TECHNICAL REPORT ON THE MINERAL RESOURCE ESTIMATE FOR THE MCCLEAN NORTH URANIUM DEPOSITS, SASKATCHEWAN PREPARED FOR THE MCCLEAN LAKE JOINT VENTURE

NI 43-101 Report

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Scot+ Wilson January 31, 2007



SCOTT WILSON ROSCOE POSTLE ASSOCIATES INC.

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1 SUMMARY

EXECUTIVE SUMMARY

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA), of the Scott Wilson Mining Group, was retained by the McClean Lake Joint Venture (MLJV) to independently estimate the Mineral Resources of selected uranium deposits located in the McClean Lake property's McClean North trend within the Athabasca Basin of northern Saskatchewan. This technical report was written by Scott Wilson RPA in accordance with the requirements of National Instrument 43-101 (NI 43-101), Companion Policy 43-101CP, and Form 43-101F1 of the Ontario Securities Commission (OSC) and Canadian Securities Administrators (CSA).

Scott Wilson RPA's mandate was to estimate uranium resources in the McClean North trend that are amenable to open pit mining and to provide the MLJV with the resource block model in preparation for the MLJV carrying out open pit optimization and estimation of open pit reserves in-house. Scott Wilson RPA previously estimated the Mineral Resources and Mineral Reserves of the high grade portions of three uranium deposits (pods) in the McClean North trend under the assumption of blind shaft boring as the mining method (Hendry and Routledge, 2006b).

CONCLUSIONS

At the request of the MLJV, Scott Wilson RPA has estimated resources for uranium mineralized pods (Pods 1, 2, and 5) in the McClean North trend on the McClean Lake property owned by the MLJV and operated by AREVA Resources Canada Inc. (AREVA).

The McClean North pods are consisting of fine-grained coffinite veinlets, nodules of pitchblende, and masses of pitchblende/uraninite hosted in hematite-altered clay-rich zones containing massive layers of illite in sandstone and basement graphitic gneisses. The deposits are typical of egress style mineralization and they straddle and parallel the

unconformity between the Athabasca sandstones and conglomerates and the Aphebian basement rocks.

The resource estimate is based entirely on diamond drilling. AREVA provided the drill hole database to Scott Wilson RPA. In Scott Wilson RPA's opinion, the drill hole database as validated in this report is reasonable for the estimation of resources and reserves at McClean North.

Scott Wilson RPA prepared the 3-D resource block model with the intent of providing it to the MLJV for open pit design optimization to be undertaken in-house by AREVA on behalf of the MLJV. The estimate includes internal dilution, but not external dilution, which should be added for the estimation of open pit resources. The estimate has been validated by various means and by alternative grade interpolation methods and is reasonable, in Scott Wilson RPA's opinion. At a cut-off grade of $0.1\% U_3O_8$, the Indicated Mineral Resource of the three pods totals 186,100 tonnes averaging 2.80% U_3O_8 . The Inferred Mineral Resource, contained in pods 1 and 5, totals 3,260 tonnes grading $0.79\% U_3O_8$.

Scott Wilson RPA prepared a special waste wireframe that generally surrounds the resource wireframe. Similar kriging parameters, but larger search distances, were used to interpolate a special waste grade model, independent of the resource model.

The Indicated Mineral Resource at the 0.1% U₃O₈ cut-off grade is a reasonable base for open pit design and optimization, and conversion to open pit reserves.

RECOMMENDATIONS

Scott Wilson RPA recommends that the MLJV use the Scott Wilson RPA resource block model as a basis for the estimation of open pit Mineral Resources and open pit Mineral Reserves, assuming the latter is justified under CIM guidelines for Mineral Reserve estimation. Scott Wilson RPA further recommends that dilution (10%) be applied to the resources for open pit resource estimation. Grade of the external dilution may be derived from blocks within the special waste wireframe that generally surrounds the resource wireframe.

TECHNICAL SUMMARY

PROPERTY DESCRIPTION AND LOCATION

The McClean Lake property is located in northern Saskatchewan at longitude 103° 53'W and latitude 58° 15'N which in UTM NAD 83 coordinates is Zone 13N, 565,543E, 6,457,087N. The property is located about 26 kilometres by road west of the Rabbit Lake mine and approximately 750 kilometres by air north of Saskatoon.

LAND TENURE

The MLJV surface lease, covering an area of 3,677 hectares, was granted by the Province of Saskatchewan in 1991. This lease was replaced by a new 33-year agreement in 2002.

The MLJV mineral title consists of two mineral leases covering an area of 980 hectares and ten mineral claims covering an area of 3,250 hectares. Title to the mineral claims is secure until 2023. The right to mine the McClean Lake deposits was acquired under these mineral leases, as renewed from time to time. The terms of the two mineral leases were renewed for ten years in April 2006.

SITE INFRASTRUCTURE

The main facilities and operations at the McClean Lake property are an open pit mining area (Sue Site) and the JEB Mill located near the previously mined out JEB pit, which has been converted to a tailings management facility. There are also various supporting facilities for activities such as water treatment, site infrastructure including roads, electricity distribution, and the camp facilities. Open pit mining of the Sue E deposit is currently underway with mining expected to be completed by the end of 2007. The Sue C pit and Sue A north extension are mined out, and future mining of the Sue B pit has been approved. A 12-kilometre haul road connects the Sue and JEB Sites. The camp facilities are located near the JEB Site. The office and shops for the mill are housed in the mill complex.

HISTORY

In 1974, Canadian Occidental Petroleum Limited ("Canadian Oxy") commenced uranium exploration in the area between the then known Rabbit Lake deposit and the Midwest property, where previously uraniferous boulder trains had been found. In 1977, a diamond drilling program was carried out in joint venture with Inco Ltd., and one of the 47 drilled holes encountered encouraging uranium mineralization. Extensive exploration work that followed discovered the McClean North deposit in 1979, the McClean South zone in 1980, and the JEB deposit in 1982. In January 1985, after a brief suspension of exploration, Minatco Limited ("Minatco"), a predecessor in title to Cogema Resources Inc., now AREVA Resources Canada Inc., entered into the joint venture with Canadian Oxy and Inco Ltd. Exploration resumed and, as a result, the Sue A deposit was found in 1988, followed by the Sue B and Sue C deposits. The Sue E deposit was discovered in late 1991. The Caribou Lake pod was discovered in 2002 in an area that does not appear to be on an existing mineralization trend, but may possibly lie along the north and westwards continuation of the Sue trend.

In 1993, the respective owners of McClean Lake properties and the Midwest property combined their interests to make one complementary project for processing ore through a single mill at McClean Lake. In order to accomplish this, a portion of Denison's interest in Midwest was exchanged for an interest in McClean Lake. A number of ownership changes took place between 1993 and 2004. Currently, AREVA is the operator of the joint venture, with 70% ownership. Denison holds 22.5% ownership and OURD (Canada) Co., Ltd. (OURD) holds 7.5%.

The property was placed into production in 1997. Mining was suspended in early 2002 after exhaustion of ore in the JEB and Sue C pits. The JEB Mill continued to process stockpiles. Mining resumed in 2005 at the Sue A and E deposits. Over the five years from 2001 to 2005, production totalled 13,706 tonnes of uranium (30 million

pounds U) from combined stockpile and mine feed of 707,000 tonnes averaging a head grade of 2.28% U_3O_8 . In 2006, the mill produced approximately 1.5 million pounds of uranium (1.8 million pounds U_3O_8).

GEOLOGY AND MINERALIZATION

The MLJV uranium deposits lie near the eastern margin of the Athabasca Basin in the Churchill Structural Province of the Canadian Shield. The bedrock geology of the area consists of Precambrian gneisses unconformably overlain by flat lying unmetamorphosed sandstones and conglomerates of the Athabasca Group. The Precambrian basement complex consists of an overlying Aphebian-aged supracrustal metasedimentary unit infolded into the older Archean gneisses. The younger Helikian-aged Athabasca sandstone was deposited onto this basement complex. The basement surface is marked by a paleoweathered zone with lateritic characteristics referred to as regolith.

Excluding the JEB deposit, which was mined out several years ago and is now used as a tailings management facility, the MLJV deposits are located along two "trends" of mineralization, the McClean trend and the Sue trend. The recently discovered Caribou Lake pod is a singular deposit at this time but may lie along the north and westward continuation of the Sue trend.

The mineralized zones in the McClean trend occur as sausage shaped pods straddling the unconformity between the Athabasca sandstones and the crystalline basement. The mineralized pods undulate from 37 metres above to 37 metres below the unconformable contact which is on average 160 metres below the topographic surface in this area.

The mineralization is hosted by altered sandstones and Aphebian basement rocks usually altered to clay–rich rocks. A zone of illite alteration forms a mushroom shaped envelope tilted to the north in the McClean North zone. There are 11 discrete pods arranged along two separate but parallel trends (termed the North and South zones) separated by approximately 500 metres. Generally the mineralization in the basement is at the eastern extremity of the combined zone. Uranium mineralization is hosted in hematitically altered clay–rich zones containing massive layers of illite. Uranium occurs as fine–grained coffinite, veinlets and nodules of pitchblende, and massive pitchblende/uraninite. Associated with the uranium are highly variable but generally small amounts of nickel arsenides. Generally, the mineralization located below the unconformity is cleaner than that found in the sandstone.

MINERAL RESOURCES

After verification of data in the drill hole database, the resource estimate for McClean North trend Pods 1, 2, and 5 was carried out by conventional 3D computer block modelling. Geology (lithology, mineralization, structure) was interpreted and wireframes were constructed for each pod as well as for special waste/dilution envelopes around the pods. Specific gravity (SG) was calculated for each assay in the database based on U_3O_8 grade. Assays composited at 2 m intervals within the wireframes. Composite grades were weighted by length and SG. Statistics were examined for raw assays, and assays and composites within the resource wireframes. Variography examined for composites to assess U_3O_8 grade continuity within the wireframes. A block model (8 m by 5 m by 2 m) was constructed. Ordinary kriging (OK) was used to interpolate the product of composite U₃O₈ grades (%) and composite SGs to the resource block model. The composite SGs were kriged to provide a bulk density block model. The grade block model was created by dividing the interpolated block grade-SG by the interpolated SG value.

Scott Wilson RPA classified resources based on the drill hole spacing, apparent grade continuity hole to hole, and cross section to cross section. The material in the main pods at the Athabasca sandstone-basement contact has been well drilled and is classified as Indicated Resources. Small lenses, mostly in the footwall, with continuity in two or more holes on section but no, or limited, continuity on adjacent cross sections, are classed as Inferred Resources.

Model validation was carried out by statistical comparison of resource block grades with assays and composites, visual examination of block grades with drill hole data on

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screen, by alternative interpolation methods and by comparison of a non SG weighted kriged grade model with AREVA's 1998 estimate.

The estimated resources are presented in Table 1-1 at incremental U_3O_8 cut-off grades. Based on Scott Wilson RPA's review of U_3O_8 prices and mining operating costs at the MLJV, the 0.1% U_3O_8 cut-off grade is reasonable for conversion to Mineral Reserves.

Scott Wilson RPA cautions that the resource block model carries internal dilution but not external dilution. Interpolation of block grades was carried out within the envelope of special waste surrounding the resource wireframe and Scott Wilson RPA recommends that these grades be applied to model dilution during open pit design optimization.

Table 1-1 McClean North U₃O₈ Resources at Incremental Block Cut-Off Grades McClean Lake Joint Venture McClean North Project, Saskatchewan

	Pod 1 Indicated Resources						Pod 1 Inferred Resources							
COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U₃O ₈ Tonnes	U ₃ O ₈ lbs (000's)	COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)			
All	116,368	2.84	2.26	3,307	7,290	All	3,359	0.71	2.23	23.9	52.7			
0.1	115,898	2.85	2.26	3,308	7,290	0.1	3,064	0.77	2.23	23.6	52.1			
0.2	111,495	2.96	2.26	3,300	7,280	0.2	2,562	0.89	2.23	22.8	50.3			
0.3	104,383	3.15	2.26	3,283	7,240	0.3	2,241	0.99	2.23	22.1	48.8			
0.4	99,919	3.27	2.27	3,266	7,200	0.4	2,125	1.02	2.23	21.7	47.9			
0.5	95,330	3.41	2.27	3,246	7,160	0.5	1,869	1.10	2.23	20.6	45.3			
1.0	70,729	4.33	2.28	3,063	6,750	1.0	332	3.12	2.25	10.3	22.8			
2.0	43,482	6.62	2.23	2,877	6,340	2.0	272	3.44	2.25	9.4	20.6			
5.0	16,470	10.99	2.40	1,810	3,990	5.0	-	-	-	-	-			
10.0	5,862	18.37	2.54	1,077	2,370	10.0	-	-	-	-	-			

	Pod 2 Indicated Resources							Pod 2 Inferred Resources					
COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)		COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)	
All	43,983	2.59	2.25	1,138	2,510		All	-	-	-	-	-	
0.1	43,983	2.59	2.25	1,138	2,510		0.1	-	-	-	-	-	
0.2	43,485	2.62	2.25	1,137	2,510		0.2	-	-	-	-	-	
0.3	43,064	2.64	2.25	1,136	2,500		0.3	-	-	-	-	-	
0.4	41,714	2.71	2.25	1,131	2,490		0.4	-	-	-	-	-	
0.5	40,202	2.80	2.26	1,124	2,480		0.5	-	-	-	-	-	
1.0	29,746	3.51	2.26	1,043	2,300		1.0	-	-	-	-	-	
2.0	16,354	5.21	2.29	851	1,880		2.0	-	-	-	-	-	
5.0	6,662	8.65	2.33	576	1,270		5.0	-	-	-	-	-	
10.0	1,602	13.78	2.40	221	487		10.0	-	-	-	-	-	

	Pod	5 Indicate	ed Resour	ces		Pod 5 Inferred Resources						
COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U₃O₅ Tonnes	U ₃ O ₈ lbs (000's)	COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)	
All	26,376	2.89	2.26	762	1,680	All	197	0.33	2.22	0.66	1.45	
0.1	26,233	2.91	2.26	762	1,680	0.1	197	0.33	2.22	0.66	1.45	
0.2	25,645	2.97	2.26	761	1,680	0.2	118	0.44	2.22	0.52	1.16	
0.3	25,219	3.01	2.26	760	1,680	0.3	118	0.44	2.22	0.52	1.16	
0.4	24,862	3.05	2.26	759	1,670	0.4	118	0.44	2.22	0.52	1.16	
0.5	23,778	3.17	2.26	754	1,660	0.5	-	-	-	-	-	
1.0	15,771	4.39	2.28	692	1,530	1.0	-	-	-	-	-	
2.0	8,700	6.81	2.32	592	1,310	2.0	-	-	-	-	-	
5.0	5,060	9.67	2.35	489	1,079	5.0	-	-	-	-	-	
10.0	2,174	11.98	2.38	260	574	10.0	-	-	-	-	-	

	Total Indicated Resources							Total Inferred Resources						
COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U₃O ₈ Tonnes	U ₃ O ₈ lbs (000's)		COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)		
All	186,726	2.79	2.26	5,207	11,480		All	3,556	0.69	2.23	24.5	54.1		
0.1	186,113	2.80	2.26	5,208	11,480		0.1	3,261	0.74	2.23	24.3	53.5		
0.2	180,625	2.88	2.26	5,199	11,460		0.2	2,681	0.87	2.23	23.3	51.4		
0.3	172,666	3.00	2.26	5,179	11,420		0.3	2,359	0.96	2.23	22.7	50.0		
0.4	166,495	3.10	2.26	5,156	11,370		0.4	2,244	0.99	2.23	22.3	49.1		
0.5	159,309	3.22	2.26	5,124	11,300		0.5	1,869	1.10	2.23	20.6	45.3		
1.0	116,245	4.13	2.28	4,798	10,580		1.0	332	3.12	2.25	10.3	22.8		
2.0	68,536	6.30	2.25	4,320	9,520		2.0	272	3.44	2.25	9.4	20.6		
5.0	28,192	10.20	2.37	2,875	6,340		5.0	-	-	-	-	-		
10.0	9.638	16.16	2.48	1.558	3,430		10.0	-	-	-	-	-		

Notes:

1. CIM definitions were followed for Mineral Resources.

2. Mineral Resources are estimated at a minimum cut-off grade of 0.1% U₃O_{8.}

3. Mineral Resources are estimated using an average long-term uranium price of US\$23.50 per pound (C\$29.00/lb), and an exchange rate of 1.23C\$ per US\$.

