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TECHNICAL REPORT ON A MINERAL RESOURCE ESTIMATE FOR THE WHEELER RIVER PROPERTY, EASTERN ATHABASCA BASIN, NORTHERN SASKATCHEWAN, CANADA

NI 43-101 Report

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November 25, 2015

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Report Control Form

Document Title	Technical Report on a Mineral Resource Estimate for the Wheeler River Property, Eastern Athabasca Basin, Northern Saskatchewan, Canada
Client Name & Address	Denison Mines Corp. 1100 - 40 University Avenue Toronto, ON, Canada M5J 1T1
Document Reference	Project #2534
Status & Issue No.	FINAL Version
Issue Date	November 25, 2015

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Report Distribution

Name	No. of Copies
Client	
RPA Filing	1 (project box)

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TABLE OF CONTENTS

PAGE

LIST OF TABLES

PAGE

LIST OF FIGURES

PAGE

1 SUMMARY

EXECUTIVE SUMMARY

Roscoe Postle Associates Inc. (RPA) was retained by Denison Mines Corp. (Denison) on behalf of the Wheeler River Joint Venture to prepare an independent Technical Report on the Phoenix and Gryphon deposits, located within the Wheeler River Property (the Property) in northern Saskatchewan, Canada. The Mineral Resources for the Phoenix deposit were updated in a NI 43-101 Technical Report dated June 17, 2014 (the 2014 Phoenix Report) and authored by William E. Roscoe, Ph.D., P.Eng., of RPA. The Phoenix Mineral Resources have not changed since the 2014 Phoenix Report and are included in this report.

The purpose of this Technical Report is to support the disclosure of the initial Mineral Resource estimate for the Gryphon deposit and update the total Mineral Resource estimate for the Property. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

Denison owns 60% and is the operator of the Wheeler River Joint Venture. Cameco Corporation (Cameco) owns 30% and JCU (Canada) Exploration Company Limited (JCU) owns the remaining 10%. The Property consists of 19 contiguous claims in northern Saskatchewan. Denison's additional assets include a 22.5% interest in the McClean Lake mill in Saskatchewan, one of three licensed uranium mills in Canada.

The updated Mineral Resource estimate for the Wheeler River Property is summarized in Table 1-1.

TABLE 1-1 MINERAL RESOURCE ESTIMATE AS OF SEPTEMBER 25, 2015 (100% BASIS)
Denison Mines Corp. – Wheeler River Property

Deposit	Category	Tonnes	Grade (% U_3O_8)	Contained Metal (million lb U_3O_8)
Phoenix	Indicated	166,400	19.14	70.2
Phoenix	Inferred	8,600	5.80	1.1
Gryphon	Inferred	834,000	2.31	43.0
	Total Inferred	**842,600**	**2.37**	**44.1**

Notes:
1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources for Phoenix are reported above a cut-off grade of 0.8% U_3O_8, which is based on internal Denison studies and a price of US$50 per lb U_3O_8.
3. Mineral Resources for Gryphon are reported above a cut-off grade of 0.2% U_3O_8, which is based on RPA assumptions and a price of US$50 per lb U_3O_8.
4. High grade composites are subjected to a high grade search restriction without capping at Phoenix.
5. High grade mineralization was capped at 30% with no search restrictions at Gryphon.
6. Bulk density is derived from grade using a formula based on 196 measurements at Phoenix and 65 measurements at Gryphon.
7. Numbers may not add due to rounding.

CONCLUSIONS

Drilling at the Property from 2008 to 2014 discovered and delineated the Phoenix uranium deposit at the intersection of the Athabasca sandstone basal unconformity with a regional fault zone, the WS fault, and graphitic pelite basement rocks. Drilling from 2014 to 2015 discovered the basement hosted Gryphon uranium deposit located approximately three kilometres northwest of the Phoenix deposit.

The Phoenix deposit consists of two separate lenses known as zone A and zone B located at the Athabasca unconformity approximately 400 m below surface within a one kilometre long, northeast trending mineralized corridor. Both lenses contain a higher grade core within a lower grade mineralized envelope and extend southeastward from the WS fault along the unconformity. Some mineralization also occurs on the northwest side of the WS fault but commonly at a slightly lower elevation. In addition to zones A and B, a new domain of uranium mineralization below and adjacent to zone A has been identified in basement rocks (zone A basement) and included in this report.

Mineral Resources for Phoenix, based on 196 diamond drill holes totalling 89,835 m, were estimated by RPA. Indicated Resources total 166,400 t at 19.13% U_3O_8 containing 70.2

million lb U_3O_8. Inferred Resources total 8,600 t at 5.80% U_3O_8 containing 1.1 million lb U_3O_8.

