines for the reporting of diamond exploration results (CIM, 2003). Ken Brisebois, Harry Parker and Ted Eggleston are the qualified persons (QPs) for the mineral resource estimate.





Table 1-1: Mineral Resource Estimate for That Portion of the Star Kimberlite Within the 100%-Shore Gold-Owned Property, Effective Date 2 June 2008, K. Brisebois, P.Eng., T. Eggleston, P.Geo, H. Parker, P.Geo.

			Indicated			Inferred		
Domain	Cut-Off (carats per hundred metric tonnes)	Material Above Cut- off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Contained Carats (million)	Material Above Cut- off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Contained Carats (million)	Waste (thousand tonnes)
Early Joli Fou	2.35	63,355	14.6	9.2	16,367	12.5	2.0	4,730
Cantuar	1.21	4,370	13.6	0.6	917	14	0.1	13
Pense	4.03	6,273	13.6	0.9	2,769	14.6	0.4	206
Late Joli Fou	3.34	0	3.5	0.0				14,540
Mid Joli Fou	3.34	337	3.7	0.0				929
Waste								502,435
Total		74,335	14.4	10.7	20,053	12.9	2.6	522,853

Table 1-2: Mineral Resource Estimate for That Portion of the Star Kimberlite Within the FalC Joint Venture Property, Effective Date 2 June, 2008,

K. Brisebois, P.Eng., T. Eggleston, P.Geo., H. Parker, P.Geo.

	Inside FaIC Joint Venture Mineral Disposition Boundary							
	Cut-Off (carats per hundred metric	Material Above Cut- off (thousand	Indicated Grade (carats per hundred metric	Contained Carats	Material Above Cut- off (thousand	Inferred Grade (carats per hundred metric	Contained Carats	Waste (thousand
Domain	tonnes)	tonnes)	tonnes)	(million)	tonnes)	tonnes)	(million)	tonnes)
Early Joli Fou	2.35	26,885	15.6	4.2	8,273	13.6	1.1	2,654
Cantuar	1.21	6,151	13.2	0.8	1,860	13	0.2	29
Pense	4.03							0
Late Joli Fou	3.34	0	3.5					12,056
Mid Joli Fou	3.34	15,316	6.1	0.9	88	5	0.0	3,229
Waste								356,916
Total		48,352	12.3	5.9	10,221	13.4	1.4	374,884



	Total Star Kimberlite								
Indicated						Inferred			
Domain	Cut-Off (carats per hundred metric tonnes)	Material Above Cut- off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Contained Carats (million)	Material Above Cut- off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Contained Carats (million)	Waste (thousand tonnes)	
Early Joli Fou	2.35	90,240	14.9	13.4	24,640	12.9	3.2	7,384	
Cantuar	1.21	10,521	13.4	1.4	2,777	13.3	0.4	42	
Pense Late Joli	4.03	6,273	13.6	0.9	2,769	14.6	0.4	206	
Fou	3.34	0	3.5	0.0	0		0.0	26,596	
Mid Joli Fou	3.34	15,653	6	0.9	88	5	0.0	4,158	
Waste		0	0	0.0	0	0	0.0	859,351	
Total		122,687	13.6	16.7	30,274	13	3.9	897,737	

Table 1-3: Mineral Resource Estimate for the Star Kimberlite, Effective Date 2 June 2008,K. Brisebois, P.Eng., T. Eggleston, P.Geo., H. Parker, P.Geo.

Figure 1-1: Schematic of L–G Open Pit Area Used to Constrain Mineral Resources by Property Red-dashed Line denotes FalC Joint Venture/Shore Mineral Disposition Boundary



Note: 'inside claim boundary' refers to that portion of the open pit shell used to constrain the mineral resources which are within the 100 percent Shore Gold-owned portion of the Star Diamond Project; 'outside claim boundary' refers to that portion of the open pit shell used to constrain mineral resources which are within the FalC Joint Venture area of the Star Diamond Project.





1.10 Conclusions

AMEC has reviewed drilling procedures, surveying, sampling, sample processing, density, and the database and has found no significant deficiencies. QA-QC data provided by Shore Gold for all aspects of the project is adequate. Drilling procedures, including logging, collar and downhole surveying, and downhole logging meet or exceed industry best practices. Database maintenance and security are adequate.

Sample processing was done with industry standard equipment and practices. Diamond valuation was performed by a recognized expert. AMEC is of the opinion that data collection meets or exceeds CIM Best Practices Guidelines and that the data generated by this project are adequate for resource estimation and mine planning.

1.10.1 Risk Assessment

Shore Gold has done among the most thorough efforts in advanced exploration of a diamond deposit. However, the viability of the resource has not been confirmed by a feasibility study (the study is in progress). In the process of resource to reserve conversion, modifying factors will be applied that could affect plant recovery, bottom size cut-offs with concomitant changes to grade. In addition, economic conditions may dictate changes in cut-off grade and revenue assumptions. Even after performing prefeasibility and feasibility studies, there can be considerable differences between expectations and operating experience.

In particular, there are some areas of the project that may require additional risk assessment, as follows:

- An early interpretation, based on a limited drill dataset (40 core holes), of the contacts of the pre-EJF units indicated that there were potentially faults in the area, based on the assumption that the dips of the pre-EJF units were the same as the regional dip. When those dips are held constant, there are minor offsets or changes in dip in contacts of the pre-EJF units that have been intercepted in different drill holes. Subsequent drilling of 230 surface core holes and 213 underground holes has revealed no structural offsets of bedding planes, and minor changes in dip may be related to subtle changes in pre-kimberlite emplacement topography and/or differential compaction of the sedimentary stratigraphy under the heavy kimberlite pile. The possible presence of faulting becomes important during mine planning and operation, where such local-scale location discrepancies can have an impact on the location of kimberlite and day-to-day production.
- With the data available, AMEC developed mean factors, which have been globally adjusted for risk of overestimation. The factors vary considerably from LDD sample to LDD sample, as would be expected for samples with approximately 30





tonne support. It is not possible with the current data set to predict local adjustment factors. Therefore, there is risk that the use of global factors for adjusting LDD sample grades will over-predict in some areas and under-predict in others. This may present some difficulty in the reliable scheduling of diamond grades in a feasibility study.

 WWW has based its valuation on a model that statistically attempts to account for under-recovery of high-value stones in the underground samples. The sample mass is inadequate to obtain a representative parcel of high-value stones. Representative sampling of the large, high-value goods is only achieved during full-scale production. The modeled price is 48 percent higher than the sample price (parcel price). It is WWW's opinion that a modeled price could be 22 percent to 93 percent higher than the sample price. This revenue uncertainty is always encountered in diamond mine development.

1.11 Recommendations

The Star Diamond Project has moved from a capital intensive data gathering exercise (underground bulk sampling, core drilling and large diameter drilling) to lower cost, desk-top engineering studies and data analysis, which has integrated kimberlite tonnes and diamond data to allow mineral resource estimation.

These studies include:

- Preliminary plant, pit and infrastructure design, as part of a pre-feasibility study. This program will be conducted in the latter part of 2008. The program is estimated at \$1.8 million.
- Detailed geotechnical investigations around the design pit perimeter, including 13 holes for approximately 3,250 metres of drilling, piezometer installations and analysis. The program is estimated at \$1.2 million.
- Detailed groundwater geophysics and modeling to complete the hydrogeology program started in 2007. The program is estimated at \$20,000.
- Baseline environmental studies, including, but not limited to, large animal surveys, riparian habitat surveys, heritage assessments, noise / dust monitoring, revegetation plots, rare plant assessments, and acid based accounting test work. The program is estimated at \$2.1 million.

AMEC recommends that Shore Gold produce a 3-D structural geological model in order to evaluate the possible effects of potential faulting on the local geometry of the kimberlite units at Star. Additional drilling may be required to define the locations of these faults. This model should be constructed prior to completion of the feasibility study.





A thorough, quantitative risk analysis as to grades and revenues achieved for quarterly and annual time periods should be conducted. In some cases, the probability distributions used will have to depend on experience of professionals as well as the available data. The fiscal regime of the project will have to be structured in a way that accommodates risk in a manner acceptable to the project's sponsors. This will be undertaken as part of the preliminary feasibility study review in 2008 and will be incorporated and form part of the feasibility study thereafter.





2.0 INTRODUCTION

AMEC Americas Limited (AMEC) was commissioned by Shore Gold Inc. (Shore Gold) of Saskatoon, Saskatchewan, Canada, to provide an independent Qualified Person's Review and Technical Report (the Report) for the Star Diamond Project located in the Fort à la Corne area, in Saskatchewan, Canada (Figure 2-1).

The Star Diamond Project is defined as encompassing the Star Kimberlite, which straddles a mineral disposition boundary between ground that is held 100 percent by Shore Gold, and ground that is held by the Fort à la Corne (FalC) Joint Venture, between Kensington Resources Ltd. (a wholly-owned subsidiary of Shore Gold Inc; 60 percent) and Newmont Mining Corporation of Canada Limited (40 percent). The Star Diamond Project is operated by Shore Gold, and is being explored and developed as a single entity. The deposit is sufficiently separated in distance from the remainder of the FalC Joint Venture exploration areas to make the approach reasonable. For convenience, that portion of the Star Kimberlite which falls on the FalC Joint Venture mineral dispositions is known as the Star West area.

The models and interpretations presented in this Report supersede all previous models and interpretations of the Star Kimberlite that have been presented in earlier technical reports.

AMEC understands that Shore Gold will use the Report in support of the first-time disclosure of mineral resources in the press release to the Toronto Stock Exchange entitled "Star Diamond Project, NI 43-101 Indicated Mineral Resource:123 Million Tonnes, 13.6 Cpht, 17 Million Carats" dated 9 June, 2008.

2.1 Qualified Persons

The Qualified Persons (QPs), as defined in NI 43–101 and in compliance with Form 43–101F1 (the Technical Report), responsible for the preparation of the technical report include:

- Ted Eggleston, P.Geo., Principal Geologist (AMEC Denver)
- Harry Parker, P.Geo., Technical Director and Geologist/Geostatistician (AMEC, Reno)
- Ken Brisebois, P.Eng., Principal Engineer (AMEC, Reno)
- Alexandra Kozak, P.Eng., Manager, Process Engineering (AMEC, Vancouver)
- Gary Taylor, P.Eng., Manager Mining, (AMEC, Saskatoon).

The area (or areas) of responsibility, and site visit dates for each QP are shown in Table 2-1.





Figure 2-1: Location Plan



Note: Figure courtesy Shore Gold

Table 2-1:	QP Site	Visits and A	Areas of	Responsibility
------------	---------	--------------	----------	----------------

Qualified Person	Site Visits	Report Sections of Responsibility (or Shared Responsibility)
Ted Eggleston	13–15 April 2005; 27–28 September, 2005; 2 June 2006; 30 August–2 September, 2006; 3–6 October, 2007; 27–30 November, 2007	Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 20, 21, 22, and 23
Harry Parker	17–19 January, 2007	Section 17
Ken Brisebois	13–15 April 2005; 30 August–2 September, 2006; 17–19 January 2007; 3–6 October, 2007; 27–30 November, 2007	Section 17
Alexandra Kozak	No site visit	Section 16
Gary Taylor	13–15 April 2005; 27–28 September, 2005; 2 June 2006; 3–6 October, 2007; 27–30 November, 2007	Sections 18 and 19



amed



2.2 Site Visits

During the course of the resource estimation process for the Star Project, AMEC had its personnel visit the site on numerous occasions to review the status of the project, conduct audits, and discuss future plans with Shore Gold staff.

Site visits, including visits by AMEC staff, as well as those made by the QPs for the report were as follows:

- 13–15 April 2005, Mark Sedore, Gary Taylor, Ken Brisebois, Howard Coopersmith, and Ted Eggleston
- 27–28 September, 2005, Gary Taylor, Ted Eggleston, Howard Coopersmith
- 15 November, 2005, Gary Taylor
- 14–17 March, 2006, Howard Coopersmith
- 2 June 2006, Gary Taylor, Ted Eggleston
- 30 August-2 September, 2006, Ken Brisebois, Ted Eggleston
- 17–19 January 2007, Harry Parker, Ken Brisebois
- 3–6 October, 2007, Gary Taylor, Ted Eggleston, Ken Brisebois
- 27–30 November, 2007, Gary Taylor, Ted Eggleston, Ken Brisebois

AMEC is currently working on an engineering study on behalf of Shore Gold. As part of this study, the following personnel undertook the following roles during site visits; information collected on these visits was used by the AMEC QPs as background data for this report:

- Mark Sedore, P.Geo., was AMEC's project manager for the engineering study at the time of the first site visit.
- Gary Taylor, P.Eng., AMEC Principal Mining Engineer, assumed project management responsibilities in 2005 and is responsible for supervision of mining aspects of the engineering study that is currently in progress.
- Ted Eggleston, Ph.D., P.Geo., AMEC Principal Geologist is responsible for data collection reviews, QA/QC, and geological model reviews associated with the engineering study.
- Ken Brisebois, P.Eng., AMEC Principal Engineer, is responsible for mineral resource estimation aspects of the engineering study.
- Howard Coopersmith, P.Geo., AMEC Associate Geologist, is responsible for process plant reviews and audits within the engineering study.
- Harry Parker, Ph.D., P.Geo., AMEC Technical Director and Geologist/Geostatistician, assisted with aspects of the mineral resource estimate for the engineering study.
- Tinus Oosterveld, AMEC Associate Technical Specialist, reviewed the diamond distributions, compared large diameter drilling (LDD) sample results to


underground sample results, and reviewed the valuation data. Mr Oosterveld did not visit the site.

2.3 Effective Dates

Two effective dates are appropriate for this report, as shown below:

- Effective Date of the Report (based on the last supply of technical data that informs the report) 9 June 2008
- Effective Date of the Mineral Resources 2 June 2008

2.4 Report Preparation

In preparing this report, AMEC has utilized the reports and maps, miscellaneous technical papers listed in the References section at the conclusion of this report and AMEC's experience on similar deposit types. Additional data were also provided by Shore Gold. A portion of the background information and technical data was obtained from the following previously-filed Technical Reports:

Patrick, D.J., 2003: Technical Review Of The Shore Gold Inc. Diamond Exploration Project, Fort à la Corne Saskatchewan, Canada: report prepared by A.C.A. Howe International Ltd. for Shore Gold, Effective Date 25 July 2003.

Patrick, D.J., and Leroux, D., 2004: Technical Review Of The Shore Gold Inc. Diamond Exploration Project, Fort à la Corne Saskatchewan, Canada: report prepared by A.C.A. Howe International Ltd. for Shore Gold, Effective Date 17 May, 2004.

Leroux, D., 2005: Amended Technical Review Of The Shore Gold Inc. Diamond Exploration Project, Fort à la Corne Saskatchewan, Canada: report prepared by A.C.A. Howe International Ltd. for Shore Gold, Effective Date 16 March 2005.

Leroux, D., 2005: Amended and Restated Technical Review Of The Shore Gold Inc. Diamond Exploration Project, Fort à la Corne Saskatchewan, Canada: report prepared by A.C.A. Howe International Ltd. for Shore Gold, Effective Date 15 December 2005.

Jellicoe, B., 2006: Summary of Exploration and Evaluation of the Fort à la Corne Kimberlite Field, East-Central Saskatchewan: report prepared for Shore Gold, Effective Date 9 November 2005





Leroux, D., 2007: Technical Report On The Star Diamond Project, Fort à la Corne Area Saskatchewan, Canada, report prepared by A.C.A. Howe International Ltd. for Shore Gold. Effective Date 15 March 2007.

Leroux, D., 2008: Technical Report On The Star Diamond Project, Fort à la Corne Area Saskatchewan, Canada: report prepared by A.C.A. Howe International Ltd. for Shore Gold, Effective Date 20 March 2008.

2.5 Units and Currency

All units of measurement used in this report are metric unless otherwise stated. Units within the report are explained as follows:

- Historical grade and tonnage figures are reported as originally published.
- Dry tonnages processed through Shore Gold's process plant during Phase 1 and 2 of the underground bulk sampling program were measured in dry imperial short tons and have been converted to dry metric tonnes using a factor of 0.9071847.
- Dry tonnages for the Phase 3 underground bulk sampling program and large • diameter drilling (LDD) mini-bulk sampling program were measured in dry metric tonnes.
- Diamond grade values are reported in stones per tonne (spt), carats per metric tonne (ct/t), or carats per hundred (100) metric tonne (cpht).
- Diamond weights are reported in carats for macrodiamonds or in octocarats for microdiamonds.

The Canadian dollar is used in this report unless otherwise stated. Diamond valuations are quoted in US dollars. The Canadian dollar exchange rate to US dollar equivalent at the time of the diamond valuations (based on press release dates) are as follows:

•	Diamond Valuation #1	February 23, 2005	US\$1.00 = CAN\$1.24
•	Diamond Valuation #2	March 20, 2006	US\$1.00 = CAN\$1.16
•	Diamond Valuation #3	November 05, 2007	US\$1.00 = CAN\$0.98
•	Diamond Revaluation	March 25, 2008	US\$1.00 = CAN\$1.02

The exchange rate at the effective date of the report was:

US\$1 = CAN\$1.02.







3.0 RELIANCE ON OTHER EXPERTS

The QPs, authors of this Technical Report, state that they are Qualified Persons for those areas that are identified in the appropriate QP "Certificate of Qualified Person", which are attached to this report. The authors have relied, and believe there is a reasonable basis for this reliance, upon the following reports, which provided information regarding mineral rights, surface rights, permitting, taxation, and environmental issues in sections of this Technical Report as noted below.

3.1 Mineral Tenure

AMEC QPs have not reviewed the mineral tenure, nor independently verified the legal status or ownership of the Project area or underlying property agreements. AMEC has relied upon the Government of Saskatchewan mineral dispositions database, the Shore Gold land management expert, and legal opinion obtained by Shore Gold for the information included in Section 4.2.2 and 4.2.4 through the following documents:

- Government of Saskatchewan, 2008: Mineral Disposition Claim data: unpublished Excel spreadsheet downloaded from Ministry of Energy and Resources website, 14 July, 2008
- MacPherson, Leslie and Tyerman, 2007: Shore Gold Inc., Review of Mineral Dispositions: review completed by MacPherson, Leslie and Tyerman LLP on behalf of Shore Gold, 27 November 2007.
- Shore Gold Inc., 2008a: Tech Report: internal email from Shore Gold to AMEC, dated 10 July 2008
- Shore Gold Inc., 2008b: Claims: internal email from Shore Gold to AMEC, dated 17 July 2008

3.2 Surface Rights, Access and Permitting

AMEC QPs have relied on information regarding Surface Rights, Road Access and Permits, including the status of the granting of surface rights by the Canadian and Saskatchewan Governments for land designated for mining, milling, dumps and tailings impoundments. The QPs have relied on opinions and data supplied by AMEC and Shore Gold representatives in Sections 4.2.3, 4.2.4 and 4.2.5 as follows:

• MacPherson, Leslie and Tyerman, 2007: Shore Gold Inc., Review of Mineral Dispositions: review completed by Macpherson, Leslie and Tyerman LLP on behalf of Shore Gold, 27 November 2007.





- Shore Gold Inc., 2008a: Star Diamond Project: internal email from Shore Gold to AMEC, dated 8 July 2008
- Shore Gold Inc., 2008: Tech Report: internal email from Shore Gold to AMEC, dated 10 July 2008

3.3 Environmental and Socio-Economic

AMEC QPs have relied upon the environmental status and mine closure plan for the Property as prepared in part by Shore Gold as part of various permit applications and annuals reports, and in part by AMEC experts in Section 4.2.5, through the following documents:

- AMEC E&C Services Inc, 2008: NI43-101 Environmental Considerations Reviewed: unpublished internal note from AMEC E&C Services to AMEC
- Shore Gold Inc, 2007: Annual Environmental Report: Unpublished annual statutory report filed with the Government of Saskatchewan
- Shore Gold Inc., 2008a: Star Diamond Project: internal email from Shore Gold to AMEC, dated 8 July 2008
- Shore Gold Inc., 2008b: Environmental Finance Assurance: internal email from Shore Gold to AMEC, dated 9 July 2008

3.4 Diamond Valuations

AMEC QPs have relied on WWW International Diamond Consultants Limited (WWW) for diamond valuation. WWW, with their aboriginal partners Aboriginal Diamonds Group Limited, comprise Diamonds International Canada Ltd., the valuers to the Federal Government of Canada for the Canadian diamond mines in the Northwest Territories and to the provincial government of Ontario for the Victor Diamond Mine. AMEC believes that it is reasonable to rely on their estimates of diamond values. The March 2008 valuation is used in Sections 16.5 and 17.3.3 of this report, and is based on the following document:

• WWW International Diamond Consultants Limited, 2008: Valuation of Diamonds from the Star Diamond Project, March 2008 Re-Price: unpublished report from WWW to Shore Gold Inc., 13 March 2008.





4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Star Diamond Project is situated about 60 kilometres east of Prince Albert, Saskatchewan, a major supply centre for Northern Saskatchewan, and about 180 kilometres from the main provincial centre of Saskatoon.

4.2 Tenure

4.2.1 History

Prior to staking by Shore Gold, the Star Kimberlite area was originally vested in the Crown. Shore Gold acquired its 100 percent interest in 1995.

4.2.2 Tenure Details

The Star kimberlite body and associated underground bulk sample program, processing, coarse tailings, settling pond, and camp infrastructure is located within mineral disposition S-132039 in Section 18 of Township 49, Range 19, west of the Second Meridian whereby Township 49 is located within the Regional Municipality of Torch River. Ground is recorded as a claim when staked, and converts to a mineral disposition when a claim is registered with the Saskatchewan Ministry of Energy and Resources. The terms claim and mineral disposition are used interchangeably.

The Star Diamond Project lies within grouped claim block GC#45826, which consists of 23 contiguous mineral dispositions totalling 9,280 hectares. Four of these mineral dispositions have an interest held by a third party (see Section 4.2.4); the remaining 19 mineral dispositions are 100 percent owned by Shore Gold. Shore Gold also has 100 percent working interest in those 19 mineral dispositions. In addition, Shore Gold holds a 100 percent working interest in a further 315 mineral dispositions in the immediate area, for a total of 338 mineral dispositions covering a claim area of 196,836 hectares. A summary of the tenure, current as at 8 July 2008, is included in Table 4-1, and shown in Figure 4-1.

Shore Gold's grouped claim block GC#45826 has been legally surveyed in accordance to the Saskatchewan Mineral Disposition Regulations of 1986, Part IV, Article 30(1) (d), which coincides with boundaries of the land survey system pursuant to the Saskatchewan Land Surveys Act and/or with the boundaries of existing surveyed land parcels.





Table 4-1: Tenure Listing

Disposition Number	Location	Area (Ha)	Effective Date
S-140235	Sections 1, 12 and the south half of Section 13, inclusive, Township 48, Range 19, west of the	640	19-Jun-06
	second meridian		
S-140236	Sections 3, 10 and 15, inclusive. Township 48, Range 19, west of the second meridian	768	19-Jun-06
S-140237	The north halves of Sections 13 and 14 and all of Sections 23 and 24, inclusive. Township 48.	768	19-Jun-06
0 140201	Range 19, west of the second meridian	100	
S-140238	Sections 31 and 32, Township 48, Range 20, west of the second meridian	512	19-Jun-06
			19-Jun-06
S-140239	The south half and legal subdivisions 9 to 12, inclusive, of Section 30, Township 49, Range 18,	192	19-Jun-06
~	west of the second meridian		
S-140240	Legal subdivisions 14 to 16, inclusive, of Section 30, Township 49, Range 18, west of the second meridian	48	19-Jun-06
S-140241	Legal Subdivisions 1 to 4, inclusive, of Section 31, Township 49, Range 18, west of the second meridian	64	19-Jun-06
S-140242	Legal Subdivisions 8, 9 and 16, of Section 31, Township 49, Range 18, west of the second meridian	48	19-Jun-06
S-140243	The south half and legal subdivisions 9 to 12, of Section 25, Township 49, Range 19, west of the	192	19-Jun-06
3-140243	second meridian	192	19-3011-00
S-140244	legal subdivisions 13 to 15, of Section 25, Township 49, Range 19, west of the second meridian	48	19-Jun-06
S-140245	Section 36, Township 49, Range 19, west of the second meridian	256	19-Jun-06
S-140246	Sections 5 to 8, inclusive, Township 49, Range 21, west of the second meridian	1,024	19-Jun-06
S-140240	Sections 9 to 12, inclusive, Township 49, Range 21, west of the second mendian	1,024	19-Jun-06
S-140247 S-140248	Sections 13, 14, 23 and 24, inclusive, Township 49, Range 21, west of the second meridian	1,024	19-Jun-06
S-140249	Sections 15, 16, 21 and 22, inclusive, Township 49, Range 21, west of the second meridian	1,024	19-Jun-06
S-140552	Sections 17 and 18, Township 54, Range 22, west of the second meridian	512	16-Nov-06
S-140553	Sections 19 to 21 and Sections 28 to 33, inclusive, Township 54, Range 23, west of the second meridian	2,304	20-Nov-06
S-140554	That portion of Section 4 lying outside the boundary of the resort village of Candle Lake, Township 55, Range 22, west of the second meridian	128	20-Nov-06
S-140555	The west half of Section 6, Township 55, Range 22, west of the second meridian excepting	128	20-Nov-06
0-140000	thereout and therefrom the resort village of Candle Lake	120	20-1404-00
C 141410		256	
S-141419	All of Section 19, in Township 50, Range 18, west of the second meridian	256	20-Dec-06
S-141420	All of Sections all 27 and 34, Township 50, Range 21, west of the second meridian	512	20-Dec-06
S-141421	All of Section 1, Township 51, Range 19, west of the second meridian. Please note that this land may be subject to surface access restrictions as it is under disposition EPP 59.	256	20-Dec-06
S-141422	All of Sections 22 and 23, Township 52, Range 19, west of the second meridian. Please note that	512	20-Dec-06
0-141422	this land may be subject to surface access restrictions as it is under disposition EPP 56.	512	20-Dec-00
0 4 4 4 4 0 0		050	
S-141423	All of Section 31, Township 52, Range 19, west of the second meridian. Please note that this land	256	20-Dec-06
	may be subject to surface access restrictions as it is under disposition EPP 56		
S-141424	All of Sections 16, 17, 20 and 21, Township 52, Range 20, west of the second meridian. Please	1024	20-Dec-06
	note that this land may be subject to surface access restrictions as it is under disposition EPP 59		
S-141425	All of Sections 25, 26, 35 and 36, Township 52, Range 20, west of the second meridian. Please	1024	20-Dec-06
	note that this land may be subject to surface access restrictions as it is under disposition EPP 59		
S-141426	The north half of Section 20, Township 52, Range 21, west of the second meridian. Please note that this land may be subject to surface access restrictions as it is under disposition EPP 59	128	20-Dec-06
S-141427	The southeast guarter of Section 20, Township 52, Range 21, west of the second meridian.	64	20-Dec-06
0-141421	Please note that this land may be subject to surface access restrictions as it is under disposition	04	20-080-08
0 4 4 4 4 0 0	EPP 59	050	
S-141428	All of Section 21, Township 52, Range 21, west of the second meridian. Please note that this land may be subject to surface access restrictions as it is under disposition EPP 59	256	20-Dec-06
S-124672	Section 21, in Township 51, Range 22, west of the second meridian.	256	16-Aug-88
S-124674	Section 29, in Township 51, Range 22, west of the second meridian.	256	16-Aug-88
S-127155	Legal subdivisions 2, 3, 4, 5, 6, 7, of Section 17, in Township 53, Range 21, west of the second	96	5-Dec-88
o	meridian. Reduction of S-125239.		
S-127156	Legal subdivisions 10, 11 and 12 of Section 17, in Township 53, Range 21, west of the second	48	5-Dec-88
o	meridian. Reduction of S-125240.		
S-127157	Legal subdivision 9 of Section 18, in Township 53, Range 21, west of the second meridian. Reduction of S-126135.	16	6-Sep-89
S-127158	Legal subdivisions 1 and 8 of Section 18, in Township 53, Range 21, west of the second meridian.	32	6-Sep-89
			0.000 00





Disposition Number	Location	Area (Ha)	Effective Date
S-127265	Legal subdivisions 9 and 16 of Section 7 and legal subdivisions 10, 11, 12, 13, 14 and 15 of Section 8, in Township 53, Range 21, all west of the second meridian.	128	6-Apr-92
S-127283	Section 20, in Township 51, Range 22, west of the second meridian.	256	1-Jun-92
S-127284	Section 28, in Township 51, Range 22, west of the second meridian.	256	1-Jun-92
S-132025	All of Section 1, Township 49, Range 20, west of the second meridian.	256	1-Dec-95
S-132026	The south half of Section 12, Township 49, Range 20, west of the second meridian.	128	1-Dec-95
S-132027	The south half of Section 33, Township 48, Range 20, west of the second meridian.	128	1-Dec-95
S-132028	The south half of Section 34, Township 48, Range 20, west of the second meridian.	128	1-Dec-95
S-132029	The south half of Section 35, Township 48, Range 20, west of the second meridian.	128	1-Dec-95
S-132030	All of Section 36, Township 48, Range 20, west of the second meridian.	256	1-Dec-95
S-132031	The north half of Section 4, Township 49, Range 19, west of the second meridian.	128	1-Dec-95
S-132032	The north half of Section 5, Township 49, Range 19, west of the second meridian.	128	1-Dec-95
S-132033	All of Sections 6 and 7, Township 49, Range 19, west of the second meridian.	512	1-Dec-95
S-132034	All of Sections 8 and 9, Township 49, Range 19, west of the second meridian.	512	1-Dec-95
S-132035	All of Sections 10 and 11, Township 49, Range 19, west of the second meridian.	512	1-Dec-95
S-132036	All of Sections 12 and 13, Township 49, Range 19, west of the second meridian.	512	1-Dec-95
S-132037	All of Sections 14 and 15, Township 49, Range 19, west of the second meridian.	512	1-Dec-95
S-132038	All of Sections 16 and 17, Township 49, Range 19, west of the second meridian.	512	1-Dec-95
S-132039	All of Section 18, Township 49, Range 19, west of the second meridian.	256	1-Dec-95
S-132079	All of Sections 1 and 2, Township 49, Range 19, west of the second meridian.	512	19-Jan-96
S-132080	All of Section 3, Township 49, Range 19, west of the second meridian.	256	19-Jan-96
S-132081	All of Sections 6 and 7, Township 49, Range 18, west of the second meridian.	512	19-Jan-96
S-132082	All of Section 18, Township 49, Range 18, west of the second meridian.	256	19-Jan-96
S-133444	The northeast quarter of Section 19, Township 49, Range 19, west of the second meridian.	64	2-Feb-98
S-133445	The north half of Section 20, Township 49, Range 19, west of the second meridian.	128	2-Feb-98
S-133446	The east half of Section 30, Township 49, Range 19, west of the second meridian.	128	2-Feb-98
S-133447	The east half of Section 31, Township 49, Range 19, west of the second meridian.	128	2-Feb-98
S-133452	The west half of Section 3, Township 49, Range 20, west of the second meridian.	128	2-Feb-98
S-133453	The west half of Section 10, Township 49, Range 20, west of the second meridian.	128	2-Feb-98
S-133454	The west half of Section 15 and the southwest quarter of Section 22, Township 49, Range 20, west of the second meridian.	192	2-Feb-98
S-133455	All of Section 16, Township 49, Range 20, west of the second meridian.	256	2-Feb-98
S-133456	All of legal subdivisions 1, 2, 7, 8, 9 and 10 of Section 21, Township 49, Range 20, west of the second meridian.	96	2-Feb-98
S-133457	The west half of Section 21, Township 49, Range 20, west of the second meridian.	128	2-Feb-98
S-133458	The south half of Section 29, Township 49, Range 20, west of the second meridian.	128	2-Feb-98
S-133459	All of legal subdivisions 11 and 12 of Section 29, Township 49, Range 20, west of the second meridian.	32	2-Feb-98
S-133460	All of Section 30, Township 49, Range 20, west of the second meridian.	256	2-Feb-98
S-133461	All of the west half and legal subdivisions 2, 7, 10 and 15 of Section 31, Township 49, Range 20, west of the second meridian.	192	2-Feb-98
S-133714	The north half of Section 33, Township 48, Range 20, west of the second meridian.	128	1-Jun-98
S-133715	The north half of Section 34, Township 48, Range 20, west of the second meridian.	128	1-Jun-98
S-133716	The north half of Section 35, Township 48, Range 20, west of the second meridian.	128	1-Jun-98
S-133717	All of Section 4, Township 49, Range 20, west of the second meridian.	256	1-Jun-98
S-133722	All of Section 9, Township 49, Range 20, west of the second meridian.	256	1-Jun-98
S-133723	All of Section 17, Township 49, Range 20, west of the second meridian.	256	1-Jun-98
S-133726	All of Section 20, Township 49, Range 20, west of the second meridian.	256	1-Jun-98
S-133733	The west half of Section 21, Township 49, Range 19, west of the second meridian.	128	5-Aug-98
S-134407	The southeast quarter of Section 2, Township 49, Range 20, west of the second meridian.	64	20-Sep-00
S-135759	The east half of Section 21 and all of Section 22, Township 49, Range 19, west of the second meridian.	384	2-Jul-02
S-135760	All of Section 27, Township 49, Range 19, west of the second meridian.	256	2-Jul-02
S-135761	All of Section 28, Township 49, Range 19, west of the second meridian.	256	2-Jul-02
S-135762	All of Section 29, Township 49, Range 19, west of the second meridian.	256	2-Jul-02
S-135763	The south half of Section 32 and the south half of Section 33, Township 49, Range 19, west of the second meridian.	256	2-Jul-02
S-135764	All of Section 34, Township 49, Range 19, west of the second meridian.	256	2-Jul-02
S-135765	All of Section 3, Township 50, Range 19, west of the second meridian.	256	2-Jul-02
S-135766	All of Section 9, Township 50, Range 19, west of the second meridian.	256	2-Jul-02





Disposition Number	Location	Area (Ha)	Effective Date
S-135767	All of Section 10, Township 50, Range 19, west of the second meridian.	256	2-Jul-02
S-135771	All of Section 4, Township 52, Range 21, west of the second meridian.	256	2-Jul-02
S-135772	All of Section 5, Township 52, Range 21, west of the second meridian.	256	2-Jul-02
S-135773	All of Section 6, Township 52, Range 21, west of the second meridian.	256	2-Jul-02
S-135818	All of legal subdivisions 10 and 15 of Section 36, Township 48, Range 19, west of the second meridian	32	3-Sep-02
S-135819	All of legal subdivisions 9 and 10 of Section 2, Township 49, Range 20, west of the second meridian	32	3-Sep-02
S-135820	All of legal subdivision 4 of Section 28, Township 49, Range 20, west of the second meridian	16	3-Sep-02
S-135841	All of legal subdivisions 1 to 12 inclusive of Section 35, Township 49, Range 19, west of the second meridian.	192	3-Feb-03
S-136686	The west half of Section 6, Township 50, Range 20, west of the second meridian	128	3-Nov-03
S-137279	All of Section 19, Township 51, Range 19, west of the second meridian	256	1-Apr-04
S-137280	All of legal subdivision 12 and the south half of legal subdivision 13 of Section 17, Township 52, Range 21, west of the second meridian	24	1-Apr-04
S-137281	All of Sections 1 and 2, and the east half of Section 3, Township 53, Range 21, west of the second meridian	640	1-Apr-04
S-137282	All of Section 6 and the south half of Section 7, Township 53, Range 21, west of the second meridian	384	1-Apr-04
S-137283	The south half of Section 8, Township 53, Range 21, west of the second meridian	128	1-Apr-04
S-137284	The southeast quarter of Section 10, the south half of Section 11 and the south half of Section 12, Township 53, Range 21, west of the second meridian	320	1-Apr-04
S-137285	Legal subdivisions 9 and 16 of Section 8, the north half of Section 9 and the north half of Section 10, Township 53, Range 21, west of the second meridian	288	1-Apr-04
S-137286	the northwest quarter of Section 11 and the southwest quarter of Section 14, Township 53, Range 21, west of the second meridian	128	1-Apr-04
S-137288	All of Sections 15 and 16, and legal subdivisions 1, 8 and 9 of Section 17, Township 53, Range 21, west of the second meridian	560	1-Apr-04
S-137289	The northwest quarter and legal subdivisions 10 and 15 of Section 7, the west half and legal subdivisions 2, 7, 10 and 15 of Section 18, and legal subdivisions 2, 3 and 4 of Section 19, Township 53, Range 21, west of the second meridian	336	1-Apr-04
S-137290	Legal subdivisions 5 to 15 of Section 19, Township 53, Range 21, west of the second meridian	176	1-Apr-04
S-137291	The north half and legal subdivisions 5, 6, 7 and 8 of Section 20, Township 53, Range 21, west of the second meridian	192	1-Apr-04
S-137292	All of Sections 21 and 22, Township 53, Range 21, west of the second meridian	512	1-Apr-04
S-137295	All of Sections 27 and 28, Township 53, Range 21, west of the second meridian	512	1-Apr-04
S-137296	The east half of Section 29, Township 53, Range 21, west of the second meridian	128	1-Apr-04
S-137297	Legal subdivisions 3 and 4 of Section 29, Township 53, Range 21, west of the second meridian	32	1-Apr-04
S-137298	Legal subdivisions 2 to 16 of Section 30, Township 53, Range 21, west of the second meridian	240	1-Apr-04
S-137299	All of Sections 31 and 32, Township 53, Range 21, west of the second meridian	512	1-Apr-04
S-137300	All of Sections 33 and 34, Township 53, Range 21, west of the second mendian	512	1-Apr-04
S-137321	All of Sections 1 and 12, Township 52, Range 22, west of the second meridian excepting thereout and therefrom the hamlet of Foxford	512	1-Apr-04
S-137322	All of Sections 2 and 11, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137323	All of Sections 3 and 10, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137324	All of Sections 4 and 9, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137325	All of Sections 5 and 8, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137326	All of Sections 6 and 7, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137320 S-137327	All of Sections 14 and 23, Township 52, Range 22, west of the second mendian	512	1-Apr-04
S-137327 S-137328	All of Sections 15 and 22, Township 52, Range 22, west of the second mendian	512	1-Apr-04
S-137320 S-137329		512	1-Apr-04 1-Apr-04
	All of Sections 16 and 21, Township 52, Range 22, west of the second meridian		
S-137330	All of Sections 17 and 20, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137331	All of Sections 18 and 19, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137332	The west half of Section 25, Township 52, Range 22, west of the second meridian	128	1-Apr-04
S-137333	All of Sections 27 and 34, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137334	All of Sections 28 and 33, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137335	All of Sections 29 and 32, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137336	All of Sections 30 and 31, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137337	All of Sections 35 and 36, Township 52, Range 22, west of the second meridian	512	1-Apr-04
S-137921	The east half of Section 7 and the west half of Section 8, Township 52, Range 21, west of the	256	3-Jan-05