4. A minimum vertical thickness of 1 metre was used.

5. Indicated Mineral Resources are inclusive of Probable Mineral Reserves.

6. AREVA holds 70.0% interest in the MLJV and the above Resources.

7. Denison holds 22.5% interest in the MLJV and the above Resources.

2 INTRODUCTION AND TERMS OF REFERENCE

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA), of the Scott Wilson Mining Group, was retained by the McClean Lake Joint Venture (MLJV) to independently estimate the Mineral Resources of selected uranium deposits located in the McClean Lake property's McClean North trend within the Athabasca Basin of northern Saskatchewan. This technical report was written by Scott Wilson RPA in accordance with the requirements of National Instrument 43-101 (NI 43-101), Companion Policy 43-101CP, and Form 43-101F1 of the Ontario Securities Commission (OSC) and Canadian Securities Administrators (CSA).

Scott Wilson RPA's mandate was to estimate uranium resources in the McClean North trend that are amenable to open pit mining and to provide the MLJV with the resource block model in preparation for the MLJV carrying out open pit optimization and estimation of open pit reserves in-house. Scott Wilson RPA independently estimated the Mineral Resources and Mineral Reserves of the high grade portions of three uranium deposits (pods) in the McClean North trend under the assumption of Blind Shaft Boring as the mining method (Hendry and Routledge, 2006b). The effective date of this report is December 31, 2006.

AREVA Resources Canada Inc. (AREVA) and Denison Mines Inc. (Denison) are partners in the MLJV which owns the McClean Lake uranium property. AREVA, a wholly owned subsidiary of AREVA, a multinational French government agency, holds a 70.0% interest in the MLJV. Denison holds a 22.5% interest and OURD (Canada) Co., Ltd. (OURD) holds 7.5%. AREVA is the operator of the McClean Lake property. AREVA Resources Canada Inc. was previously known as Cogema Resources Inc.

The MLJV holds mineral claims and leases covering areas that host four uranium deposits including Sue B, D, E and Caribou as well as the McClean North and South

SCOTT WILSON RPA

trends which contain some ten small uranium deposits, or pods. The claims also include the mined-out JEB, Sue C, and Sue A deposits.

The MLJV owns a uranium processing facility, the JEB Mill, which had an original design capacity of six million pounds of U_3O_8 per year. It was put into operation in 1999 to process ore from the now mined out JEB and Sue C deposits. In 2001, the JEB Mill received a four-year operating license that permits increased annual production from six to eight million pounds U_3O_8 . A mill expansion and licensing was completed in 2006 that increased annual capacity up to 12 million pounds U_3O_8 in anticipation of processing ore from Midwest Lake and Cigar Lake deposits.

AREVA also owns a 69.16% interest (Denison 25.17%) in the Midwest Joint Venture which includes the Midwest uranium deposit. The latter is located near South McMahon Lake, about 20 kilometres by existing roads from the McClean Lake processing facilities.

SOURCES OF INFORMATION

This technical report presents Scott Wilson RPA's estimate of Mineral Resources at the McClean North trend only. Scott Wilson RPA has previously prepared three separate reports for Denison:

- 1. on the Midwest property,
- 2. on the McClean Lake property,
- 3. and on the Sue D deposit at McClean Lake.

The principal technical documents and files related to the McClean North trend uranium deposits are as follows:

- Technical Report on the Denison Mines Inc. Uranium Properties, Saskatchewan prepared for Denison by James W. Hendry, P. Eng., and Richard E. Routledge, M.Sc., P. Geol. of RPA (now Scott Wilson RPA), February 16, 2006.
- Denison Mines Annual Information Form for the fiscal year ending December 31, 2005.

• Report on Reserves and Resources of Denison Energy Inc. McClean Lake and Midwest area, Saskatchewan, by William C. Kerr, P.Geo., Joe Spiteri, P.Geo., Gary A Cohoon, P.Geo., H.C. Counsell, P.Eng., and Andrew C. Rickaby, October 10, 2003.

Work on this project was completed by Scott Wilson RPA Consulting Geologist Richard E. Routledge, M.Sc., P.Geo.

Mr. Routledge is a Qualified Person in accordance with the requirements of NI 43-101. Scott Wilson RPA representatives, Mssrs. James W. Hendry and Richard E. Routledge, visited the McClean Lake mine site on February 1 and 2, 2005, and the AREVA exploration office in Saskatoon on January 31, 2005 and February 2 to 5, 2005. Scott Wilson RPA Consulting Geologist David Ross, M.Sc., P.Geo., collected additional data and reports from AREVA in Saskatoon from July 19 to 23, 2005.

Technical documents and reports on the property were reviewed at the site and additional information was obtained from AREVA and Denison personnel. Discussions were held with technical personnel as follows:

- Sylvain Eckert, Manager, Mine Projects, AREVA Canada Resources Inc., Saskatoon;
- William Kerr, Vice President Exploration, Denison Mines Inc.;
- Jim Corman, General Manager, McClean Lake, Saskatchewan;
- Mike Eaid, Mine Superintendent, McClean Lake, Saskatchewan;
- Bill Dodds, former Mine Superintendent, McClean Lake, Saskatchewan;
- Steve Wilson, Chief Mine Geologist, McClean Lake, Saskatchewan;

Scott Wilson RPA would like to acknowledge the co-operation and assistance that has been provided by Denison and AREVA personnel.

The documentation reviewed, and other sources of information, are listed at the end of this report in Item 21 References.

LIST OF ABBREVIATIONS

Units of measurement used in this report conform to the SI (metric) system. All currency in this report is US dollars (US\$) unless otherwise noted.

μ	micron	kPa	kilopascal
°C	degree Celsius	kVA	kilovolt-amperes
°F	degree Fahrenheit	kW	kilowatt
μg	microgram	kWh	kilowatt-hour
A	ampere	L	litre
а	annum	L/s	litres per second
bbl	barrels	m	metre
Btu	British thermal units	Μ	mega (million)
C\$	Canadian dollars	m ²	square metre
cal	calorie	m ³	cubic metre
cfm	cubic metres per minute	min	minute
cm	centimetre	MASL	metres above sea level
cm ²	square centimetre	mm	millimetre
d	day	mph	miles per hour
dia.	diameter	MVA	megavolt-amperes
dmt	dry metric tonne	MW	megawatt
dwt	dead-weight ton	MWh	megawatt-hour
ft	foot	m³/h	cubic metres per hour
ft/s	foot per second	opt, oz/st	ounce per short ton
ft ²	square foot	oz	Troy ounce (31.1035g)
ft ³	cubic foot	oz/dmt	ounce per dry metric tonne
g	gram	ppm	part per million
G	giga (billion)	psia	pound per square inch absolute
Gal	Imperial gallon	psig	pound per square inch gauge
g/L	gram per litre	RL	relative elevation
g/t	gram per tonne	S	second
gpm	Imperial gallons per minute	st	short ton
gr/ft [°]	grain per cubic foot	stpa	short ton per year
gr/m°	grain per cubic metre	stpd	short ton per day
hr	hour	t	metric tonne
ha	hectare	tpa	metric tonne per year
hp	horsepower	tpd	metric tonne per day
in	Inch	US\$	United States dollar
in ²	square inch	USg	United States gallon
J	Joule	USgpm	US gallon per minute
k	Kilo (thousand)	V	volt
kcal	kilocalorie	W	watt
kg	kilogram	wmt	wet metric tonne
km	kilometre	ydĭ	cubic yard
km/h	kilometre per hour	yr	year
km⁺	square kilometre		

TABLE 2-1 LIST OF ABBREVIATIONS McClean Lake Joint Venture McClean Lake Property, Saskatchewan

Abbreviation	Meaning
As	arsenic
Со	cobalt
Mg	magnesium
Ni	nickel
U	uranium
U ₃ O ₈	uranium oxide
Ukg/t	uranium grade in kg/tonne (or parts per thousand)
m.y.	million years
O ₂	oxygen
e.m.f.	electromotive force
C.C.D. circuit	counter current decantation
SAG	semi autogenous grinding
SX	solvent extraction

TABLE 2-2SUPPLEMENTARY LIST OF ABBREVIATIONSMcClean Lake Joint VentureMcClean Lake Property, Saskatchewan

3 RELIANCE ON OTHER EXPERTS

This report has been prepared by Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) for McClean Lake Joint Venture (MLJV). The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to Scott Wilson RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other information supplied by MLJV, AREVA Resources Canada Inc., Denison Mines Inc., and other third party sources.

For the purpose of this report, Scott Wilson RPA has relied on ownership information provided by MLJV and Denison Mines Inc. Scott Wilson RPA has not researched property title or mineral rights for the McClean Lake property and expresses no legal opinion as to the ownership status of the property.

Environmental and metallurgical information provided in this report has been extracted from an earlier Scott Wilson RPA report (Hendry and Routledge, 2006b) that relied on the professional services of Dr. Randy Knapp, P. Eng., Principal of SENES Consultants Limited, and H.C. Counsell, P.Eng., Consulting Metallurgist, respectively.

4 PROPERTY DESCRIPTION AND LOCATION PROPERTY LOCATION

The McClean Lake property is located in northern Saskatchewan at longitude 103° 53'W and latitude 58° 15'N which in UTM NAD 83 coordinates is Zone 13N, 565,543E, 6,457,087N (Figure 4-1). The property is located about 26 kilometres by road west of the Rabbit Lake mine and approximately 750 kilometres by air north of Saskatoon.

FIGURE 4-1 PROPERTY LOCATION MAP, NORTHERN SASKATCHEWAN



Modified from Denison Mines Inc.

CLAIMS STATUS

The McClean Lake property covers an area hosting the Sue A, B, C, D, and E, the McClean North, and the JEB uranium deposits as well as other prospects. Three of these deposits, JEB, Sue C and Sue A, have been mined out and the ore, which was stockpiled on surface, was subsequently processed. The mined-out JEB pit has been converted into the JEB Tailings Management Facility (JTMF) designed to receive tailings from the McClean Lake ores as well as the Midwest Project and Cigar Lake ores. Special low-grade uranium-bearing waste ("special waste¹") from the McClean Lake and Midwest deposits will be placed in the mined-out Sue C/Sue A pit. Agreement has been reached for the Cigar Lake special waste to be deposited in that pit as well.

The JEB Mill consists of a modern mill licensed to produce 8.0 million pounds of uranium concentrate per year, a sulphuric acid plant, warehouses, shops, offices, and living accommodations for site personnel, together with related infrastructure. The JEB Mill is currently operating at a rate of approximately 2.2 million pounds per year of U_3O_8 to fulfil existing contracts and to optimize stockpile throughput.

All of the surface facilities and the mine sites are located on lands owned by the Province of Saskatchewan. The right to use and occupy the lands was granted in a surface lease agreement with the Province of Saskatchewan. The original surface lease covering an area of approximately 3,677 hectares and granted in 1991 was replaced by a new agreement in 2002 valid for a period of 33 years. Obligations under the surface lease agreement primarily relate to annual reporting regarding the status of the environment, the land development and progress made on northern employment and business development.

The McClean Lake Property consists of two mineral leases covering an area of 980 hectares and ten mineral claims covering an area of 3,250 hectares. The right to mine the McClean Lake deposits was acquired under these mineral leases, as renewed from time to

¹ Special waste is material which is below cut-off (usually about 0.085 %U, 0.1% $U_3O_{8,}$) but which does contain uranium mineralization grading greater than 0.025% U and which requires special disposal.

time. The mineral leases are valid for 10 years with the right to renew for successive 10year periods, provided that the leaseholders are not in default pursuant to the terms of the lease. The terms of the two mineral leases were renewed in April 2006 for ten years with expiry extended to 2015 and 2016. Title to the mineral claims is secure until 2023.

The uranium produced from the McClean Lake deposits are subject to Saskatchewan uranium royalties under the terms of Part III of the Crown Mineral Royalty Schedule, 1986 (Saskatchewan), as amended.

ENVIRONMENTAL AND PERMITTING STATUS

The McClean Lake property is subject to decommissioning liabilities. AREVA, the operator, filed a conceptual decommissioning plan with the Saskatchewan government. Financial assurances are in place for the total amount of \$35.0 million to cover the estimated costs of this decommissioning work. MLJV has filed an updated decommission plan with the regulatory bodies, with estimated decommissioning costs reduced to \$29 million.

The McClean Lake site is operated under various permits, licences, leases and claims granted and renewed from time to time. MLJV reports that currently all are in good standing. On July 25, 2005, the Canadian Nuclear Safety Commission ("CNSC") issued Mine Operating Licence, UMOL – MINE MILL – McCLEAN .02/2009, for a four–year term to May 30, 2009. The Approval to Operate Pollutant Control Facilities 10–2005 was issued on August 26, 2005, by Saskatchewan Environment. This approval expires on August 31, 2010. Scott Wilson RPA has viewed documentation supporting the latter two renewals.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

ACCESSIBILITY

Access to the McClean Lake property sites is by both road and air. Goods are transported to the sites by truck over an all-weather road connecting with the provincial highway system. Air transportation is provided through the Points North airstrip about 25 kilometres from McClean Lake (Figure 5-1).

