CAMECO CORP
Form 6-K
March 30, 2007

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 6-K
Report of Foreign Private Issuer
Pursuant to Rule 13a-16 or 15d-16 Under
the Securities Exchange Act of 1934
For the month of March, 2007
Cameco Corporation
(Commission file No. 1-14228)
2121-11th Street West
Saskatoon, Saskatchewan, Canada S7M 1J3
(Address of Principal Executive Offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F o Form 40-F þ

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes o No þ

If Yes is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b):

Exhibit Index

Exhibit No.	Description	Page No.
1.	Cigar Lake Project, Northern Saskatchewan Technical Report dated March 30, 2007	

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: March 30, 2007

Cameco Corporation

By: */s/ Gary M.S. Chad*
Gary M.S. Chad, Q.C.
Senior Vice-President, Governance,
Legal and Regulatory Affairs, and
Corporate Secretary

Cigar Lake Project
Northern Saskatchewan, Canada
National Instrument 43-101
Technical Report
Effective Date, March 30, 2007

Prepared by:
Cameco Corporation
Alain G. Mainville, P.Geo.
Barry W. Schmitke, P.Eng.
Douglas G. McIlveen, P.Geo.
Charles R. Edwards, P.Eng.

CAMECO CORPORATION
CIGAR LAKE PROJECT, NORTHERN SASKATCHEWAN, CANADA
NI 43-101 TECHNICAL REPORT

Table of Contents

Tables

Figures

Appendices

Units of Measure and abbreviations

a	Annum (year)
%	Percent
°	Degrees
°C	Degrees Celsius
cm	Centimetres
d	Day
g	Grams
g/cm^3	Grams per cubic centimetre
g/m^3	Grams per cubic metre
h	Hour(s)
ha	Hectares (10,000 square metres)
HP	Horsepower
Hwy	Highway
IRR	Internal rate of return
K	Thousand
kg	Kilograms
km	Kilometres
km/h	Kilometres per hour
km^2	Square kilometres
kV	Kilovolts
kW	Kilowatts
l	Litre
Lbs	Pounds
M	Million
Mt	Million tonnes
m	Metres
$m^2/t/d$	Square metres per tonne per day (thickening)
m^3	Cubic metres
m^3/h	Cubic metres per hour
m%U	metres times per cent uranium
$m\%U_3O_8$	metres times per cent uranium oxide
masl	Metres above sea level (elevation)
mm	Millimetres
MPa	Megapascal
Mt/a	Million dry tonnes per year
MW	Megawatts
N	Newton
NPV	Net present value
Pa	Pascal (Newtons per square metre)
ppm	Parts per million
p_{80}	80% passing (particle size nomenclature)
st	Short tons

SX	Solvent extraction
t	Tonnes (metric)
t/h	Tonnes per hour
t/d	Tonnes per day
t/a	Tonnes per year
U	Uranium
%U	Percent uranium (%U x 1.179 = % U_3O_8)
U_3O_8	Uranium oxide (yellowcake)
%U_3O_8	Percent uranium oxide (% U_3O_8 x 0.848 = %U)
Cdn$	Canadian Dollars
Cdn$M	Million Canadian Dollars

US$	US dollars
US$M	Million US dollars
$/t	Canadian dollars per tonne
US$/lb	US dollars per pound
US$/t	US dollars per tonne
W/W%	per cent solids by weight
>	Greater than
<	Less than

1 SUMMARY

Cigar Lake is the world s second largest known high-grade uranium deposit and is located in Northern Saskatchewan. Cigar Lake is owned by joint venture partners Cameco Corporation (Cameco) (50.025%), AREVA Resources Canada Inc. (AREVA) (37.1%), Idemitsu Canada Resources Ltd. (Idemitsu) (7.875%) and TEPCO Resources Inc. (TEPCO) (5.0%). Cameco is the operator and has been since January 2002. In December 2004, the Cigar Lake Joint Venture (CLJV) decided to proceed with development of the Cigar Lake mine and received a construction licence from the Canadian Nuclear Safety Commission (CNSC) that same month. Construction of the project began on January 1, 2005 and is expected to be complete in 2010, with commissioning of the mine facilities in ore and commercial production targeted for 2010. These activities are subject to regulatory approval. The mine and facilities have been designed to produce at a rate of 18 million pounds U_3O_8 per year when the project reaches full operation.

This technical report has been prepared for Cameco by, or under the supervision of, internal qualified persons in support of disclosure of new scientific and technical information that is material to the Cigar Lake project as contained in Cameco s Annual Information Form for 2006, Cameco s Management Discussion and Analysis filed with securities regulators on March 19, 2007, and a press release by Cameco on March 18, 2007. This new material scientific and technical information includes an updated capital cost estimate and a production forecast that are considered necessary because of the October 23, 2006 water inflow at Cigar Lake.

1.1 Property Tenure

The mineral property consists of one mineral lease, totalling 308 ha, and 25 mineral claims totalling 92,740 ha. The mineral lease and mineral claims are contiguous. The Cigar Lake deposit is located in the area subject to mineral lease ML 5521. The right to mine this uranium deposit was acquired under this mineral lease. The current mineral lease expires December 1, 2011 with the right to renew for successive 10-year terms absent a default by Cameco.

The surface facilities and mine shafts for the Cigar Lake project are located on lands owned by the province of Saskatchewan. Cameco acquired the right to use and occupy the lands under a surface lease agreement with the province. The most recent surface lease was signed in May 2004 and is valid for 33 years. The lease is renewable if necessary until full property decommissioning has been achieved. The Cigar Lake surface lease covers a total of 959 ha.

1.2 Location and Site Description

The Cigar Lake minesite is located near Waterbury Lake, approximately 660 km north of Saskatoon. Access to the property is by an all weather road and by air. All supplies to the site and shipment of product are transported by truck year round. Site activities are carried out throughout the year.

The topography and the environment are typical of the taiga forested lands common to the Athabasca basin area of northern Saskatchewan. The area is covered with 30 to 50 m of overburden. The surface facilities are at an elevation of approximately 490 masl.

The site is connected to the provincial electricity grid with standby generators installed in case of grid power interruption.

Personnel are recruited from the northern communities and throughout Saskatchewan and other provinces. The development and construction work is tendered to a number of contractors.

1.3 Geology and Mineralization

The Cigar Lake deposit is located 40 km inside the margin of the eastern part of the Athabasca basin. It is an unconformity related uranium deposit and occurs at the unconformity contact between rock of the Athabasca group and underlying lower Proterozoic Wollaston Group metasedimentary rocks, an analogous setting to the Key Lake, McClean Lake, and Collins Bay deposits. It shares many geological similarities with these deposits, including general structural setting, mineralogy, geochemistry, host rock association and the age of the mineralization.

The Cigar Lake deposit is distinguished from other similar deposits by its size, its high grade, and the degree of associated hydrothermal clay alteration. The geological setting at Cigar Lake is similar to that at the McArthur River mine in that the sandstone overlying the basement rocks of the deposit contains significant water at high hydrostatic pressure.

The deposit is flat lying, approximately 1950 m long, 20 to 100 m wide, and ranges up to 16 m thick, with an average thickness of about 6 m. It occurs at depths ranging between 410 and 450 m below the surface.

Three distinct styles of mineralization occur within the Cigar Lake deposit: high grade mineralization at the unconformity (unconformity mineralization) which includes the ore; fracture controlled, vein-like mineralization higher up in the sandstone (perched mineralization); and fracture controlled, vein-like mineralization in the basement rock mass.

The body of high grade mineralization located at the unconformity contains the bulk of the total uranium metal in the deposit and currently represents the economically viable style of mineralization, considering the available mining methods and ground conditions. It is characterized by the occurrence of massive clays and high-grade uranium concentrations.

The high-grade, unconformity mineralization consists primarily of three dominant rock and mineral facies occurring in varying proportions. These are quartz, clay (primarily chlorite with lesser illite) and metallic minerals (oxides, arsenides, sulphides). In the two higher grade eastern lenses, the ore consists of approximately 50% clay matrix, 20% quartz and 30% metallic minerals, visually estimated by volume. In this area, the unconformity mineralization is overlain by a very weakly mineralized contiguous clay cap one to five metres thick. In the lower grade western lens, the proportion changes to approximately 20% clay, 60% quartz and 20% metallic minerals.

1.4 Mineral Resources and Mineral Reserves

The known mineralization at Cigar Lake has been divided into two areas; the eastern area, Phase 1 and the western area, Phase 2. Delineation drilling of the deposit was concentrated on Phase 1, which contains the Indicated Mineral Resources and Proven Mineral Reserves for the Cigar Lake project. Phase 2 has had less drilling and all resources in this area are in the Inferred Mineral Resource category. The known mineralization in Phase 1 is thicker and higher grade than that in Phase 2.

The Phase 1 Mineral Resource and Reserve estimates are based on 150 drillholes from surface, of which 93 intersected the orebody, at a nominal drillhole grid spacing of 50 m east-west by 20 m north-south. The Phase 2 Mineral Resource estimate is based on 53 drillholes, of which 19 intersected the mineralization, from surface at a nominal drillhole grid spacing of 200 m east-west by 20 m north-south.

A summary of the Mineral Resources in the Cigar Lake deposit with an effective date of March 16, 2007 is shown in *Table 1-1*. Alain G. Mainville, P.Geo., of Cameco, is the qualified person within the meaning of National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (NI 43-101) for the purpose of the Mineral Resource and Reserve estimates.

CAMECO CORPORATION
CIGAR LAKE PROJECT, NORTHERN SASKATCHEWAN, CANADA
NI 43-101 TECHNICAL REPORT

Table 1-1: Summary of Mineral Resources March 16, 2007

Category	**Area**	**Total Tonnes (x 1000)**	**Grade %U_3O_8**	**Total Lbs U_3O_8 (millions)**	**Cameco s Share Lbs U_3O_8 (millions)**
Phase 1					
Measured	Phase 1				
Indicated	Phase 1	61	4.9	6.6	3.3
Total	**Phase 1**	**61**	**4.9**	**6.6**	**3.3**
Phase 2					
Inferred	Phase 2	317	16.9	118.2	59.1

Notes: (1) Cameco reports Mineral Reserves and Mineral Resources separately. Reported Mineral Resources do not include amounts identified as Mineral Reserves.

(2) Cameco s share is 50.025 % of total Mineral Resources.

(3) Inferred Mineral Resources have a great amount of uncertainty as to their existence

and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the Inferred Mineral Resources will ever be upgraded to a higher category.

(4) Indicated Mineral Resources have been estimated at a minimum mineralized thickness of 2.5 m and at a cut-off grade of 1.2 % U_3O_8 applied to the Phase 1 resource block model. Inferred Mineral Resources have been estimated by applying at a cut-off grade of 5.9 % U_3O_8 to the Phase 2 resource block model.

(5) The geological model employed for Cigar Lake involves geological interpretations on section and plan derived from core drillhole information.

(6) The Mineral Resources have been estimated

with an allowance of 0.5 m of dilution material above and below the deposit at 0% U_3O_8. No allowance for mining recovery is included.

(7) Mineral Resources were estimated based on the use of the jet boring mining method combined with bulk freezing of the orebody.

(8) Mineral Resources were estimated using 2-dimensional block models.

(9) Environmental, permitting, legal, title, taxation, socio-economic, political, marketing or other issues are not expected to materially affect the above estimate of Mineral Resources.

(10) Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

A summary of the Mineral Reserves with an effective date of March 16, 2007 is shown in *Table 1-2*.

CAMECO CORPORATION
CIGAR LAKE PROJECT, NORTHERN SASKATCHEWAN, CANADA
NI 43-101 TECHNICAL REPORT

Table 1-2: Summary of Mineral Reserves March 16, 2007

Category	Area	Total Tonnes (x 1000)	Grade $\%U_3O_8$	Total Lbs U_3O_8 (millions)	Cameco s Share Lbs U_3O_8 (millions)
Proven	Phase 1	497	20.7	226.3	113.2
Probable	Phase 1				
Total	**Cigar Lake**	**497**	**20.7**	**226.3**	**113.2**

Notes: (1) Total Lbs U_3O_8 are those contained in Mineral Reserves and are before mill recovery of 98.5 % has been applied.

(2) Cameco s share is 50.025 % of total Mineral Reserves.

(3) Cigar Lake Mineral Reserves have been estimated at a minimum mineralized thickness of 2.5 m and at a cut-off grade of 5.9% U_3O_8 applied to the Phase 1 resource block model.

(4)

The geological model employed for Cigar Lake involves geological interpretations on section and plan derived from core drillhole information.

(5) Mineral Reserves have been estimated with an allowance of 0.5 m of dilution material above and below the deposit, plus 5% external dilution and 5% backfill dilution at 0% U_3O_8.

(6) Mineral Reserves have been estimated based on 90% mining recovery.

(7) Mineral Reserves were estimated based on the use of the jet boring mining method combined with bulk freezing of the orebody. Jet boring produces an ore slurry with initial processing consisting of crushing and grinding underground, leaching at the McClean Lake

JEB mill and yellowcake production split between the McClean Lake JEB and Rabbit lake mills. Mining rate assumed to vary between 80 and 140 t/d and a full mill production rate of 18 million pounds U_3O_8 per year based on 98.5% mill recovery.

(8) Mineral Reserves were estimated using a 2-dimensional block model.

(9) For the purpose of estimating Mineral Reserves in accordance with NI 43-101, a price of US$38.50/lb U_3O_8 was used. For the purpose of estimating Mineral Reserves in accordance with US Securities Commission Industry Guide 7, a price of US$32.30/lb U_3O_8 was used. Estimated Mineral Reserves are almost identical at either price because of the

insensitivity of the Mineral Reserves to the cut-off grade over the range of these two prices.

(10) The key economic parameters underlying the Mineral Reserves include a conversion from US$ dollars to Cdn$ dollars using a fixed exchange rate of US$0.91 = Cdn$1.00.

(11) Environmental, permitting, legal, title, taxation, socio-economic, political, marketing or other issues are not expected to materially affect the above estimate of Mineral Reserves.

The current mining project has been designed to extract the Mineral Reserves in Phase 1. Compared to previous Mineral Resources and Reserves disclosed by Cameco, as of December 31, 2005, the Proven Mineral Reserves remain unchanged at 226.3 million pounds and the Probable Mineral Reserves have been reclassified as Indicated Resources due to a change in the cut-off grade. The Inferred Resources in Phase 2 also remains unchanged. Mineral Resources in Phase 2 are in the Inferred category and have been evaluated from a preliminary perspective only and further drilling and mining studies are needed before these Mineral Resources can be fully evaluated. Inferred Mineral Resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the Inferred Mineral Resources will ever be upgraded to a higher category.

1.5 Exploration of Cigar Lake Deposit

The Cigar Lake uranium deposit was discovered in 1981 on mineral lease ML-5521 by drillhole number 15 of a regional programme of diamond drill testing of geophysical anomalies (electromagnetic conductors) located by airborne and ground geophysical surveys. The deposit was subsequently delineated by a major surface drilling program during the period 1982 to 1986, followed by several small campaigns of drilling for geotechnical and infill holes to 1998 when the last surface hole was drilled. In total, 92,022 m of diamond drilling was completed in 227 surface holes. Of the 227 surface drill holes and wedged intersections drilled, 112 have been drilled within the geologically interpreted deposit limits and intersected minimum mineralized intervals with grade times thickness (GT) value greater than 3.0 m%U_3O_8 (2.5 m%U), equivalent to 2.5 m at 1.2% U_3O_8.

In addition to the surface holes, diamond drilling has been done from underground access locations primarily to ascertain rock mass characteristics in advance of development and mining, both in ore and waste rock. In the period from 1989 to 2006, 132 underground diamond drill holes totalling 11,108 m were drilled. Only seven of these underground holes have intersected the orebody.

A total of 347 freeze and temperature monitoring holes have been drilled to the end of 2006 during the construction phase, of which approximately 150 have been gamma surveyed. The freeze holes are drilled by percussion methods so no core is available for assays and uranium content is estimated by probing the holes with radiometrics. Cameco plans to reconfirm the current conversion factors for estimating uranium grade from the radiometrics by drilling several core holes and using them for calibration purposes.

1.6 Exploration of Waterbury Lake Property

Mineral lease ML-5521, which covers the Cigar Lake deposit, is surrounded by 25 mineral claims. AREVA is responsible for all exploration activity on these 25 surrounding claims under the CLJV agreements. (For the purposes of this Section 1.6, these mineral claims are called the Waterbury Lake property).

The Waterbury Lake property was initially acquired by Asamera Oil Corporation Ltd. (Asamera) with the first three claim blocks staked in 1975, a fourth in 1976 and a permit created in 1977. Asamera conducted various field investigations from 1976 to 1980 including completion of three diamond drillholes in 1978 and one in 1979. None of these drillholes intersected the deposit.

In 1980, S.E.R.U. Nucléaire Canada Limitée (SERU) took over as operator of the Waterbury Lake property. During the years 1980 to 1986, SERU (a predecessor company of AREVA) completed various airborne and ground geophysical programs, lake sediment and water sampling programs and substantial diamond drilling.

During 1981, fourteen exploration holes were drilled by SERU on the Waterbury Lake property, followed by the Cigar Lake deposit discovery hole. Subsequent to that discovery, the majority of exploration activities over the next few years were concentrated on ML-5521, which hosts the Cigar Lake deposit, with only moderate activity on the Waterbury Lake property. All exploration activities ceased after the 1986 field season for a period of 12 years, until exploration work on the Waterbury Lake property recommenced in 1999.

The 1999 work program started with a period of data compilation and review of all work conducted to date, following which additional exploration was started focussing upon developing further understanding of the Cigar trend, and developing knowledge of the large, unexplored parts of the project. Since the inception of exploration activities to the end of the 2006 drilling program, a total of 76 exploration diamond drillholes (totalling 35,285 m) and an additional 38 shallow drillholes (totalling 2,140 m) have been completed on the Waterbury Lake property.

During the 2006 exploration program, a drillhole located 700 m east of the Cigar Lake orebody had an intercept with a radiometric grade of 21% U_3O_8 over a vertical thickness of 7.7 m. An AREVA exploration program planned for 2007 will follow up on this intersection.

1.7 Mining

The mining of the Cigar Lake deposit faces many challenges including control of groundwater, weak rock formations, and radiation protection. Based on these challenges it was identified that a non-entry mining method would be required to mine the deposit.

The jet boring mining method was selected for the mining of the Cigar Lake deposit after many years of exploration and test mining activities following the discovery of the deposit in 1981. The method consists of cutting approximately 4.5 m diameter cavities with a high pressure water jet in previously frozen ore. It was developed and adapted specifically for this deposit and one of its primary features is its non-entry approach, whereby personnel are not exposed to the orebody as all mining will be conducted from headings located in basement rock below it. Through the application of non-entry mining methods, the containment of the ore cuttings within cuttings collection systems, and the application of ground freezing, the levels of radiation exposure to workers were acceptable and below regulatory limits. Experience with non-entry mining of high grade uranium ore at Cameco s McArthur River mine has demonstrated the effectiveness of this mining approach to manage radiation exposures.

Underground in-situ mining tests of the jet boring system in 1992 proved the potential of the method and provided the basis for the design and construction of a prototype jet boring system. A further series of in-situ mining tests were then conducted in 1999 and 2000 and demonstrated that the mining system would work on a production basis. Overall, the test mining programs were considered successful with the initial objectives achieved. An estimated total of 768 t of mineralized material grading on average 17.4% U_3O_8 was mined during the various mining tests.

In conjunction with the testing of the mining method was the selection and in-situ testing of the mine development system (MDS), consisting of a 5.1 m diameter full-face tunnel boring machine and the installation of a pre-cast concrete tunnel lining for ground support. The special feature of the MDS is that it provides continuous temporary ground support during excavation and almost immediate installation of permanent ground support after excavation. This feature is critical for development in areas of poor ground conditions where there is minimal stand-up time.

Key to the success of the mining of the deposit is first freezing the ground to be mined, which will result in several enhancements to the mining conditions. These are: (1) minimize the risk of water inflows into the mine from the water bearing rock above the unconformity, (2) reduction of the radiation resulting from radon dissolved in the water, and (3) increase the stability of the rocks being mined.

The main access to the mine is via the 4.9 m diameter circular, concrete lined No. 1 Shaft which extends to a depth of 500 m and provides direct access to the 420 m and 480 m levels. (The level number is the approximate depth of that level below surface in metres). A second shaft, No. 2 Shaft, located 90 m south of No. 1 Shaft, is a 6.1 m diameter circular, concrete lined shaft which has been sunk to a depth of 392 m with an ultimate planned depth of 500 m. It will connect to the 480 m level. No. 1 Shaft will be used as the main access and services shaft, and as a route for delivery of fresh ventilation underground. No. 2 Shaft will be divided into two compartments by a central airtight partition; one compartment will serve as the main path for exhaust air from the mine; and the second will be used to downcast additional fresh ventilation air as well as house the cage to be used for secondary egress. The primary ventilation system has been designed to supply a volume of up to 250 m^3/s of fresh air to the mine.

All lateral development required to mine the deposit has been placed in the basement rocks below the orebody. Mining will be conducted from two levels: the 465 m production level, the roof of which is located a minimum of 10 m below the deposit; and the 480 m freezing level located 15 m lower.

The freezing strategy is to bulk freeze the ore zone and 465 m production level and access drifts prior to the commencement of mining in a given area. The first step in freezing is to drill vertical freeze holes from the 480 m freeze level up through the orebody. Calcium chloride brine at minus 30^0 C is delivered underground through pipes installed in No. 1 Shaft from a surface refrigeration plant. This brine is received by heat exchangers underground which then feed brine to freeze pipes installed in the freeze holes. This system freezes the deposit and underlying basement rock at between minus 10^0 C and 20^0 C in one to three years.

Following the October 2006 inflow through an unfrozen section of the 465 m level, the mine plan has been expanded to include the freezing of those sections of the 465 m level development that had previously been excluded from the freeze plan. This freezing will take place prior to the recommencement of development on the 465 m level.

Jet boring mining will consist of cutting the ore with a high pressure water jet using the Jet Boring System (JBS). The JBS mining units will cut cavities of approximately 4.5 m diameter in the previously frozen ore from each set-up, producing approximately 235 t of ore for a typical 6 m ore thickness. All mining with the JBS will be done from the 465 m production level, located in the basement rock below the ore zone. Following mining, each cavity will be backfilled with concrete backfill.

The required mine production of 80 to 140 t/d of ore can be produced from a single JBS mining unit. The mine equipment fleet will be comprised of three JBS units: one in production, one being moved or set-up, and the third undergoing maintenance. Ore mined by the JBS will mix with the cuttings water to form a coarse slurry which will be pumped through pipes directly from the JBS to the run-of-mine ore receiving facility, from which it will be subsequently recovered and fed into the underground crushing and grinding circuit. Following crushing and grinding underground, the ground ore slurry will be pumped to surface by a slurry pump through a pipeline to be installed in No. 2 Shaft.

1.8 Processing

Cigar Lake ore will be processed at three locations. Size reduction will be conducted at Cigar Lake, leaching will occur at McClean Lake and final yellowcake production will be split between McClean Lake and Rabbit Lake for a total estimated annual production rate of 18 million pounds U_3O_8 when the mine is in full operation. The McClean Lake JEB mill is owned by the McClean Lake Joint Venture (MLJV) and operated by AREVA. Cameco owns the Rabbit Lake mill.

The first stage of processing will take place underground at Cigar Lake. The ore slurry produced by the jet boring mining system will be pumped to the underground crushing and grinding facility. The resulting finely ground, high density ore slurry will be pumped to surface storage tanks, thickened and loaded into truck mounted containers, similar to those currently being used at McArthur River mine.

The containers of ore slurry will be trucked to AREVA s McClean Lake operations, 70 km to the northeast for processing. Initially all the Cigar Lake ore will be processed at the McClean Lake JEB mill. As Cigar Lake production ramps up to full capacity, just over half of final uranium processing will be completed at Cameco s Rabbit Lake mill facility. Both the McClean Lake JEB and Rabbit Lake mills require modifications to process the Cigar Lake ore.

The McClean Lake JEB mill modifications to process Cigar Lake ore slurry are largely complete. The remaining modifications are scheduled for completion in 2007, with the exception of the uranium solution off-loading facility which is expected to be complete in 2010.

The Rabbit Lake mill modifications are undergoing detailed design with the primary clarifier targeted for completion in 2008, the membrane plant targeted for completion in 2009 and the uranium solution receiving station targeted for completion in 2011. The required transportation infrastructure includes a bridge targeted for completion in 2010 and the required road scheduled for completion by 2011.

The CLJV has entered into toll milling agreements for the processing of the Cigar Lake uranium at the McClean Lake JEB and Rabbit Lake mills.

1.9 Environmental Assessment and Licensing

The Cigar Lake project has regulatory obligations to both the federal and provincial governments. Being a nuclear facility, primary regulatory authority resides with the federal government and its agency, the Canadian Nuclear Safety Commission (CNSC). The main regulatory agencies that issue permits / approvals and inspect the Cigar Lake project are: the CNSC (federal), Fisheries and Oceans Canada (federal), Environment Canada (federal), Transport Canada (federal), Saskatchewan Labour (provincial), and Saskatchewan Environment (provincial).

One of the initial steps in the regulatory process was to assess the project under the federal and provincial environmental assessment (EA) processes.

In 1995, the Cigar Lake Project, Environmental Impact Statement, 1995 (the 1995 EIS) was submitted to the Joint Federal-Provincial review panel on Uranium Mining Developments in Northern Saskatchewan (the Panel). In 1997, the Panel recommended that pending identification of a suitable waste rock disposal location, the project should proceed. The Canadian and Saskatchewan governments both accepted the Panel s recommendation and in 1998 both government bodies approved the project in principle.

In February 2004, Cameco submitted an environmental assessment study report (the 2004 EASR) for the Cigar Lake mine portion of the project. The 2004 EASR did not assess the transportation of the ore to the McClean Lake JEB and Rabbit Lake mills, milling of the ore or tailings management. The 2004 EASR was accepted by the CNSC as meeting the requirements of CEAA and that the licensing/permitting processes for the Cigar Lake Project could proceed.

In 2004, Cameco applied for a licence to construct the Cigar Lake mine site in two parts:

(1) construction of the No. 2 Shaft surface complex and the freeze plant; and

(2) construction of all other mining and support facilities at the Cigar Lake mine site.

In August 2004, the CNSC approved the construction of the No. 2 Shaft surface complex and the freeze plant. The CNSC issued the construction licence for the Cigar Lake Project in December 2004. This licence is valid for the period of December 20, 2004 through December 31, 2007. Due to the October 2006 water inflow event, the construction activities will not be completed by the expiry date of the licence. Therefore, in 2007 Cameco will be applying for amendments to the construction licence to extend its term and potentially address emergency water treatment and other new actions or contingences resulting from the October 2006 water inflow event. Cameco believes that an amendment to the licence to extend the term will be obtained prior to the end of 2007.

Concurrent with mine construction, an operating licence application will be prepared for submission to the CNSC.

Each of the five phases of the remediation of the rock fall and water inflows at Cigar Lake requires regulatory approval. Regulatory approval has been obtained for Phase 1, other than for the installation of the pumps in the dewatering drillholes.

1.10 Status of Development Prior to the Water Inflow Incidents

As part of a test mining phase, No. 1 Shaft was sunk and some underground development completed between 1988 and 1991. Testing of the boxhole boring and jet boring mining methods was completed in 1991-1992. Following further development, the jet boring method was more extensively tested in 2000.

Full construction of the Cigar Lake project began in January 2005 and as of October 2006, the capital construction project at the Cigar Lake site was approximately 60% complete, excluding remediation activities.

1.11 Water Inflow Incidents and Remediation

On April 5, 2006 a water inflow occurred at the base of No. 2 Shaft, through a failed valve assembly on a grouting standpipe, which led to the flooding of the shaft and cessation of activities in the shaft. As the shaft was not complete and not connected through to the main mine workings the flooding was limited to No. 2 Shaft. A remediation plan has been developed to freeze the ground in the aquifer affecting the shaft, dewater the shaft and then recommence shaft sinking. Freezing activities are currently planned to be conducted from underground and will resume once the main mine has been dewatered and secured. Once the shaft has been dewatered, the source of the shaft inflow and other potential inflow sources will be secured by grouting any of the open test holes at shaft bottom. A hydrostatic concrete liner will be installed in the shaft through the aquifer during sinking.

On October 23, 2006 the underground mine at Cigar Lake was flooded following a water inflow, which caused a termination of underground activities. Cameco, subject to the CLJV s approval, is proceeding with a phased plan to restore the underground workings at Cigar Lake. This plan consists of five phases. Each phase requires regulatory approval. Cameco has received approval from regulatory authorities for Phase one, other than for the installation of the pumps in the dewatering drill holes. The activities associated with each of the proposed remediation phases and the scheduled completion dates are generally described as follows:

Phase 1 Surface Remediation involves drilling holes down to the source of the inflow and to a nearby tunnel where reinforcement may be needed, pumping concrete through the drill holes, sealing off the inflow with grout and drilling dewatering holes. This Phase is expected to be complete in the second or third quarter of 2007

Phase 2 Dewatering, Verifying Plug Integrity and Freezing Infrastructure involves dewatering the underground mine openings, verifying the water inflow has been sufficiently sealed, and initiating the installation of surface freezing infrastructure expected to be complete by the end of the third quarter 2007, other than the drilling of the freeze drill holes and the freezing of the ground which will continue through to Phase 5.

Phase 3 Secure the Mine involves completing any additional remedial work identified in phase two such as determining if additional reinforcement is required in higher risk areas expected to be complete by the end of 2007.

Phase 4 Underground Rehabilitation Program completing underground rehabilitation that includes securing areas to prevent a ground fall or water inflow, re-establishing mine ventilation, installing pumping capacity and re-establishing the ore freezing program - expected to be complete by the summer of 2008.

Phase 5 Resumption of Construction Activities, Pre-Inflow resuming construction activities in the mine in order to meet the scheduled mine completion target of 2010.

While these phases are under way, the area around the flooded second shaft will be frozen after the installation of underground freeze pipes from a nearby tunnel. This is anticipated to be completed by the summer of 2008. Shaft sinking will continue with completion scheduled for 2010.

Occurring concurrently with the foregoing remediation activities is a detailed independent investigation into the root causes of the water inflow incident. It is Cameco s expectation that the recommendations from the investigation will be incorporated into the future underground activities to minimize the risk of further inflows to the mine.

In the event that the concrete plug being placed in Phase 1 is not successful in securing the inflow area, then ground freezing, already incorporated into the remediation plan, will be utilized to secure the inflow area. If this proves to be the case, there could be a schedule delay to the start of mine production.

1.12 Current Status of Development

During the underground remediation program, work will continue on the remaining planned surface facilities including the administration/services building, the installation of the mine ventilation fans, and a mine water pipeline containment system, as well as facilities required as a result of the remediation, such as additional dewatering pipelines and brine lines for ground freezing.

Construction of the expansion of MLJV s McClean Lake JEB mill, required to process the Cigar Lake ore, is expected to be complete in 2007. Modifications to

Cameco s Rabbit Lake mill required to complete processing of Cameco s portion of the ore have not yet started. Detailed design for the required facilities at Rabbit Lake is underway.

1.13 Production Plan

The mining plan for Cigar Lake has been designed to extract all of the current Mineral Reserves. The mine life based on current Mineral Reserves will be 14.8 years with an estimated full production rate of 18 million pounds of U_3O_8 per year recovered from the mills. Cigar Lake will produce less than the full annual production rate of 18 million pounds of U_3O_8 in the early and late years resulting in an average annual production rate of 15.1 million pounds over the current Mineral Reserve life.

Subject to regulatory approvals and successful remediation of the flooded underground mine and No. 2 Shaft in a timely fashion, Cameco forecasts that commissioning activities in ore will commence in 2010 followed by a ramp-up period of two years before reaching the full production rate in 2012.

The following is a general summary of the Cigar Lake production schedule guidelines and parameters:

Total mill production of 222.9 million pounds U_3O_8

Total mine production of 497 thousand t of ore

Average mill feed grade of 20.7 %U_3O_8

Production is scheduled to start in 2010

Mining rate is variable to achieve a constant production level of U_3O_8. The average mine production is 100 t/d, but varies annually from 80 to 140 t/d depending on the grade of ore being mined.

Two year ramp-up to a production rate of 18 million pounds U_3O_8 per year. (recovered after milling)

Mine operating life of 14.8 years

The Cigar Lake project production schedule is shown in *Figure 1-1* and *Figure 1-2*.

Figure 1-1: Mine Production (tonnes ore)

Figure 1-2: Mill Production (lbs U_3O_8)

Notes: (1) Mill production lbs U_3O_8 based on overall milling recovery of 98.5%

(2) Quarter 4 of 2011 is expected to be the first quarter in which 2.5 million pounds of concentrate is exceeded. Reallocation of concentrate between McClean and Rabbit Lake is scheduled to begin in 2012

(3) Assuming appropriate regulatory approvals are received in the required time frame

1.14 Economic Analysis

The economic analysis is based on Cameco s share (50.025%) of the Phase I Mineral Reserves for the Cigar Lake project. The financial projections do not contain any estimates relating to the potential mining and milling of Phase I or Phase II Mineral Resources. Phase 1 Mineral Resources are categorized as Indicated Mineral Resources and the Phase 2 Mineral Resources are categorized as Inferred Mineral Resources and have been evaluated from a preliminary perspective only. Inferred Mineral Resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of Inferred Mineral Resources will ever be upgraded to a higher category. Only Mineral Reserves have demonstrated economic viability. Accordingly, expenditures required to bring any of the Phase I Indicated Mineral Resources or Phase 2 Inferred Mineral Resources into production or to identify additional Mineral Reserves and Mineral Resources, have not been included.