Disposition Number	Location	Area (Ha)	Effective Date
	second meridian		
S-137924	The east half of Section 22 and the southeast quarter of Section 27, Township 51, Range 22, west of the second meridian	192	3-Jan-05
S-137925	The west half of Section 26 and the west half of Section 35, Township 51, Range 22, west of the second meridian	256	3-Jan-05
S-137926	All of Section 24, Township 52, Range 22, west of the second meridian		3-Jan-05
S-138077	The north half of Section 19 and the south half of Section 30, Township 47, Range 18, west of the second meridian	256	21-Feb-05
S-138078	All of Sections 28 and 33, Township 47, Range 18, west of the second meridian	512	21-Feb-05
S-138086	The south half of Section 25, Township 47, Range 19, west of the second meridian	128	21-Feb-05
S-138087	The north half of Section 29, legal subdivisions 9 and 16 of Section 30, legal subdivisions 1, 8, 9 and 16 of Section 31 and all of Section 32, Township 47, Range 19, west of the second meridian excepting thereout and therefrom that area designated as Cumberland Indian Reserve No. 100a	480	21-Feb-05
S-138088	All of Section 33, Township 47, Range 19, west of the second meridian	256	21-Feb-05
S-138093	All of Sections 35 and 36, Township 48, Range 21, west of the second mendian	230 512	21-Feb-05
S-138276	The north half of Section 32, Township 52, Range 19, west of the second mendian	128	21-Feb-05 1-Mar-05
S-138278	The south half of Section 7, Township 53, Range 19, west of the second meridian	128	1-Mar-05
S-138276 S-138346	The east half of Section 8, Township 52, Range 21, west of the second meridian	128	1-May-05
S-138348	The north half of Section 29 and the north half of Section 30, Township 47, Range 18, west of the second meridian	256	1-Jun-05
S-138351	The east half of Section 10 and the east half of Section 15, Township 47, Range 19, west of the second meridian	256	1-Jun-05
S-138352	The north half of Section 27 and the north half of Section 28, Township 47, Range 19, west of the second meridian	256	1-Jun-05
S-138353	The north half of Section 26 and the south half of Section 35, Township 47, Range 19, west of the second meridian	256	1-Jun-05
S-138354	The north half of Section 25 and all of Section 36, Township 47, Range 19, west of the second meridian	384	1-Jun-05
S-138366	All of Sections 4, 5, 6, 7, 8, 9, 16, 17 and 18; and a portion of the south halves of Sections 19, 20 and 21; all in Township 57, Range 19, west of the second meridian excepting thereout and therefrom those areas contained within S-103776, S-103777 and S-103957	2,540	4-Jul-05
S-138367	That portion of Sections 7, 8, 9 lying south of 54 degrees latitude; Township 58, Range 19, west of the second meridian excepting thereout and therefrom those areas contained within S-103958, S-105086 and S-103273	289	4-Jul-05
S-138368	A portion of Sections 2 and 3, Township 58, Range 20, west of the second meridian excepting thereout and therefrom those areas contained within S-103272, S-103332, S-103413, S-103835 and S-103837	65	4-Jul-05
S-138471	A portion of legal subdivisions 7, 8, 9, 10, 15 and 16 of Section 9, a portion of legal subdivisions 5, 12 and 13 of Section 10 and a portion of legal subdivision 1 of Section 16, Township 57, Range 19, west of the second meridian excepting thereout and therefrom that area contained within S-138366	100	1-Aug-05
S-138472	A portion of legal subdivisions 5, 6, 7 & 8 and the north half of Section 19, a portion of legal subdivisions 5, 6, 7 and 8 and the north half of Section 20, a portion of legal subdivisions 5, 6, 7 and 8 and the north half of Section 21, and all of Sections 28, 29, 30, 32 and 33, Township 57, Range 19, west of the second meridian excepting thereout and therefrom those areas contained within S-138366, S-103333 and S-105815	1,564	1-Aug-05
S-138473	The west half of Section 3, all of Section 4 and a portion of the east half of Section 5, Township 58, Range 19, west of the second meridian excepting thereout and therefrom those areas designated as S-105086 and the Narrow Hills Provincial Park	432	1-Aug-05
S-138474	A portion of legal subdivisions 7 and 8 and all of legal subdivisions 9, 10, 15 and 16 of Section 13, all of legal subdivisions 1 and 2 and a portion of legal subdivisions 7 and 8 of Section 24, all in Township 57, Range 20, west of the second meridian excepting thereout and therefrom those areas contained within S-136408, S-138366, S-136410 and S-103839	120	1-Aug-05
S-138475	A portion of legal subdivisions 5 and 6 and all of legal subdivisions 11 and 12 of Section 13, a portion of legal subdivision 8 and all of legal subdivision 9 of Section 14, all in Township 57, Range 20, west of the second meridian excepting thereout and therefrom those areas contained within S-136408, S-136409, S-136410 and S-103765	63	1-Aug-05
S-138476	A portion of Sections 26, 27, 34 and 35, Township 57, Range 20, west of the second meridian excepting thereout and therefrom those areas contained within S-136411, S-103333, S-103765 and S-103836	361	1-Aug-05





Disposition Number	Location	Area (Ha)	Effective Date
S-138477	Legal subdivisions 3, 6, 11 and 14 and the east half of Section 31, legal subdivisions 4, 5, 12 and 13 of Section 32, Township 57, Range 20, west of the second meridian excepting thereout and	256	1-Aug-05
S-138478	therefrom that area contained within S-103838 A portion of legal subdivision 16 of Section 33 and legal subdivisions 13 and 14 of Section 34, Township 57, Range 20, west of the second meridian excepting thereout and therefrom those	40	1-Aug-05
S-138479	areas contained within S-136411, S-138476, S-138479 and s-103838 Legal subdivision 4 and a portion of legal subdivision 5 of Section 2, a portion of the south half of Section 3, and a portion of legal subdivisions 1 and 8 of Section 4, Township 58, Range 20, west of the second meridian excepting thereout and therefrom those areas contained within S-103332, S-	120	1-Aug-05
	138368, S-103413 and S-103838		
S-138872 S-138873	All of Sections 22, 23 and 24, Township 47, Range 18, west of the second meridian Legal subdivisions 1, 2, 3 and 4 of Section 36, Township 50, Range 21, west of the second meridian	768 64	1-Dec-05 1-Dec-05
S-138874 S-138875	All of Sections 16 and 21, Township 47, Range 18, west of the second meridian All of Sections 17 and 18, the south half of Section 19 and the south half of Section 20, Township 47, Range 18, west of the second meridian	512 768	1-Dec-05 1-Dec-05
S-138877 S-138878	All of Sections 27 and 34, Township 47, Range 18, west of the second meridian The west half of Section 15 and the east half of Section 16, Township 50, Range 17, west of the	512 256	1-Dec-05 1-Dec-05
S-138978	second meridian East half of Section 3, Township 47, Range 19, west of the second meridian	128	16-Nov-05
S-138979	West half of Section 22, Township 47, Range 19, west of the second mendian	128	16-Nov-05
S-138987	Sections 1 to 3, Sections 10 to 15, Sections 22 to 27, and Sections 34 to 36, inclusive, Township 52, Range 18, west of the second meridian	4,608	3-Jan-06
S-138988	Sections 3 to 5, the east halves of Sections 6 and 7, and Sections 8 to 10, inclusive, Township 52, Range 20, west of the second meridian	1,792	3-Jan-06
S-138989	Sections 19 to 21, and Sections 28 to 30, inclusive, Township 52, Range 19, west of the second meridian	1,536	3-Jan-06
S-138990	Sections 1 and 2, Sections 11 to 14, Sections 23 to 26, and Sections 35 and 36, inclusive, Township 51, Range 20, west of the second meridian	3,072	3-Jan-06
S-138991	Sections 1 to 18, inclusive, Township 52, Range 19, west of the second meridian excepting thereout and therefrom the village of Smeaton and the hamlet of Snowden	4,591	3-Jan-06
S-138992 S-138993	Sections 5 to 8, inclusive, Township 49, Range 20, west of the second meridian North half of Section 16, all of Section 21, Section 28, and Section 33, Township 52, Range 18, west of the second meridian	1,024 896	3-Jan-06 3-Jan-06
S-138994	Sections 27 to 34, inclusive, Township 52, Range 20, west of the second meridian	2,048	3-Jan-06
S-138995	Sections 11 to 14, and Sections 23 and 24, inclusive, Township 50, Range 19, west of the second meridian	1,536	3-Jan-06
S-138996	Sections 1 and 2, and Sections 11 and 12, inclusive, Township 52, Range 20, west of the second meridian	1,024	3-Jan-06
S-138997	Sections 1 and 2, inclusive, Township 49, Range 21, west of the second meridian	512	3-Jan-06
S-138998	Sections 5 to 8, inclusive, Township 51, Range 19, west of the second meridian	1,024	3-Jan-06
S-138999	Sections 30 and 31, inclusive, Township 51, Range 19, west of the second meridian	512	3-Jan-06
S-139000	Sections 18 and 19, inclusive, Township 49, Range 20, west of the second meridian Sections 25 to 29, inclusive, Township 49, Range 18, west of the second meridian	512	3-Jan-06
S-139001 S-139002	Sections 30 and 31, inclusive, Township 50, Range 19, west of the second meridian	1,280 512	3-Jan-06 3-Jan-06
S-139002 S-139003	Section 14, Township 52, Range 20, west of the second meridian excepting thereout and therefrom the CP railway right of way	256	3-Jan-06
S-139005	Section 31, Township 52, Range 18, west of the second meridian	256	3-Jan-06
S-139006	Section 19, Township 52, Range 20, west of the second meridian	256	3-Jan-06
S-139009	Sections 20 and 21, Sections 28 and 29, and Sections 32 and 33, Township 51, Range 19, west of the second meridian	1,536	3-Jan-06
S-139010	The east half of Section 18, Township 52, Range 20, west of the second meridian excepting thereout and therefrom the CP railway right of way, the east half being subject to the Critical Wildlife Habitat Protection Act	128	3-Jan-06
S-139011	Sections 29 and 32, Township 52, Range 18, west of the second meridian	512	3-Jan-06
S-139012	Sections 6 and 7, Township 52, Range 18, west of the second meridian	512	3-Jan-06
S-139013	The southwest quarter of Section 18, Township 52, Range 18, west of the second meridian	64	3-Jan-06
S-139014	Sections 33 to 35, inclusive, Township 49, Range 18, west of the second meridian	768	3-Jan-06
S-139015	Section 13, Township 52, Range 20, west of the second meridian excepting thereout and therefrom	244	3-Jan-06



Disposition Number	Location	Area (Ha)	Effective Date
	the village of Smeaton and the CP railway right of way		
S-139016	Section 23, Township 52, Range 20, west of the second meridian	256	3-Jan-06
S-139017	Section 24, Township 52, Range 20, west of the second meridian	256	3-Jan-06
S-139019	The northeast quarter of Section 20, Township 52, Range 18, west of the second meridian	64	3-Jan-06
S-139020	Sections 15 and 22, Township 52, Range 20, west of the second meridian	512	3-Jan-06
S-139021	The east half of Section 30, Township 52, Range 18, west of the second meridian	128	3-Jan-06
S-139025	Section 27, Township 51, Range 19, west of the second meridian	256	3-Jan-06
S-139028	Section 25, Township 51, Range 19, west of the second meridian	256	3-Jan-06
S-139030	The south half of Section 32, Township 52, Range 19, west of the second meridian	128	3-Jan-06
S-139031	Sections 34 to 36, inclusive, Township 51, Range 19, west of the second meridian	768	3-Jan-06
S-139032	Sections 12 and 13, Township 51, Range 19, west of the second meridian	512	3-Jan-06
S-139596	Sections 1, 12, 13 and 24, inclusive, Township 49, Range 18, west of the second meridian	1,024	10-Mar-06
S-139597	Sections 2, 11 and 14, inclusive, Township 49, Range 18, west of the second meridian	768	10-Mar-06
S-139598	Sections 3 to 5 and Sections 8 to 10, inclusive, Township 49, Range 18, west of the second meridian	1,536	10-Mar-06
S-139599	Sections 15 to 17 and Sections 20 to 22, inclusive, Township 49, Range 18, west of the second meridian	1,536	10-Mar-06
S-140250	Sections 17 and 18, Township 49, Range 21, west of the second meridian	512	19-Jun-06
S-140251	The east half of Section 19 and all of Section 20, Township 49, Range 21, west of the second meridian	384	19-Jun-06
S-140252	The northwest quarter of Section 19, Township 49, Range 21, west of the second meridian	64	19-Jun-06
S-140253	Sections 25, 26, 35 and 36, inclusive, Township 49, Range 21, west of the second meridian	1,024	19-Jun-06
S-140254	Sections 27, 28, 33 and 34, inclusive. Township 49, Range 21, west of the second meridian	1,024	19-Jun-06
S-140255	Sections 29 to 32, inclusive, Township 49, Range 21, west of the second meridian	1,024	19-Jun-06
S-140256	Sections 1 and 2, Township 50, Range 21, west of the second meridian	512	19-Jun-06
S-140257	Sections 3, 4, 9 and 10, inclusive, Township 50, Range 21, west of the second meridian	1,024	19-Jun-06
S-140258	Sections 5 to 8, inclusive, Township 50, Range 21, west of the second meridian	1,024	19-Jun-06
S-140259	Section 11, the west halves of Sections 12 and 13, and Section 14, inclusive, Township 50, Range 21, west of the second meridian	768	19-Jun-06
S-140260	Sections 15, 16, 21 and 22, inclusive, Township 50, Range 21, west of the second meridian	1,024	19-Jun-06
S-140261	Sections 17 to 20, inclusive, Township 50, Range 21, west of the second meridian	1,024	19-Jun-06
S-140262	Sections 28 to 33, inclusive, Township 50, Range 21, west of the second meridian	1,536	19-Jun-06
S-140263	Sections 23 to 26, inclusive, Township 50, Range 21, west of the second meridian	1,024	19-Jun-06
S-140264	Section 35, Township 50, Range 21, west of the second meridian	256	19-Jun-06
S-140265	Sections 1 and 2, Township 51, Range 21, west of the second meridian	512	19-Jun-06
S-140266	Sections 3, 4, 9 and 10, inclusive, Township 51, Range 21, west of the second meridian	1,024	19-Jun-06
S-140267	Sections 5 to 8, inclusive, Township 51, Range 21, west of the second meridian	1,024	19-Jun-06
S-140268	Section 11, the west halves of Sections 12 and 13 and Section 14, inclusive, Township 51, Range 21, west of the second meridian	768	19-Jun-06
S-140269	Sections 15, 16, 21 and 22, inclusive, Township 51, Range 21, west of the second meridian	1,024	19-Jun-06
S-140270	Sections 17 to 20, inclusive, Township 51, Range 21, west of the second meridian	1,024	19-Jun-06
S-140271	Sections 23 and 24, Township 51, Range 21, west of the second meridian	512	19-Jun-06
S-140272	Sections 29 to 32, inclusive, Township 51, Range 21, west of the second meridian	1,024	19-Jun-06
S-140273	The west half of Section 26, Sections 27, 28, 33, 34 and the west half of Section 35, inclusive, Township 51, Range 21, west of the second meridian	1,280	19-Jun-06
S-140274	Sections 2, 3, 10 and 11, inclusive, Township 52, Range 21, west of the second meridian excepting thereout and therefrom the hamlet of Shipman and the CP railway right of way	1,013	19-Jun-06
S-140275	Sections 14, 15, 22 and 23, inclusive, Township 52, Range 21, west of the second meridian	1,024	19-Jun-06
S-140276	The north half of Section 16 and the northeast quarter and legal subdivisions 11 and 14 of Section 17, Township 52, Range 21, west of the second meridian	224	19-Jun-06
S-140277	Section 19, Township 52, Range 21, west of the second meridian	256	19-Jun-06
S-140278	Section 24, Township 52, Range 21, west of the second meridian	256	19-Jun-06
S-140279	The east halves of Sections 25 and 36, Township 52, Range 21, west of the second meridian	256	19-Jun-06
S-140290	Sections 1 and 2 and Sections 11 to 14, inclusive, Township 48, Range 18, west of the second meridian	1,536	19-Jul-06
S-140291	Sections 3, 4, 9, 10, 15 and 16, inclusive, Township 48, Range 18, west of the second meridian	1,536	19-Jul-06
S-140293	Sections 21 and 22, Township 48, Range 18, west of the second meridian	512	19-Jul-06
S-140294	Sections 23 to 26 and Sections 35 and 36, inclusive, Township 48, Range 18, west of the second meridian	1,536	19-Jul-06
S-140295	Sections 27 to 29 and Sections 32 to 34, inclusive, Township 48, Range 18, west of the second	1,536	19-Jul-06



Disposition Number	Location	Area (Ha)	Effective Date
	meridian		
S-140296	Sections 1 to 3 and Sections 10 to 12, inclusive, Township 51, Range 18, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under epp50.	1,536	19-Jul-06
S-140297	Sections 4 to 9, inclusive, Township 51, Range 18, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP50.	1,536	19-Jul-06
S-140298	Sections 16 to 21, inclusive, Township 51, Range 18, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP50.	1,536	19-Jul-06
S-140299	Sections 13 to 15 and Sections 22 to 24, inclusive, Township 51, Range 18, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP50.	1536	19-Jul-06
S-140300	Sections 28 to 33, inclusive, Township 51, Range 18, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP50.	1,536	19-Jul-06
S-140301	Sections 25 to 27 and Sections 34 to 36, inclusive, Township 51, Range 18, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP50.	1,536	19-Jul-06
S-140307	Section 32, Township 53, Range 22, west of the second meridian	256	19-Jul-06
S-140308	Section 34, Township 53, Range 22, west of the second meridian	256	19-Jul-06
S-140309	The north half of Section 12, Township 57, Range 20, west of the second meridian	128	19-Jul-06
S-140310	The south half of Section 13 and the southeast quarter of Section 14, Township 57, Range 20, west of the second meridian excepting thereout and therefrom any areas within S-103765, S-103772, S-138474 and S-138475	192	19-Jul-06
S-140311	Legal subdivisions 13 and 14 of Section 13, legal subdivision 16 of Section 14, legal subdivision 1 of Section 23 and legal subdivisions 3 and 4 of Section 24, inclusive, Township 57, Range 20, west of the second meridian excepting thereout and therefrom any areas within S-103765, S -103770, S -103772, S -103839, S -135697 and S -136409, inclusive	96	19-Jul-06
S-140312	Legal subdivisions 13 and 14 of Section 27, legal subdivision 16 of Section 28, legal subdivisions 1, 8 and 9, of Section 33 and the southwest quarter and legal subdivisions 11 and 12 of Section 34, inclusive, Township 57, Range 20, west of the second meridian excepting thereout and therefrom any areas within S -103835 to S -103838, inclusive	192	19-Jul-06
S-140345	The west half and legal subdivisions 2, 7, 10 and 15 of Section 5, the east half and legal subdivisions 3, 6, 11 and 14 of Section 6, the southeast quarter and legal subdivisions 3 and 6 of Section 7 and the southwest quarter and legal subdivisions 2 and 7 of Section 8, inclusive, Township 53, Range 20, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP 59.	576	17-Aug-06
S-140346	The northeast quarter of Section 11, the north half of Section 12, the south half of Section 13 and the southeast quarter of Section 14, inclusive, Township 53, Range 21, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP 59.	384	17-Aug-06
S-140347	The northeast quarter of Section 21, Township 54, Range 21, west of the second meridian	64	17-Aug-06
S-140348	Section 28, Township 54, Range 21, west of the second meridian	256	17-Aug-06
S-140466	Section 5, Township 53, Range 21, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP 59.	256	1-Sep-06
S-140467	The east half of Section 31, Township 52, Range 21, west of the second meridian excepting thereout and therefrom the Birchbank Lake Recreation Site. Please note that this area may be subject to surface access restrictions as these lands are under EPP 59.	128	1-Sep-06
S-140469	Sections 1, 2, 11 and 12, inclusive, Township 51, Range 22, west of the second meridian	1,024	19-Sep-06
S-140470	Sections 13, 14, 23 and 24, inclusive, Township 51, Range 22, west of the second meridian	1,024	19-Sep-06
S-140471	The northeast quarter of Section 15, Township 51, Range 22, west of the second meridian	64	19-Sep-06
S-140472	The northwest guarter of Section 18, Township 51, Range 22, west of the second meridian	64	19-Sep-06
S-140473	Sections 19, 30 and the south half of Section 31, inclusive, Township 51, Range 22, west of the second meridian	640	19-Sep-06
S-140474	The west halves of Sections 22 and 27, Township 51, Range 22, west of the second meridian	256	19-Sep-06
S-140475	The northeast quarter of Section 27, Township 51, Range 22, west of the second meridian	64	19-Sep-06
S-140476	Sections 32 to 34, inclusive, Township 51, Range 22, west of the second meridian	768	19-Sep-06
S-140477	Section 25, the east halves of Sections 26 and 35 and Section 36, inclusive, Township 51, Range 22, west of the second meridian	768	19-Sep-06
S-140478	Sections 1 to 3 and Sections 10 to 12, inclusive, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP59.	1,536	19-Sep-06





Disposition Number	Location	Area (Ha)	Effective Date
S-140479 S-140480	Sections 4 to 9, inclusive, Township 53, Range 22, west of the second meridian Sections 13 to 15 and the south halves of Sections 22 to 24, inclusive, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access	1,536 1,152	19-Sep-06 19-Sep-06
S-140481	restrictions as these lands are under EPP59. Sections 16 to 21, inclusive, Township 53, Range 22, west of the second meridian	1,536	19-Sep-06
S-140461 S-140515	Legal subdivision 14 of Section 23 and legal subdivisions 3 and 6 of Section 26, inclusive, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP59.	48	19-36p-00 1-Nov-06
S-140516	Legal subdivisions 9 and 10 of Section 22 and legal subdivisions 11 and 12 of Section 23, inclusive, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP59.		1-Nov-06
S-140517	The northwest quarter of Section 22 and the southwest quarter of Section 27, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP59.	128	1-Nov-06
S-140518	The northeast quarter of Section 23 and the southeast quarter of Section 26, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP59.	128	1-Nov-06
S-140519	The north halves of Sections 26 and 27, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP59.	256	1-Nov-06
S-140520	Sections 28 to 30, inclusive, Township 53, Range 22, west of the second meridian	768	1-Nov-06
S-140521	The north half of Section 24 and Sections 25 and 36, inclusive, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP59.	640	1-Nov-06
S-140522	The west half of Section 31, Township 53, Range 22, west of the second meridian	128	1-Nov-06
S-140523	Section 33, Township 53, Range 22, west of the second meridian	256	1-Nov-06
S-140524	Section 35, Township 53, Range 22, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP59.	256	1-Nov-06
S-140527	Sections 26 and 27, Township 52, Range 19, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP56.	512	16-Nov-06
S-140528	Sections 33 to 36, inclusive, Township 52, Range 19, west of the second meridian. Please note that this area may be subject to surface access restrictions as these lands are under EPP56.	1,024	16-Nov-06
S-140529 S-140530	Section 9 and the south half of Section 16, Township 52, Range 21, west of the second meridian The north half of LSD13 of Section 17 and the southwest quarter of Section 20, Township 52, Range 21, west of the second meridian	384 72	16-Nov-06 16-Nov-06
S-140531	Sections 25 to 27 and Sections 34 to 36, inclusive, Township 52, Range 23, west of the second meridian	1,536	16-Nov-06
S-140532	Sections 1 to 3 and Sections 10 to 12, inclusive, Township 54, Range 22, west of the second meridian	1,536	16-Nov-06
S-140533	Sections 4 to 9, inclusive, Township 54, Range 22, west of the second meridian	1,536	16-Nov-06
6-140534	Sections 15, 16, 21 and 22, inclusive, Township 54, Range 22, west of the second meridian	1,024	16-Nov-06
6-140556	All of Sections 1, 2 and 12, and those portions of Sections 11, 13 and 14 lying outside the boundary of the resort village of candle lake, Township 55, Range 22, west of the second meridian	1,250	20-Nov-06
8-140557	Sections 19 to 21, Sections 28 to 32 inclusive, and the west half and southeast quarter of Section 33, Township 55, Range 23, west of the second meridian excepting thereout and therefrom the Candle Lake Provincial Park	2,240	20-Nov-06
S-140558	The west half of Section 27 and the southwest quarter of Section 34, Township 55, Range 23, west of the second meridian	192	20-Nov-06
S-140559	Section 22 and the west half of Section 23, Township 55, Range 23, west of the second meridian excepting thereout and therefrom the resort village of Candle Lake	384	20-Nov-06
S-140560	Sections 6 and 7, Township 55, Range 23, west of the second meridian	512	20-Nov-06
S-140561	Sections 1 to 5 and Sections 8 to 12, inclusive, Township 55, Range 23, west of the second meridian	2,560	20-Nov-06
S-140562	Sections 14 to 17, inclusive, Township 55, Range 23, west of the second meridian	1,024	20-Nov-06
S-140563	The southwest quarter of Section 13, Township 55, Range 23, west of the second meridian	64	20-Nov-06
S-140564	Section 31 and the west half of Section 32, Township 54, Range 22, west of the second meridian	384	20-Nov-06
S-140565	Sections 28 and 33, Township 54, Range 22, west of the second meridian	512	20-Nov-06
S-140566	The east half of Section 32, Township 54, Range 22, west of the second meridian	128	20-Nov-06
S-140567	The southeast quarter of Section 29, Township 54, Range 22, west of the second meridian	64	20-Nov-06
S-140568	The southwest quarter of Section 29, Township 54, Range 22, west of the second meridian	64	20-Nov-06





Disposition Number	Location	Area (Ha)	Effective Date
S-140569	Sections 19 and 20, Township 54, Range 22, west of the second meridian	512	20-Nov-06
S-140570	Sections 22 to 27 and Sections 34 to 36, inclusive, Township 54, Range 23, west of the second meridian	2,304	20-Nov-06
S-140571	Sections 4 to 9 and Sections 16 to 18, inclusive, Township 54, Range 23, west of the second meridian	2,304	20-Nov-06
S-140572	Sections 1 to 3 and Sections 10 to 15, inclusive, Township 54, Range 23, west of the second meridian	2,304	20-Nov-06
S-140573	Sections 19 to 21 and Sections 28 to 33, inclusive, Township 53, Range 23, west of the second meridian	2,304	20-Nov-06
S-140574	Sections 22 to 27 and Sections 34 to 36, inclusive, Township 53, Range 23, west of the second meridian	2,304	20-Nov-06
S-140575	Sections 4 to 9 and Sections 16 to 18, inclusive, Township 53, Range 23, west of the second meridian	2,304	20-Nov-06
S-140576	Sections 1 to 3 and Sections 10 to 15, inclusive, Township 53, Range 23, west of the second meridian	2,304	20-Nov-06
S-140580 S-141870	The northwest quarter of Section 29, Township 54, Range 22, west of the second meridian The legal subdivision 13 of Section 23; the legal subdivision 15 and 16 of Section 22; the legal subdivision 4 and 5 of Section 26 and the southeast quarter of Section 27, Township 53, Range 22, west of the second meridian. Please note: there may be exploratory petroleum activity in this area.	64 144	8-Dec-06 19-Jul-07
S-141871	Sections 13, 14, 23 and 24, Township 53, Range 18, west of the second meridian. Please note: there may be exploratory petroleum activity in this area.	1,024	19-Jul-07
S-141872	Section 15, 16, 21 and 22, Township 53, Range 18, west of the second meridian. Please note: there may be exploratory petroleum activity in this area.	1,024	19-Jul-07
S-141873	The north halves of Section 25, 26, 27 and 28, Township 48, Range 20, west of the second meridian.	512	19-Jul-07
S-141874	All of Section 27 to 29 inclusive and all of Section 32 to 34 inclusive, Township 52, Range 21, west of the second meridian. Please note: there may be exploratory petroleum activity in this area.	1,536	19-Jul-07
S-141875	The west half of Section 25; all of Section 26 and 35; the west half of Section 36, Township 52, Range 21, west of the second meridian. Please note: there may be exploratory petroleum activity in this area.	768	19-Jul-07
S-141876	The legal subdivision 5 and 6; and the northwest quarter of Section 29, Township 53, Range 21, west of the second meridian. Please note: there may be exploratory petroleum activity in this area.	96	19-Jul-07
S-141877	The legal subdivisions 13 to 16 inclusive, Section 17; the legal subdivision 16, Section 18; the legal subdivision 1, Section 19 and the legal subdivisions 1 to 4 inclusive, Section 20, Township 53, Range 21, west of the second meridian. Please note: there may be exploratory petroleum activity in this area.	160	19-Jul-07
S-141878	The east half of Section 31, Township 53, Range 22, west of the third meridian.	128	19-Jul-07
S-141879	All of Section 18, Township 55, Range 23, west of the second meridian.	256	19-Jul-07
S-141880	The north half of Section 15, Township 51, Range 20, west of the second meridian. Please note: there may be exploratory petroleum activity in this area.	128	19-Jul-07
S-141881	All of Section 10, Township 55, Range 22, west of the second meridian. Excepting thereout and therefrom any areas contained within the resort village of Candle Lake.	44	19-Jul-07
S-142348	All of Sections 5 and 6, Township 53, Range 19, west of the second meridian.	512	19-Sep-07
S-142349	The northwest quarter of Section 7 and the west half of Section 18, Township 53, Range 19, west of the second meridian.	192	19-Sep-07
S-142350	All of Section 19, 30, and 31, Township 53, Range 19, west of the second meridian.	768	19-Sep-07
S-142351	The north halves of Sections 20 and 21, and all of Sections 28, 29, 32 and 33, Township 53, Range 19, west of the second meridian.	1,280	19-Sep-07
S-142352	All of Section 13, Township 53, Range 20, west of the second meridian.	256	19-Sep-07
S-142353	All of Sections 23 to 26 inclusive and all of Sections 35 and 36, Township 53, Range 20, west of the second meridian.	1,536	19-Sep-07
S-142354	All of Sections 27 and 34, Township 53, Range 20, west of the second meridian.	512	19-Sep-07
S-142355	The south half of Section 6, Township 54, Range 19, west of the second meridian.	128	19-Sep-07
S-142356	The northwest quarter of Section 6, Township 54, Range 19, west of the second meridian.	64	19-Sep-07
S-127109 S-127186	The southwest quarter of section 19, in township 49, range 19, west of the second meridian. The north half and legal subdivisions 5 to 8, inclusive, of section 13 and all of section 24, in	64 448	1-Jan-09
	township 49, range 20, west of the second meridian. Reduction of S-124569		11-Aug-08

Note: EPP = Environmental Protection Plan







Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report

Figure 4-1: Tenure Layout



Note: Orange: indicates Shore Gold's 100% owned mineral dispositions; Blue: indicates the FalC Joint Venture's mineral dispositions.

The perimeter of mineral disposition S-132039 was surveyed using a Trimble System 4800 G.P.S. on July 18, 2002 by George, Nicholson, Franko and Associates Ltd. of Saskatoon as part of the initial start-up work for the bulk sampling program.

Shore Gold also holds an interest in the Fort à la Corne (FalC) Joint Venture, which is partially contiguous with the Star Diamond Project (see Figure 4-1). The FalC Joint Venture is held by Kensington Resources Ltd. (a wholly-owned subsidiary of Shore Gold Inc as the operator; 60 percent) and Newmont Mining Corporation of Canada Limited (40 percent). Two of the mineral dispositions within the FalC Joint Venture are considered to be part of the Star Diamond project, namely S-127109 and S-127186 which lie to the north and west of S-132039 (Star). These two mineral dispositions are



part of grouped claim block GC#44961 within the FalC Joint Venture, and are included in Table 4-1, forming the last two rows of the table.

Each mineral disposition may be held for two years and thereafter from year to year subject to the holder expending the required amounts in exploration operations on the mineral disposition lands. There are no charges for the first year of the mineral disposition, but there is a 12 dollar per hectare fee for the second to tenth year and a 25 dollar per hectare fee for every year after. The Saskatchewan Ministry of Energy and Resources accepts assessment work as credit that can be substituted for annual fee payment.

Shore Gold has advised AMEC that sufficient exploration expenditures have been applied to date to ensure that the mineral dispositions within the main mineral disposition block, GC#45826, are protected for at least 17 years. For the Star West mineral dispositions, there is about \$242,000 of expenditure available to apply for protection of the mineral dispositions.

4.2.3 Surface Rights

The Crown retains all surface rights to the area of the mineral dispositions. However, the mineral dispositions over the project area provide Shore Gold with the access rights to explore the subsurface.

4.2.4 Net Profits Interests

The initial 15 claims (S-132025 to S-132039) were staked by a third party and were subsequently transferred to Shore Gold for consideration of a three percent net profit interest should the property achieve mineral production. Shore Gold Inc. has the option to purchase that three percent net profit interest for one million Canadian dollars. Seagrove Capital Corporation is the successor party holding the net profit interest.

4.2.5 Environment

A Preliminary Decommissioning Plan was submitted in 2007 which discussed all environmental liabilities recognized at that time for all activities conducted as part of the development of the Star Diamond Project. These activities included such things as the construction of access roads, drill pads, the dense media separator (DMS) plant, operations area, office trailers, exploration camp and the test shaft.





An estimated cost of \$831,435 to implement the activities outlined in the PDP and to address those recognized environmental liabilities was presented as a Preliminary Decommissioning Cost Estimate. The Preliminary Decommissioning Plan and Preliminary Decommissioning Cost Estimate were both reviewed and accepted by the Saskatchewan Ministry of Environment. At present, financial assurances to cover the 2007 Preliminary Decommissioning Cost Estimate for the Star Diamond Project have been posted as irrevocable standby letters-of-credit.

Shore Gold and the other members of the FalC Joint Venture have used a similar process to develop and arrive at a Preliminary Decommissioning Cost Estimate for the FalC Joint Venture portion of the Star Kimberlite. Financial assurances to cover the FalC Joint Venture have also been posted with the Government of Saskatchewan.

Environmental Considerations

The regulatory framework for the normal construction and operation of any exploration or mine site is subject to an ongoing process during which permits, licences and approvals are requested, reported, amended, expired, and renewed. This process occurs before and after the acceptance of the Environmental Impact Assessment. In addition, the environmental regulatory obligations will evolve as the project develops.

The primary regulatory authority over the Star Diamond Project currently resides with the Government of Saskatchewan. However there are some Federal departments which are considered to have jurisdiction over some aspects of the operation. In those situations where there is Federal involvement there is also coordination between the Federal and Provincial regulatory agencies (e.g. Human Resources Development Canada and Saskatchewan Labour), but each agency will retain its own responsibility for administering its own approvals, licences and permits where required. The main regulatory agencies that issue permits/approvals and inspect these operations are the Saskatchewan Ministry of Environment and the Mine Safety Unit of Saskatchewan Labour (in instances where there is underground mining).

Current Status

Currently, the project is conducted in accordance with the terms and conditions contained within the surface exploration permit and other permits that are required for its activities. Shore Gold has received the permits and approvals it needs to operate and conduct the associated advanced exploration activities. Shore Gold permits and their associated expiry dates that are related to the Star Diamond Project are:

- Surface Exploration Permit (# SEP-2009-03) March 31, 2009
- Approval to Operate Pollutant Control Facilities (# IO-235) July 31, 2011





- Aquatic Habitat Protection Permit March 31, 2009
- Forest Products Permit (# 1558G) March 31, 2009
- Surface Exploration Permit (# SEP-2009-03) March 31, 2009
- Temporary Work Camp Permit (# SG-TWCP-01-2009) March 31, 2009
- Approval to Operate Water Works (Saskatchewan Watershed Authority) (Permit numbers E3/3733 and E3/3791) – June 30, 2009

Development and Operation of Mine

Before project development can occur, an environmental assessment submission and Ministerial review will be required. The proposed development will likely undergo an environmental assessment to satisfy both the Saskatchewan Environmental Assessment Act and the Canadian Environmental Assessment Act. The Project will therefore likely need approval from both the Provincial and Federal governments before any individual departments can issue any permits, licenses, or authorizations relating to project construction and operation. The Provincial and Federal Environmental Assessment processes, if triggered, are coordinated by the Canada– Saskatchewan Agreement on Environmental Assessment Cooperation.

In Saskatchewan, the initial step in the Environmental Assessment process is to submit a project proposal or Notification of Project to the Saskatchewan Ministry of Environment. This Project Proposal will describe the proposed development (i.e. mine development) and discuss the potential impacts. The Saskatchewan Ministry of Environment and the Federal regulators will review this document and advise the proponent if an Environmental Assessment (including the development of an Environmental Impact Statement) is required. If an Environmental Assessment is required, Provincial and Federal regulators will develop project-specific guidelines that will have to be addressed in the Environmental Assessment. During the process, there will continue to be on-going licensing and permitting requirements for the operations.

After approval, there will be further conditions, which require a variety of further permits, licenses, authorizations, operating conditions, and/or other requirements at the federal, provincial and municipal regulatory levels. Under the Canadian Environmental Assessment Act one or more of the following federal departments and agencies could become involved in a federal review of this project, under the sponsorship of a "Responsible Authority" which could possibly be Environment Canada or Fisheries and Oceans Canada. The federal departments that may choose to be involved include:

- Department of Fisheries and Oceans (DFO)
- Indian and Northern Affairs Canada (INAC)





- Health Canada
- Environment Canada
- Transport Canada Navigable Waters Group
- Department of Natural Resources (for Explosives Permitting, Acid Rock Drainage and geological hazards).