The nearest permanent community is Wollaston Post, about 50 kilometres from the property on the other side of Wollaston Lake. Workers commute to and from the site by aircraft landing at Points North, then by bus to the site. While at the site, workers reside in permanent camp facilities at McClean Lake. Personnel are recruited from the northern communities and major population centres such as Saskatoon, and normally work one week on and one week off.



FIGURE 5-1 MCCLEAN LAKE AND MIDWEST PROPERTIES

Source: Denison Mines Inc.

CLIMATE

Site activities are carried out all year despite the cold weather during the winter months. The climatological data - temperature and precipitation - have been summarized from data provided by Environment Canada (2003). The mean monthly temperatures are below 0°C for seven months of the year. Annually, mean monthly temperature ranges between -24.3°C and 15.3°C, with extremes as low as -34.2°C, indicating the severity of

the winter. The precipitation is relatively heavy for the region (550 millimetres annually with more than half that total falling as rain). The wettest period is from June to September, which accounts for 55% of the total annual precipitation. The mean date of the last frost in spring is June 1 and the mean date of the first frost in the fall is September 1, giving a mean annual frost-free period of 86 days. The mean annual temperature is -3.6° C, and the area lies within a zone of discontinuous permafrost.

LOCAL RESOURCES

Water for industrial activities is obtained from Pat Lake, southwest of the JEB Mill, on the McClean Lake property.

Electric power for the JEB Mill and the Sue Site is obtained from the provincial grid through a switch station at Points North, with stand-by power available as required.

INFRASTRUCTURE

The main facilities and operations at the McClean Lake property are an open pit mining area (Sue Site) and the JEB Mill located near the previously mined out JEB pit, which has been converted to a tailings management facility, JTMF (Figure 5-2). There are also various supporting facilities for activities such as water treatment, site infrastructure including roads, electricity distribution, and the camp facilities. Open pit mining of the Sue E pit is underway and ore is expected to be exhausted by the end of 2007. The Sue C pit and Sue A north extension are mined out, and future mining of the Sue B pit has been approved (Figures 5-2 and 5-3). A 12-kilometre haul road connects the Sue and JEB Sites. The camp facilities are located near the JEB Site. The office and shops for the mill are housed in the mill complex.

The JEB Mill uses sulphuric acid and hydrogen peroxide leaching and a solvent extraction recovery process to extract and recover the uranium product from the ore. A series of unit processes, or circuits, are directly associated with uranium production. Discharge of treated water is through the JEB Water Treatment Plant, located at the JEB Site. Tailings are discharged through a pipe-in-pipe containment system to the edge of the JTMF, where they are deposited in water in the mined-out JEB pit.

All tailings from the JEB Mill are deposited in the JTMF in the mined-out JEB pit. In addition to the tailings from the Sue deposit mines, the JTMF also has a design capacity to receive tailings from the processing of the high-grade Cigar Lake ores and possibly from Midwest Lake although the JTMF is not yet approved for the latter.

PHYSIOGRAPHY

The entire area was glaciated at least three times during the last 150,000 years. The landforms are sandy and gravel moraines, drumlins, and drumlinoids that follow northeast-southwest trends and produce sand and gravel ridges over the largest portion of the area. The maximum relief is 90 metres (450 to 540 metres above sea level). The drainage is typical of relatively flat, recently glaciated regions, with numerous lakes and wetlands covering 25% of the area. Discontinuous muskeg is present throughout the area in topographic depressions and ranges in thickness from one to two metres. The vegetation in the area, rarely more than 10 metres high, consists of jack pine and black spruce with moss as the predominant groundcover.



FIGURE 5-2 JEB AND SUE SITES

Source: AREVA



FIGURE 5-3 SUE SITE AND MCCLEAN NORTH AND SOUTH ZONES

Modified after AREVA

6 HISTORY

Canadian Occidental Petroleum Limited ("Canadian Oxy") began exploring for uranium in northern Saskatchewan in 1974. The prospective area was located between the known Rabbit Lake deposit and Midwest Lake where previously uraniferous boulder trains had been found. In April 1977, Canadian Oxy entered into a joint venture agreement ("Wolly Joint Venture") with Inco Limited ("Inco"). During a diamond drilling programme in 1977, one of the 47 holes drilled encountered encouraging uranium mineralization. Over the next two years, extensive exploration work was carried out, including airborne geophysics, electromagnetic surveys, and diamond drilling.

Mineralization was discovered in January 1979, and the follow-up drilling later that year confirmed the existence of a significant unconformity-type uranium deposit (the McClean North deposit). Subsequent exploration resulted in the discovery of the McClean South and JEB deposits in 1980 and 1982, respectively.

In 1984, CanadianOxy and Inco received conditional approval from the regulatory authorities for an underground exploration permit for the McClean deposit. Shortly thereafter, Canadian Oxy and Inco reached a corporate decision to suspend all ongoing field and engineering work on that project.

In January 1985, Minatco Limited ("Minatco"), a predecessor in title to AREVA, entered into the Wolly Joint Venture (predecessor to the McClean Joint Venture) with Canadian Oxy and Inco. From 1985 to 1990, Minatco continued exploration of the McClean Lake property including airborne and ground geophysical surveys, percussion and diamond drilling. The reconnaissance diamond drilling programme resulted in the discovery of the Sue A deposit in 1988. Further drilling discovered the Sue B and Sue C deposits in the later part of 1988 and 1989, and the Sue E deposit in 1991.

In 1993, the owners of the Midwest Property and the McClean Lake Property agreed to combine their interests and develop two complementary projects. Ownership interests

SCOTT WILSON RPA

in the respective joint ventures were interchanged with Denison, which acquired a 22.5% interest in McClean Lake.

Development of the McClean Lake uranium facility began in March 1995. Construction and commissioning were completed in 1997. The JEB deposit was mined out and the ore stockpiled. In 1999, the JEB Pit was converted into the JTMF.

Mining of the Sue C ore body was completed on February 3, 2002, and all of the ore was stockpiled on surface. The low-grade uranium special waste, from the mining of the JEB and Sue C deposits, was disposed of in the mined-out Sue C pit in such a manner that it could not interfere with the mining of the adjacent Sue A deposit. This work was completed in April 2002. The pit was allowed to flood naturally until the Sue A deposit was developed and mined in the north wall of the Sue C pit in 2005-2006.

In 2002, exploration drilling discovered the pod-like Caribou deposit at the western extension of the Sue trend where it bends to the west in the Caribou Lake area, about three kilometres from the Sue C pit. Although on a trend distinct from the Sue trend, the Caribou deposit uranium mineralization occurs in sandstones similar to the northern portion of the Sue trend and is arsenical like the Sue deposits.

In October 2003, Denison Energy Inc. issued a NI 43-101 Report on the reserves and resources of the McClean Lake and Midwest areas, with a comment that underground development of the McClean North area was not likely the most economically effective method as originally proposed in a feasibility study by Kilborn in 1990. This was followed by a Denison Energy Inc. report in November 2003 with a resource estimate at the pre-feasibility level assuming development of McClean North using Blind Shaft Boring.

Effective March 8, 2004, Denison became an active business, having acquired the mining and environmental services' business from Denison Energy Inc.

Table 6-1 illustrates the production history from the McClean Lake property from 2000 to 2005. In 2006, approximately 1.8 million pounds of U_3O_8 (1.5 million pounds uranium metal) were produced at the McClean Lake operation.

TABLE 6-1MCCLEAN LAKE PROPERTY – RECENT PRODUCTIONHISTORY

McClean Lake Joint Venture McClean Lake Property, Saskatchewan

	2000	2001	2002	2003	2004	2005
Ore Milled ¹ - tonnes x 1,000	82	98	122	132	152	202
Average Grade - % U ₃ O ₈	3.42	3.10	2.29	2.07	1.86	1.45
Production ² - Ibs U x 1,000	6,015	6,595	6,098	6,028	6,005	5,490
Notes: 1) Mined ore and/or stockpile 2) Production allocated as to 22 5%	Donison:	700/ ADE	V A			

2) Production allocated as to 22.5% Denison; 70% AREVA

PREVIOUS RESOURCE ESTIMATES

A feasibility study carried out in 1990 contemplated mining of the McClean North deposits by underground mining methods (Kilborn, 1990). That feasibility has not been updated to reflect 2006 costs and practices.

As mentioned above, preliminary analysis has indicated that alternative mining methods such as Blind Shaft Boring or Hydraulic Borehole Mining from surface are potentially more economically appropriate for pods, i.e., small deposits. Blind Shaft Boring is technically proven, however, Hydraulic Borehole Mining is not. The higher cost boring methods offer advantages of mining safety, less waste rock development and disposal, and avoid open pit permitting and reclamation issues. Consequently, past resource estimates have been predicated on conventional underground mining and Blind Shaft Boring.

AREVA 1998 ESTIMATE

In 1998, AREVA (as Cogema Resources Canada Inc.) prepared an in-house resource (historic reserves) estimate that utilized 2D block modelling and ordinary kriging to

estimate mean values for thickness and grade-thickness as well as sensitivities to mining selectivity and dilution (Demange, 1998). The estimate assumes underground mining and is based on 15 m x 7.5 m blocks, 2 m vertical mining width, minimum waste pillar of 2 m, and footwall and hanging wall dilution of 0.5 m. Table 6-2 lists the 1998 estimated resources for a 0.3% U₃O₈ cut-off grade.

Saskatchewan						
Pod	Tonnes	U3O8%	U₃O₅ Tonnes	U₃O₅ (Ibs x 1000)		
Pod 1	130,348	2.50	3,282	7,235		
Pod2	41,763	2.49	1,041	2,294		
Pod 5	25,234	2.10	536	1,182		
Total	192,394	2.53	4,859	10,712		

TABLE 6-2 AREVA MCCLEAN NORTH RESOURCE ESTIMATE (1998) McClean Lake Joint Venture McClean Lake Property, McClean North Deposits, Saskatchewan

DENISON 2003 ESTIMATE

Kerr et al. (2003) estimated resources and reserves for these pods by 3D computer modelling under the assumption of mining by Blind Shaft Boring (Table 6-3). This estimate was based on a 2% U_3O_8 cut-off grade and polygonal weighting of drill hole composites within a mineralization wireframe.

TABLE 6-3MCCLEAN NORTH RESOURCES (KERR ET AL. 2003)McClean Lake Joint VentureMcClean Lake Property, McClean North Deposits,
Saskatchewan

Pod	Volume (m3)	Specfic Gravity	Tonnes	Thickness (m)	U ₃ O ₈ %	U ₃ O ₈ (Ibs x 1,000)
Pod 1E	6,621	2.42	16,022	6.6	10.42	3,680
Pod 2	7,540	2.30	17,342	8.2	4.87	1,861
Pod 5	2,274	2.31	5,253	5.1	5.90	683
Total	16,435	2.35	38,617	6.6	7.31	6,224

AREVA 2003 ESTIMATE

AREVA prepared an in-house resource estimate of higher grade portions of the pods in 2003 that utilized 2D block modelling, ordinary kriging, and uniform conditioning. Table 6-4 lists the estimated resources.

TABLE 6-4AREVA MCCLEAN NORTH RESOURCE ESTIMATE (2003)McClean Lake Joint VentureMcClean Lake Property, McClean North Deposits,
Saskatchewan

Pod	Tonnes	U ₃ O ₈ %	SG	Thickness (m)	U ₃ O ₈ Tonnes	U ₃ O ₈ (Ibs x 1000)
Pod 1 East	21,478	6.87	2.20	8.9	1,476	3,253
Pod 1 West	9,180	2.57	2.26	10.9	236	521
Pod2	14,643	3.78	2.25	8.7	553	1,219
Pod 5	4,284	4.33	2.28	8.3	185	279
Total	49,585	4.94	2.23	9.2	2,450	5,272

SCOTT WILSON RPA 2005 ESTIMATE

Scott Wilson RPA prepared an independent estimate of resources and reserves amenable to Blind Shaft Boring in 2005 (Hendry and Routledge, 2006). Portions of Pods 2, 1, and 5, in the sequence from west to east, contain high grade over widths that have potential to support mining by Blind Shaft Boring. The geological model used is consistent with the models previously utilized by Kerr et al. (2003) and AREVA 2003 as described above. Scott Wilson RPA estimated resources for these pods (Table 6-5).

Scott Wilson RPA used 2D block modelling under which the 3 m x 3 m block model cells were classified either as waste or resource on the basis of their total U_3O_8 content, a cut-off of 5.5 tonnes per block. Scott Wilson RPA defined the pods based on an overall pod grade thickness (GT) contour of 0.3 U_3O_8 %-m, i.e., 0.1% U_3O_8 over three metres that generally implies a minimum vertical thickness of three metres. Model cells \geq 24 GT, which equates to the minimum U_3O_8 content, were aggregated and reported as the Blind Shaft Boring extractable resource for each pod. In the resource area at \geq 24 GT, thickness generally exceeds three metres.

TABLE 6-5MCCLEAN NORTH INDICATED RESOURCE ESTIMATE (JUNE
2005)

(Based on a 5.5 Tonne U₃O₈/Block Cut-Off for Blind Shaft Boring) McClean Lake Joint Venture McClean Lake Property, McClean North Deposits, Saskatchewan

Pod	Tonnes	U ₃ O ₈ %	SG	Thickness (m)	U₃O ₈ Tonnes*	U ₃ O ₈ (Ibs x 1000)*
Pod 1 East	20,683	9.68	2.39	7.5	2,002	4,414
Pod 1 West	8,287	3.77	2.27	8.8	313	690
Pod2	22,154	3.85	2.28	15.0	852	1,879
Pod 5	5,804	5.81	2.31	7.6	337	743
Total	56,928	6.16	2.32	10.6	3,504	7,726

Notes:

1. CIM definitions were followed for Mineral Resources.

2. Mineral Resources are estimated at cutoff grades of 24 U₃O₈%-m.

3. Mineral Resources are estimated using an average long-term uranium price of US\$23.50 per pound (C\$29.00/lb), and an exchange rate of C\$1.23 per US\$.

4. A minimum Blind Shaft Boring mining width of 3 metres was used.

5. Indicated Mineral Resources are inclusive of Mineral Reserves.

6. AREVA holds 70.0% interest in the MLJV and the above Resources

7. Denison holds 22.5% interest in the MLJV and the above Resources

8. OURD (Canada) Co., Ltd. 7.5% interest in the MLJV and the above Resources

Scott Wilson RPA converted a portion of the above resources to Probable Reserves as

of 2005 as listed in Table 6-6.