Mineralization at the Gryphon Deposit, located three kilometres northwest of Phoenix, occurs in basement rocks approximately 200 m beneath the Athabasca sandstone unconformity. In this area, the unconformity drops to the northwest in a series of reverse fault offsets. Cumulative offset is approximately 60 m of vertical displacement over 250 m across strike. Basement rocks are Wollaston Group gneisses that dip moderately to the southeast and consist of an upper graphitic pelite unit overlying a quartzite/pegmatite assemblage which overlies a lower graphitic pelite unit followed by a basal pegmatite. To date, the mineralization is hosted in fault zones at the base of the upper graphitic pelite and within the lower graphitic pelite. The faults are assumed to dip moderately to the southeast, conformable with the bedding and foliation in the basement rocks.

Mineral Resources for Gryphon, based on 55 diamond drill holes totalling 40,041 m, were estimated by RPA. Inferred Resources total 834,000 t at 2.31% U_3O_8 containing 43.0 million lbs U_3O_8. In RPA's opinion, additional infill drilling on 25 m profile spacing or wedging off of current drill holes would be needed to bring the Inferred Mineral Resource into Indicated status.

In RPA's opinion, a Preliminary Economic Assessment (PEA) could be carried out on the Phoenix and Gryphon deposits combined.

RECOMMENDATIONS

In the third quarter of 2015, the Wheeler River Joint Venture commenced a PEA. At the end of the PEA, a review of the project will be completed with recommendations for next steps. Should the project proceed into pre-feasibility, initial work will focus on environmental baseline studies, engineering field programs, and engineering studies.

The Wheeler River Joint Venture plans to continue exploration on the Property in 2016, with emphasis expected to be on the areas to the northeast and southwest of Gryphon, as well as other targets on the Property. In addition, an infill drilling program may be undertaken on the Gryphon deposit to bring the Inferred Mineral Resource into Indicated status if warranted by positive PEA results.

RPA has reviewed the preliminary plans for 2016 and concurs with the program planned for the Wheeler River Joint Venture in 2016. Denison's 2016 budget for the Wheeler River Joint Venture has not been disclosed yet, but RPA expects exploration expenditures to be in the order of C$10 million. Contingent on results of this program and the PEA, a second phase will consist of infill drilling at Gryphon, environmental baseline studies, engineering field programs, and engineering studies as part of the initiation of a pre-feasibility study. RPA expects that the cost of the second phase program will be in the order of C$3 million.

If further drilling is completed at Gryphon, RPA recommends that Denison continue to collect additional bulk density data to increase the confidence of estimated densities of the entire grade range.

TECHNICAL SUMMARY

PROPERTY DESCRIPTION AND LOCATION

The Property, comprising the Phoenix and Gryphon uranium deposits, is located in the eastern Athabasca Basin, approximately 600 km north of Saskatoon, 260 km north of La Ronge, and 110 km southwest of Points North Landing, in northern Saskatchewan. The centre of the Property is located approximately 35 km north-northeast of the Key Lake mill and 35 km southwest of the McArthur River mine, which are operated by Cameco. The Gryphon deposit is located three kilometres northwest of the Phoenix deposit.

LAND TENURE

The Property comprises 19 contiguous claims held as a Joint Venture among Denison (60%), Cameco (30%), and JCU (10%) with no back-in rights or royalties that need to be paid. RPA understands that Denison has all the required permits to conduct the proposed work on the Property. RPA is not aware of any other significant factors or risks that may affect access, title, or the right or ability to perform work on the Property.

ACCESS AND INFRASTRUCTURE

Access to the Property is by road, helicopter, or fixed wing aircraft from Saskatoon. Vehicle access to the Property is by Highway 914, which terminates at the Key Lake mill. The ore haul road between the Key Lake and McArthur River operations traverses the eastern part of the Property. An older access road, the Fox Lake Road, between Key Lake and McArthur

River provides access to most of the northwestern side of the Property. Gravel and sand roads and drill trails provide access by either four-wheel-drive or all-terrain-vehicle to the rest of the Property.

La Ronge is the nearest commercial/urban centre where most exploration supplies and services can be obtained. Two airlines offer daily, scheduled flight services between Saskatoon and La Ronge.

Field operations are currently conducted from Denison's Wheeler River camp, three kilometres southwest of the Phoenix deposit and four kilometers south of the Gryphon deposit. The camp, which is operated by Denison, provides accommodation for up to forty exploration personnel. Fuel and miscellaneous supplies are stored in existing warehouse and tank facilities at the camp. The site generates its own power. Abundant water is available from the numerous lakes and rivers in the area.