At the present time, the environmental concerns that will need to be addressed in the environmental assessment of the project are:

- Changes to the groundwater flow system and the associated valued ecological components (VECs) due to dewatering of both the shallow and deep groundwater flow systems.
- Changes to fish habitat in both the adjacent creeks and Saskatchewan River related to the discharge of dewatering flows, changes in groundwater flow patterns and run-off/seepages from the processed kimberlite and waste rock storage areas.
- Changes to local wildlife populations and habitat including rare and listed species, if present.
- Processed kimberlite (fine and coarse fractions) and waste rock storage areas and the run-off from these areas.
- The upgrading of the access road and the associated construction of stream crossings along the proposed mine site access road.
- Extensions of gas and power lines from the existing grids to the project site.
- Manufacturing of explosives on site.
- Construction of water management structures.
- Potential slope stability issues along the wall between the open pit and the Saskatchewan River.



5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The project area is located 60 kilometres east of Prince Albert, Saskatchewan, and good access is provided by paved highways, a grid gravel road system and an extensive network of forestry roads, passable by four-wheel drive and high-clearance two-wheel drive vehicles all year round, extending into the Fort à la Corne Provincial Forest (refer to Figure 4-1). Provincial Highway 55 located to the north of the project area connects Prince Albert with several villages located directly north of Fort à la Corne to the town of Nipawin. Highway 6 runs north–south and is located to the east of Fort à la Corne.

The Star Kimberlite is situated to the north of the Saskatchewan River, which can be crossed at either Prince Albert to access the property from the west, or by a bridge north of Melfort (Wapiti) to access the area from the east.

5.2 Physiography and Climate

The Star Diamond Property comprises rolling glacial topography with sandy river sediments and is drained by numerous small tributaries running south towards the Saskatchewan River. Elevation varies from 360 metres to 450 metres above sea level. Much of the land surrounding the Fort à la Corne Provincial Forest has been cleared for agriculture; the forest itself comprises spruce, jack pine, and aspen. The climate in this region of Saskatchewan ranges from warm dry summers with temperatures as high as 35 degrees Celsius, averaging 23 degrees Celsius, to cold dry winters with minimum temperature of -35 degrees Celsius (averaging -11 degrees Celsius). Precipitation averages 405 millimetres annually. Because of the excellent access, work is possible on the property all year round.

5.3 Infrastructure, Water, Local Resources, and Current Land Use

Prince Albert is the main centre for a pool of skilled and unskilled mining personnel, with additional personnel available from the many towns in the area. Those towns have traditionally supplied miners to the Saskatchewan potash industry and to the gold and uranium mines located in northern Saskatchewan.

Current and future water supplies have been, and will continue to be, supplied by underground sources.





In terms of future power requirements, a 230 kV power line runs 9.6 kilometres south of the area and a second larger capacity 230 kV power line is located 21 kilometres to the east from the Nipawin Hydroelectric and E.B. Campbell Hydroelectric stations.

In addition, a SaskPower powerline connection from the main power grid is available from the town of Smeaton.

Telecommunications within the Fort à la Corne forest are currently available through a cell phone tower located approximately 5 kilometres to the south of the project area.

A weather station was established at the project site in 2006 for the collection of meteorological data to be used for baseline environmental studies. The data being collected consists of the following:

- Maximum and minimum temperature on a regular interval (every 15 minutes)
- Wind speed and direction
- Relative humidity
- Solar radiation
- Evaporation

All of the meteorological data are downloaded on a daily basis to a database managed by Shore Gold's Environmental department.

Shore Gold's main exploration camp, located within claim blocks #135767 and 135765 and approximately 12 kilometres northeast of the project site, was constructed and operational by August 2005 to provide accommodations for Shore Gold staff and its contractors. The camp consists of the following buildings:

- One 80 person building with kitchen, dining room, TV room and wash facilities
- Three Williams–Scotsman five-room bunk houses
- One Williams– Scotsman washroom–shower facility and attached laundry facility
- A recreation centre
- Generator set area
- Parking area.

Electricity to all buildings and bunkhouses in the main exploration camp is provided by two diesel power generator sets (125 kilovolt amperes and 300 kilovolt amperes). Utility water is pumped from local wells near the main exploration camp, and drinking water is trucked in regularly.

All diesel fuel utilized at both the project site and at the main exploration camp is purchased in the Prince Albert area and transported by fuel trucks.





6.0 HISTORY

Diamond exploration in Saskatchewan began as early as 1940 and exploration in the Fort à la Corne area began in 1988. Prior to 1996, no on-ground exploration for diamonds had been completed in the Star area. Regional airborne geophysical surveys, which identified possible targets for kimberlite exploration throughout the Fort à la Corne area, had been undertaken during the 1960s.

Shore Gold commenced exploration by flying a low-altitude helicopter-borne magnetic survey in 1996. Several magnetic anomalies were identified and prioritised. Follow-up ground magnetic surveys confirmed the presence of shallow, closed anomalies that could indicate kimberlites. Four anomalies were selected for initial drill testing in the northwest of the survey area in a large but generally weak, complex magnetic anomaly measuring 2 kilometres by 1.5 kilometres. Five core holes were subsequently completed and kimberlite was intercepted in four of the drill holes. In total, 184 diamonds were recovered from these holes, nine of which had at least one dimension greater than 0.5 millimetres and could therefore be classified as macrodiamonds.

During 1997, two vertical PQ core holes confirmed the presence of four stacked kimberlite zones and which was subsequently named the Star kimberlite. In 2000, 15 vertical NQ holes and one vertical PQ core hole were drilled. Pyroclastic kimberlitic material was intercepted. Core logging indicated that a major zone of dominantly medium- to coarse-grained kimberlites, resulting from an unknown number of eruptive centres, could be correlated over an area extending 1.5 kilometres north–south and one kilometre east–west. All of the drill holes completed during 2000 were diamondiferous.

Seven small diameter core holes were drilled in July and August 2001 to assist with delineation of the kimberlite pipe and to confirm the area proposed for bulk sampling. On program completion, Shore Gold undertook a single large diameter drill hole (LDD) reverse circulation (RC) drill hole to provide a mini-bulk sample.

During 2004, a second airborne geophysical survey was flown, to help identify kimberlites bodies with a low or no magnetic signature, and to provide additional information on those kimberlite bodies already identified by the existing regional magnetic airborne surveys. Eight NQ core holes were drilled to test the better of the geophysical anomalies, and to infill drill areas of the Star Kimberlite. In May 2005, and May 2006, Shore Gold contracted Spectrum Mapping Corporation (Spectrum) to fly two separate regional airborne laser surveys, to provide data for digital terrain elevation models.







Bulk sampling of a portion of the Star kimberlite body from a shaft and lateral drifts commenced in 2003, and continued to April 2007, in three phases:

- Phase 1 comprised site clearing and infrastructure development, diamond drilling of freeze holes required for the development of the shaft sinking program, shaft sinking, lateral development for the lateral drifts, underground drilling program and mining of about 25,000 tonnes of kimberlite.
- Phase 2 was designed to obtain at least an additional 15,000 dry tonnes of kimberlite batch samples from both the Early Joli Fou and Cantuar Kimberlites for diamond grade and diamond value estimation purposes.
- Phase 3 comprised additional large tonnage kimberlite batch samples from both the Pense and Cantuar Kimberlites for diamond grade and diamond value estimation purposes.

During various phases of the underground development, underground drilling was used to provide geological and geotechnical information to aid in directing the sill drifting for the bulk sample programme. A total of 213 BQ-size core holes were completed. A modular ten tonne per hour diamond recovery plant was constructed on site to treat the underground samples. A total of 279 underground batch samples, 59 mineral resource estimation (RE) samples and four geotechnical samples totalling 75,404 dry tonnes of kimberlite from the Star Kimberlite were processed through the process plant from January 26, 2004 to November 2007.

During the first quarter of 2005, Shore Gold commissioned four independent groups of diamond valuators based in Antwerp, Belgium to value the initial 3,050 carat diamond parcel recovered from its completed bulk sampling program on the Star Kimberlite. The 3,050 carat diamond parcel was examined by the following four companies:

- R. Steinmetz and Sons N.V. (R. Steinmetz)
- WWW International Diamond Consultants Limited (WWW)
- Rio Tinto Diamonds N.V. (Rio Tinto Diamonds)
- BHP Billiton Diamonds (Belgium) N.V.

On 23 February 2005, Shore announced that a sample value of US\$110 per carat was the average price of the valuations provided by the four companies and was based on the actual price that a diamond producer would have received for this parcel in Antwerp, Belgium at the time of the valuation.

In February 2006, Shore Gold commissioned a diamond valuation study by three companies: R. Steinmetz, Rio Tinto Diamonds, and WWW. The companies valued a parcel of 5,949.88 carats of diamonds from the underground bulk samples. The average of the valuations provided by the three companies for the total diamond parcel





was US\$102 per carat and was based on the actual price that a producer would have received for that parcel in Antwerp, Belgium.

During 2005–2007, a total of 153 PQ core holes and 39 HQ core holes were drilled from surface, to obtain geological, geotechnical and hydrological information for 3-D geological and resource modeling work. In the same time period, 90 large diameter drill holes (LDD holes), with hole diameters of 1.2 metres, were drilled to provide a mini-bulk sample. The LDD holes were drilled in order to obtain geological, diamond grade and diamond valuation information of the various kimberlite facies previously obtained from the surface core drilling programs.

As of October, 2007, a combined total of 10,861.16 carats of diamonds (greater than 0.85 millimetres) had been recovered from a total of 75,404.87 dry tonnes of kimberlite processed through Shore Gold's batch sampling process plant. This material was derived from the Star Kimberlite within Shore Gold's 100 percent-owned ground and the FalC Joint Venture's Star West large-scale bulk sampling programs (see Table 6-1) and includes the underground batches along with smaller RE, geotechnical samples and surface stockpile clean-up piles.

 Table 6-1: Combined Production and Sample Results for Star Kimberlite and Star West

 Kimberlite, from Star Underground, RE, Geotechnical and Surface Stockpile

 Clean-up Piles

Property	Metric Tonnes processed (dry)	Total Number of Stones	Total Carats	Cpt	Cpht
Star Kimberlite (Shore Gold)	71,070.04	78,967	10,100.36	0.14	14.21
Star West (FalC Joint Venture)	4,334.83	3,514	760.75	0.18	17.55
Total	75,404.87	82,481	10,861.12	0.144	14.40

Note: RE = resource estimate sample





7.0 GEOLOGICAL SETTING

7.1 Regional Geology

The property lies near the northeastern edge of a major zone of Phanerozoic rocks, termed the Interior Platform, which extend from the Rocky Mountains in the west to the Precambrian Canadian Shield to the northeast, close to Lac La Ronge. The non-metamorphosed sedimentary rocks of the Interior Platform unconformably overlie the metamorphic basement rocks in the project area. The Interior Platform sedimentary rocks exceed 600 metres in thickness, reaching 1,000 metres in the northwest part of the property. The immediately underlying basement rocks are of Proterozoic age and are interpreted to form part of the Glennie Domain of the Churchill Province of the Canadian Shield. This poorly-exposed zone crops out east of La Ronge, where it comprises highly metamorphosed volcanic belts within gneissic and granitoid terrains, and lower grade metasedimentary formations. The highly-metamorphosed sequences occur in a broad anticlinorium plunging to the northeast. The Proterozoic assemblage is interpreted to have been emplaced tectonically onto Archaean Superior Province rocks.

As a result of field mapping, radiometric age determinations, and lithoprobe surveys conducted in the area, Chiarenzelli et al. (1997) suggested that the Glennie Domain overlies the apex of a largely buried Archaean micro-continent named the Sask Craton. The Sask Craton may have provided the thick lithospheric keel required for diamonds to remain stable prior to the eruption of the kimberlites.

The Phanerozoic cover consists of a 450 metre-thick basal unit of Cambro–Ordovician dolomitic carbonate rocks and clastic sedimentary rocks, succeeded by 170 metres of Cretaceous shales and sandstones. The entire project area is overlain by Quaternary glacial deposits ranging from 40 metres thickness close to the Saskatchewan River to as thick as 120 metres elsewhere.

Figure 7-1 illustrates the regional and local geological setting of the area, and Figure 7-2 summarizes the local stratigraphic column in east–central Saskatchewan.

The sedimentary formations dip gently to the south-southwest bringing progressively younger strata into contact with the Quaternary glacial till towards the southwest (Figure 7-1). In the Fort à la Corne area, Cretaceous rocks comprise four distinct formational units (see Table 7-1; Figure 7-2).





Table 7-1:	Cretaceous-age I	Rocks
------------	------------------	-------

Age	Group/Formation
Campanian	Montana Group, Lea Park Formation (shales and sandstones)
Cenomanian	Upper Colorado Group, Favel Formation (Second White Speckled Shale)
Albian	Lower Colorado Group, Ashville Formation (shales and sandstones)
Albian	Mannville Group, Swan River Formation (marine sandstones and shales)

Note: Rock units are arranged in descending order, from southwest to northeast.



Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report



Figure 7-1: Regional Geology

Note: Figure courtesy Shore Gold Inc.



amed





Figure 7-2: Schematic Stratigraphic Column of the Fort à la Corne Area

Note: Figure from Leroux, 2008

Several different cratonic blocks are distinguished beneath the Phanerozoic cover by regional geophysics, including a block extending north-northeast from Saskatoon to Prince Albert. The eastern margin of this block coincides with an extensive structural feature, termed the Shaunavon linear, which is intersected to the northeast of Saskatoon by a major, northwest-trending, branching crustal structure, the Punnichy Arch. This structure was active at the end of deposition of the late Albian Mannville Group and may have continued uplifting subsequent to the Albian. A parallel structure, termed the Molanosa Arch, occurs to the northwest.

7.2 Fort à la Corne Area

In the Fort à la Corne area, a northwest-trending kimberlite province some 50 kilometres long by 30 kilometres wide has been identified close to the eastern margin of the basement block west of the Shaunavon linear. The kimberlites have clearly defined magnetic anomaly signatures within a quiet background. Some 69 kimberlitic bodies have been drilled to date, distributed along at least three distinct linear trends (Figure 7-1). The majority of the kimberlite bodies discovered to date occur in the extensive central zone. The Fort à la Corne kimberlite province is equal in size to the world's largest known diamondiferous field at Markha–Alakit in Yakutia, but the number of kimberlitic bodies drilled or interpreted from their magnetic signature is greater than the totals in known fields around the world (Strnad, 1992).



The kimberlite bodies of the Fort à la Corne kimberlite province occur as stacked, subhorizontal lenses or shallow zones of crater facies kimberlite of large lateral extent. While both hypotyssal and volcaniclastic kimberlitic facies have been intersected by drilling, their inter-relationship is not well known. It is possible that the former represent either late stage pulses or even xenolithic blocks. By far, the more important occurrences discovered to date comprise crater facies volcaniclastic kimberlites emplaced into Cretaceous marine, lacustrine and subaerial volcanic rocks laid down in, or along, a shallow, epi-continental sea. The main volcaniclastic kimberlite deposits were preceded by smaller kimberlite bodies comprising conformable, graded beds of pyroclastic fall debris as much as 40 metres thick, indicative of subaerial eruption onto Albian (Middle Cretaceous) floodplains, intertidal zones, or lakes. Subsequently, larger, shallow craters were excavated in poorly-consolidated marine shales under subaerial to shallow marine conditions and backfilled with pyroclastic sediments forming multiply-graded kimberlitic beds. Kimberlitic pyroclastic flows erupted at the time of crater excavation produced kimberlitic ignimbrites that are preserved as aprons around the craters that extend several kilometres from the craters. Contact angles of the kimberlite with the surrounding country rocks can range from 90 degrees to zero degrees depending on whether the contact is in the pipe or in the outflow pyroclastic deposits.

The "classical champagne-glass" shaped morphologies typically associated with Fort à la Corne kimberlite bodies represent the explosive emplacement of kimberlite material within sequences of poorly consolidated sediments (Scott Smith et al., 1994). Geophysical modeling suggests that the areal extent of the individual kimberlitic bodies in the FalC kimberlite province range from 2.7 hectares to over 300 hectares. The total mass of kimberlite in the FalC kimberlite province is estimated to be close to 10 billion tonnes (Jellicoe et al., 1998). Historical information released by the FalC Joint Venture reported diamonds in excess of one carat in mini-bulk samples collected by large diameter RC drilling in the Orion South kimberlite complex (Leroux, 2008a).

Continued sedimentation during the Late Cretaceous buried the kimberlites. These cover rocks were largely removed by glaciation, essentially to the level of kimberlite emplacement. It has not been determined whether significant erosion of kimberlites occurred in the Fort à la Corne area. However, the majority of bodies drilled to date by both the FalC Joint Venture and Shore Gold lie just below the till/bedrock interface. Kimberlites discovered by De Beers in 1988, and later by Corona Corporation at Sturgeon Lake, 30 km northwest of Prince Albert, have no recognisable aeromagnetic signature and are regarded to be rootless, ice-thrust rafts or erratics of kimberlite indicating erosion of a possibly later suite of kimberlites.





7.3 Property Geological Setting

The Star Kimberlite was deposited within and cross-cut Cretaceous age sedimentary rocks of the Lower Colorado and Mannville Groups (Figure 7-2) which conformably overlie Palaeozoic limestone and dolomitic limestone. Glacial overburden thickness ranges from 90 metres to 130 metres in thickness. Parts of the Star Kimberlite were emplaced contemporaneously with Mannville and Lower Colorado sedimentary rocks. However, the major portion of the Star Kimberlite is interpreted to have erupted through the Mannville and onto early parts of the Lower Colorado Group sediments. The local Lower Colorado and Mannville Contact is located approximately 160 metres below ground level (BGL). The Mannville Group and Palaeozoic contact lies approximately 340 metres BGL as interpreted from a few of the existing Shore Gold drill holes.

7.3.1 Geology of the Star Kimberlite

Based on the historical and current surface core drilling and underground mapping of the various kimberlite phases encountered from Shore Gold's underground bulk sampling program, the Star Kimberlite consists of two distinct types of kimberlite: 1) eruptive kimberlite phases and 2) kimberlitic sediments. Eruptive kimberlite deposits at Star are sub-divided into five main kimberlite phases each with distinct physical and chemical properties that permit their mapping and stratigraphic correlation in three dimensions (Harvey at al., 2006):

- 1. Late Joli Fou Kimberlite (LJF)
- 2. Mid Joli Fou Kimberlite (MJF)
- 3. Early Joli Fou Kimberlite (EJF)
- 4. Pense Kimberlite (PPK)
- 5. Cantuar Kimberlite (CPK)

Eruptive Kimberlite Phases – Star Kimberlite

The oldest kimberlites in the Star Kimberlite complex are hosted by Cantuar Formation sandstone, siltstone, and mudstone and are thus termed Cantuar-aged kimberlites (CPK). CPK occurs as three and possibly four kimberlitic ignimbrites and pyroclastic fall deposits that are thin (less than 40 metres and generally less than 20 metres), sheet-like deposits within the Cantuar Formation (Figure 7-3 and Figure 7-4). CPK occurs as two end members: matrix-supported pyroclastic kimberlite primarily occurs to the north, and clast-supported pyroclastic kimberlite and kimberlite breccia to the south. This unit is characterized by the ubiquitous presence of small (1–4 millimetres) clinopyroxene xenocrysts and relatively common mantle xenoliths. CPK is variably





fine- to medium-grained and is bedded at the 1–5 metre scale, although massive beds do occur. Rare fine-grained, reworked equivalents are present and locally display cross-bedding features.

Two potential Cantuar-age kimberlites occur as spatially-restricted feeder vents with shapes similar to classic South African carrot-shaped pipes, on the southern portion of the Star Kimberlite. These pipes occur to the south of the Star Kimberlite; they crosscut older Cantuar kimberlites and are, in turn, cut by Early Joli Fou Kimberlite. The main vertical feeder vents are less than 150 metres in width, with edges bounded by the Cantuar Formation and at depth by Devonian-age carbonates (dolomites). Near the margins of the vent, Cantuar Formation xenoliths, with highly variable bedding angles, commonly occur. The unit is tightly clast-supported and is dominated by juvenile lapilli with an overall medium to coarse-grained texture. Four metre to 40 metre-thick beds are observed, with the contact relationships defined by the gradual change in grain size.

Pense Kimberlite (PPK) is restricted to the central and northeastern portion (Figure 7-3) of the Star Kimberlite. In the east, PPK is deposited directly on Pense sandstone and, locally, on Pense mudstone (Zonneveld et al., 2003). In the southwest, PPK appears to sit directly on Cantuar Formation, indicating either scouring into the older Cantuar rocks and/or previous erosion/denudation of the Pense sandstone. PPK is densely clast-supported and, in the coarser-grained varieties, is characterized by the relative abundance of ilmenite megacrysts and the sub-equal abundance of armoured juvenile lapilli (typically cored by olivine macrocrysts) and 0.5 centimetres to seven centimetre olivine macrocrysts. The large olivine macrocrysts, typically 0.5-1.5 centimetres in size, commonly contain small garnet intergrowths and are thus interpreted to be micro-eclogite xenoliths. PPK is composed of fine to very coarse-grained pyroclastic kimberlite with very rare breccia units. PPK is generally bedded on the 15 metre scale, although fine laminations are observed in very fine-grained varieties. Cross-bedded, well sorted, fine- to medium-grained olivine enriched kimberlite sandstone is observed locally.

The volumetrically most important eruptive phase, the Early Joli Fou Kimberlite (EJF), is widespread, with the thickest intersections located towards the western portion of the Star Kimberlite (Figure 7-3 and Figure 7-4). Distal deposits of EJF sit directly on Lower Joli Fou shale (Spinney Hill Member) and are interpreted as Joli Fou-age equivalent.





Figure 7-3: Plan View, Star Kimberlite



B. LATE JOLI FOU

Note: Figure from Harvey et al., (2006).

Red line denotes approximation of claim boundary. Fort à la Corne Joint Venture property is to the north and west. Shore property is to the southeast.

A.) Drill hole locations and EM outline which closely approximates of 0 metre kimberlite edge. Lines A–A' and B–B' in Figure 7-3a show the location of the cross-sections that is included as Figure 7-4. (Note that in Figure 7-3b–f holes which contain eruptive phase are shown in solid blue).

B.) Known extent of the Late Joli Fouequivalent kimberlite.

C.) Preserved extent of the Mid Joli Fou-equivalent kimberlite.

D.) Preserved extent of the Early Joli Fou-equivalent kimberlite. Note the area to the west where the kimberlite has been removed by subsequent Mid/Late Joli Fou Kimberlite eruption.

E.) Defined extent of the Penseequivalent kimberlite.

F.) Extent of the Cantuar-equivalent kimberlite phases within the Star Kimberlite complex. Note the removal of Cantuar Kimberlite by subsequent eruptions (particularly the Early Joli Fou Kimberlite which has scoured troughs of kimberlite through the Cantuar Kimberlite towards the northeast and the southeast. Note that holes shown in red did not drill to a sufficient depth to verify presence of Cantuar Kimberlite.

E. PENSE KIMBERLITE







Figure 7-4: Cross-section, Star Kimberlite

Note: Cross-sections across the western portion of the Star Kimberlite illustrating the host Cretaceous sedimentary rocks and the relationship with distinct kimberlite eruptive phases, reworked equivalents and relatively young marine reworked kimberlitic sediments. Top: section A–A' is along the axis of a trough of thickened Early Joli Fou Kimberlite which appears to have scoured into earlier deposited kimberlite phases, perhaps the result of a southeasterly, laterally-directed eruptive blast. Bottom: section B–B' running along the partially preserved Early Joli Fou Kimberlite feeder vent. Figure from Harvey et al. (2006).





This kimberlite is also observed to sit directly on older Pense and Cantuar Kimberlite phases. In the vicinity of the vent area to the west, the kimberlite is in direct contact with the Cantuar Formation and the Devonian Carbonate at depth (Figure 7-3 and Figure 7-4). EJF is clast-supported and dominated by olivine crystals with rare juvenile lapilli. Mantle derived xenocrysts and xenoliths are relatively common in this unit. Fining-upward beds dominate and commonly occur as 1–5 metres thick (up to 15 metres thick) lithic-rich breccia bases overlain by a xenolith-poor tuffaceous kimberlite. Contacts are represented by an abrupt change in grain-size with rare planar sharp varieties.

EJF consists of pyroclastic crater fill as well as pyroclastic flow and fall deposits outside the crater. The character of the two types of deposits is similar. Star is somewhat unique in that pyroclastic kimberlite outside the crater can be confidently correlated to crater-filling kimberlite. The crater fill, near the center of the crater, consists of two kimberlite facies (Table 7-2); PK, which is typical pyroclastic EJF, and KB, which is coarse kimberlite breccia. KB appears to comprise about 30 percent of the core of the crater fill and generally has a higher diamond concentration than PK. A younger cross-cutting kimberlite eruptive phase, referred to as the Mid Joli Fou Kimberlite (MJF; Kjarsgaard et al., 2005) is areally restricted to the western portion of Star (Figure 7-3 and Figure 7-4). MJF erupted through the older EJF as evidenced by rarely preserved xenoliths of EJF. MJF has some similarities to the EJF but has a distinct matrix-supported texture, fewer indicator minerals, appears to be very poorly sorted, and is generally massive to weakly bedded.

The youngest kimberlite eruptive event at Star, referred to as the Late Joli Fou Kimberlite (LJF), is confined to the northern and northeastern portion of the Star Kimberlite and generally forms a thin veneer, deposited on older EJF and MJF. LJF has many similarities to the MJF but is generally finer grained, more massive, and has the ubiquitous presence of small (0.5–50 millimetre) shale clasts. The relationship between MJF and LJF remains ambiguous; however, LJF may represent a finer grained remobilized version of the MJF that slumped or flowed into the marginal marine sedimentary environment incorporating poorly consolidated mudstone material. A sub-unit of LJF is identified based on the distinct increase in the shale clast content and weak development of sub-horizontal bedding planes.

Upper Kimberlitic Sediments

Sitting directly on LJF, or locally within the overlying shale sequence, are two main kimberlitic sedimentary units (Figure 7-4). Directly above LJF there is the typical development of kimberlitic sandstone with common to abundant shale blocks between 0.1 metres and 5 metres in size. In general, the shale blocks appear to be massive





and in sharp contact with the host kimberlitic sandstone. A distinct fining-upward sequence of kimberlitic sandstone that grades into a kimberlitic siltstone and finally a calcareous light grey to white siltstone rests directly on the shale block-rich kimberlitic sandstone and is more rarely separated by thick 2–10 metre beds of shale. Another fine-grained kimberlite sandstone horizon located ubiquitously 6–8 metres above the fining-upward unit is a distinct marker horizon (Kjarsgaard et al., 2006) over most of the kimberlite. This surface is a close approximation to the Viking–Westgate contact. Two to four metres below this bed, a 1–3 centimetre heavy mineral lag deposit is present in many of the core holes. This lag deposit may represent a transgressive erosion surface (Zonneveld et al., 2003). The geometric position of the above-described kimberlitic sedimentary sequences is intriguing, as their relative elevation rises above the thicker portion of the kimberlite complex in the western vent area (Figure 7-4) suggesting that they may be related to kimberlites younger than the Star Kimberlite. From the periphery of the kimberlite to the thickest portions the units rise in elevation by as much as 30 metres.

7.3.2 Geological Description – Star Kimberlite Stratigraphy

Prior to the start of the Phase 2 and Phase 3 work programs, the various kimberlitic phases found within the Star Kimberlite were classified as crater-facies pyroclastic kimberlite, although a number of kimberlitic lithofacies may be distinguished according to grain size, style, alteration, abundance and presence of olivine macrocrysts. These lithofacies were sub-divided into two broad groups; the first was described as in-situ pyroclastic kimberlite and the second; reworked volcaniclastic kimberlite.

Shore Gold developed a new geological nomenclature and core logging system prior to the commencement of the advanced exploration program. Major kimberlitic stratigraphic units, sub-units and major rock types were defined based on the descriptive nature and quantitative data capture of size classification of various megacrystic, xenocrystic–xenolithic components, and matrix types. This new geological nomenclature and data capture system allowed Shore Gold geologists to determine and/or interpret the following (Table 7-2):

- Different kimberlite units (phases) and sub-units which may have variable grades and diamond values
- Determine dilution factors in microdiamond sampling programs
- Waste models (i.e. internal dilution).





Eruptive Phase or Kimberlitic Sediment	Historical Kimberlite Rock Type Nomenclature	Revised Kimberlite Rock Type Nomenclature
Eruptive	Macrocrystic kimberlite (MK)	Pyroclastic kimberlite (PK) (defined as <15%vol. of +10mm lithic fragments)
	Altered very fine grained pyroclastic kimberlite (ALT PK)	
	Altered fine grained kimberlite (ALT CK)	
	Volcaniclastic kimberlite breccia (VKB)	Kimberlite breccia (KB) (defined as >15 to <65% vol. of +10 mm lithic fragments).
	Kimberlitic mudstone (KMST)	Kimberlitic siltstone (KSTST) or Kimberlitic sandstone (KSST)
Kimberlitic sediment (resedimented syn- eruptive or volcanogenic	Reworked volcaniclastic kimberlite intermixed with terrigenous material (RVK/KMST)	Re-sedimented volcaniclastic kimberlite (RVK)
sedimentary deposits)	Reworked volcanic kimberlites with a fine-grained tuffaceous kimberlitic appearance (RVK/TK)	

Table 7-2: Comparison of Historical and Current Geological Nomenclature

7.3.3 3-D Geological Model – Star Kimberlite

On 17 October 2006, Shore Gold disclosed the results of a preliminary 3-D geological model of the Star Kimberlite. The 3-D geological model was compiled from surface and underground drill information combined with 1,050 density measurements. Based on the available core drilling and information collected from the Star Kimberlite (as of 17 October 2006), the 3-D geological model estimated that the Star Kimberlite contained a total of 275.80 million tonnes of kimberlite. The geological model included the total of the Star Kimberlite being both that portion of the Star Kimberlite on Shore Gold's 100 percent-owned property and Star West—the portion of the Star Kimberlite that falls within the Fort à la Corne Joint Venture. This tonnage estimate is not current and is reported here for historical purposes only.

In November 2007, utilizing an additional 157 surface and underground holes, the 3-D geological model was updated. Many of the holes were infill holes. Some of the holes were drilled along the edge of, and angled into, a north–northwest-trending ravine which cross-cuts the Star property. Also included were an additional 1,635 density measurements.

Three-dimensional geological models were constructed for all kimberlite phases above an elevation of 71 metres above sea level, which corresponds to a depth of approximately 350 metres below the current ground surface. Limited deep drilling




restricts modeling of the Star Kimberlite to that level. A three-dimensional view of the Star Kimberlite geological model is included as Figure 7-5.

The geological model was compiled using Gemcom software by a team of geologists from Shore Gold together with personnel from consulting companies A.C.A. Howe and SRK Consulting. Table 7-3 summarizes the drill hole and density statistics used to compile the model. The drill hole spacing is usually 100 metres in the central, thick part (greater than 50 metres) of the kimberlite and 200 metres in the thinner (less than 50 metres) periphery portions of the kimberlite.





Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report





Note: North–northeastern view of the Star Kimberlite. Red: EJF Kimberlite; Dark Blue: Pense Kimberlite; Light Red: LJF Kimberlite; Magenta: LJF-Slump; Green: Kimberlite Debris Flow; Light Blue: kimberlite from body 134. (Note: Cantuar and MJF not visible in this view)





Table 7-3: Core hole Statistics for the October 2007 Star K	imberlite 3-D Geological
Model	

Drill hole Group	Number of Holes	Total Metres Drilled	Number of Density Measurements
Star Surface Drilling (STAR-, SPF-series, SND-series)	234	55,433	2,220
Star Underground Drilling (UG-series)	213	16,863	0
Star West Surface Drilling (FalC Joint Venture STR-05 and STR-06-series)	32	8,440	465
Total	479	80,736	2,685





8.0 DEPOSIT TYPES

8.1 Overview of Primary Diamond Deposits

Primary diamond deposits such as kimberlites and lamproites have produced over 50 percent of the world's diamonds. The remainder was derived from recent to ancient placer deposits that have been derived from the erosion of kimberlite and/or lamproite. Although diamondiferous kimberlite and lamproite comprise most of the economic diamond deposits, other diamond-bearing rocks have also been discovered and are the subject of numerous academic papers. Such diamond-bearing rocks include ultramafic lamprophyres (aillikites) in Canada and volcaniclastic komatiites in French Guiana (Capdevila et al. 1999). It has been established by the scientific community that diamonds are not genetically related to kimberlite or lamproite but that kimberlite and lamproite serve as a transport mechanism for bringing diamonds to surface (Kirkley et al. 1991) from the mantle.

Clifford (1966) and Janse (1991) stated that a majority of economic diamondiferous kimberlites occur in stable Archaean age cratonic material that has not undergone any thermal or deformational event since 2.5 Ga. Such Archaean age cratons include the Kaapvaal, Congo and West African cratons in Africa, Superior and Slave Provinces in Canada, East European Craton (Russia, Finland), and the Western, Northern and South Australian cratons. The only exceptions to date are the Argyle and Ellendale Mines of Australia, which occur in Proterozoic-age remobilized cratonic material.

To date, over 6,000 known kimberlite and lamproite occurrences have been discovered, of which over 1,000 are diamondiferous. Some of the well-known diamondiferous kimberlites/lamproites currently being mined include Argyle (lamproite) in Australia; Orapa and Jwaneng (kimberlite) in Botswana; Jubilee, Udachnaya and Mir (kimberlites) in Russia; Venetia (kimberlite) in South Africa, and Ekati and Diavik (kimberlite) in Canada.

Economic diamond kimberlite and/or lamproite pipes range from less than 0.4 ha in size to 146 hectares with the maximum size being + 200 hectares (for example, Catoca, Angola). Diamond grades can range from 3.5 carats per hundred metric tonnes to 600 carats per hundred metric tonnes.

8.2 Kimberlite-hosted Deposits

The following discussion of kimberlite types and deposits is taken directly from a publication on ore deposit models by Mitchell (1991).





Kimberlites remain the principal source of primary diamonds despite the discovery of high-grade deposits in lamproites. Recent mineralogical and Nd–Sr isotopic studies have shown that two varieties of kimberlite exist:

- Group 1 or olivine-rich monticellite serpentine calcite kimberlites
- Group 2 or micaceous kimberlites (predominantly occur in southern Africa).

8.2.1 Group 1 Kimberlites

"Group 1" kimberlites are complex hybrid rocks consisting of minerals that may be derived from (1) the fragmentation of upper mantle xenoliths (including diamond), (2) the megacryst or discrete nodule suite, and (3) the primary phenocrysts and groundmass minerals. The contribution to the overall mineralogy from each source varies widely and significantly influences the petrographic character of the rocks. Consequently, Group 1 kimberlites comprise a petrological clan of rocks that exhibit wide differences in appearance and mineralogy as a consequence of the above variation, coupled with differentiation and diverse styles of emplacement of the magma" (Mitchell, 1991).

Figure 8-1 illustrates an idealized South African kimberlite magmatic system, showing the relationships between effusive rocks, diatremes, and hypabyssal rocks. Currently, three textural–genetic groups of kimberlite are recognized, each being associated with a particular style of magmatic activity in such a system. These are:

- crater facies
- diatreme facies
- hypabyssal facies.

Rocks belonging to each facies differ in their petrology and primary mineralogy, but may contain similar xenocrystal and megacrystal assemblages (Mitchell, 1991).

With a few exceptions such as the Finsch Kimberlite Mine in the Republic of South Africa and the Dokolwayo Kimberlite Mine in Swaziland, most of the well-known diamondiferous kimberlite in South Africa and elsewhere are Group 1 kimberlites. Fort à la Corne kimberlites are considered to be Group 1 kimberlites.

8.3 Fort à la Corne Kimberlite Model

Unlike the idealized South African carrot-shaped kimberlite model, the majority of the Fort à la Corne kimberlites are mainly shallow champagne glass-shaped kimberlite pipes that have kimberlite footprints as wide as 2,000 metres and occur at depths from approximately 100 metres to greater than 350 metres.





Figure 8-1: Idealized Model, South African Kimberlite Pipe

At depth, however, Fort à la Corne kimberlites may resemble the idealized South African model. The lack of deep drilling precludes interpretation of the shape of the kimberlites below about 350 metres below the current ground surface. Fort à la Corne kimberlites were emplaced into poorly consolidated Cretaceous-age clastic and marine sedimentary rocks.

The Fort à la Corne kimberlites are generally interpreted to be in the form of stacked, sub horizontal lenses or shallow zones of crater facies kimberlite with associated pyroclastic flow and fall deposits of large lateral extent. The kimberlite phases were





originally classified entirely as crater-facies pyroclastic kimberlite, though a number of kimberlitic phases may be distinguished according to grain size, style of emplacement, primary and chemical alteration and the abundance and presence of olivine macrocrysts.





9.0 MINERALIZATION

Diamonds at the Star Diamond Project are associated with the various kimberlites discussed in Section 6.0.

Through successive diamond drill hole programs, the Star Kimberlite has been drilldelineated over a surface area of over 1.5 square kilometres (or over 225 hectares); making it one of the largest diamondiferous kimberlites discovered to date in the world. The Star Kimberlite extends to a depth of at least 699 metres below ground level (STR-05-003C) and has been explored to 600 metres in vertical extent.

The depth extent of the feeder remains open. The lateral extent of the pyroclastic flow and fall deposits is open towards the north with vertical kimberlite intersections tapering off to between 10 metres and 20 metres. The remainder of the kimberlite edge has been documented by drill intersections.

To date, all the major kimberlite phases of the Star Kimberlite have been found to include both microdiamonds and macrodiamonds. Details of the underground bulk sampling and LDD mini-bulk sampling program show that a range of diamond sizes and quality have been recovered from every facies of the Star Kimberlite.





10.0 EXPLORATION

Exploration completed to 2007 is shown in Table 10-1.

10.1 Grids and Surveys

All survey data are reported to the NAD 27 Zone 13 grid.

In May 2005 and May 2006, Shore Gold contracted Spectrum to fly two separate regional airborne laser surveys (light detection and ranging system or LIDAR) and digital camera surveys covering a 324 km² area over the core group of mineral dispositions (GC#45523) surrounding the Star Kimberlite and those surrounding the major part of the Fort à la Corne kimberlite field to accurately define a digital terrain/elevation model. Figure 10-1 shows the location of the survey.