TABLE 6-6MCCLEAN NORTH BLIND SHAFT BORING PROBABLE
RESERVE (2005)

McClean Lake Joint Venture McClean Lake Property, McClean North Deposits, Saskatchewan

Pod	Tonnes Ore	Grade U ₃ O ₈ %	U ₃ O ₈ tonnes	U ₃ 0 ₈ lbs X 1000
Pod 1	19,092	8.68	1,657	3,654
Pod 2	16,048	3.54	568	1,253
Pod 5	3,916	4.85	190	419
Total	39,056	6.19	2,416	5,326

Notes:

1) CIM definitions were followed for Mineral Reserves.

2) Mineral Reserves are estimated at cutoff grades of 24 U₃O₈%-m.

3) Mineral Reserves are estimated using an average long-term uranium price of US\$23.50 per pound and an exchange rate of C\$1.23 per US\$.

4) A minimum Blind Shaft Boring mining width of 3 metres was used.

5) Blind Shaft Borehole mining recovery and average dilution factors of 85% and 30.5% respectively, were applied to resources for conversion to reserves.

6) Indicated Mineral Resources are inclusive of Probable Mineral Reserves.

7) AREVA holds 70.0% interest in the MLJV and the above Resources

8) Denison holds 22.5% interest in the MLJV and the above Resources

9) Pod 1 includes Pod 1E and Pod 1W.

As part of an AREVA pilot testing program for both Blind Shaft Boring and Hydraulic Borehole Mining, a series of laboratory scale procedures were set up and specialty drill tooling and equipment engineered and manufactured to test ore material cutability, and water jet and air shroud performance. A field test of drilling, reamer and jet boring equipment, airlift systems, solid separation and ore recovery systems was done in summer 2005. Despite problems with drilling the pilot holes, the achievements of the 2005 test mining were significant enough that AREVA and Denison recommended that the 2006 test mining program should proceed in summer 2006 with drilling and test mining from 15 holes in 2006.

Work continued on the testing of this method in 2006. The MLJV drilled five holes to the unconformity, at diameters ranging from 16 inches through 24 inches. One of the 24 inch holes was successfully cased to the unconformity, and late in the year a test of the mining tool was carried out. The technical concept of jet monitoring using water lifts and water management issues were proven. The single hole successfully reamed out and recovered unconformity mineralization beneath over 160 m of sandstone. This mining
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test in excess of 30 tonnes of material at a grade of 8.28% U₃O₈ for a total recovery of 4,667 pounds U₃O₈.

As an alternative to mining by Jet Boring and Blind Shaft methods and for the timely advance of the project under a proven mining method, AREVA has requested the Scott Wilson RPA to estimate resources for the McClean North deposits for the purpose of open pit design.

7 GEOLOGICAL SETTING

This section has been taken directly from Kerr et al. (2003).

REGIONAL GEOLOGY

The McClean Lake and Midwest uranium deposits lie near the eastern margin of the Athabasca basin in the Churchill Structural Province of the Canadian Shield. The bedrock geology of the area consists of Precambrian gneisses unconformably overlain by flat-lying, unmetamorphosed sandstones and conglomerates of the Athabasca Group. The Midwest property straddles the transition zone between two prominent lithostructural domains within the Precambrian basement, the Mudjatik to the west and the Wollaston to the east, while the McClean Lake Property lies entirely within the Wollaston domain.

These domains are the result of the Hudsonian Orogeny in which an intense thermotectonic period remobilized the Archean age rocks and led to intensive folding of the overlying Aphebian-age supracrustal metasedimentary units. The Mudjatik domain represents the orogenic core and comprises non-linear, felsic, granitoid to gneissic rocks surrounded by subordinate thin gneissic supracrustal units. These rocks, which have reached granulite-facies metamorphic grades, usually occur as broad domal features. The adjacent Wollaston domain consists of a steeply dipping isoclinally-folded sequence of Aphebian gneissic rocks with a distinct northeast lineal structural trend. The basement surface is marked by a paleo-weathered zone with lateritic characteristics referred to as regolith.

The sedimentary rocks of the Athabasca Basin unconformably overlie the metamorphic basement. The basin is deep, closed and elliptically shaped. The sedimentary rocks in the basin are fluvial sandstones and conglomerates with minor shales and dolomites.



FIGURE 7-1 GEOLOGY OF NORTHERN SASKATCHEWAN

The area is cut by a major northeast-striking fault system of Hudsonian Age. The faults occur predominantly in the basement rocks but often extend up into the Athabasca Group due to several periods of post-depositional movement. Diabase sills and dykes are frequently associated with the faulting. The diabase dykes are often mineralized as exhibited in holes 192 and 487 at Midwest.

LOCAL GEOLOGY

PRE-ATHABASCA FORMATION - MCCLEAN LAKE AREA

The pre-Athabasca, or basement, geology underlying the McClean Lake area is composed of a thin cover of Lower Aphebian gneissic rocks, believed to be 200 m to 300 m thick, lying on Archean granitoid gneisses. Geophysical evidence suggests that approximately one half of the McClean Lake area is underlain by these felsic granitoids. The rocks occur as domal masses and range from foliated granitoids in the core to more gneissic rocks on the margins and in many instances are wrinkles or bulges of much larger features (Figure 7-2). Complex folding has produced thin arcuate antiforms in the Archean granitoids surrounded by narrow synforms of lower Aphebian pelitic gneisses containing a graphitic unit that is highly significant with regards to uranium exploration. The lower member of the Aphebian cover displays a continuous stratigraphic succession of predominantly metapelitic gneisses containing a dominant graphitic member. All of the known significant uranium mineralization on the McClean Lake property is directly associated with that graphitic member.

ATHABASCA FORMATION - MCCLEAN LAKE PROPERTY

Figure 7-3 illustrates the generalized stratigraphic sequence in the McClean Lake property.

The unconformity at the base of the Athabasca Sandstone contains a tropical paleoweathering profile. The regolith varies from a few metres to over 30-metres thick, the thickness being highly dependent on the composition of the parent rock as well as basement structures. The regolith is often completely destroyed by hydrothermal alteration in the zones of mineralization.





Source: Wheatley and Baudemont (1993)

The Athabasca Sandstone unit covers the whole area of the property. It is represented by up to 200 metres of the Manitou Falls formation, a non-marine fluviatile sandstone with conglomeratic lenses in the basal B member. These sandstones were deposited on alluvial fans and in braided streams and typically show abundant cross-bedding, coarser and finer units, and a general horizontal layering. The Athabasca thickens westward into the basin.



FIGURE 7-3 TABLE OF FORMATIONS

Source: Denison Mines Inc.

QUATERNARY GEOLOGY

The surficial deposits are of Quaternary age and consist largely of a Pleistocene drumlinized till plain resting directly on the sandstone bedrock. The till is locally overlain by sediments consisting of glacio-fluvial sands and gravels, and recent alluvial sands and silts. The till generally is two to four-metres thick, but reaches as much as 15 metres under gently undulating drumlins that add up to 30 metres to the local relief.

STRUCTURE

The structural geology of the pre-Athabasca rocks is highly complex, having undergone at least three major deformational episodes of folding during the Hudsonian orogeny. Many of the faults exhibit several superimposed periods of activity with both horizontal and vertical movements being evident. Some fault sets were reactivated following Athabasca sedimentation and provided channel-ways for hydrothermal solutions and the loci for uranium deposition. Horizontal shear cleavage has been identified at the unconformity horizon and is best expressed in the highly altered environment of the uranium deposits. These shear structures appear to be related to and control the alteration.

The McClean North and South deposits are controlled by a zone of strong east-west faulting and fracturing coincident with the basement graphitic gneisses. These faults dip about 70° south and exhibit a combination of normal and reverse offsets which create basement highs of a few metres. There are also steeply-dipping northeast and northwest-trending fracture sets which show both vertical and lateral displacement.

The favourable graphitic gneiss, which hosts or is immediately below the Sue deposits, is in fault contact to the east with feldspathic gneisses and granitoid rocks, whereas to the west it is gradational with intermediate gneissic units.

At the Sue deposits combinations of normal and reverse faults which parallel the eastdipping foliation in the graphitic gneisses have resulted in basement relief of 10 m to 20 m. Reverse faulting stepped the unconformity down to the west. The Sue A and B deposits occur along the western flank of a basement horst which has 8 m to 10 m of relief. Northeasterly and northwesterly striking faults offset and modify the major northsouth structural controls, creating conditions which limit, or significantly control, the extent of mineralization along the trend.

ALTERATION

The following description of alteration associated with unconformity-type uranium deposits was largely taken from Quirt, 2003 by Denison:

The two main types of ore paragenesis in the Athabasca Basin are dictated by form of fluid interaction and can be separated by deposit location:

- 1. Sandstone hosted egress-type (Midwest) involving mixing of the oxidized sandstone brine with relatively reduced fluids issuing from the basement into the sandstone, and
- 2. Basement hosted ingress-type (Sue C and E) involving fluid-rock reactions between oxidising sandstone brine entering basement fault zones and the wall rock. Both types of mineralization and associated host-rock alteration occurred at sites of basement-sandstone fluid interaction where a spatially-stable redox gradient/front was present.

The dominant ore location can occur in the sandstone directly above the unconformity (McClean Lake property), straddling the unconformity (Midwest), or perched high above the unconformity (certain zones at both McClean Lake and Midwest). Similarly, in some deposit areas, there is a plunge to the mineralized pods from sandstone-hosted to basement-hosted within deposit–scale strike lengths (McClean Lake trend, Sue trend).

Most sandstone hosted deposits display dominant desilicification features and coincident abundant accumulations of clay minerals and detrital minerals like zircon and tourmaline. Around basement hosted deposits, however, the host rock alteration is dominantly chloritic with restricted illite at the expense of biotite, cordierite and garnet as at Sue C.

Illite is often characteristic of the core of the altered and mineralized zone. Complex redox-controlled reactions and acid-base reactions resulted in precipitation of massive pitchblende with associated hematite accumulation and varying amounts of base and other metallic mineralization at sites of fluid-fluid and fluid rock interaction. The geochemical signatures of the individual unconformity-type deposits do vary significantly. Sandstone hosted deposits, such as Midwest, predominantly demonstrate

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subequal U+Ni+Co+As mineralization, while the basement hosted deposits of the Sue trend are predominantly U+V.

Kilborn (1990) describes the alteration at the McClean Lake deposits as follows:

At the McClean North and South deposits, alteration is extensive above and below the mineralization, being largely controlled by the zone of east-west faulting. Argillic (clay) alteration with some hematitic and chloritic alteration envelopes the mineralization and extends upwards along fractures for several tens of metres where it is ultimately capped by silicified sandstones. Alteration of the basement rocks below the mineralization consists of bleaching, chloritization, argillization, and hematization. Transverse to the mineralized trend, the alteration diminishes very rapidly and rocks are frequently fresh within a few metres of mineralization.

PROPERTY GEOLOGY

Within the McClean Lake area, the basement geology under the Athabasca sandstones is characterized by a dome and basin setting in which large Archean granitoid domes alternate with Aphebian metasedimentary rocks. The McClean North and South deposits are situated between two Archean basement domes and are aligned along two trends within a linear belt of graphitic gneisses (Figure 7-4). These east-northeast trending gneisses may represent a splay off the west extension of the Tent Seal fault that forms the north contact of the Collins Bay dome with Aphebian intermediate to felsic gneiss, calc-silicates, and quartzites. The Sue uranium deposits lie on a north-trending segment of the graphitic gneisses at the west contact with the Collins Bay dome, approximately three kilometres to the east. The JEB deposit and AREVA mill facilities are nine kilometres north.

The McClean North and South mineralized trends strike N70°E to EW and are approximately 500 m apart. Uranium deposits occur along the trends as 11 elongated pods straddling the Athabasca sandstone-basement contact (Figure 7-5 and 7-6). The uranium mineralization is hosted in altered sandstone and basement rocks and is surrounded by a clay alteration halo that includes chlorite and hematite. The illite clay alteration extends upwards along fractures in the sandstones for tens of metres where it is capped by silicified sandstones (Kilborn, 1990). In the basement footwall of the mineralization, alteration consists of bleaching, chloritization, argillization, and hematization.



FIGURE 7-4 MCCLEAN LAKE MINERALIZED TRENDS

Source: AREVA



FIGURE 7-5 MCCLEAN NORTH AND MCCLEAN SOUTH MINERALIZED TRENDS

The hanging wall sandstones are typically 150 m to 160 m thick and are covered by 1 m to 10 m of glacial overburden. Beneath the sandstones, the regolith varies from 15 m to 45 m thick, but it is invariably destroyed in the zones of uranium mineralization.

Uranium mineralization in the North trend pods occurs over vertical widths of typically 10 m to 20 m. In cross section, the pods are flat, lenticular to oval shaped bodies with thicknesses from 7 m to 15 m. The higher grade portions of the pods undulate from 13 m above to 12 m below the sandstone–basement contact which is, on average, 160 m below the surface at approximately the 275 m elevation.



FIGURE 7-6 BASEMENT GEOLOGY OF THE MCCLEAN NORTH AND MCCLEAN SOUTH TRENDS

Modified after AREVA

8 DEPOSIT TYPES

The McClean North deposits are egress type, unconformity-related uranium (nickelcobalt-arsenic) deposits.

9 MINERALIZATION

Uranium mineralization is hosted in hematite-altered clay-rich zones containing massive layers of illite. In the McClean North trend, the illite forms a mushroom–shaped envelope tilted to the north. Uranium occurs as fine-grained coffinite veinlets and nodules of pitchblende, and as masses of pitchblende/uraninite.

10 EXPLORATION

Uranium mineralization at McClean North was discovered in January 1979, following extensive airborne electromagnetic surveying and drilling in the McClean Lake area by the "Wolly Joint Venture" partners, Canadian Oxy and Inco Limited. The McClean South trend was discovered in 1980. Minatco entered the joint venture in 1985, and from 1985 to 1990, the company funded airborne and ground geophysics, percussion and reconnaissance diamond drilling on the McClean Lake property, and delineation diamond drilling on the McClean North deposits. Delineation drilling ended in April 30, 1990. By this time, some 81,810 m in 416 holes had been completed on the North and South trends. Minatco accounted for 113 holes totalling 22,123 m, and Canadian Oxy and Inco for 303 holes totalling 59,687 m (Rickaby et al., 2003).

11 DRILLING

The McClean database for North and South trends contains 363 drill holes totalling 71,353.5 m, of which 176 holes and 34,291.5 m delineate pods 1, 2, and 5. The holes in the area of these pods include 57 "C" series, 54 "MC" series, five "M" series, four "PZ" series, three "PV" series, and 53 "1000", "2000" and "3000" series.

There are 13,318 U_3O_8 analysis records totalling 5,913.78 m in the McClean database. Of these, 2,651 analyses totalling 841.29 m are in the resource portion of the pods.