HISTORY

The Property was staked on July 6, 1977, due to its proximity to the Key Lake uranium discoveries, and was vended into an agreement on December 28, 1978 among AGIP Canada Ltd. (AGIP), E&B Explorations Ltd. (E&B), and Saskatchewan Mining Development Corporation (SMDC), with each holding a one-third interest. On July 31, 1984, all parties divested a 13.3% interest and allowed Denison Mines Limited, a predecessor company to Denison, to earn a 40% interest. On December 1, 1986, E&B allowed PNC Exploration (Canada) Co. Ltd. (PNC) to earn a 10% interest from one-half of its 20% interest. In the early 1990s, AGIP sold its 20% interest to Cameco, which was a successor to SMDC. In 1996, Imperial Metals Corporation, a successor to E&B, sold an 8% interest to Cameco and a 2% interest to PNC. Participating interests in 2004 were Cameco (48%), JCU (a successor to PNC, 12%), and Denison (40%).

In late 2004, Denison entered into an agreement to earn a further 20% interest by expending $7 million within six years. When the earn-in obligations were completed, the participating interests were Denison 60%, Cameco 30%, and JCU 10%. Since November 2004, Denison has been the operator of the Wheeler River Joint Venture.

Except for the years 1990 to 1995, exploration activities comprising airborne and ground geophysical surveys, geochemical surveys, prospecting and diamond drilling have been carried out on the Property continuously from 1978 to the present. The Phoenix deposit was discovered by drilling in 2008 and the Gryphon deposit, by drilling in 2014.

GEOLOGY AND MINERALIZATION

The Phoenix and Gryphon uranium deposits are located near the southeastern margin of the Athabasca Basin in the southwest part of the Churchill Structural Province of the Canadian Shield. The Athabasca Basin is a broad, closed and elliptically shaped cratonic basin with dimensions of 425 km (east-west) by 225 km (north-south). The bedrock geology of the area consists of Archean and Paleoproterozoic gneisses unconformably overlain by up to 1,500 m of flat-lying, unmetamorphosed sandstones and conglomerates of the mid-Proterozoic Athabasca Group. The Property is located near the transition zone between two prominent litho-structural domains within the Precambrian basement; the Mudjatik Domain to the west and the Wollaston Domain to the east.

The mineralization in the Phoenix deposit occurs at depths of 390 m to 420 m at the Athabasca sandstone unconformity with the underlying lower Proterozoic Wollaston Group metasedimentary rocks. The Phoenix deposit is interpreted to be structurally controlled by the northeast-southwest trending (55º azimuth) WS shear fault which dips 55º to the southeast. Mineralization and alteration have been traced over a strike length of approximately one kilometre. Since discovery hole WR-249 was drilled in 2008, 253 drill holes have reached the target depth, delineating two distinct zones (A and B) of high-grade mineralization and the smaller zone A basement.

Mineralization at the Gryphon deposit is hosted by highly deformed crystalline basement rocks approximately 200 m beneath the Athabasca sandstone unconformity. In this area, the unconformity drops approximately 60 m to the northwest in a series of reverse fault offsets. The Gryphon mineralization is hosted in fault zones within graphitic pelite units that dip moderately to the southeast.

The Phoenix and Gryphon deposits are Athabasca Basin unconformity associated uranium deposits. Uranium mineralization is in the form of the oxide uraninite/pitchblende (UO_2). Grades of all accompanying metals are low, particularly in comparison with several sandstone-hosted deposits, which can have very high values for nickel, cobalt, and arsenic. Alteration at Phoenix and Gryphon is typical of unconformity associated deposits in the Athabasca Basin.

EXPLORATION

Following the discovery of the Phoenix deposit in 2008, Denison, as operator of the Wheeler River Joint Venture, completed additional geophysical surveys and drilling programs every year from 2009 to 2015.

Geophysical surveys included 67.6 line-km of DC Resistivity/Induced Polarization (DC/IP) in 2009, 76.2 km of ground electromagnetic (EM) surveying in 2010, and large amounts of additional DC/IP surveying in each of 2011 (120.6 line-km), 2012 (48.2 line-km), 2013 (128.5 line-km), 2014 (62 line-km), and 2015 (149.5 line-km). In 2013, a 990 line-km helicopter borne versatile time-domain electromagnetic (VTEM)-magnetic-radiometric survey was conducted over the Property.

DRILLING

Diamond drilling is the principal method of exploration and delineation of uranium mineralization after initial geophysical surveys on the Property. Drilling can generally be conducted year round.