10.2 Geological Mapping

During the entire underground bulk sampling program, geological mapping on both drift walls and faces was undertaken on a daily basis, following each of the drift developments.

10.3 Geophysics

10.3.1 Airborne Geophysics

Shore Gold commenced exploration in 1996 in the north–central part of claim block GC#45523 (as it was identified in 1996) with a low altitude helicopter-borne magnetic survey flown by High-Sense Geophysics Ltd. (High Sense) of Toronto, Ontario. The helicopter-borne magnetic survey was flown at 100 metre line spacing in an east–west direction in order to confirm and further define aeromagnetic features defined by circa 1960s airborne surveys. In total, 614.5 line kilometres were flown. Several magnetic anomalies were identified and prioritised for follow-up ground geophysics.

In May 2004, Shore Gold contracted Fugro Airborne Surveys Limited (Fugro) to fly a regional GeoTEM 1000® (electromagnetic) airborne survey over the core group of mineral dispositions (GC#45523) surrounding the Star Kimberlite and those surrounding the major part of the Fort à la Corne kimberlite field (Figure 10-2). Shore Gold used this survey to help identify kimberlites bodies with low or no magnetic signature, and to provide additional information on those kimberlite bodies previously identified by existing regional magnetic airborne surveys. In total, 1,231 line kilometres were completed.





Year	Exploration Activity
1996–1998	-Aeromagnetic surveys
	-Diamond drilling (7 holes)
	-Microdiamond analysis.
2000	-Diamond drilling (16 holes)
	-Microdiamond analysis.
2000–2001	-Diamond drilling (7 holes)
	-Microdiamond analysis
	-Airborne geophysics re-interpretation.
2001	-Petrographic studies
	-Diamond drilling (7 holes)
	-Microdiamond analysis
	-Large diameter (24 inch) reverse circulation drill program (Star 31 RC)
	-Sample processing (split sample: De Beers Canada's Grande Prairie Processing
	Facility; Lakefield Research).
2002–2003	-Bulk rock and multi-element lithogeochemistry work (Targeted Geoscience Initiative
	or TGI)
	-2-D and 3-D seismic surveys
	-TGI borehole geophysics survey
	-TGI geochronology
	-Petrographic studies
	-Borehole collar surveying
	-Detailed core logging and re-interpretation studies
	-Initial bulk sampling work program (permitting, pilot hole drilling, etc.)
2003–2004	-Regional airborne GeoTEM survey
	-Diamond drilling (8 holes)
2003–2005	-Underground bulk sampling program
	site set-up
	process plant construction and commissioning
	shaft sinking, lateral drift developments 175 m and 235 m levels
	underground geological mapping and surveying
	sample processing
	underground diamond drilling
	-Bulk sampling results of Phase 1 program
	-Diamond valuation of 3,050 carat parcel.
2005–December 2007	-Underground bulk sampling program
	lateral drift development 235 m and 215 m levels
	underground geological mapping and surveying
	sample processing
	16,000 m underground diamond drilling
	-Bulk sampling results of Phase 2 and 3 programs
	-Diamond valuation of 5,950 carat parcel
	-Airborne geophysical and laser surveys
	-95 Large-diameter mini-bulk sample holes
	-45,000 m of surface core drilling







Figure 10-1: Airborne LIDAR Survey

Note: figure courtesy Shore Gold Inc.







Figure 10-2: GeoTEM Survey

Note: GeoTEM survey boundaries shown on plan in light green. Figure courtesy Shore Gold





Interpretation and final processing of the GeoTEM survey was carried out by Jovan Silic Ph.D. of Flagstaff GeoConsultants (JSA Pty Ltd.).

The purpose of the survey was to detect resistive bodies that might be potential kimberlites set amongst conductive sediments and/or overburden. The analysis of GeoTEM data has shown that all the known kimberlites within the Shore Gold survey area are identifiable by this airborne geophysical method. Where known kimberlite bodies occur, the GeoTEM survey maps out a resistive body with a larger surface area than may be inferred from the magnetic data. In many cases, this identification required detailed interpretation and inversion of the GeoTEM data. The depth of penetration limit of the GeoTEM system is estimated to be 250 metres.

The analysis of GeoTEM data also identified a number of potential anomalies located outside Shore Gold's core group of mineral dispositions (GC#45523) at, or close to, the boundary between the resistive glacial cover and the very conductive mudstones. A number of these targets may be associated with small and subtle magnetic anomalies (some of which had already been identified in the original magnetic surveys) whose source may be within the glacial cover and/or the sedimentary sequence.

Interpretation of the results of the GeoTEM airborne data overlying and adjacent to the Star Kimberlite over Shore Gold's claim group #GC45523 suggests that the Star Kimberlite coalesces with another known kimberlite, referred to as K137, and drilled by Shore Gold in 1996, located within this claim group approximately 2,000 metres to the northeast of the shaft.

In 2005, Shore Gold contracted Fugro to fly a second regional GeoTEM (electromagnetic) airborne survey over the core group of mineral dispositions (GC#45523) surrounding the Star Kimberlite and those surrounding the major part of the Fort à la Corne kimberlite field and its mineral disposition group located south of the Saskatchewan River. Shore Gold intended that this survey would help to identify kimberlites bodies with either low or no magnetic signatures, and provide additional information on those kimberlite bodies previously identified by the existing regional magnetic airborne surveys. In total, 6,769 line kilometres were completed by Fugro over three separate target areas; Area 1 focusing on the main FalC Joint Venture area, Area 2 covering Shore Gold's mineral dispositions south of the Saskatchewan River and Area 3 located northwest of the town of Choiceland. From the results obtained from this survey, an additional seven targets were selected for follow-up core drilling within the GeoTEM survey areas.





10.3.2 Ground Geophysics

Following the 1996 airborne survey, 63 kilometres of line cutting at 100 metre line spacing with lines oriented north–south were carried out over the highest priority target zones and in July–August 1996, some 54 line kilometres of ground magnetic surveying (Gem Systems GSM-19 Overhauser magnetometer) at 100 metre line spacing with lines oriented north–south were completed for Shore Gold by Pacific Geophysical of Vancouver, B.C. The ground geophysical survey confirmed the presence of shallow, closed anomalies that are indicative of kimberlites.

10.4 Research Studies

10.4.1 Geological Survey of Canada/ Saskatchewan Ministry of Industry and Resources

During 2002, a joint target initiative (TGI) between the Geological Survey of Canada and the Saskatchewan Department of Industry and Resources included the Star Kimberlite in its ongoing research programme into the Fort à la Corne kimberlite province. Work completed included:

- Bulk rock and multi-element lithogeochemistry of the Star 20 core hole (2002). Individual 20 to 30 centimetre-length kimberlite samples were collected by TGI at representative intervals throughout the whole of the half split core from the Star 20 core hole. The variability of the bulk rock geochemistry appeared to coincide with the gross geological units. The distribution of rare earth, actinide and transition element geochemistry followed these gross geology intervals reasonably well; however, the distributions of the major elements were fairly erratic and further studies were recommended to aid the interpretation of their significance. It appeared that the use of lithogeochemistry could play a part in interpretation of the less altered kimberlite units and might also help to determine whether more than one eruptive centre is present within the Star Kimberlite.
- <u>Bulk rock and multi-element geochemistry and stratigraphy of the Star Kimberlite</u> (2003). A total of 337 samples were taken from 31 holes, to include samples taken from all drill holes which intersected kimberlite. The numbers of samples collected in each hole reflected the thickness of, and differing geological units encountered. Results indicated that four distinct geochemical clusters, or groups, of kimberlite could be defined. TGI used biostratigraphy and stratigraphical analysis to define the geological units in terms of the regionally-adopted stratigraphy.
- Independent geological logging of the Shore Gold core drilling
- 2-D and 3-D seismic surveys over the Star Kimberlite





- Detailed borehole geophysics, comprising density, gamma (radiogenic Th, U, K), velocity and temperature; completed on core holes Star 32 (352 metres), Star 25 (205 metres) and Star 26 (188 metres)
- Age dating. Four kimberlite samples were processed through standard crushing and mineral separation to isolate the mineral perovskite for U–Pb geochronology by Geospec Consultants Ltd (Edmonton, Alberta). The U–Pb analyses were performed at the University of Alberta's Radiogenic Isotope Facility. Returned model age dates ranged from 102.8 ± 0.8 Ma to 105.2 ± 1.2 Ma.

10.4.2 Petrographic Studies

A suite of thin sections was made during 2002 to 2003 on core specimens from drill holes Star 4, 16, 20, 24, 25, 26, and 32 to determine the petrographic affinities and to compare the geochemical characteristics between samples. In addition, 33 kimberlite samples from core holes Star 16, Star 24, Star 25, and Star 32 were submitted to Mineral Services Canada for petrographic examination and Heavy Mineral Abundance analysis.

The petrographic work supports the genetic and affinity interpretations by Shore Gold.



11.0 DRILLING

11.1 Surface, Underground Core Drilling, and Large Diameter Drilling (LDD) Programs

11.1.1 Surface Core Drilling Program

From July, 2005 to June, 2007, 159 PQ (75 millimetre) diameter SPF-series surface core holes totalling 38,473 metres were completed on the Star Kimberlite by Shore Gold. Encore Coring and Drilling Inc. (Encore) of Calgary Alberta were contracted to carry out the PQ core drilling program. A total of three petroleum drill rigs with auxiliary mud-plants were utilized for the drill program. One of the core rigs was dedicated to the removal of drill casing and inserting 3 inch (7.68 centimetre) diameter interconnected PVC piping for downhole geophysical logging and surveying.

Between May 2005 and September, 2007, 32 mixed PQ and HQ core holes were completed on Star West for a total drilling metreage of 8,440 metres.

From April, 2006 to November, 2006, 38 NQ (48 millimetre) and HQ (65 millimetre) diameter SND-series surface core holes totalling 7,151 metres were completed on the Star Kimberlite by Shore Gold. Encore was contracted to perform the SND-series core drilling program. One track-mounted Nodwell drill rig with an auxiliary mud-plant was utilized for this drill program. The Nodwell drill rig was primarily utilised for vertical and inclined infill core drilling in low-lying areas that the larger petroleum-type drill rigs could not access. As part of the work program, both the Nodwell drill rig and the petroleum drill rigs were utilised for additional geohydrological and geotechnical drill programs over the Star Kimberlite. The types of tests completed included:

- Piezometer and pump test drill holes
- Geotechnical holes
- Glacial till stratigraphy drill holes.

These holes were drilled to obtain geological, geotechnical, and hydrological information for 3-D geological and resource modeling work. The core was logged by Clifton and Associates of Regina, Saskatchewan.

The surface core drilling program was designed to test the continuity, shape, and thickness of the various kimberlite facies encountered within the Star Kimberlite. The goal of the surface core drilling program (SPF and SND-series) was to provide additional geological, geochemical, geophysical, geotechnical and density data so that 3-D geological model could be produced. That model would then form the basis of a NI 43–101 compliant mineral (diamond) resource estimate to be completed for the





entire Star Kimberlite (Shore Gold's 100 percent owned portion and the Star West portion).

The core holes were drilled on a 100 metre by 100 metre grid pattern within the thicker central portion (proximal vent area) of the Star Kimberlite and at 200 metre by 200 metre intervals on the thinner distal portion of the Star Kimberlite. The entire SPF-series core holes were drilled vertically (-90 degree inclination), whereas the SND-series were drilled at various azimuths and inclinations. Table 11-1 presents a summary of the drilled metreage for the Star Kimberlite.

SPF-Series and SND-Series Site Preparation and Rig Set-Up

The SPF- and SND-series core holes were planned on section and plan maps, and the corresponding collar coordinates were manually pegged in the field by Tri-City Surveys of Melfort, Saskatchewan using a Trimble 4800 differential GPS unit with base station.

The drill sites surveyed by the surveyor were then inspected by representatives of Saskatchewan Environment and Resource Management (SERM) for heritage and rare plant surveys. Once approval from SERM was obtained, the drill site was then inspected once again by the Shore Gold geologist in order to evaluate the access and drill pad requirements for the core drill and ancillary equipment (i.e. mud-plant, road access, mechanical shop, etc.). A core drill rig was then manoeuvred into the designed drill collar position, and the Shore Gold geologist verified that the mast inclination was correct prior to core drilling.

The initial 90-plus metres of glacial till were typically drilled using a tricone bit and cased to the till–kimberlite contact. Once the core drill hole reached the till–kimberlite contact, the drill rods were pulled in order to change the drill bit (from tricone to a serrated drill tooth bit). SPF and SND-series core holes continued to 30 metres below the kimberlite–Mannville sediment contact for geological contact determination and modeling purposes.

11.1.2 Underground Core Drilling Program

From June 2004 to December 2006, 213 BQ UG-series core holes totalling 16,863 metres were completed on the Star Kimberlite by Shore Gold. Barkor Drilling of Snow Lake, Manitoba was contracted to perform the UG core drilling program. Two JKS-Boyles B-15 underground core drill rigs were utilized for the underground core drill program. These core drill holes were used as pilot drill holes to obtain geological, geotechnical, and hydrological information of areas to be explored during underground sampling.





Target Area	Core Hole Series	Number of Core Holes	Intervals	Thickness (m)
Star Kimberlite	SPF	159	Total metres (cumulative) of kimberlite intersections	11,399
			Glacial till triconed	23,393
			Total metreage	38,473
	SND	38	Total metres (cumulative) of kimberlite intersections	1,132
			Glacial till triconed	4,108
			Total metreage	7,151
	STR	33	Total metres (cumulative) of kimberlite intersections	3,002.25
			Glacial till triconed	2997.65
			Total metreage	8,440.2
	Total	230	Total metreage	54,064.2

Table 11-1: Surface Core Drilling Statistics (SPI	F, SND, STR Series Drill Holes)
---	---------------------------------

Underground core holes were drilled from lateral drift faces in a vertical fan pattern at 100 metre lengths with varying inclinations from +15 degrees to -10 degrees. Each core hole was grouted in its entirety when the holes were completed. Table 11-2 is a summary of the drilled metreage for the Star Kimberlite underground core drilling program:

Target Area	Core Hole Series	Number of Core Holes (since 2003)	Intervals	Thickness (m)
Star Kimberlite	UG	213	Total metres (cumulative) of kimberlite intersections	16,863.14

UG-Series Core Drilling Site Preparation and Rig Set-Up

The UG-series core holes were planned on mine section and level plan maps and the corresponding collar coordinates, azimuth and inclination for each fan were then surveyed and marked onto the drill station's drift face by Shore Gold's underground surveyor using a total station instrument. The underground core drill rig and ancillary equipment was then manoeuvred to the designed drill collar position, and the Shore Gold geologist verified that the azimuth and mast inclination was correct prior to core drilling. The drilling contractor would then anchor the drill rig into place with the use of rock bolts, etc. in order to stabilize the drill rig.

The initial 3 metres to 5 metres of the drill holes were drilled using NQ casing. Once the casing was in place, the casing was grouted into place prior to core drilling. Once the grout was cured, the drill contractor would then set up a gate-valve system at the collar as a safety precaution so that the drill hole could be sealed if large amounts of water were to be encountered. Once the gate-valve was in place, the drill contractor





would reduce the core diameter to BQ and resume drilling until the core hole reached about 100 metres in drill length or the kimberlite–country rock (Mannville sediment, other) contact.

11.1.3 Core Logging Procedures and Sample Selection

Once a core hole was completed, core was transported to the main exploration core logging facility to be logged. Throughout the surface and core drilling programs, geotechnical, and geological core logging was done at the main exploration core logging facility. The drill core for each hole was then sequentially laid out on roller tables for logging.

All drill core is initially logged by a Shore Gold geologist in order to identify the major kimberlite stratigraphic contacts, prior to being geotechnically logged by geologists from SRK Consulting. The SRK Consulting geologists would then geotechnically log each hole as well as mark out the sample intervals for uniaxial compression strength (UCS) test work. Geotechnical logging and photographic records were completed by SRK Consulting before the core was marked and cut for detail core logging and sampling.

Once a core hole was geotechnically logged, the Shore Gold geologist completed all geological descriptions using SQL-based logging software. Geological descriptions were encoded, and standard codes were utilized during the program. For each core hole, the following samples and testwork were performed for each major kimberlite facies/lithological break:

- density samples
- whole rock geochemistry samples
- ore dressing comminution samples: drop test samples (T10) and scrubbing (Ta) samples.

A digital camera was used to photograph all the core boxes. For each digital photograph, the wooden depth markers denoting the driller's runs, a marker board bearing the hole number, date, wet or dry state of the core, box numbers and interval are recorded onto the digital photograph. Digital photographs for each completed core drill hole are then downloaded as individual JPEG computer files and saved in individual drill hole folders.

During the geological core logging process, the following data were collected, and information recorded:

• main lithological units and sub-units





- pyroclastic kimberlite
- volcaniclastic kimberlite
- kimberlite breccia
- resedimented volcaniclastic kimberlite
- magmatic kimberlite
- other: shale, limestone, etc
- proportion of constituents (quantitatively captured)
- average grain size
- support: matrix or clast supported
- sorting: poorly or well sorted
- fabric: bedded, massive, granular
- country rock dilution percentages (crustal xenolith size, shape, alteration, percentage that is quantitatively captured)
- kimberlitic indicator minerals (type, size, percentage that is quantitatively captured)
- nature of contacts: sharp, undulating, gradational
- rock quality designation (RQD).

The UG-series core holes were geologically logged as indicated above, but these core holes were neither geotechnically logged nor sampled by SRK Consulting or Shore Gold.

AMEC reviewed core logging procedures on more than one occasion and found that the procedures used followed the written protocols. When logging is completed, the core logs are verified by senior Shore Gold geologists who then make the final stratigraphic picks based on the logged lithologies. AMEC reviewed core that was in the process of being logged and found no discrepancies between the logs and core.

Shore Gold implemented a program of scan lines. Coarse scans early in the program were 1 metre in length and late in the program were 1.5 metres long. Coarse line scans were used to count and measure the size of mineral and rock fragments larger than 1 cm. Fine line scans were 10 centimetres in length, where all recognizable mineral grains were counted and measured. Late in the program, Shore Gold added an "indicator count" where the number of indicator minerals in a 30 centimetre length of core were counted and recorded. These data are useful when attempting to distinguish various pyroclastic kimberlites where the stratigraphy is not clear.

AMEC is of the opinion that core logging exceeds industry standards for diamond exploration and is adequate for resource estimation purposes.





11.1.4 Large Diameter Drilling Program

From 14 September 2005 to 27 December 2007, 80 LDD holes, totalling 15,755 metres, were completed on the Shore Gold portion of the Star Kimberlite. On the FalC Joint Venture (Star West) property, 15 LDD holes were completed totalling 3,595 metres. Nuna Logistics Limited was contracted to carry out the LDD mini-bulk sampling drilling programs. Two Bauer Machinen GmbH (Bauer) BG-36 RC dual purpose Kelly and reverse circulation (RC) drill rigs (Rig 1 - # 4985, Desander 1 - #4901, Rig 2 - #4989, Desander 2 - # 4902) were utilized to complete the LDD drill program (Figure 11-1, Figure 11-2, and Figure 11-3). LDD holes were drilled to obtain "mini-bulk" samples of the various kimberlites previously identified by surface core drilling. Those samples were processed for diamond grade information. LDD holes were drilled at -90 degrees on a 100 metre by 100 metre grid pattern within the thicker central portion (proximal vent area) of the Star Kimberlite and at 200 metre by 200 metre intervals on the thinner distal portion of the Star Kimberlite.

LDD Site Preparation, Rig Set-Up, and Drilling Methods

LDD hole locations were based on geological information from core logs of SPF-series core holes and were essentially twins of those holes. When it was decided which SPF-series hole to twin, LDD hole locations were planned on plan maps and the corresponding collar coordinates were manually pegged in the field by Shore Gold geologists at a distance of 2 metres from the SPF core hole collar.

Once the LDD drill site was inspected by the Shore geologists to evaluate the access and drill pad requirements for the LDD drill rig and ancillary equipment (i.e. drilling rig platform, RC drilling rods, Kelly drilling rods and excavation tools [buckets, augers, coring bits, desanding plant, compressor unit, excavation of mud-pits, mobilization of site trailers, road access, etc.]), the LDD drill rig was manoeuvred to the designated LDD drill collar position.

The Bauer BG-36 drilling rig was designed for two types of drilling: 1) Kelly drilling and 2) fluid flush reverse circulation (RC) drilling. The Kelly drilling mode consists of drilling/excavating overburden material with the use of Kelly bars and a bucket-like drill tool and hoisting the material up to surface. When Kelly bar drilling reached a depth of 40 metres, the 1.20 metre diameter BV 1320 casing was set to that depth. The Kelly bar drilling continued to a maximum depth of 85 metres.





1 Boom	0
2 Boom cylinders	16
3 Swing mechanism	
4 Crawler drives	21
5 Counterweight	43-10
6 Main winch	45
7 Main rope	4126
8 Auxiliary winch	44
9 Auxiliary rope	
10 Wedge	
11 Masthead tilting cylinder *12 Kinematic triangle *	
13 Mast (upper section / lower section)	
14 Mast prop	
15 Mast pivot	46
16 Masthead	
17 Mast extension (intermediate)	
18 Mast extension (lower)	
19 Backstay cylinders	C CA
20 Uppercarriage	
21 Rope swivel	2
22 Crowd rope tensioning cylinder	19
23 Supporting boom *	27
24 Supporting trestle	° H
25 Undercarriage	29
26 Crowd sledge	13
27 Crowd ropes (upper/lower)	
28 Thrust rod *	15
29 Crowd winch	
30 Crowd cylinder *	18
IZ-II	
Kelly equipment	
40 Drilling tool	14
41 Rotary drive	
42 Casing drive adapter	25
43 Shock absorber	
44 Cardan joint	
45 Kelly drivers	
46 Kelly bar	
* not shown	

Figure 11-1: Schematic of the Bauer BG-36 Drill Rig (Kelly Drilling Configuration)





Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report





Note: casing and support equipment also included in photograph.







Figure 11-3: Schematic of the Bauer BG-36 Drill Rig (RC Configuration)





LDD RC Drilling and Sample Recovery

The Bauer BG-36 drilling rig is designed for air assisted fluid flush RC drilling. RC drilling utilizes a drill string consisting of 6 metre-long, dual wall drill rods, heavy weights (to provide downward pressure on the bit), stabilizers, and a rotating roller-type drill bit.

Compressed air is forced down hole through the outer section (outer tube) of the double wall drill rods. Air valves direct the compressed air into the centre (inner tube) of the drill rods, creating a vacuum at the base of the drill string, which in turn draws cuttings and drilling fluids to the surface through the inner tube of the drill rods. From the drill rig, cuttings issue into the decelerating cyclone, located in the desander plant (Figure 11-4). Cuttings then exit from the bottom of the cyclone (underflow discharge) onto the coarse screen shaker for initial sizing at -3 millimetres (Figure 11-5). The -3 millimetre size fraction and drill muds report to twin densifying cyclones and screens in the desanding plant for separating the solids (i.e. fine rock cuttings) from the drilling mud/fluid to produce a clean +0.85 millimetre product. The drilling fluid is then returned down the hole through a feed line. Mud chemistry and viscosity were carefully monitored to ensure that the mud was appropriate for conditions in the hole.

Processed cuttings were collected in one cubic metre dual-walled, woven polypropylene bags (bulk sample bags). The bags were labelled with a predetermined sample interval and bag number once the bulk sample bag was full. The bulk sample bag was then securely tied and tagged with a pre-numbered security cinch strap at the drill rig. Once the bulk sample bag was securely sealed, it was then loaded onto a trailer for shipment to a secure storage area located at the project site for processing through Shore Gold's on-site process plant.

Holes were completed by backfilling and cement capping.

11.2 Collar and Downhole Surveying

11.2.1 Surface Core Drilling Collar Surveying

Upon the completion of each surface core hole (SPF-series; SND-series) each drill collar was re-surveyed by Tri-City Surveys with the use of a Trimble 4800 differential GPS unit with base station. By convention, each measurement was taken on the west side of the drill collar. Tri-City would record the X, Y, and Z (RL) coordinates digitally for each drill hole.





Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report

Figure 11-4: Bauer BG-36 Drill Rig



Note: Bauer BG-36 drill rig connected to the desanding plant (white structure). Material from the LDD hole enters the desander plant through the process slurry feed line (topmost hose). Drilling fluid is returned to the LDD hole via the return feed line (basal hose).







Figure 11-5: Schematic of the Bauer Desander and Classifying Plant

During the surface core drilling program, Tri-City carried out a QA/QC survey program on all of Shore Gold's Star-series core holes and provided the new collar data digitally to Shore Gold. When a discrepancy of greater than 2 metres in any of the X, Y or Z directions was encountered between the original collar coordinates and the Tri-City QA/QC survey collar data, the QA/QC collar information was selected in order to conform to the surface core drilling collar coordinates.

AMEC reviewed the collar surveys and found them to be performed using industrystandard instruments. AMEC is of the opinion that the collar locations are adequate for resource estimation and mine planning purposes.

11.2.2 Downhole Surveying

Downhole surveying was completed using two primary methods: a multi-shot surveying tool and a gyroscopic tool. The multi-shot surveying tool was utilized below the kimberlite (in non-magnetic sediments) and throughout the borehole. Due to moderate to strong magnetism of some of the kimberlite units (primarily caused by magnetite resulting from serpentinization of olivine), down hole surveys of the core holes were performed by Gyrodata Services Canada Inc. (Gyrodata) of Calgary, Alberta. Each core hole was surveyed with Gyrodata's rate-gyroscopic Wellbore self-orienting gyroscope. The self-orienting gyroscope has an azimuth and an inclination





accuracy of 0.1 degrees. Downhole gyroscope readings were taken at either 25 metre or 50 metre intervals.

All of the downhole survey data were digitally acquired and recorded as Microsoft® Excel files on a bi-weekly to monthly basis by either Shore Gold and/or Gyrodata personnel. Shore Gold personnel reviewed the raw down hole survey data and incorporated it into Shore Gold's database.

AMEC observed downhole surveying and reviewed the results. Deflections are minimal because of the diameter of the diameter of the drill tools used. AMEC is of the opinion that the downhole surveys accurately represent the trajectories of the holes and that they can confidently be used for resource estimation.

11.2.3 Downhole Geophysical Surveying

Upon the completion of each surface core hole (SPF-series, SND-series); a downhole geophysical survey was carried out by DGI Geoscience Inc. (DGI) of Mississauga, Ontario. The goal of the downhole geophysical survey was to record the physical properties of the various kimberlite lithologies in order to assist in the stratigraphic hole to hole lithologic correlation of the various kimberlite and non-kimberlite facies for the 3-D geological modeling of the Star Kimberlite.

The survey consists of lowering a 1.50 metre long active downhole geophysical probe within a 3 inch (7.68 centimetre) diameter PVC pipe casing, which was placed by Encore so that the instrument was protected from potential drill hole wall collapses. Each core hole is surveyed twice so that the repeatability of the data is consistent and reliable. The multi-parameter information recorded consists of:

- Natural gamma (in counts per second or cps) measures the level of gamma radiation emitted by radioisotopes present in the subsurface materials. It is useful to map lithology and provides relative porosity of rock and soil based on clay content
- Density (cps) Gamma density can be used to calculate the bulk density of rocks, determine porosity, mineral identification and lithological mapping
- Neutron neutron logs provide an indication of the porosity of the rock
- Sonic Velocity: collects continuous measurements of in-situ acoustic properties (P and S wave velocities); useful for lithology mapping, rock properties, fracture mapping and rock mass characteristics





- Magnetic Susceptibility: measures changes in the distribution of magnetic minerals (e.g. magnetite, pyrrhotite) caused by lithological changes and hydrothermal alteration; commonly used to differentiate kimberlite facies
- Temperature: measures changes in fluid temperature related to fluid flow in borehole. Fluid resistivity also provides a measurement of water quality.

Once a core hole was surveyed, the raw data were then compiled by DGI staff and emailed to DGI's office for further processing and interpretation. The downhole data for each core hole were then compiled onto a report that displays both the multiparameter down hole geophysical data and the Shore Gold geological logging data.

AMEC did not review the geophysical logging.

11.2.4 LDD Downhole Caliper Measurements

A downhole caliper survey was performed by DGI when each LDD hole was completed. The goal of the LDD caliper survey was to measure the diameter of the hole and use the diameter measurements to calculate the volume (in cubic metres) of material drilled along the length of the LDD hole for diamond grade estimation.

The caliper survey consists of lowering a mechanical 3-arm caliper with a winch and cable system. Each arm of the caliper can extend to a maximum distance of 2.0 metres in length. The survey methodology consists of lowering the caliper to the bottom of the LDD hole, extending the arms until they contact the LDD hole wall and then raising the instrument at a constant rate so that the calliper arms can measure the LDD hole profile in real-time. Each LDD hole is surveyed three times so that the repeatability of the data is consistent and reliable. The information is recorded on a laptop computer and then e-mailed to DGI for processing and interpretation. The data were presented as a graphic 3-D downhole log and a downhole Excel spreadsheet.

Tonnages of the material recovered from the drill can not be used for grade estimates because the material is screened after it exits the hole and rock particles smaller than the screen size (0.85 millimetre) are lost. There is also some loss of material to fractures in the holes. This necessitates estimation of the tonnage drilled by calculating the volume from the caliper data and using the density data from the pilot core hole to calculate tonnages. Volumes were calculated by multiplying the diameter by the sampling interval which was normally 5 centimetres. The volumes for each sampling interval were then summed for the total volume. In a limited number of cases where caving caused problems for caliper measurements, the volumes were calculated assuming the diameter of the RC drill bit. Tonnages were then calculated by multiplying the calculated volume by the density determined for the interval in the





adjacent pilot core hole. AMEC recalculated the volumes of several holes and found the volumes provided by the contractor to be accurately calculated.

AMEC is of the opinion that the caliper surveys provide reliable hole diameter measurements and thus reliable calculated volumes.





12.0 SAMPLING METHOD AND APPROACH

12.1 Underground Bulk Sample Program 2003–2007

Shore Gold's underground bulk sampling program began in 2003 and was completed in April 2007. Thyssen Mining Construction of Canada Ltd. (TMCC) was contracted to develop the exploration shaft and extract the bulk sample from a network of lateral drifts.

The underground bulk sampling program was continuously monitored, on site, by A.C.A. Howe personnel from 2003, and to January 2007. During that time geologists from A.C.A. Howe worked in conjunction with Shore Gold geologists on all aspects of the program, including the shaft mapping and underground developments. From 2003 to January 2007, A.C.A. Howe had personnel working in the process plant full time and a representative of A.C.A. Howe was always present in the final recovery area when it was in operation during that time. After January, 2007, A.C.A. Howe was involved in the bulk sample program, acting as a third party auditor making periodic visits to the Star site.

12.1.1 Bulk Sampling Program Progress to March 2005

The following sections describe the work completed on the underground bulk sampling program. Detailed descriptions of shaft sampling and lateral drift development are included below. Detailed descriptions of the processing plant operations are provided in Section 13.

Site Set-Up and Underground Development

The underground bulk sampling program began in January 2003 with initial site clearing and infrastructure development. The first phase of the underground bulk sampling program then commenced with the diamond drilling of freeze holes required for shaft sinking. These freeze holes were drilled in a circular pattern outside of the shaft circumference, enabling the freezing and stabilization of the ground. Freeze hole drilling was contracted to Layne Christensen Canada Limited.

A total of 22 freeze holes were completed in mid May 2003. Freeze hole drilling took longer than anticipated due to adverse ground conditions. Freeze holes were surveyed by Calgary based Gyrodata Services Canada Inc. Survey data were supplied to Shore Gold's independent consulting engineer who confirmed that there was sufficient drill hole coverage to ensure that a successful freeze wall would provide stable ground conditions as sinking proceeded through the overburden. Freeze holes





were drilled to a depth of approximately 130 metres as recommended by Shore Gold's independent consulting engineer.

By the end of May 2003, generators and freeze plants had been erected and commissioned and freezing started. By the beginning of June 2003, all the buildings required by Shore Gold and TMCC for the shaft sinking program were in place. These included accommodation and living quarters for Shore Gold personnel and work shops for TMCC.

TMCC began shaft sinking activities in early July 2003, when sufficient freezing of the near surface ground was achieved. The program began with the pre-sink phase with 2 metres of initial excavation and the installation of the shaft collar. A temporary clam stand and a crane supplied support for the completion of the pre-sink phase down to 18.2 metres. By mid July, this phase was complete, and the shaft had been excavated and concrete lined down to a depth of 18.2 metres.

The head frame, hoists, and suspension were erected, and the entire infrastructure required to complete shaft sinking was constructed by the end of July (3-stage Galloway sinking platform and Cryderman clam mucker). The shaft was concrete lined to its final depth. This was achieved in 15 foot (4.6 metres) intervals using metal forms suspended from the head frame assembly. The internal diameter of the shaft inside the concrete lining was 14 feet (4.3 metres).

Cretaceous sedimentary rocks were encountered at approximately 89 metres on 24 September 2003, and kimberlite was encountered at approximately 107 metres below surface during the first week of October 2003. Water was encountered in the shaft below the freezing level of 130 metres, and a temporary pumping station was established at 140 metres. At a shaft depth of approximately 130 metres, a new pilot hole (Star 33) was drilled vertically to check ground conditions and for potential water. Star 33 (BQ diameter, 36.5 millimetres, vertical diamond drill hole) was drilled from 130 metres to a depth of 250 metres (total 120 metres drilled), and no significant water was intersected. Ground support, once the shaft left the frozen ground, consisted of rock bolts and screening. This was required to provide a safe working environment prior to each 15 foot (4.6 metres) concrete pour as recommended by Shore Gold's independent consulting engineer.

At approximately 175 metres a station was established for the first proposed lateral development. The station was excavated large enough to allow an underground scoop tram to be lowered into place for lateral drift mining. The station is approximately 4 metres wide, 4 metres high and 15 metres long. Two lateral drifts, trending northeast and southeast were started at the end of the station to allow enough room for the scoop tram to manoeuvre. The station was designed with sufficient space





for an electrical transformer required to supply electricity to the shaft's final depth. The station was completed in the third week of January 2004, and shaft sinking recommenced. At this point an underground drill rig was lowered into the 175 metre station, and exploration drilling commenced alongside continual shaft-sinking activities. Underground drill holes during this period were BQ size (Star UG-1, UG-2 & UG-3). The shaft continued down to a depth of approximately 235 metres when, in mid-March 2004, a second lateral development station was established. The shaft had been sunk through approximately 70 metres of the Late and Mid Joli Fou Kimberlite and 75 metres of Early Joli Fou Kimberlite.

Prior to the start of lateral development a pilot hole (Star UG-4) was drilled to investigate ground conditions and provided geotechnical data required for planning of this development. The 235 metre station, measuring approximately 4.5 metres wide, 4.5 metres in height and 18 metres in length, was completed on 25 April 2004. Shaft sinking continued to a final depth of approximately 250 metres, which was reached on 7 May 2004. This additional depth was required to allow the Galloway to be lowered past the 235 metre level station entrance in order to lower an underground scoop tram to the station. In conjunction with the final shaft sinking, exploration core drilling also began in the 235 metre station. The shaft was concrete lined from surface to the base, where a concrete plug was poured and a pumping facility installed below the 235 metre level.

In May 2004, the continuation of the 235 metre level Phase 1 lateral drift development began on the completion of the underground drilling program and was completed in November 2004, when Shore Gold estimated that a minimum of 25,000 tonnes of kimberlite had been mined (including a 1,000 tonnes contingency). Approximately 1,000 metres of lateral drifting had been completed on both lateral drift levels during the Phase 1 bulk sampling program (Table 12-1). The drifts range in dimension from eight feet to 10 feet high (2.4 metres to 3 metres) and eight feet to 14 feet wide (2.4 metres to 4.3 metres). Underground batch sample sizes range from 250 dry tonnes to 350 dry tonnes and honoured lithological boundaries as much as was possible.

From April to November 2005, Phase 2 of the bulk sampling program was performed by Shore Gold in order to obtain additional 15,000 dry tonnes of kimberlite batch samples from both the Early Joli Fou and Cantuar Kimberlites for diamond grade and diamond value estimation purposes. A total of 820 metres of lateral drifts were mined from the 235 metres level as well as from a ramp that cut EJF Kimberlite material from the 235 metres to the 215 metres level (Figure 12-1).

From February 2006 to April 2007, Phase 3 of the bulk sampling program was performed by Shore Gold in order to obtain additional large tonnage kimberlite batch





samples from both the Pense and Cantuar Kimberlites for diamond grade and diamond value estimation purposes.

Phase	Sample Type	Drift Metres	Sample Batch Range	No. of batches	Tonnage
Phase 1 Total	Drift	1,000*	1–78	109	25,377.92
Phase 2 Total	Drift	820**	79–151	77	18,258.17
Phase 3	Drift		152-239	93	30,112.45
Phase 3	RE		RE1–RE59	59	1,632.98
Phase 3	Geotech		1–4	4	23.69
Phase 3 Total		1,106***		156	31,769.12
TOTAL		2,926		342	75,404.87****
* shaft metr	es not included	in total			
** includes slashes					
*** includes slashes, Resource Estimate (RE) samples, and geotechnical samples					
**** includes all clean-up batches					

Table 12-1:	Lateral Drift Sampling	Statistics (as	at December, 2007)
-------------	------------------------	----------------	--------------------

Notes:

This table includes all materials processed from the Star Kimberlite, and shipped from site, and uses corrected totals for Phase 1. The final shipment of underground material from Star was shipped from site on 10 December, 2007, and labelled Batch 239. The prior shipment, Batch 238b, was shipped from site on 26 November, 2007. The data included in this table are sourced from a database that was closed off on 19 December, 2007.





-0 CLAIM BOUNDARY PENSE EJF SHAFT ČE MJF ****** DATE: 01/07/07 DEVELOPMENT PHASE 1 : BATCHES 1 TO 78 DEVELOPMENT PHASE 2: BATCHES 79 TO 151 DEVELOPMENT PHASE 3: BATCHES 152 TO 236 30 TONNE SAMPLE LOCATIONS EJF \mathbb{Z}_{k} at tent Per SOCARI RE-19 Cel CANTUAR CANTUAR EJF UNDERGROUND LEVEL PLAN WITH SAMPLE LOCATIONS

Figure 12-1: Star Kimberlite 235 Metre Level Plan

Note: Figure courtesy Shore Gold Inc.

Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report







A total of 1,106 metres of lateral drifts were mined from the 235 metre level as well as from the 215 metre level where Pense Kimberlite material was sampled.

12.1.2 Site Set-Up and Processing Plant Construction

Concurrent with the underground development, an area was cleared in the first half of 2003 for erection of the processing plant. Bateman Minerals Pty Ltd. (Bateman Minerals) provided a modular 10 tonne per hour diamond recovery plant that arrived in Canada on 28 August 2003. The foundations for the plant were already underway when it arrived on site, and initial construction was completed in mid November. In October-November 2003, a Cover-All building was constructed over the plant to facilitate its use in the Saskatchewan winter months. On completion of the Cover-All building, final wiring and plumbing took place in December 2003. In December 2003 an area was cleared for the construction of a settling pond for -0.5 millimetre tails produced by the plant and for mine water discharge. Adjacent to the settling pond, an area was cleared to receive the processing plant's +1 millimetre to -6 millimetre coarse reject kimberlite tailings. Commissioning of the plant began in early January 2004 under the supervision of Bateman Minerals. Bateman Minerals also undertook the task of training Shore Gold's plant operators. The plant started receiving kimberlite in late January 2004 and was deemed fully commissioned and handed over to Shore Gold to run in the latter part of February 2004.

12.1.3 Underground Kimberlite Sampling Program and Exploration

Mining, Procedures and Sample Security

Shore Gold's sampling methods and procedures are designed to optimise the precision and accuracy of the sample results in order to quantify the representative diamond grade within the sampled interval area. Efforts to reduce sample contamination during the underground mucking process were monitored by Shore Gold staff with daily reviews by A.C.A. Howe's geologists on site.

Following is a description of the mining method(s) used and sampling methodology and procedures applied during the underground bulk sampling program.

Shaft and Lateral Drift Mining Method

In the shaft-sinking phase the miners drilled, blasted, and mucked on a bench by bench basis. Benches varied from four feet to six feet (1.2 metres to 1.8 metres) in depth depending on ground conditions. A clam and a two cubic metre bucket were used to load the material out of the shaft and hoist it up to surface. The bucket was




emptied into the ore chute on the head frame, and the muck was then moved and dumped into a designated pile next to the shaft or the secondary storage area using a loader, all within a fenced, secure area. In the lateral drifts the miners drilled, blasted, and mucked each drift round (four feet to eight feet or 1.2 metres to 2.4 metres) in length with variable width and height) with the use of a slusher, until there was enough room to lower, install and operate the LHD scoop tram.

In order to maintain sample integrity and security of all extracted kimberlite from the underground workings, a Shore Gold security officer was present at all times during the movement of kimberlite muck from the head frame to the storage facility.

Bulk Sample Kimberlite Storage, Sampling Method and Approach

All kimberlite was stored as individual batch sample piles within the dedicated storage facility areas. Each batch sample was identified with a sign denoting what drift it was derived from. All batch samples were then recorded by mapping of the pile locations. The kimberlite muck was piled on top of a sand/clay rich base.

Individual sample batches were designed to provide representative samples of the different geological units encountered while keeping individual sample batches similar in tonnage size whenever possible. This had been largely predetermined from analysis of the exploration drilling results and interpretations discussed in previous sections of this Report. In accordance with the information obtained from underground mapping, on-site geologists continuously refined the sample separation process; sample batches thus changed from the optimum planned size, and some of the larger batches were subdivided into smaller batches for processing in the plant. Details of individual sample batches created in the bulk sampling program are given in the following sections.

The following QA/QC protocols were conducted and adhered to by Shore Gold and its mining contractors during the underground bulk sampling program:

- Shore Gold geologists verified that all sample material for each sample interval was cleanly mucked out by TMCC
- In order to avoid sample mix-ups, Shore Gold geologists verified that the kimberlite for each batch sample hoisted to surface was transported to its specified location by TMCC
- In order to avoid sample spillage, all of TMCC's miners and Shore Gold's loader operators were given specific instructions by Shore Gold not to overload their bucket loads when transporting kimberlite from the head frame to the secure storage facility and from the storage facility to the process plant respectively





• A Shore Gold security officer was present to observe the tramming of kimberlite from the head frame to the secure storage facility.

AMEC reviewed the underground bulk sampling methods, sample storage, and security during several of the site visits. AMEC found the sampling methods, sample storage, and security to be acceptable and is of the opinion that diamond grade and quality data generated from these samples is adequate for resource estimation and mine planning purposes.

Geotechnical Work Programs

At various stages in the shaft and lateral developments, Shore Gold's independent consulting mining and geotechnical engineer was brought in to investigate and advise on ground support in the shaft and lateral developments. The geotechnical engineer conducted pull tests on various types of rock bolting methods in the various kimberlite units. The shaft rock bolting and screening methodology was determined to be sufficient prior to concrete lining. In the lateral drift stations, rock bolting, screening, and shotcrete was recommended and implemented. These ground support procedures ensured that the underground development provided a safe working environment during the bulk sample program. Samples from the original HQ pilot hole, Star 32, were also collected for additional geotechnical rock property tests in Vancouver. Additional rock property studies have also been conducted on selected diamond drill holes closest to the shaft sinking area.

Underground Geotechnical Mapping Program

In 2005, SRK Consulting was contracted by Shore Gold to perform an underground geotechnical mapping program of the lateral drifts found on Shore Gold's 100 percent owned Star Kimberlite. The geotechnical mapping program was designed to provide information on rockmass conditions in lateral developments proximal to proposed large diameter drill hole targets. Geotechnical mapping was done along one sidewall (drift rib) of each lateral drift targeted for mapping using the rockmass conditions within the back as a reference, when required. Line mapping and rockmass classification was undertaken using a system based on Laubscher's Rockmass Rating (RMR, 1990) classification system. The RMR ranges for each geotechnical domain were then estimated using Laubscher's guidelines and engineering judgment based on experience gained on other kimberlite projects/mines.





Lateral Drift Development, Sampling and Geological Mapping on the 235 and 215 Metre Levels

Phase 1 of the underground lateral drift development on the 235 metre level began in May 2004 and was completed in November 2004. In total, 1,002 metres of underground development were completed from an extensive network of 25 individual drifts in the kimberlite. Two main lateral drifts were established in a north and southeast direction from the 235 metre level station (Figure 12-1). These lateral drifts were drifted at a +3 percent grade in order to facilitate the dewatering. The first established drift was oriented southeast, from which subsequent cross-drifts were established radiating to the east, south and later back toward the shaft to the north and northwest. A second main drift was oriented north, from which subsequent drifts were established towards the northeast and west. This lateral drift network allowed full access to the kimberlite within a 100 metre radius of the shaft, maximising the use of the two underground LHD scoop trams used to haul kimberlite muck to the shaft for delivery to surface.

From April 2005 to November 2005, Phase 2 of the underground drift development was designed to expand the footprint of the underground sampling of the Early Joli Fou Kimberlite towards the south of the Phase 1 drift development as well as to sample kimberlite above the 235 metre level via a ramp to the 215 metre level. As with the Phase 1 program, the goal of the Phase 2 underground development program was to obtain EJF material to recover about 3,000-plus additional carats of diamonds to refine the average diamond value.

From February 2006 to April 2007, Phase 3 of the underground lateral drift development expanded the footprint of the underground sampling of the Cantuar Kimberlite towards the southwest of the Phase 1 drift development as well as to expand the sampling footprint in order to access Pense Kimberlite at the 215 metre level to the east. The goal of the Phase 3 underground development program was to obtain additional geological and diamond grade information on the EJF as well as to obtain about 2,000-plus additional carats of diamonds from the Pense and Cantuar Kimberlite phases for diamond statistics and diamond valuation purposes.

During the entire underground bulk sampling program (Phase 1 to Phase 3), underground mapping and sample batch changes were performed by A.C.A. Howe and Shore Gold geologists following each of the drift developments on a daily basis. Individual batch sample intervals were selected in order to reflect major geological breaks and to keep individual batch sample sizes to a nominal 250–350 dry tonnes.

In the process of mapping, geologists identified many of the major geological units encountered in nearby drill cores that were detailed in previous sections of this report.





Shore Gold and A.C.A. Howe geologists were also able to identify and map in detail many distinctive kimberlite units throughout the 235 metre and 215 metre levels, following individual kimberlitic pyroclastic flow units and geologically distinct kimberlite phases that were both massive and layered in extent.

During the Phase 3 program, a total of 59 RE samples were collected throughout the entire lateral drift network (Table 12-1). The RE samples were 25 dry tonnes to 35 dry tonnes in size, one-round samples, which were processed individually through Shore Gold's process plant. The RE samples were collected in order to compare diamond grade distributions obtained from the larger underground bulk samples and local LDD mini-bulk samples. Shore Gold also collected four underground samples of the various kimberlite facies for metallurgical crushing test work.

Geological Mapping Program

During the Phase 1 underground sampling program, A.C.A. Howe and Shore Gold geologists subdivided some of the major kimberlite phases previously described, most notably within the macrocrystic kimberlite units (or PK units) where at least five distinct macrocrystic kimberlite types have been visually observed. Also, characteristics of sorting, olivine grain size distribution, indicator mineral abundance, xenolith types, and sizes, alteration (weathering) and colour have also been used to classify and describe the kimberlite units.

The major kimberlitic phases identified from the detailed mapping completed during the Phase 1 underground bulk sampling program are briefly described below (Figure 12-1). The majority fall within, or correspond closely to, the previously described crater facies, pyroclastic and volcaniclastic kimberlites (Leroux, 2005c, Leroux, 2005b, Patrick and Leroux, 2004):

Macrocrystic Kimberlite (MK):

- Macrocrystic Kimberlite Type 1 (MK Type 1): Early Joli Fou. Clast-supported medium- to coarse-grained olivine-dominated kimberlites; green, green–white to dark green altered olivines, massive and layered fining-up sequences, well-sorted pyroclastic to moderately–poorly sorted pyroclastic–volcaniclastic units. This unit often encompasses Type 2 and Type 3 MK.
- Macrocrystic Kimberlite Type 2 (MK Type 2): Early Joli Fou. Dark to olive green clast-matrix-supported olivine-abundant garnet-bearing kimberlites wellmoderately- to poorly-sorted, mixed fine- to very-coarse-grained, often layered with Type 1 MK. This kimberlite unit has a distinctive glassy texture in appearance, with abundant garnets.





- Macrocrystic Kimberlite Type 3 (MK Type 3): Early Joli Fou. Rare clast-supported medium- to coarse-grained olivine-dominated kimberlites with white-altered olivines associated with Type 1 MK.
- Macrocrystic Kimberlite Type 4 (MK Type 4): Early Joli Fou. Very poorly to moderately sorted, clast-matrix supported, often matrix-rich medium- to coarsegrained macrocrystic kimberlites, typically associated with volcaniclastic kimberlite breccias, often with abundant garnets.
- Macrocrystic Kimberlite Type 5 (MK Type 5): Distinctive grey–green-coloured clast–matrix supported, poor to moderately sorted, mixed fine- to coarse-grained olivine-dominated macrocrystic kimberlite, possibly youngest unit of Early Joli Fou or transition to Late Joli Fou.

Volcaniclastic Kimberlitic Breccia (VKB):

- Massive Volcaniclastic Kimberlite Breccia (MVKB): Early Joli Fou. Greater than 15 percent xenolithic component, 5–25 centimetres in size with a medium to very coarse, poorly sorted, olivine matrix that is generally severely to moderately altered.
- Volcaniclastic Kimberlite Breccia (VKB): Early Joli Fou; Greater than 15 percent component; typically small 1–5 centimetre xenoliths with a medium to very coarse, poorly sorted, olivine matrix generally very to moderately altered.
- Resedimented Volcaniclastic Kimberlite Breccia (RVKB): Early Joli Fou. Distinctive VKB unit with greater than 15 percent xenolithic abundance; moderate to weak xenolithic alignment; a medium to very coarse, poorly sorted, olivine matrix possibly resedimented kimberlite.
- Macrocrystic xenolithic rich kimberlite (VKBISH): Early Joli Fou. Macrocrystic kimberlite with 10–15 percent xenolithic component and breccia to macrocrystic kimberlite transition zones, generally moderately to weakly altered with a medium to very coarse, poorly sorted, olivine matrix, often with abundant garnets.

Sediments/Resedimented Volcaniclastic Kimberlite (RVK):

- Resedimented Volcaniclastic Kimberlite (RVK): Rare, olivine/garnet and xenolithrich units set in a sedimentary muddy/silty matrix.
- Mudstone (MST) and Siltstone (SILTST): Xenoliths and reefs of marine sediments dark grey to grey/brown in appearance.
- Cantuar Mudstone/Siltstone/Sandstone: Xenoliths and reefs of terrigenous sediments often with a kimberlitic component brown to light yellow in appearance.





• Mudstone/Siltstone/Sandstone/very fine- to fine-grained resedimented volcaniclastic kimberlite (undifferentiated terrestrial or marine sediments from the Early Joli Fou, Pense, and Cantuar).

Upon the commencement of the Phase 2 program, A.C.A. Howe and Shore Gold geologists geologically re-mapped the Phase 1 lateral drifts with the newly developed geological nomenclature, and quantitative data capture system for consistency. The revised geological nomenclature and quantitative data capture system have been used as the underground geological mapping tool since Phase 2.

Geological control of the sampling has enabled some of these kimberlite type units to be individually sampled with very little contamination by other kimberlite types, the results of which will provide invaluable diamond content data to modeling any variations in diamond quality and abundance throughout the different phases of the Early Joli Fou Kimberlite.

12.2 Large Diameter Drill Sampling

Large diameter drill procedures were discussed in a prior section. Cuttings generated by the RC drill are forced into a cyclone that separates the solid and liquid component from the air. Cuttings then exit from the bottom of the cyclone (underflow discharge) onto the coarse screen shaker for initial sizing at -3 millimetres (refer to Figure 11-5). The -3 millimetre size fraction and drill muds report to twin densifying cyclones in the desanding plant for separating the solids (i.e. fine rock cuttings) from the drilling mud/fluid. The sample is dewatered and washed using a combination of cyclones and screens to produce a clean +0.85 millimetre product. The drilling fluid is then returned down the hole through a feed line. Mud chemistry and viscosity were carefully monitored to ensure that the mud was appropriate for conditions in the hole.

All cuttings returned by the BG-36 drill rig were then processed through the desanding plant. Processed cuttings were collected in one cubic metre bulk sample bags, which were labelled with a pre-determined sample interval and bag number when full. The bag was then securely tied and tagged with a pre-numbered security cinch strap at the drill rig. Once the bag was securely sealed, it was then loaded onto a trailer for shipment to a secure storage area located at the project site for processing through Shore Gold's on-site process plant.

AMEC reviewed the LDD sampling process during several site visits and found that it was performed per the written protocols and meets or exceeds industry standard practices. AMEC is of the opinion the quality of the LDD samples is such that diamond grade and quality data generated from these samples is adequate for use in resource





estimation; however, as explained in Section 17, diamond breakage and loss during sampling require adjustment of the grades.





13.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

13.1 Introduction

In order to process a significant amount of kimberlite, Shore Gold purchased and commissioned a batch sampling process plant used to process and recover diamonds. The process plant was designed to simulate a commercial kimberlite ore treatment plant.

Shore Gold's process plant was designed and constructed by Bateman Minerals Pty Limited (Bateman) of South Africa. Bateman has extensive experience in the design, construction and commissioning of modular diamond process plants around the world.

Shore Gold's Bateman process plant (Bateman Reference Number M7007) consists of the following circuits:

- A 30 tonne per hour crushing circuit
- A 10 tonne per hour Dense Media Separation (DMS) circuit which consists of a 250 millimetre DMS cyclone
- A recovery circuit consisting of a Flow Sort® X-Ray diamond sorting machine (Sortex) and a grease table.

13.2 Shore Gold's Sample Processing Circuit

The following section is a detailed description of Shore Gold's processing and diamond recovery circuits. Figure 13-1 and Figure 13-2 show a schematic flowsheet for the processing of kimberlite samples from both the underground and LDD drill programs carried out at the Star Kimberlite.

13.2.1 Process Plant – Crushing and Scrubbing Circuit

The underground kimberlitic material (stored as individual batches or piles on surface) that was to be processed was hauled by a two cubic metre capacity front-end loader from the storage facility area to the primary static feed bin. As for the LDD mini-bulk samples, each sample interval was processed individually through the process plant.

The horizontal square screen aperture of the primary static feed bin is 250 millimetres. When the primary static feed bin is full (approx. 15–20 tonnes), kimberlite from the pan feeder belt is fed at a constant rate onto the run-of-mine conveyor belt (ROM).







Figure 13-1: Process Plant Flowsheet – Primary Kimberlite Processing







Figure 13-2: Recovery Plant Flowsheet





Kimberlite on the ROM belt is then weighed and recorded by a Ramsey belt scale system (i.e. weightometer). The weightometer is calibrated on a daily basis. Kimberlite is then delivered directly to the +60 millimetre vibrating grizzly. Flow of kimberlite from the pan feeder belt onto the ROM conveyor belt is controlled by a variable speed drive motor. This in turn controls the feed rate of kimberlite through the vibrating grizzly and jaw crusher. All of the +60 millimetre material reports to the Metso® C80 jaw crusher, where all of the oversize is crushed to -30 millimetres. The -60 millimetre kimberlite reports directly to the scrubber.

All kimberlite (-60 millimetre) reporting to the scrubber–primary double deck vibrating classifying screen unit undergoes attrition, and is subsequently washed, and screened to remove fines. Kimberlite from the scrubber passes over the primary double deck vibrating classifying screen. Slimes (-1 millimetre) pass over both the -22 millimetre square aperture top screen and the -1 millimetre dewatering bottom screen for desliming. The size fraction that reports to the DMS circuit is thus +1.0 millimetre to -22 millimetre. During the processing of Batches 1 to 95, the top screen utilized in the process plant was an 18 millimetre square aperture screen, and a 22 millimetre square aperture top screen size was utilized for Batches 96 to 237 as well as for all LDD minibulk samples (Star and FaIC Joint Venture) sample processing programs.

At this point, the -1.0 millimetre de-grit and slimes report to the slimes pump box and are pumped directly to the de-grit plant's cyclone and vibrating de-sliming screen. This screening reduces the amount of fines reporting to the DMS circuit, thus aiding in the stabilization of the specific gravity of the ferrosilicon circulating medium (CM). The +0.5 millimetre to -1 millimetre material reports to the de-grit–floats conveyor belt (i.e. coarse reject kimberlite tailings), whereas the -0.5 millimetre fines are treated in a thickener tank with flocculent and are then pumped to the settling pond.

The +20 millimetre oversize material retained on the primary double deck classifying screen reports to the secondary cone crusher conveyor belt to be crushed to -15 millimetre size by a Metso® HP 100 cone crusher. The crushed material from both the jaw and cone crushers then report to the combined crusher product conveyor belt in order to be re-introduced into the scrubber unit.

13.2.2 DMS Circuit

The +1.0 millimetre to -20 millimetre sized kimberlitic material from the primary double deck vibrating classifying screen is pumped from the transfer pump box, dewatered and then stored in a five tonne capacity DMS surge bin for product separation into light and heavy mineral fractions. The material is then fed in a wet state to the DMS circuit by the combined vibrating pan feeder and DMS feed pump and then dewatered once again by a vibrating feed prep screen. The kimberlitic material is mixed with a dense





circulating medium (CM) consisting of ferrosilicon powder (FeSi) and water. Both the kimberlite and CM are introduced into a mixing box which is then pumped at a constant cyclone inlet velocity pressure to the 250 millimetre diameter cyclone mounted atop the DMS circuit. Separation of the 'heavy' and 'light' particles (i.e. product) is achieved on the basis of the specific gravity of the minerals.

Both the heavy and light products exiting the cyclone are screened and then washed to recover the FeSi. The CM recovered from both the floats and sinks screens report to the dilute medium pump box FeSi recovery circuit. The diluted CM is pumped to a densifying cyclone for separation and then recovered as a thick pulp by the magnetic roll separator unit. The FeSi pulp is then re-directed back via gravity to the CM tank for reuse.

The +1.0 millimetre to -20 millimetre heavy mineral concentrate (DMS concentrate) that reports to the sinks screen is collected in 40 litre stainless steel canisters. When a steel canister is full, the canister is locked then transported, with security escort, to the recovery plant for particle sizing and diamond recovery. Prior to January, 2007 this process was performed by A.C.A. Howe personnel and two Shore Gold security personnel. Post January 2007, transportation was undertaken by a Shore Gold recovery technician, and two Shore Gold security personnel. The +1.0 millimetre to -6 millimetre light fraction (coarse reject kimberlite) is disposed outside of the process plant via conveyor belt. A front-end loader is then used to transport the coarse reject kimberlite to a dedicated storage area and stockpiled on a per batch basis.

During the Phase 1 processing program, the DMS's +6 millimetre oversize light fraction product from the floats screen reported by conveyor to a dedicated re-crush storage facility. Once the primary material for a batch was fed into the process plant, this re-crush material was re-inserted into the crushing circuit via the primary static feed bin. The re-crush reported to the ROM belt, where it was weighed and recorded by the Ramsey belt scale system (i.e. weightometer). The re-crush was fed by the ROM conveyor belt to the vibrating grizzly which then reported directly to the scrubber. From the scrubber, the re-crush reported to the primary double deck vibrating classifying screen fitted with a six millimetre square aperture top screen. Since all of the re-crush is +6 millimetre to -16 millimetre in size, the material reported directly to the Metso® HP100 cone crusher where it was wet crushed to -6 millimetres. The wet crushed product reported back via the combined crusher product conveyor to the scrubber unit and DMS circuit for reprocessing to recover possible locked diamonds. As with the primary kimberlitic material, all -1.0 millimetre slimes generated by the recrush material reported to the de-grit plant. Any remaining +6 millimetre re-crush material was returned to the Metso® HP100 secondary cone crusher until all material passed through the primary double deck vibrating classifying screen's +6 millimetre square aperture top screen.





In the summer of 2005, Shore Gold modified the re-crush flowsheet to eliminate the separate re-crush processing cycle to improve plant efficiency. The revised flowsheet is such that the +6 millimetre oversize product from the float screen can be crushed and re-inserted simultaneously into crushing-scrubbing circuit with incoming kimberlite ROM feed from the same batch sample. As such, the +6 millimetre oversize product from the float screen reports via conveyor to a tertiary cone crusher to be crushed to -6 millimetre size by a Metso® HP 100 cone crusher. The crushed -6 millimetre-sized material reports back to the scrubber and DMS circuit via the outfeed conveyor belt and ROM belt for reprocessing to recover possible locked diamonds (Figure 13-2).

The specific gravity (SG) of the CM is monitored electronically and in real time with a DebTech® dense medium controller system and manually with a densitometer scale. Density tracer tests are carried out with the use of cube shaped epoxy tracers with specific gravities ranging from 2.70 to 3.53 and sizes from two millimetres, four millimetres, and eight millimetres. Density tracer tests are carried out on a daily basis to monitor the separating effectiveness of the DMS cyclone. The density tracers that report to the floats or sinks screen are counted separately, and a Tromp curve is plotted in order to obtain the percentage of density tracers versus particle specific gravity. An estimate of the effective separation of light and heavy fractions, including diamond, can be determined from the shape and slope of the Tromp curve. The separating specific gravity (or cut point) is determined as the point where the curve has a value of 50 percent.

13.2.3 Slimes Tailings and Settling Pond

The -1.0 millimetre de-grit material from the primary double deck vibrating classifying screen is pumped to a dewatering cyclone for handling ease and disposal. The +0.5 millimetre to -1.0 millimetre de-grit material from the dewatering cyclone reports to a vibrating dewatering screen and the -0.5 millimetre slimes from the dewatering cyclone is pumped to a thickening tank. The -0.5 millimetre slimes contained in the thickening tank are doused with flocculent, and when the desired specific gravity of the slimes is reached, the slimes are pumped out to the settling pond located south and southeast of the process plant.

13.2.4 Diamond Recovery Plant Sample Handling and Processing Procedures

As soon as a full canister of DMS concentrate arrives in the recovery plant, the gross weight (wet) and arrival time are recorded on a pre-designed sheet by A.C.A. Howe (pre-January, 2007) and Shore Gold security personnel. Pre-January, 2007, the DMS concentrate canister was loaded by A.C.A. Howe and Shore Gold recovery personnel into a steel cradle, hoisted with an electric chain block, and the contents were emptied





into the recovery plant hopper (Figure 13-2). Post January 2007, the process was undertaken by Shore Gold recovery and security personnel.

DMS concentrate is then separated into three particle size fractions by a vibrating classifying screen deck unit beneath the recovery plant hopper. The size fractions obtained are +1 to -3 millimetres, +3 to -6 millimetres, and +6 to -20 millimetres respectively. During the sizing process, the respective size fractions are collected in individual 40 litre stainless-steel canisters located below the vibrating classifying screen deck. Once the particle sizing is completed, each sized canister is left to dewater as much as possible. The gross weight (wet) of each sized canister is then weighed and recorded on a pre-designed sheet by A.C.A. Howe (pre- January, 2007) and/or Shore Gold security personnel and readied for diamond processing.

13.2.5 X-ray Sortex Diamond Sorter

DMS concentrate size fractions (+1 to -3 millimetres, +3 to -6 millimetres and +6 to -20 millimetres) are processed separately, wet, in a Flowsort® X-Ray Diamond Sorter Unit (Model XR 2/19 DW; Sortex). All three individual sized fractions are manually fed to the Sortex receiving hopper for processing. The +6 millimetre to -20 millimetre sized fraction is processed twice through the Sortex unit. After this largest size fraction is processed twice, the rejected portion (X-ray tailings) is deposited with the grease table tailings in a bulk sample bag as described below. This material is kept for auditing purposes.

The Sortex unit is designed on the principle of diamonds fluorescing/luminescing when bombarded by X-rays. Wet diamond bearing concentrates slide past photomultiplier tubes that detect fluorescent material (i.e. particles emitting light) that has been irradiated by X-rays. Excitation of the photomultiplier tubes triggers the ejector gate doors to open forcing the diamond (and other fluorescent material plus gangue) into a stainless steel canister from the gangue minerals. Sortex tailings are collected in a 40 litre steel canister to be reprocessed by grease table.

Each size fraction is processed individually; however, diamonds ejected for each size fraction are collected in a single stainless steel canister that is locked in place below the Sortex unit. Once a batch sample has been processed, the stainless steel canister is removed, locked, escorted, and then stored in Shore Gold's secure safe-house facility located within the recovery plant until it is delivered to SGS Lakefield Research (SGS Lakefield) for diamond sorting. Security was provided by Shore Gold's security personnel under A.C.A. Howe's supervision (pre-January, 2007) and by video surveillance while in the Shore Gold facility. Since January 2007, sample handling procedures have been performed by Shore Gold personnel, with no third party





involvement. Since January 2007 A.C.A. Howe has acted as an external QA/QC provider and has made periodic audits of the Shore Gold processing plant.

13.2.6 Grease Table (Oleophilic) Diamond Recovery

A two-stepped (one metre wide) grease table is employed to concentrate the smaller sized Sortex tailings in the following order: +3 millimetre to -6 millimetre and +1 millimetre to -3 millimetre. The larger size fraction (+6 millimetre to -20 millimetre) is not processed through the grease table, but processed twice through the Sortex. Most diamonds are hydrophobic (i.e. non-wettable) and will adhere to grease specially formulated for diamond recovery.

The +6 millimetre to -20 millimetre material is transported to the in-feed conveyor reporting to the tertiary cone crusher to be crushed to -6 millimetre size by a Metso® HP 100 cone crusher. The crushed –6 millimetre sized material reports back to the scrubber and DMS circuit via the outfeed conveyor belt and ROM belt for reprocessing to recover possible locked diamonds.

Each individual size fraction is manually fed into the grease table receiving hopper for processing. The two-stepped grease table surface is covered with an evenly coated layer of grease approximately 4 millimetres to 6 millimetres thick. Warm water heated by a 30 litre hot water heater forces and assists in the movement of the wetted material across the grease. A feed control gate is used to manually control the feed rate of material onto the grease table. The diamonds adhere to the grease on first contact and the flow of concentrate over the adhering diamonds causes them to be pushed further into the grease.

All non-adhering (i.e. hydrophylic) material reports to the grease table tailings belt for storage in one cubic metre Endurapak® canvas bulk sample storage bags.

Removal and application of fresh grease is dependent upon the amount of grease adherent material in the concentrate. More particles adhering to the grease reduces the effective surface area for diamonds to adhere to. When the effective surface area is less than 50 percent, the grease and grease concentrates are scraped off the grease table and placed into pre-numbered, sealed plastic buckets.

During the bulk sampling program, auditing of the X-ray and grease table efficiency/recovery with the use of 'test diamonds' or 'marked diamonds' inserted into the concentrate feed was not carried out.





13.2.7 Chain of Custody and Security Protocols

During the processing plant commissioning period of the bulk sampling program in 2004, Shore Gold and A.C.A. Howe representatives developed security protocols that were designed to enhance the chain of custody and ultimately, integrity of the bulk sample program as a whole from the extraction of kimberlite from underground to the shipment of diamond concentrate to SGS Lakefield and Mineral Services Canada Inc. (MSC) for final diamond picking. Shore Gold's chain of custody and security protocols were designed around a three-lock system such that three individuals must simultaneously be present at the removal, transport and escort of all concentrate (DMS, X-ray diamond concentrate, grease table concentrate) at all times. A video surveillance camera system was designed and installed in the process plant such that the video cameras follow the movement and processing of DMS concentrate from the DMS to the fenced in recovery plant area. The video surveillance system serves to monitor the processing of concentrate through the recovery plant. The video surveillance system is monitored 24 hours, seven days a week by Shore Gold's plant security officers. All security images are backed up for potential security reviews by a third party security auditor. Access to the recovery plant area is restricted to recovery operators, recovery technicians, A.C.A. Howe representatives (pre-January, 2007), Shore Gold security officers, and Shore Gold's on-site project management. In order to staff the security positions, Shore Gold recruited retired members of the Royal Canadian Mounted Police (RCMP) and local municipal police force members to fulfil some of the security roles on the project.

Prior to commencement of the current work program, A.C.A. Howe and Shore Gold developed security and chain of custody protocols for both surface core and LDD drilling and sample processing programs and were instituted to minimize the potential for sample tampering and to maintain the sample integrity.

In 2006, Shore Gold reviewed its security procedures and protocols. Modifications to the security systems such as a new closed-circuit TV (CCTV) and access card security systems were installed in the summer of 2006.

In October 2006, a number of security system enhancements were implemented to heighten the overall site and process/recovery plant security measures. The enhancements to the security systems included the building of a security entrance building on the north side of the process/recovery plant. The attached plant security entrance building allows for the monitoring of persons entering the process/recovery plant and a more effective search capability of those persons leaving the plant. The plant security building also includes a male and female changing facility. All plant employees and authorized visitors are required to change into designated pocketless coveralls before entering the process/recovery facilities. The plant security entrance





also houses the security control area which allows for a secure environment for the security officers, to monitor all high risk areas, utilizing the digital video (CCTV) and door accesses recorded on the security management system.

A new main site access security building and security gate were constructed and placed in a location to afford tighter monitoring, recording and control of persons and vehicles accessing the main site. All vehicle parking has been placed outside of the designated high security area, and only authorized vehicles are allowed entrance. All vehicles and persons leaving the designated high security areas are searched before being allowed to exit.

Enhanced security protocols have also been implemented within the process/recovery plant operations area. These protocols define the role of security officers working within the plant areas and ensure that security maintains the integrity of all personnel and protects company assets by monitoring and recording the work being performed. Dual accountability, which must include a Shore Gold security officer, is maintained at all times when employees may come in contact with any material in the processing stream. With the advent of security cameras in the recovery safe house proper, threeperson accountability is maintained with the presence of one recovery operator or technician and one security officer. On entrance to the recovery safe house, the people in the recovery safe house are subject to continual focused video monitoring by a second security officer from the security control room. All persons entering the recovery plant area and/or the recovery safe house are recorded on the security management system via proximity card readers which include dates and times. All recorded security video from the process/recovery plant are backed up and secured for reviews by a third party security auditor.

13.2.8 **Process Plant Production Statistics and Sampling Results**

A total of 279 underground batch samples totalling 73,748.0 dry tonnes of kimberlite from the Star Kimberlite were processed through the process plant from January 26, 2004 to December 2007. Table 16-2 contains the complete list of underground drift batch samples processed since the commissioning of the process plant in 2004. In addition, 59 small tonnage RE samples and four geotechnical samples totalling 1,657 dry tonnes of kimberlite were processed (Table 12-1).

The following process and recovery plant production statistics were recorded daily and summarized on a per batch sample basis (Phase 1—primary and re-crush cycles, Phases 2 and 3—primary cycle only). They are:

- Tonnes of kimberlite processed (wet tonnes) on a per batch basis
- DMS concentrate weight (in kg)







- +1 millimetre to -3 millimetre, +3 millimetre to -6 millimetre and +6 millimetre to -20 millimetre sized fraction material for Sortex processing (in kilograms)
- Sized fraction material for grease table processing (in kilograms)
- +1 millimetre to -6 millimetre grease table tailings in secured bulk canvas bags (in kilograms)
- +6 millimetre grease table tailings for re-crush (in kilograms)
- Coarse kimberlite reject material (i.e. de-grit and float tailings (in tonnes)
- Slimes volume (in cubic decimetres)
- Moisture content determinations of the kimberlitic material

From August 2003 to December 2006, A.C.A. Howe was involved in the processing, chain of custody and sample integrity of Shore Gold's underground bulk sample program and LDD mini-bulk sampling program. However, since January 2007, A.C.A. Howe has provided third party review and audits of the process plant production data for Shore Gold's ongoing underground and LDD mini-bulk sample treatment programs for Shore Gold's Star Diamond Project.

AMEC believes that the quality of the diamond processing data is reliable and that sample preparation, analysis, and security are performed in accordance with exploration best practices and industry standards.

13.3 **Diamond Picking and Sorting Procedures**

Since the commencement of the underground bulk sampling program and LDD minibulk sampling program in 2004 and September 2005 respectively, a total of 2.667 diamond concentrate samples (492 underground Sortex, 493 grease table concentrate, 843 LDD Sortex, 839 LDD grease table concentrate) were shipped in 116 sample submission batches to SGS Lakefield located in Lakefield, Ontario. SGS Lakefield is accredited to the ISO/IEC 17025 standard by the Standards Council of Canada.

For each sample shipment, the diamond concentrate samples were secured in wooden boxes and placed in ascending order. The sample submission sheet would be completed, and the wooden boxes would be sealed and prepared for off-site shipment by a secure carrier. The samples were then air-freighted by the secure carrier to SGS Lakefield and Mineral Services.

When a sample submission was expedited, A.C.A. Howe would provide to Shore Gold a Microsoft® Excel spreadsheet file containing the following sample information:

- Sample submission number
- Sample batch number







- Diamond concentrate sample number
- Security tag numbers
- Sample type (primary/re-crush Sortex concentrate, primary/re-crush grease concentrate)
- Type and size of sample container
- Gross weight (wet) in kilograms
- Analysis type (i.e. diamond sorting).

The information contained in sample submission sheets provided to SGS Lakefield are:

- Sample submission number
- Diamond concentrate sample number
- Security tag numbers
- Sample type (primary/re-crush Sortex concentrate, primary/re-crush grease concentrate)
- Type and size of sample container
- Gross weight (wet) in kilograms
- Analysis type (i.e. diamond sorting)
- Number of and gross weight (in kilograms) of the wooden shipping boxes shipped
- Total gross weight (in kilograms) of the sample shipment.

Upon reception, SGS Lakefield verifies that the chain of custody documents (i.e. sample submission sheet) are cross-referenced with the sample shipment received, and that both the wooden boxes and sample containers arrive intact and that none of Shore Gold's security features show signs of tampering.

Once all of the security checks have been completed, SGS Lakefield then processed and sorted the Sortex concentrates and processed and sorted the grease table concentrates. Processing the Sortex concentrate consisted of drying, screening, magnetic separation, manual sorting, diamond weighing and description. Processing the grease table concentrate consisted of melting the grease in kettles, washing of the concentrate followed by drying, screening, magnetic separation, manual sorting, diamond weighing, and description.

Diamond summary reports provided to Shore Gold by SGS Lakefield conform to the CIM guidelines for the reporting of diamond exploration results (CIM, 2003), and SGS Lakefield has provided Shore Gold with the following sample result information:

• Diamond count: Total number of diamonds recovered on a per sieve size (millimetre square mesh)





- Diamond weight: Total weight of diamonds recovered on a per sieve size (millimetre square mesh) basis
- Diamond characteristics: crystal habit, colour, resorption (percent preservation), and breakage.

All of the sample information is electronically entered in SGS Lakefield's Laboratory Information Management System (LIMS). The LIMS system is used to track individual samples through the diamond picking process from arrival until final reporting.

13.4 Audit Programs (QA/QC)

13.4.1 2004 Grease Table Tailings and Coarse Reject Kimberlite Audit Program

A total of 29 one cubic metre bulk sample bags (27 grease table tailings, two coarse reject kimberlite tailings) were shipped in four sample submission batches to Rio Tinto's Thunder Bay Mineral Processing Laboratory (TBMPL) in Thunder Bay, Ontario for grease tailings audit. The purpose of the grease tailings audit was to confirm that the Recovery Plant circuit at Shore Gold's process plant facility is working efficiently, and that no diamonds of significance were being missed in the recovery process. TBMPL is ISO/IEC 17025 accredited by the Standards Council of Canada as a testing laboratory for specific tests.

The bulk sample bags shipped to TBMPL for grease tailings audit purposes were derived from primary and re-crush grease table concentrate tailings from Batches 1, 6, 9, 5, 10, 7A, 7B, 7C, 2, 3, 4, 11, 12, 13, 14, 15, 16, 17 and 18 and two coarse reject kimberlite sample bags from Batches 1 and 6. These sample batches represent a 165 day processing period from commissioning (January 2004) to 14 July 2004.