Delineation diamond drilling at McClean North was primarily NQ (47.6 mm), with most holes penetrating 25 m to 30 m into the basement. In general, holes were collared on 15 m sections and spaced at 7.5 m along the section. Fill-in drilling in high grade areas reduced the drill hole pattern to 7.5 m by 7.5 m and resulted in holes clustered in the higher grade portion of the pods. Figure 11-1 shows drill hole collar locations in the McClean North and South trends. Figure 11-2 shows drill holes in the McLean North resource area.

Drill hole collars were surveyed for local grid coordinates and elevation. AREVA subsequently consolidated the local coordinates under a master grid that approximates the UTM NAD 83 coordinates to \pm several metres. Down hole deviation was measured by Sperry-Sun multishot instrumentation in holes drilled later than 1986, i.e., Minatco holes. Prior to 1986, acid dip tests were done, as well as some Tropari azimuth and dip surveys. Deviation of holes was minimal at generally <2° (Kilborn, 1990). Rickaby et al. (2003) notes that a $\pm 2^{\circ}$ deviation in an unsurveyed 150 m hole can result in a horizontal variation of up to 10 m.

In the resource pod areas, there are 10 holes that lack down hole surveys. This results in some uncertainty with respect to intercept locations. The northern boundary of Pod 2 has one unsurveyed hole; the southwest area of Pod 1 is uncertain due to three unsurveyed holes; the northeast and the southeastern eastern margins of Pod 1 are uncertain because of four unsurveyed holes.



11-3



12 SAMPLING METHOD AND APPROACH

A Century Geophysical Model 9067 gamma probe was utilized for down hole radiometric readings as a guide for later core sampling. Drill core was transported from the collar site in standard 1.5 m wooden core boxes to an enclosed facility for geotechnical and geologic logging and sampling. RQD (rock quality designation) measurements were taken and then geologic logging recorded lithology, alteration, mineralization, structure, fracturing and density, and core recovery. Uranium mineralization, mineral boundaries, and high grade segments were identified in core using the down hole probe gamma logs and by scanning with a handheld scintillometer.

Canadian Oxy sampling was commonly at 0.3 m to 0.31 m (1 ft.) or 27% of the assay database (Figure 12-1). Sample intervals for later work were standardized at 0.5 m (18% of the database), with the length reduced to 0.25 m at high grade mineralization contacts. Shorter intervals, generally in high grade, make up <5% of the assay database. One metre samples were taken in the hanging wall and footwall of the mineralization, and 0.5 m samples (were taken in various sandstone and basement rock units. Faults and alteration were also character sampled.

Core was split, with one half bagged for chemical assay and the other returned to the core box for storage at the Wolly Joint Venture exploration camp. Laboratory rejects were returned to Minatco for storage at the camp.



Figure 12-1 Length Statistics of Raw Analyses in Pod Wireframes McClean Lake Joint Venture McClean North Project, Saskatchewan



13 SAMPLE PREPARATION, ANALYSES AND SECURITY

Samples collected from 1979 to 1982 were shipped to Inco's J. Roy Gordon Research Laboratory in Sheridan Park, Mississauga, Ontario. Minatco as operator of the Wolly Joint Venture had all samples (1985⁺) prepared and analyzed by Barringer Magenta Laboratories (Alberta) Ltd. in Calgary, Alberta (Barringer). This also included samples collected from Minatco drilling of the Sue deposits.

Barringer's analytical protocol was:

- Dry core
- Crush core to -4 mm (5 mesh).
- Crush sample reduction to 500 g by Jones Riffle splitter.
- Ring pulverize 500 g to $-147 \mu m$ (100 mesh).
- Reduce/split pulp to 500 mg (0.5 g) for analysis.

Mineralization, fault, and alteration character samples were analyzed for U_3O_8 , Ni, Co, As, Cu, V, Mo, and Pb. In unmineralized sandstone character samples, only U_3O_8 was determined. At Barringer, pulps were completely digested by a multi-acid nitric-perchloric-hydroflluoric mix, and Ni, Co, V, Mo, and Pb were determined by atomic absorption spectrophotometry (AA). U_3O_8 was analyzed by fluorimetry and arsenic by colorimetry. Results exceeding 5% U_3O_8 were re-analyzed using a 1 g pulp aliquot; the sample was digested as previously described and then analyzed volumetrically for U_3O_8 .

No protocol description is available for the analytical work done at Inco's J. Roy Gordon Research Laboratory before 1980. Samples were analyzed by X-Ray Fluorescence (XRF). No As or Ni analyses are available for the 1980 drilling.

Kilborn (1990) reports the following analytical quality assurance/quality control (QA/QC) work:

• Batch control samples were routinely inserted and analyzed by Barringer.

- Minatco periodically submitted duplicate samples for U_3O_8 analysis at Barringer and pulps for check analysis at other laboratories. Kilborn reports that variability in U_3O_8 grade is within 10% for grades $U_3O_8 > 0.10\%$.
- The Inco laboratory routinely carried out internal (batch) QA/QC. Results are unavailable.
- Inco XRF-analyzed samples (271) from the 1979 and earlier drilling programs were re-analyzed by XRF at XRAL Laboratories in Don Mills, Ontario. Kilborn reports that the results showed variations within the limits of the analytical method sensitivity. The largest variation was found with low grade samples. The check analysis program confirmed reliability of the Inco lab, and all further analyses were done by Inco until Minatco assumed operatorship of the Wolly joint venture.

14 DATA VERIFICATION

Rickaby et al. (2003) compared original analytical reports (Inco) for U_3O_8 with the digital database for 1975 series holes C175 and C183. Hardcopy drill logs and computergenerated sample results for U_3O_8 were compared to the database for 1980 series holes 2036 and 2071. Barringer certificates for U_3O_8 , Ni, and As were compared to the database entries for 1988 series holes MC36 and MC64. Discrepancies observed between original analytical data and drill logs with respect to the resource digital database were:

- One analysis in hole 2071 was recorded in the drill log as 0.029% U₃O₈ versus 0.027% U₃O₈ in the database. The sample interval is remote from mineralized pods and has no impact on resource estimation.
- Analyses less than the detection limit of $0.01\% U_3O_8$ are entered in the database as $0.01\% U_3O_8$, which appears to have been Minatco's convention at that time for other projects as well. Again this has no impact on resource estimation.
- In numerous instances, sample intervals actually analyzed are entered in the database as two or more intervals with the same grades. Scott Wilson RPA has noted this in other McClean Lake drill hole databases, e.g., Sue A. While this impacts on raw analyses statistics, it has little impact once analyses are composited for resource grade interpolation.

Scott Wilson RPA obtained three drill hole databases, one used by Denison (Kerr et al., 2003 and Rickaby et al., 2003) and two from AREVA. Coordinates for the Denison database are local grid, whereas the AREVA data are converted to a standardized grid approximating UTM. Scott Wilson RPA imported all the three databases into Gemcom software to validate entries using software routines and to desurvey the analytical intervals to be used for compositing. The initial database received from AREVA had problems with exporting/importing uranium chemical assays, since values were mixed hole to hole. At Scott Wilson RPA's request, AREVA provided its current database in Microsoft Access format. This database has been verified by AREVA exploration personnel.

Scott Wilson RPA notes that the AREVA drill hole database for McClean North has 498 holes compared to the Kerr et al. database of 363 holes. Scott Wilson RPA further

notes that the length of holes differs in 238 holes, and for 139 of these, the difference exceeds three metres. Scott Wilson RPA compared hole collar surveys in the two databases and found that there is no simple grid conversion between collar data (multiple drill grid orientations) and that some of the data appear to have been corrected. Scott Wilson RPA therefore accepted the current AREVA database for use in developing the current resource estimate. AREVA has resurveyed and verified drill hole collars (pers. comm. S. Eckert, AREVA). Denison advises (pers. comm. Wm. Kerr, Denison) that Denison verified collars in the pod resource area for its pre-feasibility development work and reserve reporting in 2003.

Scott Wilson RPA compared the number of drill holes contained in the databases specifically for the pods. Scott Wilson RPA notes that one hole used in the previous AREVA resource estimate for Pod 5 lacks assays in the current AREVA database. Consequently this hole was not used in Scott Wilson RPA's estimate.

The database has a number of blank analysis fields that are available in the other databases, but these missing data are not in the area of the pod resources. Otherwise, the header, survey, and assay files for the current AREVA database validated in Gemcom software without the need for corrections.

Scott Wilson RPA obtained analysis assay certificates for U_3O_8 for five holes (MC23 to MC27) and checked 158 results against database entries. The chemical analyses for U_3O_8 are reported as total ppm or percent. Scott Wilson RPA notes that some entries were rounded to 0, although results are reported to one decimal place ppm and that values below detection limit of 0.2 ppm are entered at the detection limit instead of a lower value of half the detection limit (0.1 ppm) or zero as is general industry practice. Of the results referenced to the database, Scott Wilson RPA found only one error in hole MC25 where the value 233.4 ppm was entered as 233.0. While this is consistent with rounding in another part of the database as stated above, it is inconsistent within the series of analysis entries for that hole. These errors and practices are minor and affect an analytical level that does not impact on resource estimation.

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Scott Wilson RPA cross-referenced 252 analyses, from digital assay drill logs for holes MC93 and MC95 to MC99, with the resource database and found no errors.

Scott Wilson RPA validated the Gemcom database using software routines that trap errors and potential problems such as:

- 1) Intervals exceeding the hole length (from-to problem).
- 2) Negative length intervals (from-to problem).
- 3) Zero length intervals (from-to problem).
- 4) Out of sequence and overlapping intervals (from-to problem; additional sampling/check sampling).
- 5) No interval defined within analyzed sequences (not sampled or missing samples/results).

Where intervals (from or to) were found exceeding the hole length for lithology (175) and assays (43), the hole length was matched to the deepest lithology "to" or the rounding adjusted in the lithology records to match the second decimal of the hole depth record. Other "from-to" problems were mostly data entry errors that were easily resolved. Hole MC-35 was found to have a number of overlapping intervals and subintervals which mixed low to medium grades with short lengths of high grades. The grades of intervals were length and specific gravity weighted and then entered as single intersections. One negative length record had lithology codes mixed with the "from-to" fields and was likely a data entry error.

In Scott Wilson RPA's opinion, the drill hole database as validated is reasonable for the estimation of resources and reserves at McClean North.

15 ADJACENT PROPERTIES

The property immediately surrounding the McClean Lake property, on three sides, was part of the Wolly Joint Venture which received considerable exploration effort. The McClean Lake property was carved out of portions of the Wolly Joint Venture properties by the joint venture participants.

The property south of the McClean Lake property is held by Cameco.

16 MINERAL PROCESSING AND METALLURGICAL TESTING

Ortech carried out metallurgical test work on samples from the McClean deposits in 1989 (in Kerr et al. 2003).

Ortech received core samples from four pod areas in the McClean deposit.

Deposit	Number of Individual Core Samples		
McClean Pod 1W	136		
McClean Pod 1E	89		
McClean Pod 2	117		
McClean Pod 5	66		

Ortech combined portions of these core samples to provide two process test feed composites called McClean 1, McClean 2. Assayed grades for these composites are close to the grades calculated from the weights and grades of the individual core samples.

TABLE 14-1ORTECH METALLURGICAL TESTWORK ON MCCLEAN CORESAMPLES

McClean Lake Joint Venture McClean Lake Property, Saskatchewan

Analysis	McClean 1	McClean 2
U3O8	1.44 / 1.5	187 / 2.03
As	0.42 / 0.40	0.32 / 0.25
Ni	0.08 / 0.16	0.07 / 0.12

The testwork established:

- Leaching extraction was between 98% and 99%.
- Leaching time was short primarily due to low As and Ni contents; about six hours and consumption of oxidizing agent was low.
- A fine grind was needed.
- There were no problems with settlement or solvent extraction tests.

It is expected that this ore will have the same milling characteristics as Sue C ore, the overall recovery will be 98%, and there will be low ferric sulphate consumption.

17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

MINERAL RESOURCES

DRILLING AND RESOURCE DEFINITION

Resource definition work carried out by AREVA for the McClean North trend has identified pods 1, 2, and 5 shown in Figure 7-4 that are amenable to open pit mining in terms of good grades and mutual proximity that allow access by one pit.

The Scott Wilson RPA resource estimate is based on 105 drill holes and 2,651 U_3O_8 chemical assays (841.29 m) contained in broad areas of mineralization in the pod models that Scott Wilson RPA defined by a minimum wireframe contour of 0.1% $U_3O_8/1$ m (Figure 17-1).

Pod	Holes	Analyses	Metres
1	64	1,740	518.25
2	24	588	211.14
5	17	323	111.90
Total	105	2,651	841.29

Both exploration and delineation drilling utilized mostly vertical holes. Initial exploration drilling tended to be carried out on section line intervals of 15 m, with 20 m to 30 m step-outs on section. More detailed drilling on 12.5 m to 15 m sections and 5 m to 10 m step-outs has been completed within pods 1, 2, and 5. In the resource areas, holes with higher grade widths are clustered at a closer spacing. In Scott Wilson RPA's opinion, the detailed hole spacing in the resource areas warrants classification as Indicated Resources.

Pod 1

Pod 1 is delineated by 58 holes and constrained by some 36 holes outside its boundary. The pod mineralized area (≥ 0.1 GT contour) is 250 m long by 20 m to 40 m wide, with elongation to N65°E. It averages approximately seven metres thick. Two higher grade areas are evident in the east and west areas and were previously the Pod 1

East and Pod 1 West resource areas as estimated for Blind Shaft Boring (Hendry and Routledge, 2005).

Pod 2

Pod 2 is delineated by 24 holes and constrained by some 14 holes outside its boundary. The pod mineralized resource area (≥ 0.1 GT contour) is 115 m long by 20 m to 35 m wide, with elongation to N65°E. Pod 2 averages approximately six metres thick.

Pod 5

Pod 5 is delineated by 16 holes and constrained by some 16 holes outside its boundary. The pod mineralized area is 75 m long by 20 m to 35 m wide and averages approximately six metres thick. Elongation is to N80°E.

Table 17-1 summarizes pod dimensions.