The remaining capital cost, as of January 1, 2007, to complete the Cigar Lake project is estimated to be $542 million, including $475 million to complete the underground development and surface construction at Cigar Lake, $63 million to complete the mill modifications at Rabbit Lake and $4 million to complete the mill modifications at McClean Lake. Including the $468 million spent by the CLJV on construction and mill modifications prior to December 31, 2006, the aggregate capital cost for the Cigar Lake project is now estimated to be approximately $1.0 billion, a 125% increase from the initial budget of $450 million approved in December 2004. These cost estimates do not include costs associated with the remediation activities to address the water inflow incidents.

Cameco s share of the remaining capital cost to complete the Cigar Lake project is estimated to be $274 million, including its share of construction costs and costs to modify the McClean Lake JEB mill and Rabbit Lake mill. Including the $234 million spent by Cameco on construction costs and mill modification costs prior to December 31, 2006, Cameco s share of the aggregate capital cost is now estimated to be $508 million.

In addition to the capital costs for construction and mill modifications, the projected remaining remediation cost to complete the five-phase remediation plan at Cigar Lake, to address the water inflow incidents, is estimated to be $82 million. Including the $10 million spent by the CLJV in 2006, the aggregate remediation cost is estimated to be $92 million. Cameco estimates its share of remaining remediation costs to be $41 million. Including the $5 million spent and expensed by Cameco in 2006, Cameco s share of the aggregate remediation cost is estimated to be $46 million.

The Cigar Lake economic analysis also includes projected sustaining capital expenditures of $69 million at the Cigar Lake and Rabbit Lake sites that the CLJV will be required to fund throughout the operating life of the Cigar Lake mine.

Average operating costs over the mine life, excluding royalties, are estimated to be Cdn$14.40/lb U_3O_8 over the life of the Cigar Lake project.

The resulting economic analysis estimates a net present value (NPV), using a 10% discount rate, as at January 1, 2007, of $887 million for Cameco s share of mining the Phase I Mineral Reserves. The pre-tax internal rate of return, also calculated as of January 1, 2007, is estimated to be 38%.

1.15 Project Risks

Cigar Lake is a challenging deposit to develop and mine. These challenges include control of groundwater, weak ground formations, and radiation protection. The sandstone overlying the basement rocks contains significant water at hydrostatic pressure. Freezing the ground is expected to result in several enhancements to the ground conditions, including: (1) minimizing the risk of water inflows from saturated rock above the unconformity; (2) reducing radiation exposure from radon dissolved in the ground water; and (3) increasing rock stability. However, freezing will only reduce, not eliminate, these challenges. There is also the possibility of a water inflow during the drilling of holes to freeze the ground. Therefore, the risk of water inflows at Cigar Lake remains. The consequences of another water inflow will depend upon the magnitude, location and timing of any such event, but could include a significant delay in Cigar Lake s remediation, development or production, a material increase in costs, a loss of Mineral Reserves or require Cameco to give notice to many of its customers that it is declaring an interruption in planned uranium supply. Such consequences could have a material adverse impact on Cameco. Water inflows are generally not insurable.

Cigar Lake s remediation and production schedules are based upon certain assumptions regarding the condition of the underground infrastructure at the mine. The condition of this underground infrastructure, however, will not be known until the mine is dewatered. If the underground infrastructure has been impaired, this could adversely impact the schedules and cost estimates.

The outcome of each phase of remediation will impact the schedule of each subsequent phase of remediation and the planned commencement of production in 2010. For example, if the concrete plug is not successful in securing the inflow area, then ground freezing, already incorporated in the remediation plan, will be utilized to secure the inflow area. If this situation occurs, there could be a delay in the remediation schedule and the commencement of production.

Remediation and production schedules will be impacted by regulatory approvals. Regulatory approval has not yet been received to install the pumps in the drill holes for dewatering the mine during the first phase of the remediation plan. This approval is required to move forward with the planned dewatering strategy. Working with the regulatory authorities to receive approvals for additional corrective actions which may result from current inflow investigations may impact the remediation and production schedules.

1.16 Conclusions and Recommendations

The Cigar Lake project outlined in this report represents significant economic sources of feed material for the McClean Lake and Rabbit Lake mills and will support an operating mine life of 14.8 years, expecting to produce an estimated 222.9 million pounds of U_3O_8. At Cameco s forecast average uranium price over this 14.8 year period, it is estimated that Cameco will receive substantial positive net cash flows from its share of Cigar Lake production.

Many aspects of the Cigar Lake project are based on the designs that have been proven and are being successfully used at the McArthur River mine. One of the challenges of mining the Cigar Lake deposit is radiation control due to its high grade. Cameco has been producing ore with similar high grades from the McArthur River mine since 2000 and the experience from McArthur has been used extensively in the design of the Cigar Lake project. These designs include remote mining for radiation protection, freezing for control of radon gas and water inflows, underground grinding of the ore and hydraulic hoisting to surface. The incorporation of these designs and practices proven at the McArthur River mine significantly reduces the risk in numerous areas of the Cigar Lake project.

The economic analysis demonstrates that the project remains robust in various scenarios, which assumes higher costs, lower revenues, or lower ore grades. Further analysis shows that in the event production is further delayed, or the anticipated full production rate of 18 million pounds of U_3O_8 is not achieved, the project remains robust.

The Cigar Lake project shows relatively low sensitivity to changes in its operating or capital cost projections. The relative sensitivity to changes in price and ore grade realized is significantly higher due in part to the relatively high-grade nature of the deposit, and the price estimates being used, which are a reflection of the current U_3O_8 market environment.

The difference in the sensitivity between price and operating cost is made clear by the fact the economic analysis assumes an average realized price of Cdn$45.95/lb U_3O_8, while the average operating cost is Cdn$14.40/lb U_3O_8.

Based on the confidence in the mining plan, a detailed remediation plan, and a positive economic analysis, Cameco plans to proceed through inflow remediation and construction to production, as described in this technical report of the Cigar Lake project.

The revised mine plan and remediation program are anticipated to maintain the Cigar Lake project within the original project objectives of achieving a positive economic project with a planned full annual production rate of 18 million pounds of U_3O_8 and a total life-of-mine production of 222.9 million pounds of U_3O_8. Cigar Lake will produce less than the full annual production rate of 18 million pounds of U_3O_8 in the early and late years resulting in an average annual production rate of 15.1 million pounds of U_3O_8 over the Mineral Reserve life of 14.8 years.

There are risks to achieving the planned operation by 2010. The main risk is a delay to the scheduled start of production (see discussion in Section 19).

There is risk that the Cigar lake project ramp-up to an annual production rate of 18 million pounds U_3O_8 may take longer than the two years as planned. This scenario has been tested in the financial model and has demonstrated that the Cigar Lake project economics are still robust.

The remediation and production schedules are based upon certain assumptions regarding the condition of underground development and infrastructure. The condition of this underground development and infrastructure, however, will not be known until the mine is dewatered. If the underground infrastructure has been impaired, this could adversely impact schedules and cost estimates. The outcome of each phase may impact the schedule of each subsequent phase of remediation and the planned commencement of production in 2010.

In response to the two 2006 water inflow incidents, the mine plan has been optimized to include ground freezing of the entire 465 m production level prior to mining, incorporating not only the portion of the 465 m level below the orebody, but also all the 465 m level access drifts beyond the extents of the orebody. In addition, Cameco plans to implement enhanced procedural controls and technical risk assessments for mine development.

Cameco plans to implement the major recommendations from the independent underground inflow incident investigation reports when they are finalized. These recommendations, when implemented, are expected to minimize the risk of any future inflows.

Cameco plans to complete a 3-Dimensional resource block model for the deposit that will incorporate all the database information including not only the surface holes but also underground holes and test mining data. It also plans to optimize the resource estimation process by refining the variograms from the freeze hole data and by using software with additional capabilities for sample searches. Cameco will also consider additional criteria to formalize the resource classification process.

Cameco plans to adjust the current definition of the mineralized intervals for the purpose of Mineral Resources estimation in order to remove allowances for dilution above and below the mineralized contacts. Mineral Resources would thereafter be reported without including an allowance for dilution.

Cameco plans to include a diamond drilling program in its long range plan with the goal of upgrading the classification of the Inferred Mineral Resources in Phase 2. This information may then be used to develop scoping and feasibility studies for this phase of the Cigar Lake project. Inferred Mineral Resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the Inferred Mineral Resources at Cigar Lake will ever be upgraded to a higher category.

The authors of this technical report concur with, and recommend that Cameco proceed with, the foregoing plans.

2 INTRODUCTION

2.1 Introduction and Purpose

This report prepared for Cameco, by or under the supervision of internal qualified persons, is in support of disclosure of new material scientific and technical information on Cigar Lake contained in Cameco s Annual Information Form for 2006, Cameco s Management Discussion and Analysis dated March 16, 2007 and filed with securities regulators on March 19, 2007 and a press release by Cameco on March 18, 2007. This new material information includes a new capital cost estimate, updated Mineral Resource and Mineral Reserve estimates, and a production forecast that are necessary because of the October 23, 2006 water inflow at Cigar Lake. The report has been prepared to comply with NI 43-101 under the supervision of the following:

- Alain G. Mainville, P. Geo, Director, Mineral Resources Management, Cameco Corporation;
- Barry W. Schmitke, P. Eng, General Manager, Cigar Lake Project, Cameco Corporation;
- Douglas G. McIlveen, P. Geo, Chief Geologist, Cigar Lake Project, Cameco Corporation; and
- Charles R. Edwards, P. Eng., Director, Engineering and Projects, Cameco Corporation.

The individuals noted above are qualified persons responsible for the content of this report. All four qualified persons have visited the Cigar Lake site. Mr. Schmitke and Mr. Edwards have also visited the Rabbit Lake and McClean Lake JEB mills, where Cigar Lake ore is expected to be processed. The date and duration of each qualified person s most recent inspection of the Cigar Lake site are included in their respective Certificate of Qualified Persons filed with this report.

As of the effective date of this technical report, the remediation of the flooded Cigar Lake mine had commenced.

2.2 Scope of Work

This technical report considers the following:

- Regional and local geology, deposit type and mineralization
- Exploration and drilling

Sample collection, preparation, security and analysis

Quality assurance and quality control procedures

Data entry, verification, management, security and storage

Metallurgical recovery, plant design and process upgrades

Mineral Resource and Mineral Reserve estimation

Mine operations

Remediation of the flooded underground mine

Land tenure and permitting

Mine forecast production and operating and capital cost estimates

Markets and contracts

Taxes and royalties

Financial models

Payback period and mine life

2.3 Report Basis

This report has been prepared with available internal Cameco data and information and data and information prepared for the CLJV. Technical and certain financial information for processing Cigar Lake ore at the McClean Lake JEB mill was provided to Cameco by AREVA.

The principal technical documents and files relating to the Cigar Lake deposit that were used in preparation of this report are listed in Section 22.

3 RELIANCE ON OTHER EXPERTS

The authors have relied, and believe they have a reasonable basis to rely, upon the following individuals who have contributed the environmental, legal, marketing and taxation information stated in this report, as noted below:

Jean Alonso, P. Eng, Superintendent, Environmental Compliance, Cameco Corporation, Sections 4.6 (a description of known environmental liabilities) and 18.5 (a description of environmental considerations)

Glen White, P. Eng, Superintendent, Environmental Assessment, Cameco Corporation, Sections 4.6 (a description of known environmental liabilities) and 18.5 (a description of environmental considerations).

Larry Korchinski, LLB, Director, Legal Affairs, Securities Compliance, Cameco Corporation, Sections 4.2 (a description of mineral tenure), 6.1(a description of joint venture agreements and interests), and 18.4.3 (a description of toll milling contracts).

David Doerksen, CMA, Director, Marketing Planning and Administration, Cameco Corporation, Section 18.3 (a description of uranium markets) and 18.4.4 (a description of uranium sales contracts).

Randy Belosowsky, CA, Assistant Treasurer, Cameco Corporation, Section 18.6 (a description of taxes and royalties).

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Cigar Lake minesite is located approximately 660 km north of Saskatoon, at latitude 58^0 04 14 north and longitude 104^0 32 18 west, and about 40 km inside the eastern margin of the Athabasca Basin Region in northern Saskatchewan. See *Figure 4-1*.

The Cigar Lake minesite is in close proximity to two uranium milling operations, McClean Lake is 69 km northeast by road and Rabbit Lake is 87 km east by road. The McArthur Rive mine is 46 km southwest by air from the Cigar Lake site.

Figure 4-1: Cigar Lake Mineral Property, Project Location

MAP OF SASKATCHEWAN

Source: Cameco

4.2 Mineral Tenure

The mineral property consists of one mineral lease (ML-5521) totalling 308 ha, and 25 mineral claims (No. S-106540 to 106564 inclusive), totalling 92,740 ha. The mineral lease and claims are contiguous.

The Cigar Lake deposit is located in the area subject to ML-5521. The right to mine this uranium deposit was acquired by Cameco under this mineral lease, as renewed, effective December 1, 2001 from the province of Saskatchewan. This mineral lease is granted by the province of Saskatchewan under *The Crown Minerals Act* (Saskatchewan). Under the *Mineral Disposition Regulations, 1986* (Saskatchewan), issued under this act, the term of ML-5521 is for 10 years, with a right to renew for successive 10 year terms absent a default by Cameco. ML-5521, like all Crown leases, cannot be terminated by the provincial government except in the event of default and for certain environmental concerns prescribed in *The Crown Minerals Act* (Saskatchewan).

The twenty-five mineral claims were also granted by the province of Saskatchewan under *The Crown Minerals Act* (Saskatchewan). These mineral claims grant the right to explore for minerals. A holder of a mineral claim in good standing has the right to convert the mineral claim into a mineral lease. Surface exploration work of a mineral claim requires additional government approval. The mineral lease and claims are delineated on the ground by staking posts. The *Mineral Disposition Regulations, 1986*, (Saskatchewan) recognize the staked boundaries as the legal boundaries. A legal survey of the mineral claims has not been done.

There is an annual requirement of $2.3M either in work or cash to retain title to ML-5521 and the 25 mineral claims. However, title is secured until 2022, by virtue of previous work submitted and approved by the Saskatchewan Government.

Under the Cigar Lake Joint Venture Agreement and related agreements, made effective January 1, 2002, the mineral lease and 25 mineral claims noted above were divided into the Cigar Lake lands, consisting of ML-5521 and claim S-106558, and the Waterbury Lake lands, consisting of the remaining 24 claims. AREVA is the operator of the Waterbury Lake lands and is also contract exploration operator of the Cigar Lake lands with respect to claim S-106558. Cameco is the mine operator for the Cigar Lake lands with respect to ML-5521.

Figure 4-2 shows the Cigar Lake mineral lease and mineral claims as currently registered with the Saskatchewan Government.

Figure 4-2: Mineral Lease and Claims Map

4.3 Surface Tenure

The Cigar Lake surface facilities and mine shafts are located on lands owned by the province of Saskatchewan. The right to use and occupy these lands for the purpose of developing the Cigar Lake deposit is based upon a surface lease agreement with the province of Saskatchewan. The most recent surface lease was signed in May 2004 and is valid for 33 years until May 27, 2037. The province of Saskatchewan uses surface leases as a mechanism to achieve certain environmental protection and socio-economic objectives. As a result, the Cigar Lake surface lease contains certain undertakings from the CLJV in that regard, including annual reporting on the status of the environment, land development and progress made on northern employment and business development.

The Cigar Lake surface lease covers an area of 959 ha of Crown land. It covers a portion of ML-5521 along with claims S-106555 to 106560, inclusive, and S-106562.

The Cigar Lake airstrip is under a separate surface lease covering a total of 17.2 ha. These leases were signed with the province of Saskatchewan in May 1987 and will expire in May 2007. There is also a surface lease for roadways which extends along the road from the airstrip to the Whitford River bridge for a total of 24.2 ha.

These surface leases are renewable as required until final property decommissioning is achieved and approved by the provincial government.

Figure 4-3 shows the Cigar Lake general site arrangement with the outline of the surface leases.

In 2006, annual lease rent and taxes for the Cigar Lake surface lease were $627K and for the airstrip and roadways surface leases were $20K.

R. G. Morrison, S.L.S., of Tri-City Surveys of Saskatoon, Saskatchewan, carried out the Cigar Lake surface lease surface survey in 1988.

Figure 4-3: Map of Mine Facilities and Surface Lease

Source Cameco

4.4 Mine and Infrastructure

All current Mineral Reserves and Mineral Resources are contained within mineral lease ML-5521. Underground workings are confined to a small portion of the area of the mineral lease where initial test mining was concentrated.

Waste rock piles from the excavation of the two shafts and all underground development are confined to a small footprint within the surface lease. Waste rock management is further discussed in Section 5.5 and Section 18.5.6.

A total of 53 t of high grade mineralization in bulk bags from the test mining is stored on the surface storage pad.

No tailings will be stored at the Cigar Lake site since all ore mined will be transported to AREVA s McClean Lake JEB mill and the Rabbit Lake mill for processing. Tailings management at the McClean Lake and Rabbit Lake sites is discussed in Section 18.5.5.

A lake called Cigar Lake overlies part of the Phase 2 Inferred Mineral Resources.

A discussion of the buildings and infrastructure facilities at the Cigar Lake site is included in Section 5.5.

A site plan of the existing and planned surface facilities is shown in *Figure 4-4*.

Figure 4-4: Site Plan Showing Existing and Planned Surface Facilities

Source Cameco

4.5 Royalties

For a discussion of royalties, see Section 18.6.2.

4.6 Known Environmental Liabilities

For a discussion of known environmental liabilities, see Section 18.5.

4.7 Permitting

For a discussion of permitting, see Section 18.5.3.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Access

The property is accessible by road and air. Goods are transported by truck and can be shipped from anywhere in North America through the company transit warehouse in Saskatoon. Trucks travel north from Saskatoon, on a paved provincial road through Prince Albert and La Ronge and further north along the gravel surfaced Provincial Road 905, and finally to the minesite via a 52 km long, two lane gravel road. The latter section was upgraded by Cameco, during the summer of 2006 and is accessible to the public from the intersection with Provincial Road 905 to the access gate at the Whitford River bridge, situated approximately 10 km from the minesite. *Figure 5-1* shows the regional location of the Cigar Lake site and local roads.

An unpaved airstrip is located east of the minesite within the airstrip surface lease, allowing flights to the Cigar Lake property.

Figure 5-1: Cigar Lake Site Regional Location and Roads

Source Cameco

5.2 Climate

The climate is typical of the continental sub-arctic region of northern Saskatchewan. Summers are short and rather cool, even though daily temperatures can reach above 30^0 C on occasion. Mean daily maximum temperatures of the warmest months are around 20^0 C and only three months on average have mean daily temperature of 10^0 C or more. The winters are cold and dry with mean daily temperature for the coldest month below minus 20^0 C. Winter daily temperatures can reach below minus 40^0 C on occasion.

Freezing of surrounding lakes, in most years, begins in November and breakup occurs around the middle of May. The average frost-free period is approximately 90 days.

Average annual total precipitation for the region is approximately 450 mm, of which 70% falls as rain, more than half occurring from June to September. Snow may occur in all months but rarely falls in July or August. The prevailing annual wind direction is from the west with a mean speed of 12 km/h.

Site operations are carried out year-round. Fresh air, necessary to ventilate the underground mine headings, is heated during winter months using propane-fired burners.

5.3 Physiography

The topography and vegetation at the Cigar Lake property are typical of the taiga forested land so common to the Athabasca basin area of northern Saskatchewan. The area is covered with between 30 to 50 m of overburden. The terrain is gently rolling and characterized by forested sand and dunes. Vegetation is dominated by black spruce and jack pine. Occasional small stands of white birches may occur in more productive and well-drained areas. Lowlands are generally well drained, but also can contain some muskeg and poorly drained bog areas with vegetation varying from wet open non-treed vistas to variable density stands of primarily black spruces as well as tamaracks depending on moisture and soil conditions. Productive lichen growth is common to this boreal landscape mostly associated with mature coniferous stands and treed bogs.

The minesite elevation is approximately 490 masl, Waterbury Lake is approximately 455 masl and Cigar Lake which, in part, overlays the deposit, is approximately 464 masl.

5.4 Local Resources

The closest inhabited site is Points North Landing, 56 km northeast by road from the Cigar Lake minesite, close to where the site access road connects to Provincial Road 905. The community of Wollaston Lake is approximately 80 air km east of the Cigar Lake site. The Cigar Lake site is in close proximity to two other uranium/milling operations: AREVA s McClean Lake operation is approximately 69 km northeast by road and Cameco s Rabbit Lake operation is approximately 87 km east by road.

Employees commute from a number of designated communities by air. Most company employees are on a week-in and week-off schedule. Contractor employees are generally on a longer work schedule.

Athabasca Basin community residents fly from various pick-up points in smaller airplanes to the minesite. Southern resident employees fly to site from Saskatoon with stop-over pick-up points in Prince Albert and La Ronge. The number of weekly flights varies with the size of the workforce.

Personnel are recruited on a preferential basis: initially from the communities of northern Saskatchewan, followed by the province of Saskatchewan, and then outside the province.

Site activities such as development and construction work are tendered to major contractors that have the ability to hire qualified personnel from the major mining regions across Saskatchewan and Canada.

The Cigar Lake site is linked by road and by air to the rest of the province of Saskatchewan facilitating easy access to any population centre for purchasing of goods at competitive prices. Saskatoon is a major population centre some 660 km south of the Cigar Lake deposit with highway and air links to the rest of North America.

5.5 Infrastructure

The Cigar Lake site is already a developed mineral property with sufficient surface rights to meet future mining operation needs for the current Mineral Reserves as well as site facilities and infrastructure. Site facilities at the end of construction will include a 1600 m long gravel airstrip, 150 person permanent residence and recreation complex, 200 person construction camp, administration building, water treatment plant, freeze plant, concrete batch plant, No. 1 and No. 2 Shaft headframes and hoisthouses, site roads, powerhouse, electrical substations, ore loadout building, and miscellaneous infrastructure.

The Cigar Lake minesite has access to sufficient water from Waterbury Lake nearby for all planned industrial and residential activities. The site is connected to the provincial electricity grid with a 138-kV overhead power line. There are standby generators in case of power outages.

All ore mined will be transported to the McClean Lake JEB mill for processing to uranium solution, of which AREVA s share is further processed into yellowcake at the McClean Lake JEB mill, and Cameco s share is transported to the Rabbit Lake mill for processing into yellowcake. Processing facilities at the McClean Lake site are discussed in Section 16.3 and at the Rabbit Lake site in Section 16.4. Tailings management facilities at the McClean Lake and Rabbit Lake sites are discussed in Section 18.5.5.

Waste rock piles from the excavation of the two shafts and all underground development are confined to a small footprint within the surface lease. The waste piles have been segregated into three separate areas; clean waste, mineralized waste (>0.03% U_3O_8) and potentially acid generating waste. The latter two stockpiles are contained on lined pads; however, no mineralized waste has been identified in development to date. Waste rock management is further discussed in Section 18.5.6.

6 HISTORY

6.1 Ownership

There have been numerous changes in ownership of participating interests in the joint venture that governs Cigar Lake.

The original joint venture was established in 1976 between Canadian Kelvin Resources Ltd. and Asamera to explore the Keefe Lake area. Asamera was the operator of the joint venture. In 1977, Saskatchewan Mining Development Corporation (SMDC) acquired a 50% interest in the joint venture.

Around 1979, the Keefe Lake joint venture proceeded to divide the Keefe Lake area into three separate project areas of Dawn Lake, McArthur River and Waterbury Lake (which includes a portion of the lands now known as Cigar Lake).

In 1980, a joint venture agreement was entered into to govern exploration of the Waterbury Lake area and at that time SERU, the predecessor company to Cogema Canada Ltd. (Cogema), became the operator of the joint venture.

Effective January 1, 1985, the Waterbury Lake Joint Venture Agreement was terminated and replaced by a new joint venture agreement. Under the agreement, the joint venture divided the Waterbury Lake area into the Waterbury Lake lands and the Cigar Lake lands. Cogema was appointed operator of the Waterbury Lake lands and Cigar Lake Mining Corporation was appointed the operator of the Cigar Lake lands. The participating interests in the joint venture at the time were SMDC (50.75%), Cogema (32.625%), Idemitsu (12.875%) and Corona Grande Exploration Corporation (3.75%).

In 1988, Eldorado Resources Limited and SMDC merged to form Cameco.

Effective January 1, 2002, the Cigar Lake reorganization took place and the joint venture owners, Cameco (50.025%), AREVA (37.1%), Idemitsu (7.875%), and TEPCO (5%) entered into a new joint venture agreement to give effect to the reorganization and to govern further exploration, development and production from the Waterbury Lake lands and the Cigar Lake lands. This new joint venture was called the Cigar Lake Joint Venture (CLJV). AREVA was appointed the Waterbury Lake lands operator (which includes claims No. S-106540 to 106557 and 106559 to 106564).

As part of the 2002 Cigar Lake reorganization, the CLJV entered into the Mine Operating Agreement with Cameco to engage Cameco as mine operator to operate the Cigar Lake mine property (which property includes ML 5521, the Cigar Lake surface lease and the mine).

As a part of the 2002 Cigar Lake reorganization, the CLJV entered into the 2001 Contract Exploration Agreement to engage AREVA as contract exploration operator to operate the Cigar Lake Exploration property (Claim No. 106558).

6.2 Exploration and Development History

Between 1976 and 1979, Asamera, as operator of the Keefe Lake Joint venture, conducted various exploration work on the mineral property. This activity included lake sediment and water geochemistry, airborne magnetic and Input (Questor) surveys, airborne radiometric and VLF (Geoterrex) surveys, gravimetric (Kenting) and seismic surveys.

After the division of the Keefe Lake area into three separate projects, Cogema Canada Ltd., as operator of the Waterbury joint venture project, revisited all field survey results and conducted a series of complementary exploration work on lake bottom sediment geochemistry and airborne high resolution magnetic (Geoterrex) surveys. Regional geology photo-interpretation as well as outcrop and overburden mapping and sampling activities were systematically conducted across the mineral property. Ground geophysical surveys allowed depth and conductivity evaluation of geological formations using electromagnetic frequency (Geoprobe EMR-16) and time (Crone DEEPEM) methods. During 1980, this detailed DEEPEM work activity was intensified, targeting several Waterbury Lake zones with conductor structures previously identified. These electromagnetic conductors were systematically drilled during the winter months of 1980-81. On May 9, 1981, the drilling crew brought to surface high-grade mineralized core from hole WQS2-015, which was the last one planned for the winter program.

Definition drilling programs were conducted throughout the 1980 s. Currently, the deposit and its surroundings have been defined by some 248 drill holes and more than 100,000 m of core drilling from surface.

A test mine proposal to assess conditions and to field test new mining methods was approved on October 21, 1987. Test mining, including the sinking of No. 1 Shaft to a depth of 500 m and lateral development on 420, 465 and 480 m levels, was performed between that approval time and December 1992.

In September 1992, Government Environmental Review Panel guidelines were issued for the Cigar Lake project by the Joint Federal-Provincial Panel on Uranium Mining Developments in Northern Saskatchewan. Later the same year, consulting firms were hired to perform engineering studies and, at the same time, extensive and comprehensive metallurgical and environmental testing programs were launched.

In 1993, mine site activities were placed on a care and maintenance basis and initial engineering studies for development and operation of the property based on the jet boring mining method were started. These and other engineering studies were completed between 1993 and 1996. Several additions and improvements to site infrastructures were also performed.

In 1997, detailed engineering studies were undertaken for the purpose of developing a feasibility study of the mining project. In addition, testing of a specially designed tunnel boring machine with high strength concrete liner installation capacity or mine development system was conducted. In conjunction with this work, significant mine development was also carried out.

Environmental review commenced in January 1996 and was completed at the end of 1997. Early in 1998, the federal/provincial joint Environment Review Panel issued recommendations to the federal and provincial governments and the CLJV that the project proceed to the next stage of licensing. In April 1998, both governments responded favourably to the joint Environment Review Panel recommendations.

During 1999, the specially designed jetting tools for the jet boring machine were successfully tested within a three-metre thick layer of simulated ore.

In 2000, activities at the minesite were focused on the testing of several tools and systems forming the basis of the future mining method. The jet boring system was successfully tested in waste and frozen ore. In addition, the following tests were conducted successfully:

- Ore recovery from an underground slurry storage sump using a dredging clam bucket system, and

- Mining cavity and casing hole surveying system.

Further discussion of the test mining activities is provided in Section 18.1.3.

Early in December of 2000, the minesite was again placed on a care and maintenance basis.

A feasibility study was completed in May 2001, targeting peak annual production of 18 million pounds U_3O_8 during Phase 1 of the Cigar Lake project. Construction of the project began in January 2005 and the Cigar Lake project has been in the construction phase since that time. The current status of the development and construction of the Cigar Lake project is discussed in Section 18.7.1.

6.3 Historical Mineral Resource and Mineral Reserve Estimates

Mineral Resource and Mineral Reserve estimates of the Cigar Lake deposit are based on surface drilling which provides the grade and thickness information about the mineralization. As the knowledge level increased with additional surface and underground drilling programs, and geotechnical and hydrological studies were made available, various mining methods were studied and estimates were adapted to reflect those mining methods.

Since 1984, several estimates of the Mineral Resources and Mineral Reserves of both uranium and other metals have been made. These estimates were restricted to unconformity mineralization within various parts of the deposit using different estimation methodologies and applying different values for several different parameters. Estimates reported from 1984 to 1999 have been summarized in the following section. The historical Mineral Resources and Reserves estimates from the 2001 feasibility study are disclosed in Section 6.3.2 Historical Estimates 2000-2005 .

6.3.1 Historical Estimates: 1984 1999

Cigar Lake historical Mineral Resources and Reserves, described in this Section 6.3.1, were estimated and disclosed prior to the adoption of NI 43-101 and should be considered as historical. They were not estimated and classified in compliance with NI 43-101. Their classifications as geological resources or mineable reserves do not conform to the current CIM Definitions Standards for Mineral Resources and Reserves since the categories used at the time are not acceptable today. In today s terminology they would likely be equivalent to Mineral Resources or Mineral Reserves but still lacking proper resource and reserve sub-classification. The qualified person for this section, Alain G. Mainville, has not completed the necessary work to verify the historical estimates, their classifications and assumptions. As such, these historical estimates should not be relied upon. They may not be equivalent to current classification definitions.

In 1984 and 1985, polygonal and geostatistical resource estimates, applied in different areas of the deposit, for geological resources of uranium , were done using a cut-off grade of 0.12% U_3O_8 (0.10%U).

The polygonal estimate was done by SERU in November 1984 and covered the area of the deposit east of 10300E. The calculation included a total of 59 mineralized intercepts. The reported results are shown in *Table 6-1*.

Table 6-1: Historical Resource Estimate SERU, November 1984

Year	**Area**	**Tonnes (x 1000)**	**Grade %U_3O_8**	**Lbs U_3O_8 (millions)**
1984	East of 10300E	766	14.5	244.5

Notes: (1) See Section 17, Figure 17-1 for drawing showing eastings in relation to deposit

(2) See the cautionary statements for historical estimates in the first paragraph of Section 6.3.1.

(3) The necessary work to verify this historical estimate, its classifications and assumptions has not been completed. As such, this historical estimate should not be relied upon. It may not be equivalent to current classification definitions.

Cogema completed a geostatistical resource estimate in January 1985 covering the east and the west zones. The east zone was based on 58 mineralized intercepts and the west zone was based on 20 mineralized intercepts. The reported results are shown in *Table 6-2*.

Table 6-2: Historical Resource Estimate Cogema, January 1985

Year	**Area**	**Tonnes (x 1000)**	**Grade %U_3O_8**	**Lbs U_3O_8 (millions)**
1985	East Zone	922	14.4	293.1
1985	West Zone	1,030	4.8	108.1

Notes: (1) See the cautionary statements for historical estimates in the first paragraph of Section 6.3.1.

(2) The necessary work to verify this historical estimate, its classifications and assumptions has not been completed. As such, this historical estimate should not be relied upon. It may not be equivalent to current classification definitions.

In September 1986, a polygonal estimate of resources of several metals, including uranium was performed in the eastern part of the deposit, using a minimum grade x thickness value of 3.0 m%U_3O_8 (2.5 m%U). This area was selected as having the highest grade and uranium content and extended from 10425E to 11075E and included 61 mineralized intercepts. The estimate was done by Cogema with reported results as shown in *Table 6-3*.

Table 6-3: Historical Resource Estimate Cogema, September 1986

Year	Area	Tonnes (x 1000)	Grade $\%U_3O_8$	Lbs U_3O_8 (millions)
1986	East of 10425E	609	19.2	257.8

Notes: (1) See Section 17, Figure 17-1 for drawing showing eastings in relation to deposit

(2) See the cautionary statements for historical estimates in the first paragraph of Section 6.3.1.

(3) The necessary work to verify this historical estimate, its classifications and assumptions has not been completed. As such, this historical estimate should not be relied upon. It may not be equivalent to current classification definitions.

In December 1993, a mineable reserve estimate for uranium in part of the eastern area of the deposit between 10737E and 11025E was completed using geostatistical methods. This area was defined as Phase 1 of development and exploitation at the time. This Phase 1 area is not identical to that used for the current Mineral Resource and

Reserve estimate used elsewhere in this technical report. The estimate was based on the jet boring mining method and the mine layout as then proposed. Various mining parameters and factors were applied including the following:

- Minimum grade cut-off on drill hole composites.
- Minimum mining thickness applied to drill hole intersections.
- Minimum contained metal in the composites.
- External and internal dilution.
- Mining and milling recovery.
- An estimation block size of 20 m x 24 m.
- A cut-off grade on estimation blocks of 1.2 % U_3O_8 (1.0 %U).