Diamond drilling during the period 2009 to 2012 was primarily focussed on definition drilling at the Phoenix deposit, although numerous holes were also completed on other targets on the Property. Diamond drilling during the period 2013 to 2014 was primarily focussed on exploration for additional lenses or deposits, but also included a component of infill delineation drilling on zone A to move the Inferred Mineral Resource into the Indicated category, and to extend the higher grade portions of the Phoenix deposit. During the latter part of 2014 and 2015, drilling was primarily focussed on exploration of the Gryphon deposit.

Since 1979, a total of 641 diamond drill holes and 84 reverse circulation (RC) drill holes totalling 302,127 m have been completed within the Property, of which 263 drill holes totalling 123,749 m of diamond drilling have delineated the Phoenix trend and 69 holes totalling 44,083 m have delineated the Gryphon deposit. Of the 263 drill holes at Phoenix, 196 (141 at zone A, 55 at zone B) drill holes totalling 89,835 m (64,491 m at zone A, 25,344 m at zone B) have tested zones A and B. Of the 69 drill holes at Gryphon, 55 drill holes totalling 40,041 m have delineated the deposit.

All drill holes on the Property were logged with a radiometric probe to measure the natural gamma radiation, from which an indirect estimate of uranium content can be made. The gamma probes were calibrated and radiometric estimates of eU_3O_8 % were used in the drill hole database where core recovery was less than 80%, which involves approximately 23% of the drill holes used for resource estimation at Phoenix. The resource estimation at Gryphon is based on 100% assay data.

Well established drilling industry practices were used in all of the drilling programs.

SAMPLING, ANALYSES, AND DATA VERIFICATION

Drill core from the Phoenix and Gryphon deposits was photographed, logged, marked for sampling, split, bagged, and sealed for shipment by Denison personnel at their field logging facility. All samples for assay or geochemical analysis were transported by Denison personnel to the Saskatchewan Research Council Geoanalytical Laboratories (SRC) in Saskatoon, Saskatchewan. Uranium analyses were carried out at SRC which is accredited by the Standards Council of Canada as an ISO/IEC 17025 Laboratory for Mineral Analysis Testing and is also accredited ISO/IEC 17025:2005 for the analysis of U_3O_8.

To compare results of two different analytical methods, at two separate laboratories, Denison sent one in every 25 samples to the SRC's Delayed Neutron Counting (DNC) laboratory, a separate facility located at SRC Analytical Laboratories in Saskatoon.

Analytical standards were used to monitor analytical precision and accuracy, and field standards were used as an independent monitor of laboratory performance. Six uranium assay standards have been prepared for use in monitoring the accuracy and precision of uranium assays received from the laboratory. Denison employed a lithological blank composed of quartzite to monitor the potential for contamination during sampling, processing, and analysis. Core duplicates were obtained by collecting a second sample of the same material, through splitting the original sample, or other similar technique, and were submitted as an independent sample. Duplicates were typically collected at a minimum rate of one per 20 samples in order to obtain a collection rate of 5%. In RPA's opinion, the sample preparation and analytical methods are standard in the industry. Results of the quality assurance and data verification efforts demonstrate that the data are of sufficient quality for Mineral Resource estimates.

RPA reviewed and verified the resource database used to estimate the Mineral Resources for both the Phoenix and Gryphon deposits. The verification included a review of the quality assurance and quality control (QA/QC) methods and results, verifying assay certificates against the database assay table, standard database validation tests, and two site visits. Denison has developed and documented several QA/QC procedures and protocols for all exploration projects operated by Denison. RPA reviewed Denison's procedures and protocols and considers them to be reasonable and acceptable.

MINERAL RESOURCES

RPA has estimated Mineral Resources for the Property based on results of several surface diamond drilling campaigns from 2008 to 2015. The Denison drill hole database and Mineral Resource estimate have been audited by RPA. Table 1-1 summarizes the Phoenix and Gryphon Mineral Resource estimates, of which Denison's share is 60%. The effective date of the Mineral Resource estimate is September 25, 2015.

Denison has interpreted the geology, structure, and mineralization at Phoenix using data from 196 diamond drill holes and developed three dimensional (3D) wireframe models which represent 0.05% U_3O_8 grade envelopes. For each of zone A and zone B, the wireframes contain a higher grade (HG) domain within an envelope of lower grade (LG) material, resulting in four main domains. A fifth domain has been added for the current estimate consisting of a small zone of structurally controlled basement mineralization at the north end of zone A.