TABLE 17-1 MINERALIZED POD DIMENSIONS McClean Lake Joint Venture McClean North Project, Saskatchewan

Pod	Length (m)	Width (m)		Area (m²)	Volume (m ³)	Average Thickness	Bulk Density (t/m³)	Tonnes	
		Min.	Max.	Average			(m)		
1	250	20	40	30.0	7,500	53,025	7.1	2.26	119,725
2	115	20	35	27.5	3,160	19,530	6.2	2.25	43,980
5	75	20	35	27.5	2,060	11,765	5.7	2.26	26,570

RESOURCE ESTIMATION METHODOLOGY

The resource estimate was carried out by conventional 3D computer block modelling. Geology (lithology, mineralization, structure) was interpreted and wireframes were constructed for each pod as well as for special waste/dilution envelopes around the pods. Specific gravity (SG) was calculated for each assay in the database based on U_3O_8 grade. Assays composited at 2 m intervals within the wireframes. Composite grades were weighted by length and SG. Statistics were examined for raw assays, and assays and composites within the resource wireframes. Variography examined for composites to assess U_3O_8 grade continuity within the wireframes. A block model (8 m by 5 m by 2 m) was constructed. Ordinary kriging (OK) was used to interpolate the product of composite U_3O_8 grades (%) and composite SGs to the resource block model. The composite SGs were kriged to provide a bulk density block model. The grade block model was created by dividing the interpolated block grade-SG by the interpolated SG value. Model validation was carried out by statistical comparison of resource block grades with assays and composites, visual examination of block grades with drill hole data on screen, by alternative interpolation methods and by comparison of a non SG weighted kriged grade model with AREVA's 1998 estimate.

WIREFRAMES

Scott Wilson RPA's definition of the McClean North resources is based on a cut-off grade of 0.1% U₃O₈ for the purpose of wireframe modelling the resource portion of the pods. This grade is consistent with resource minimum grades used by the MLJV and Scott Wilson RPA (2006) at other McClean Lake project deposits. Scott Wilson RPA identified pod intercepts $\geq 0.1\%$ U₃O₈/1 m on longitudinal section, and contoured this uranium mineralization on cross sections and plans. Owing to irregularity in pod geometry from cross section to cross section as a feature of the hydrothermal alteration and mineralization process and post mineralization cross faulting, Scott Wilson RPA utilized the extrusion method to construct the wireframe model of each pod. Discrete intercepts of mineralization in the footwall, i.e., below the pod's main mineralization horizon, - small satellite or stacked pods - were also correlated and used to estimate additional resources (Figure 17-1).

A broad wireframe enclosing material grading $\geq 0.03\%$ U₃O₈ was also constructed for the estimation of special waste surrounding the open pit resource.

SPECIFIC GRAVITY AND BULK DENSITY

Where specific gravity (SG) is a function of grade, grade must be weighted by SG as well as length during the compositing of chemical assays. Block SG is used for block volume to block tonnes conversion. Scott Wilson RPA employed calculated SG weighting for compositing and for converting block volume to tonnes. The SG was calculated using the following grade-based formula:

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Density = $1/(0.452 - (0.00326 \times U_3O_8\%))$

This calculated SG method is the same as the one used in the past by AREVA (Demange, 1998), Kilborn, 1990, and Kerr et al., 2003. Bulk density is assumed to be equal to specific gravity. Scott Wilson RPA applied the above formula to generate calculated SG for raw chemical assays of core and then compared these to SG estimates with those in the earlier Denison-AREVA estimate. The two SG estimates agree well for low to medium grades, but the formula above has a higher range for higher grades.



FIGURE 17-1 3-D PERSPECTIVE VIEW OF POD WIREFRAMES

ASSAY AND COMPOSITE STATISTICS

Uranium chemical assays were length and specific gravity (SG) weighted for compositing at 2 m lengths downhole within the wireframes. The 2 m length exceeds all but one assay length, the latter an artefact of averaging overlapping and subintervals in hole MC35. Statistics and cumulative frequency%-log probability plots for raw U_3O_8 assays and composites (Figures 17-2 to 17-5) in the pods, were carried out to examine grade distributions, the need for grade capping and validation of the modelling (Tables 17-2 and 17-3). The cumulative frequency%-log probability plot of pods' analyses shows lognormal grade distribution up to an inflection point at 50% U_3O_8 representing less than 2% of the analyses and possibly an outlier population or lack of data in this range. Examination of the spatial distribution of these high grades indicates that they are not random outliers since they all occur in a few specific holes in constrained areas of the pods (Figures 17-6 and 17-7). Similarly the grades for the 2 m composites have lognormal distribution to 40% U_3O_8 to 50% U_3O_8 . Consequently, grades were not capped with the intent of constraining the high grades through interpolation parameters.

BLOCK MODEL

Block cell dimensions were selected at 8 m model grid east-west x 5 m model grid north-south x 2 m bench height or approximately 180 tonnes/block. The block model X axis was rotated 15.7° counter clockwise to 074.3° azimuth. The origin of the model is at 567,232.04E, 6,457,953.34N and 450 m elevation. At the maximum extents, the model comprises 125 blocks (X) by 110 blocks (Y) by 210 blocks (Z). The model contains a total of 2,887,800 blocks, for an enclosed volume of 231 million m³. The corresponding wireframe volumes used to generate the resource block model and capture the sample composites has a volume of 56,013 m³ and includes all or portions of 2,191 blocks. The model extends to 30 masl elevation (approximately 408 m depth).



Figure 17-2 Distribution of U_3O_8 Grades in Pod Wireframes McClean Lake Joint Venture, McClean North Project, Saskatchewan








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Figure 17-6 Spatial Distribution of Pod High Grade U_3O_8 Raw Assays McClean Lake Joint Venture, McClean North Project, Saskatchewan



Figure 17-7 Distribution of U₃O₈ Grades in 2 m Composites Within Wireframes McClean Lake Joint Venture McClean North Project, Saskatchewan





TABLE 17-2 ASSAY STATISTICS McClean Lake Joint Venture, McClean North Project, Saskatchewan