Cogema completed this Phase 1 mineable reserve estimate based on 61 mineralized intercepts with reported results as shown in *Table 6-4*.

Table 6-4: Historical Phase 1 Reserve Estimate Cogema, December 1993

Year	**Area**	**Tonnes (x 1000)**	**Grade %U_3O_8**	**Lbs U_3O_8 (millions)**
1993	East of 10737E	339	25.6	191.4

Notes: (1) See Section 17, Figure 17-1 for drawing showing eastings in relation to deposit

(2) See the cautionary statements for historical estimates in the first paragraph of Section 6.3.1.

(3) The necessary work to verify this historical estimate, its classifications and assumptions has not been completed. As such, this historical estimate should not be relied upon. It may not be equivalent to current classification definitions.

In December 1993, a polygonal estimate of resources of the western part of the deposit called Phase 2 was also completed based on 43 mineralized intercepts and using an estimation block size of 20 x 40 m and similar mining constraints. This mineralized Phase 2 area is not identical to the one referred to elsewhere in this technical report.

CLMC and Idemitsu estimated this geological resource with reported results as shown in *Table 6-5*.

Table 6-5: Historical Phase 2 Resource Estimate CLMC and Idemitsu, December 1993

Year	**Area**	**Tonnes (x 1000)**	**Grade %U_3O_8**	**Lbs U_3O_8 (millions)**
1993	West of 10737E	891	9.1	178.2

Notes: (1) See Section 17, Figure 17-1 for drawing showing eastings in relation to deposit

(2) See the cautionary statements for historical estimates in the first paragraph of Section 6.3.1.

(3) The necessary work to verify this historical estimate, its classifications and assumptions has not been completed. As such, this historical estimate should not be relied upon. It may not be equivalent to current classification definitions.

These 1993 reserves and resources were used as the base of the 1995 Feasibility Study. This Feasibility Study defined mineable reserves by applying a mining recovery factor of 95%.

The reserve figures from the 1995 Feasibility Study were retained by Cameco for reserve publication from December 1995 to December 1998. The reported results are shown in *Table 6-6*.

Table 6-6: Historical Reserves as of December 31, 1998

Category	**Area**	**Tonnes (x 1000)**	**Grade %U_3O_8**	**Total Lbs U_3O_8 (millions)**
	Phase 1 Main Pod	324	25.6	182.8
	Phase 2 West Ext	852	9.1	170.5
Total		**1,176**	**13.6**	**353.3**

Notes: (1) See the cautionary statements for historical estimates in the first paragraph of Section 6.3.1.

(2) The necessary work to verify this historical estimate, its classifications and assumptions has not been completed. As such, this historical estimate should not be relied upon. It may not be equivalent to current classification definitions.

During 1999, the feasibility study was updated by CLMC. Phases 1A and 2A covered the area between 10400E and 11035E and Phase 2B was west of 10400E. The Phase 1A & 2A area was defined by 93 mineralized intercepts and the Phase 2B area was defined by 19 mineralized intercepts. The Reserves published by Cameco at the end of 1999 are presented on *Table 6-7*.

Table 6-7: Historical Reserves as of December 31, 1999

		Tonnes	**Grade**

Category	Area	(x 1000)	$\%U_3O_8$	Total Lbs U_3O_8 (millions)
Proven	Phases 1A & 2A	345	22.5	171.28
Probable	Phases 1A & 2A	236	11.3	58.8.5
Possible	Phase 2B	317	16.9	118.3

Notes: (1) See the cautionary statements for historical estimates in the first paragraph of Section 6.3.1.

(2) The necessary work to verify this historical estimate, its classifications and assumptions has not been completed. As such, this historical estimate should not be relied upon. It may not be equivalent to current classification definitions.

6.3.2 Historical Estimates: 2000-2005

In May 2000, a resource estimate of the unconformity mineralization was performed for a different part of the eastern area of the deposit, vis-à-vis the 1993 estimate. It was done using geostatistical methods with an estimation block size of 15 m (east-west) x 6 m (north-south) and applying similar mining parameters and values as done in 1993. As well, an estimate of resources in the western part of the deposit was done, using geostatistical methods with an estimation block size of 40 m (east-west) x 10 m (north-south). The resource estimate served to evaluate the possibility of increasing the size of Phase 1 by combining Phases 1A and 2A, compared to earlier feasibility studies, for purposes of the 2001 Feasibility Study. An ore reserve task force or working group consisting of technical representatives of Cameco, Cogema and CLMC was involved in this process.

Alain G. Mainville, the qualified person for this section of this technical report, has verified the mineral resource and reserve estimates reported in the 2001 Feasibility Study, along with their classifications and assumptions. The resource model, from which Mineral Reserves were defined, was prepared in a professional and competent manner and is considered relevant and reliable. Therefore, the key assumptions and parameters used to estimate the May 2000 resource model are presented in Section 17 Mineral Resource and Mineral Reserve Estimates . The Mineral Reserve estimate from the 2001 Feasibility Study is no longer reliable as a result of recent changes to operating costs and uranium prices.

The Cigar Lake Mineral Reserves were defined in the 2001 Feasibility Study by applying factors for recovery and dilution to the Indicated and Measured Mineral Resources. They were retained by Cameco for reserve publication from year-ends 2001 to 2005 and are shown in *Table 6-8*.

Table 6-8: Mineral Reserves as of December 31, 2005

Category	**Area**	**Total Tonnes (x 1000)**	**Grade %U_3O_8**	**Total Lbs U_3O_8 (millions)**	**Cameco Share Lbs U_3O_8 (millions)**
Proven	Phase 1	497	20.7	226.3	113.2
Probable	Phase 1	54	4.4	5.2	2.6
Total	**Cigar Lake**	**551**	**19.1**	**231.5**	**115.8**

Notes: (1) Total Lbs U_3O_8 are those contained in Mineral Reserves and are before mill recovery of 98.5% has been applied.

(2) Cameco s share is 50.025% of total.

(3) These historical Mineral Reserve estimates should not be relied upon as a result of a recent update. See current Mineral Reserve estimate in Section 19 of this technical report.

Proven Mineral Reserves were estimated from Measured Resources and Probable Mineral Reserves were defined from Indicated Resources at a cut-off of 1.2% U_3O_8 (1.0%U). Uranium price assumptions varied from US$15.00 to US$22.70 per pound U_3O_8. Mill recovery was established at 98.5%, as in earlier feasibility studies. Mining recovery was assumed to be 90% for proven reserves, for both tonnes of ore and metal, and 80% for probable reserves due to the uncertainties of economics and mine layout existing at the time.

Internal dilution (primarily mining of backfill) was assumed to be equal to 5% of the tonnes of ore recovered. The allowance for additional dilution due to casing cuttings was set at 5% of the tonnes of material recovered. Dilution and casing hole cuttings were assumed to have no uranium grade.

6.4 Historical Production Test Mining

Historical production from the Cigar Lake deposit results from test mining in ore conducted during three separate test mining programs and comprising five separate mining tests as follows:

- Boxhole boring of two cavities in 1991
- Jet boring tests No. 1, 2 and 3 in 1992
- Jet boring industrial tests in 2000 4 cavities in waste, 4 cavities in ore

Production from the tests is estimated to be approximately 767 tonnes of mineralized material at an average grade of 17.4% U_3O_8 and containing approximately 295,000 lbs U_3O_8 as shown in *Table 6-9.*

Table 6-9: Historical Production Test Mining

		Production		
Test Name and Number	**Date of Test**	**Mineralized Material (t)**	**U_3O_8 (lbs)**	**Grade $\%U_3O_8$**
Boxhole boring	October, 1991	53	20,100	17.3
Jet boring: JB-1 and JB-2	June, September 1992	13	4,500	15.6
Jet boring: JB-3	Nov.-Dec., 1992	100	34,500	15.6
Jet boring: JBST-2000	Sept.-Nov., 2000	601	235,500	17.8
Totals		**767**	**294,600**	**17.4**

Further discussion on the test mining activities is provided in Section 18.1.3.

7 GEOLOGICAL SETTING

7.1 Regional Geology

The Cigar Lake uranium deposit occurs within the Athabasca Basin of Northern Saskatchewan, Canada. Like other major uranium deposits of the basin, it is located at the unconformity separating Helikian sandstones of the Athabasca group from Aphebian metasedimentary gneisses and plutonic rocks of the Wollaston Domain. The Manitou Falls Formation, within the Athabasca Group was deposited in an intra-continental sedimentary basin that was filled by fluviatile terrestrial quartz sandstones and conglomerates. The Athabasca Group appears undeformed and its actual maximum preserved thickness is about 1,500 m. On the eastern side of the basin, the sandstone units of the Manitou Falls Formation, and the metasedimentary gneisses that unconformably lie immediately beneath them, host most of the uranium mineralization. Overburden in the project area ranges from none, expressed by occasional outcrops, up to a thickness of 50 m.

The Lower Pelitic unit of the Wollaston Group, which lies directly on the Archean granite basement, is considered to be the most favourable unit for uranium mineralization. During the Hudsonian orogeny (1800-1900 Ma), the group underwent polyphase deformation and upper amphibolite facies metamorphism, with local greenschist facies retrograde metamorphism. The Hudsonian orogeny was followed by a long period of erosion and weathering and the development of a paleoweathering profile that is preserved beneath the unconformity.

7.2 Local Geology

At Cigar Lake, the Manitou Falls Formation is 250-500 m thick and corresponds to units MFd, MFc, MFb and MFa. The conglomerate MFb unit hosts the Cigar Lake deposit as the basal conglomerate MFa is absent at the deposit, wedging out against an east/west, 20 m high, basement ridge, on top of which is located the orebody.

Two major lithostructural domains are present in the metamorphic basement of the property. These are as follows:

- a southern area composed mainly of pelitic metasedimentary gneisses (Wollaston Domain),
- a northern area with large lensoid granitic domes (Mudjatik Domain).

The Cigar Lake east trending pelitic unit, which is immediately beneath the deposit, is located in the transitional zone between the two domains. The metamorphic basement rocks in this unit consist mainly of graphitic metapelitic gneisses and calc-silicate gneisses, which are inferred to be part of the Lower Pelitic unit. Graphite-and pyrite-rich augen gneisses , an unusual facies within the graphitic metapelitic gneisses, occur primarily below the Cigar Lake orebody.

The mineralogy and geochemistry of the graphitic metapelitic gneisses suggest that they were originally carbonaceous shales. The abundance of magnesium in the intercalated carbonates layers indicates an evaporitic origin.

The structural framework in the Cigar Lake mine area is dominated by large northeast trending lineaments and wide east trending mylonitic corridors. The unconformable contact between these mylonites, which contain the augen gneisses, and the overlying Athabasca sandstones, are considered to be the most favourable features for the concentration of uranium mineralization, specifically where graphitic basement fault zones were locally reactivated as brittle faults after sandstone deposition.

The Cigar Lake basement geological setting is shown in *Figure 7-1*.

Figure 7-1: Cigar Lake Deposit Geological Basement Setting
Source Cameco

7.3 Property Geology

The Cigar Lake uranium deposit, which has no direct surface expression, is located at the unconformity between the Lower Proterozoic (Aphebian) Wollaston Group metasediments and the Middle Proterozoic (Helikian) Athabasca sandstone, at a depth between 410 and 450 m below surface. It has the shape of a flat-lying lens approximately 1950 m in length, 20 to 100 m in width and ranges up to 16 m thick, with an average thickness of about 6 m. It shows a remarkable longitudinal and lateral geological continuity. Its crescent shaped cross sectional outline closely reflects the topography of the unconformity.

The deposit and host rocks consist of three principal geological and geotechnical elements:

- The deposit itself.
- The overlying sandstone.
- The underlying metamorphic basement rocks.

Faulting and strong hydrothermal alteration have produced the geotechnical conditions that exist today to challenge the extraction of the resource.

The Cigar Lake orebody is controlled by an east-west trending structure developed within the graphitic metapelites of the Wollaston Group. It is surrounded by a strong alteration halo affecting both sandstone and basement rocks, characterized by extensive development of Mg-Al rich clay minerals (illite-chlorite). This alteration halo in the sandstone is centred on the deposit and reaches up to 300 m in width and height. In the basement rocks, this zone extends in the range of 200 m in width and as much as 100 m in depth below the deposit. The mineralization is hosted principally by the Athabasca sandstone and consists mainly of pitchblende and nickel and cobalt arsenides.

Figure 7-2 shows a schematic geological cross-section of the Cigar Lake orebody that illustrates the shape of the deposit and the alteration halo in the sandstone and the basement rocks.

Figure 7-2: Cigar Lake Deposit Schematic Cross Section
Source: Cameco

8 DEPOSIT TYPES

Cigar Lake is an unconformity related uranium deposit. Deposits of this type are believed to have formed through an oxidation-reduction reaction at a contact where oxygenated fluids meet with reducing fluids and the unconformity provides that contact. The Cigar Lake deposit occurs at the unconformity contact between rock of the Athabasca group and underlying lower Proterozoic Wollaston Group metasedimentary rocks, an analogous setting to the Key Lake, McClean Lake, and Collins Bay deposits, also some of the zones at McArthur River. It shares many similarities with these deposits, including general structural setting, mineralogy, geochemistry, host rock association and the age of the mineralization.

Although the Cigar Lake orebody shows many similarities with other deposits of the Athabasca region, it is distinguished from them by its size, the intensity of its alteration process and the presence of massive, extremely rich, high grade uranium mineralization.

The geological setting at Cigar Lake is similar to that at the McArthur River mine in that the sandstone overlying the basement rocks of the deposit contains significant water at hydrostatic pressure.

Exploration has been conducted along the trend of the deposit focussing on targets defined by geophysical surveys and alteration halos identified by drilling.

9 MINERALIZATION

Three distinct styles of mineralization occur within the Cigar Lake deposit, as shown schematically in *Figure 7-2* (see Section 7). These are as follows:

- High grade mineralization at the unconformity (unconformity mineralization) which includes the ore.

- Fracture controlled, vein-like mineralization higher up in the sandstone (perched mineralization).

- Fracture controlled, vein-like mineralization in the basement rock mass.

The body of high grade mineralization located at the unconformity contains the bulk of the total uranium metal in the deposit and represents the only economically viable style of mineralization considering the mining methods and ground conditions. It is characterized by the occurrence of massive clays and very high-grade uranium concentrations.

The high-grade, unconformity mineralization consists primarily of three dominant rock and mineral facies occurring in varying proportions. These are quartz, clay (primarily chlorite with lesser illite) and metallic minerals (oxides, arsenides, sulphides). In the two higher grade eastern lenses, the ore consists of approximately 50% clay matrix, 20% quartz and 30% metallic minerals, visually estimated by volume. In this area, the unconformity mineralization is overlain by a very weakly mineralized contiguous clay cap one to five metres thick. In the lower grade western lens, the proportion changes to approximately 20% clay, 60% quartz and 20% metallic minerals.

While pre-mineralization and post-mineralization faulting played major roles in creating preferential pathways for uranium bearing groundwater and to some extent in re-mobilizing uranium, the internal distribution of uranium within the unconformity mineralization has likely been controlled primarily by geochemical processes. This is reflected in the good continuity and homogeneity of the mineralization and its geometry, particularly in the eastern part of the deposit. A very sharp demarcation exists between well mineralized and weakly mineralized rocks, both at the upper and particularly at the lower surface of the orebody.

Uranium oxide in the form of uraninite and pitchblende occurs in both sooty form and as botryoidal and metallic masses. It occurs as disseminated grains in aggregates ranging in size from millimetres to decimetres, and as massive metallic lenses up to one metre or more thick and inferred to be one to three metres in diameter, floating in a matrix of sandstone and clay. Coffinite (uranium silicate) is estimated to form less than 3% of the total uranium mineralization. The ore is variably green, red and black in colour.

Uranium grades of the unconformity mineralization range up to 82%U_3O_8 (70% U) for a single drill hole intersection within the mining area. Geochemically, the deposit contains quantities of the elements Ni, Cu, Co, Pb, Zn, Mo and As, but in no economic concentrations. Higher grade intervals are associated with massive pitchblende or massive sections of arseno-sulphides.

The U-235 content of the mineralization has been determined to be the naturally occurring value of 0.71%. Uranium decay series measurements show that, in general, equilibrium exists within the unconformity mineralization and bulk dissolution of uranium is not occurring. Primary age of the unconformity mineralization has been estimated at 1.3 billion years.

The deposit has been subjected to faulting subsequent to its formation which has contributed to the formation of vein-type forms of mineralization that have been termed perched and basement mineralization. These mineralized bodies form volumetrically a very small part of the total mineralized rock and are of no economic significance at this time.

10 EXPLORATION

Mineral Lease ML-5521, which hosts the Cigar Lake deposit, is surrounded by 25 mineral claims. AREVA is responsible for all exploration activity outside the mineral lease, as per the CLJV joint venture agreements. The following is a synopsis of exploration activity on the 25 mineral claims outside the mineral lease. For the purpose of the discussion in the following sections, the 25 mineral claims are called the Waterbury Lake lands.

10.1 Asamera 1976 1979

The current Waterbury Lake lands were initially staked by Asamera.

Asamera conducted various field investigations from 1976 to 1979, at which point SERU took over as operator. The majority of Asamera s field investigations involved airborne and ground geophysical programs, followed by lake sediment and water sampling programs. Three diamond drillholes were completed during the 1978 campaign, but none intersected the unconformity. One drillhole was completed during the 1979 campaign, near the southern border of the property (Jigger Lake area).

A list of Asamera s activities is shown in *Table 10-1*.

Table 10-1: Asamera Summary of Exploration, Waterbury Lake Lands

Year	**Drilling**			**Airborne Geophysics**		**Ground Geophysics**	**Other Exploration**
	Type	**Number**	**Metres Drilled**	**Type**	**Area**	**Type**	**Type**
1976				Radiometric and Magnetic	Claim blocks only		Compilation geological map
1977				INPUT and Magnetic	Claim blocks only	Marine seismic	Lake sediment sampling
1978	Diamond	3	Unknown, did not reach unconformity	INPUT and Magnetic	Permit only	Gravity Radon, VLF	Lake sediment sampling
1979	Diamond	1	Unknown	Magnetic			Lake sediment sampling

Source: AREVA.

10.2 AREVA 1980 Present

In March of 1980, SERU took over as operator of the Waterbury Lake Project. During the years 1980 to 1986, SERU (which became Cogema Canada Ltd. in 1984, and subsequently AREVA in 2006) completed various airborne and ground geophysical programs, lake sediment and water sampling programs and substantial diamond drilling.

During the first drilling campaign conducted by SERU (1981), the Cigar Lake uranium deposit was discovered. The majority of exploration activities were then concentrated on the deposit and adjacent regions. All exploration activities ceased after the 1986 field season.

Initial exploration activities were conducted in the southern region of the Waterbury Lake lands near Jigger Lake. Thirteen exploration drillholes (totalling 5,208 m) were completed prior to the discovery hole during the first drilling campaign in 1981, eight of which were drilled on the Q17 grid (Jigger Lake). The last drillhole (WQS2-015) completed to a depth of 563 m in 1981 was located on the QS-2 grid south of Cigar Lake and was the discovery hole for the Cigar Lake uranium deposit. Exploration activity concentrated on deposit delineation over the next few years, as outlined in Section 11.0.

Work in 1999 marked the recommencement of exploration after an interruption of 12 years. Initially focussing upon data compilation and a review of all work conducted to date, new exploration has focussed upon developing further understanding of the Cigar trend, and developing knowledge of the large, unexplored parts of the project. Concurrent with this new work, a program of reboxing, relogging and sampling of historical exploration drillholes was undertaken to develop a further understanding of the Cigar Lake mineralization, alteration processes and structural setting to aid with near-mine and greenfields exploration on the project.

Since the inception of exploration activities to the end of the 2006 drilling program, a total of 76 exploration diamond drillholes (totalling 35,285 m) and an additional 38 shallow drillholes (totalling 2,140 m) had been completed outside of the mineral lease by AREVA (or their predecessors) on the Waterbury Lake lands. Since the recommencement of exploration in 1999, 17 drillholes for 8,720 m have been completed.

Exploration drilling in 2006 confirmed the existence of unconformity style mineralization outside the mineral lease. Hole 244 intersected 21.1% U_3O_8 over a vertical thickness of 7.7 m, located approximately 650 m west of Phase 1 mineralization. Planned exploration by AREVA during 2007 includes the drilling of 5000 m (7-9 holes) in this area.

A figure displaying the location of all drillholes and grids outside the Mineral Lease is included as *Figure 10-1*. A list of all work completed outside the mineral lease between 1980 and 2006 is included as *Table 10-2*.

Figure 10-1: Exploration Drillholes and Grids
Source AREVA

Table 10-2: AREVA, Summary of Exploration, Waterbury Lake Lands

Year	**Holes Drilled**			**Airborne Geophysics**		**Ground Geophysics**		**Other Exploration**
	Type	**Number of Holes**	**Metres Drilled**	**Type**	**Line km**	**Type**	**Length**	**Type**
1980				Magnetic, VLF and radiometric survey	Project-wide	EM soundings DEEPEM	60 km	
1981	Diamond	13	5208 m			DEEPEM	134 km	Lake sediment sampling
1982	Diamond	4	1845 m			DEEPEM	588 km	Lake sediment sampling
						EM-37	28 km	
						Gravity	59 km	
1983	Diamond	5	2616 m	INPUT	2685 km	DEEPEM	545 km	Lake sediment sampling
1984	Diamond	4	1654 m					
1985	Diamond	16	7135 m			DEEPEM	120 km	Lake sediment sampling
	Diamond Shallow	17	8106 m					
1986	Geochemistry	38	2138 m			DEEPEM	135 km	
1987 to 1998				No exploration activities				
1999								Data Compilation Structural Study Historical drillcore logging and resampling
2000				GEOTEM	3587 km			Boulder sampling
2001						Moving Loop EM	26 km	
						Fixed Loop EM	57 km	

					Pole-pole DC 2D Resistivity	5km	
2002	Diamond	2	1150 m		Pole-pole 2D Resistivity	16 km	
					Pole-pole DC3D Resistivity	51 km	
2003	Diamond	4	1790 m		Moving Loop EM	11 km	Historical drillcore logging and resampling
2004					Moving Loop EM	29 km	Historical drillcore
					Pole-pole DC 2D Resistivity	18 km	logging and resampling
2005	Diamond	4	1705 m				
2006	Diamond	7	4075 m		Pole-pole DC 2D Resistivity	84 km	Historical drillcore logging and resampling
Total		**114**	**37,422 m**	**6,272 km**		**1,966 km**	

Source: AREVA

Note: This table includes all activity between 1980 and 2006 outside the area of ML5521 (activity on the deposit is excluded).

11 DRILLING

11.1 Surface Drilling

The Cigar Lake uranium deposit was discovered in 1981 by drillhole number WQS2-015 of a regional programme of diamond drill testing of geophysical anomalies (electromagnetic conductors) located by airborne and ground geophysical surveys. The deposit was subsequently delineated by surface drilling during the period 1982 to 1985. Drilling since that time has primarily been geotechnical in nature, with minor fill-in delineation drilling. The number of holes that have been drilled within Mineral Lease ML-5521 are listed in *Table 11-1*.

Table 11-1: Summary of Holes Drilled within ML-5521

Year	**No. of Holes Drilled in Ore Zone**	**No. of Holes Drilled Outside of Ore Zone**	**Total Drilled (m)**
1981	1		562
1982	10	16	12,372
1983	39	30	26,971
1984	29	33	26,415
1985	3	22	11,501
1986	6	4	3,898
1987		5	2,331
1988			
1989	1	1	866
1990	4		2,127
1991			
1992	11	1	1,977
1993			
1994		1	502
1995-1997			
1998	8		1,472
1999		1	518
2000-2001			
2002		1	510
2003-2006			
Total	**112**	**115**	**92,022**

Source: AREVA

A total of 92,022 m of diamond drilling from surface has been drilled in 227 holes to delineate the deposit, to outline uranium resources and to assess the

geotechnical properties of the deposit and host rocks. Holes collared by wedging off from a primary hole are considered as separate holes.

Of the 227 surface drill holes and wedged intersections drilled, 112 have been drilled within the geologically interpreted deposit limits and intersected minimum composite intervals of 3.0 m%U_3O_8 (2.5 m%U). Since 1985, 60 holes have been drilled primarily for geotechnical reasons, including investigation of ground conditions in areas of proposed mining development, sampling for determination of material properties, and sampling for metallurgical purposes. Seven holes were drilled to test ground conditions in areas of proposed shafts.

The locations of the surface holes for Phase 1 are shown in *Figure 11-1* and for Phase 2 in *Figure 11-2*. A complete listing of all the surface drill holes is included in *Appendix 1*.

The higher grade, eastern part of the deposit was discovered in 1983. Since 1985, all drilling has been done in this area, and none has been done west of section 10400E. Drilling in the eastern part of the deposit has been done at a nominal drill hole grid spacing of 50 m east-west by 20 m north-south. Some fill-in fences into ore were drilled primarily to test the spatial continuity of the mineralization. In this area, 93 holes intersected ore grade unconformity style mineralization, 20 holes intersected only low grade mineralized rock or fracture controlled mineralization, and 27 holes intersected no mineralization. Ten geotechnical holes were drilled outside the limits of the deposit in the eastern area.

The western part of the deposit has been drilled at a nominal drill hole grid spacing of 200 m east-west by 20 m north-south. This area of the deposit has been outlined by 53 holes in total, of which 19 holes intersected unconformity style mineralization, 11 holes intersected low grade or fracture controlled mineralization, and 23 holes intersected only weak mineralization or were barren.

An additional 24 holes were drilled for exploration purposes within the boundary of the mineral lease.

The orientation and shape of the orebody were recognized at an early stage of the exploration drilling. It was soon learned that the bulk of the mineralization was of high grade and positioned at and subparallel to the unconformity, although vein like bodies of mineralized rock were also present. Subsequently, almost all drilling was completed using vertical drill holes rather than inclined drill holes, because it was recognized that vertical intersections were essentially normal to the dominant orientation of the orebody. These intersections therefore represent the true thickness of the flat lying orebody.

Well established drilling industry techniques were used in the drilling programs, including wireline core drilling. Core recovery was generally very good; in some areas where ground conditions dictated, triple tube drilling to maximize core recovery was done. Wedging techniques were used in some areas to obtain step-out intersections without the expense of collaring additional holes. A total of about 54 wedged holes have been completed.

All holes were surveyed for direction using single shot or multi-shot surveying tools.

The more recent surface drill holes (since 1988) have been grouted in their entirety. Holes drilled prior to 1988 were plugged in the range 250 to 350 m depth by mechanical plugs and/or cement plugs up to 10 m thick.

In almost all cases, gamma surveys have been done through the orebody in these holes. For further discussion see Section 13.4.

Additional drilling from surface or underground will be required to upgrade the Indicated and Inferred Resources east of section 11035E and west of section 10405E. Inferred Mineral Resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the Inferred Mineral Resources at Cigar Lake will ever be upgraded to a higher category.

The collar locations of drill holes within the area of the surface infrastructure footprint have been surveyed by Cameco and their location confirmed.

Figure 11-1: Cigar Lake Deposit Surface Drill Hole Locations Phase 2

Source: Cameco

11.2 Underground Drilling

Diamond core drilling from underground access locations has been done primarily to ascertain rock mass characteristics in advance of development and mining, both in ore and waste rock. In the period from 1989 to 2006, 132 underground diamond drill holes totalling 11,108 m were drilled. Only seven of the holes drilled from underground intersected the orebody. Most of the underground holes have been surveyed for deviation using single shot or multi-shot surveying tools. The 41 holes drilled since 2001 have used a Reflex tool for hole orientation.

Ground freezing holes, not included in the above totals, have been drilled into the orebody for the purposes of freezing the ground prior to mining. A total of 83 holes at a spacing of 1.0-1.5 m were drilled in two phases of drilling in 1991 and again in 1999. Generally, these holes were rotary drilled holes from which no core was recovered, however, in a limited number of cases, core was recovered and sampled and, in almost all cases, gamma surveys of the holes were done through the orebody. Freeze hole drilling started up again in late 2004 with the start of the construction phase of development. A total of 347 freeze and temperature monitoring holes have been drilled to the end of 2006 during the construction phase, of which approximately 150 have been gamma surveyed. The gamma surveys show the ore to be generally conformable with the projected ore outline. A gyro tool was used for directional surveying in the latest phase of freeze hole drilling.

The location of the underground and surface drill holes in Phase 1 is shown in *Figure 11-2*.

Figure 11-2: Cigar Lake Deposit Underground and Surface Drill Hole Locations Phase

11.3 Comparison of Exploration and Underground Freeze Hole Drill Results

The geological characteristics of the orebody evaluated during test mining were its location, grade and continuity. Core and rotary drilling into the test mine area, both from surface and from underground, and core sampling and gamma flux geophysical surveys within the drill holes, confirmed the location of the orebody and the grades and thickness of the high grade unconformity mineralization. These drill holes included ground freezing holes that were as closely spaced as 1.25 m apart. Throughout the test mine area, geological characteristics of the orebody were observed to conform within acceptable variability to those indicated by exploration and delineation surface drill holes spaced at 10 to 20 m along the fences and drilled prior to test mining.

A correlation coefficient was developed by an independent consultant (Lambda Research Ltd.) to compare assay and radiometric data from the 1991 freeze hole program. Given the changes in the radiometric tools and conditions since 1991, this coefficient, used for freeze holes drilled since 2004, will be updated with another calibration core drilling program, once access to the underground areas is re-established.

Vertical freeze holes have been completed through the mineralization in both the 480-737 and 480-749 MDS crosscuts at a spacing of 2 m between holes. These crosscuts are located on the 480 m level along eastings 10737E and 10749E. A geological cross section (See *Figure 11-3*) looking west at 10749E shows a comparison of the mineralized envelope at a cut-off of 1.2% U_3O_8 (1.0% U) from both the surface delineation drilling and the freeze hole radiometrics. The figure displays the excellent continuity between the two separate data sets, with increased mineralization thickness on the south limb.

Source
Cameco

Figure 11-3: Extent of Mineralization as Defined by Surface and Underground Drilling, Section 10749E

12 SAMPLING METHOD AND APPROACH

12.1 Sample Density and Sampling Methods

Drilling in the eastern part of the deposit, an area 700 m long by 150 m wide, has been done at a nominal drill hole fence spacing of 50 m, with holes at 20 m spacing on the fences. On three of these fences (sections 10,575E, 10,750E and 10,950E), wedging from primary holes generated intersections at 10 m spacing along the fences. Two fill-in fences (10,775E and 10,825E) were drilled at a spacing of 25 m, with holes at nominally 20 m along the fences. As well, along the central east-west axis of the eastern zone, 5 holes were drilled at 25 m spacing.

The western part of the deposit, an area 1200 m long by 100 m wide, has been drilled at a nominal drill hole fence spacing of 200 m, with holes at 20 m spacing on the fences.

All holes were core drilled. All holes were gamma probed. In-hole gamma surveys and hand held scintillometer surveys were used to guide sampling of core for assay purposes. After recognition of the significance of the deposit and its geometry, in 1982, sampling of core was thereafter primarily concerned with ensuring that all core within the mineralized zone containing at least 1000 ppm (0.1 %) U_3O_8 was sampled and assayed.

In the early stages of exploration drilling, sampling of mineralized intervals was done on a geological basis, whereby sample limits were determined based on geological differences in the character of the mineralization. Samples were of various lengths, up to 50 cm. Beginning in 1983, sampling intervals for core from the orebody have been fixed at the property standard 50 cm. Subsequently, all sample results have been mathematically normalized to the standard interval of 50 cm for Mineral Resource estimation purposes.

On the upper and lower contacts of the mineralized zone, two additional 50 cm samples were taken to ensure that the zone was fully sampled at the 1000 ppm (0.1 %) U_3O_8 cut-off.

Except for some of the earliest sampling, in 1981 and 1982, the entire core from each sample interval was taken for assay. There were two reasons for doing this:

To reduce the variability inherent in sampling, given the high-grade nature and variability of the grades of the mineralization.

To minimize worker exposure to gamma radiation and radon gas during the sampling process.

In total, more than 3,550 samples have been assayed from all the surface holes drilled to define and delineate the deposit.

Sampling of drill core and gamma probing of underground drill holes was undertaken to the same standards as done for surface holes, for holes drilled into the deposit. However, as discussed in Section 11.2, most of the holes drilled into the deposit were rotary holes for ground freezing, from which no core was recovered. In these holes, reliance will be placed on radiometric assays for grade determinations to be used in future Mineral Resource and Mineral Reserve estimations.

Sampling was done only after all other geological logging, including photography of the core, was done. Sampling was done in a separate room (laboratory) attached to the core shack, in order to maintain cleanliness in the laboratory area and to reduce gamma flux levels in the main core logging area.

The typical sample collection process included the following procedures:

Marking the sample intervals on the core boxes, at the standardized 50 cm sample length, by the geologist.

Collection of the samples in plastic bags, taking the entire core.

Documentation of the sample location, including assigning a sample number, and description of the sample, including radiometric assay with a hand held device.

Bagging and sealing, with sample tags inside bags and sample numbers on the bags.

Placement of samples in steel drums for shipping.

12.2 Core Recovery

Reliance for grade determinations in mineralized rock has been placed primarily on chemical assays of drill core. Core recovery through the ore zone has generally been very good. Where necessary, uranium grade determination has been supplemented by radiometric probing from gamma logs (gamma surveys within the drill holes).

For Mineral Resource estimation purposes, where core recovery was less than 75%, radiometric assays were substituted for chemical assays. Only 32 samples were identified with recoveries less than 75% out of a total of 2,367 assayed samples for Phase 1 mineralization.

From about 1983 onward, all drilling and sampling procedures have been standardized and documented. This has imparted a high degree of confidence in the accuracy and reliability of results of all phases of the work.