Upon receipt of the samples, TBMPL verified that the chain of custody documents (i.e. sample submission sheet) were cross-referenced with the sample shipment bulk sample bags and that they arrived intact, and that none of Shore Gold's security features showed signs of tampering.

For each sample shipment, the grease and coarse reject kimberlite tailings samples were secured in one cubic metre Endurapak® bulk sample bags. A.C.A. Howe completed the sample submission sheet (with the original copy of the sample submission sheet) and secured the bulk samples for off-site shipment by a secure transport carrier. Once the bulk samples were loaded into the transport trailer, additional pre-numbered security seals were attached to the trailer doors. The bulk samples were then freighted by the secure transport carrier to TBMPL.





When a tailings audit sample submission was made, A.C.A. Howe provided Shore Gold with a Microsoft® Excel spreadsheet file containing the following sample information:

- Sample submission number
- Sample batch number
- Grease or coarse reject kimberlite tailings sample number
- Security tag numbers
- Sample type (primary/e-crush grease table tailings, coarse reject kimberlite tailings)
- Type and size of shipping container
- Gross weight (wet) in kilograms
- Analysis type (i.e. recovery of free and locked diamonds greater than 0.85 millimetres).

The information contained in sample submission sheets provided to TBMPL is as follows:

- Sample submission number
- Grease or coarse reject kimberlite tailings sample number
- Security tag numbers
- Sample type (primary/re-crush grease table tailings, coarse reject kimberlite tailings)
- Type and size of shipping container
- Gross weight (wet) in kilograms
- Analysis type (i.e. recovery of free and locked diamonds greater than 0.85 millimetres).

Once all of the security checks have been completed, TBMPL then processed and sorted the grease table tailings and processed and sorted of the coarse reject kimberlite tailings.

Processing of the grease table tailings and coarse reject kimberlite tailings consisted of screening, drying, magnetic, separation, crushing, and manual sorting. If any diamonds were recovered, they were weighed, described, and electronically recorded.

Diamond summary reports provided to date by TBMPL conform to the CIM guidelines for reporting of diamond exploration results (CIM, 2003), and TBMPL provided Shore Gold with the following information:

 Diamond count: Total number of diamonds recovered on a per sieve size (millimetre square mesh)





- Diamond weight: Total weight of diamonds recovered on a per sieve size (millimetre square mesh) basis
- Diamond characteristics: crystal habit, colour, resorption (percent preservation), and breakage

All of the sample information was electronically entered in TBMPL's LIMS. The LIMS system was used to track individual samples through the diamond picking process from arrival until final reporting.

13.4.2 2005 to Present Grease Table Tailings Audit Program

A total of 21 one cubic metre grease table tailings bulk sample bags from the Phases 1, 2 ands 3 underground bulk sampling programs and 733 LDD mini-bulk sampling grease table tailings were shipped in 13 sample submission batches to Mineral Services Canada Inc. (MSC) located in North Vancouver, B.C. for grease tailings audit purposes. The purpose of the grease tailings audit is to confirm that the Recovery Plant circuit at Shore Gold's process plant facility is working efficiently and that no diamonds of significance are being missed in the recovery process. MSC is not currently accredited to the ISO/IEC 17025 standard by the Standards Council of Canada as a testing laboratory for specific tests.

During the advanced exploration work program, A.C.A. Howe recommended that the grease table tailings from all processed LDD mini-bulk sample intervals and approximately 15 percent by weight of the underground grease tailings to be audited so that all of the stones could be recovered and recorded for LDD and underground diamond grade estimation purposes. To that end the bulk of recent underground sample bags have been processed by MSC for grease tailings auditing. In addition, all LDD mini-bulk sample intervals from Star (including Star West holes) have been dispatched to MSC for audit purposes. For each sample shipment, the grease tailings samples were secured in one cubic metre Endurapak® bulk sample bags. A.C.A. Howe completed the sample submission sheet (with the original copy of the sample submission sheet) and secure the bulk samples for off-site shipment by a secure transport carrier. The bulk samples were then freighted by the secure transport carrier to MSC.

When a grease tailings audit sample submission was made, A.C.A. Howe would provide to Shore Gold a Microsoft® Excel spreadsheet file containing the following sample information:

- Sample submission number
- Sample batch number
- Grease tailings sample number





- Security tag numbers
- Sample type (grease table tailings)
- Type and size of shipping container (bulk bag)
- Gross weight (wet) in kilograms
- Analysis type (i.e. recovery of free and locked diamonds greater than 0.85 millimetres).

The information contained in sample submission sheets provided to MSC is as follows:

- Sample submission number
- Grease tailings sample number
- Security tag numbers
- Sample type (primary grease table tailings)
- Type and size of shipping container (bulk bag)
- Gross weight (wet) in kilograms
- Analysis type (i.e. recovery of free and locked diamonds greater than 0.85 millimetres).

Upon reception, MSC verified that the chain of custody documents (i.e. sample submission sheets) were cross-referenced with the bulk sample bags, that the bulk sample bags arrive intact and that none of Shore Gold's security features show signs of tampering.

Once all of the security checks were completed, MSC then completed the following laboratory audit test work methodology:

- Wet screen the sample into three fractions (-6+4 millimetres; -4+2 millimetres and -2 +1 millimetres)
- Record the weight of the -6 +4 millimetre fraction (wet) and sort for diamonds under ten-times magnification
- Dry the remaining two fractions in drying ovens and record the weight
- Remove ferromagnetic minerals using a Carpco Model MOS (10) 111–15 magnetic separator. Record the weight of the ferromagnetic fraction
- Pass the material remaining from the previous step over an Eriez RE5-1 rare earth roll permanent magnetic separator and record the weight of the resultant paramagnetic and non-magnetic fractions. Diamonds report to the non-magnetic fraction
- Hand sort the -4 +2 millimetre and -2 +1 millimetre non magnetic fractions for diamonds using a binocular microscope
- All potential diamonds recovered to be confirmed by laboratory supervisor, then weighed, described, recorded in a diamond log, and immediately locked in secure storage.





MSC stated that the above method has been demonstrated to be effective and reliable in the recovery of diamonds through a series of test runs using natural diamond spikes on test sample material provided by Shore Gold. Four independent tests achieved 100 percent recovery of spike diamonds in the size range -4 +2 millimetres.

Diamond summary reports provided to date by MSC conform to the CIM guidelines for the reporting of diamond exploration results (CIM, 2003), and MSC has provided Shore Gold with the following sample result information:

- Diamond count: Total number of diamonds recovered on a per sieve size (millimetre square mesh)
- Diamond weight: Total weight of diamonds recovered on a per sieve size (millimetre square mesh) basis
- Diamond characteristics: crystal habit, colour, resorption (percent preservation), and breakage.

MSC also provides a summary table of the weights recorded at the various stages of the process on a per size fraction basis (underground or LDD sample). That information includes:

- Sample number
- Total weight of the magnetic, para-magnetic, and non-magnetic fractions.

All of the sample information is electronically entered in MSC's LIMS. The LIMS system is used to track individual samples through the diamond picking process from arrival until final reporting.

13.4.3 AMEC Comments on Process Plant and QA/QC

The bulk sampling plant facilities established and operated by Shore Gold conform to industry standards. The audit results for the recovery plant tailings were good, as expected, and tailings data are accepted with no problems. Since audits were not undertaken on the DMS float tailings (lights), AMEC has assumed that this circuit operated normally, based on the tracer test results from Lawless and Associates in conjunction with SGS Lakefield (Lawless and Associates, 2008). AMEC considers that the QA/QC program was adequate to ensure quality data to support the mineral resource estimation.

13.5 Density Determinations

Density determinations were determined utilizing a water displacement method. The sample was weighed as received, wrapped in thin plastic wrap, weighed in water, the





plastic wrap is then removed, and the sample is then dried at 230 degrees Farenheit (110 degrees Celsius) and weighed. The dry density is then the dry mass divided by the difference between the dry mass and the mass of the sample suspended in water. This procedure is somewhat different than typical density determinations where the sample is weighed as received, dried, weighed, sealed, and weighed while in water. The different order of the procedure is used because much of the kimberlite is friable and disaggregates when it dries.

Bulk density, as it is used in this report, is the density of the in-situ rock, including fracture porosity and other types of porosity. This procedure does not account for fracture porosity which reduces the bulk density somewhat. Review of the core by AMEC indicates that most fractures are tight, and that there is little open space in these rocks. Fracture porosity will thus have little impact on the bulk density. AMEC is of the opinion that the density determined on rock samples at Star adequately estimates the in-situ bulk density and that no adjustments are required to account for fracture porosity.

This procedure is commonly used in the industry and is, in many cases, the only method that works for friable samples. AMEC observed the procedure and is of the opinion that the procedure is consistent with industry-standard procedures and that the data are adequate for resource estimation.





14.0 DATA VERIFICATION

14.1 Introduction

A quality assurance and quality control program (QA/QC) covering database management of underground shaft and drift sampling of Shore Gold's underground bulk sampling and diamond processing program was administered and monitored on a number of levels throughout the program. In AMEC's opinion, sampling and processing procedures and QA/QC program for the underground bulk sampling, LDD mini-bulk sampling, and diamond processing program is well documented by Shore Gold, and meets industry standards.

Strict adherence to the data management procedures and geological administrative framework facilitated Shore Gold's QA/QC program. The goal of the program as it applied to data collection, data input, and data validation was to ensure the quality of data in the Shore Gold database. When errors are identified in the database, Shore Gold's site staff would receive the erroneous information, verify the hardcopy records and digital data files, and make the amendments if the data were incorrect.

From January 2003 to January 2007, A.C.A. Howe provided third-party supervisory and monitoring services to Shore Gold for sample processing, chain of custody, and sample integrity for Shore Gold's underground bulk sample program and LDD minibulk sampling program. AMEC believes that the quality of the diamond processing data is reliable and that sample preparation, analysis, and security are in accordance with exploration best practices and industry standards.

Shore Gold and A.C.A. Howe developed operating QA/QC protocols to monitor and quantify the efficiency and recovery of the process plant, and these are discussed in Section 14.2.

14.2 Process Plant

The following QA/QC operating protocols were established by Shore Gold and A.C.A. Howe for the efficient operation of the DMS and recovery circuits.

14.2.1 DMS QA/QC Operating Protocols

During the operation of the DMS circuit, the following operating parameters are strictly monitored by Shore Gold and A.C.A. Howe in order to achieve proper kimberlite material separation:





- The specific gravity (SG) of the circulating medium (CM) is measured manually every 15 minutes with a densitometer and in real time with a DebTech® dense medium controller system. Since commissioning of the DMS circuit, the operating SG range, determined by numerous density tracer tests over several CM SG values is between 2.30 and 2.50.
- CM specific gravity readings of both the DMS cyclone overflow and underflow collected periodically.
- The operating range of the cyclone inlet velocity pressure is maintained at a constant pressure so that the inlet velocity pressure remains constant (i.e. no surging).
- It is ensured that the volumetric ratio between kimberlite material feed and CM fed to the mixing box is such that the loss of diamonds to the floats screen (due to the overfeeding of material through the cyclone) is negligible.
- Periodic wet screening checks of the CM for fines from the kimberlitic material are done in order to verify for the presence, quantity, and size of non-magnetic contaminants that can increase the viscosity of the CM.
- Periodic dry screening checks of the CM particle size analysis are done in order to determine the coarsening of the CM due to a reduction of fine ferrosilicon particles.
- Periodic checks of the +1 to -6 millimetre float material exiting the process plant for any greater than one millimetre-sized kimberlitic indicator minerals (KIMs) such as pyrope garnet (SG 3.50), eclogitic garnet (SG 3.50) and Cr-diopside (SG 3.20) are done.
- Density tracers are inserted on a daily basis to monitor the separating effectiveness of the DMS cyclone.

14.2.2 SORTEX QA/QC Operating Protocols

In order for the Sortex to maintain operating efficiency, the unit is calibrated weekly by conducting marble tracer tests. Marbles are used as tracers as they irradiate under X-rays. Marbles are individually inserted into the vibrating feeder tray, roll down the feed chute, and pass under the X-ray. Once the marble is irradiated, it emits light that the photo-multiplier detects, thus opening the ejector door. The marbles recovered by the Sortex are counted, and the percentage recovery is reported onto a pre-designed sheet. If the Sortex does not detect one or more marbles, adjustments to the channel sensitivity are made, and the test is re-run until the Sortex recovers all marbles (i.e. 100 percent).





A preventive maintenance schedule for the Sortex unit is strictly followed on a regular basis.

14.2.3 Grease Table QA/QC Operating Protocols

During the underground bulk sampling and processing program, auditing of the grease table efficiency and recovery with the use of "test or spiked diamonds" inserted into the grease concentrate feed was not performed. However, when processing grease table concentrate, the following operating parameters are strictly followed:

- The water temperature must be between 25 degrees Celsius and 30 degrees Celsius prior to processing the Sortex tailings concentrate so that the grease surface remains firm and "sticky
- Each Sortex tailings size fraction is fed manually over the grease table in a manner that the material arrives at the greased stepped portions in a non-clustered monolayer; thus allowing diamonds to be in direct contact with the grease.

14.2.4 **Process Plant – Prevention of Sample Contamination**

Contamination of samples by diamonds from previously run samples can adversely affect sample results and subsequent economic decisions. Therefore, strict guidelines are followed by Shore Gold to prevent batch sample cross-contamination. Prior to processing a new sample batch, the plant equipment (conveyors, crushers, hoppers, chutes, scrubber, sumps, and pump boxes) is thoroughly cleaned inside and out. All screens are scrubbed and flushed. The DMS circuit is run empty until all material trapped in the system is flushed out. The plant floor, which consists of a sand base, is periodically raked. All sumps are cleaned and hosed off prior to processing the next batch sample.

14.2.5 Process Plant – Diamond Recovery Efficiency

Although the process plant operating circuit requires minimal manual handling and movement of kimberlite and diamond-bearing concentrates, the overall diamond recovery efficiency is considered by AMEC to be high.

In order to audit the efficiency of the process and recovery plant, grease table tailings obtained from selected batch samples from Phases 1, 2 and 3 as well as several representative coarse kimberlite waste samples (i.e. float tailings) collected in secured 1 m³ sized Endurapak® canvas bulk bags from Phase 1 have been dispatched to various laboratories for process plant auditing purposes (see Sections 13.4).





Any diamonds recovered at this audit stage have been reported separately by TBMPL and MSC. However, the diamond counts and total carat weight for each batch sample will be incorporated into a "merged" diamond results database containing both the results from SGS Lakefield, TBMPL, and MSC respectively for diamond grade reporting.

Results obtained to October, 2007 from TBMPL and MSC indicate that low diamond recoveries from the audited samples confirm the integrity of the process and recovery plants. Most of the diamonds recovered from the audited samples are small (>0.85 millimetre to 1.70 millimetre square mesh) and of poor quality.

14.3 Independent Laboratory Audits

A.C.A. Howe audited SGS Lakefield on 4 November 2005 as part of the Phase 1 underground bulk sample program. During that audit, the laboratory, chain of custody, handling, sorting, and security protocols were reviewed by A.C.A. Howe. That review provided reasonable assurance relating to the quality of operations at the facility, and no material deficiencies were identified. A.C.A. Howe did not audit TBMPL or MSC during any phase of the underground bulk sampling program.

In November, 2007, AMEC conducted an audit of MSC's lab in order to:

- Review and audit the SGS tailings audit program.
- Review and audit the grease table tailings audit program.
- Review and audit MSC's new processing facility for final diamond recovery from Xray and grease concentrates.

During that audit, the chain of custody, handling, sorting, and security protocols were reviewed by AMEC and provided reasonable assurance of the adequacy of the quality of operations at the facility. No material deficiencies were identified.

14.4 AMEC Project Site Audits

As part of the advanced exploration program, AMEC made several site visits to the Star Diamond Project. The audits were dedicated to review the operation of the process plant and examination of the kimberlite and to conduct regular visits in order to review all aspects of the technical work and QA/QC being carried out on the project (i.e. LDD and underground sampling and processing, geological core logging, etc.) and data verification reviews of the above mentioned items in Section 13 (Coopersmith 2005; and Ryans 2006).





14.5 **Project Database**

The project database is hosted by a SQL database manager. AMEC reviewed the procedures and protocols for adding data to the database and general database security issues. No significant deficiencies were discovered. Because logging is done digitally, there is little in the way of an audit trail for lithological data. The need for an audit trail was discussed, and Shore Gold is currently investigating the possibility of archiving the original drill log files on a secure server.

AMEC has compared most of the data in the database to original data in the possession of AMEC. No significant errors were discovered. AMEC is of the opinion that the database is adequate for resource estimation and mine planning purposes.





15.0 ADJACENT PROPERTIES

The Star Diamond Project is located within the 50 kilometres long by 30 kilometres wide Fort à la Corne kimberlite province. At least 69 kimberlitic bodies have been drilled to date in the province, but there is no current production from any of the kimberlites. The Orion kimberlite cluster within the FalC Joint Venture (Kensington Resources (a wholly owned subsidiary of Shore Gold; 60 percent), Newmont Mining Corporation of Canada Limited (40 percent) is the closest kimberlite to the Star Kimberlite, and is at an advanced exploration stage.





16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

16.1 Production and Sampling Results – Phases 1 to 3 Underground Bulk Sampling Program

Final diamond results from the Star underground bulk sample program totalled 10,861.16 carats of diamonds (greater than 0.85 millimetres) that were recovered from a total of 75.404.87 dry tonnes of kimberlite processed through Shore Gold's batch sampling process plant from both Shore Gold's 100 percent owned Star Kimberlite and the Shore Gold–Newmont FalC Joint Venture's Star West large scale underground bulk sampling programs. Total production and sampling results are summarized in Table 16-1 while the total underground drift results on a per batch sample basis are listed in Table 16-2.

Utilizing underground batch sample results, the average "run-of-mine grade" obtained from the processed batches from the Star Kimberlite was 0.153 carats per tonne (or 15.32 carats per hundred metric tonnes. The average run-of-mine grades of the various Star Kimberlite units are given in Table 16-3.

16.2 **Production and Sampling Results – LDD Mini-Bulk Sampling Program**

A total of 95 LDD holes were drilled on the Star Kimberlite (80 on Shore property and 15 on FalC Joint Venture property). Seven of those holes were abandoned due to drilling difficulties leaving 88 holes to recover kimberlite sample for diamond recovery. As of January, 2008, all LDD diamond results have been collected from the Star Kimberlite.

A total of 1,336.29 carats of diamonds (greater than 0.85 millimetres) were recovered from a total of 9,788.78 processed dry tonnes¹ of kimberlite representing 18,923.75 insitu tonnes² from the LDD drilling. That kimberlite was processed through Shore Gold's processing plant giving an average, in-situ grade of 7.06 carats per hundred metric tonnes (Table 16-4).

² Calculated tonnage is based on hole diameters measured by caliper and volumes calculated from those measured diameters and/or a modelled uniform cylinder for the drill hole and measured density values from pilot core holes. Calculated and processed tonnages differ because samples are screened at the drill and all sample that is less than one millimetre is discarded.



¹ Processed sample mass refers to excavated kimberlite chips greater than one millimetre that were recovered in mini-bulk bags for diamond recovery in the processing plant.



Property	Sample Type	Metric Tonnes Processed (dry)	Total Stones	Total Carats	Grade (carats per hundred metric tonnes)
Star West	Drift	4,173.73	3,424	746.29	17.88
Star West	RE*	161.10	90	14.46	8.98
Star	Drift	60,456.19	74,527	9,419.10	15.58
Star	Clean-up	9,118.28	2,965	453.33	4.97
Star	RE	1471.88	1,455	224.47	15.25
Star	Geotechnical	23.69	20	3.46	14.61
TOTAL		75,404.87	82,481	10,861.12	14.40

Table 16-1: Summary of Combined Production and Sample Results (Underground, RE, and Geotech) for Star Kimberlite and Star West Kimberlite

Note: *Resource Estimate (RE) samples utilized to correlate with proximal LDD samples

Table 16-2: Combined Production, Underground, RE and Geotechnical Sample Results for Star Kimberlite and Star West Kimberlite

Batch Number	Kimberlite Facies	Processed Dry Tonnes	Number of Diamonds Recovered (>0.85 mm)	Total Carat Weight	Grade (cpht)
1	MJF	748.90	246	13.08	1.75
2A	MJF	243.86	108	11.64	4.77
2B	LJF	273.45	52	2.45	0.89
3A	LJF	206.80	132	6.62	3.20
3B	LJF	194.69	125	5.17	2.66
4A	MJF	205.20	74	3.98	1.94
4B	MJF	215.23	73	3.79	1.76
5A	MJF	171.37	159	12.91	7.54
5B	MJF	167.83	79	5.60	3.33
6A	MJF	986.51	626	76.37	7.74
6B	MJF	717.24	467	54.31	7.57
7A	EJF	241.16	356	32.85	13.62
7B	EJF	173.95	262	26.49	15.23
7C	EJF	301.97	478	53.04	17.56
8A	EJF	249.50	416	28.29	11.34
8B	EJF	246.63	415	32.91	13.34
8C	EJF	243.42	380	30.71	12.62
8D	EJF	248.05	438	33.14	13.36
8E	EJF	233.02	406	39.33	16.88
9	EJF	929.65	1,093	91.98	9.89
10A	EJF	254.28	375	28.45	11.19
10B	EJF	277.44	306	28.61	10.31
11	EJF	61.06	38	7.27	11.90
12	EJF	357.68	458	63.00	17.61
12A	EJF	129.68	225	26.48	20.42
13	EJF	439.62	579	68.62	15.61
14	EJF	210.49	275	71.23	33.84
15A	EJF	120.24	180	20.01	16.64
15B	EJF	231.40	293	68.18	29.46
16A	EJF	121.31	167	33.63	27.73
16B	EJF	143.80	252	25.08	17.44
17	EJF	225.40	383	46.00	20.41
18	EJF	231.30	264	23.43	10.13
19	EJF	186.48	267	30.00	16.09
20	EJF	211.35	352	49.75	23.54





Batch Number	Kimberlite Facies	Processed Dry Tonnes	Number of Diamonds Recovered (>0.85 mm)	Total Carat Weight	Grade (cpht)
21	EJF	205.29	337	32.89	16.02
22	EJF	243.77	460	50.05	20.53
23	EJF	225.06	331	45.63	20.27
24	Cantuar	182.74	460	60.24	32.97
25	EJF	230.76	330	77.54	33.60
26	EJF	166.96	319	60.82	36.43
27	Cantuar	265.25	330	41.52	15.65
28	EJF	269.90	493	60.21	22.31
29	EJF	210.13	307	34.31	16.33
30	EJF	178.32	258	34.24	19.20
31	EJF	217.87	333	39.69	18.22
32	EJF	256.01	385	39.09	13.32
33	Cantuar	264.52	402	50.85	19.22
34	EJF	265.95	400	36.71	13.80
35A	EJF	175.82	282	20.20	11.49
35B	EJF	186.04	319	45.02	24.20
36	EJF	217.01	353	56.49	26.03
37	EJF	231.20	568	53.35	23.08
38A	Cantuar	168.58	211	38.92	23.09
38B	Cantuar	240.01	383	48.69	20.29
39	EJF	258.67	447	41.25	15.95
40	EJF	260.91	338	46.27	17.73
41	EJF	307.44	427	59.78	19.44
42A	EJF	252.49	489	57.13	22.63
42B	EJF	167.21	289	26.75	16.00
43	EJF	312.70	326	42.14	13.48
44	EJF	262.82	388	46.61	17.74
45A	EJF	208.35	295	29.81	14.31
45B	EJF	211.85	310	35.65	16.83
46	EJF	213.26	448	46.01	21.57
47	EJF	342.64	510	61.73	18.01
48	EJF	322.07	530	74.17	23.03
49	EJF	343.62	412	95.92	27.92
50	EJF	345.1	518	51.44	14.90
51A	EJF	261.63	371	35.07	13.41
	EJF		441		
51B	EJF	272.29	352	45.45 37.30	16.69
52		223.64			16.68
53	EJF	316.72	668	75.67	23.89
54	MJF	302.50	428	40.48	13.38
55A	EJF	170.45	241	37.09	21.76
55B	EJF	155.02	237	32.10	20.71
56	EJF	299.09	472	48.41	16.19
57A	Cantuar	171.66	252	37.58	21.89
57B	Cantuar	207.40	324	49.19	23.72
58	EJF	292.26	432	55.35	18.94
59A	EJF	160.53	208	25.04	15.60
59B	EJF	212.39	268	34.94	16.45
60	EJF	188.40	247	26.35	13.98
61	EJF	158.26	166	18.16	11.47
62	MJF	235.93	258	38.73	16.41
63	MJF	122.07	120	15.82	12.96
64	EJF	242.72	335	55.66	22.93
65	EJF	244.89	392	43.31	17.68
65B	EJF	37.00	41	3.47	9.38
66	EJF	304.88	561	61.87	20.29
00	LJF	304.00	92	01.07	20.29





Batch Number	Kimberlite Facies	Processed Dry Tonnes	Number of Diamonds Recovered (>0.85 mm)	Total Carat Weight	Grade (cpht)
67	EJF	106.37	162	17.36	16.32
67B	EJF	109.29	182	28.31	25.90
68	EJF	94.87	101	12.95	13.65
68B	EJF	171.23	230	43.12	25.18
69	EJF	38.95	45	5.27	13.53
69B	EJF	75.44	86	13.80	18.29
70	Cantuar	57.90	75	9.15	15.80
71	EJF	81.35	107	9.94	12.22
71B	EJF	32.14	46	4.06	12.62
72	MJF	13.61	3	0.31	2.31
72B	MJF	100.74	83	6.30	6.25
73	Clean-up	252.86	235	37.53	14.84
74		183.20	64	6.59	3.59
	Clean-up		424		
75A	Cantuar	272.95		45.07	16.51
75B	Cantuar	78.15	124	12.84	16.43
76	Cantuar	399.97	736	97.65	24.41
77	EJF	186.00	286	57.69	31.02
78	Clean-up	102.40	137	16.79	16.39
79	EJF	60.70	57	5.38	8.86
80	Cantuar	93.61	102	20.30	21.68
81	EJF	265.40	283	24.26	9.14
82	EJF	196.18	298	34.16	17.41
83	EJF	348.26	502	33.41	9.59
84	EJF	342.88	577	52.45	15.30
85	EJF	231.51	331	52.77	22.80
86	EJF	331.01	693	81.46	24.61
87	EJF	272.06	477	38.73	14.24
88	EJF	323.33	404	48.07	14.87
89	EJF	281.77	326	26.92	9.55
90	EJF	249.24	323	34.15	13.70
91	EJF	250.00	277	26.95	10.78
92	EJF	310.96	484	52.03	16.73
93	EJF	184.05	325	42.42	23.05
93	EJF		376	56.61	19.54
	EJF	289.76			
95		71.93	133	14.92	20.75
96	Cantuar	291.94	341	58.34	19.98
97	Cantuar	50.80	26	5.46	10.75
98	EJF	41.33	62	10.61	25.67
99	EJF	201.01	229	33.67	16.75
100	EJF	209.63	265	43.14	20.58
101	EJF	217.90	300	43.90	20.15
102	EJF	161.22	298	34.88	21.64
103	MJF	148.43	142	18.09	12.19
104	EJF	240.06	318	46.09	19.20
105	EJF	261.70	314	51.69	19.75
106	EJF	262.92	360	67.77	25.78
107	EJF	165.82	233	54.82	33.06
108	EJF	115.55	82	17.84	15.44
109	EJF	49.96	57	8.00	16.02
110	EJF	247.61	401	42.38	17.12
110	EJF	318.13	399	64.99	20.43
112	EJF	108.21	98	23.05	20.43
112	EJF	358.98	342	61.12	17.03
114	EJF	384.54	353	60.58	15.75
115	EJF	343.96	421	55.19	16.05
116A	MJF	188.72	99	7.58	4.01





Batch Number	Kimberlite Facies	Processed Dry Tonnes	Number of Diamonds Recovered (>0.85 mm)	Total Carat Weight	Grade (cpht)
116B	MJF	178.72	129	16.00	8.95
117A	EJF	211.06	214	35.04	16.60
117B	EJF	303.57	325	55.31	18.22
118	EJF	254.68	183	48.28	18.96
119	EJF	317.64	297	91.11	28.68
120	EJF	277.47	256	66.78	24.07
120	EJF	391.35	414	70.72	18.07
121	EJF	331.64	231	80.83	24.37
122	EJF	102.08	135	18.91	18.53
123	EJF	292.91	272	58.39	19.93
124	EJF	143.46	126	16.93	11.80
-					
126	EJF	413.46	282	28.49	6.89
127	EJF	408.53	350	60.42	14.79
128A	EJF	286.65	300	49.63	17.31
128B	EJF	407.20	406	93.48	22.96
129	EJF	141.59	141	23.82	16.83
130	EJF	346.40	291	41.96	12.11
131	EJF	296.29	316	63.38	21.39
132	EJF	151.26	119	23.72	15.68
133	EJF	197.67	182	31.62	16.00
134	EJF	115.01	144	24.12	20.97
135	MJF	84.90	65	5.64	6.64
136	EJF	25.60	25	4.39	17.14
137	EJF	323.27	268	44.80	13.86
138	EJF	350.18	235	35.60	10.00
139	EJF	320.99	273	52.64	16.40
139	EJF	181.00	104	12.99	7.18
					-
141	EJF	261.85	286	35.96	13.73
142	EJF	202.41	195	29.17	14.41
143	Cantuar	296.59	230	43.31	14.60
144	Cantuar	358.30	320	50.00	13.96
145A	EJF	169.78	173	27.01	15.91
145B	EJF	140.22	173	14.41	10.28
146	Clean-up	227.70	255	36.76	16.14
147	EJF	95.33	86	16.44	17.24
148	EJF	322.79	304	43.12	13.36
149	Clean-up	95.23	90	13.77	14.46
150	Clean-up	319.07	287	48.29	15.13
151	Clean-up	443.20	328	49.03	11.06
152	EJF	358.22	389	72.95	20.36
153	EJF	297.35	355	99.17	33.35
154	EJF	347.00	318	44.90	12.94
	EJF			37.20	
155		362.64	323		10.26
156	EJF	80.74	90	20.30	25.15
157	Cantuar	148.66	117	17.10	11.50
158	Cantuar	135.11	102	15.85	11.73
159	Cantuar	179.20	164	27.31	15.24
160	EJF	115.97	99	22.04	19.01
161	EJF	376.60	496	53.040	14.08
162	EJF	165.15	201	25.83	15.64
163	EJF	323.95	451	49.93	15.41
164	EJF	304.11	436	35.57	11.70
165	EJF	365.48	518	68.47	18.74
166	Cantuar	156.03	179	29.84	19.13
167	EJF	332.28	476	55.70	16.76
168	EJF	338.83	452	69.12	20.40




Batch Number	Kimberlite Facies	Processed Dry Tonnes	Number of Diamonds Recovered (>0.85 mm)	Total Carat Weight	Grade (cpht)
169	EJF	362.73	500	67.49	18.61
170	EJF	339.72	525	51.44	15.14
171	EJF	372.11	634	54.37	14.61
172	EJF	280.92	396	35.08	12.49
173	Clean-up	1634.94	481	103.45	6.33
174	MJF	76.30	56	4.38	5.74
175	EJF	44.80	70	13.80	30.81
176	EJF	60.83	77	8.02	13.18
177	EJF	55.96	86	8.69	15.53
178	EJF	57.20	84	7.59	13.27
179A	n/a	94.93	35	2.67	2.81
179B	EJF	159.82	174	29.25	18.30
180	EJF	30.17	30	4.63	15.34
180	Cantuar	300.53	259	51.14	17.02
181	Cantuar	121.58	93	17.08	14.05
183	Cantuar	139.75	110	16.09	11.52
184	EJF	60.32	40	4.27	7.08
185	Cantuar	160.50	129	20.58	12.82
186	Pense	302.65	328	35.68	11.79
187	Pense	413.42	485	53.63	12.97
188	Pense	347.34	443	57.69	16.61
189	Pense	88.31	81	6.09	6.90
190	Pense	90.31	101	12.41	13.74
191	Pense	216.50	243	20.56	9.50
192	EJF	90.93	31	1.51	1.66
193A	Cantuar	50.52	46	8.43	16.68
193B	Cantuar	64.60	69	7.44	11.52
194	Cantuar	203.06	229	21.56	10.62
195	Cantuar	320.83	273	55.20	17.20
196	Cantuar	261.19	274	47.01	18.00
197	Cantuar	304.23	243	50.42	16.57
198	Cantuar	266.04	266	51.95	19.53
199	Cantuar	266.07	240	45.48	17.09
200	Cantuar	294.02	214	71.89	24.45
201	Pense	350.60	204	19.24	5.49
202	Pense	396.48	437	52.96	13.36
203	Pense	318.28	307	33.46	10.51
204	Pense	393.12	339	26.39	6.71
205	Pense	196.80	255	57.58	29.26
206	Pense	305.60	184	21.35	6.99
207	Pense	300.78	240	39.31	13.07
208	Pense	280.69	370	54.34	19.36
200	Pense	338.40	459	70.84	20.94
209	Pense	330.73	373	38.40	11.61
210	Pense	364.93	373	35.09	9.62
211	Pense	408.82	473	43.52	10.64
212		340.18	382	43.52 32.29	9.49
	Pense				
214	Pense	352.83	463	56.02 12.36	15.88
215	Pense	348.78	202		3.54
216	Pense	75.64	98	11.02	14.57
217	Pense	389.74	523	80.20	20.58
218	Pense	321.31	291	23.39	7.28
219	Cantuar	306.67	201	48.07	15.67
220	Cantuar	347.88	252	44.48	12.79
221	Pense	330.43	336	24.47	7.41
222	Pense	325.32	405	21.15	6.50





Batch Number	Kimberlite Facies	Processed Dry Tonnes	Number of Diamonds Recovered (>0.85 mm)	Total Carat Weight	Grade (cpht)
223	Pense	358.88	535	25.95	7.23
224	Pense	322.98	387	53.09	16.44
225	Cantuar	332.71	244	112.82	33.91
226	Clean-up	343.25	184	21.41	6.24
227	Pense	397.06	590	60.95	15.35
228	Pense	431.48	658	57.54	13.33
229	Pense	443.56	914	64.31	14.50
230	Pense	388.93	685	78.54	20.19
230	Pense	402.35	712	60.74	15.10
232	Pense	351.04	702	62.36	17.77
233A	Cantuar	215.96	222	31.28	14.48
233B	Cantuar	99.49	64	7.27	7.31
234A	Cantuar	303.37	150	26.95	8.88
234B	Cantuar	59.28	29	7.94	13.39
235	Cantuar	344.83	288	49.01	14.21
236	Cantuar	356.36	282	81.74	22.94
237	Clean-up	794.24	657	83.67	10.54
239	Clean-up	1242.57	155	17.54	1.41
Total/Average B		70,299.08	80,824	10,600.21	15.08
RE-01	EJF	31.50	15	1.90	6.05
RE-02	EJF	29.05	18	0.76	2.62
RE-02	EJF	28.23	28	3.21	11.38
RE-04	EJF	27.76	33	20.09	72.35
RE-04 RE-05	EJF	25.85	29	4.886	
			-		18.90
RE-06	EJF	27.67	29	2.518	9.10
RE-07	EJF	27.37	32	5.20	18.98
RE-08	EJF	27.92	25	2.21	7.93
RE-09	EJF	27.87	34	5.32	19.10
RE-10	MJF	28.78	17	7.42	25.79
RE-11	EJF	27.63	34	4.61	16.69
RE-12	EJF	27.33	34	3.30	12.07
RE-13	EJF	29.13	23	2.29	7.85
RE-14	Cantuar	27.63	13	4.73	17.13
RE-15	Cantuar	29.57	22	2.49	8.41
RE-16	Cantuar	28.63	23	15.69	54.82
RE-17	EJF	25.58	37	10.76	42.08
RE-18	EJF	26.89	39	2.87	10.67
RE-19	EJF	30.28	36	4.15	13.72
RE-20	EJF	27.52	21	2.61	9.49
RE-20 RE-21	EJF	30.85	21	1.78	<u>9.49</u> 5.77
	-			-	-
RE-22	EJF	26.51	16	1.19	4.51
RE-23	EJF	25.99	30	3.51	13.52
RE-24	EJF	30.42	37	4.37	14.37
RE-25	EJF	26.78	32	4.44	16.57
RE-26	EJF	27.16	25	2.74	10.08
RE-27	EJF	27.38	46	5.97	21.79
RE-28	EJF	19.93	25	3.51	17.62
RE-29	EJF	26.76	33	7.23	27.03
RE-30	EJF	28.01	23	1.84	6.58
RE-31	Cantuar	23.31	14	0.74	3.16
RE-32	EJF	28.41	27	3.46	12.18
RE-33	EJF	27.30	28	4.89	17.90
RE-34	EJF	28.65	38	5.59	19.50
RE-35	Cantuar	26.84	14	4.84	18.03
RE-36	Pense	25.79	32	2.42	9.38
RE-36 RE-37	Pense	26.13	33	3.86	9.3





Batch Number	Facies Dry Tonnes (>0.85 mm)		Total Carat Weight	Grade (cpht)	
RE-38	Pense	27.97	35	2.95	10.56
RE-39	Pense	26.74	22	1.19	4.44
RE-40	Pense	30.51	21	1.79	5.87
RE-41	Pense	28.49	27	3.43	12.05
RE-42	Pense	28.04	13	0.75	2.69
RE-43	EJF	28.29	13	3.13	11.07
RE-44	Pense	30.08	40	3.26	10.83
RE-45	Pense	28.52	41	3.42	11.99
RE-46	Pense	26.71	34	2.28	8.53
RE-47	EJF	28.50	19	2.05	7.20
RE-48	EJF	27.36	28	6.46	23.61
RE-49	EJF	27.56	20	1.60	5.82
RE-50	EJF	31.80	33	4.31	13.56
RE-51	EJF	26.16	17	12.88	49.24
RE-52	EJF	27.32	42	5.85	21.43
RE-53	EJF	29.61	22	2.57	8.68
RE-54	EJF	26.63	22	1.96	7.36
RE-55	Cantuar	27.27	16	2.28	8.36
RE-56	Cantuar	28.57	15	1.51	5.29
RE-57	Cantuar	27.95	19	3.04	10.87
RE-58	Cantuar	23.75	11	1.16	4.90
RE-59	Cantuar	26.72	15	1.63	6.11
Total/Average	RE Samples	1632.983	1545.00	238.93	14.63
Geotech#1	EJF	5.64	3	0.36	6.43
Geotech#2	EJF	5.64	4	0.48	8.59
Geotech#3	Cantuar	5.83	8	2.18	37.32
Geotech#4	Pense	6.58	5	0.44	6.66
Total/Average Ge	otech Samples	23.69	20	3.46	14.61

Notes:

1. All results conform to the CIM Guidelines for the Reporting of Diamond Exploration Results

2. Dry tonnes calculated based on defined moisture content determinations of kimberlite material and the conversion of dry short tons to metric tonnes by a factor of 0.9071847. Weightometer readings recorded in Imperial short tons since the commissioning of the process plant until the end of Phase 2.