	Pods 1,	Pods 1, 2 and 5		Waste	Poc	12	Special	Waste
	Length		Length		Length		Length	
Statistic	(m)	U ₃ O ₈ %	(m)	U ₃ O ₈ %	(m)	U ₃ O ₈ %	(m)	U ₃ O ₈ %
Count	2,674	2,674	2,040	2,040	591	591	318	318
Sum (m)	853.11	-	807.90	-	212.66	-	157.42	-
Zeros	-	1	- 1	1	-	0	l -	0
Minimum	0.01	0.00	0.01	0.00	0.12	0.00	0.09	0.00
25th Percentile	0.25	0.13	0.30	0.01	0.30	0.13	0.31	0.01
Median	0.30	0.47	0.31	0.02	0.31	0.38	0.50	0.02
75th Percentile	0.45	2.24	0.50	0.04	0.46	2.23	0.61	0.05
Maximum	2.55	98.00	2.30	2.56	1.53	98.00	1.83	0.42
Arithmetic Average	0.32	3.35	0.40	0.04	0.36	2.86	0.50	0.04
L x SG Weighted Average	- 1	3.73	1 -	0.04	-	3.04	- 1	0.04
Variance	0.03	83.08	0.05	0.01	0.02	75.81	0.03	0.00
Standard Deviation	0.17	9.11	0.22	0.09	0.14	8.71	0.19	0.04
Coefficient of Variation	0.53	2.72	0.56	2.28	0.39	3.04	0.38	1.23
90th Percentile	0.50	7.74	0.61	0.08	0.58	6.60	0.61	0.08
95th Percentile	0.59	16.51	0.61	0.10	0.61	11.75	0.61	0.10
97th Percentile	0.61	25.93	0.61	0.14	0.61	17.10	0.61	0.11
98th Percentile	0.61	32.57	0.91	0.17	0.61	21.44	0.61	0.16
99th Percentile	0.74	54.09	1.52	0.26	0.76	38.43	1.15	0.24
99.5th Percentile	0.97	65.92	1.52	0.37	1.00	67.34	1.62	0.29
	Por	d 1	Special	Waste	Poo	15	Special	Waste
Count	1,752	1,752	1,465	1,465	331	331	257	257
Sum (m)	524.65	-	556.48	-	115.80	-	94.00	-
Zeros	- 1	0	- 1	1	-	1	- 1	0
Minimum	0.01	0.00	0.01	0.00	0.05	0.00	0.04	0.00
25th Percentile	0.22	0.12	0.30	0.01	0.20	0.16	0.10	0.01
Median	0.30	0.47	0.31	0.02	0.30	0.67	0.50	0.02
75th Percentile	0.31	2.25	0.50	0.04	0.50	2.12	0.50	0.04
Maximum	2.55	84.50	1.80	2.56	1.75	55.41	2.30	0.42
Arithmetic Average	0.30	3.62	0.38	0.04	0.35	2.81	0.37	0.03
L x SG Weighted Average	-	4.19	- 1	0.04	-	2.88	- 1	0.03
Variance	0.03	90.31	0.05	0.01	0.04	56.66	0.05	0.00
Standard Deviation	0.17	9.50	0.22	0.10	0.21	7.53	0.22	0.05
Coefficient of Variation	0.56	2.63	0.59	2.49	0.61	2.68	0.59	1.51
90th Percentile	0.50	8.90	0.61	0.08	0.50	5.07	0.50	0.07
95th Percentile	0.50	20.35	0.61	0.10	0.50	11.14	0.50	0.08
97th Percentile	0.61	26.95	0.62	0.14	0.51	18.45	0.50	0.12
98th Percentile	0.61	35.34	1.07	0.18	0.81	30.24	0.50	0.17
		~~~						
99th Percentile	0.61	59.60	1.52	0.26	1.04	50.75	0.50	0.22

	Pods 1, 2	and 5	Special V	Naste	Pod	2	Special V	Waste
Statistic	U ₃ O ₈ %	SG	U ₃ O ₈ %	SG	U ₃ O ₈ %	SG	U ₃ O ₈ %	SG
Count	478	478	522	522	116	116	89	89
Sum (m)	855.68	-	889.84	-	210.83	-	145.95	-
Zeros	9.00	-	48	-	0.00	-	0.00	-
Minimum	0.00	2.21	0.00	2.21	0.03	2.21	0.00	2.21
25th Percentile	0.24	2.22	0.01	2.21	0.25	2.22	0.02	2.21
Median	0.78	2.22	0.03	2.21	0.92	2.23	0.03	2.21
75th Percentile	2.51	2.25	0.04	2.21	2.56	2.25	0.05	2.21
Maximum	63.46	4.08	0.72	2.22	44.27	3.25	0.27	2.22
Arithmetic Average	3.00	2.27	0.03	2.21	2.57	2.26	0.04	2.21
Weighted Average ¹	3.71	2.27	0.03	2.21	3.06	2.26	0.04	2.21
Variance	46.59	0.03	0.002	0.000	31.53	0.01	0.001	0.000
Standard Deviation	6.83	0.16	0.05	0.001	5.62	0.12	0.04	0.001
Coefficient of Variation	2.27	0.07	1.40	0.001	2.19	0.05	0.89	0.000
90th Percentile	7.70	2.34	0.07	2.21	4.71	2.29	0.07	2.21
95th Percentile	11.76	2.42	0.08	2.21	8.73	2.36	0.07	2.21
97th Percentile	19.18	2.57	0.10	2.21	15.12	2.48	0.10	2.21
98th Percentile	24.22	2.68	0.13	2.21	18.50	2.55	0.12	2.21
99th Percentile	38.18	3.06	0.16	2.21	29.07	2.80	0.18	2.22
99.5th Percentile	48.09	3.39	0.32	2.22	36.48	3.02	0.23	2.22
		4	<u> </u>			_		
	Pod	1	Special	Naste	Pod	5	Special V	Waste
Count	<b>Pod</b>	<b>1</b> 299	Special 371	Waste 371	<b>Pod</b>	<b>5</b> 63	Special V	Waste 62
Count Sum (m)	Pod 299 533.28	<b>1</b> 299 -	<b>Special</b> 371 644.89	<b>Vaste</b> 371 -	<b>Pod</b> 63 111.57	<b>5</b> 63 -	<b>Special</b> 62 99.00	Waste 62 -
Count Sum (m) Zeros	<b>Pod</b> 299 533.28 9	1 299 - -	<b>Special</b> 371 644.89 46	<b>Waste</b> 371 - -	<b>Pod</b> 63 111.57 0	<b>5</b> 63 - -	<b>Special V</b> 62 99.00 2	Waste 62 - -
Count Sum (m) Zeros Minimum	Pod 299 533.28 9 0.00	<b>1</b> 299 - 2.21	<b>Special</b> 371 644.89 46 0.00	Waste 371 - 2.21	<b>Pod</b> 63 111.57 0 0.08	5 63 - 2.21	<b>Special V</b> 62 99.00 2 0.00	Waste 62 - 2.21
Count Sum (m) Zeros Minimum 25th Percentile	Pod 299 533.28 9 0.00 0.21	<b>1</b> 299 - 2.21 2.22	<b>Special</b> 371 644.89 46 0.00 0.01	Naste 371 - 2.21 2.21	Pod 63 111.57 0 0.08 0.40	5 - 2.21 2.22	<b>Special V</b> 62 99.00 2 0.00 0.01	Waste 62 - 2.21 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median	<b>Pod</b> 299 533.28 9 0.00 0.21 0.70	1 299 - 2.21 2.22 2.22 2.22	<b>Special</b> 371 644.89 46 0.00 0.01 0.02	Waste 371 - 2.21 2.21 2.21 2.21	Pod 63 111.57 0 0.08 0.40 0.88	5 - 2.21 2.22 2.23	<b>Special V</b> 62 99.00 2 0.00 0.01 0.03	Waste 62 - 2.21 2.21 2.21 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile	Pod 299 533.28 9 0.00 0.21 0.70 2.70 2.70	1 299 - 2.21 2.22 2.22 2.26 2.26	<b>Special V</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.04	Waste 371 - 2.21 2.21 2.21 2.21 2.21	Pod 63 111.57 0 0.08 0.40 0.88 1.79	5 - 2.21 2.22 2.23 2.24 2.24	<b>Special V</b> 62 99.00 2 0.00 0.01 0.03 0.04	Waste 62 - 2.21 2.21 2.21 2.21 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 0.20	1 299 - 2.21 2.22 2.22 2.26 4.08	<b>Special V</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.02	Waste 371 - 2.21 2.21 2.21 2.21 2.21 2.22	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78	5 - 2.21 2.22 2.23 2.24 3.01 2.20	Special V 62 99.00 2 0.00 0.01 0.03 0.04 0.15	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28	<b>Special</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03	Waste 371 - 2.21 2.21 2.21 2.21 2.22 2.21	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48	5 - 2.21 2.22 2.23 2.24 3.01 2.26	Special V 62 99.00 2 0.00 0.01 0.03 0.04 0.15 0.03	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 2.28 2.28	<b>Special</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03	Waste 371 - 2.21 2.21 2.21 2.22 2.21 2.21 2.21	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99	5 - 2.21 2.22 2.23 2.24 3.01 2.26 2.26 2.26	Special V 62 99.00 2 0.00 0.01 0.03 0.04 0.15 0.03 0.03	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹ Variance	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12 55.79	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 2.28 0.03	<b>Special</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03 0.003	Waste 371 - 2.21 2.21 2.21 2.21 2.22 2.21 2.21 0.000	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99 29.69	5 - 2.21 2.22 2.23 2.24 3.01 2.26 2.26 0.01	Special V 62 99.00 2 0.00 0.01 0.03 0.04 0.15 0.03 0.03 0.03 0.001	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 0.000
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹ Variance Standard Deviation	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12 55.79 7.47	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 2.28 0.03 0.18	<b>Special</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03 0.03 0.003 0.05	Waste 371 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99 29.69 5.45	5 63 - 2.21 2.22 2.23 2.24 3.01 2.26 0.01 0.11	Special V 62 99.00 2 0.00 0.01 0.03 0.04 0.15 0.03 0.03 0.03 0.001 0.03	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹ Variance Standard Deviation Coefficient of Variation	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12 55.79 7.47 2.28	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 2.28 0.03 0.18 0.03	<b>Special</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03 0.03 0.003 0.05 1.60	Waste 371 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.001	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99 29.69 5.45 2.20	5 63 - 2.21 2.22 2.23 2.24 3.01 2.26 2.26 0.01 0.11 0.05	Special V 62 99.00 2 0.00 0.01 0.03 0.04 0.15 0.03 0.03 0.03 0.001 0.03 0.86	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.000
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹ Variance Standard Deviation Coefficient of Variation 90th Percentile	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12 55.79 7.47 2.28 9.83	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 0.03 0.18 0.08 2.38 0.08 2.38	<b>Special</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03 0.03 0.03 0.03 0.05 1.60 0.06	Waste 371 - 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.001 2.21	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99 29.69 5.45 2.20 5.52	5 63 - 2.21 2.22 2.23 2.24 3.01 2.26 2.26 0.01 0.11 0.05 2.30	Special V           62           99.00           2           0.00           0.01           0.03           0.04           0.15           0.03           0.03           0.001           0.03           0.03           0.03           0.03           0.03           0.03	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.000 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹ Variance Standard Deviation Coefficient of Variation 90th Percentile	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12 55.79 7.47 2.28 9.83 13.37	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 0.03 0.18 0.08 2.38 2.45	<b>Special</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03 0.03 0.003 0.003 0.05 1.60 0.06 0.08	Waste 371 - 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.001 2.21 2.2	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99 29.69 5.45 2.20 5.52 6.49 0.52 6.49	5 63 2.21 2.22 2.23 2.24 3.01 2.26 2.26 0.01 0.11 0.05 2.30 2.32 2.32	Special V           62           99.00           2           0.00           0.01           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.04	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.000 2.21 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹ Variance Standard Deviation Coefficient of Variation 90th Percentile 95th Percentile	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12 55.79 7.47 2.28 9.83 13.37 19.59	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 0.03 0.18 0.08 2.38 2.45 2.58	<b>Special V</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03 0.03 0.03 0.03 0.05 1.60 0.06 0.08 0.10 0.10	Waste 371 - 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.001 2.21 2.2	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99 29.69 5.45 2.20 5.52 6.49 9.89	5 63 - 2.21 2.22 2.23 2.24 3.01 2.26 2.26 0.01 0.11 0.05 2.30 2.32 2.39 2.39	Special V           62           99.00           2           0.00           0.01           0.03           0.04           0.15           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.04           0.05           0.07           0.10	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.000 2.21 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹ Variance Standard Deviation Coefficient of Variation 90th Percentile 95th Percentile 97th Percentile	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12 55.79 7.47 2.28 9.83 13.37 19.59 25.49	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 2.28 0.03 0.18 0.08 2.38 2.45 2.58 2.58 2.71	<b>Special V</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03 0.03 0.03 0.03 0.05 1.60 0.06 0.08 0.10 0.11 0.11	Waste 371 - 2.21 2.21 2.21 2.21 2.22 2.21 2.21 0.000 0.001 0.001 0.001 2.21 2.2	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99 29.69 5.45 2.20 5.52 6.49 9.89 19.54	5 63 - 2.21 2.22 2.23 2.24 3.01 2.26 2.26 0.01 0.11 0.05 2.30 2.32 2.39 2.58	Special V 62 99.00 2 0.00 0.01 0.03 0.04 0.15 0.03 0.03 0.03 0.03 0.001 0.03 0.03 0.0	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.000 2.21 2.21
Count Sum (m) Zeros Minimum 25th Percentile Median 75th Percentile Maximum Arithmetic Average Weighted Average ¹ Variance Standard Deviation Coefficient of Variation 90th Percentile 95th Percentile 97th Percentile 98th Percentile	Pod 299 533.28 9 0.00 0.21 0.70 2.70 63.46 3.28 4.12 55.79 7.47 2.28 9.83 13.37 19.59 25.49 43.04	1 299 - 2.21 2.22 2.22 2.26 4.08 2.28 0.03 0.18 0.08 2.38 2.45 2.58 2.71 3.21	<b>Special V</b> 371 644.89 46 0.00 0.01 0.02 0.04 0.72 0.03 0.03 0.03 0.03 0.03 0.03 0.05 1.60 0.06 0.08 0.10 0.11 0.16	Waste 371 - 2.21 2.21 2.21 2.21 2.22 2.21 2.21 0.000 0.001 0.001 0.001 2.21 2.2	Pod 63 111.57 0 0.08 0.40 0.88 1.79 36.78 2.48 2.99 29.69 5.45 2.20 5.52 6.49 9.89 19.54 28.40 28.40	5 63 - 2.21 2.22 2.23 2.24 3.01 2.26 2.26 0.01 0.11 0.05 2.30 2.32 2.39 2.58 2.79	Special V           62           99.00           2           0.00           0.01           0.03           0.04           0.15           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.03           0.01           0.07           0.10           0.14           0.15	Waste 62 - 2.21 2.21 2.21 2.21 2.21 2.21 2.21 0.000 0.001 0.000 2.21 2.21

# Table 17-3 2m Composite StatisticsMcClean Lake Joint Venture, McClean North Project, Saskatchewan

Notes:

1) Grade is length and SG weighted; SG is length weighted

#### **GRADE INTERPOLATION**

Grade interpolation was carried out for each pod. Ordinary kriging (OK) of the product of  $U_3O_8\%$  x SG, and OK of composite SGs was carried out initially. OK has a major benefit of declustering composites during interpolation. Negative kriging weights from masked samples were set to zero. Kriging is the best linear unbiased estimator for interpolation. The grade assigned to the resource block model was determined by division of the  $U_3O_8\%$  x SG block values by the corresponding block SG. The following criteria and parameters were used for interpolation:

- Kriging parameters were developed from the variography of 2 m composites within all the pod wireframes in order to provide a sufficient number of pairs for interpretation. A linear down-hole variogram was used to establish nugget effect at 37% of sill value. Variograms were population variance normalized so that resulting sills are at a variance of one and more readily comparable between continuity orientations. Variograms were not particularly robust and some interpretation and judgment was used in profile fitting, generally by application of nested spherical models and forcing the models to a sill of one. (Appendix 1).
- Interpolation only by composites from within the pod wireframes.
- Search distances defined from variography with the search tailored to pod orientation at N74°E. Search distances were 18 m x 15 m by 3 m (Table 17-4). The vertical search was reduced from the variography range of seven metres to reduce smoothing. A search distance of 27 m x 23 m x 11 m was used to interpolate the special waste wireframe where the distance between composites is generally greater than for the resource wireframes.
- A minimum of one composite and maximum of five composites were required to populate grade in a block. The low maximum number of five composites was selected to provide better local resolution of block grades, i.e., reduce smoothing.

Figures 17-8 to 17-13 illustrate a cross section of the resource block model for each pod showing the wireframe, assays and composites.

#### **RESOURCE CLASSIFICATION**

Scott Wilson RPA classified resources based on the drill hole spacing, apparent grade continuity hole to hole, and cross section to cross section. The material in the main pods at the Athabasca sandstone-basement contact has been well drilled and is classified as

Indicated Resources. Small lenses, mostly in the footwall, with continuity in two or more holes on section but no, or limited, continuity on adjacent cross sections, are classed as Inferred Resources.

#### **RESOURCE STATEMENT**

Table 17-5 presents the mineral resources at incremental cut of grades for the McClean North pods. Based on Scott Wilson RPA's review of  $U_3O_8$  prices and mining operating costs at the MLJV, the 0.1%  $U_3O_8$  cut-off grade is reasonable for conversion to Mineral Reserves. Figure 17-14 shows tonnage-grade relationships for Indicated Resources.

Scott Wilson RPA cautions that the resource block model carries internal dilution but not external dilution. Interpolation of block grades was carried out within the envelope of special waste surrounding the resource wireframe and Scott Wilson RPA recommends that these grades be applied to model dilution during open pit design optimization.

# Table 17-4 Summary of Grade Interpolation ParametersMcClean Lake Joint Venture McClean North Project, Saskatchewan

Composite Length	2 m				
Population Variance Norma	lized ¹ Vario	ography Pr	ofiles - Nesteo	d Spherica	l Model
Semi-Variogram Vector	Nugget	C1	Range 1 (m)	C2	Range 2 (m)
Strike (074.3°/0°)	0.37	0.33	11	0.30	18
Cross Strike (164.3°/0°)	0.37	0.40	5	0.23	15
Vertical/Thickness (000°/-90°)	0.37	0.25	7	0.38	7
Search Distance ²	Pass 1	Pass 2	Pass 3		
Major Axis/Strike (m)	18	27	36		
Intermediate Axis/Cross Strike (m)	15	23	30		
Minor Axis/Vertical Thickness (m)	3	11	14		
Interpolation Criteria	Minimum	Maximum			
No. of Composites	1	5			
Block Model Rotated ³ +15.7°	x	Y	Z		
Block Size (m)	8.0	5.0	2.0		

#### Notes:

1) Total sill variance = 1

2) Pass multiples 1.5x and 2x to fill wireframe

3) Rotation counterclockwise

300 Elev.											