12.3 Sample Quality and Representativeness

Of the 227 surface holes drilled, 200 were cored with NQ size rods, 24 with HQ size rods and 3 with BQ size rods. The majority of samples were whole core assayed, with the exception of some intersections that were cut with a rock saw and sealed under plexiglass for display purposes. This core is available for viewing at the site in a gated compound. The practice of sampling the entire core reduces the sample bias inherent when splitting core.

12.4 Sample Composites With Values and Estimated True Widths

In total, more than 3,550 samples exist in the deposit database. These samples come from 321 drill holes within the deposit area. Sample composites were calculated by taking the weighted average for the mineralized intercept in each drill hole using a 1.2% U_3O_8 (1.0% U) cut-off with the inclusion of 0.5 m waste at the top and bottom of each drill intercept. Vertical surface drill holes generally represent the true thickness of the zone as the mineralization is flat lying. The greatest true width among the drill hole composites is 16.5 m, and the lowest, 2.5 m with an average true width of about 6 m.

The highest and lowest assay values among the samples are respectively 82.9% U_3O_8 (70.3% U) and 0.0% U_3O_8. The highest and lowest density values among the samples are, respectively, 6.38 t/m^3 and 1.37 t/m^3.

The highest and lowest assay values among the composites used in the Mineral Reserve estimate are respectively, 52.8% U_3O_8 (44.8% U) and 1.06% U_3O_8 (0.9% U). The highest and lowest density values among the composites are respectively 4.07 t/m^3 and 1.85 t/m^3.

A histogram displaying the frequency of composites grading above 1.0% U_3O_8 is shown in *Figure 12-1*. A list of all the diamond drill holes used in the Mineral Resource and Mineral Reserve estimates with the composite grades is included in *Appendix 1*.

Figure 12-1:Histogram of Composite Grades

Source: Cameco

13 SAMPLE PREPARATION, ANALYSES AND SECURITY

13.1 Sample Preparation by Company Employees

None of the samples that were sent to testing laboratories prior to January 1, 2002 were prepared by an employee, officer, or director of Cameco, however, limited assaying was carried out at Cameco s Rabbit Lake mill laboratory as discussed in Section 13.3. All samples for Cigar Lake prior to this date were prepared by employees of AREVA or its predecessor companies or CLMC. This would include all samples used in the Mineral Resource and Mineral Reserve estimates. The vast majority of mineralized samples were whole core assayed to avoid any sample bias from splitting the core. A discussion of the practice of whole core assaying is included in Section 13.8

Since January 1, 2002, Douglas McIlveen, the qualified person of this section has been involved with the sampling of one surface hole that was drilled to assess ground conditions prior to sinking No. 2 Shaft, and the sampling of various underground holes that were drilled to assess conditions in the basement rock for geotechnical purposes.

13.2 Sample Preparation

The majority of samples that were used for the Mineral Resource estimate were prepared and analysed by Loring Laboratories Ltd. (Loring). The location of Loring Laboratories Ltd. is 629 Beaverdam Road NE, Calgary, Alberta.

Sample preparation at Loring consisted of drying the sample if necessary, followed by primary (jaw) and secondary (cone) crush, homogenization, and cutting the sample using a Jones type riffle down to 25-300 gram portions for pulp preparation. The material was then pulverized in a TM vibratory pulverizer to maintain a 95% passing 150 mesh sieve. Samples were then rolled 100 times on a rolling mat to ensure total homogeneity and placed in a numbered sample bag ready for analysis. Any particulates created from sample preparation were carefully swept up from all areas and placed in a separate container for return to the property site along with all pulps and reject material after the sample had been analyzed.

13.3 Assaying

Assaying of drill core for uranium has been performed at four different commercial laboratories, and Cameco s Rabbit Lake laboratory in the period from 1981 to 2006.

As referenced in Section 13.2, Loring did all the assaying for uranium between the winter of 1983 to 1994, and this would represent the majority of samples that were used for the Mineral Resource and Mineral Reserve estimate. They were not certified by any standards association at that time.

Cameco s Rabbit Lake mill laboratory has carried out limited assaying since 1994 and Saskatchewan Research Council was used after 2001. The Rabbit Lake laboratory was not formally certified at that time, however, between July 1994 and July 1997, there were inter-laboratory tests on uranium determination (Rabbit Lake, Key Lake, Cluff Lake, Rio Algom, and SRC laboratories participated). Different analytical methods were used in the comparison studies. The results from the Rabbit Lake laboratory were within the accepted limits. Certified reference standard ECM:U3O8:6, supplied by the Fuel Services Division of Cameco, Uranium Standards from High-Purity, and uranium standard from SCP Science were used at the Rabbit Lake laboratory as the calibration standards. Those standards are traceable to NIST Standard Reference Material 3164. A recent study shows the relative uncertainty of the analytical method used at Rabbit Lake laboratory (Analytical Procedure, LAB.201.WI13: Determination of uranium by potentiometric titration) is less than 5.0% at a level of confidence of 95%. The Rabbit Lake laboratory was accredited to International Standard ISO/IEC 17025:2005 on July 28, 2006 by the Canadian Association for Environmental Analytical Laboratories (CAEAL).

Records indicate that SERU deemed that the assay results from two commercial laboratories, from drilling done in 1982, were not calibrated properly. As a result, the assay results from this period were adjusted in 1983 based upon a systematic comparison of laboratory results and cross checks. These adjusted grades applied to only 4 holes (38, 39, 39A, 40) out of 93 holes included in the Phase 1 Mineral Resource and Mineral Reserve estimate. Nineteen of the 23 holes affected were from the Phase 2 portion of the mineralization. These holes have not been re-assayed and are included in the Mineral Resource and Mineral Reserve estimates.

Assaying by Loring was done by both the fluorimetric method and the volumetric method (volumetric ferrous iron reduction in phosphoric acid). All samples assaying greater than 5% U_3O_8 (4.2% U) as determined by fluorimetry were re-assayed using the volumetric method. Chemical standards were systematically assayed on a regular basis to ensure the accuracy of the assaying procedure. Senior staff of the operator at the time (CLMC) visited Loring on a regular basis to view and discuss laboratory procedures with the Loring senior staff.

Assaying at the Rabbit Lake mill was done by the fluorimetric method for low grade samples, and by a combination of titration and x-ray fluorescence for high grade samples, collected for metallurgical purposes in 1998.

Chemical assay results were systematically checked against radiometric assays to ensure accuracy of results. Sample pulps and reject materials were retained and systematically catalogued and stored by CLMC on site. Check assays were done on an as-required basis. Cameco has not independently verified the condition of these samples.

13.4 Radiometric Surveying and Assaying

The majority of the holes were surveyed for total gamma flux by in-hole probing. In 1982 and to the end of the winter program in 1983, the surveying was done with a Century Geophysics probe model 9067 using a scintillometer for detection of gamma rays. This type of detector is efficient at relatively low flux rates but inefficient and inaccurate at high flux rates. Beginning in the summer of 1983, high flux probes using Geiger-Müller tubes and manufactured by Cogema in France, Models ST22-2T and ST22-2T-FC were used.

The usefulness of the high-flux tool lies in its ability to measure accurately the high gamma flux emanating from high-grade uranium mineralization without becoming saturated, and therefore unreliable. The ST22-2T probe uses two ZP-1200 Geiger- Müller tubes whereas the ST22-2T-FC probe uses two ZP-1320 tubes, which count at a rate of approximately one half that of the ZP-1200 tubes. The ZP-1320 tubes are therefore able to evaluate much higher grade uranium mineralization which would saturate the ZP-1200 tubes.

Total gamma flux measurements were collected at 10 cm intervals during probing.

Prior to each survey, the probe was checked by means of a gamma source to confirm operation. The Geiger-Müller tubes in the probes were replaced on approximately an annual basis.

For the purposes of resource estimation, chemical assay determinations of uranium grade were used. In areas of lost core or lower recovery, reliance was placed on radiometric grade determined from the gamma probing. The grade of a sample was estimated from radiometric results if the core recovery was less than 75%.

Correlation and calibration of gamma probing results with chemical assays showed a very good correlation, indicating that secular equilibrium exists within the orebody. This also established the usefulness of gamma probing results as a reliable estimator of uranium grades. During the delineation drilling period until 1990, drill hole No. 115 was maintained in an open, cased and accessible state for use as a calibration hole. On a regular basis, gamma probes were run in this calibration hole to confirm the physical stability and reliability of the probes, or to calibrate new probes introduced to the exploration program.

Two fundamental characteristics of the mineralization that pertain to an estimation of resources are apparent:

- Uranium is present in extremely variable quantities, ranging from hundreds of ppm to more than 80% U_3O_8 over a standard sample width.

- The density of the samples vary widely, from about 1.4 t/m^3 to more than 6 t/m^3, due to the intensity of the alteration and the variable presence of the heavy minerals pitchblende, cobaltite, niccolite and others.

13.5 Density Determinations

The determination of densities is described in the report, Geostatistical Estimation of the Global Uranium Reserves of The Cigar Lake Deposit , by C. Demange, dated January 1985. Actual laboratory determinations were done for many of the original intersections during the period 1982-84. From this group, a set of 146 samples were identified where the density measurement was deemed to be of superior quality. These samples were then used to produce three estimators of density as follows:

I. As a function of the grades of uranium, nickel + cobalt, and aluminium

II. As a function of uranium, nickel and cobalt for holes where aluminium was not analysed

III. As a function of uranium

The formulas have subsequently been applied in holes where radiometric grades were used for assay determination, and where densities were not directly measured.

13.6 Quality Assurance/Quality Control (QA/QC)

The majority of uranium assays in the database were obtained from Loring as they were the laboratory of choice when most of the deposit delineation drilling was carried out (1983-94). Loring s uranium assaying procedures were as follows:

Uranium assays up to 5% U_3O_8:

I. Multi acid dissolution using HCl, HNO_3, H_2SO_4 and HF acids ensuring complete digestion.

II. Samples were then made to correct volumes.

III. Correct aliquots were placed in platinum dishes.

IV. Samples were fused and then read fluorimetrically.

V. Twelve standards and two blanks were run with every fusion (Certified standards were used).

Uranium assays over 5% U_3O_8:

I. Multi acid dissolution using HCl, HNO_3, H_2SO_4 and HF acids ensuring complete digestion.

II. The Volumetric Ferrous Iron Reduction in Phosphoric Acid procedure was used after dissolution. Numerous steps were taken to do with extractions, filtrations and isolation of the Uranium and finished with titration. A minimum of four standards were analyzed with each run.

An additional check that was done was to compare in-hole gamma survey results to hand-held scintillometer surveys on core to validate the core depths.

The QA-QC procedures that were used were typical for the time period of the analyses. The qualified person for this section, Douglas G. McIlveen, has reviewed the data and is of the opinion that the data are of adequate quality to be used for Mineral Resource and Mineral Reserve estimation purposes.

13.7 Sample Security

The qualified person for this section, Douglas G. McIlveen, is not aware of the security measures in place at the time of the deposit delineation. However, the current core logging area is the same facility as was used during the delineation drilling. It is well removed from the mine site and a locked gate bars road access to anyone not authorized.

13.8 Adequacy of Sample Preparation, Assaying, QA/QC, and Security

The qualified person for this section, Douglas G. McIlveen, is satisfied with all aspects of sample preparation and assaying. The drilling records are meticulously documented and samples were whole core assayed to avoid bias, although some ore intersections were sawn in half for display purposes and the qualified person has viewed these intercepts. The assaying was done to a high standard and the QA/QC procedures employed by the laboratories were adequate for the time. The qualified person has no reason to doubt that sample security was maintained throughout the process. Furthermore, the continuity and high grade nature of the ore zone has been confirmed from radiometrics of closely spaced underground freeze hole drilling.

14 DATA VERIFICATION

The original database, from which the Mineral Resource and Mineral Reserves were estimated, was compiled by previous operators. The original signed assay certificates are available and have been reviewed by Douglas G. McIlveen, the qualified person of this section. A total of 493 assays, representing 14% of the surface drill hole results, were randomly checked to confirm data integrity. One error (0.20% of the total reviewed) was found resulting from conversion from the assay certificate % U_3O_8 value to the database %U value. In this case the error would result in increasing a 0.5 m composite from 37.2% U_3O_8 (31.5% U) to 43.8% U_3O_8 (37.2% U) as the lab certificate showed 43.8% U_3O_8.

The qualified person for this section, Douglas G. McIlveen, is satisfied with the quality of the data and considers it valid for use in the estimation of the Mineral Resources and Mineral Reserves.

15 ADJACENT PROPERTIES

Information on adjacent properties is not applicable to this technical report since there are no adjacent properties with exploration results of note.

16 MINERAL PROCESSING AND METALLURGICAL TESTING

16.1 Overview

Cigar Lake ore will be processed at three locations. Size reduction will be conducted at Cigar Lake, leaching will occur at McClean Lake and final yellowcake production will be split between McClean Lake and Rabbit Lake for a total estimated annual production rate of 18 million pounds U_3O_8 when the mine is in full operation. Where possible, design of the processing facilities for Cigar Lake ore has been modeled on those successfully operating at McArthur River and Key Lake.

The CLJV has entered into toll milling agreements for the processing of Cigar Lake uranium at the McClean Lake JEB mill and the Rabbit Lake mill. These toll milling agreements are described in Section 18.4.3 of this report.

A high level operation flow sheet of the project ore processing activities is shown in *Figure 16-1*.

Figure 16-1: Cigar Lake Ore Processing Activities Block Flow Sheet

16.2 Processing at Cigar Lake

Initial processing of the ore slurry produced by the jet boring mining system at Cigar Lake will take place underground including crushing, grinding, density control and water handling circuits. The resulting finely ground, high density ore slurry will be pumped to surface storage tanks, thickened and loaded into truck mounted containers for delivery to McClean Lake. Contaminated water from both underground and surface, after recycling to the maximum extent possible, will be treated in a two stage treatment plant and the excess released to the environment.

16.2.1 Metallurgical Testwork

The design for processing ore at Cigar Lake has largely been based on the experience gained at McArthur River, including modifications and improvements incorporated since this operation was commissioned in early 2000. The primary difference between the two sites is that mining at McArthur River is carried out using dry methods whereas mining will be done wet at Cigar Lake. As a result, coarse low density slurry will be pumped at Cigar Lake from the discharge of the mining machines to the underground ore storage facilities. Several testing programs between 1996 and 1999 were conducted utilizing simulated Cigar Lake ore at the Saskatchewan Research Council s Pipeline Research Center (SRC) to establish design criteria for this system. The key findings from these test programs included the determination of minimum slurry velocities and practical pump box designs. In addition, wet crushing testwork on simulated Cigar Lake ore was carried out in 1998 by Cron Metallurgical Engineering Ltd. on a prototype of a reduced size version of a Nordberg water flush cone crusher. Capacities exceeding 40 t/h were achieved on a maximum 75mm feed to produce a product suitable for grinding in a ball mill.

Simulated Cigar Lake ore was utilized for these programs because the test facilities (located in Saskatoon) are not licensed to receive radioactive materials. In the case of the water flush cone crusher tests, the feed was prepared to a target size range utilizing a mixture of clay and coarse rock in gravel. For the SRC testwork, slurries in the 1 to 4 w/w% solids range were produced using solids consisting of clay, selected size fractions of rock and various sizes of steel pieces.

16.2.2 Cigar Lake Flowsheet

Mined ore and drill cuttings will be piped into local pump boxes as a slurry for transfer to run of mine ore storage sumps. Partially dewatered ore will be reclaimed from the sumps by an overhead crane mounted clamshell and fed by belt feeder through a water flush cone crusher on to a ball mill operating in closed circuit with cyclones. Cyclone overflow ground to a p80 of 125 microns will be densified to 50% solids in a clarifier and pumped to an ore slurry storage pachuca tank located underground. From there, the ore slurry will be pumped up No. 2 Shaft to storage pachucas located on the surface. Excess water will be removed from the ore slurry in a thickener and then the slurry will be loaded into 5m3 containers for shipment by road to McClean Lake.

As much untreated water as possible will be recirculated underground in the process. Excess water will be pumped to surface and treated in a conventional two stage water treatment plant. Treated water will be utilized in the mining and processing circuits where required and the excess released to the environment via a monitoring pond system similar to that used successfully at other facilities such as McArthur River and Key Lake. Precipitated solids from the water treatment process will be filtered and stored on-site for future disposal underground.

Detailed engineering for all the processing facilities is substantially complete. Construction of the water treatment plant is nearing completion while construction on the surface processing facilities has been initiated. Underground processing plant construction was underway at the time of the water inflow in October 2006. The continued construction on the underground portion of the process plant will commence in accordance with the mine remediation plan.

16.3 Processing at McClean Lake

The McClean Lake JEB mill will be expanded to receive and leach 100% of the Cigar Lake ore. The ore will be trucked in slurry form from Cigar Lake to the JEB mill in purpose-built containers identical to those used successfully to transport McArthur River ore slurry to the Key Lake mill. Up to 57.3% (10.3 million pounds U_3O_8 annually) of the Cigar Lake uranium will be shipped in solution to Rabbit Lake. The remaining 42.7% (7.7 million pounds U_3O_8 annually) will be converted to yellowcake along with uranium from the McClean Lake deposits for a total estimated annual production rate of 12 million pounds U_3O_8 at the JEB mill. This allocation between JEB and Rabbit mills for solution processing applies to Phase 1 (a) ore and is adjusted for Phase 1 (b) ore. For further discussion see Section 18.4.3.

16.3.1 Metallurgical Testwork

Extensive metallurgical testwork has been performed on representative core samples of Cigar Lake ore over a 7 year period from 1992 to 1999. The work was performed in France at AREVA s (formerly Cogema) SEPA test center. The results of this testwork have provided the core process criteria for the design of the additions and modifications required at the McClean Lake JEB mill for processing Cigar Lake ore. The key results are summarized below:

Work Index: 8 to 9 Kwh/short ton based on a P_{80} of 150 microns.

Neutral Settling Requirement: 0.055 to 0.126 m^2/t/d.

Leach Performance: 99.8% uranium extraction over 17 hours residence time at 2 bar pressure (single stage leaching), 2 kg/kg U acid consumption, 50 °C.

Heat Generation during Leaching: 70 minutes from room temperature to boiling.

Decantation After Leaching Requirement: 0.25 m^2/t/d.

For design purposes an overall uranium recovery of 98.5% has been assumed. Anticipated losses are distributed as follows:

Leach Residue Loss: 0.2%.

Counter Current Decantation Soluble Loss: 0.5%.

Counter Current Cyclone Soluble Loss: 0.35%.

Solvent Extraction Raffinate Loss: 0.3%.

Solvent Extraction Regeneration Loss: 0.15%.

This recovery is similar to that achieved at Cameco s other Saskatchewan operations. For reference, the Key Lake mill treating McArthur River mine ore achieves a recovery of 98.8% and the Rabbit Lake mill treating Eagle Point mine ore achieves a recovery of 97.0%. The lower recovery at the Rabbit Lake mill is due to the lower feed grade from the mine to the mill as compared to the McArthur River ore feeding the Key Lake mill.

16.3.2 McClean Lake JEB Flowsheet Modifications

Finely ground Cigar Lake ore averaging 20.7% U_3O_8 (process design is for a variation of 15 to 35% U_3O_8) will be trucked by B-trains carrying four 5 m^3 slurry containers (3.9 t solids capacity each) to a new receiving facility located at McClean Lake. Slurry receiving at McClean Lake has been modeled on the Key Lake ore slurry receiving facility with enhancements. The 50% solids slurry will be off-loaded by vacuum, thickened and pumped to storage pachuca tanks. The existing leach circuit will be reconfigured from the present two stage near atmospheric pressure circuit to two parallel low pressure (2 bar) single stage circuits to allow Cigar Lake ore to be leached separately from the other McClean

Lake ores. Leach cooling and hydrogen gas concentration control will be added respectively to deal with the exothermic reaction and potential for hydrogen evolution from leaching the high grade Cigar Lake ore. An oxygen plant will be added, relegating hydrogen peroxide to a back-up role as the oxidizing agent.

The existing primary thickener will be utilised to produce uranium solution from Cigar Lake ore, which will be shipped to Rabbit Lake from a new solution loadout facility located adjacent to the new slurry receiving plant. To handle the higher tonnage resulting from treating 100% of the Cigar Lake ore, the tonnage capacity for the counter current decantation circuit (CCD) will be supplemented by use of a counter current cyclone circuit (CCC). Additional clarification and storage capacity will be provided for pregnant leach solution. Two carbon columns will be added to the molybdenum removal circuit. The ammonia reagent supply circuit and ammonium sulphate crystallization plant capacities will be increased to deal with the increased ammonia consumption resulting from the additional uranium production. Extra reagent storage capacity will be added for ferric sulphate solution and enlarged mixing and storage capacity will be added for mixed barium chloride solution.

Construction of the new and modified facilities required at McClean Lake for processing Cigar Lake ore is anticipated to be substantially complete in early 2007.

16.4 Processing at Rabbit Lake

Cigar Lake uranium solution (US), prepared by leaching Cigar Lake ore at McClean Lake, will be trucked to Rabbit Lake in purpose-built containers for processing in the Rabbit Lake solvent extraction circuit. Following the removal of impurities dissolved during the leaching process, the purified uranium will be precipitated as a uranium peroxide yellowcake and dried for shipment in drums to refineries located around the world. The impurities will be precipitated with lime in the Rabbit Lake neutralization plant and disposed of to the existing Rabbit Lake in-pit tailings management facility (RLITMF). Liquid effluent will be purified in the Rabbit Lake effluent treatment plant for release to the environment.

When Eagle Point or other potential local ore sources have been exhausted, only uranium from Cigar Lake US will be processed through the Rabbit Lake mill. In this case, dilution of the US with acidic water will be required to reduce the uranium concentration to a level acceptable for feed to the solvent extraction process. Testwork will be undertaken to determine if low grade and/or waste material stockpiled at Rabbit Lake should be finely ground to produce a material suitable for mixing with Cigar Lake impurity precipitates for disposal at high density in the RLITMF.

If the mine life of the Rabbit Lake mine can be extended beyond 2011, then the Cigar Lake US may be co-processed with Rabbit Lake uranium solution derived from milling Eagle Point ore.

16.4.1 Metallurgical Testwork

Several bench scale test programs were carried out between 1998 and 2006 to generate tailings products from Cigar Lake US for geochemical characterization, predicting porewater chemistry and testwork related to options for modifications in the existing Rabbit Lake neutralization and effluent treatment plants. No testwork has been carried out to date to specifically optimize the metallurgical performance of the existing Rabbit Lake solvent extraction circuit on Cigar Lake US. If necessary, this testwork will be carried out during the Phase 1 ramp up period when all Cigar Lake US is being processed through to yellowcake at McClean Lake. For design purposes a recovery of 99.55% of the Cigar Lake uranium feed from McClean Lake has been assumed.

16.4.2 Rabbit Lake Flowsheet Modifications

The Rabbit Lake mill requires a number of relatively minor modifications and additions to receive and process US from McClean Lake. The US ranging from 80 to 220 g/l U_3O_8 will be delivered by B-train truck over a new haul road between Rabbit Lake and McClean Lake. Each truck will carry four 7.5 m^3 containers similar to those used to transport ore slurry from the Cigar Lake mine site to McClean Lake. The trucks will enter an off-loading bay at the mill and the US will be pumped from the containers to an agitated measuring tank. After the weight and volume of each shipment is recorded, the US will be sampled and assayed for accounting purposes as it is transferred by pump to a large agitated outdoor storage tank.

From the storage tank the US will be pumped through a bank of sand filters to remove any residual solids and then on to a tank for feeding the clarified US to the existing Rabbit Lake solvent extraction circuit feed storage tank. The clarified US will be mixed with Rabbit Lake uranium solution in an in-line mixer during this transfer. A number of other modifications are planned for the Rabbit Lake mill. Although not all of these are specifically for Cigar Lake US, these changes will generally enhance mill metallurgical and environmental performance.

Detailed design of the new and modified facilities required at Rabbit Lake for processing Cigar Lake US received from McClean Lake is planned to begin in 2007.

17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

As reported in Section 6.3.2 Historical Estimates: 2000-2005, a Mineral Resource model of the unconformity mineralization was created in May 2000. Alain G. Mainville, the qualified person responsible for this section, has reviewed that Mineral Resource model and found it relevant and reliable as a basis for the current Mineral Resource and Mineral Reserve estimates disclosed in this report. Methodologies, assumptions and parameters used to create the 2000 Mineral Resource model and to define the current Mineral Reserves are described in this section.

17.1 Definitions

The Cigar Lake Mineral Reserves include allowances for dilution and mining recovery. No such allowances are applied to Mineral Resources. Stated mineral reserves and resources are derived from estimated quantities of mineralized material recoverable by established or tested mining methods. Mineral Reserves include material in place and stored on surface and underground. Only Mineral Reserves have demonstrated economic viability.

The Cigar Lake Mineral Reserve and Mineral Resource estimates have been updated and reviewed under the supervision of Alain G. Mainville, Professional Geoscientist and qualified person, Director, Mineral Resources Management at Cameco. No independent verification of the current Cigar Lake Mineral Reserve and Mineral Resource estimates was performed.

There are numerous uncertainties inherent in estimating Mineral Reserves and Mineral Resources. The accuracy of any Reserve and Resource estimation is the function of the quality of available data and of engineering and geological interpretation and judgment. Results from drilling, testing and production, as well as material changes in uranium prices, subsequent to the date of the estimate may justify revision of such estimates.

The classification of Mineral Reserves and Resources and the subcategories of each, conforms to the definitions adopted by CIM Council on December 11, 2005, which are incorporated by reference in NI 43-101. Cameco reports Mineral Reserves and Resources separately. The amount of reported Mineral Resources does not include those amounts identified as Mineral Reserves. Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability.

The following Mineral Resource and Reserve definitions are extracts from the December 11, 2005 CIM document titled CIM Definition Standards for Mineral Resources and Reserves.

Mineral Resource

A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth s crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Mineral Reserve

A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

Probable Mineral Reserve

A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

Proven Mineral Reserve

A Proven Mineral Resource is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

17.2 Mineral Resources and Mineral Reserves

17.2.1 Cut-off Grade

The cut-off grade used to define the Cigar Lake Mineral Reserves is based on the incremental cost of mining and the full cost of mill processing to produce U_3O_8. The incremental costs include jet boring costs, backfilling, underground crushing and grinding, ore slurry hoisting, trucking costs from Cigar Lake to the JEB mill and the cost of processing the Cigar Lake ore slurry to final U_3O_8 (yellowcake) at both the McClean Lake JEB and Rabbit Lake mills.

Other economic factors used for deriving the cut-off grade are shown in *Table 17-1*.

Table 17-1: Cut-off Grade Parameters

Uranium Price	US$38.50/lb
Exchange Rate	US$0.91 = Cdn$1.00
Mining Dilution	10%
Mine Recovery	90%
Process Recovery	98.5%

The value of the ore for the purposes of calculating cut-off grade represents the value from uranium only. Trace metals such as nickel, copper, cobalt and molybdenum are considered to have no economic value.

Based on the above factors, the calculated cut-off grade used to define the Mineral Reserves is 5.9% U_3O_8.

For the purpose of estimating Mineral Reserves in accordance with NI 43-101, a price of US$38.50/lb U_3O_8 was used. For the purpose of estimating Mineral Reserves as per United States Securities and Exchange Commission s guidelines, a price of US$32.30/lb U_3O_8 was used (3-year trailing average price). Decreasing the metal price from US$38.50 to US$32.30 changed the cut-off grade to 6.9% U_3O_8, which would result in a reduction of the Mineral Reserves by less than 1% of the recovered uranium.

Incremental mining cost was chosen over full mining cost to define cut-off grade. This approach was considered valid based on the following parameters:

The lateral (E-W) extent of the mining zone was fixed at cut-off grades less than 12% U_3O_8. Mine development costs were considered as fixed.

All remaining underground mining costs and all surface costs were considered as fixed, meaning that the same costs would be incurred regardless of production rate.

Economic analysis confirms the production schedule has positive cash flow.

17.2.2 Geological Modelling

As illustrated in *Figure 17-1*, the known mineralization at Cigar Lake has been divided into two areas. Phase 1 area extends from grid easting 10405E to grid easting 11095E. The western Phase 2 covers the area between grid easting 9120E to 10405E.

The surface drillholes density within the deposit area is variable. East of section 10405E, the holes are spaced nominally at 20 m centres on drillhole fences 50 m apart. Some closer spaced holes and fences exist within this area. West of section 10405E, the holes are spaced nominally at 20 m centres on drillhole fences 200 m apart.

The grade and apparent continuity of the uranium mineralization is highest approximately between sections 10735E and 11025E.

Surface drillhole composites of the mineralized intersections formed the database for this assessment. Underground drill holes were considered to be in too limited an area and too irregularly distributed to be of use for Mineral Resource estimation. This geological model does not incorporate the results of the underground freeze holes since the conversion of radioactivity measurements to uranium grade has not yet been confirmed by chemical assays. The composites incorporate an assumed minimum mining thickness of 2.5 m, a cut-off grade on the composites of 1.0%U, and a half metre of external dilution at both the upper and lower limits of the ore intercept at zero grade.

The horizontal limits of the orebody, interpreted at cut-offs of 3.0m% U_3O_8 (2.5m%U) for grade x thickness (GT) and 1.2% U_3O_8 (1.0% U), were projected on a plan view. The vein-like, perched and basement mineralization have not been evaluated in detail and as such, no estimate of resources have been made for these mineralized bodies. The quantities of metals in these bodies are considered insignificant with respect to that of the unconformity mineralization and impractical to mine at this stage and in the near future.

17.2.3 Block Modelling

Given the flat and elongated shape of the Cigar Lake orebody, a two dimensional modelling approach was selected. It was performed using the 1994 version of the SERMINE geological and geostatistical software package developed by AREVA. The number of surface drillholes retained for block modelling is 112 for Phase 1, of which 93 holes intersected the orebody, and 53 for Phase 2, of which 19 holes intersected the mineralization.

The primary cut-off parameter selected is the amount of metal contained in an estimation block, rather than a minimum mining thickness or grade. The variable grade x thickness x density (GTD) represents the metal content on a per unit area basis. Two additional variables were estimated. They are: thickness x density (TD), representing a tonnage per squared metre, and the thickness of mineralization (T). The estimated grade for each block was obtained by dividing GTD by TD.

Variograms of the three variables GTD, TD and T were calculated. No anisotropy was modelled in the plan of the mineralization. All three variograms show similarities in their ranges of continuity. Comparing all three variables, the variogram on GTD indicates the best continuity over distances of 20 metres. In SERMINE, the search distances are a function of the block size. For Phase 1, the estimation block size is 15m East-West and 6m North-South. The search distances used for Phase 1 corresponded to 37.5m East-West and 15m North-South, the maximum allowed by the software. Given the larger drilling spacing at Phase 2, the block size was increased to 40m by 10m. The search distances for Phase 2 were 100m by 25m. Ordinary kriging was used for interpolation within the interpreted outlines of mineralization. The resulting grade estimates for Phase 1 and Phase 2 areas are shown respectively in *Figure 17-2* and *Figure 17-3.*

Based on a minimum mineralization thickness of 2.5 m and a grade cut-off of 5.9% $U_3O_{8,}$ a GT cut-off of 14.7m%U_3O_8 (12.5m%U) was applied to the blocks. Blocks below that value were deemed not to be part of the Mineral Resource.

Figure 17-2: Phase 1 Mineral Reserves and Mineral Resources March 2007

Figure 17-3: Phase 2 Mineral Resources March 2007

17.2.4 Resource Estimates and Classification

The effect of different cut-off grades applied to the Phase 1 resource block model is illustrated in *Table 17-2*. At the current cut-off grade of 5.9% U_3O_8 (5.0% U), the total tonnes are reduced by 9% and the pounds U_3O_8 by 1.7% compared to the case at a cut-off grade of 0% U_3O_8.

Table 17-2: Sensitivities to Cut-off Grade

Cut-offX		**Tonnes**	**Decrease**	**Lbs**	**Decrease**	**Average**	**Average**
Grade %U_3O_8	**Grade %U**	**Ore (x 1000)**	**in Tonnes (%)**	**U_3O_8 (millions)**	**in Lbs (%)**	**Grade % U_3O_8**	**Thickness (m)**
29.5	25.0	156	72.2	124.6	51.7	36.1	5.98
23.6	20.0	222	60.6	163.5	36.6	33.5	6.11
17.7	15.0	299	46.8	198.4	23.1	30.1	6.16
11.8	10.0	410	27.0	234.2	9.3	25.9	6.05
10.6	9.0	430	23.5	239.1	7.4	25.2	6.01
9.4	8.0	445	20.8	242.3	6.1	24.7	5.96
8.3	7.0	472	16.0	247.6	4.0	23.8	5.83
7.1	6.0	495	12.0	251.3	2.6	23.0	5.76
5.9	5.0	511	9.0	253.6	1.7	22.5	5.70
4.7	4.0	537	4.5	256.5	0.6	21.7	5.64
3.5	3.0	545	3.0	257.3	0.3	21.4	5.61
2.4	2.0	552	1.8	257.7	0.1	21.2	5.62
1.2	1.0	562	0.0	258.0	0.0	20.8	5.67
0	0	562	-	258.0	-	20.8	5.67

Phase 1 Area

The Mineral Resource classification for Phase 1 is based on the following:

A cut-off grade of 5.9% U_3O_8 (5.0% U) was then applied to the blocks. The results were that almost all blocks of grade >=5.9% U_3O_8 (5.0% U) were considered Measured Mineral Resources and almost all blocks below that value but greater than 0% U_3O_8 were considered Indicated Mineral Resources. The lowest grade value for a block in this category was 1.62% U_3O_8 (1.37% U).