3. Batches 1 and 6 includes diamonds >0.85 mm recovered from both the SGS Lakefield diamond concentrate samples and TBMPL grease table audit samples. All other batch samples do not contain TBMPL audit sample results

4. Top screen size of 18 mm square aperture screen was utilized for Batches 1 to 95 whereas a top screen size of 22 mm square aperture screen was utilized for batches 96 to 237 and for the entire LDD sample processing program

5. N/A: not available

6. Sample Batches 238A and 238B were stockpile yard clean-up samples, for a total carat weight of 18.50 carats and were not included in the totals in this table.

Kimberlite phase (or rock type)	Grade (cpht)
LJF Total	2
MJF Total	7
EJF Total (includes EJF–PK, KB and combined)	18
Pense (PPK)	13
Cantuar (CPK)	18





Primary Phase or Unit	Total Stones	Total Carats	Calculated Tonnage	Processed Tonnage	Grade* (cpht)
EJF	11,507	1,061.86	11,078.26	5,831.10	9.59
СРК	615	98.48	961.09	535.88	10.25
РРК	809	77.34	798.24	439.40	9.69
MJF	1,031	66.63	2,188.47	1,165.82	3.04
MJF-S	22	0.87	135.77	60.49	0.64
JLRPK	109	10.83	180.36	80.74	6.00
LJF	183	9.02	1,984.37	768.39	0.45
LJF-S	24	1.18	998.68	506.07	0.12
CF	02	9.15	209.26	103.87	4.37
UJFF	7	0.55	53.22	38.50	1.04
LJFF	-	-	10.20	5.89	0.00
UKS	7	0.25	202.08	172.65	0.12
KDF	3	0.14	103.01	67.16	0.13
U	-	-	20.75	12.82	0.00
Total	14,419	1,336.29	18,923.75	9,788.78	7.06

Table 16-4: LDD Mini-Bulk Sample Details and Diamond Recovery (as at 18 December 2007)

A total of 5,831.10 dry tonnes, representing a calculated tonnage of 11,078.26 tonnes of the volumetrically largest unit, Early Joli Fou Kimberlite, was processed and yielded 1,061.86 carats. The average in-situ grade estimated for EJF is 9.59 carats per hundred metric tonnes. All diamond concentrate samples were dispatched by Shore Gold and processed by SGS Lakefield for final diamond recovery. The production and sampling results for all processed kimberlite batches on a per LDD hole basis are

Table 16-5: LDD Mini-Bulk Sample Details and Diamond Recovery (as at 18 December	,
2007)	

Hole ID	Total Carats	Total Stones	Calculated Tonnage	Processed Tonnage	Grade* (cpht)
LDD-002	7.73	97	228.93	128.56	3.38
LDD-003	1.69	26	50.08	30.52	3.37
LDD-004	20.04	181	189.57	74.52	10.57
LDD-005	24.22	217	261.74	118.86	9.25
LDD-006	27.37	210	254.29	134.09	10.76
LDD-007	9.54	111	147.98	72.82	6.44
LDD-008	35.87	253	272.62	147.93	13.16
LDD-009	20.10	190	141.32	69.10	14.23
LDD-011	19.05	90	94.06	42.44	20.25
LDD-013	32.58	308	264.04	138.34	12.34
LDD-014	26.62	264	250.80	119.33	10.61



listed in Table 16-5.



	Total	Total	Calculated	Processed	Grade*
Hole ID	Carats	Stones	Tonnage	Tonnage	(cpht)
LDD-015	19.09	198	286.18	120.66	6.67
LDD-016	16.95	222	172.06	95.82	9.85
LDD-017	17.54	219	213.36	115.05	8.22
LDD-018	9.42	125	280.53	172.15	3.36
LDD-020	20.37	199	265.44	155.05	7.67
LDD-021	21.60	209	278.74	115.10	7.75
LDD-022	12.38	137	259.47	110.86	4.77
LDD-023	10.16	130	200.19	105.65	5.07
LDD-024	18.05	175	267.22	107.13	6.76
LDD-026	13.11	191	345.64	166.87	3.79
LDD-027	10.38	143	240.20	82.19	4.32
LDD-028	8.63	118	203.19	84.47	4.25
LDD-029	8.25	79	197.58	79.33	4.17
LDD-030	26.90	199	356.14	187.68	7.55
LDD-031	16.85	166	268.36	127.42	6.28
LDD-033	4.45	64	121.78	58.47	3.65
LDD-034	5.24	99	114.29	51.65	4.59
LDD-035	6.18	96	148.99	64.31	4.15
LDD-036	11.74	170	198.88	84.63	5.90
LDD-037	7.50	92	189.84	112.94	3.95
LDD-039	23.48	156	217.87	130.49	10.78
LDD-040	7.05	98	203.07	103.68	3.47
LDD-041	12.37	160	142.36	78.29	8.69
LDD-042	6.94	80	113.39	67.96	6.12
LDD-043	6.81	97	182.88	87.59	3.73
LDD-044	6.93	140	165.50	67.63	4.18
LDD-045	17.29	146	179.52	84.80	9.63
LDD-046	21.09	226	349.96	175.31	6.03
LDD-047	13.01	216	154.53	82.53	8.42
LDD-048	12.80	190	135.84	79.35	9.42
LDD-049	9.93	136	116.82	68.27	8.50
LDD-050	5.02	68	73.86	44.12	6.80
LDD-051	9.09	175	187.63	111.14	4.84
LDD-052	14.14	204	247.97	129.10	5.70
LDD-053	15.51	152	173.45	87.64	8.94
LDD-054	9.00	131	164.53	82.21	5.47
LDD-055	19.86	229	277.48	147.92	7.16
LDD-056	29.66	238	335.03	190.60	8.85
LDD-057	17.51	105	207.54	114.71	8.44
LDD-058	23.12	169	226.53	130.06	10.21
LDD-059	16.64	242	269.05	135.97	6.19
LDD-060	17.41	187	307.75	143.90	5.66
LDD-061	12.16	180	220.86	110.04	5.51
LDD-062	24.05	197	255.28	149.34	9.42
LDD-063	37.04	330	364.69	204.55	10.16
LDD-064	18.80	229	418.03	227.77	4.50
LDD-065	25.56	291	544.83	252.71	4.69
LDD-066	24.46	238	358.59	179.26	6.82
LDD-067	6.28	92	131.33	69.55	4.78
LDD-068	11.07	138	142.56	72.05	7.76
LDD-069	9.27	80	118.08	61.82	7.85





	Total	Total	Calculated	Processed	Grade*
Hole ID	Carats	Stones	Tonnage	Tonnage	(cpht)
LDD-070	5.63	97	98.33	55.03	5.72
LDD-071	3.99	49	99.98	55.31	3.99
LDD-072	16.61	200	111.69	63.14	14.87
LDD-073	6.32	128	88.39	46.23	7.15
LDD-074	17.82	210	102.13	59.06	17.45
LDD-075	6.13	84	98.46	51.00	6.23
LDD-076	3.95	59	115.44	72.40	3.43
LDD-077	11.51	190	159.46	79.18	7.22
LDD-078	7.22	120	154.17	78.80	4.68
LDD-079	12.10	174	151.35	90.47	7.99
LDD-080	7.58	132	135.03	70.80	5.62
LDD-STW-07-001	30.20	263	245.41	125.46	12.31
LDD-STW-07-002	16.31	205	222.02	115.12	7.35
LDD-STW-07-003	19.13	170	268.36	141.89	7.13
LDD-STW-07-004	9.44	112	146.31	73.04	6.45
LDD-STW-07-005	19.11	189	176.52	96.19	10.83
LDD-STW-07-006	23.66	288	520.51	270.96	4.55
LDD-STW-07-007	11.17	200	287.84	153.34	3.88
LDD-STW-07-008	15.03	248	464.52	249.84	3.24
LDD-STW-07-009	23.39	221	229.33	125.82	10.20
LDD-STW-07-010	13.70	155	283.03	164.33	4.84
LDD-STW-07-011	2.85	42	222.09	131.68	1.28
LDD-STW-07-012	6.63	73	139.75	83.66	4.74
LDD-STW-07-013	21.03	148	210.15	127.64	10.01
LDD-STW-07-014	13.80	172	191.23	111.33	7.21
LDD-STW-07-015	39.01	192	251.95	152.76	15.48
TOTAL	1,336.29	14,419	18,923.75	9,788.78	7.06

16.3 Diamond Grade and Statistics

Examination of the size frequency statistics for the Early Joli Fou (EJF) and Cantuar diamond populations by Shore Gold revealed that the Cantuar diamond population has a greater proportion of +1 carat stones than EJF. Typically the bulk of the diamond value lies in the stones that are greater than one carat in size. Forty-four percent of the carats recovered from the Cantuar Kimberlite are greater than one carat in size, while 31 percent of the recovered EJF carats are greater than one carat. The data used to generate these numbers are listed in Table 16-6.





Kimberlite Phase	Total Carats	Carats Greater Than 1 Carat	Percentage Greater Than 1 Carat
Early Joli Fou (EJF)	6,982.26	2,184.54	31.29%
Cantuar (CPK)	1,671.16	740.20	44.29%

Table 16-6: Diamond Population Comparison for >1 Carat Stones (EJF and Cantuar)

16.4 Diamond Characteristics

16.4.1 Underground Bulk Sample

Of the 82,482 stones (10,861.16 carats) recovered from the bulk sampling program:

Stone size

- 93 stones exceed five carats, representing eight percent of the total carat weight
- 533 stones exceed two carats, representing 19 percent of the total weight
- 1,497 stones exceed one carat representing 31.0 percent of the total carat weight
- 3,488 stones exceed 0.5 carats, representing 45.7 percent of the total carat weight.

Colour:

- 66.5 percent of the total stones recovered are classified as White
- 14.39 percent of the total stones recovered are classified as Off-White
- 14.26 percent of the total stones recovered are classified as Grey
- 0.38 percent of the stones recovered are classified as Yellow
- 4.47 percent of the stones recovered are classified as Other (pink, brown, amber, etc.)

The production and sampling results on a per batch sample basis for Shore Gold's Star Diamond Project large scale batch sampling program were presented earlier in Table 16-2.

16.4.2 LDD Mini-Bulk Samples

Of the 14,419 stones (or 1,336.29 carats) recovered from the Star Diamond Project LDD mini-bulk sampling program:



Stone size:

Over 93.2 percent of the total number of stones (or 98.7 percent of the total carat weight) recovered are greater than 1.18 millimetre square mesh of which:

- 10 stones, 91.208 carats. exceed five carats, representing 6.82 percent of the total carat weight
- 37 stones, 171.35 carats, exceed two carats, representing 12.82 percent of the total weight
- 130 stones, 295.49 carats, exceed one carat representing 22.11 percent of the total carat weight
- 307 stones, 415.94 carats exceed 0.5 carats, representing 31.12 percent of the total carat weight.

Colour:

- 71.60 percent of the total stones recovered are classified as White
- 15.51 percent of the total stones recovered are classified as Off-White
- 9.12 percent of the total stones recovered are classified as Grey
- 0.19 percent of the stones recovered are classified as Yellow
- 3.58 percent of the stones recovered are classified as Other (pink, amber, etc.).

16.5 Diamond Valuation

During the third quarter of 2007, Shore Gold commissioned WWW to do a final valuation on a 10,309.07 carat diamond parcel recovered from its completed bulk sampling program on the Star Kimberlite. A new valuation was completed on 4,359.19 carats of new stones, and the present day pricing was assigned to the 5,949.88 carats that were previously valued using the current price book (Leroux, 2008a).

On November 5th, 2007 Shore Gold announced that the WWW-applied modeled values for the parcel that ranged between US\$97 and US\$300 per carat for the different kimberlite lithologies (Table 16-7). The entire parcel was given a present day value of US\$1,084,443 that would give an actual price for the parcel of US\$105 per carat (Leroux, 2008a).

WWW modeled diamond values to determine the estimated value for diamonds at Star based on the 10,309.07 carat parcel recovered from the Star Kimberlite. WWW, with their aboriginal partners Aboriginal Diamonds Group Limited, comprise Diamonds International Canada Ltd., and are the valuers to the Federal Government of Canada for the Canadian diamond mines in the Northwest Territories and to the provincial





government of Ontario for the Victor Diamond Mine. The model value is determined using statistical methods to estimate the average value of diamonds that will be recovered from a future mine on the Star Kimberlite.

The difference between the actual value of the parcel submitted to WWW and the modeled value results from under sampling of the top end (+5 carat) of the diamond size frequency distribution of the completed bulk sample.³ WWW stated that the average modeled value of US\$170 lies between a "minimum" of US\$140 and a "high" of US\$208. WWW reported that it is unlikely that the average price will be lower than US\$140 per carat based on current prices and that a "high" modeled value of US\$208 is reasonable considering the potential value of the larger diamonds in the Star Kimberlite (Leroux, 2008a).

In March 2008, due to the positive performance of rough diamond prices in early 2008, the Star diamond parcel was revalued by WWW (WWW, 2008) and the revised modeled diamond prices have been used for the 2008 resource estimate (see Table 16-8). The 'high' price valuations from the March 2008 valuation were used for pit shell generation.

In Table 16-8, the columns labelled 'minimum price' and 'high price' represent sensitivity analyses on the column labelled 'model price'. The sampled and modelled values per size class for the EJF Kimberlite from WWW (2008) are shown in Figure 16-1.

- Security/treatment problems
- Geology

³ In plotting values versus size class, WWW (WWW, 2008) observed that: "Typically, the values in a producing kimberlite increase exponentially with size and the fact that they do not in this sample is due to one or more of the following:

⁻ Size of the sample: i.e. not enough stones in the individual size classes to give a full range of colors and qualities

In our experience, geology is unlikely to be the reason for the deficiency of higher value stones in the larger sizes. We therefore modeled the values of the larger sizes to better estimate that which will be achieved in a producing mine on the clear assumption that geology is not an issue."



Kimberlite Lithology	Carats	Actual Price (\$/carat)	Model Price (\$/carat)	Minimum Price (\$/carat)	High Price (\$/carat)
Cantuar	1,126.32	\$166	\$300	\$241	\$383
Pense	1,410.73	\$69	\$97	\$83	\$115
EJF	7,123.10	\$99	\$160	\$132	\$194
MJF-LJF	80.09	\$74	\$99	\$70	\$138
Total	9,740.24	\$105	\$170	\$140	\$208
Nataa					

Table 16-7: Summary of 2007 WWW Diamond Valuation for Star Kimberlite

Notes:

Diamonds weighing 509.25 carats (mixed EJF–Cantuar material) and 59.58 carats (surface stockpile clean-up) have not been included in the diamond populations used for the determination of these modeled prices to ensure the integrity of the parcels and the accuracy of the modeled prices. This explains the difference between this total of 9,740.24 carats and the overall parcel total of 10,309.07 carats.

Source: Leroux, 2008a

Table 16-8: Summary of 2008 WWW Re-Valuation for Star Kimberlite

Kimberlite Lithology	Carats	Parcel Price (\$/carat) = Sample Price	Model Price (\$/carat)	Minimum Price (\$/carat)	High Price (\$/carat)	Resource Split ⁽¹⁾
Cantuar	1,126.32	\$193	\$309	\$247	\$420	12%
Pense	1,410.73	\$79	\$103	\$88	\$126	9%
EJF	7,123.10	\$115	\$167	\$138	\$216	77%
MJF–LJF	80.09	\$84	\$105	\$75	\$152	2%
Total	9,740.24	\$120	\$177	\$146	\$231	100%

Source: WWW, 2008, Table 22.

Notes: (1) Resource Split is the percentage of the total resource that falls into each kimberlite lithology as per the mineral resource estimate; see Section 17.









Figure 16-1: Sample and Modelled Values per Size Class for EJF

Note: Figure from WWW (2008)





17.0 MINERAL RESOURCE ESTIMATES

17.1 Introduction

The mineral resource estimate for the Star Kimberlite was prepared by AMEC staff Ken Brisebois, Harry Parker, and Jay Melnyk, and AMEC associate Tinus Oosterveld. Ken Brisebois, Ted Eggleston and Harry Parker are the Qualified Persons for the estimate.

The resource model for the Star Kimberlite was completed using the diamond sampling database that was finalized by Shore Gold on February 20, 2008. The database included the latest available sampling, up to drill holes LDD-080 and LDD-STR-07-015.

The diamond database comprised sampling from underground drifts (UG samples), large diameter drilling (LDD samples) and smaller size underground samples (RE samples—similar support size to LDD samples). The resource estimate prepared by AMEC uses:

- Surface and underground core drilling program comprising 270 surface core holes (18,020 metres of kimberlite) and 213 underground core holes (16,863 metres of kimberlite)
- Diamond and tonnage data from underground bulk sampling (69,056 dry tonnes, 10,582 carats and 80,669 stones)
- Diamond and tonnage data from the mini-bulk samples recovered from the extensive LDD program on the Star Diamond Project (88 holes, 8,447 metres of kimberlite, 18,924 dry tonnes, 1,336 carats).

The resource estimate uses a one millimetre bottom diamond size cut-off and considers all kimberlite above 71 metres above sea level or to a depth of 350 metres below the current land surface.

17.2 Resource Estimate

17.2.1 Geological Model

The 3-D geological model was initially compiled from surface and underground drilling information combined with 1,050 in-situ bulk density measurements that were performed on lengths of complete drill core by Shore Gold during the advanced exploration work program completed by the company. The 3-D geological model was constructed for all kimberlite phases above an elevation of 71 metres above sea level or to a depth of 350 metres below the current land surface.



In November 2007, Shore Gold produced the current 3-D geological model utilizing an additional 157 surface and underground holes. Many of the additional holes were infill holes. Some of the holes were drilled along the edge of, and angled into, a north-northwest trending ravine which cross-cuts the Star property to recover geological information from a previously inaccessible area. Also included was the addition of 1,635 in-situ bulk density measurements. Using the updated geological model, Shore Gold estimated that the Star Kimberlite contained a total of 278 million tonnes of kimberlite.

This model has been reviewed by AMEC, and AMEC believes that the geological model is adequate for resource estimation. Volumes of kimberlite indicated by this model are believed by AMEC to reasonably represent the volumes of kimberlite present in the deposit, although there may be local areas where the volume is not in its exact position in space because of potential small local faults.

The geological models for kimberlite and country rock were finalized by Shore Gold and AMEC on January 23, 2008. These models were created in the Gemcom modeling system and then imported to the Vulcan modeling system where the resource modeling was completed.

17.2.2 Sampling and Composites¹

Introduction

The diamond database comprises sampling from underground drifts (UG samples), large diameter drilling (LDD samples) and smaller size underground samples (RE samples—similar support size to LDD samples). AMEC used all sampling types in the resource estimation, although the use of UG sampling was restricted to a relatively small tonnage close to the underground workings (see discussion in the Estimation Plan portion of this sub-section).

Compositing

In general, the original LDD samples are of quite consistent length and sample weight. For instance, the coefficient of variation² (CV) for tonnage in the LDD samples is about



¹ Compositing refers to the combination of sample results prior to their use in resource estimation. A fixed length methodology is often used. This means that equal length composites are calculated from the underlying sampling that may be of variable length. There are several other methods that can be applicable in different situations.

² The coefficient of variation is the standard deviation divided by the mean. This is a useful tool to measure the relative dispersion of a frequency distribution.



0.33. Compositing using various lengths and tonnages was applied initially to the sample database but later discarded. AMEC found that variography³ and local estimation were improved when using the original LDD sampling breaks. It is believed that this is due to the occasional breaking of LDD sampling intervals on local geological contacts such as internal-waste zones. The combination of the LDD sample sizes being very consistent, coupled with the finding regarding variography and estimation, led to the discarding of compositing in the resource modelling.

17.2.3 Exploratory Data Analysis (EDA⁴) and Diamond Distribution Analyses

Complete Diamond Data

The statistics for the complete macro-diamond database are summarized in Figure 17-1. The figure contains a set of box plots showing the diamond data in carats per hundred tonnes for all sampling types. These include the UG, RE and LDD samples. Figures 17-2 and 17-3 illustrate the same data, but in each case, the results are shown by sampling type.

The EJF data represent the majority of the sampling and modelled tonnage of kimberlite in the deposit.

LDD Diamond Data Adjustments

LDD sample grades were adjusted (upward) to reflect the grade distribution of the UG sampling prior to their use in resource estimation. The LDD samples exhibit the effects of breakage and loss during drilling, resulting in lower recovered grades. An independent diamond breakage study (Lawless and Associates, 2008), and tracer tests completed by Shore Gold at an operating drill rig, supports this contention. While these types of tests cannot provide quantitative results, AMEC believes that the results, in conjunction with detailed study of the diamond distribution characteristics, provide adequate qualitative evidence to support adjustment of LDD results prior to resource estimation.



³ Variography is the study of the spatial variability of an attribute (in this case, cpht) within a mineral deposit. It is notably characterized by a variogram function that describes the variable correlation between samples in three dimensions. This function can then become the basis for an estimator in 3-D space.

⁴ Exploratory data analysis (EDA) consists of univariate statistics and geostatistics used in support of block grade estimation plans and resource estimates. One of the principal goals of the work is to provide guidance for domaining or separating the deposit into divisions suitable for grade estimation.





Figure 17-1: Diamond Sampling – All Sampling Types by Domain (cpht)

Figure 17-2: Diamond Sampling – EJF, CPK, PPK, by Sampling Type (cpht)









Figure 17-3: Diamond Sampling – LJF, MJF, by Sampling Type (cpht)

Summary of LDD Adjustment Study

Although suggesting a lack of reliability in the LDD sampling, use of factors is historically common in diamond deposit evaluation, and similar factors in magnitude to these have been used to AMEC's knowledge for other diamond project evaluations. The factors were derived by Tinus Oosterveld using methods developed over many decades of evaluating diamond projects.

An inner study area of sampling (later called Inner Area 1), occurring within 75 metres of the RE samples collected in underground drifting, was established within which factors were developed for adjusting the LDD results to the comparable UG sample results.

The study area was chosen to:

• Remain in reasonably close physical proximity to underground bulk sampling, where the majority of the carats have been recovered, and diamond characteristics are known with confidence.





• Avoid interaction with diamond distributions from the periphery of the deposit that appear to have differing characteristics and average stone size.

Figure 17-4 shows a contact plot⁵ that illustrates LDD data as one moves away from the underground sampling in the central portion of the pipe. The plot shows a downward trend in grade. The underlying stone size data support this result and give further support for the choice of a restricted area within which to develop LDD adjustments.

Table 17-1 shows the data that have been used in the adjustment study.

UG, RE and LDD data were used to calculate adjustment factors to be able to combine the results of the three different types of sampling. Results for RE and LDD were adjusted to conform to the UG diamond size-frequency distribution.

Two sets of adjustment factors were applied sequentially. The first adjustment transforms the size frequency from RE and LDD to UG, not adjusting for overall grade differences. The second adjustment also adjusts the average grade in the -4.75 millimetre to +1.7 millimetre group of size classes for RE and LDD to the UG grade in these size classes. For the first set of factors the diamond size frequency for RE and LDD was adjusted to the UG size frequency, but no allowance was made for overall grade differences between UG, RE and LDD. For the second set of factors it was assumed that for the Inner Area, UG, RE and LDD grades in the -4.75 millimetre to +1.7 millimetre size fraction should be similar. This part of the size range is used because there are normally comparatively small differences between treatment plants as they all liberate and have similar recovery efficiencies in this interval.

Table 17-2 illustrates the methodology. The first four stanzas in the table are the size frequency adjustment based on the -4.75 millimetre to +1.7 millimetre super-size class, while the final three stanzas are the adjustment for the overall carat grade differences. The first stanza (S1) shows the carat grade contributions for the various sampling methods within the super-size classes shown on the left. The second stanza (S2) shows the same information expressed as percentages. The third (S3) and fourth (S4) stanzas show the adjustments making the size frequencies the same as the UG size frequency. Stanza three (S3) does the adjustment by applying the ratio from the middle size class to all size classes (56.284/57.487 for UG/LDD). Stanza four (S4) refactors to bring the totals to 100 percent.

⁵ This analysis plots the average grade of composites within bins of three-dimensional separation distances between composites identified as being on opposite sides of a given contact or boundary. The samples are identified based on the criteria posted at the top of each side of the contact plot. In each distance bin on the graph, the number of composites found within that distance from the contact is posted as a small number. The number of samples found in each group and their overall mean grade is also posted.







Figure 17-4: Contact Plot Showing Cpht (adjusted) in EJF Domain

Table 17-1: Diamond Data Used in the LDD Adjustment Study

Macro Diamond Summary – EJF Domain – LDD Adjustment Study										
	EJF Domain – LDD samples chosen close to RE samples (1.18 mm cut-off)									
Sampling N Tonnes Avg. Tonnes Stones Spt Carats Cpht										
Underground	135	33,310.5	246.7	41,236	1.24	5,840.8	17.53			
RE (Mini-Bulks)	37	1,028.2	27.8	1015	0.99	160.4	15.60			
LDD (Large Diameter Drilling) 58 1,314.2 22.7 1323 1.01 147.1 11.19										
Note : all samples within 70 m separation distance and <35 m in vertical distance from RE underground samples										





	UG	RE vs UG	LDD vs UG
S1	cpht	cpht	cpht
+4.75	4.974	4.569	2.493
4.75-+1.7	9.869	8.980	6.433
-1.7	2.691	2.055	2.264
total	17.534	15.604	11.191
	observed	observed	observed
S2	% cts	% cts	% cts
+4.75	28.367	29.282	22.279
4.75-+1.7	56.284	57.551	57.487
-1.7	15.348	13.167	20.234
	100.000	100.000	100.000
		sf adj to UG	sf adj to UG
S3		% cts	% cts
+4.75		27.743	27.774
4.75-+1.7		55.046	55.106
-1.7		15.011	15.027
		97.799	97.907
		adj to 100%	adj to 100%
S4		% cts	% cts
+4.75		28.367	28.367
4.75-+1.7		56.284	56.284
-1.7		15.348	15.348
		100.000	100.000
	-	Grade to UG	Grade to UG
S5		cpht	cpht
+4.75		4.426	3.175
4.75-+1.7		8.782	6.299
-1.7		2.395	1.718
		15.604	11.191
		adj to UG	adj to UG
S6		cpht	cpht
+4.75		4.865	4.870
4.75-+1.7		9.652	9.663
-1.7		2.632	2.635
		17.149	17.167
		Factor	Factor
S7		UG = LDD	UG = LDD
+4.75		1.065	1.953
4.75-+1.7		1.075	1.502
-1.7		1.281	1.164
		1.099	1.534

Table 17-2: Example of Methodology for Adjustment Calculation





The percentages shown in Stanza four (S4) are the same as those shown for UG in Stanza two (S2). Stanza five (S5) carries through the adjustment to the carat grade contribution (shown in S1) for the LDD and RE sampling. Stanza six (S6) then adjusts the super-size class carat grades to the overall UG carat grades (using the ratio between UG and LDD for the middle class in S1. The ratio is 9.869/6.433 = 1.534 for UG/LDD. Stanza seven (S7) finally calculates the overall mean factors (S6 grades divided by S1 grades). It is noteworthy that the grades for the upper class have higher adjustments. However, in the resource estimation only the overall factor, adjusted for risk, as explained below, is used.

Risk Assessment on LDD Factors

In addition to deriving overall factors for use in the resource estimation (discussed above), AMEC assessed the risk in the calculation of these factors. When the factors are studied in detail, factors (ratios of UG/LDD grades) derived from individual LDD samples vary considerably, ranging from 0.08 to 2.67, with a standard deviation of 0.55. Table 17-3 shows an example as to how factors were developed from individual LDD samples and used in the risk assessment.

Lines 1 and 2 in Table 17-3 show a comparison of the grades and size frequency distributions for the UG samples and LDD samples enumerated in Table 17-1. The percentage of total carats is nearly the same for the middle class (-4.75 millimetre +1.7 millimetre). This suggests that the size frequency distribution for this class does not depend on sampling method, preparation or processing. However there is a considerable difference in the mean grade of UG (9.869) versus LDD (6.433) carats per hundred metric tonnes of the middle class.

On Line 3, the overall adjustment factor of 1.534 is shown.

Comparison of Lines 1 and 2 shows that the percentage of carats represented by the +4.75 millimetre class for UG samples is respectively larger than the percentage for LDD samples (28.37 percent versus 22.28 percent). Large stones are being broken to a greater extent in the LDD samples. Conversely the percentage of carats represented by the -1.7 millimetre class for the UG samples is less than the percentage for the LDD samples (15.35 percent versus 20.23 percent). Broken diamonds are being picked up in this class to a greater extent in the LDD samples.

Line 4 shows the ratios of carats in the three classes for the UG samples to the carats in the middle class.





Line	A. Diamond Grades and Size Frequency Distribution for UG and LDD Samples										
			mm size interval				mm size interval				
		+4.75	-4.75-+1.7	-1.7	total	+4.75	-4.75-+1.7	-1.7	Total		
		cpht	cpht	cpht	cpht	% carats	% carats	% carats	% carats		
1	UG	4.974	9.869	2.691	17.534	28.37	56.28	15.35	100.00		
2	LDD	2.493	6.433	2.264	11.190	22.28	57.49	20.23	100.00		
3	Factor from LDD	to UG:	1.534	= 9.869/6.433							
4	Ratio to UG Middle Size Class						1.000	0.273			
	= = 28.37/56.28 = 56.28/56.28 15.35/56.28										
		B. I	Example A	pplicatio	n of Fac	tors to L	DD Sample	9			
	SAMPLE	OBSE	RVED GRAD	ES PER SA	MPLE	ADJU	JSTED GRAD	ES PER SA	MPLE	ADJUSTED	
			mm size int	erval				GRADE/			
		+4.75	-4.75-+1.7	-1.7	total	+4.75	-4.75-+1.7	-1.7	total	OBSERVED	
		cpht	cpht	cpht	cpht	cpht	cpht	cpht	cpht	GRADE/	
5	LDD-030-16	4.410	15.669	5.368	25.448						
6	X 1.534		24.039								
7	Ratios	0.504	1.000	0.273		12.116	24.039	6.555	42.709	1.68	

Table 17-3: Development of Mean Adjustment Factor and Example Adjustment

Line 5 shows the grades by class recovered for an example individual LDD sample. The grade of the middle class is adjusted to underground equivalent by multiplying it by the adjustment factor:

In Line 6, the ratios from Line 4 are applied to the adjusted middle class grade to provide an adjusted grade for the upper and lower classes. The grades for the three classes are summed to give an overall adjusted grade of 42.709 carats per hundred metric tonnes. The factor for the individual LDD sample is 1.68. The distribution of individual sample factors derived by this method is later used to calculate confidence limits on the mean factor.

Because of the variability of individual factors, the mean factor is uncertain, and AMEC believes it is reasonable and prudent to make a risk-adjustment to obtain the factors used for resource estimation.





AMEC used the 10 percent confidence limit⁶ from the distribution of the mean (student's t distribution assumed) of individual factors to risk-adjust the global factor in Inner Areas 1 and 2 and the Outer Area as defined below. This amounted to a 6.1 percent (relative) decrease in the factor for the Inner Area to 1.44. A further risk-adjustment was applied in the Outer Area to reflect the understanding that the global factors were not developed from this lower-grade Outer Area grade distribution (actually, the Outer Area factor only affects the Inferred Mineral Resources). For the Outer Area, the risk-adjusted factor was 1.39.

Summary

In summary, the LDD adjustment factors developed for use in mineral resource estimation were 1.44 for material closer to the underground sampling and 1.39 for LDD sampling distal to the underground. A much wider area (Inner Area 2) than the Inner study area (Inner Area 1) was used to apply the 1.44 factor to the individual LDD samples (see Figure 17-5). The adjustment of LDD samples and risk assessment of these factors is based on experience in prior diamond deposit evaluations and statistical variation shown within the study results.

The factors have been extended as much as 700 metres from UG sampling, with the majority extended 200–400 metres. The Shore Gold group has evaluated the geological setting extensively and has compiled high-quality geologic data and analyses. AMEC concurs that this information supports the extension of the factors away from the underground sampling study area and into ground that is sampled solely by LDD. The Outer Area is located horizontally beyond Inner Area 2. Here the carats/stone decreases from an average of 0.13 (Inner Area) to below 0.07.

Figure 17-6 is a similar box plot to that shown in Figure 17-2 with the adjustments applied to the LDD sampling. Note that the LDD average is still lower than the UG because this set of data includes outlying LDD sampling that has a lower overall grade than the central area sampled by UG (see Figure 17-4).

Variography

Variography was performed on the adjusted sample data within all domains, although only the EJF domain had enough data to allow estimation of reasonable variograms. The variogram models are poor to fair in quality, which is to be expected given the number of data available. Figure 17-7 shows an example of a directional variogram with the model overlain on the experimental data.

⁶ There is a 10 percent chance the actual mean factor would be less than 1.44 and a 90 percent chance the actual mean factor would be greater than 1.44.





Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report



Figure 17-5: Application of LDD Factors







Figure 17-6: Diamond Sampling – EJF, CPK, PPK by Sampling Type (adjusted cpht)

Figure 17-7: Directional Variogram Example – EJF Domain (adjusted cpht)



The variogram function used was a correlogram⁷. A nugget effect of 0.324 was modelled. Some 90 percent of total variance (or the sill) is consumed by a separation

⁷ Semi-variograms and correlograms are both functions of the vector-oriented distance measuring the spatial





distance of approximately 50 metres. This can be considered to be the effective correlation.

Some degree of correlation is shown out to a separation distance of 90 metres. The fair-quality variogram is not unusual for diamond deposits. The use of carats per hundred tonnes usually has a negative effect on variogram quality.

An improved variogram is often shown in the stones per ton data where the vagaries of stone size (i.e. sometimes caused by unequal recovery of large stones) are removed from the equation. Shore Gold could use stones per ton in future resource modelling efforts; however, consideration would need to be given to the ability to reliably derive stones per ton factors for the LDD rather than carats per hundred tonnes.

17.2.4 Estimation Domains

Estimation domaining has been restricted to the use of the recognized kimberlite types. There has been no sub-domaining applied for the purposes of resource estimation. AMEC spent considerable time analysing diamond results within the sub-domains of PK and KB within the EJF Kimberlite. It was concluded that the data from these sub-domains should remain combined within the EJF domain for the purposes of resource estimation. The reasons for this are that:

- The sub-domains occur in a very complex geologic environment, making discrete sampling breaks very difficult.
- There is no definitive evidence that the diamond size distributions are different between these two sub-domains. Differences in average stone size may relate more to stone recovery differences.

For the purposes of EDA and estimation, the sample data were carefully inspected and back-flagged against the modelled kimberlitic shapes. This has resulted in some inclusion of internal waste or lower grade material. The data were hand-edited to remove samples that occurred on boundaries where clearly the sample was not sampling the kimberlite. These methodologies are correct, adequate and must be incorporated in future resource models. In future resource estimations, Shore Gold

correlation or continuity of the RF (random function) Z under study. One minus the correlogram is AMEC's common tool, which gives an estimate of the variogram with a unit sill. Definitions and notations:

variogram ; (h) = $\frac{1}{2}$ E [(Z(x) - Z(x+h))²] correlogram : r(h) = [E(Z(x) . Z(x+h)) - E(Z(x)E(Z(x+h)]/(\sigma_x . \sigma_{x+h}) = 1-\gamma(h)/\sigma^2

with E [f(Z(x))] meaning the mathematical expectation of a function f applied on RF Z for all locations x over the study domain D, σ_x standing for the standard deviation of Z on the domain D_x of points which can be used as first points(.x) in pairs (.x, .x+h) at a distance h.





may consider modelling internal waste or low-grade material in the EJF in order to remove it from the resource estimation. This sort of refinement should be done in concert with minimum mining thickness considerations.

17.2.5 Density Modelling

AMEC used a density model developed by SRK Consulting under contract to Shore Gold. The SRK Consulting model used an inverse distance estimator and applied domaining based on kimberlite types and country rock types. AMEC noted that the block model results compared well with the sample data. Local variations were noted in the density data although no significant global trends were noted. No further work was performed by AMEC to investigate trends and spatial correlation in density data.

The results were loaded to the Vulcan® project directly from an ASCII[®] data export. The procedures were validated by comparison to the SRK Consulting model. AMEC reviewed the work and agrees that the density model is adequate for resource estimation. The density model can be refined prior to feasibility.

17.2.6 Block Model Setup

Grade estimates were made for 25 metre x 25 metre x 5 metre blocks using stored partial block proportions within the five principal kimberlite types. These types include the EJF, Pense, Cantuar, MJF, and LJF. Various block sizes were considered prior to using the 5 metre high block. The block size is thought to be adequate in relation to sample sizes and kimberlite geometries. The block size is also convenient for reblocking as necessary during mine planning.

17.2.7 Estimation Plan⁹

The estimation plan used for Star is a restricted kriging approach where the five kimberlite types are estimated separately using samples from their respective domains. Local block estimation has been applied using a weighted average estimator (ordinary kriging or OK) for carats per hundred tonnes from a combination of adjusted



⁸ ASCII (American Standard Code for Information Interchange) files are simple text files that can be exported from the modeling systems.

⁹ The estimation plan refers to the set of parameters and controls used when interpolating block grade estimates from samples and/or composites. The plan will typically include data search specifications, search ellipse orientations, estimation technique (often specifying variograms for use in kriged estimates) and various other parameters for controlling the block or point estimations.



LDD and UG samples. The variogram developed from the EJF samples was used for all of the kimberlites.