275 Elev. Sandstone Basement	6555869.9 K-	1.46         1.3           1.78         2.4           1.91         2.5           2.61         2.4           2.13         1.6           1.7         1.7	91 1 1 45 2 2 45 67 2 2 066 1 1	U 000 92 93 1.72 1.72 1.36 3.11 4.16 5.13 2.18 2.26 1.08 1.11	0.53 5.78 2.03	0.52 1.71 4.84 6.21 4.57	567905.0 E	6458320.0 NL		667610.0 F	
250 Elev.	N0000		90.0X		10	15	20 U30 0.00 0.30 0.10	8: U308 %		-120.0X	
225 Elev.		75 E		SCOTT GEOLOGICAL ANK 55 Universi Toronto,	WILSON RP. D MINING CONSUL 9 VAVENUE, Suide 50 Ontario M5J 2H7	A 1	0.50 1.00 2.00 5.00 10.00 Mc	1.00 2.00 5.00 10.00 100.00 Fig Clean L McClear Cross	gure 17-8 ake Joint North Pi Section 35	Ventur roject SP1 se Blocks	a 125 E

325 Elev.												
300 Elev.												
	= 84 5898 0.0FN			– 567600.0 E	_ 6458340.0 N			_ 567605.0 E	_ 6458320.0 N		_ 567610.0 E	
						0.64	0.52					
275 Elev	I	1.46 1.78	1.91 2.45	1.72 3.11	1.36 4.1	1.66 3.40	1.71 4.84					
Sandstone		2.51	2.90	3.64	<u>6.1</u> 5.1	<del>- 6.53</del> 5.78	<u>8.21</u> 4.57					
Basement		2.13	1.67 1.06 1.71	2.18	2.20	2.03						
250 Elev.												
60.0 X		70.0X			MC38	X0:06		100.0X	- 110.0X		120.0X	
ш 95 225 Elev.	r   11		5	0	5	10	15 	20	U308 0.00 0.03 0.10 0.50 1.00 2.00 5.00 10.00	0.03 0.10 0.50 1.00 2.00 10.00 100.00	,"] 	125 E
			SCOTT WILSON RPA GEOLOGICAL AND MINING CONSULTANTS 55 University Avenue, Sult 501 Toronto, Ontario M5J 2H7				Figure 17-9 McClean Lake Joint Venture McClean North Project Cross Section 35P1 Drill Hole Composites and Resource Blocks					









# Table 17-5 McClean North U₃O₈ Resources at Incremental Block Cut-Off Grades McClean Lake Joint Venture McClean North Project, Saskatchewan

	Pod 1 Indicated Resources						Pod 1 Inferred Resources						
COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)	COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)		
All	116,368	2.84	2.26	3,307	7,290	All	3,359	0.71	2.23	23.9	52.7		
0.1	115,898	2.85	2.26	3,308	7,290	0.1	3,064	0.77	2.23	23.6	52.1		
0.2	111,495	2.96	2.26	3,300	7,280	0.2	2,562	0.89	2.23	22.8	50.3		
0.3	104,383	3.15	2.26	3,283	7,240	0.3	2,241	0.99	2.23	22.1	48.8		
0.4	99,919	3.27	2.27	3,266	7,200	0.4	2,125	1.02	2.23	21.7	47.9		
0.5	95,330	3.41	2.27	3,246	7,160	0.5	1,869	1.10	2.23	20.6	45.3		
1.0	70,729	4.33	2.28	3,063	6,750	1.0	332	3.12	2.25	10.3	22.8		
2.0	43,482	6.62	2.23	2,877	6,340	2.0	272	3.44	2.25	9.4	20.6		
5.0	16,470	10.99	2.40	1,810	3,990	5.0	-	-	-	-	-		
10.0	5,862	18.37	2.54	1,077	2,370	10.0	-	-	-	-	-		

	Pod 2 Indicated Resources							Pod 2 Inferred Resources						
COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U₃O₅ Tonnes	U ₃ O ₈ lbs (000's)		COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)		
All	43,983	2.59	2.25	1,138	2,510		All	-	-	-	-	-		
0.1	43,983	2.59	2.25	1,138	2,510		0.1	-	-	-	-	-		
0.2	43,485	2.62	2.25	1,137	2,510		0.2	-	-	-	-	-		
0.3	43,064	2.64	2.25	1,136	2,500		0.3	-	-	-	-	-		
0.4	41,714	2.71	2.25	1,131	2,490		0.4	-	-	-	-	-		
0.5	40,202	2.80	2.26	1,124	2,480		0.5	-	-	-	-	-		
1.0	29,746	3.51	2.26	1,043	2,300		1.0	-	-	-	-	-		
2.0	16,354	5.21	2.29	851	1,880		2.0	-	-	-	-	-		
5.0	6,662	8.65	2.33	576	1,270		5.0	-	-	-	-	-		
10.0	1,602	13.78	2.40	221	487		10.0	-	-	-	-	-		

	Pod 5 Indicated Resources							Pod 5 Inferred Resources						
COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U₃O₅ Tonnes	U ₃ O ₈ lbs (000's)	U	COG J ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)		
All	26,376	2.89	2.26	762	1,680		All	197	0.33	2.22	0.66	1.45		
0.1	26,233	2.91	2.26	762	1,680		0.1	197	0.33	2.22	0.66	1.45		
0.2	25,645	2.97	2.26	761	1,680		0.2	118	0.44	2.22	0.52	1.16		
0.3	25,219	3.01	2.26	760	1,680		0.3	118	0.44	2.22	0.52	1.16		
0.4	24,862	3.05	2.26	759	1,670		0.4	118	0.44	2.22	0.52	1.16		
0.5	23,778	3.17	2.26	754	1,660		0.5	-	-	-	-	-		
1.0	15,771	4.39	2.28	692	1,530		1.0	-	-	-	-	-		
2.0	8,700	6.81	2.32	592	1,310		2.0	-	-	-	-	-		
5.0	5,060	9.67	2.35	489	1,079		5.0	-	-	-	-	-		
10.0	2,174	11.98	2.38	260	574		10.0	-	-	-	_	-		

	Total Indicated Resources							Total Inferred Resources					
COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U₃O ₈ Tonnes	U ₃ O ₈ lbs (000's)		COG U ₃ O ₈ %	Tonnes	U ₃ O ₈ %	Bulk Density (t/m³)	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)	
All	186,726	2.79	2.26	5,207	11,480		All	3,556	0.69	2.23	24.5	54.1	
0.1	186,113	2.80	2.26	5,208	11,480		0.1	3,261	0.74	2.23	24.3	53.5	
0.2	180,625	2.88	2.26	5,199	11,460		0.2	2,681	0.87	2.23	23.3	51.4	
0.3	172,666	3.00	2.26	5,179	11,420		0.3	2,359	0.96	2.23	22.7	50.0	
0.4	166,495	3.10	2.26	5,156	11,370		0.4	2,244	0.99	2.23	22.3	49.1	
0.5	159,309	3.22	2.26	5,124	11,300		0.5	1,869	1.10	2.23	20.6	45.3	
1.0	116,245	4.13	2.28	4,798	10,580		1.0	332	3.12	2.25	10.3	22.8	
2.0	68,536	6.30	2.25	4,320	9,520		2.0	272	3.44	2.25	9.4	20.6	
5.0	28,192	10.20	2.37	2,875	6,340		5.0	-	-	-	-	-	
10.0	9.638	16.16	2.48	1.558	3,430		10.0	-	-	-	-	-	

Notes:

1. CIM definitions were followed for Mineral Resources.

2. Mineral Resources are estimated at a minimum cut-off grade of 0.1%  $U_3O_{8.}$ 

3. Mineral Resources are estimated using an average long-term uranium price of US\$23.50 per pound (C\$29.00/lb), and an exchange rate of 1.23C\$ per US\$.

4. A minimum vertical thickness of 1 metre was used.

5. Indicated Mineral Resources are inclusive of Probable Mineral Reserves.

6. AREVA holds 70.0% interest in the MLJV and the above Resources.

7. Denison holds 22.5% interest in the MLJV and the above Resources.







#### MODEL VALIDATION

Scot Wilson RPA examined block grades, in relation to  $U_3O_8$  analyses in drill holes, on screen in plan and cross section. The close drill hole spacing is relatively effective in controlling any grade smearing from the clustered high grade intercepts in the various pods. Summary statistics of the modelled  $U_3O_8$  grades of the resource blocks were compared to those for composites and raw analyses (Table 17-6). Scott Wilson RPA also compared the mean grades from interpolation by inverse distance (ID²) and nearest neighbour methods (NN) to confirm the reasonableness of the estimate. The means of the models compare reasonably well. Figure 17-15 shows a box and whisker plot of statistics for composites, OK and ID² blocks. Some disparity is expected for ID² and NN methods due to the effects of not declustering the composite data.

ыоск модеї Average Grade (U₂Q₀%)											
Pod	Pod OK ID ² NN										
Pod 1	2.78	2.78	2.81								
Pod 2	2.59	2.57	2.24								
Pod 5	2.87	2.78	2.80								
Total	2.75	2.73	2.68								
	Varia	nce vs. OK									
Pod 1	-	0.00%	1.08%								
Pod 2	-	-0.77%	-13.51%								
Pod3	-	-3.14%	-2.44%								
Total	-	-0.73%	-2.55%								

With respect to the 1998 AREVA 2D block model estimate, Scott Wilson RPA compared the global resources at the 0.3% cut-off grade (Table 17-7) as estimated by OK interpolation of composite  $U_3O_8$  grades without weighting by SG. This model results in a 6.8% lower average grade than for the SG weighted grade model. Contained metal between the non weighted and AREVA models is virtually identical, but the Scott Wilson RPA non weighted model has 8.89% less tonnes and 9.46% higher grade with respect to the AREVA estimate. The Scott Wilson RPA wireframed 3D model carries internal dilution but no external dilution as generally do the AREVA models. If the Scott Wilson RPA non weighted model is diluted at 9.8% on tonnage at a special waste grade of 0.03%

95th Percentile

97th Percentile

98th Percentile

99th Percentile

99.5th Percentile

 $U_3O_8$ , the resource tonnes and grades of the two models are the same with less than 1% difference in contained metal. Scott Wilson RPA generally recommends that 10% external dilution be added for tightly wireframed open pit models such as for the Scott Wilson RPA current resource estimate for McClean North.

#### TABLE 17-6 COMPARISON OF STATISTICS FOR ASSAYS, COMPOSITES AND RESOURCE BLOCKS

	Assays	Composites	Blocks	
Statistic	U ₃ O ₈ %	U ₃ O ₈ %	U ₃ O ₈ %	
Count	2,674	478	2,191	
Minimum	0.00	0.00	0.02	
25th Percentile	0.13	0.24	0.58	
Median	0.47	0.78	1.09	
75th Percentile	2.24	2.51	2.50	
Maximum	98.00	63.46	39.80	
Arithmetic Average	3.35	3.00	2.26	
Weighted Average ¹	3.73	3.71	2.75	
Variance	83.08	46.59	10.75	
Standard Deviation	9.11	6.83	3.28	
Coefficient of Variation	2.72	2.27	1.45	
90th Percentile	7.74	7.70	5.72	

11.76

19.18

24.22

38.18

48.09

8.68

10.62

12.15

15.25

20.02

#### McClean Lake Joint Venture McClean North Project, Saskatchewan

Note: Assay grade is length and SG weighted; assays and composites are not declustered.

16.51

25.93

32.57

54.09

65.92





°0°Ω%

17-28

minimum 

 median 
 o mean + 95%ile - maximum

# TABLE 17-7COMPARISON OF AREVA 1998 AND NON SG WEIGHTED<br/>SCOTT WILSON RPA 2006 RESOURCE MODELS

	COG				
Model	U₃O ₈ %	Tonnes	U ₃ O ₈ %	U ₃ O ₈ Tonnes	U ₃ O ₈ lbs (000's)
Scott Wilson RPA	0.3	175,281	2.77	4,854	10,700
AREVA	0.3	192,394	2.53	4,859	10,712
Variance	-	-8.89%	9.46%	-0.10%	-0.11%
<b>Diluted Model (9</b>	.8% @ 0.0	3% U ₃ O ₈ )			
Scott Wilson RPA	0.3	175,281	2.77	4,854	10,700
Dilution	-	17,113	0.03	5	113
Total		192,394	2.53	4,859	10,813

McClean Lake Joint Venture McClean North Project, Saskatchewan

#### **MINERAL RESERVES**

Scott Wilson RPA was requested to provide a resource block model for McClean North that is appropriate for open pit Mineral Resource and Mineral Reserve estimation. The estimation of in-pit Mineral Resources, and Mineral Reserves, is beyond the scope of Scott Wilson RPA's mandate and has not been included in this report.

# 18 OTHER RELEVANT DATA AND INFORMATION

All information relevant to block model resource estimation has been reported.

### **19 INTERPRETATION AND CONCLUSIONS**

At the request of the MLJV, Scott Wilson RPA has estimated resources for uranium mineralized pods (Pods 1, 2, and 5) in the McClean North trend on the McClean Lake property owned by the MLJV and operated by AREVA.

The McClean North pods are consisting of fine-grained coffinite veinlets, nodules of pitchblende, and masses of pitchblende/uraninite hosted in hematite-altered clay-rich zones containing massive layers of illite in sandstone and basement graphitic gneisses. The deposits are typical of egress style mineralization and they straddle and parallel the unconformity between the Athabasca sandstones and conglomerates and the Aphebian basement rocks.

The resource estimate is based entirely on diamond drilling. AREVA provided the drill hole database to Scott Wilson RPA. In Scott Wilson RPA's opinion, the drill hole database as validated in this report is reasonable for the estimation of resources and reserves at McClean North.

Scott Wilson RPA prepared the 3D resource block model with the intent of providing it to the MLJV for open pit design optimization to be undertaken in-house by AREVA on behalf of the MLJV. The estimate includes internal dilution, but not external dilution which should be added for the estimation of open pit resources. The estimate has been validated by various means and by alternative grade interpolation methods and is reasonable, in Scott Wilson RPA's opinion. At a cut-off grade of  $0.1\% U_3O_8$ , the Indicated Mineral Resource of the three pods totals 186,000 tonnes averaging 2.61%  $U_3O_8$ .

Scott Wilson RPA prepared a special waste wireframe that generally surrounds the resource wireframe. Similar kriging parameters but larger search distances were used to interpolate a special waste grade model, independent of the resource model.

The Indicated Mineral Resource at the 0.1% U₃O₈ cut-off grade is reasonable for open pit resource estimation and conversion to reserves.

## **20 RECOMMENDATIONS**

Scott Wilson RPA recommends that the MLJV use the Scott Wilson RPA resource block model as a basis for the estimation of open pit Mineral Resources and open pit Mineral Reserves, assuming the latter is justified under CIM guidelines for Mineral Reserve estimation. Scott Wilson RPA further recommends that dilution (10%) be applied to the resources for open pit resource estimation. Grade of the external dilution may be derived from blocks within the special waste wireframe that generally surrounds the resource wireframe.

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## 22 SIGNATURE PAGE

This report titled "Technical Report on the Mineral Resource Estimate for the McClean North Uranium Deposits, Saskatchewan" prepared for the McClean Lake Joint Venture, with the effective date of December 31, 2006 and dated January 31, 2007, was prepared and signed by the following author:

(Signed & Sealed)

Dated at Toronto, Ontario January 31, 2007 Richard E. Routledge, M.Sc., P. Geo. Consulting Geologist

## 23 CERTIFICATE OF QUALIFICATIONS

#### **RICHARD E. ROUTLEDGE**

As an author of this report entitled "Technical Report on the Resource Estimate for the McClean North Uranium Deposits, Saskatchewan Prepared for the McClean Lake Joint Venture" (the Report) and on behalf of the McClean Lake Joint Venture. (MLJV), I hereby make the following statements:

- A. My name is Richard E. Routledge and I am a Consulting Geologist employed by Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA). My office address is Suite 501, 55 University Avenue, Toronto, Ontario M5J 2H7. I am a Qualified Person for the purposes of National Instrument 43-101 of the Canadian Securities Administrators.
- B. I have received the following degrees:
  - B.Sc. (Major Geology) 1971 Sir George Williams (now Concordia) University, Montreal, Quebec
  - M.Sc. (Applied Mineral Exploration) 1973 McGill University, Montreal, Quebec
- C. I am licensed as a Professional Geologist (#744) in the Northwest Territories and I am a Practising Member (#1354) of the Association of Professional Geoscientists of Ontario. I am a Member of the Canadian Institute of Mining, Metallurgy and Petroleum, Toronto Branch.
- D. I am a Qualified Person for the purposes of National Instrument 43-101.
- E. This Report is based on my personal review of information provided by Denison Mines Inc. and AREVA Resources Canada Inc., on discussions with personnel of these companies, and on information available in public files. My relevant experience for the purpose of the Report is:
  - Review and report as a consultant on numerous exploration and mining projects around the world for due diligence and regulatory requirements, including:
    - Resource estimates for Sue A, Sue B, Sue D, McClean North and Caribou U deposits, McClean Lake, Saskatchewan
    - Resource estimate for Midwest U deposit, Saskatchewan
    - Resource estimate for Grachevskoye U Mine, Kazakstan
    - o Due diligence review of Kazakstan U projects
    - Resource estimate for Dornod U deposit, Mongolia
    - Resource estimate for Kitts U deposit, Labrador
    - Uranium resource assessment of two quadrangles in the Midwest U.S.A. for the U.S. Government
    - Uranium exploration, Athabaska Basin, Saskatchewan and Quebec

- Vice President Exploration for a junior mining company in charge of diamond exploration programs in NWT and property evaluations worldwide for a variety of commodities, including gold, base metals, and diamonds.
- Senior geologist with a major Canadian mining company in charge of evaluation of advanced properties/projects and acquisitions for a broad variety of commodities.
- F. I have been practicing continuously as a professional geologist for 33 years.
- G. I visited the McClean Lake operations on February 1 and 2, 2005 and the AREVA Resources Canada Inc. offices in Saskatoon, Saskatchewan on January 31 and from February 2 to 4, 2005.
- H. I am responsible for all sections of this Report.
- I. I am not aware of any material fact or material change with respect to the subject matter of the Report, which is not reflected in the Report, the omission to disclose which makes the Report misleading.
- J. I am independent of Denison Mines Inc. and AREVA Resources Canada Inc. applying the tests set out in section 1.5 of National Instrument 43-101. I have no prior involvement with the MLJV properties that are the subject of the Report other than the preparation of independent National Instrument 43-101 reports on the Midwest Lake property, the McClean Lake property and Sue D deposit for Denison Mines Inc. dated February 14, 2006, February 16, 2006 and March 31, 2006, respectively.
- K. I have read National Instrument 43-101 and National Instrument 43-101F1 and this Report has been prepared in compliance with both of these Instruments.

I consent to the filing of the Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Report.

Dated at Toronto, Ontario January 31, 2007

(Signed & Sealed)

Richard E. Routledge, M. Sc., P. Geo.

# 24 APPENDIX 1

#### **SEMI-VARIOGRAMS OF POD COMPOSITES**



Along Strike @ 74.3° Az. (8 m lag; 30° spread angle, population normalized) 3D Semi-variogram on Strike





Cross Strike @ 164.3° Az. (4 m lag; 45° spread angle, population normalized)

Vertical Semi-Variogram (4 m lag; 30° spread angle; population normalized) 3D Semi-variogram Vertical