Fifteen blocks occurring east of section 11035E, all of which have grades >5.9% U_3O_8 (5.0% U), were deemed to be Indicated instead of Measured because of their location at the eastern most limit of the orebody and the drill spacing.

One block, centered at grid location 10937.5E, 10991.0N, has a grade of 5.8% U_3O_8 (4.91% U), and is entirely enclosed by blocks of grades >5.9% U_3O_8 (5.0% U). It is the only block of grade <5.9% U_3O_8 (5.0% U) that does not occur at the limits of the deposit; that is, it is an internal block. For this reason, this block is deemed to be within the Measured Mineral Resources and is counted as such.

It is believed that the approach of using a cut-off grade as a criteria for resource classification reflects a degree of confidence on the interpreted horizontal limits of the mineralization in areas of lower grade mineralization. When evaluated on the basis of level of confidence on the observed geological and grade continuities and the drilling density, it is considered that the current Measured and Indicated Mineral Resources classification is generally appropriate and adequately confirmed by the results of the underground freeze hole drilling. Cameco plans to consider additional criteria to optimize and formalize the Mineral Resource classification process.

Phase 2 Area

In the Phase 2 area, only blocks with an estimated grade at or above a cut-off grade of 5.9% U_3O_8 (5.0% U) were retained as part of the resources. No limit on the grade-thickness was used. On the basis of assumed grade and thickness continuity between the widely spaced drillholes (200 m by 20 m) supported by observations in the more densely drilled Phase 1, the resources blocks of Phase 2 were classified as Inferred Mineral Resources.

17.2.5 Mineral Resource and Mineral Reserve Estimates

In order to classify Mineral Resources as Mineral Reserves, a viable mine layout and realistic allowances for recovery and dilution must be applied. The mining cavity size and production criteria are listed in Section 18.1.6 and the mine layout is described in Section 18.1.9. The current mining project has been designed to extract the Mineral Reserves in Phase 1. Mineral Resources in Phase 2 are in the Inferred Mineral Resource category and have been evaluated from a preliminary perspective only and further drilling and mining studies are needed before these resources can be fully evaluated.

The Cigar Lake Mineral Reserves are defined by applying factors for recovery and dilution to the Indicated and Measured Resources. Mill recovery of 98.5% has been applied, as in earlier feasibility studies.

Mining recovery is estimated at 90%, for both tonnes of ore and metal.

In addition to the dilution allowance of 0.5 metre above and below the mineralized interval, which is already incorporated in the composite length and grade, internal dilution (primarily mining of backfill) estimated to be equal to 5% of the tonnes recovered was added. The rock cuttings from the jet boring casing holes will be directed to the ore stream rather than segregated as waste rock and will therefore dilute the ore. The allowance for dilution due to casing cuttings is 5% of the tonnes of material recovered. Dilution and casing hole cuttings are assumed to have no grade.

As a result of the recent update of operating costs and uranium price forecasts, the cut-off grade of 5.9% U_3O_8 (5.0% U) has been confirmed. For this reason, Probable Mineral Reserves, as defined in the 2001 feasibility study, should not be relied upon, do not stand the test of their economic extraction being demonstrated and are therefore converted back to Indicated Mineral Resources. The revised Cigar Lake Mineral Resources and Reserves, with an effective date of March 16, 2007, are presented in *Table 17-3* and *Table 17-4.* Alain G. Mainville, P.Geo., of Cameco, is the qualified person within the meaning of NI 43-101 for the purpose of this Mineral Resource and Reserve estimate.

Table 17-3: Summary of Mineral Resources March 16, 2007

Category	**Area**	**Total Tonnes (x 1000)**	**Grade %U_3O_8**	**Total Lbs U_3O_8 (millions)**	**Cameco s Share Lbs U_3O_8 (millions)**
Phase 1					
Measured	Phase 1				
Indicated	Phase 1	61	4.9	6.6	3.3
Total	**Phase 1**	**61**	**4.9**	**6.6**	**3.3**
Phase 2					
Inferred	Phase 2	317	16.9	118.2	59.1

Notes:

(1) Cameco reports Mineral Reserves and Mineral Resources separately. Reported Mineral Resources do not include amounts identified as Mineral Reserves.

(2) Cameco s share is 50.025 % of total Mineral Resources.

(3) Inferred Mineral Resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the Inferred Mineral Resources will ever be upgraded to a higher category.

(4) Indicated Mineral Resources have been estimated at a minimum mineralized thickness of 2.5 m and at a cut-off grade of 1.2 % U_3O_8 applied to the Phase 1 resource block model. Inferred Mineral Resources have been estimated by applying at a cut-off grade of 5.9 % U_3O_8 to the Phase 2 resource block model.

(5) The geological model employed for Cigar Lake involves geological interpretations on section and plan derived from core drillhole information.

(6) The Mineral Resources have been estimated with an allowance of 0.5 m of dilution material above and below the deposit at 0% U_3O_8. No allowance for mining recovery is included.

(7) Mineral Resources were estimated based on the use of the jet boring mining method combined with bulk freezing of the orebody.

(8) Mineral Resources were estimated using 2-dimensional block models.

(9) Environmental, permitting, legal, title, taxation, socio-economic, political, marketing or other issues are not expected to materially affect the above estimate of Mineral Resources.

(10) Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

The mine plan for the project includes only the Mineral Reserves contained in Phase 1. A summary of the Mineral Reserves with an effective date of March 16, 2007 is shown in *Table 17-4*.

Table 17-4: Summary of Mineral Reserves March 16, 2007

Category	Area	Total Tonnes (x 1000)	Grade %U_3O_8	Total Lbs U_3O_8 (millions)	Cameco s Share Lbs U_3O_8 (millions)
Proven	Phase 1	497	20.7	226.3	113.2
Probable	Phase 1				
Total	**Cigar Lake**	**497**	**20.7**	**226.3**	**113.2**

Notes:

(1) Total Lbs U_3O_8 are those contained in Mineral Reserves and are before mill recovery of 98.5 % has been applied.

(2) Cameco s share is 50.025 % of total Mineral Reserves.

(3) Cigar Lake Mineral Reserves have been estimated at a minimum mineralized thickness of 2.5 m and at a cut-off grade of 5.9% U_3O_8 applied to the Phase 1 resource block model.

(4) The geological model employed for Cigar Lake involves geological interpretations on section and plan derived from core drillhole information.

(5) Mineral Reserves have been estimated with an allowance of 0.5 m of dilution material above and below the deposit, plus 5% external dilution and 5% backfill dilution at 0% U_3O_8.

(6) Mineral Reserves have been estimated based on 90% mining recovery.

(7) Mineral Reserves were estimated based on the use of the jet boring mining method combined with bulk freezing of the orebody. Jet boring produces an ore slurry with initial processing consisting of crushing and grinding underground, leaching at the McClean Lake JEB mill and yellowcake production split between the McClean Lake JEB and Rabbit lake mills. Mining rate assumed to vary between 80 and 140 t/d and a full mill production rate of 18 million pounds U_3O_8 per year based on 98.5% mill recovery.

(8) Mineral Reserves were estimated using a 2-dimensional block model.

(9) For the purpose of estimating Mineral Reserves in accordance with NI 43-101, a price of US$38.50/lb U_3O_8 was used. For the purpose of estimating Mineral Reserves in accordance with US Securities Commission Industry Guide 7, a price of US$32.30/lb U_3O_8 was used. Estimated Mineral Reserves are almost identical at either price because of the insensitivity of the Mineral Reserves to the cut-off grade over the range of these two prices.

(10) The key economic parameters underlying the Mineral Reserves include a conversion from US$ dollars to Cdn$ dollars using a fixed exchange rate of US$0.91 = Cdn$1.00.

(11) Environmental, permitting, legal, title, taxation, socio-economic, political, marketing or other issues are not expected to materially affect the above estimate of Mineral Reserves.

Compared to previous Mineral Resources and Reserves disclosed by Cameco, as of December 31, 2005, the Proven Mineral Reserves remain unchanged at 226.3 million pounds, the Probable Mineral Reserves have been reclassified as Indicated Resources due to a change in the cut-off grade and the Inferred Mineral Resources at Phase 2 also remain the same.

17.3 Discussion on Factors Potentially Affecting Materiality of Resources and Reserves

In the eastern Phase 1 area, where Mineral Reserves have been estimated, the drillholes are considered to represent the deposit, given the hole spacing, the number of holes and the continuity as determined from the geostatistical studies. However, it is recognized that in the western Phase 2 area, where the drillhole density is much less, drilling to date is not sufficient to represent this part of the deposit well enough to permit the estimation of Mineral Reserves. Future drilling in the Phase 2 area has potential to result in a major increase or decrease of the Phase 2 Mineral Resources given the drillhole spacing and the ranges of influence applied during the estimate. Inferred Mineral Resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the Inferred Mineral Resources will ever be upgraded to a higher category.

The drill hole data is considered to be very reliable. The largest area of uncertainty is associated with mining, and relate to the jet boring mining method, which has not previously been used on a large production scale basis. Values for factors such as recovery and dilution are undetermined on a production basis at this time, although they are considered very reasonable assumptions based upon test mine experience and the experience of the technical staff involved. Similarly, mining and production costs, which directly impact cut-off grades, are undetermined on a production basis at this time. Nevertheless, it is considered that reasonable assumptions were made in these areas.

As is the case for most mining projects the extent to which the estimate of Mineral Resources and Mineral Reserves may be affected by environmental, permitting, legal, title, taxation, socio-economic, political, marketing or other issues could vary from major gains to total losses of resources and reserves. None of these issues, however, are expected to materially affect the Cigar Lake Mineral Resources and Reserves estimates.

The jet boring mining method and the overall mining and freezing plans for the Cigar Lake project have been developed specifically to mitigate the mining challenges, like the low strength of the rock formation, the groundwater and the high level radiation, and to mine the deposit in a safe and economic manner. Unexpected geological or hydrological conditions or adverse mining conditions could lead to partial losses of Mineral Reserves. Cameco believes that their associated effect would not materially affect the Cigar Lake Mineral Reserves, but could delay production and increase costs.

Over the years, Cameco and AREVA have developed expert knowledge and experience with the metallurgical treatment of uranium mineralization. Cameco is confident that no metallurgical issue will materially impact the Cigar Lake Mineral Reserves.

18 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

18.1 Mining

This section describes the technical aspects of underground mine operations, including the mine stability and ground support, hydrogeology, test mining activities, selection of mining method, mine development, mining system and services.

18.1.1 Geotechnical Characteristics of the Deposit

The massive high-grade core is formed by metal oxides, arsenides and sulphides in a matrix of generally well indurated greenish clay, or claystone. It is capped by a layer of similarly indurated clay that is variably 1-5 m thick. Above this cap there is a highly heterogeneous, highly permeable zone from 20 m to 50 m thick consisting of soft to moderately indurated sandy clay, unconsolidated sand and variably altered sandstone.

Two of the primary geotechnical challenges in constructing the mine are control of groundwater and ground support in areas of weak rock. These challenges occur concurrently in the immediate area of massive mineralization and the overlaying saturated alteration zone, and within fractures zones in the sandstone.

On the basis of the drilling and development during test mining and rock mechanics studies, eight geotechnically distinct zones have been identified at the orebody and mining elevations, the most challenging of which include the massive clay formation that hosts the ore, the extremely clay altered and fractured rock mass overlying the deposit, and the strongly altered rock mass that underlies the deposit. These zones are summarized in *Table 18-1*.

Table 18-1: Rock Geotechnical Classification

Geotechnical Zone	Name	Rock Quality	Rock Mass Classification MRMR(1) System
I	Sandstone - unaltered	Good to excellent	60-70
II	Sandstone altered	Poor to extremely poor	<30
III	Ore zone & Clay Cap	Fair to poor	Not determined
IV	Regolith	Fair to good	<40
V	Biotite Metapelite	Good to excellent	41-70
VI	Meta-Arkose	Fair to very good	65-70
VII	Graphitic Metapelite	Extremely poor to good	5-50
	Altered Graphitic		
VIII	Metapelite weakly altered	Fair to good	About 50

Note: (1) MRMR
Modified Rock Mass
Rating

Geotechnical Zones I and II are found in the sandstone and lie above the deposit. Zone III is the ore deposit itself. Zones IV to VIII are all basement rocks and represent a large range of rock quality from Zone V good to excellent to extremely poor to good in Zone VII. The majority of future mine development will occur directly below the orebody in geotechnical Zone VII, wherein rock strength is in part very weak, varying considerably over distances as short as one metre. Within the basement rocks as a whole, ground conditions generally deteriorate and the degree of ground support required increases with increasing proximity to the deposit and to the unconformity, in both vertical and horizontal directions. The ore is classified as Geotechnical Zone III and for which the overall rock mass strength is highly variable, ranging from very strong (massive pitchblende) to very weak in some clay facies, which are subject to squeezing and creep.

A typical section of the deposit and surrounding rocks showing the geotechnical classification of the various mining areas is shown in *Figure 18-1*.

Source: Cameco

Figure 18-1: Schematic Geotechnical Model of the Deposit

The geotechnical model was the basis to develop the mine plan including ground support guidelines, excavation methods and parameters, and freezing strategy. The geotechnical model and mine plan was prepared with the assistance of a number of Canadian and international specialist geotechnical consultants through detailed investigations and analysis.

18.1.2 Hydrogeology

The deposit and sandstone are highly fractured. Post-mineralization fracturing is the dominant control of hydraulic conductivity and where it transects the otherwise impervious claystone core of the deposit, fracturing acts as conduits for water, sand and soft clay. The basement rocks are much tighter, with very minimal groundwater flow.

Hydrogeological studies were completed by a consultant in conjunction with the geotechnical work. Generally, the geotechnical zone classification can be used to classify the hydrogeological properties.

The highest hydraulic conductivity occurs in the sandstones with Geotechnical Zone II being greater than that of Zone I. Within the basement rock masses the hydraulic conductivity is entirely fracture controlled and two to three orders of magnitude below that of sandstone, typically due to the tightness of the fracturing and the clay and chlorite alteration of the fracture surface, particularly in Zone VII.

As can be seen in *Figure 18-1*, Zone II lies directly on top of the unconformity in the areas surrounding the deposit. The primary risk associated with this situation is the potential for high and uncontrolled groundwater inflow into the underground workings arising from mining activities, particularly:

- falls of ground that make connection with the overlying water bearing zones; and
- holes drilled from the basement rocks that connect with the water bearing zones.

Appropriate techniques to control and/or minimize potential groundwater inflow as required have been adopted at the project to minimize the risks associated with these types of occurrences. These practices include probe hole drilling, grouting and ground freezing. When the report of the independent investigation into the October 2006 water inflow incident becomes available, resulting major recommendations are expected to be incorporated as appropriate to improve these mining techniques and practices.

Probe hole drilling and grouting are used on a regular basis, however, early on in the project development, it was accepted that bulk freezing of the whole orebody and 465 production level below the orebody would be the best way to minimize the risk of water inflows. The test mining program demonstrated the effectiveness of freezing to control water inflows. However, in the development area, to the south side of the orebody, it was decided that ground conditions were satisfactory and it was an acceptable risk to develop a portion of the 465 production level in unfrozen ground. It was in this unfrozen section of development that the October 2006 water inflow occurred. As a result, going forward with the project, it has been decided that the bulk freezing will be expanded to include not only the orebody and underlying 465 production level, but the whole of the 465 production level including all accesses outside of the footprint of the deposit. The mine freeze plan has been revised to complete the required freezing of the production level development prior to the recommencement of that development.

18.1.3 Test Mining Activities

Due to the complex geotechnical nature of the orebody and host rocks, test mining at Cigar Lake focused on an evaluation of mining and development methods and procedures, and to a much lesser extent on an evaluation of the geological characteristics of the orebody (e.g. grade and continuity of mineralization). Emphasis during test mining in ore was placed on the geomechanical and hydrogeological nature of the orebody with respect to developing a cost effective, efficient and safe method for mining of the ore. The test mining objectives included groundwater control, reduction of radiation and radon exposure, evaluation of ground stability and determining the potential ore recovery.

In 1997, detailed engineering studies were undertaken for the purpose of developing a full feasibility study of the mining project. In addition, testing of a specially designed tunnel boring machine with the ability to install a reinforced concrete liner began. The mine development system (MDS) was tested and used successfully in underground infrastructure development below the orebody.

The other major thrust of the test mining activities was the development and testing of two different non-entry mining methods: boxhole boring and jet boring.

The boxhole boring and the jet boring mining methods were both successfully field tested during the initial test mining program. Both methods were able to utilize a non-entry approach, as mining was conducted from headings located below the orebody. The ore was collected at the bottom of the access drill holes and contained within a cutting collection system. Ground freezing stabilized the water saturated weak rock mass in which the orebody occurs and effectively prevented any possible inrush of ground water. Through the application of non-entry mining methods, the containment of the ore cuttings within cuttings collection systems, and the application of ground freezing, the levels of radiation exposure to workers were acceptable and below regulatory limits. Experience with non-entry mining of high grade uranium ore at Cameco s McArthur River mine has demonstrated the effectiveness of this mining approach to manage radiation exposures.

Boxhole Boring

The boxhole boring test consisted of the vertical boring of two 1.5 m diameter holes into the ore. The dry material was allowed to fall through an enclosed chute arrangement into a specialized car. The material collected from the test was remotely transported to the shaft and removed to surface for storage. Approximately 53 t of ore with a grade of about 17% U_3O_8 were mined with the boxhole boring mining method.

A small test of an expandable reamer assembly, as part of the modified boxhole boring system, was tested in waste. The access drill hole was 1.5 m diameter and the cavity created after deployment of the expandable reaming arm was 2.7 m diameter.

Jet Boring

The jet boring method utilizes a high energy water jet which rotates and oscillates within a remote cavity to mine the ore. This mining method was tested and refined at the Cigar Lake site in 1992, 1999 and 2000.

In 1992, initial tests consisted of three trials and demonstrated the potential of the method and its numerous benefits and provided the basis for the design and construction of a prototype jet boring system. Cavities approaching two metres in diameter could be excavated in frozen ore even with the rudimentary, low powered system available at the time. Considerable engineering and laboratory/shop testing in the following years led to the development of a production jet boring system consisting of high pressure pumps/piping, jet borer, jetting tools and slurry circuit.

In 1999, the Jet Boring Tools test involved the testing of a production high pressure pumping system and engineered jetting tools in simulated ore in a culvert lined raise. The tools tested included nozzle sub, blade screen, and dual wall jetting pipes, swivel, fibreglass casing and preventor. The most significant results of these tests were the ability to excavate a cavity three meters in diameter (limited by culvert), the ability of the jet to mine 250 MPa material, the achievement of the predicted, average productivity rate of 7 to 10 t/h, and the ability of material to flow out of the cavity and through the preventor without plugging.

In 2000, a Waste Test was undertaken in a culvert lined raise and involved the testing of the jet borer drill car, cavity survey system and improved jet string tools. The tests demonstrated the ability of the jet borer drill car and controls to perform the jetting functions, the survivability of the cavity survey system and the improved performance of the jet string tools.

Also in 2000, the Jet Boring Systems (JBS) test involved the mining of cavities in frozen waste and ore using the complete prototype JBS and slurry circuit. The JBS, consisting of a drill car, two rod/casing cars, shuttle car and a slurry car, was set up in a culvert lined crosscut approximately 20 m below the ore. The slurry circuit tested included a slurry line from the slurry car to a cuttings storage sump and a recycle water line from the sump back to the slurry car. Four cavities were mined in waste rock below the ore and resulted in improvements to the jetting tools and procedures. Four cavities were also successfully mined in ore as shown in *Figure 18-2*.

In addition in 2000, the following tests were conducted successfully:

- Ore recovery from an underground slurry storage sump using a dredging clam bucket system,
- Mining cavity and casing hole surveying system, and
- Concrete cavity backfilling

Figure 18-2: Jet Boring Test 2000

Source Cameco

Jet Boring System Test Results

The JBS test demonstrated the ability of the entire jet boring system to perform all production procedures in a timely and effective manner. Approximately 600 t of ore was mined in four cavities during the 2000 test. A table showing the details of the ore mined in each cavity is included in Section 6.4. The results of the test were:

- The ability to excavate roughly circular cavities with an average diameter of more than four metres, without attempting any optimization.
- The achievement of the predicted, average productivity rate of 7 to 10 t/h.
- Cycle times determined to be approximately 160 hours per cavity which, with identifiable modest improvements, confirmed pre-test estimations for production.
- The ability of the ore to flow from the cavity, through the preventor and slurry car, and pumping of the ore slurry down the pipeline to the storage facility.
- The ability to use Portland, 40 MPa concrete as backfill (as opposed to cement Fondu) and its ability to withstand jetting from an adjacent cavity.
- The reliability of all equipment meeting or exceeding expectations.

Following the completion of the test mining programs, the jet boring method was selected over boxhole boring as the safest and most viable economic method of mining in the Phase 1 area of the orebody. Overall, the test mining programs were considered successful with the initial objectives achieved. An estimated total of 767 tonnes of mineralized material grading on average 17.4% U_3O_8 was mined during the various mining tests.

18.1.4 Mine Operations

Introduction

Underground activities required for the mine during operations will generally include:

- ground freezing,
- development of production and freezing levels,
- additional shaft access No. 1 Shaft is complete and No. 2 Shaft is to be completed,
- ore processing facilities, and

support facilities including maintenance shop, refuge stations, electrical substations, and pump stations

The orebody will be mined using a series of crosscuts and access drifts on two levels connected by ramps. A strategy of bulk freezing the orebody and the whole of the 465 m production level prior to the start of mining activities has been adopted to minimize the risk of large water inflows, control radiation resulting from radon being released from flowing water, and increase the strength the rock to be mined. Freezing will be undertaken mainly from the 480 m level with some freezing being planned from surface as part of the remediation program. All production mining is planned to occur from the 465 m level using the non-entry jet boring mining method.

In total, more than 12,000 m of lateral and vertical excavation (excluding the No. 2 Shaft) will be developed over the life of the project, with approximately one-third or 3,300 m in the construction phase alone. The underground development required for the construction phase is nearly 70% complete at this time. The majority of the excavation work will be sited on the 465, 480 and 500 m levels, which together represent the main operating area of the mine.

Figure 18-3 provides a three dimensional view of the existing and proposed development for Phase 1 of the Cigar Lake mine. The layout is a function of the jet boring method and the need to freeze the orebody due to ground conditions and groundwater and radon control issues. The layout is also a function of overall ventilation, radiation protection and support services requirements.

The following subsections describe in more detail the construction and development activities required as part of the project completion.

Source Cameco

Figure 18-3: Three Dimensional General Mine Layout

Cigar Lake Challenges

Selection and optimization of a mining method capable of extracting the ore efficiently and economically required addressing several natural occurring geotechnical and hydrogeological challenges such as:

The low strength of the rock formations encompassing and underlying the orebody and necessary ground support required to stabilize these formations.

The presence of large volumes of groundwater expected to be encountered while mining the ore or drilling in the overlying sandstone rock formation (including for freeze hole drilling) and the potential for a water inflow.

The high level of radiation emanating from the ore and the associated radon gas from the water in contact with the ore, necessitating containment and isolation to provide adequate protection to the workers.

The jet boring mining method and overall mining plan for the Cigar Lake project have been developed specifically to mitigate these challenges and mine the deposit in a safe and economic manner.

18.1.5 Jet Boring Mining Method

Jet boring mining will consist of cutting the ore with a high pressure water jet using the JBS. The JBS mining units will cut cavities of approximately 4.5 m diameter in the previously frozen ore from each set-up, producing approximately 235 t of ore for a typical 6 m ore thickness. All mining with the JBS will be done from the 465 m production level, located in the basement rock below the ore zone. Following mining, each cavity will be backfilled with concrete backfill.

The features of jet boring as a mining method at Cigar Lake are:

The method is a non-entry mining method as personnel do not enter into the ore zone, and an operator located some distance away from the jet borer can control the equipment remotely. These are two essential requirements for radiation control during mining of the high grade deposit.

The cutting of ore with high pressure water produces a slurry which can be pumped in pipelines. This provides the complete containment necessary for minimizing radiation exposure to workers while utilizing a relatively simple and cost effective method for pumping the slurry away from the mining area.

The generation of airborne dust can be eliminated since the cutting and material transport are both wet and contained processes. This is a significant advantage for radiation control of the mining of high grade uranium ore.

The incorporation of a preventor within the jet boring system provides a final point of control for managing a potential inrush of water associated with mining.

Jetting represents a selective method of ore excavation as cutting can be closely controlled to limit excavation into the hanging wall and footwall

Water jets provide the opportunity to excavate ore next to a backfilled cavity without incurring significant dilution from concrete with careful control, through in-hole cavity monitoring.

Jet boring incorporates a fan pattern for drilling the jet bore holes from the production access crosscuts, resulting in a design with a reasonable spacing of these headings considering geotechnical stability and economics.

The jet boring mining method is illustrated in *Figure 18-4*.

Figure 18-4: Three Dimensional of Mining Method

18.1.6 Production Criteria and Assumptions

The design criteria and scheduling assumptions for jet boring during production were developed from the results of the test mining and are summarized as follows:

- Average cavity size of 4.5 m diameter and 6 m height resulting approximately 235 t of ore in place for an average cavity.

120 hour average cycle time per cavity (after accounting for test related delays).

Three jet boring machines required to produce 18 Mlb/yr of U_3O_8.

Only one jet boring machine will be required to mine at a given time, the second unit will be in move or setting up, and the third unit will be undergoing maintenance.

18.1.7 Excavation and Ground Support

Excavation methods include conventional drill and blast, specialized application of a roadheader excavator and 5.1 m diameter full face tunnel boring with the mine development system (MDS).

Mine development in construction and operation periods use two basic development systems: drill and blast with conventional ground support, and MDS which installs a precast concrete tunnel lining for ground support.

Conventional Drill and Blast Development

Drill and blast method, utilizing full face advance, is being applied in the competent ground. Swellex bolts or grouted rebar, and fibre reinforced shotcrete are used as the primary support system. The rebar is extended around the top of the heading and midway down each side. Wire mesh and straps are used locally, as required. Rockbolt spacing and shotcrete thickness vary with localized ground conditions. Spiling installed ahead of the excavation is used locally in poor ground. Cable bolts, typically 5 m in length, are also to be installed in the back of large excavations, such as thickener and ball mill room, as well as at most t intersections.

Mine Development System

The special feature of the MDS is that it provides continuous temporary ground support during excavation and almost immediate installation of permanent ground support after excavation. This feature is critical for development in areas of poor ground conditions where there is minimal stand-up time.

The MDS excavates a 5.1 m diameter heading with a finished inside diameter of 4.25 m. The annular space between liner and rock mass is filled with grout. Six concrete segments are required for each metre of crosscut advance. During the test mine period, two freeze level crosscuts and one partially excavated production level crosscut were completed using the MDS. Since that time two additional crosscuts have been excavated.

18.1.8 Freezing

Test mining experience and modelling studies have demonstrated the advantages of ground freezing over other potential ground conditioning methods. These advantages include stabilizing and strengthening the weak ore and the surrounding ground, minimization of ground water inflows while mining, and attenuation of radon release. The ground to be frozen includes the ore body, the weak, water bearing sandstone above the ore, and the ground in the immediate vicinity of the proposed production levels.

The freezing strategy is to bulk freeze the ore zone and the 465 m level production and access drifts prior to the commencement of mining in a given area. Orebody ground freezing activities are conducted from beneath the ore zone on the 480 m level in tunnels typically referred to as freeze cross-cuts. Ground freezing is accomplished by drilling holes from the freeze cross-cuts to a minimum of 10 m above the ore zone using specially designed drills. Holes are generally drilled on a 2 m by 11 m pattern, although tighter spacing can be used to help reduced the time required to freeze the ground. The first two freeze cross-cuts were spaced 12 m apart, and all future freeze cross-cuts are currently planned to be spaced 32 m apart.

Prior to drilling each hole, a standpipe or casing is installed in the hole collar to support the preventor system. The preventor system is installed to secure the hole in the event that water is intersected while drilling. The rods used to drill through the ore are left in place and become used as the freeze pipes. Temperature monitoring holes are also drilled from the freeze cross-cuts approximately every 6 to 12 m, to measure ground temperatures and indicate the progress of freezing.

Following the October 2006 inflow through an unfrozen section of the 465 m level, the mine plan has been expanded to include the freezing of those sections of the 465 m level development that had previously been excluded from the freeze plan. This freezing will take place prior to the commencement of development on the 465 m level.

The ground freezing system consists of an ammonia refrigeration plant on surface, a surface and underground brine piping system and in-situ freeze pipes. Calcium chloride brine at minus 30^0 C is delivered underground through pipes installed in No. 1 Shaft from a surface refrigeration plant. This system freezes the deposit and underlying basement rock at between minus 10^0 C and 20^0 C in one to three years, depending on freeze pipe geometry and ground properties such as water content, thermal conductivity, etc.

The refrigerant is circulated underground via two 300 mm diameter shaft brine mains installed in the No. 1 Shaft. Receiving the refrigerant underground are four heat exchangers which feed brine to the feed pipes installed in the ground. Three of these heat exchangers were operating and the fourth was being installed at the time of the October 2006 water inflow.

18.1.9 Mine Access and Development

Shaft Access

No. 1 Shaft currently provides access to the underground mine workings and will serve as the main service and access shaft during Phase 1 construction and production and as a route for delivery of fresh air underground. It extends from surface to a depth of 500 m and provides direct access to the 420 and 480 m levels. No. 1 Shaft is circular, concrete lined (hydrostatic liner), with internal diameter of 4.9 m. A drift connecting the shaft bottom and 500 m level facilitates maintenance and removal of spillage from waste rock hoisting.

A second shaft (No. 2 Shaft) will be provided for primary ventilation as a return exhaust airway for the mine ventilation and will also serve as a second means of egress for personnel and materials from the underground workings.

No. 2 Shaft is located approximately 90 m south of No. 1 Shaft and has been sunk to a depth of 392 m out of ultimate planned depth of 500 m. (See Section 19.3 for a discussion on the status of this shaft). It is a circular, concrete lined with a non-hydrostatic liner and an internal finished diameter of 6.1 m. Below the 390 m elevation a hydrostatic liner will be installed. No. 2 Shaft will provide access for personnel and materials to 480 m level. Shaft services will include ore slurry pipes, concrete slick lines, power cables and a communication cable. To supplement underground fresh air requirements and permit removal of mine exhaust air, No. 2 Shaft will be constructed with a central airtight partition which will divide the shaft into two independent compartments. One compartment will serve as the main path for exhaust air from the mine; and the second will be used to downcast additional fresh air as well as house the cage to be used for secondary egress.

One compartment will be used to downcast fresh air while the second one will be used to upcast exhaust air.

Lateral Development

There will be four levels in the mine: the 420, 465, 480 and 500 m levels. All the levels except the 420 m level are located in the basement rocks below the unconformity.

The 420 m level was developed from No. 1 Shaft, above the top of the orebody, during the test mining phase. Existing development includes the main mine water pumping station and the main sump and the electrical facilities. The only additional construction and development work that was done on this level during mine construction was the collaring and excavation of a brine pipeline/exhaust ventilation raise down to the 480 m level.

The 480 level was also developed from No. 1 Shaft and access to the orebody is provided from this level. Further development on this level to the south of No. 1 Shaft, provides access to No. 2 Shaft, the ore recovery and reclaim water facilities, and the top of the clarifier and the clarifier underflow pachuca. The main underground processing and infrastructure facilities are located on this level. These facilities consist of the heat exchanger room, segment cassette storage area, warehouse, backfill loading station, laboratory, electrical room, main return exhaust air incline to No. 2 Shaft and decline down to the 500 m level. All development on the 480 m level with the exception of the freeze level crosscuts is complete and was excavated using conventional drill and blast mining methods.

The 500 m level was developed from a ramp down from the 480 m level. Facilities on this level include the recycled water tank, ball mill, base of the clarifier underflow (U/F) pachuca and the ore slurry hoisting pump. A heading has been excavated from the main 500 m level drift connecting with the bottom of No. 1 Shaft.

Currently, the 465 m level workings are accessible only from the incline off the 480 m level. This incline provides access to existing development on the south side of the orebody on the 465 m level. A second incline will be developed from the north end of the 480 m level as part of the mining plan and will provide access to the north side of the orebody on the 465 m level.

The MDS will be used on the 480 m level to develop the freeze level crosscuts and on 465 m level to develop production level crosscuts. The 465 m production level crosscuts will be spaced 12 m to 16 m apart on centres, (12 m spacing initially followed by 16 m apart later). The 480 m freeze level crosscuts will be spaced 32 m apart. The roof of the 465 m production level will be located a minimum of 10 m below the deposit; and the 480 m freezing level will be located 15 m lower. With the exception of the MDS headings, the drill drifts and the access drifts are being constructed using conventional drill and blast mining methods, although the use of a road header for the 465 m level access drifts is being evaluated.

18.1.10 Ventilation

The mine ventilation system has been designed to supply fresh air to the working areas, remove contaminated air from the mine and to reduce the potential for radon emanation.

The overall ventilation system for the mine is comprised of three separate sub-systems, namely the main or primary ventilation system, the secondary system and the auxiliary system.

The primary ventilation system has been designed to supply a volume of up to 250 m^3/s of fresh air to the mine. The primary ventilation fans will be three 800 HP fans on surface at No. 2 Shaft exhausting mine air up through one of the compartments in that shaft. The second compartment in No. 2 Shaft will intake fresh air to the mine and for this service three 200 HP fans and a mine air heater will be installed. No. 1 Shaft will be the main fresh air pathway to the mine and will be equipped with a mine air heater and two associated 60 HP fans.

The mine air heaters will be used during the winter months to heat the ventilating air to approximately plus 5^0 C. The heaters will be direct fired propane heaters; installed at the ventilation intake locations at No. 1 Shaft and No. 2 Shaft. Total installed heating capacity will be approximately 105M BTU/h.