The estimation plan uses a three pass strategy where:

- Pass 1 A search radius of 125 metres x 125 metres, minimum of three and maximum four samples and selects only from UG samples.
- Pass 2 A search radius of 200–250 metres x 200–250 metres, minimum of five and maximum six samples, selects from LDD, RE and UG, selects only data within Inner Area 2, maximum three samples per hole.
- Pass 3 variable but much wider search, minimum two and maximum eight samples, selects from all data, maximum three samples per hole.

Pass 1 estimates blocks close to the underground workings. Pass 2 estimates blocks that are further away and predominately uses LDD data. All of Pass 1 and most of the Pass 2 blocks end up in the Indicated Resource classification. Pass 3 estimates all other remaining block without an estimate being made in Passes 1 and 2.

17.2.8 Validation of Estimates

Model validation included global bias check, grade profiles¹⁰, and visual checks of block estimates.

Visual Inspection

Visual inspection is very important to detect spatial artefacts and is also useful to ensure that the block model honours drill hole data. Composite data, block model, and geologic overlays were reviewed on the computer screen for both sections and plans. The checks showed adequate agreement between composite values and model cell values.

Although rather difficult to see in any detail at this scale, Figure 17-8 shows an example section through the EJF Kimberlite.

The blocks and LDD samples are displayed using the same colour scheme. This section occurs on the northern edge of the higher grade inner area. The higher-grade

¹⁰ Grade profiles (sometimes called swath plots) calculate and display average values of the variable in question in a given direction (such as Elevation) for the set of blocks or data under consideration. Displaying several different profiles can assist in observing spatial trends or comparing spatial distributions such as a kriged result versus a declustered distribution from composites.





core (centre of deposit) sampling is reflected in the material seen in the central portion of the image (magenta blocks).

The lower grade material on the eastern side of the section (light blue and green) is controlled primarily by the LDD sample grades in the area just south of this section

Model Checks for Global Bias

AMEC checked the block model estimates for global bias by comparing the average grades from the model with the average from the nearest-neighbour (NN) estimate¹¹.

The NN estimator declusters the data and produces a theoretically unbiased estimate of the average value when no cut-off grade is imposed, and thus NN is a good basis for checking the performance of different estimation methods. The OK estimates were well validated by NN estimates, with OK average grades falling within 2 percent of the declustered composite (NN) grades.

Validation by Grade Profiles

AMEC also checked for local trends in the grade estimates (grade profiles or swath checks). This was done by plotting the mean values from the NN estimate versus the OK results for elevation, easting and northing (various slice thicknesses were studied). The profiles were made for the various domains and within Indicated and Inferred blocks separately. The Indicated profiles showed better agreement than the Inferred blocks. The results show that there are no significant local biases in the results.



¹¹ A nearest-neighbour estimate is simply the assignment of the grade of the closest sample grade to the block. The result, if done correctly, is usually considered to be a good estimate of the declustered composite distribution (at a 0 cut-off). This sort of estimate is often used to compare to and validate other estimation results on a global basis such as within estimation domains or within an entire bench/level.



Shore Gold Inc. Star Diamond Project Fort à la Corne, Saskatchewan, Canada NI 43-101 Technical Report



Figure 17-8: Example Section Showing Block Grades and LDD Sample Grades





Figure 17-9 illustrates an example grade profile in the vertical direction. The magenta line is the average of the OK block estimates, while the green line is the average of the declustered composites (NN block estimates). The set of plots on the left with the blue lines shows the tonnage involved in each area of the profile. Where the tonnage retreats or is very low, the comparison between OK and NN becomes less valid, since the NN estimate becomes comparatively less reliable in smaller local areas.

In general the agreement is good. Some smoothing through lows and highs is noted (example at low elevation in first plot) but these are generally occurring where the tonnage is low.

17.3 Mineral Resource Classification

17.3.1 Summary

Mineral resource classification has been applied to the resource model that provides for Indicated and Inferred material. LDD adjustment factors, LDD sample spacing and geologic knowledge provided by core hole logging and geotechnical analyses have been taken into account in setting the mineral resource classification. The setting of the boundary for Indicated Mineral Resource equates to a nominal 100 metre spaced grid of LDD sampling. The delineation of the Inferred Mineral Resource boundary relies more on continuity of kimberlite from logged core holes. In general, the Inferred boundary is extended 150–200 metres beyond the outer LDD holes. The Inferred boundary includes the area around a cluster of four LDD holes on the east side of the 'ravine'.

17.3.2 Classification Parameters

Measured Resources

There are no Measured resources. This is partially because most industry participants agree that a Measured category is difficult to justify, given the inherent issues when sampling a diamond deposit. In addition, factors must be used to adjust LDD samples; such factors can only be reliably developed at a global scale and not at local scales.







Figure 17-9: Grade Profile Example – Indicated Blocks, Cpht, EJF Domain





Indicated Resources

The following considerations apply:

Material is to be delineated by a nominal 100 metre grid of LDD sampling. Locally the LDD grades appear continuous at this spacing. A separation distance of 100 metres is within the range of the variogram for LDD grades.

- Factors developed for LDD grades show considerable variability at the scale of individual LDD samples. At present only a global adjustment factor is warranted for adjusting LDD to UG sample equivalent grades. It is prudent to adjust the factors for risk to support their use in a publicly-reportable resource:
 - Factors to be modified according to whether the samples are occurring within the extended Inner Area (as developed by Shore geologic studies) or the Outer Area.
 - Inner Area factors are to be adjusted downward to the 10 percent lower confidence limit on the mean adjustment factor. There will then be a 90 percent probability that the actual global ratio of mean LDD to mean UG grades will be greater. At a local scale the probability appears to be approximately 85 percent that the actual ratio of LDD to UG grades would be greater than the global factor.
 - Outer Area factors will be further revised downward to reflect increased risk for samples further away from the study area where factors are derived. The further revision is to be an additional relative 50 percent.
 - LDD results from kimberlite types other than EJF can use factors but must be fully risk-adjusted Outer Area factors.
- Geologic modeling of kimberlite facies is well supported for Indicated classification.

Tonnage delineation by core holes is adequate to support kimberlite boundary modeling for Indicated Resources.

Inferred Resources

The following considerations apply:

- Material to be delineated by nominal 300 metre drill sampling spacing. This is to be approximated by using an extrapolation distance of 150 metres beyond the last LDD hole.
- Estimation of local diamond grade is less well known and extrapolated. There is a demonstrated downward trend in diamond grade in the Inferred that adds to the uncertainty of estimation.





- Geologic modeling of kimberlite facies is adequately supported for Inferred declaration.
- Risk-adjusted LDD grade factors for the Outer Area, as discussed above, are to be implemented.

Other Resource Material

Material modeled outside of the Inferred category, but within the kimberlitic geological models, will be stored in the block model as R-class = 4 and can be used for internal sensitivity studies. It cannot be publicly reported.

Figure 17-10 illustrates the Indicated and Inferred boundaries in a plan view. In some cases the boundary is somewhat irregular due to kimberlite boundaries. The LDD sampling at the plan elevation is shown by the coloured dots.

17.3.3 Reasonable Prospects of Economic Extraction

To adequately constrain the geological model, AMEC input parameters for a conceptual open pit operation into Lerchs–Grossman pit shells.

The conceptual mine for the Star Diamond Project is based on a large tonnage open pit operation. Mining would be performed with conventional large trucks and shovels, and would utilize an ore and waste in-pit crush and convey system to minimize haul truck requirements. A substantial period of pre-stripping would be required prior to any kimberlite production.

Geotechnical investigations to date suggest standard bench configurations with 18° slopes in the overburden and 30° slopes in the kimberlites and country rock are achievable, with a significant dewatering program consisting of both perimeter and in-pit vertical wells. The waste to ore strip ratio is 5.87 on a partial block (undiluted) mineralization basis.

The conceptual processing plant for the Star Diamond Project is expected to process 14.6 million tonnes of kimberlite annually or 40,000 tonnes per day. Material to be processed would be crushed, washed, and screened to obtain the desired fraction for dense medium separation, where waste would be separated from heavy minerals. The waste would be processed further to recover smaller diamonds through re-crushing, washing, screening, and dense medium separation operations. Diamonds would be separated from the heavy mineral concentrate using X-ray and grease technology. Processed kimberlite would be stored in a suitably-designed containment area.





5898200 N 🚱					
ί¢.	$\left(\right)$				
5898000 N					
5007500 N	$\langle \langle \cdot \rangle$	•	Infer	red Boundary	
5897800 N) ·	1		1	
5897600 N		$\langle \langle \rangle$	-		
	• • •		\backslash		$\left \right\rangle$
5897400 N 🔹	0	+ •			\mathcal{T}
5897200	• • • • •	•			
5897000 N		o . *		\cdot	
	•••	•	$\backslash \rangle$		
5896800 N				Indicated Bound	lary
5896600 N		$\mathbf{\mathbf{x}}$	()		
514000 E 514200 E	514400 E 514600 E	514800 E	515000 E 515	200 E 515400 E	515600 E

Figure 17-10: Plan View Showing Resource Classification Boundaries and LDD Sampling





The reported mineral resources for the Star deposit are constrained using a L–G economic pit shell, generated using the Whittle software package. The economic assumptions used are as follows:

- Metallurgical Recovery: 100 percent
- Process and Overhead Costs: \$3.58 per tonne process; \$1.50 per tonne general and administrative
- Mining Cost: \$0.99 per tonne mined for overburden and \$1.34 per tonne mined for kimberlite and country rock. These costs include a sustaining capital allowance of \$0.11 per tonne mined and a dewatering cost of \$0.03 per tonne mined. Waste rock received an additional waste rehabilitation cost of \$0.02 per tonne.

Costs were derived from first principles, using AMEC's experience of similar mining operations in the Canadian north, and recent quotes received by AMEC for similar mining operations. No contingency factor was included in the costs.

Variable diamond prices by kimberlite lithology (see Table 17-4) were provided by WWW. The 'high' price valuations were used for pit shell generation. AMEC has reviewed the methodology and results of the valuation and has relied on WWW's results as being adequate for use in resource estimation for the project. In Table 17-4, the valuation in the column labelled "sample" is based on actual recovered diamonds from samples.

As part of the assessment of 'reasonable prospects for economic extraction', AMEC investigated whether the identified resources had the potential to pay back the capital on an undiscounted cash flow basis. A preliminary financial analysis was performed which achieved that criterion, supporting the resource declaration.

17.4 Mineral Resource Tabulation

The mineral resource tabulation presented in Table 17-5 is summarized by kimberlite domain and resource classification for the 100 percent Shore Gold-owned portion of the Star Kimberlite. Table 17-6 summarizes the mineral resource estimate for that portion of the Star Kimberlite that falls within the FalC joint venture property. Table 17-7 shows the mineral resource estimate for the entire pit, covering the Star Kimberlite within both properties. The portions of the planned open pit within each property are shown in Figure 17-11. The mineral resource has an effective date of 2 June, 2008.





Table 17-4:	Summar	/ of 2008 WWW	Re-Valuation	for Star Kimberlite
-------------	--------	---------------	---------------------	---------------------

		Carats Parcel		Minimum		
Kimberlite	Lithology	Price (\$/carat) = Sample Price	Model Price (\$/carat)	Price (\$/carat)	High Price (\$/carat)	Resource Split ⁽¹⁾
Cantuar	1,126.32	\$193	\$309	\$247	\$420	12%
Pense	1,410.73	\$79	\$103	\$88	\$126	9%
EJF	7,123.10	\$115	\$167	\$138	\$216	77%
MJF–LJF	80.09	\$84	\$105	\$75	\$152	2%
Total	9,740.24	\$120	\$177	\$146	\$231	100%

Source: WWW, 2008, Table 22. Note: ⁽¹⁾ Resource Split is the percentage of the total resource that falls into each kimberlite lithology as per the resource estimate.

Table 17-5: Mineral Resource Estimate for That Portion of the Star Kimberlite Within the100% Shore Gold-Owned Property, Effective Date 2 June 2008,K. Brisebois, P.Eng., T. Eggleston, P.Geo, H. Parker, P.Geo.

Inside 100% Shore-Owned Mineral Disposition Boundary										
		Indicated			Inferred					
Domain	Cut-Off (carats per hundred metric tonnes)	Material Above Cut-off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Contained Carats (million)	Material Above Cut-off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Contained Carats (million)	Waste (thousand tonnes)		
Early Joli Fou	2.35	63,355	14.6	9.2	16,367	12.5	2.0	4,730		
Cantuar	1.21	4,370	13.6	0.6	917	14	0.1	13		
Pense	4.03	6,273	13.6	0.9	2,769	14.6	0.4	206		
Late Joli Fou	3.34	0	3.5	0.0				14,540		
Mid Joli Fou	3.34	337	3.7	0.0				929		
Waste								502,435		
Total		74,335	14.4	10.7	20,053	12.9	2.6	522,853		


Table 17-6: Mineral Resource Estimate for That Portion of the Star Kimberlite Within the FalC Joint
Venture Property, Effective Date 2 June, 2008,
K. Brisebois, P.Eng., T. Eggleston, P.Geo., H. Parker, P.Geo.

	Cut-Off (carats per hundred metric tonnes)	Inside FalC Joint Venture Mineral Dispo						
Domain		Material Above Cut-off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Contained Carats (million)	Material Above Cut- off (thousand tonnes)	Inferred Grade (carats per hundred metric tonnes)	Contained Carats (million)	Waste (thousand tonnes)
Early Joli Fou	2.35	26,885	15.6	4.2	8,273	13.6	1.1	2,654
Cantuar	1.21	6,151	13.2	0.8	1,860	13	0.2	29
Pense	4.03							0
Late Joli Fou	3.34	0	3.5					12,056
Mid Joli Fou Waste	3.34	15,316	6.1	0.9	88	5	0.0	3,229 356,916
Total		48,352	12.3	5.9	10,221	13.4	1.4	374,884

Table 17-7: Mineral Resource Estimate for the Star Kimberlite, Effective Date 2 June 2008,K. Brisebois, P.Eng., T. Eggleston, P.Geo., H. Parker, P.Geo.

Total Star Kimberlite												
		Indicated			Inferred							
Domain	Cut-Off (carats per hundred metric tonnes)	Material Above Cut-off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Contained Carats (million)	Material Above Cut- off (thousand tonnes)	Grade (carats per hundred metric tonnes)	Containe d Carats (million)	Waste (thousand tonnes)				
Early Joli Fou	2.35	90,240	14.9	13.4	24,640	12.9	3.2	7,384				
Cantuar	1.21	10,521	13.4	1.4	2,777	13.3	0.4	42				
Pense	4.03	6,273	13.6	0.9	2,769	14.6	0.4	206				
Late Joli Fou	3.34	0	3.5	0.0	0		0.0	26,596				
Mid Joli Fou	3.34	15,653	6	0.9	88	5	0.0	4,158				
Waste		0	0	0.0	0	0	0.0	859,351				
Total		122,687	13.6	16.7	30,274	13	3.9	897,737				







Figure 17-11: Schematic of L–G Open Pit Area Used to Constrain Mineral Resources by Property Red-dashed Line denotes FalC Joint Venture/Shore Mineral Disposition Boundary

Note: 'inside claim boundary' refers to that portion of the open pit shell used to constrain the mineral resources which are within the 100% Shore Gold-owned portion of the Star Diamond Project; 'outside claim boundary' refers to that portion of the open pit shell used to constrain mineral resources which are within the FalC Joint Venture area of the Star Diamond Project.

The mineral resource has an effective date of 2 June, 2008, and has been classified according to the CIM Definition Standards on Mineral Resources and Mineral Reserves (CIM, 2005) and supported by guidelines for the reporting of diamond exploration results (CIM, 2003).

The marginal break-even cut-off for each kimberlite lithology was calculated as the sum of the mining, process, and overhead costs divided by the diamond price, such that all material above cut-off is capable of covering the operational costs. The marginal cut-off grades applied in the resource estimate are:

- Cantuar 1.21 carats per hundred metric tonnes
- Pense 4.03 carats per hundred metric tonnes
- EJF 2.35 carats per hundred metric tonnes
- MJF and LJF 3.34 carats per hundred metric tonnes.

Grades are predicted based on based on bulk sample pilot plant processing, and as such, are recovered grades. For this reason 100 percent recovery is used in both the cut-off calculations and pit optimization parameters.





18.0 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORT ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

As the Star Diamond Project is not at either the development or production stage, this section is not relevant to this report.





19.0 OTHER RELEVANT DATA AND INFORMATION

Shore Gold has commissioned studies by external consultants on the following areas, which are expected to be completed in late 2008–early 2009.

19.1 Environmental Assessment

AMEC and Canada North Environmental Services (CanNorth) have been retained to prepare an Environmental Impact Assessment for the Star Diamond Project. Baseline data collection is expected to be complete by the end of 2008. The schedule for preparation of the EIA is expected to be completed during 2009.

19.2 Hydrogeology

As part of the Environmental Impact Assessment process, construction of a groundwater flow model will be undertaken. Water management issues, such as open pit dewatering and dealing with large volumes of water that may potentially be high in total dissolved solids are also to be assessed.

19.3 Geotechnical

The geotechnical assessment is to be undertaken by SRK Consulting. Collection and summary of geotechnical data from the sampling programs has been completed. SRK Consulting is currently completing a geotechnical model, which will incorporate recommendations for open pit design.

19.4 Mining and Process Studies

AMEC has been retained to perform a number of studies, evaluate mining options and prepare a mine plan based on the preferred mining option. In addition, AMEC is to provide an order-of-magnitude assessment of the costs of constructing processing facilities at the mine site for one selected production rate. These studies will include:

- Conduct a mining method trade-off study to evaluate open pit mining alternatives as well as wet mining (dredging).
- Develop preliminary mine design criteria.
- Select base case mining method(s).
- Conduct a trade-off study to determine optimum project production rate.
- Develop mine layout including mining parameters, a stockpiling strategy, mineral reserves, and the production forecast/phasing.





- Develop options for overburden containment/storage.
- Establish basis for mineral reserve calculation (dilution, ore recovery, cut-off grade) and subsequently develop the mineral reserve estimate.
- Develop basis for mine scheduling.
- Prepare development and production schedules.
- Develop mining equipment requirements (mobile and fixed).
- Develop manpower plan.
- Review and summarize bulk sample plant and test work data.
- Develop preliminary process design criteria based upon the production rate provided in the mine design in consultation with Shore.
- Develop flowsheets and mass balances for production rates.
- Prepare process equipment sizing and specifications.
- Obtain mechanical equipment budget pricing.
- Develop equipment list for production rates.
- Develop general arrangement and site plan drawings.
- Conduct high-level trade off study to evaluate the potential benefit of autogeneous milling versus conventional crushing circuits.
- Complete trade-off studies for various process and equipment options.



20.0 INTERPRETATION AND CONCLUSIONS

20.1 Conclusions

The following conclusions are based on available reports, the results of Shore Gold's Phases 1, 2 and 3 underground bulk sampling and surface exploration (airborne geophysics and surface core drilling) program, current results from the on-going Star Kimberlite work program (surface core drilling and LDD mini-bulk sampling programs) and observations made by AMEC during this period:

- The bulk sample program began in early 2003 and the shaft reached its final depth of approximately 250 metres on May 7th 2004. Two stations were also completed at 175 metres and 235 metres and shaft sinking operations concluded for this phase of the bulk sampling program.
- The shaft was sunk through approximately 70 metres of the Late Joli Fou and 75 metres of Early Joli Fou Kimberlite. Lateral drift development commenced on the completion of the underground drilling program from the 235 metre station in May 2004. Lateral drift development was completed in November 2004 when it was estimated that over 25,000 tonnes of kimberlite had been mined (including a 1,000 tonne contingency).
- Since 2003, approximately 3,000 metres of underground development was completed from an extensive network of over 50 individual drifts and ramps designed to collect large individual bulk samples of the Cantuar, Pense, Early Joli Fou, and Mid-Joli Fou Kimberlite phases.

Since 2004, Shore Gold has drilled 213 BQ-size underground core holes to date totalling 16,863.14 metres which provided the necessary geological information to establish the lateral drift developments on both the 235 metre level and 215 metre levels:

- Including all underground bulk sample results, a total of 10,861.16 carats (or 82,482 stones) of diamonds greater than 0.85 millimetres were recovered from a total of 75,404.87 dry tonnes of kimberlite material (Star and Star West) processed through Shore Gold's batch sampling process plant.
- Including all LDD mini-bulk sample results, diamond results from a total of 88 LDD mini-bulk sample holes a total of 1,336.29 carats were recovered from a total of 9,788.78 processed tonnes of kimberlite.
- The average 'run-of-mine grade' derived from all kimberlite phases obtained from the processed underground batch samples to date is 0.153 carats per tonne (or 15.32 carats per hundred metric tonnes).





- During the third guarter of 2007, Shore Gold commissioned WWW to carry out an updated valuation on a 10,309.07 carat diamond parcel recovered from its completed bulk sampling program on the Star Kimberlite. The valuation was completed on 4,359.19 carats of new stones, and the present day pricing was assigned to the 5,949.88 carats that were previously valued. The valuation was based on 9.740.24 carats for which there was no mixing of kimberlite lithologies. On November 5th. 2007 Shore Gold announced WWW applied modeled values for the parcel that ranged between US\$97 and US\$300 per carat for the different kimberlite lithologies. The entire parcel was given a present day value of US\$1,084,443 that would give an actual price for the parcel of US\$105 per carat. The modeled value is determined using statistical methods to estimate the average value of diamonds that will be recovered from a future mine on the Star Kimberlite. The difference between the sample value and the modeled value results from under sampling of the top end (+5 carat) of the diamond size frequency distribution of the completed bulk sample. WWW stated that the average modeled value of US\$170 lies between a "minimum" of US\$140 and a "high" of US\$208. WWW also reported that it is unlikely that the average price will be lower than US\$140 per carat based on current prices and that a "high" modeled value of US\$208 is reasonable considering the potential value of the larger diamonds in the Star Kimberlite.
- Due to the positive performance of rough diamond prices in early 2008, the Star diamond parcel was revalued by WWW in March 2008, and the revised modeled diamond prices have been used in the resource estimate that is the subject of this Technical Report. Model values for the parcel ranged from US\$103 to US\$309 per carat for the different kimberlite lithologies. WWW modeled the value of the 9,740.24 carat parcel and reported that the average model value of US\$177 lies between a 'minimum' of US\$146 and a 'high' of US\$231. The 'high' price valuations in the 2008 revaluation were used for pit shell generation. AMEC has accepted the WWW modeled values.
- The diamond results from the 235 metre level indicate that there are variations of grade (10 carats per hundred metric tonnes to over 30 carats per hundred metric tonnes) within the Early Joli Fou Kimberlite that appear to be broadly associated with different geological units. Most notable are the highest grades that are associated with the Early Joli Fou Kimberlite breccias where grades have exceeded 30 carats per hundred metric tonnes in many of the sample batches. Grades exceeding 20 carats per hundred metric tonnes are also located in Early Joli Fou pyroclastic kimberlites and many of the lowest grades are associated with batches containing significant dilution by crustal xenoliths and mudstone host rock.





AMEC has reviewed drilling procedures, surveying, sampling, sample processing, density, and the database and has found no significant deficiencies. QA/QC data provided by Shore Gold for all aspects of the project is adequate. Drilling procedures, including logging, collar and downhole surveying, and downhole logging meet or exceed industry best practices. Database maintenance and security are adequate. Sample processing was done with industry standard equipment and practices. Diamond valuation was performed by a recognized expert. AMEC is of the opinion that data collection meets or exceeds CIM Best Practices Guidelines and that the data generated by this project are adequate for resource estimation and mine planning.

20.2 Risk Assessment

Shore Gold undertook a thorough exploration program to advance the Star Diamond Project. However, the viability of the resource has not been confirmed by a feasibility study (in progress). In the process of resource to reserve conversion, modifying factors will be applied that could affect plant recovery and bottom size cut-offs with concomitant changes to grade. In addition, economic conditions may dictate changes in cut-off grade and revenue assumptions. Even after performing prefeasibility and feasibility studies, there can be considerable differences between expectations and operating experience.

AMEC notes that there are some areas of the project that may require additional risk assessment, as follows:

- An early interpretation, based on a limited drill dataset (40 core holes), of the contacts of the pre-EJF units indicated that there were potentially faults in the area, based on the assumption that the dips of the pre-EJF units were the same as the regional dip. When those dips are held constant, there are minor offsets or changes in dip in contacts of the pre-EJF units that have been intercepted in different drill holes. Subsequent drilling of 230 surface core holes and 213 underground holes has revealed no structural offsets of bedding planes and minor changes in dip may be related to subtle changes in pre-kimberlite emplacement topography and/or differential compaction of the sedimentary stratigraphy under the heavy kimberlite pile. The possible presence of faulting becomes important during mine planning and operation, where such local-scale location discrepancies can have an impact on the location of kimberlite and day-to-day production.
- With the data available, AMEC developed mean factors, which have been globally adjusted for risk of overestimation. The factors vary considerably from LDD sample to LDD sample, as would be expected for samples with approximately 30 tonne support. It is not possible with the current data set to predict local adjustment factors. Therefore, there is risk that the use of global factors for adjusting LDD sample grades will over-predict in some areas and under-predict in





others. This may present some difficulty in the reliable scheduling of diamond grades in a feasibility study.

• WWW has based its valuation on a model that statistically attempts to account for under-recovery of high-value stones in the underground samples. The sample mass is inadequate to obtain a representative parcel of high-value stones. Representative sampling of the large, high-value goods is only achieved during full-scale production. The modeled price is 48 percent higher than the sample price (parcel price). It is WWW's opinion that a modeled price could be 22 percent to 93 percent higher than the sample price. This revenue uncertainty is always encountered in diamond mine development.





21.0 RECOMMENDATIONS

The Star Diamond Project has moved from a capital intensive data gathering exercise (underground bulk sampling, core drilling and large diameter drilling) to lower cost, desk-top engineering studies and data analysis, which has integrated kimberlite tonnes and diamond data to allow mineral resource estimation.

These studies include:

- Preliminary plant, pit and infrastructure design, as part of a pre-feasibility study. This program will be conducted in the latter part of 2008. The program is estimated at \$1.8 million.
- Detailed geotechnical investigations around the design pit perimeter, including 13 holes for approximately 3,250 metres of drilling, piezometer installations and analysis. The program is estimated at \$1.2 million.
- Detailed groundwater geophysics and modeling to complete the hydrogeology program started in 2007. The program is estimated at \$20,000.
- Baseline environmental studies, including, but not limited to, large animal surveys, riparian habitat surveys, heritage assessments, noise/dust monitoring, revegetation plots, rare plant assessments, and acid-based accounting test work. The program is estimated at \$2.1 million.

AMEC recommends that Shore Gold produce a 3-D structural geological model in order to evaluate the possible effects of faulting on the local geometry of the kimberlite units at Star. Additional drilling may be required to define the locations of these faults. This model should be constructed prior to completion of the feasibility study.

A thorough, quantitative risk analysis should be conducted as to grades and revenues achieved for quarterly and annual time periods. In some cases, the probability distributions used will have to depend on experience of professionals as well as the available data. The fiscal regime of the project will have to be structured in a way that accommodates risk in a manner acceptable to the project's sponsors. This will be undertaken as part of the preliminary feasibility study review in 2008 and will be incorporated and form part of the feasibility study thereafter.





22.0 REFERENCES

- AMEC, 2005a: Shore Gold Star Diamond Project, Initial Meeting (April 13–15, 2005): unpublished internal memorandum from AMEC to Shore Gold Inc., dated 27 April 2005, 16 p.
- AMEC, 2005b: Shore Gold Inc. Star Diamond Project Site Visit Report September 27– 28, 2005: unpublished internal memorandum from AMEC to Shore Gold Inc., dated 4 November 2005, 14p.
- AMEC, 2006: AMEC Site Visit to Star Project November 15, 2005 Core Drilling Audit: unpublished internal memorandum from AMEC to Shore Gold Inc., dated 10 January 2006, 6 p.
- AMEC, 2007: AMEC Site Visit to Star Project October 3–6, 2007: unpublished internal memorandum from AMEC to Shore Gold Inc., dated 9 November 2007.
- AMEC, 2008: Star Deposit Resource Estimate, Executive Summary: unpublished internal memorandum from AMEC to Shore Gold Inc., dated 11 April, 2008, 4 p.
- Canadian Institute of Mining, Metallurgy and Petroleum (CIM), 2003: Guidelines for the Reporting of Diamond Exploration Results – Final: CIM Standing Committee, Canadian Institute of Mining, Metallurgy and Petroleum, posted to http://www.cim.org/committees/diamond_exploration_final.pdf, 6 p.
- Canadian Institute of Mining, Metallurgy and Petroleum (CIM), 2004: Exploration Best Practice Guidelines: Canadian Institute of Mining, Metallurgy and Petroleum.
- Canadian Institute of Mining, Metallurgy and Petroleum (CIM), 2005: CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines: Canadian Institute of Mining, Metallurgy and Petroleum.
- Canadian Securities Administrators (CSA), 2005: National Instrument 43-101, Standards of Disclosure for Mineral Projects, Canadian Securities Administrators.
- Capdevila, R., Arndt, N., Letendre, J., and Sauvage, J-C., 1999: Diamonds in volcaniclastic komatiite from French Guiana: Nature, Vol. 399, p. 456–458
- Chiarenzelli, J., Aspler, L., Villeneuve, M. and Lewry, J., 1997: Early Proterozoic Evolution of the Saskatchewan Craton and its Allochthonous Cover—Trans-Hudson Orogen: Journal of Geology, Vol. 106, p. 247–267.





- Clifford, T. N. 1966: Tectono-metallogenic Units and Metallogenic Provinces of Africa: Earth and Planetary Science Letters, Vol. 1, p. 421–434.
- Coopersmith, H. 2006: AMEC Site Visit to Star Project March 14–17, 2006: unpublished internal memorandum from AMEC to Shore Gold Inc., dated 2 June 2006, 21 p.
- Harvey, S., Kjarsgaard, B.A., Zonneveld, J.P., Heaman, L.H., and McNeil, D., 2006: Volcanology and Sedimentology of Distinct Eruptive Phases at the Star Kimberlite, Fort à la Corne Field, Saskatchewan: Extended Abstracts of the 2006 Kimberlite Emplacement Workshop, September 6–13, Saskatoon, SK., 5 p.
- Janse A.J.A, 1991: Is Clifford's Rule Still Valid? Affirmative Examples From Around The World: Extended Abstract, 5th International Kimberlite Conference, CPRM Special Publication 2/91, Brasilia, p. 196–198.
- Jellicoe B.C., Robertshaw, P.C., Williamson, P., Murphy, J., 1998: Summary of Exploration Activities And Results For The Fort À La Corne Diamond Project, Saskatchewan: *in* Summary of Investigations 1998, Saskatchewan Geological Survey, Saskatoon Energy Mines, Miscellaneous Report 98–4, p. 144–157.
- Jellicoe, B., 2006: Summary of Exploration and Evaluation of the Fort à la Corne Kimberlite Field, East-Central Saskatchewan: unpublished technical report prepared for Shore Gold, Effective Date 9 November 2005, 189 p.
- Kirkley M.B., Gurney J.J., Otter M.L., Hill S.J., and Daniels L.R., 1991: The Application of C Isotope Measurements to the Identification of the Sources of C in Diamonds: Journal of Applied Geochemistry, Vol 6, p. 477–494.
- Kjarsgaard B.A., Harvey S., Grunsky E., and Peterson T., 2003: Geochemistry of the Star Kimberlite: unpublished internal report for Shore Gold Inc.
- Kjarsgaard, B.A., Zonneveld, J.P., Grunsky, E., Heaman, L.,M., McNeil, D. and Du Plessis, P., 2005: Recent Advances in the Geology of the Star Kimberlite, Saskatchewan: Saskatchewan Geological Survey Open House, Saskatoon 2005, Program with abstracts, p. 23.
- Lawless and Associates, 2008: Shore Gold Star Diamond Project, Results and Interpretation of a Diamond Damage Investigation: unpublished internal report to Shore Gold from Dr Paddy Lawless and Associates CC and SGS Lakefield, Lakefield, Ontario.





- Lehnert-Thiel, K., Loewer R., Orr R. G. and Robertshaw P., 1992: Diamond-bearing Kimberlites in Saskatchewan, Canada: The Fort à la Corne Case History: Exploration and Mining Geology, Vol 1, No 4, p. 391–403.
- Leroux, D.C., 2005a: Technical Review of the Shore Gold Inc. Diamond Exploration Property, Fort à la Corne, Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Limited for Shore Gold Inc., Effective Date 1 March 2005, Report 881, 128 p.
- Leroux, D.C., 2005b, Amended Technical Review of the Shore Gold Inc. Diamond Exploration Property, Fort à la Corne, Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Limited for Shore Gold Inc., Effective Date 16 March 2005, Report 881, 128 p.
- Leroux, D.C., 2005c: Amended and Restated Technical Review of the Shore Gold Inc. Diamond Exploration Property, Fort à la Corne, Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Limited for Shore Gold Inc., Effective Date, 15 December, 2005, Report 881, 129 p.
- Leroux, D.C. 2007a: Technical Report on the Star Diamond Project, Fort à la Corne Area Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Limited for Shore Gold Inc., Effective Date 15 March, 2007, Report 906, 112 p.
- Leroux, D.C. 2007b: Technical Report on the Fort à la Corne Joint Venture Diamond Exploration Project, Fort à la Corne Area Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Limited for Kensington Resources Ltd: Effective Date 15 March 2007, Report 907, 84 p.
- Leroux, D.C. 2008a, Technical Report on the Star Diamond Project, Fort à la Corne Area, Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Limited for Shore Gold Inc., Effective Date 12 March 2008, Report No. 913, 128 p.
- Leroux, D.C. 2008b: Technical Report on the Fort à la Corne Joint Venture Diamond Exploration Project, Fort à la Corne Area Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Limited for Kensington Resources Ltd: Effective Date 20 March 2008, Report No. 914, 91 p.
- McCulloch, R. K, 1994: Notes on the Candle Lake Joint Venture, Saskatchewan: Unpublished internal memorandum report by Trans Hex.





- McNeil D.H., Dolby G., Zonneveld J.P., and Kjarsgaard B.A., 2003: Saskatchewan Open House Abstract: A Biostratigraphic Transect Across the Star Kimberlite Body of East-Central Saskatchewan – Preliminary Results: *in* Open House 2003, Abstract Volume, Saskatchewan Geological Survey, Saskatoon Industry Resources.
- Mitchell, R.H., 1991, Kimberlites and Lamproites: Primary Sources of Diamonds; Geoscience Canada, Volume 18, Number 1, pp. 1–16.
- Patrick, D.J., 1999: Technical Review of the Shore Gold Inc. Diamond Exploration Property, Fort à la Corne, Saskatchewan, Canada: unpublished report by A.C.A. Howe International Limited for Shore Gold Inc., 19 p.
- Patrick, D.J., 2000: Technical Review of the Shore Gold Inc. Diamond Exploration Property, Fort à la Corne, Saskatchewan, Canada: unpublished report by A.C.A. Howe International Limited for Shore Gold Inc., 19 p.
- Patrick, D.J., 2001: Technical Review of the Shore Gold Inc. Diamond Exploration Property, Fort à la Corne, Saskatchewan, Canada: unpublished report by A.C.A. Howe International Limited for Shore Gold Inc., 49 p.
- Patrick, D.J., 2003: Technical Review of the Shore Gold Inc. Diamond Exploration Project, Fort à la Corne Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Ltd. for Shore Gold, Effective Date 25 July 2003, 73 p.
- Patrick, D.J. and Leroux, D.C., 2004: Technical Review of the Shore Gold Inc. Diamond Exploration Property, Fort à la Corne, Saskatchewan, Canada: unpublished technical report by A.C.A. Howe International Ltd. for Shore Gold, Effective Date 17 May 2004, 106 p.
- Ryans, H., 2006: Report on Visit to Bulk Sampling Facilities of Shore Gold Fort à la Corne, Saskatchewan: unpublished internal memorandum from AMEC Americas to Shore Gold Inc., 8 p.
- Saskatchewan Government, 2005: Mineral Exploration Guidelines for Saskatchewan: prepared by Saskatchewan Mineral Exploration and Mining Advisory Committee, posted to Ministry of Energy and Mines website, http://www.ir.gov.sk.ca/adx/aspx/adxGetMedia.aspx?DocID=4718,3457,3451,3385 ,5460,2936,Documents&MediaID=20015&Filename=Mineral+Exploration+Guidelin es+2007.pdf, 61 p.





- Scott Smith, B.H., Orr R.G., Robertshaw, P. and Avery, R.W., 1994: Geology of the Fort à la Corne kimberlites, Saskatchewan: *in* Proceedings of District 6 CIM Annual General Meeting, Diamonds, p. 19-24.
- Strnad, J.G., 1992: Diamondiferous Kimberlites in Saskatchewan, Canada: global, continental, regional and local settings: *in* Dunne, K.P.E., and Grant, B., eds.: Mid-Continent Diamonds; Geological Association of Canada Mineral Deposits Division, Mid-Continent Diamonds Symposium Volume, Geological Association of Canada Mineralogical Association of Canada, Annual Meeting, May 13–16 1992, Edmonton, Alberta, 160 p.
- WWW International Diamond Consultants Inc., 2008: Valuation of Diamonds from the Star Diamond Project, March 2008 Re-Price: unpublished report from WWW to Shore Gold Inc., 13 March, 2008.
- Zonneveld, J.P., Kjarsgaard, B.A., Harvey, S. Marcia, K. McNeil, D. Heaman, L. and White, D., 2003: Sedimentologic and Stratigraphic Constraints on Emplacement of the Star Kimberlite, East-Central Saskatchewan: *in* R.H. Mitchell, H.S. Gruetter, L.M. Heaman, B.H. Scott Smith and T. Stachel eds.: Selected papers from the Eighth International Kimberlite Congress; Volume 1; The C. Roger Clement volume, Lithos, Vol. 76, p.115–138





23.0 DATE AND SIGNATURE PAGE

The effective date of this Technical Report, titled "Shore Gold Inc., Star Diamond Project, Fort à la Corne, Saskatchewan, Canada, NI43-101 Technical Report", is 9 June 2008.

"Signed"

AMEC Americas Limited

Per:

Kris Homer Operations Manager, Mining & Metals

Date: 21 July 2008