Underground on the 480 m level, the air will be divided into two ventilation districts, namely the process district and the mining district. Approximately 60% of the intake air will be used to ventilate the mining district with the remaining 40% directed to the process district.

The auxiliary ventilation system will draw airflow from the primary circuit, and through the use of fans and vent ducting will provide appropriate ventilation to the production and development headings and other work areas and facilities.

Local extraction systems to remove potentially contaminated air will be established at a number of locations as part of the auxiliary ventilation system. Once captured inside a duct, the contaminated air will be discharged directly into the main return air incline or released directly into No. 2 Shaft and subsequently discharged to surface.

18.1.11 Mining Equipment

The required mine production of 80 to 140 t/d of ore can be produced from a single JBS mining unit. The mine equipment fleet will be comprised of three JBS units: one in production, one being moved or set-up, and the third undergoing maintenance. Ore mined by the JBS will mix with the cuttings water to form a coarse slurry which will be pumped through pipes directly from the JBS to the run-of-mine ore receiving facility, from which it will be subsequently recovered and fed into the underground crushing and grinding circuit. Following crushing and grinding underground, the ground ore slurry will be pumped to surface by a slurry pump through a pipeline to be installed in No. 2 Shaft.

Table 18- 2 shows a list of the key underground mining equipment that that will be used for development and production to achieve the production schedule.

Table 18-2: Underground Mining Equipment

Description	**Number Units**
Freeze Drills	5
Jet Boring Systems (JBS)	3
Mine Development System (MDS)	1
Road Header	1
Grout Plant for MDS	1
Scooptrams (various sizes)	3
Electric Hydraulic Jumbo Drill	1
Rock Bolting Rig	1
Scissor Lift Truck	1
Concrete Pump for backfill	2
Shotcrete Machine	1
Concrete Transmixer Truck	1
Utility Vehicle/ Bobcat	3
Anfo Loader	1

18.1.12 Production Schedule

The mining plan for Cigar Lake has been designed to extract all of the current Mineral Reserves. The mine life based on current Mineral Reserves will be 14.8 years. Cigar Lake will produce less than the full annual production rate of 18 million pounds of U_3O_8 in the early and late years resulting in an average annual production rate of 15.1 million pounds U_3O_8 over the Mineral Reserve life of 14.8 years.

Subject to regulatory approvals and successful remediation of the flooded underground mine and No. 2 Shaft in a timely fashion, Cameco forecasts that commissioning activities in ore will commence in 2010 followed by a ramp-up period of two years before reaching the full production rate in 2012. For a discussion on licensing and permitting see Section 18.5.3, for a discussion on the mine inflow staged remediation plan see Section 19.2, and for a discussion of the staged remediation and completion plan for No. 2 Shaft see Section 19.3.

The development of the production schedule required an iterative approach to satisfy the objectives of minimizing capital expenditures, maximizing the use of existing infrastructure and achieving planned production of 18 million pounds per year U_3O_8 in 2012.

The following is a general summary of the Phase 1 production schedule guidelines and parameters:

Total mill production of 222.9 million pounds U_3O_8.

Total mine production of 497 thousand t ore.

Average mill feed grade of 20.7% U_3O_8.

Mine operating life of 14.8 years.

Production is scheduled to start in 2010.

Mining rate is variable to produce at a constant production level of U_3O_8. The average mine production is 100 t/d, but varies annually from 80 to 140 t/d depending on the grade of ore being mined.

Two year ramp-up to a production rate of 18 million pounds U_3O_8 per year (recovered after milling).

The production schedule for the Cigar Lake project is shown in *Table 18-3 and Figure 18-5* and *Figure 18-6.*

Table 18-3: Cigar Lake Production Schedule Summary

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	20
3,000	9,000	17,520	18,035	18,030	18,050	18,010	18,020	18,020	18,005	18,008	17,200	14.054	14,085	3,9
6.9	16.8	34.0	41.5	38.1	39.3	33.2	29.1	28.6	29.6	41.4	53.1	39.4	50.2	1
20.1	24.7	23.7	20.0	21.8	21.2	25.0	28.5	29.0	28.0	20.0	14.9	16.4	12.9	1

Figure 18-5: Mill Production (lbs U_3O_8)
Figure 18-6: Mine Production (tonnes ore)

Notes:(1) Mill production lbs U_3O_8 based on overall milling recovery of 98.5%

(2) Quarter 4 of 2011 is expected to be the first quarter in which 2.5 million pounds of concentrate is exceeded. Reallocation of concentrate between McClean and Rabbit Lake is scheduled to begin in 2012

(3) Assuming appropriate regulatory approvals are

received in the
required time
frame

18.2 Recoverability

For design purposes an overall uranium process recovery of 98.5% has been used. The processing of the Cigar Lake ore is described in Section 16 and details of the anticipated process losses are listed in Section 16.3.

The metallurgical recovery of uranium could vary slightly depending on whether it is completely treated through to final yellowcake product in the JEB mill at McClean Lake (AREVA s share) or whether it is partially treated at the McClean Lake JEB mill and then transported in solution to the Rabbit Lake mill (Cameco s share) for final processing. For design purposes, however, the recovery of 98.5% of the Cigar Lake uranium feed has been used for either processing location.

This recovery is similar to that achieved at Cameco s other Saskatchewan operations. For reference, the Key Lake mill treating McArthur River mine ore achieves a recovery of 98.8% and the Rabbit Lake mill treating Eagle Point mine ore achieves a recovery of 97.0%. The lower recovery at the Rabbit Lake mill is due to the lower feed grade from the mine to the mill as compared to the McArthur River ore feeding the Key Lake mill.

For a discussion of mining recovery used in the Mineral Reserve estimate see Section 17.2.5.

18.3 Markets

18.3.1 Worldwide Uranium Supply and Demand

Uranium market supply and demand fundamentals remained strong in 2006, indicating a need for more primary mine production over the coming decade. During the past 20 years, uranium consumption has exceeded mine production by a wide margin, with the difference being made up by secondary supply sources such as various types of inventory and recycled products. While there are still inventories, they are considerably reduced and in many cases might be classified as strategic rather than excess and, therefore, are not available to be used or sold.

Uranium Demand

Current nuclear power trends are generally positive. New plant construction, improved reactor operations, uprates and the extension of reactor lives make it highly likely that, at a minimum, the current demand for uranium will continue for several decades.

The demand for U_3O_8 is directly linked to the level of electricity generated by nuclear power plants. World uranium consumption has increased from approximately 75 million pounds U_3O_8 in 1980 to about 177 million pounds in 2006. Cameco estimates that annual world uranium consumption will reach about 239 million pounds in 2016 reflecting an annual growth rate of about 3%. In 2007, world demand is expected to increase to about 183 million pounds. Demand could increase slightly due to improved plant operating performance or be reduced by the premature closing of some nuclear power plants.

Uranium Supply

Uranium supply sources include primary mine production and secondary sources such as excess inventories, uranium made available from the decommissioning of nuclear weapons, re-enriched depleted uranium tails, and used reactor fuel that has been reprocessed.

Mine Production

The uranium production industry is international in scope with a small number of companies operating in relatively few countries. In 2005 (the latest year for which figures are available), primary production was estimated at 108 million pounds U_3O_8, representing about 61% of world uranium consumption.

An estimated 78% of the world production of 108 million pounds U_3O_8 was provided by seven producers. In 2005, over 90% of estimated world production was sourced from eight countries:

Major Uranium Producers

By Company	**%**
Cameco	20
Rio Tinto	13
AREVA	12
KazAtomProm	10
BHP Billiton	9
TVEL	8
Navoi	6

Source:
World Nuclear Association, 2005

Country	**%**
Canada	28
Australia	23
Kazakhstan	10
Russia (est)	8
Namibia	8
Nigeria	7
Uzbekistan	6

USA	2

Source:
World Nuclear Association, 2005

It is expected that with higher uranium prices, new mines will start up, but the lead-time before they enter commercial production may be lengthy depending on the region. As a result, primary supply may not increase significantly in the near-term. The level of increase in primary mine production is dependent on a number of factors, including:

- the strength of uranium prices,
- the efficiency of regulatory regimes in various regions,
- currency exchange rates in producer countries compared to the US dollar,
- prices for other mineral commodities produced in association with uranium (i.e. by-product or co-product producers) and,
- the quality and size of the mineral reserve.

Secondary Sources

Each year since 1985, world uranium production has been less than uranium consumption. The resulting shortfall has been covered by a number of secondary sources. Excess inventories held by utilities, producers, other fuel cycle participants and governments (including Russian government inventories) have been and continue to be a significant source of supply. Utilities largely in Europe and some in Japan also use reprocessed uranium and plutonium derived from used reactor fuel. In addition, in recent years, re-enriched depleted uranium tails have been generated using excess enrichment capacity. Cameco estimates these two recycling sources will meet about 7% of world demand to 2016. Finally, highly enriched uranium (HEU) derived from the dismantling of Russian nuclear weapons (expected through 2013 when the current agreement ends) has become a significant source of supply, expected to meet about 7% of world demand to 2016. A limited amount of uranium from the US Department of Energy inventory has been introduced into the market in 2006 compared to 2005, and we expect about 4% of world demand to 2016 will be met from this source of supply.

With 2005 uranium production accounting for 61% of uranium requirements, secondary supplies such as recycling and blended down HEU continue to bridge the gap between production and requirements and this is expected to continue in the near future.

18.3.2 Uranium Markets and Prices

Utilities secure a substantial percentage of their uranium requirements by entering into long-term contracts with uranium producers. Contract terms generally reflect market conditions at the time the contract is negotiated. These contracts usually provide for deliveries to begin two to five years after signing and continue for several years thereafter. In awarding these contracts, utilities consider the commercial terms offered, including price, as well as the producer s performance record and uranium reserves.

There are a number of pricing formulas, including fixed prices adjusted by inflation indices, reference prices (generally spot price indicators, but also long-term reference prices) and annual price negotiations. Many contracts also contain floor prices, ceiling prices and other negotiated provisions that affect the amount ultimately paid.

Utilities acquire the remainder of their uranium requirements through spot purchases from producers and traders. Spot market purchases are those that call for delivery within one year. Traders and investors or hedge funds are active in the market and generally source their uranium from organizations holding excess inventory, including utilities, producers and governments.

Uranium Spot Market

The industry average spot price (TradeTech and UxC) on December 31, 2006 was US$72.00 per pound U_3O_8, up 98% from US$36.38 per pound U_3O_8 at the end of 2005. Spot market demand in 2006 was about 33 million pounds U_3O_8, slightly lower than the 36 million pounds in 2005 and 65% higher than the 20 million pounds U_3O_8 in 2004. It is expected that spot market demand will remain strong in 2007 while supply remains tight, adding upward pressure to the price.

Long-Term Uranium Market

The industry average long-term price (TradeTech and UxC) on December 31, 2006 was US$72.00/lb U_3O_8, up 99% from US$36.13/lb U_3O_8 on December 31, 2005.

Long-term contracting in 2006 is estimated to have been in excess of 200 million pounds U_3O_8, slightly less than the 240 million pounds contracted in 2005, but well above historic levels. Recent contracts are generally for much longer durations than in years past 10 years or more in comparison to three-five years, resulting in higher volumes of U_3O_8 under contract. We expect long-term contracting activity in 2007 will remain quite strong as utilities attempt to mitigate the risk of potential near-term supply shortfalls by securing long-term contracts with reliable primary suppliers.

The industry average long-term price (TradeTech and UxC) on December 31, 2005 was US$36.13/lb U_3O_8, up 45% from US$25.00/lb at the end of 2004. The price history of uranium is shown in *Figure 18-7*.

Figure 18-7: Uranium Price History

Uranium Price History
($US/lb U_3O_8

18.4 Contracts

18.4.1 Construction Period

With surface construction about 60 % complete at Cigar Lake, the remaining important surface construction contracts are for the ore load out facilities, the administration building, and new mine water services. The work under these contracts is scheduled for 2007, 2008 and 2009.

There are a number of contracts relating to underground development. Due to the October 2006 water inflow incident, Cameco suspended work under the underground development contracts. It is anticipated that work will resume under these contracts or new contracts during later phases of remediation of the underground works. As part of this remediation, a number of contracts will also be entered into, including the installation of emergency back up pump capacity, for completing the installation of designed underground pumping capacity, for re-establishing the ore freezing program and freezing No. 2 Shaft. The work under these contracts is scheduled for late 2007, 2008 and 2009.

The terms of Cameco s surface and underground development contracts generally reflect industry standards and rates for Saskatchewan uranium properties in a development phase. Cameco expects that its future development contracts will also generally conform to the same standards and rates.

18.4.2 Operating Period

A number of contracts will be entered into for the Cigar Lake operation phase. Some of the more important contracts include an underground mining contract, a freeze hole drilling contract and transportation contract to haul Cigar Lake uranium ore slurry to AREVA s McClean Lake JEB mill for processing and to haul a portion of the resulting uranium solution produced at JEB to the Rabbit Lake mill for further processing into uranium concentrates.

Cameco anticipates the terms of contracts to be entered into for the Cigar Lake operation phase will generally reflect industry standards and rates for Saskatchewan uranium properties in the operation phase.

18.4.3 Toll Milling Contracts

Initially, Cigar Lake ore will be processed at the JEB mill located at AREVA s McClean Lake operations, 70 km to the northeast. The MLJV owns the McClean Lake operation, including the JEB mill, and AREVA is the operator of the MLJV. As Cigar Lake production ramps up to planned full capacity, a portion of the uranium processing will be completed at Cameco s Rabbit Lake mill. These milling arrangements are subject to two toll milling agreements described below. These toll milling agreements were an integral part of the arrangements that resulted in the CLJV deciding in late 2004 to proceed with development of Cigar Lake. Cameco considers the terms of these agreements generally within industry norms.

JEB Toll Milling Agreement

This agreement, made effective January 1, 2002, sets out the terms and conditions by which the MLJV will process Phase 1 ore delivered to the JEB mill into JEB uranium solution, further process the JEB uranium solution into uranium concentrates and process all Phase 2 ore into uranium concentrates at the JEB mill. Phase 1 ore is the current Cigar Lake Mineral Reserves and Phase 2 ore is part of the current Cigar Lake Mineral Resources. Mineral Resources in Phase 2 are in the Inferred category and have been evaluated from a preliminary perspective only. Further drilling and mining studies are needed before these resources can be fully evaluated.

All uranium solution resulting from the mill processing at the JEB mill of Phase 1 ore is allocated for further processing between the JEB mill and the Rabbit Lake mill based upon two categories: Phase 1 (a) ore and Phase 1 (b) ore. Phase 1 (a) ore represents the first 160 million pounds U_3O_8 recovered collectively by the JEB and Rabbit Lake mills. Phase 1(b) ore represents the balance of the Phase

1 ore which is equal to approximately 64 million pounds of Cigar Lake Mineral Reserves.

Subject to certain exceptions, the allocation for Phase 1 (a) ore is as follows:

(a) 100 % of the uranium solution resulting from the processing of Phase 1 ore is allocated to the JEB mill to be further processed into uranium concentrates. This allocation ends on the latter of the expiration of the initial ramp period of 730 days (the period starts after the testing and commissioning) and the date the JEB mill achieves 2.5 million pounds of uranium concentrates from processing Phase 1 ore during any consecutive three-month period.

(b) After the end of the allocation outlined in (a) above, 42.73% of the uranium solution is allocated to the JEB mill for further processing into uranium concentrates and 57.27 % of the uranium solution is allocated to the Rabbit Lake mill for further processing into uranium concentrates.

After the end of the allocation outlined in (a) above, the maximum capacity in the JEB mill that the MLJV must make available to process uranium solution derived from Phase 1 (a) ore in any year is capacity sufficient to produce 7.69 million pounds of uranium concentrates.

Subject to certain exceptions, the allocation for Phase 1(b) ore is 50.00 % of the uranium solution to the JEB mill for further processing into uranium concentrates and 50.00 % of the uranium solution to the Rabbit Lake mill for further processing into uranium concentrates.

The maximum capacity in the JEB mill that the MLJV must make available to process uranium solution derived from Phase 1 (b) ore in any year is capacity sufficient to produce 7.5 million pounds of uranium concentrates.

For the toll milling and related services, the CLJV pays the MLJV toll milling charges comprising the CLJV s share of JEB mill expenses and a toll milling fee based upon the type of Cigar Lake ore being processed (Phase 1 (a), Phase 1(b) and, if applicable, Phase 2).

The agreement requires the MLJV to modify the JEB mill to process Phase 1 ore. The CLJV agreed to pay a portion of the costs to modify the JEB mill to a specified maximum amount, which limit has been met. This contribution limit may be exceeded in certain circumstances. The balance of the costs is the MLJV s responsibility.

Subject to certain restrictions, the CLJV pays standby costs if the Phase 1 ore JEB mill modifications are complete, the JEB mill is ready to process Phase 1 ore, and Phase 1 ore is not delivered to the JEB mill for processing; provided standby costs are only payable if no other ore is being processed at the JEB mill. These JEB mill modifications are expected to be complete in 2007. The economic modeling in Section 18.7.4 assumes that standby charges are not payable.

The MLJV is responsible for all costs of decommissioning the JEB mill.

Rabbit Lake Toll Milling Agreement

As described above, all uranium solution resulting from the processing at the JEB mill of Phase 1 ore is allocated for further processing between the JEB mill and the Rabbit Lake mill. This agreement made effective January 1, 2002, sets out the terms and conditions by which Cameco will process its allocation of uranium solution from Phase 1 ore into uranium concentrates.

The maximum capacity in the Rabbit Lake mill that Cameco must make available to process uranium solution derived from Phase 1(a) ore in any year is capacity sufficient to produce 10.31 million pounds of uranium concentrates.

The maximum capacity in the Rabbit Lake mill that Cameco must make available to process uranium solution derived from Phase 1(b) ore in any year is capacity sufficient to produce 7.5 million pounds of uranium concentrates.

For the toll milling and related services, the CLJV pays Cameco toll milling charges comprising the CLJV s share of Rabbit Lake mill expenses and a toll milling fee based upon the type of Cigar Lake ore being processed (Phase 1 (a) and Phase 1(b)).

The agreement requires Cameco to modify the Rabbit Lake mill to process its allocation of uranium solution and Cameco is planning to complete the modifications by 2011. The majority of these modification costs will be incurred by Cameco in either its role as mill owner or 50.025% CLJV owner. The CLJV agreed to pay a portion of these costs to a specified maximum amount, which limit may be exceeded in certain circumstances.

Subject to certain restrictions, the CLJV is responsible to pay standby costs if the Phase 1 ore Rabbit Lake mill modifications are complete, the Rabbit Lake mill is ready to process its share of uranium solution, and the uranium solution is not delivered to the Rabbit Lake mill; provided standby costs are only payable if no other ore is being processed at the Rabbit Lake mill. The economic analysis in Section 18.7.4 assumes that standby charges are not payable.

Cameco is responsible for all costs of decommissioning the Rabbit Lake mill.

18.4.4 Uranium Sales Contracts

Uranium Sales Contracts Portfolio

Cameco has a long-term uranium sales contract portfolio where it commits to supply uranium to its customers. This uranium is projected to come from Cameco s operating mines and mines under development, including Cigar Lake, and from Cameco s spot and long term uranium purchase contracts. The commercial terms under these contracts are confidential.

Cameco has also entered into a number of long-term contracts for sale of Cigar Lake production. These contracts were put in place to base load the development of Cigar Lake.

A majority of Cameco s long term uranium sales contracts contain supply interruption provisions which allow Cameco to reduce, defer or terminate deliveries in the event of any shortfall in planned production or deliveries of purchases under the HEU agreement. Since the Cigar Lake water inflow, Cameco has been in discussions with its customers to address the production delay at the mine and its possible effect on uranium deliveries. For Cigar Lake base load contracts that had scheduled deliveries in 2007, these volumes are being deferred to the end of the various contracts. For the remainder of the contracts with supply interruption language provisions that have deliveries scheduled in 2007, Cameco plans to defer the portion of the deliveries impacted by this language for a five to seven year period.

Impact of Uranium Sales Contracts on Cigar Lake Economic Analysis

Uranium contract terms generally reflect market conditions when the contracts are negotiated. After a contract negotiation is completed, deliveries under a long-term contract do not begin for several years. In the case of the Cigar Lake base load contracts, the time period will be longer as these contracts were negotiated in 2004 and the first deliveries will not take place until after the commencement of production, which is now planned for 2010. Cameco believes the terms of its long-term uranium sales contracts, including the Cigar Lake base load contracts, generally reflect industry norms.

As a result of Cameco s contracting strategy and the increase in the uranium price over the past few years, Cameco average realized price for uranium sales in 2006 was US$20.62/lb U_3O_8. The industry average spot price (Trade Tech and UxC) during 2006 was US$49.60/lb U_3O_8. The industry average long-term uranium price (Trade Tech and UxC) on December 31, 2006 was US$72.00/lb U_3O_8, with the average value for 2006 being US$49.90/lb U_3O_8.

Uranium Price Assumptions

A spot price projection, as of February 2007, has been incorporated into the realized price projection for the purpose of the economic analysis. The spot price projection is consistent with various independent forecasts of supply and demand fundamentals and price projections at that time. To the extent the independent forecasts did not extend their projections to cover the entire expected mine life of Cigar Lake, the projections have been extrapolated forward to the end of the anticipated mine life.

Cameco has historically sold U_3O_8 under long-term contracts with its customers, at prices that reflect the market conditions at the time of negotiation. Cameco has committed a significant quantity of its future production and purchased material to be delivered through its existing portfolio of long-term sales contracts. The remaining future production will be sold under yet to be negotiated arrangements. For purposes of the economic analysis, Cameco s portion of Cigar Lake production is assumed to be sold into a mix of committed volumes and uncommitted volumes in the same proportion that Cameco expects to sell based on its current level of committed sales relative to its total sales targets.

Table 18-4 outlines Cameco s projected average realized price, taking into account its current level of sales commitments and the independent spot price projections. The price projections are stated in constant 2007 dollars.

Table 18-4: Expected Average Uranium Sales Prices

Price Assumptions	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Cigar Lake Average Price (US$/lb)	49	50	52	50	39	39	39	39	39	39	39	40	40	40	40
Cigar Lake Average Price (Cdn$/lb)	**54**	**55**	**57**	**55**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**44**	**44**	**44**	**44**

Notes: (1) Average price is partly based on committed volumes, which are derived from Cameco s current contract portfolio commitments, which extend out to 2021.

(2)

The projected average price is weighted to the proportion of committed and uncommitted sales volume at the respective committed price and spot price for each year.

(3) The average price for purposes of the economic analysis has been converted from US$ dollars to Cdn$ dollars using a fixed exchange rate of US$ 0.91 = Cdn$ 1.00.

(4) Cameco s sales volume targets assume no interruption in the company s supply from its production or third party sources

(5) The projections are stated in constant 2007 dollars.

In preparing the cash flow analysis included in Section 18.7.4 of this report, the impact of Cameco s forward uranium sales strategy has been taken into account.

18.5 Environmental Considerations

18.5.1 Regulatory Framework

The Cigar Lake project has regulatory obligations to both the federal and provincial governments. Being a nuclear facility, primary regulatory authority resides with the federal government and its agency, the CNSC. Provincial regulatory authority is generally described in the Surface Lease between the province and the CLJV. In numerous situations there is coordination amongst the federal and provincial regulatory agencies, but each agency retains responsibility for administering its own regulations, approvals, licences and permits where required. The main regulatory agencies that issue permits / approvals and inspect the Cigar Lake project are: the CNSC (federal), Fisheries and Oceans Canada (federal), Environment Canada (federal), Transport Canada (federal), Saskatchewan Labour (provincial), and Saskatchewan Environment (provincial).

One of the initial steps in the regulatory process was to assess the project under the federal and provincial environmental assessment (EA) processes.

18.5.2 Environmental Assessment

The Cigar Lake project includes the Cigar Lake mine and associated mine site infrastructure, the processing of the recovered ore at the both McClean Lake JEB mill and the Rabbit Lake mill, and the connecting road infrastructure. Impact from the Cigar Lake project has been evaluated as part of several environmental assessments going back to 1987. All aspects of the Cigar Lake project are required to have undergone an EA and regulatory approval, to allow for operational licensing of the Cigar Lake mine. The Rabbit Lake aspect of this project is currently under its own environmental assessment approval process (Draft Rabbit Lake Solution Processing Project Environmental Impact Statement). There are no anticipated problems in obtaining approval for this phase of the Cigar Lake project, which will permit the processing of a portion of the uranium solution at the Rabbit Lake mill. A brief summary of these assessment and approvals follows.

In 1995, the Cigar Lake Project, Environmental Impact Statement, 1995 (1995 EIS) was submitted to the Joint Federal-Provincial review panel on Uranium Mining Developments in Northern Saskatchewan (the Panel). The 1995 EIS evaluated the operation of a high-grade uranium mine at Cigar Lake, producing ore over a 40-year period, with ore being transported by truck to the nearby McClean Lake uranium mill for processing. In 1997, the Panel recommended that pending identification of a suitable waste rock disposal location, the project should proceed. The Canadian and Saskatchewan governments both accepted the Panel s recommendation and in 1998 both government bodies approved the project in principle.

A 1999 review of the waste rock disposal options concluded that the Sue C pit at McClean Lake Operation was the best waste rock disposal option. The Disposal of Cigar Lake Waste Rock Environmental Impact Statement (2001 EIS) was submitted in August 2001, under the harmonized federal-provincial environmental assessment process. This 2001 EIS assessed construction of a permanent access road to Cigar Lake site and the future transportation of waste rock over that access road. In August 2003, the CNSC concluded that the 2001 EIS and associated documents met the requirements of the *Canadian Environmental Assessment Act* (CEAA) and that the licensing/permitting processes for the Sue C pit as a waste rock disposal site and construction of the permanent access road could proceed (Cameco EASR, 2004).

In January 2003, the CNSC informed Cameco that due to a perceived uncertainty regarding the use of the transitional provisions of CEAA, the CNSC would require a new environmental assessment of the Cigar Lake mine portion of the project to support construction and operation license decisions. However, Saskatchewan Environment (SE) indicated that the assessment requirements under the *Saskatchewan Environmental Assessment Act* had been fully met by the 1995 EIS and 2001 EIS submission and approval processes.

In February 2004, Cameco submitted an environmental assessment study report (2004 EASR) for the Cigar Lake mine portion of the project under the CEAA to meet the above requirement. In the 2004 EASR, the CNSC was identified as the sole Responsible Authority . The 2004 EASR assessed the potential effects from the construction, operation and decommissioning of the Cigar Lake mine. The 2004 EASR did not reassess the transportation of the ore to the McClean Lake JEB and Rabbit Lake mills; milling of the ore; or the management of tailings. The 2004 EASR was accepted by the CNSC as meeting the requirements of CEAA and that the licensing/permitting processes for the Cigar Lake Project could therefore proceed.

AREVA is the operator of the McClean Lake JEB Mill on behalf of the MLJV where the aqueous feed from Cigar Lake mine is to be processed. The processing of all the ore slurry feed from the Cigar Lake mine will be processed at the McClean Lake JEB Mill. As previously noted, the processing of the ore slurry feed from the Cigar Lake mine at the McClean JEB mill was assessed and approved as part of the 1995 EIS. AREVA has obtained a Licence to Construct from the CNSC to modify the McClean Lake JEB mill for this processing and the changes are expected to be complete in 2007. An amendment to the McClean Lake JEB mill s Licence to Operate is still required in order to process the ore from the Cigar Lake mine at the McClean Lake JEB mill. No issues surrounding this licence amendment approval are anticipated.

To address the processing of the uranium solution from McClean Lake JEB mill at the Rabbit Lake mill and the associated development, Cameco and AREVA on behalf of the CLJV submitted, in November 2006, a Draft Rabbit Lake Solution Processing Project Environmental Impact Statement (the draft Rabbit Lake EIS) and this document is currently under regulatory review. The draft Rabbit Lake EIS indicates that the potential environmental effects associated with the Cigar Lake project will be temporary and will be within the assimilative capacity of the local ecosystems. This document also indicated that potential health impact on humans from exposure to metals and radioactivity will be below acceptable limits. Cameco believes that this document addresses all of the project specific requirements and regulatory approval for this project should be obtained without significant modification to the project as proposed.

18.5.3 Licences and Permits

As previously discussed, the regulatory framework for the normal construction and operation of any mine site is subject to an ongoing process during which permits, licences and approvals are requested, reported on, amended, expire and are renewed.

Based on the acceptance by the CNSC of the 2004 EASR, Cameco, in 2004, applied for a licence to construct the Cigar Lake mine site in two parts:

(1) construction of the No. 2 Shaft surface complex and the freeze plant; and

(2) construction of all other mining and support facilities at the Cigar Lake mine site.

In August 2004, the CNSC approved the construction of the No. 2 Shaft surface complex and the freeze plant. The CNSC issued the construction licence for the Cigar Lake Project in December 2004. This licence is valid for the period of December 20, 2004 through December 31, 2007. Due to the October 2006 water inflow event, the construction activities will not be completed by the expiry date of the licence and this licence will therefore have to be amended. In addition, this licence may also have to be amended in order to address emergency water treatment and other new actions or contingences, resulting from the water inflow event. Cameco will be applying for an amendment to the Licence to Construct in 2007. Cameco believes that an approved amendment to the licence should be obtained prior to the end of 2007.

Concurrent with mine construction, an operating licence application will be prepared for submission to the CNSC. The operating licence process consisting of document production and two formal hearings, can proceed while construction of the facilities is being completed.

Each of the five phases of the remediation of the rockfall and water inflow at Cigar Lake requires regulatory approval. Regulatory approval has been obtained for Phase 1 other than the installation of pumps in the dewatering drill holes.

On May 27, 2004, the Government of Saskatchewan entered into a Surface Lease with the CLJV. This surface lease covers approximately 959 ha around the Cigar Lake site and stipulates various provisions and conditions for the use of this land. Cameco is compliant with the terms and provisions in the Surface Lease.

18.5.4 Water Treatment and Effluent Discharge

The water treatment / effluent discharge system employed at the Cigar Lake mine site has been designed based both on the results of metallurgical testwork programs and Cameco s experience at other facilities. The design is intended for both typical and emergency water treatment and effluent discharge scenarios. The current system, as described below, is approved and licensed by the CNSC and SE.

Retained surface water and recovered groundwater from the mine are pumped to the water treatment plant (WTP). The WTP uses a two-stage treatment process. Both stages involve chemical addition, precipitation and filtration.

Under normal operating conditions, treated water from the WTP is designed to be discharged to the environment on a batch discharge basis. As per the design, treated water from the WTP is discharged to one of four high density polyethylene (HDPE) lined ponds. The total capacity of these ponds is 21,610 m^3. The water in these ponds is tested prior to release to the environment. All water that fails to meet regulatory standards is returned to the WTP for re-treatment. Two surge ponds are included in the WTP design to allow for the safe storage of excess water.

The WTP is designed for a continuous average treatment rate of 550 m^3/h. Based on approvals in place, peak treated water discharge from the water treatment system is 833 m^3/h as per CNSC approved engineering package submissions. Under normal operating conditions, the design water inflow rate into the mine is estimated to be 50 m^3/h.

Due to the October 2006 water inflow incident, Cameco is reviewing the emergency mine dewatering strategy. It is likely that the emergency mine dewatering capacity will increase and provision for this has been included in the updated capital cost estimate. This increase in capacity is subject to regulatory approval.

18.5.5 Ore Processing and Tailings

The McClean Lake JEB mill will process the Cigar Lake ore slurry in a dedicated leach circuit separate from other ores that will be concurrently processed in the McClean Lake JEB mill. Generally 57% of the uranium solution produced from this dedicated circuit will be shipped to the Rabbit Lake mill, while the remaining approximately 43% of the uranium solution would be further processed into yellow cake product at the McClean Lake JEB mill. (See Section 16.3)

During the operations of the Cigar Lake project tailings will be generated at both the McClean Lake JEB mill and at the Rabbit Lake mill. The CLJV owners entered into an agreement with the MLJV owners (the JEB Mill Toll Milling Agreement) that covered the generation of tailings at the McClean Lake facility. (for discussion of the JEB Mill Toll Milling Agreement refer to Section 18.4.3). The CLJV also entered into an agreement with the owners of the Rabbit Lake mill (the Rabbit Lake Toll Milling Agreement) that covered the generation of tailings at the Rabbit Lake facility. These two toll milling agreements manage the financial liabilities associated with these tailings. Although there was sufficient capacity for the Cigar Lake tailings in the Rabbit Lake in-pit tailings management facility (RLITMF) when the Rabbit Lake Toll Milling Agreement was originally signed, unexpected ongoing production from the Eagle Point mine at Rabbit Lake has consumed some of the additional capacity in the RLITMF. Subsequently, it has been determined that the RLITMF will have to be expanded. Cameco is working with the regulators to determine the form and nature of any approvals which would be required for expansion of the RLITMF.

The cost of expanding the RLITMF has not been included in the Cigar Lake project capital cost estimate as shown in this report.

18.5.6 Waste Rock

Waste rock generated at the Cigar Lake mine site is currently stored on-site in one of three waste rock piles on site, depending on the nature of the waste rock. The first of these is the clean waste stockpile which will remain at the minesite. The second is mineralized waste (>0.03% U_3O_8), contained on a lined pad, which will be disposed of underground at the Cigar Lake mine. No mineralized waste has been identified in the development to date. The third is potentially acid generating waste rock which will be temporarily stored at site on a lined pad and will be eventually transported to the Sue C pit at the McClean Lake facility for permanent disposal. The costs of the eventual disposal of the Cigar Lake potentially acid generating waste rock in Sue C pit, as described in the Waste Rock EIS noted above, is covered by the Potentially Reactive Waste Rock Disposal Agreement between the MLJV and CLJV dated January 1, 2002. The cost of this disposal is included in the Cigar Lake mine operating cost estimate.

18.5.7 Reclamation / Remediation

The Cigar Lake project Preliminary Decommissioning Plan (PDP) was completed in May 2002. This decommissioning plan considers the environmental liability issues up to the end of the construction of the facility. This PDP is approved by both federal and provincial regulatory agencies and it indicates a preliminary decommissioning cost estimate (PDCE) of Cdn$6.4 million. Financial assurances to cover this PDCE are posted with Saskatchewan Environment.

The approved Cigar Lake PDP is valid to the end of construction. Once mining begins, Cameco will need to revise the PDP, as reclamation and remediation liabilities will begin to increase with mining activities. These increased liabilities will be associated with the generation of ore and the associated generation of mining wastes. The Cigar Lake PDP discusses the approach to addressing the liabilities that are created during mining. These future liabilities will be addressed in subsequent revisions to the Cigar Lake PDP.

The reclamation and remediation activities associated with the Cigar Lake project waste rock and/or tailings at the McClean Lake and Rabbit Lake facilities are covered by the PDP and PDCE prepared for these facilities. Future liabilities associated with the expansion of the Rabbit Lake RLITMF will be addressed in future updates to the Rabbit Lake PDP.

18.6 Taxes and Royalties

18.6.1 Taxes

The Cigar Lake Project operates as an unincorporated joint venture and is therefore not subject to direct income taxation at the joint venture level. Cameco, as the mine operator, operates the mine on behalf of the CLJV and distributes the resulting U_3O_8 production to the CLJV partners in proportion to their joint venture interests.

Cameco is subject to federal and provincial (Saskatchewan and Ontario) income tax in Canada. For federal and Saskatchewan income tax purposes, royalties are fully deductible in 2007. For Ontario income tax purposes, Cameco is eligible for the resource allowance, which is a deduction from income for tax purposes. Please note that the resource allowance was recently phased-out for federal and Saskatchewan income tax purposes, and this deduction was replaced with the deductibility of royalties which was phased-in on the same basis of the phase-out of the resource allowance. To date, Ontario has not followed the federal change, however, Ontario has recently announced that they will follow the federal change for years ending after 2008.

Cameco is subject to capital taxes on paid-up capital (as defined for capital tax purposes in the relevant provincial legislation) in respect of its operations in Saskatchewan and Ontario. In Saskatchewan, Cameco pays at a rate of 0.3% (0.15% effective July 1, 2007, and nil, effective July 1, 2008), on paid-up capital in excess of Cdn$10 million (note that this exemption amount can be as high as Cdn$20 million, depending on the percentage of salaries and wages paid in Saskatchewan). In addition, a resource corporation in Saskatchewan pays a corporate resource surcharge of 3.3% (3.1% effective July 1, 2007 and 3.0% effective July 31, 2008) of the value of resource sales. This surcharge is only payable to the extent that it exceeds the regular capital tax. In Ontario, Cameco pays a capital tax of 0.285% (0.225% effective January 1, 2009) on paid-up capital allocated to Ontario.

For the purposes of the economic analysis, the projected future impact of these income and capital taxes, with the exception of the corporate resource surcharge, has been excluded due to the nature of the required calculations. The capital base and taxable income for Cameco are comprised of results from several discrete operations, which are co-mingled to determine Cameco s taxable income, its taxable capital, and its related tax liabilities. It is not practical to allocate a resulting capital or income tax cost to Cameco s portion of Cigar Lake, as Cameco s tax expense is a function of several variables, most of which are independent of the investment in Cigar Lake.

18.6.2 Royalties

Cameco pays royalties to the province of Saskatchewan on the sale of uranium extracted from ore bodies within the province under the terms of Part III of the Crown Mineral Royalty Schedule, 1986 (Saskatchewan) (the Schedule), as amended. The Schedule provides for the calculation and payment of both a basic royalty and a tiered royalty. The basic royalty is equal to 5% of gross sales of uranium and is reduced by the Saskatchewan resource credit, which is equal to 1% of the gross sales of uranium.

The tiered royalty is a levy on the gross sales of uranium, which applies only when the sales price of uranium exceeds levels prescribed by the Schedule. Uranium sales subject to the tiered royalty are first reduced by capital allowances, as permitted by the Schedule, for new mine or mill construction and certain mill expansion. Capital allowances additions for new mines and mills are determined using amounts prescribed by the Schedule based on the design capacity of the new facility, and not on the actual construction costs. When these capital allowances are reduced to zero, tiered royalties become payable. Both the prices and the capital allowances, as defined in the Schedule, are adjusted annually to reflect changes in the Canadian gross domestic product.

The tiered royalty is calculated on the positive difference between the sales price per pound of U_3O_8 and the prescribed prices according to the following:

	Royalty rate	Canadian dollar ($/lb U_3O_8) Sales price in excess of:
	6%	$ 16.16
Plus	4%	$ 24.24
Plus	5%	$ 32.33

The above prices are applicable to 2006 and are in Canadian dollars. The index value required to calculate 2007 rates is expected to be published in April 2007. For example, if the sales price realized by Cameco was $35 per pound in Canadian dollars, the tiered royalty payable would be calculated as follows (assuming all capital allowances have been reduced to zero):

[6% x ($35.00 $16.16) x pounds sold] + [4% x ($35.00 $24.24) x pounds sold] + [5% x ($35.00 $32.33) x pounds sold]

= $1.69 x pounds sold

Cameco did not pay tiered royalties in 2006 due to the availability of capital allowances. Cameco expects its capital allowances to be fully exhausted during 2007 and, therefore, expects to pay tiered royalties in 2007. Cameco will be eligible for additional capital allowances, as permitted by the Schedule, once Cigar Lake commences production, at which time Cameco expects to not be required to pay tiered royalties until the additional allowances are fully exhausted.

Table 18-5 below sets out the expected royalties that will be incurred by Cameco on its share of production from Cigar Lake. The projected royalties are based on the realized prices set out in *Table 18-4* ,and are quoted in constant 2007 dollars.

The economic analysis for tiered royalties has been done on an incremental basis, and assumes that the capital bank additions resulting from initial sales of Cigar Lake production in 2010 would be used to offset the tiered royalties otherwise payable on Cameco s share of Cigar Lake production. In reality, the capital bank will be available to shelter tiered royalties payable on Cameco s other Canadian production centers, and therefore the capital bank will be exhausted in a moderately accelerated fashion by the use of higher deductions in 2010 and 2011 to offset tiered royalties payable by Cameco from its other production centers.

Table 18-5 Expected Royalties to be Incurred by Cameco for Cigar Lake

Royalties (Cdn$M)	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Total**
Basic Royalty	3.2	10.0	19.8	19.9	15.6	15.5	15.4	15.5	15.6	15.6	15.5	15.1	12.4	12.4	3.4	**205.0**
Tiered Royalty			25.6	37.7	21.0	19.9	18.8	18.3	17.9	17.1	15.7	15.5	12.5	12.8	3.6	**236.4**
Resource Surcharge	2.4	7.5	14.9	14.9	11.7	11.7	11.6	11.6	11.7	11.7	11.6	11.3	9.3	9.3	2.6	**153.7**
Total Royalties	**5.6**	**17.5**	**60.4**	**72.4**	**48.3**	**47.1**	**45.8**	**45.4**	**45.3**	**44.3**	**42.7**	**42.0**	**34.1**	**34.4**	**9.6**	**595.1**

18.7 Capital and Operating Cost Estimates

18.7.1 Project Construction Status

Cigar Lake Mine

Test mining development was conducted from 1987 to 1993, including the sinking of the No. 1 Shaft and development on the 420, 480 and 465 m levels. Some surface infrastructure was also constructed during the test-mining phase including a 550 m^3/hr water treatment plant. Pre-construction activities were started at the Cigar Lake site in 2002. Full construction activities on the Cigar Lake site began in January 2005 following approval of the project by the CLJV partners in December of 2004. Just prior to the mine inflow of October 23, 2006, the capital construction project was approximately 60% complete.

Underground development required for the start of production is 70% complete.

Reflected in the historical costs are the completed facilities to date including:

Permanent access road to Provincial Road 905 (essentially complete),

No. 2 Shaft surface facilities (hoist, collar house and batch plant),

Airport upgrade,

Mine site pipe rack,

Utilities infrastructure for fire water and potable water storage and treatment and distribution, as well as storage and distribution facilities for propane, diesel fuel, and gasoline,

- Freeze plant expansion,
- Underground excavations for the underground process ore circuit,
- Water treatment ponds,
- Waste rock stock piles and site grading,
- Permanent camp facilities,
- Electrical substation and emergency power expansions,
- Ore loadout building.

Also included in the historical costs and current commitments are the following partially completed facilities:

- No. 2 Shaft, which was excavated to a depth of 392 m of the total of 500 m when it was stopped due the April 5th 2006 water inflow,
- Construction of the water treatment plant expansion (nearing completion),
- Underground development and freeze hole drilling.

The cost estimate to complete underground development and surface facilities at the Cigar Lake site for the years 2007, 2008 and 2009 will consist of:

- Mine development and freeze hole drilling which include the costs to complete the underground development and the freeze hole drilling,
- Site services, which include the support costs for site administration, licenses and taxes, commuting and camp operating costs, electricity and fuel costs, warehousing, as well as engineering and construction management,
- Mine remediation which include the costs to dewater and restore the mine to its pre-flood state (excluded from capital costs),
- Updated mine plan scope additions which include the costs to freeze the 465 m Level drifts,
- Completion of the No. 2 Shaft, which includes the costs to freeze the bottom of the shaft, excavate, concrete line, and furnish the shaft,
- Completion of the access road,
- Completion of the Underground Mine Capital, which includes the mine ventilation and heating systems, the underground ore extraction system (jet boring), the ore processing circuit, and water handling,
- Completion of the remaining surface facilities, which includes the new administration/services building, the installation of the surface ore process facilities, and the new mine water secondary containment utilidor.

During the underground remediation project, work will continue on the remaining planned surface facilities (the new administration/services building, the installation of the mine ventilation fans, and the new mine water utilidor) as well as facilities that may be required as a result of the remediation (additional surface storage facilities and 465m level freezing from surface).

McClean Lake JEB Mill

The McClean Lake JEB mill requires several modifications, most of which have been completed as follows;

Mechanical, electrical and instrumentation installation in Counter Current Cyclone (CCC) circuit substantially completed

Mechanical, electrical and instrumentation installation in ore receiving - substantially complete

Oxygen plant installation 85% complete

Fire detection system ore receiving and CCC substantially complete remain oxygen plant

Ammonium crystallization substantially complete

The remaining modifications required to process Cigar Lake ore slurry are scheduled for completion in 2007, with the exception of the uranium solution off-loading facility. The remaining items requiring completion are as follows;

Power generators for the new buildings

Relocation of tailings line

Lead wrapping from radiation shielding of slurry tanks and pipes

Painting of neutral thickener

Propane meters for ore receiving and CCC

Repairs to concrete settlement in ore receiving

Uranium rich solution off-loading facility (2009/2010)

Rabbit Lake Mill

Rabbit Lake Mill Modifications are still undergoing detailed design with the following estimated completion dates:

Primary clarifier is targeted for design in 2007, with implementation started this year and completed in 2008.

The membrane plant is targeted for completing the design phase in 2008, with construction being completed in 2009.

Uranium solution receiving station would see detailed design completed in 2009 with implementation carried out over 2010 and 2011.

Uranium transportation infrastructure would see detailed design completed in 2009, a bridge built in 2010 and the required road by 2011.

18.7.2 Capital and Remediation Costs

In December 2004, the CLJV approved an Accelerated Multi Year Development Plan (AMYDP) that consisted of full construction activities, with an official start date in January 2005 following some minor site preparation preconstruction activities in 2002, 2003 and 2004. The initial construction budget was approximately $450 million and included surface and underground facilities at Cigar Lake as well as changes to the milling facilities at the McClean Lake JEB and Rabbit Lake mills. Since that the time, the forecast capital cost has escalated significantly due to a number of factors.

The remaining capital cost estimate as of January 1, 2007 for the Cigar Lake project is summarized in *Table 18-6*. The majority of the expenditures in the mine, plant and mills are for development, construction and equipment in order to achieve the required production. The capital and remediation cost projections are stated in constant 2007 dollars.

CAMECO CORPORATION
CIGAR LAKE PROJECT, NORTHERN SASKATCHEWAN, CANADA
NI 43-101 TECHNICAL REPORT

Table 18-6: Summary of Remaining Capital and Remediation Costs by Year

ar	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Tot**
							(Cdn$ Millions)												
gar Lake velopment	135.4	198.4	141.6																**475**
bbit Lake ll odifications	8.1	10.4	17.0	9.6	12.7														**57**
bbit Lake sts above o					5.7														**5**
cClean Lake B Mill odifications	3.5																		**3**
gar Lake staining				6.6	5.4	8.9	1.4	1.6	1.4	1.2	1.4	1.2	1.8	1.2	1.4	1.2	1.4	1.1	**36**
bbit Lake staining						2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.1	2.1	2.1	1.9	**31**
tal Capital osts	**147.0**	**208.8**	**158.6**	**16.2**	**23.7**	**11.5**	**4.0**	**4.2**	**4.0**	**3.8**	**4.0**	**3.8**	**4.4**	**3.6**	**3.5**	**3.3**	**3.5**	**3.0**	**610**
gar Lake mediation osts	**62.9**	**18.8**																	**81**

As shown in *Table 18-6* the remaining capital costs, as of January 1, 2007, for the Cigar Lake mine site are estimated to be $542 million, including $475 million to complete underground development and surface construction at Cigar Lake, $63 million to complete the mill modifications at Rabbit Lake and $4 million to complete the mill modifications at McClean Lake. The remaining costs for the five-phase water inflow remediation plan at Cigar Lake are currently estimated at $82 million, for a total remaining cost of $624 million for the Cigar Lake project. Table 18-6 also includes projected sustaining capital expenditures of $69 million at the Cigar Lake and Rabbit Lake sites that the CLJV will be required to fund throughout the operating life of the Cigar Lake mine.

Cameco s share of the remaining capital cost to complete the Cigar Lake project is estimated to be $274 million, including its share of construction costs and costs to modify the McClean Lake JEB mill and Rabbit Lake mill. Including the $234 million spent by Cameco on construction costs and mill modification costs prior to December 31, 2006, Cameco s share of the aggregate capital cost is now estimated to be $508 million.

In addition to the capital costs for construction and mill modifications, Cameco estimates its share of remaining remediation costs at Cigar Lake to be $41 million. Including the $5 million spent and expensed by Cameco in 2006, Cameco s share of the aggregate remediation cost at Cigar Lake is estimated to be $46 million.

Cameco will expense its share of the remediation costs as they are incurred. More specifically, the costs that will be expensed relate to contractor costs directly engaged in, or providing support to, the remediation efforts, and any cancellation or retention costs that are required as a result of the water inflow.

The aggregate capital cost for construction, including construction costs spent prior to December 31, 2006 of $468 million, is estimated to be approximately $1 billion, which represents a 125% increase over the initially approved budget of $450 million. Total remediation costs for the CLJV are in addition to the capital cost, and are estimated at $92 million, including $10 million of remediation costs expensed by the CLJV in 2006. The combined capital and remediation costs are now estimated to be approximately $1.1 billion, which represents a 145% increase over the initially approved budget.

The major components of the revised cost estimates, including Cameco s share are detailed in *Table 18-7*.

Table 18-7: Summary of Capital and Remediation Costs by Cost Area

	Cost (Cdn$ millions)			
Cost Area Description	**CLJV 2004-2006**	**CLJV 2007-2010**	**CLJV Total (100%)**	**Cameco Share (50.025%)**
Cigar Lake Minesite				
Site Services	115.7	141.1	256.7	128.4
Surface Capital	105.1	65.6	170.7	85.4
Mine Development	76.2	59.4	135.6	67.8
Underground Mine Capital	49.2	50.6	99.8	49.9
Remediation Capital	0.2	60.8	61.0	30.5
Remediation Expense	10.4	81.7	92.1	46.1
No. 2 Shaft	40.7	17.2	58.0	29.0
Mine Plan Scope Additions		25.2	25.2	12.6
Other	19.0	55.6	74.5	37.3
Total Cigar Lake Minesite	**416.6**	**557.1**	**973.6**	**487.1**
Rabbit Lake Mill Modifications				
EIS and Licensing	1.5	0.3	1.8	0.9
Mill Modifications Capped Amount	0.8	7.7	8.4	4.2
Mill Modifications in Excess of Cap		5.7	5.7	5.7
US Transportation		19.5	19.5	9.8
Regulatory Issues		30.3	30.3	15.2
Total Rabbit Lake	**2.3**	**63.4**	**65.7**	**35.7**
McClean Lake JEB Mill Modifications				
Total McClean Lake JEB	59.5	3.5	63.0	31.5
Total Cigar Lake Project	**478.3**	**624.0**	**1,102.3**	**554.2**

Note : Rabbit Lake mill modifications in excess of the escalated cap are shown as a 100% Cameco cost. All other cost elements are allocated to Cameco in proportion to its 50.025% ownership interest.

The majority of the cost increase is due to remediation work and delay charges resulting from the flooding of No. 2 Shaft and the Cigar Lake mine. Other significant cost increases are due to greater than anticipated contractor rates, driven by the high level of construction activity in western Canada, increased energy costs, and several scope additions for project optimization.

The mine plan scope additions include increasing the dewatering capacity, mine plan optimization to conduct additional ground freezing of the production level, the addition of an overhead crane for maintenance of the mill, improvements to the site s sewage treatment plant and fire protection system, and expansion of the construction camp facilities. Also included are enhancements to Cigar Lake s environmental management system.

The responsibility of the CLJV to fund capital costs for the required modifications to the Rabbit Lake and McClean Lake mills are subject to caps according to the provisions of the toll milling agreements as described in Section 18.4.3. These caps were to be escalated for inflation using three specific price indices as published by Statistics Canada. Subsequent to the toll milling agreements being finalized, all three of these indices were terminated and replaced with new indices. It is Cameco s opinion that the replacement indices do not correlate with the original intent under the toll milling agreements, and preliminary discussions with the CLJV partners to address this development have taken place.

For the purposes of the economic analysis, the capital cost caps relating to Cigar Lake for the mill modifications at both Rabbit Lake and McClean Lake have been escalated using the general Consumer Price Inflation index.

The $56.6 million negotiated cap related to McClean Lake JEB mill modifications has been escalated to approximately $63.0 million as at January 1, 2007. The $7.6 million negotiated cap for Rabbit Lake has been escalated to an estimated $8.4 million, also as at January 1, 2007. As at December 31, 2006, the cap relating to the McClean Lake JEB mill modifications was nearly reached and therefore only $4 million of additional capital costs are projected in the economic analysis before the escalated cap is met. To the extent the costs for the Rabbit Lake modifications are projected to exceed the escalated cap, the excess amount of $6 million, which will be borne by Cameco, has also been included in the economic analysis.

18.7.3 Operating Cost Estimates

Estimated operating expenditures for the underground mining operation and for toll milling charges and fees are presented in *Table 18-8*.

Operating costs consist of annual expenditures at Cigar Lake, after the commencement of production (anticipated to be in 2010), to mine the ore, treat the ore underground, including crushing, grinding and density control, followed by pumping the resulting slurry to surface for transportation to McClean Lake. Operating costs at McClean Lake consist of the cost of leaching 100% of the Cigar Lake ore slurry into uranium solution and further processing of up to 42.7% of the Phase 1(a) uranium solution into yellowcake (50% of Phase 1(b) ore). McClean Lake will send up to 57.3% of the Phase 1(a) uranium solution to Rabbit Lake for further processing into yellowcake (50% of Phase 1(b) ore).

Rabbit Lake operating costs will consist of the costs to receive and precipitate the uranium solution into yellowcake, including disposal of all impurities in the Rabbit Lake in-pit tailings management facility.

To the extent that either of the Rabbit Lake or McClean Lake JEB mills are co-processing ore from other mine sites, the respective toll milling agreements have provisions addressing the sharing of operating costs with the Cigar Lake Project.

Operating costs for the Cigar Lake project, as a whole, are expected to average approximately Cdn$14.40/lb U_3O_8 over the life of the Cigar Lake project.

The operating cost projections are stated in constant 2007 dollars and assume the throughput outlined in the production schedule in Section 18.1.12. The operating costs included assume an initial operations workforce of about 330 employees and contractors, which declines to approximately 315 employees and contractors by the third year of production.

Refer to Section 16 for a more thorough description of the process flow, which identifies the processing activities at each location.

Table 18-8: Cigar Lake Project Operating Cost Forecast by Year

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	T
ating																
	(Cdn$Millions)															
Lake g	94.4	93.5	99.8	112.9	106.0	107.1	114.7	119.2	116.2	117.3	93.9	91.9	83.7	80.4	73.3	**1,**
ean EB g	42.2	40.2	44.2	48.2	45.2	45.2	43.2	42.2	42.2	42.2	47.2	47.2	42.2	48.2	28.7	
t g			66.5	67.7	67.6	67.7	67.6	67.6	67.6	67.6	62.7	54.6	54.3	54.4	49.3	
	136.6	**133.7**	**210.5**	**228.7**	**218.8**	**219.9**	**225.4**	**229.0**	**226.0**	**227.0**	**203.8**	**193.8**	**180.2**	**182.9**	**151.3**	**2,**
ean EB g Fee	4.1	12.3	10.2	10.5	10.5	10.5	10.5	10.5	10.5	10.5	7.2	5.9	4.8	4.8	1.3	
t Toll g Fee			10.9	11.2	11.2	11.2	11.2	11.2	11.2	11.2	7.8	6.5	5.3	5.3	1.5	
ating	**140.7**	**145.9**	**231.6**	**250.4**	**240.5**	**241.7**	**247.1**	**250.7**	**247.7**	**248.7**	**218.8**	**206.1**	**190.3**	**193.0**	**154.1**	**3,**
	(Cdn$ per lb U_3O_8)															
ating per lb	**46.89**	**16.22**	**13.22**	**13.89**	**13.34**	**13.39**	**13.72**	**13.91**	**13.74**	**13.81**	**12.15**	**11.98**	**13.54**	**13.70**	**39.52**	

Although the project is targeted to start production in 2010, costs incurred during the commissioning phase will be capitalized as pre-operating costs until commercial production is achieved.

18.7.4 Economic Analysis

The following economic analysis as shown in *Table 18-9* for the Cigar Lake Project is based on the current mine plan which contemplates the mining and milling of the Phase I Mineral Reserves. The analysis does not contain any estimates involving the potential mining and milling of the Mineral Resources from either Phase 1 or 2. The Mineral Resources in Phase 1 are categorized as Indicated Mineral Resource and the Phase 2 are categorized as Inferred Mineral Resource and have been evaluated from a preliminary perspective only. Further drilling and mining studies are needed before these Mineral Resources can be fully evaluated. It cannot be assumed that all or any part of the Inferred Mineral Resources will ever be upgraded to a higher category. Accordingly, expenditures required to bring any of the Phase I Indicated or Phase 2 Inferred Mineral Resources into production, or to identify additional Mineral Reserves and Mineral Resources, have not been included.

The analysis provided is from the point of view of Cameco, which owns 50.025% of the CLJV, and incorporates Cameco s projected sale revenue from its proportionate share of the related production, less its share of the related operating and capital costs of the CLJV, as well as all royalties that will be payable on the sale of the concentrates.

CAMECO CORPORATION
CIGAR LAKE PROJECT, NORTHERN SASKATCHEWAN, CANADA
NI 43-101 TECHNICAL REPORT

-9: Cigar Lake Project Economic Analysis Cameco s Share

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	202
(lbs U_3O_8 x 1000)															
		1,501	4,502	8,764	9,022	9,020	9,030	9,010	9,015	9,015	9,007	9,008	8,604	7,030	7,0
(Cdn$ millions)															
		80.4	249.6	496.1	496.6	390.1	388.6	385.8	387.4	390.5	389.8	386.3	378.1	309.0	309
		70.4	73.0	115.8	125.3	120.3	120.9	123.6	125.4	123.9	124.4	109.4	103.1	95.2	96
9.4															
				(10.9)	(11.2)	(11.2)	(11.2)	(11.2)	(11.2)	(11.2)	(11.2)	(7.8)	(6.5)	(5.3)	(5
104.4	79.4	8.1	14.7	5.7	2.0	2.1	2.0	1.9	2.0	1.9	2.2	1.8	1.8	1.6	1
		3.2	10.0	19.8	19.9	15.6	15.5	15.4	15.5	15.6	15.6	15.5	15.1	12.4	12
		2.4	7.5	14.9	14.9	11.7	11.7	11.6	11.6	11.7	11.7	11.6	11.3	9.3	9
				25.6	37.7	21.0	19.9	18.8	18.3	17.9	17.1	15.7	15.5	12.5	12
(113.8)	(79.4)	(3.7)	144.4	325.1	308.1	230.6	229.8	225.6	225.8	230.6	230.0	240.1	237.7	183.4	182

The analysis results in a pre-tax NPV (10%) to Cameco, as at January 1, 2007, of $887 million for its share of the Cigar Lake Phase 1 Mineral Reserves. The pre-tax IRR, also calculated from January 1, 2007, has been calculated to be 38%.

Sensitivities

The graph in *Figure 18-8* illustrates the project s sensitivity to changes in uranium grade, capital cost, operating cost, and uranium prices (including the mitigating effects of Cameco s level of committed sales through its sales contract portfolio). The graph illustrates the variability around the base case pre-tax net present value of $887 million using sensitivities of plus and minus 10% on all variables, except uranium price. For Uranium price, the high and low cases represent a US$10/lb U_3O_8 deviation from the average spot price projections incorporated in the base case realized prices as shown in *Table 18-4*.

Figure 18-8: Cigar Lake Project Sensitivity Analysis

The Cigar Lake project shows relatively low sensitivity to changes in its operating or capital cost projections. The relative sensitivity to changes in price and ore grade realized is significantly higher due in part to the relatively high-grade nature of the deposit, and the price estimates being used, which are a reflection of the current U_3O_8 market environment.

The difference in the sensitivity between price and operating cost is made clear by the fact the economic analysis assumes an average realized price of Cdn$45.95/lb U_3O_8, while the average operating cost is Cdn$14.40/lb U_3O_8.

18.7.5 Payback

Payback for the Cigar Lake project can be considered on many different factors.

Payback for Cameco, excluding all 2006 and prior costs as sunk costs, would be achieved by the end of 2012 on an undiscounted, pre-tax basis.

If the $478 million, including remediation costs, spent on Cigar Lake construction prior to 2007, (Cameco share equal to $239 million) were included in the calculation, Cameco would achieve payback by the end of 2013 on an undiscounted, pre-tax basis.

18.7.6 Mine Life

The Cigar Lake Project is based on the current Mineral Reserves that will produce 222.9 million mill recovered pounds of U_3O_8. This production is referenced as Phase 1 of the Cigar Lake mining project. The expected life of Phase 1 project is 14.8 years of sustained production from the Mineral Reserves, based on the planned annual production rate of 18 million pounds of U_3O_8. Cigar Lake will produce less than the full annual production rate of 18 million pounds of U_3O_8 in the early and late years resulting in an average annual production rate of 15.1 million pounds of U_3O_8 over the Mineral Reserve life of 14.8 years.

If the Inferred Mineral Resources in Phase 2 are upgraded in the future to Indicated Mineral Resources through further drilling and mining studies, and then converted to Mineral Reserves through a positive Feasibility Study, that could extend the mine life significantly. Inferred Mineral Resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the Inferred Mineral Resources at Cigar Lake will ever be upgraded to a higher category.

19 OTHER RELEVANT DATA AND INFORMATION

19.1 Cigar Lake Water Inflow Incidents Investigations

19.1.1 April 5, 2006 Water Inflow Incident

Cameco expects to file with the regulators in the second quarter of 2007 an independent investigation report regarding the April 5, 2006 water inflow incident at No. 2 Shaft.

The investigation examined all relevant events and conditions leading up to and following the April 5, 2006 water inflow incident. Both basic and root causes of the incident will be identified as well as corrective action recommendations to mitigate the likelihood of this type of incident occurring in the future at Cigar Lake or any other Cameco operating mine.

19.1.2 October 23, 2006 Water Inflow Incident

Cameco has also commissioned an independent investigation and preparation of a report regarding the October 23, 2006 water inflow incident that flooded the underground development.

This investigation will examine all relevant events and conditions leading up to and following the October 23, 2006 water inflow incident. Both basic and root causes of the incident will be identified in the report as well as corrective action recommendations to mitigate the likelihood of this type of incident occurring in the future at Cigar Lake or any other Cameco operating mine.

The report is planned to be filed with the regulators in the second or third quarter of 2007.

19.2 Mine Inflow Staged Remediation Plan

Cameco is proceeding with a phased plan to restore the underground workings at Cigar Lake after the October 23, 2006 water inflow incident. This plan consists of five phases and each phase requires regulatory approval. Cameco has received approval from the regulators for Phase one with the exception of four holes to dewater the mine.

The proposed phases are as follows:

Phase 1 Surface Remediation:

The first phase of the remediation plan, which is underway, involves drilling holes down to the source of the water inflow and to a nearby tunnel where reinforcement may be required, pumping concrete through the drill holes, sealing off the inflow with grout, and drilling dewatering holes.

Two rigs, utilizing directional drill technology, are on-site drilling the drill holes. As of March 23, 2007 all of the 14 drill holes planned for reinforcement and sealing off the water inflow are complete.

Concrete will be poured into two locations one near the rock fall to seal off the inflow area and another in a nearby tunnel to provide reinforcement. As of March 26, more than 1200 m^3 of concrete have been poured through drill holes to provide reinforcement in the nearby tunnel. The concrete mixture is designed to harden under water and will be poured in successive layers.

Included in this phase are an additional four drill holes to be used for dewatering the mine for the second phase of the remediation plan. This component of the remediation is requisite for the dewatering strategy moving forward. It is currently being reviewed by the regulators. This pumping system will be used to assist with mine dewatering, and will continue to be available for use for emergency dewatering during the remainder of construction and operations.

The first phase of the remediation plan is expected to be complete in the third quarter of 2007. This time line assumes that the current pace of drilling is maintained, the concrete solidifies as planned to provide reinforcement and prevent or reduce water inflow sufficiently to permit mine dewatering, and regulatory approval to drill the four dewatering holes is obtained as planned. The integrity of the concrete plug will not be known until dewatering is underway.

The first phase of the remediation concept is shown in *Figure 19-1*.

Figure 19-1: Cigar Lake Remediation Plan Phase 1

Phase 2 Dewatering, Verifying Plug Integrity and Freezing Infrastructure

This phase will involve dewatering the underground openings, validating the integrity of the plug to ensure the water inflow has been sufficiently sealed, and initiating a freeze program for the inflow area from surface. There are essentially four parts of this phase. The first is to install the necessary infrastructure to dewater the mine via dewatering boreholes installed as part of the first phase of remediation. Second, conduct initial entries into the mine to expand safe access for detailed technical assessments of various areas. Third, conduct detailed technical assessments in areas of concern. Finally, initiate the installation of the surface freezing infrastructure.

This second phase of remediation is expected to be complete by the end of the third quarter 2007, other than the drilling of the freeze drillholes and the freezing of the ground which will continue through to Phase 5.

In the event that the concrete plug being placed in Phase 1 is not successful in securing the inflow area then ground freezing, already incorporated into the remediation plan, will be utilized to secure the inflow area. If this situation occurs, there could be a schedule delay to the start of mine production.

Phase 3 Secure the Mine

This phase involves completing any additional remedial work identified in phase two such as determining if additional reinforcement is required in higher risk areas.

Phase 3 is expected to be complete by the end of 2007.

Phase 4 Underground Rehabilitation Program

At this stage of the overall mine remediation, the mine will have been secured and made safe from an inflow and significant ground failure perspective. This phase will involve rehabilitating the remaining lower priority areas of the mine (including 465 and 500 m levels) and re-establishing the full mine ventilation circuits. Some of the specific tasks will include re-establishing the permanent refuge stations and communications, the installation of the emergency back up pump capacity, completing the installation and rehabilitation of the designed underground pumping capacity, re-establishing the ore body freezing program, commencing the No. 2 Shaft freezing program, and generally preparing areas to resume construction/development activities. A large portion of this work is related to the replacement of electrical components and equipment damaged due to flooding.

Phase 4 is expected to be complete by the summer of 2008.

Phase 5 Resumption of Construction Activities Pre-Inflow

This phase will involve the resumption of all underground construction activities that had been interrupted the day of the inflow. The mine plan will be optimized during this phase to integrate the investigation recommendations.

Included in the evaluation for the resumption of all activities will be consideration on the status of No. 2 Shaft completion.

Phase 5 is targeted to be complete in 2010.

While these phases are under way, the area around the flooded second shaft will be frozen after the installation of underground freeze pipes from a nearby tunnel. This is anticipated to be completed by the summer of 2008. Shaft sinking will continue with completion scheduled for 2010.

Commissioning in ore and initial production is targeted to commence in 2010.

19.3 Staged Remediation and Completion Plan for No. 2 Shaft

The development of No. 2 Shaft at the Cigar Lake Project is primarily to provide ventilation and services to the mine for planned future operations. The remediation and completion of No. 2 Shaft following the April 5 2006 water inflow and flooding will be undertaken in a staged approach as described below.

Stage 1 Ground Freezing and Shaft Dewatering

Drilling of the freeze holes to cover the affected area of No. 2 Shaft will be carried out from the 480 Level after dewatering and refurbishing the underground mine. On completion of the freezing, a freeze wall thickness of approximately 4 m surrounding the shaft will be achieved, cutting off the potential water inflow source(s) to the shaft.

Following ground freezing, the shaft will be dewatered using submersible pumps suspended from the sinking galloway. During dewatering, inspections, rehabilitation and replacement of the infrastructure required to resume sinking will be completed. Some of the permanent shaft infrastructure may be installed at this time.

This stage is scheduled to be completed by mid 2008.

Stage 2 Shaft Refurbishing

Once the shaft has been dewatered, the source of the shaft inflow and other potential inflow sources will be secured. This is expected to be achieved by grouting any of the open test holes at shaft bottom. Clean up of shaft bottom will take place to remove any sand and silt, damaged equipment and other debris. Installation of any remaining infrastructure required for resumption of shaft sinking will be completed during this stage.

Stage 3 Shaft Sinking and Completion of Shaft Furnishing

Resumption of shaft sinking activities will take place following confirmation of the thickness of the freeze wall and securing of the open test holes (Stage 1 & 2). The shaft will be sunk to its planned final depth of 500m (from the current 392m depth). A hydrostatic concrete liner will be installed during sinking, and the 480 Level shaft station will be established.

Following sinking, a concrete partition will be cast from 500 Level to surface to allow for segregation of the fresh, downcast air from the contaminated exhaust air. Shaft furnishings, including a 22 person cage, counterweight, ore slurry pipes and other services will be installed in the fresh air compartment.

Completion of shaft sinking and shaft furbishing is scheduled for 2010.

19.4 Project Risks

Cigar Lake is a challenging deposit to develop and mine. These challenges include control of groundwater, weak ground formations, and radiation protection. The sandstone overlying the basement rocks contains significant water at hydrostatic pressure. Freezing the ground is expected to result in several enhancements to the ground conditions, including: (1) minimizing the risk of water inflows from saturated rock above the unconformity; (2) reducing radiation exposure from radon dissolved in the ground water; and (3) increasing rock stability. However, freezing will only reduce, not eliminate, these challenges. There is also the possibility of a water inflow during the drilling of holes to freeze the ground. Therefore, the risk of water inflows at Cigar Lake remains. The consequences of another water inflow will depend upon the magnitude, location and timing of any such event, but could include a significant delay in Cigar Lake s remediation, development or production, a material increase in costs, a loss of Mineral Reserves or require Cameco to give notice to many of its customers that it is declaring an interruption in planned uranium supply. Such consequences could have a material adverse impact on Cameco. Water inflows are generally not insurable.

Cigar Lake s remediation and production schedules are based upon certain assumptions regarding the condition of the underground infrastructure at the mine. The condition of this underground infrastructure, however, will not be known until the mine is dewatered. If the underground infrastructure has been impaired, this could adversely impact the schedules and cost estimates.

The outcome of each phase of remediation will impact the schedule of each subsequent phase of remediation and the planned commencement of production in 2010. For example, if the concrete plug is not successful in securing the inflow area, then ground freezing, already incorporated in the remediation plan, will be utilized to secure the inflow area. If this situation occurs, there could be a delay in the remediation schedule and the commencement of production.

Remediation and production schedules will be impacted by regulatory approvals. Regulatory approval has not yet been received to install the pumps in the drill holes for dewatering the mine during the first phase of the remediation plan. This approval is required to move forward with the planned dewatering strategy. Working with the regulatory authorities to receive approvals for additional corrective actions which may result from current inflow investigations may impact the remediation and production schedules.

20 INTERPRETATION AND CONCLUSIONS

The Cigar Lake project outlined in this report represents significant economic sources of feed material for the McClean Lake JEB and Rabbit Lake mills and will support an operating mine life of approximately 15 years, producing an estimated 222.9 million pounds of U_3O_8. At Cameco s forecast average realized uranium price over this 15 year period, it is estimated that Cameco will receive substantial positive net cash flows from its share of Cigar Lake production.

The economic analysis shows a projected pre-tax NPV, as of January 1, 2007, using a 10% discount rate, of Cdn$887 million for Cameco s share of the Phase I Mineral Reserves. It also shows, calculated as of January 1, 2007, a pre-tax IRR of 38%. The sensitivity analysis further demonstrates that the project can withstand financially negative events, such as increasing costs, or decreased prices and ore grades, and continue to deliver strong cash flows. One of the scenarios developed illustrated that the project could withstand a 50% drop in productivity (achieve half of targeted annual production) and still return a positive NPV.

The aggregate cost for the Cigar Lake project, including the cost of remediation, has been estimated to be Cdn$1.1 billion, which is a 145% increase over the Cdn$450 million capital cost at the time of project approval in 2004. These costs have increased partly because of remediation work and delay charges resulting from the flooding of the No. 2 Shaft and the Cigar mine. Other significant cost increases are due to greater than anticipated contractor rates driven by the high level of construction activity in western Canada, increased energy costs and several scope additions for project optimization. Despite these increases to the project cost, the economics for the project remain robust.

The revised mine plan and remediation program are anticipated to maintain the Cigar Lake project within the original project objectives of achieving an positive economic project with a planned full annual production rate of 18 million pounds of U_3O_8 and a total life-of-mine production of an estimated 222.9 million pounds of U_3O_8. Cigar Lake will produce less than the full annual production rate of 18 million pounds of U_3O_8 in the early and late years resulting in an average annual production rate of 15.1 million pounds of U_3O_8 over the current Mineral Reserve life of 14.8 years.

The development and construction of the project has been interrupted by two major water inflow incidents in 2006 that resulted in the flooding of the partially completed No. 2 Shaft and the underground workings. These incidents have stopped all underground excavation and construction activities and are expected to delay the start of production until 2010. Cameco, in conjunction with external experts, have developed a five phase remediation plan to return the mine to pre-inflow activities.

Based on the engineering analysis and planning of the situation, Cameco believes that this remediation plan has a high probability of success, although there is always some uncertainty. However, the plan also includes the freezing of the affected area via freeze holes to be drilled from surface. Experience at McArthur River and Cigar Lake has shown that freezing is not only practical but also extremely effective at controlling ground water. If the cement plug does not work effectively in reducing the water inflow arising from the October 2006 incident, then the ground will be frozen from surface to allow for the completion of the remediation program. However, additional time will be required to achieve the required degree of freezing and this could negatively impact the remediation schedule and the commencement of production.

The freezing strategy is to bulk freeze the ore zone and 465 production level prior to the commencement of mining in a given area. Following the October 2006 inflow through an unfrozen section of the 465 level, the mine plan has been revised and expanded to include the freezing of those sections of the production level development, beyond the footprint of the orebody and that had previously been excluded from the freeze plan, prior to the commencement of that development. While this approach may increase the time to proceed to production, considering the water and weak ground conditions associated with the deposit, this is a prudent course of action.

There is risk in achieving the planned production in 2010. The main risk is a delay to the scheduled start of production (see discussion in Section 19.0).

There is risk that the project ramp-up to an annual production rate of 18 million pounds U_3O_8 may take longer than the two years as planned. This scenario has been tested in the financial model and has demonstrated that the project economics are still robust.

The remediation and production schedule are based upon certain assumptions regarding the condition of underground development and infrastructure. The condition of this underground development and infrastructure, however, will not be known until the mine is dewatered. If the underground infrastructure has been impaired, this could adversely impact schedules and cost estimates. The outcome of each phase may impact the schedule of each subsequent phase of remediation and the planned commencement of production in 2010.

Many aspects of the Cigar Lake project are based on the designs that have been proven and are being successfully used at the McArthur River mine. One of the challenges of mining the Cigar Lake deposit is radiation control due to its high grade. Cameco has been producing ore with similar high grades from the McArthur River mine since 2000 and the experience from McArthur has been used extensively in the design of the Cigar Lake project. These designs include remote mining for radiation protection, freezing for control of radon gas and water inflows, underground grinding of the ore and hydraulic hoisting to surface. The incorporation at Cigar Lake of these designs and practices proven at the McArthur River mine significantly reduce the risk in numerous aspects of the Cigar Lake project.

The jet boring mining method planned for Cigar Lake has been successfully tested with prototype equipment and the mining plan has been engineered to suit this method. Because of the high grade of the ore, the actual ore tonnage requirements to be mined per day to meet the U_3O_8 production requirement are modest ranging between 80 and 140 t/d over the mine life. In general, the projections for jet boring productivity are conservative relative to test results so there is considerable opportunity to improve productivity. Nevertheless, the method has not yet been proven on a full production basis, so there is a risk that the planned ramp-up to full production on a continuous basis may require more than the three years in the production schedule. Despite this risk, Cameco is confident that the choice of this mining method is a practical and prudent selection.

The core drilling used to define the Cigar Lake deposit was completed between 1981 and 1998 by SERU, a predecessor of AREVA, and CLMC prior to Cameco becoming operator in January 2002. Cameco has received the drill hole data base that was used as the basis of the Mineral Resource and Mineral Reserve estimate from CLMC. Cameco has performed a summary audit of this data base, is satisfied with the quality of the data and considers it valid for use in the estimation of the Mineral Resources and Mineral Reserves.

Substantial quantities of underground drilling through the deposit has been completed for geotechnical and freeze hole drilling. The core from the geotechnical holes has been logged and assayed but has not been incorporated into the Mineral Resource or Mineral Reserve estimates. Freeze holes are percussion holes so no core is available from them, however, they are probed using in-hole loggers for radiometric grade data. This data is a valuable source of information and will become part of the resource data base. The current geological model does not incorporate the results of the underground freeze holes since the conversion of radioactivity measurements to uranium grade has not yet been confirmed.

In addition to the Phase 1 Mineral Resources and Mineral Reserves, the Cigar Lake deposit contains an estimated Inferred Mineral Resource of 118 million pounds of U_3O_8 in Phase 2 with an estimated grade of 16.9% U_3O_8. This represents significant exploration potential and, if these Inferred Mineral Resources could be upgraded to Mineral Reserves and their economic viability confirmed, could be mined from the existing and planned shafts and supporting facilities of the Cigar Lake site. Mineral Resources in Phase 2 are categorized as Inferred and have been evaluated from a preliminary perspective only. Further drilling and mining studies are needed before these Mineral Resources can be fully evaluated. It cannot be assumed that all or any part of the Inferred Mineral Resources will ever be upgraded to a higher category.

21 RECOMMENDATIONS

Based on the robust economics for the Cigar Lake project, it is Cameco s view to proceed with the Cigar Lake project through flood remediation and construction to production as described in this technical report. This is supported by the economic analysis, showing a strong pre-tax NPV and IRR that is resilient to changes in cost estimates, and to a lesser extent lower prices and grades.

Cameco plans to implement the major recommendations from the independent underground inflow incident investigation reports when they are finalized. These recommendations when implemented are expected to minimize the risk of any future inflows.

In response to the two 2006 water inflow incidents, the mine plan has been optimized to include ground freezing of the entire 465 production level. With this revised mining plan, the freezing of the 465 production level prior to mining will be extended, to include not only the portion of the 465 level below the orebody, but also all the 465 access drifts beyond the extents of the orebody. In addition, Cameco plans to implement enhanced procedural controls and technical risk assessments for mine development.

Cameco plans to complete a 3-dimensional resource block model for the deposit that will incorporate all the database information including not only the surface holes but also underground holes and test mining data. It also plans to optimize the resource estimation process by refining the variograms from the freeze hole data and by using software with additional capabilities for sample searches. Cameco will also consider additional criteria to formalize the resource classification process.

Cameco plans to adjust the current definition of the mineralized intervals for the purpose of Mineral Resources estimation in order to remove allowances for dilution above and below the mineralized contacts. Mineral Resources would thereafter be reported without including an allowance for dilution.

Cameco plans to include a diamond drilling program in its long range plan with the goal of upgrading the classification of the Inferred Mineral Resources in Phase 2. This information may then be used to develop scoping and feasibility studies for this phase of the Cigar Lake project. Inferred Mineral Resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the Inferred Mineral Resources at Cigar Lake will ever be upgraded to a higher category.

The authors of this technical report concur with, and recommend that Cameco proceed with, the foregoing plans.

22 REFERENCES

Cameco, Regulatory Submission to the CNSC on remediation December 21, 2006

Cameco, Regulatory Submission to the CNSC No 2 shaft Remediation Program Stage 1 - Ground Freezing and Shaft Dewatering June 2006

SRK Consulting, Geochemical Characterization of Cigar Lake Uranium Solution Tailings, in Support of the Rabbit Lake Solution Processing Projects, September 2006.

Melis Engineering, Report on Bench Scale Production of US/EP Effluent and Tailings Samples, August 2006.

Cameco, Water Management Design for Cigar Lake Uranium Mine, Prepared by Ken Dyck, Cameco Paper 30, 17 pp., 2006

Cameco and AREVA for the Cigar Lake Joint Venture, 2006 Draft Rabbit Lake Solution Processing Project Environmental Impact Statement, Executive Summary and covering letter dated November 3, 2006

Cameco, Accelerated Ramp Up Multi-Year Development Plan, October 2004

Cigar Lake Joint Venture (CLJV), 2004b, Construction Licensing Application, Engineering Package No. 3, May 2004, Revised September 2004.

Cigar Lake Joint Venture (CLJV), 2004 Environmental Assessment Study Report (EASR): Construction, Operation and Decommissioning, January 2004.

Cigar Lake Joint Venture (CLJV), 2004a, Mining Facilities Description Manual April 2004, Revised September 2004.

Cigar Lake Joint Venture (CLJV), Mining Facilities Licensing Manual, March 2004

Golder Associates, Revised Mine Development Ground Support Recommendations, September 2003

Cigar Lake Joint Venture (CLJV), Cigar lake Project, Project Description, May 2003

Cigar Lake Joint Venture (CLJV), Construction License Application Engineering Package No. 2 October 2002

Golder Associates, Report on Assessment of Risks Associated with Ground Stability and Potential Water Inflow During Operation at the Cigar Lake Mine, June 2002

Golder Associates, Report on Design of Permanent Infrastructure Opening at Cigar Lake Mine, March 2002

Golder Associates, Report on Production Horizon Analysis and validation Study for the Cigar Lake Mine, March 2002

Golder Associates, Report on Mine Design Validation Study for the Cigar Lake Mine, March 2002

Cigar Lake Joint Venture (CLJV) Owners and the McClean Lake Joint Venture (MLJV) Owners, 2002, JEB Mill Toll Mining Agreement, dated January 1, 2002.

Cigar Lake Joint Venture (CLJV) Owners and the McClean Lake Joint Venture (MLJV) Owners, 2002, Potentially Reactive Waste Rock Disposal Agreement, dated January 1, 2002.

Cigar Lake Joint Venture (CLJV) Owners and the Rabbit Lake Mill owners, Rabbit Lake Toll Mining Agreement, dated January 1, 2002.

Cigar Lake Joint Venture (CLJV), Feasibility Study and Supporting Documentation, Cigar Lake Mining Corporation, May 2001

Cogema (now AREVA), five SEPA reports between 1992 and 1999.

SRC Process Development Branch, Slurry Pumping System Test for Cigar Lake Ore Transport, December 1999.

Cron Metallurgical Engineering, Nordberg WF-100 Cone Crusher Performance Tests, July 1998.

Lavoie, S., Cogema Canada Limited/Cigar Lake Project: Final Report on 1987 Diamond Drilling, Cogema Canada Limited, June 1987

Lavoie, S., Bruneton, R., St. Jean, J, Koch, R., Cogema Canada Limited/Cigar Lake Project: 1986 Final Report: Volume 1 of 8, Cogema Canada Limited, November, 1986

Learn, J., St.-Jean, R., Bruneton, P., Laidlaw, D., Cogema Canada Limited/Cigar Lake Project: Final Report 1985. Volume 1 of 5, Cogema Canada Limited, January 1986

Beaudoin, F., Schimann, K., Description of Geophysical Logging Equipment Used at Waterbury Lake 1981 to 1984, Cogema Canada Limited, June, 1985

Learn, J., Caumartin, P., Morin, A., Waterbury Lake Project: Quality Control of Probing Data: ST22-2T-FC and SNC-36 Probes, 1983-1984, Cogema Canada Limited, January, 1985

Caumartin, P., Waterbury Lake Project/Cigar Lake Area: 1984. Drilling and Compilation Report: Volume 1 of 7, Cogema Canada Limited,1984

Beaudoin, F., Sanjenko, R., Schimann, K., (Cogema) SERU Nucleaire (Canada): Prober s Handbook, SERU Nucleaire Canada Limitee, January, 1984

Schimann, K., Waterbury Lake Project: Report of Activities, 1983, SERU Nucleaire (Canada) Limited, November, 1983

Caumartin, P., Learn, J., St.-Jean, R., Schimann, K., Waterbury Lake Project: Drilling 1983:Volume 1 of 2, SERU Nucleaire Canada Limitee, October, 1983

Learn, J., Caumartin, P., Waterbury Lake Project, Interlaboratory Comparisons of Chemical Assays, Cogema Canada Limited, SERU Nucleaire Canada Limitee, October, 1983

Bruneton P., Geology of the Cigar Lake Uranium Deposit, From Economic Minerals of Saskatchewan (pages 99-119), 1983

Learn, J., Waterbury Lake Project: Report of Activities, 1982 Drilling (Second Half of 1982) Volume 1 of 2, SERU Nucleaire Canada Limitee, December, 1982.

23 DATE AND SIGNATURE PAGE

This NI 43-101 technical report titled Cigar Lake Project, Northern Saskatchewan, Canada , with an effective date of March 30, 2007 has been prepared under the supervision of the undersigned. The format and content of the report conform to Form 43-101F1 of NI 43-101 of the Canadian Securities Administrators.

Signed,

signed and sealed

Alain G. Mainville, P. Geo.	March 30, 2007	Cameco Corporation 2121 11th Street West Saskatoon, SK, S7M 1J3 Canada Tel (306) 956-6200 Fax (306) 956-6201

signed and sealed

Barry W. Schmitke, P. Eng.	March 30, 2007	Cameco Corporation 2121 11th Street West Saskatoon, SK, S7M 1J3 Canada Tel (306) 956-6200 Fax (306) 956-6201

signed and sealed

Douglas G. McIlveen, P. Geo	March 30, 2007	Cameco Corporation 2121 11th Street West Saskatoon, SK, S7M 1J3 Canada Tel (306) 956-6200 Fax (306) 956-6201

signed and sealed

Charles R. Edwards, P. Eng.	March 30, 2007	Cameco Corporation 2121 11th Street West Saskatoon, SK, S7M 1J3 Canada Tel (306) 956-6200 Fax (306) 956-6201

APPENDIX 1
CIGAR LAKE PROJECT TECHNICAL REPORT
LIST OF DRILL HOLES WITH COMPOSITES

DRILL HOLE COMPOSITES : CASE 3125 (3m selectivity, 1m dilution, minimum thickness 2.5m)

Hole No.	Class.	From	To	U Grade	Vertical	Density	TD	GTD
214	bsmt	441.50	445.00	1.18	3.50	2.36	8.25	9.69
142	ore	426.80	430.30	0.88	3.50	1.96	6.86	6.05
39	ore	441.45	444.95	0.95	3.49	2.31	8.05	7.63
138	ore	452.50	456.00	0.96	3.31	2.29	7.58	7.30
48A	ore	431.00	434.50	0.97	3.50	2.21	7.74	7.48
90	ore	429.45	432.95	1.00	3.50	2.17	7.58	7.56
211	ore	437.10	440.60	1.05	3.50	2.13	7.46	7.85
61	ore	440.20	443.70	1.27	3.50	2.30	8.06	10.23
65	ore	427.10	438.60	1.37	11.50	2.25	25.86	35.53
68	ore	444.90	448.40	1.42	3.49	2.13	7.45	10.61
42A	ore	432.45	435.95	1.43	3.48	2.20	7.66	10.98
104	ore	417.70	423.70	1.44	5.99	1.85	11.10	16.02
75	ore	430.00	433.50	1.57	3.50	2.35	8.24	12.93
80	ore	440.00	445.50	1.69	5.50	2.38	13.11	22.16
45A	ore	428.50	432.00	1.71	3.49	1.92	6.69	11.44
89	ore	428.90	432.40	1.87	3.50	2.37	8.31	15.55
20	ore	422.20	426.70	1.99	4.50	2.28	10.28	20.45
49	ore	429.25	432.75	2.07	3.49	2.05	7.15	14.84
146	ore	421.90	425.40	2.13	3.50	2.34	8.21	17.44
147	ore	428.60	435.10	2.18	6.49	2.30	14.96	32.67
141	ore	436.10	439.60	2.27	3.50	2.26	7.92	17.97
31	ore	421.50	426.00	2.36	4.50	2.17	9.75	23.02
47B	ore	421.75	425.25	2.37	3.49	2.29	7.98	18.89
59A	ore	444.25	447.75	2.37	3.48	2.24	7.78	18.45
24	ore	427.50	431.00	2.45	3.50	2.17	7.59	18.55
15	ore	429.50	440.00	2.74	10.49	2.21	23.16	63.36
95	ore	430.00	433.50	2.77	3.49	1.97	6.86	19.03
53C	ore	434.30	437.80	3.14	3.48	1.95	6.80	21.36
49B	ore	434.10	440.10	3.18	5.99	2.08	12.43	39.55
53	ore	431.25	436.75	3.31	5.50	2.07	11.36	37.58
137	ore	427.00	430.50	4.02	3.50	2.15	7.54	30.33
99	ore	433.85	439.85	4.09	6.00	2.06	12.39	50.60
45B	ore	425.50	430.00	4.29	4.44	2.25	9.98	42.80
28	ore	432.30	436.30	4.38	4.00	2.24	8.95	39.23
47D	ore	425.30	428.80	4.75	3.50	2.23	7.79	36.98
144	ore	435.00	439.00	4.96	4.00	2.47	9.86	48.89
97	ore	419.20	427.20	5.10	8.00	2.44	19.54	99.59
71	ore	432.65	436.65	5.18	4.00	2.39	9.58	49.62
49A	ore	430.80	435.30	5.28	4.49	2.02	9.07	47.88
223	ore	452.00	458.50	5.47	6.13	2.28	13.94	76.27
222	ore	465.56	477.56	5.67	10.92	2.27	24.83	140.74
78	ore	435.20	442.20	5.68	7.00	2.30	16.09	91.35

79	ore	428.25	440.25	6.05	12.00	2.50	29.98	181.38
131	ore	434.70	439.20	6.06	4.50	2.26	10.18	61.72
94A	ore	434.40	442.90	7.28	8.49	2.21	18.77	136.74

APPENDIX 1
CIGAR LAKE PROJECT TECHNICAL REPORT
LIST OF DRILL HOLES WITH COMPOSITES

Hole No.	Class.	From	To	U Grade	Vertical	Density	TD	GTD
214	bsmt	441.50	445.00	1.18	3.50	2.36	8.25	9.69
54	ore	438.75	443.25	7.66	4.49	2.33	10.47	80.21
47A	ore	421.20	425.70	7.75	4.50	2.11	9.49	73.55
91	ore	424.90	431.90	8.52	7.00	2.28	15.94	135.75
37C	ore	444.35	447.85	8.88	3.49	2.36	8.25	73.26
129	ore	423.50	433.00	9.13	9.50	2.53	24.08	219.83
198	ore	424.00	430.50	9.36	6.50	2.38	15.46	144.63
77	ore	429.90	439.40	9.49	9.49	2.34	22.21	210.68
48	ore	427.70	432.20	10.60	4.49	2.12	9.53	100.99
196	ore	425.60	436.10	10.72	10.50	2.42	25.41	272.52
115	ore	433.00	444.00	11.23	11.00	2.41	26.55	298.18
197	ore	419.50	426.00	11.51	6.50	2.24	14.55	167.44
143	ore	433.35	439.85	11.68	6.49	2.46	15.96	186.39
117	ore	422.30	426.80	12.53	4.50	2.29	10.32	129.27
225A	ore	414.00	421.50	12.83	7.50	2.55	19.12	245.34
106	ore	421.20	426.70	13.08	5.50	2.55	14.00	183.15
67	ore	420.85	425.85	13.10	5.00	2.35	11.74	153.82
220	ore	432.10	439.10	13.32	7.00	2.46	17.25	229.77
112	ore	427.10	432.10	13.98	5.00	2.39	11.93	166.77
225B	ore	415.10	422.60	14.07	7.50	2.52	18.87	265.52
85	ore	409.00	425.50	16.23	16.49	2.54	41.94	680.68
103	ore	423.80	430.30	17.24	6.49	2.36	15.32	264.17
38	ore	433.50	439.50	17.43	5.99	2.78	16.63	289.83
224	ore	457.00	467.50	18.28	9.75	2.73	26.63	486.91
225	ore	415.10	421.10	18.31	6.00	2.66	15.97	292.37
39A	ore	436.15	442.65	18.38	6.46	2.92	18.87	346.91
221	ore	459.50	465.50	18.97	5.62	2.69	15.10	286.48
119	ore	429.00	434.50	19.01	5.50	2.36	12.99	246.94
76	ore	420.85	426.85	19.58	6.00	2.54	15.25	298.53
44	ore	419.70	427.20	20.11	7.49	2.56	19.19	385.90
127	ore	427.50	433.00	20.13	5.50	2.74	15.09	303.82
19	ore	422.50	426.00	20.17	3.50	2.93	10.26	206.80
46	ore	419.30	428.30	21.68	9.00	2.51	22.56	489.08
187A	ore	416.70	426.70	23.86	9.99	2.95	29.48	703.51
145	ore	434.80	445.30	24.38	10.49	2.85	29.92	729.44
228	ore	430.50	438.50	24.50	8.00	2.90	23.16	567.48
123	ore	434.75	440.25	24.93	5.50	3.45	18.98	473.09
60	ore	420.70	425.70	25.97	5.00	2.81	14.05	364.83
118A	ore	423.90	427.90	26.47	4.00	2.76	11.03	291.86
48B	ore	420.70	428.70	26.50	7.96	2.85	22.70	601.55
227A	ore	413.40	420.90	26.99	7.50	3.00	22.52	607.80
227B	ore	414.00	421.50	28.27	7.50	3.06	22.96	649.09
228B	ore	428.70	437.20	28.43	8.50	2.81	23.88	678.95

228A	ore	430.50	438.50	29.07	8.00	3.10	24.82	721.66
154	ore	435.10	443.10	29.11	8.00	3.17	25.37	738.34
167A	ore	418.20	425.70	29.51	7.50	2.91	21.83	644.10

APPENDIX 1
CIGAR LAKE PROJECT TECHNICAL REPORT
LIST OF DRILL HOLES WITH COMPOSITES

Hole No.	Class.	From	To	U Grade	Vertical	Density	TD	GTD
214	bsmt	441.50	445.00	1.18	3.50	2.36	8.25	9.69
107	ore	417.45	424.95	29.63	7.50	3.10	23.22	687.99
227	ore	414.98	422.60	30.16	7.62	3.17	24.15	728.30
195	ore	422.90	428.90	31.20	6.00	2.92	17.50	545.78
227C	ore	414.50	422.00	31.32	7.50	3.21	24.08	754.28
113	ore	417.60	424.60	32.21	7.00	2.99	20.91	673.61
46A	ore	422.40	431.40	34.85	9.00	3.12	28.05	977.40
44A	ore	418.00	433.00	37.91	14.99	3.22	48.32	1831.83
57	ore	421.85	426.35	38.79	4.50	3.71	16.68	646.89
110	ore	434.90	440.90	40.23	6.00	4.07	24.40	981.56
50	ore	426.25	432.25	40.27	5.99	3.41	20.44	823.00
193A	ore	424.80	429.80	42.04	5.00	3.57	17.83	749.54
228C	ore	429.90	437.40	44.84	7.50	3.85	28.87	1294.47
93A	perch	438.50	446.00	1.28	7.50	2.37	17.81	22.88
49	perch	423.25	426.75	1.36	3.49	2.15	7.51	10.21
95	perch	419.50	424.00	1.72	4.50	2.92	13.14	22.64
27	perch	411.40	414.90	6.19	3.50	2.34	8.19	50.67
20	perch	416.20	419.70	9.75	3.50	2.33	8.17	79.62
17	u/c	430.80	430.81					
18	u/c	432.80	432.81					
21	u/c	451.40	451.41					
22	u/c	437.20	437.21					
23	u/c	380.80	380.81					
25	u/c	424.20	424.21					
26	u/c	429.30	429.31					
29	u/c	446.50	446.51					
32	u/c	279.20	279.21					
33	u/c	446.00	446.01					
34	u/c	438.80	438.81					
35	u/c	444.60	444.61					
40	u/c	439.50	439.51					
41	u/c	466.10	466.11					
42	u/c	439.40	439.41					
43	u/c	479.70	479.71					
45	u/c	434.20	434.21					
51	u/c	451.80	451.81					
52	u/c	429.70	429.71					
55	u/c	448.60	448.61					
56	u/c	444.00	444.01					
58	u/c	451.70	451.71					
59	u/c	453.70	453.71					
62	u/c	446.60	446.61					
63	u/c	445.80	445.81					

64	u/c	445.10	445.11
66	u/c	440.60	440.61
69	u/c	446.20	446.21

APPENDIX 1
CIGAR LAKE PROJECT TECHNICAL REPORT
LIST OF DRILL HOLES WITH COMPOSITES

Hole No.	Class.	From	To	U Grade	Vertical	Density	TD	GTD
214	bsmt	441.50	445.00	1.18	3.50	2.36	8.25	9.69
70	u/c	448.00	448.01					
72	u/c	445.00	445.01					
73	u/c	451.90	451.91					
74	u/c	451.20	451.21					
81	u/c	449.50	449.51					
83	u/c	388.90	388.91					
84	u/c	469.30	469.31					
86	u/c	393.80	393.81					
87	u/c	440.80	440.81					
88	u/c	473.80	473.81					
92	u/c	454.40	454.41					
94	u/c	346.90	346.91					
96	u/c	434.65	434.66					
98	u/c	454.90	454.91					
100	u/c	445.40	445.41					
102	u/c	453.60	453.61					
105	u/c	449.70	449.71					
108	u/c	432.00	432.01					
109	u/c	437.90	437.91					
111	u/c	444.50	444.51					
114	u/c	444.40	444.41					
116	u/c	435.20	435.21					
120	u/c	447.70	447.71					
121	u/c	442.70	442.71					
122	u/c	406.60	406.61					
124	u/c	440.00	440.01					
125	u/c	433.70	433.71					
126	u/c	440.70	440.71					
128	u/c	447.80	447.81					
130	u/c	442.30	442.31					
132	u/c	239.40	239.41					
133	u/c	436.10	436.11					
134	u/c	432.40	432.41					
135	u/c	438.80	438.81					
139	u/c	446.40	446.41					
140	u/c	414.40	414.41					
149	u/c	442.70	442.71					
150	u/c	448.50	448.51					
151	u/c	452.60	452.61					
152	u/c	447.60	447.61					
153	u/c	504.30	504.31					
155	u/c	510.10	510.11					

156	u/c	448.10	448.11
157	u/c	513.90	513.91
158	u/c	447.30	447.31

APPENDIX 1
CIGAR LAKE PROJECT TECHNICAL REPORT
LIST OF DRILL HOLES WITH COMPOSITES

Hole No.	Class.	From	To	U Grade	Vertical	Density	TD	GTD
214	bsmt	441.50	445.00	1.18	3.50	2.36	8.25	9.69
159	u/c	523.60	523.61					
160	u/c	447.60	447.61					
161	u/c	477.20	477.21					
162	u/c	449.00	449.01					
163	u/c	465.00	465.01					
164	u/c	454.50	454.51					
165	u/c	456.10	456.11					
166	u/c	452.90	452.91					
168	u/c	453.50	453.51					
169	u/c	451.35	451.36					
171	u/c	458.00	458.01					
172	u/c	459.30	459.31					
173	u/c	452.00	452.01					
175	u/c	487.90	487.91					
176	u/c	455.10	455.11					
177	u/c	450.30	450.31					
179	u/c	453.60	453.61					
180	u/c	458.30	458.31					
181	u/c	455.10	455.11					
182	u/c	480.80	480.81					
184	u/c	453.60	453.61					
185	u/c	442.00	442.01					
186	u/c	199.00	199.01					
188	u/c	366.60	366.61					
189	u/c	372.25	372.26					
190	u/c	369.50	369.51					
191	u/c	373.50	373.51					
192	u/c	373.75	373.76					
194	u/c	397.00	397.01					
199	u/c	438.20	438.21					
200	u/c	459.20	459.21					
201	u/c	384.58	384.59					
202	u/c	415.05	415.06					
203	u/c	470.05	470.06					
204	u/c	309.05	309.06					
205	u/c	443.72	443.73					
206	u/c	391.60	391.61					
207	u/c	451.10	451.11					
208	u/c	367.10	367.11					
209	u/c	358.10	358.11					
210	u/c	450.90	450.91					
212	u/c	467.10	467.11					

213	u/c	451.10	451.11
215	u/c	447.60	447.61
216	u/c	448.20	448.21

APPENDIX 1
CIGAR LAKE PROJECT TECHNICAL REPORT
LIST OF DRILL HOLES WITH COMPOSITES

Hole No.	Class.	From	To	U Grade	Vertical	Density	TD	GTD
214	bsmt	441.50	445.00	1.18	3.50	2.36	8.25	9.69
217	u/c	445.52	445.53					
219	u/c	426.00	426.01					
101A	u/c	429.20	429.21					
148A	u/c	430.90	430.91					
170A	u/c	457.90	457.91					
174A	u/c	462.00	462.01					
178A	u/c	462.50	462.51					
183A	u/c	480.90	480.91					
36A	u/c	449.40	449.41					
37A	u/c	447.40	447.41					
37B	u/c	448.20	448.21					
42B	u/c	436.60	436.61					
51A	u/c	452.80	452.81					
52A	u/c	436.40	436.41					
53A	u/c	442.30	442.31					
53B	u/c	443.50	443.51					
56A	u/c	443.20	443.21					
56B	u/c	450.20	450.21					
58A	u/c	447.60	447.61					