Denison has interpreted the geology, structure, and mineralization at Gryphon using data from 55 diamond drill holes and developed 3D wireframe models which represent 0.05% U_3O_8 grade envelopes and minimum thickness of two metres. The wireframes were subsequently clipped to include only minimum intersections greater than 0.2% U_3O_8. Mineralized wireframes were developed for a total of eight stacked lenses, of which two accounted for most of the Mineral Resources.

Based on 196 dry bulk density determinations for Phoenix and 65 for Gryphon, Denison developed a formula relating bulk density to grade which was used to assign a density value to each assay. Bulk density values were used to weight grades during the resource estimation process and to convert volume to tonnage.

Capping of high grade assays at the Phoenix deposit was considered to be unnecessary because of the use of high grade domains and the lack of apparent high grade outliers. The influence of high grade values, however, was restricted during the block estimation process. High grade assays at the Gryphon deposit were capped at 30% prior to compositing. Assays at both Phoenix and Gryphon were composited to one metre lengths.

Composited uranium grade times density (GxD) values and density (D) values were interpolated into each block model domain using an inverse distance squared (ID^2) algorithm for each mineralized domain. Domain boundaries were treated as hard boundaries, so that composites from any given domain could not influence block grades in other domains. Block grade was derived from the interpolated GxD value divided by the interpolated D value for each block. Block tonnage was based on volume times the interpolated D value.

The Mineral Resources for the Phoenix deposit are classified as Indicated and Inferred based on drill hole spacing and apparent continuity of mineralization. Most of the Mineral Resource at Phoenix is classified as Indicated, with the balance classified as Inferred. All of the Mineral Resource at Gryphon is classified as Inferred.

The Phoenix and Gryphon deposit block models were validated by comparison of domain wireframe volumes with block volumes, visual comparison of composite grades with block grades, comparison of block grades with composite grades used to interpolate grades, and comparison with estimation by a different method.

2 INTRODUCTION

Roscoe Postle Associates Inc. (RPA) was retained by Denison Mines Corp. (Denison) on behalf of the Wheeler River Joint Venture to prepare an independent Technical Report on the Phoenix and Gryphon deposits, located within the Wheeler River Property (the Property) in northern Saskatchewan, Canada. The Mineral Resources for the Phoenix deposit were updated in a NI 43-101 Technical Report dated June 17, 2014 (the 2014 Phoenix Report) and authored by William E. Roscoe, Ph.D., P.Eng., of RPA. The Phoenix Mineral Resources have not changed since the 2014 Phoenix Report and are included in this report.

The purpose of this Technical Report is to support the disclosure of the initial Mineral Resource estimate for the Gryphon deposit and update the total Mineral Resource estimate for the Property. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

Denison is a Toronto-based mining company focused on uranium exploration and development in Canada, Mongolia, Mali, Namibia, and Zambia. Denison is listed on the Toronto Stock Exchange (symbol DML) and on the New York Stock Exchange MKT (symbol DNN).

Denison owns 60% of the Wheeler River Joint Venture and is the operator, Cameco Corporation (Cameco) owns 30%, and JCU (Canada) Exploration Company Limited owns the remaining 10%. The Property comprises 19 contiguous claims in northern Saskatchewan totalling 11,720 ha.

In addition, Denison has a 22.5% interest in the McClean Lake mill in Saskatchewan, one of the three licensed conventional uranium mills in Saskatchewan. Denison's primary exploration properties are located in the eastern side of the Athabasca Basin, along the same geological terrain that hosts all of Canada's currently producing uranium mines, which account for 16% of global production.

SOURCES OF INFORMATION

This report was prepared by William E. Roscoe, Ph.D., P.Eng., RPA Chairman Emeritus and Principal Geologist, and Mark B. Mathisen, C.P.G., RPA Senior Geologist. Both are

Qualified Persons in accordance with NI 43-101. Dr. Roscoe last visited the Property on June 16, 2014 and held discussions with technical personnel in RPA's Toronto office on May 4, 2014 in connection with the 2014 Phoenix Report. For the Gryphon Deposit, a site visit was carried out by Mr. Mathisen from March 23 to 25, 2015. Mr. Mathisen visited active drill sites and reviewed logging and sampling methods with Denison personnel. RPA has had prior involvement with the Property in 2014 and much of the information in this report is summarized from the 2014 Phoenix Report.

Specific activities completed by RPA include:

- Site visit and validation of data available for the resource estimate.
- Determination of correlation between assays and radiometric logs used for U_3O_8 grade estimation.
- Compilation of new Gryphon resource models.
- Geological interpretation of mineralized zones.
- Audit of drill hole database and assay certificates.
- Mineral Resource estimation and classification.
- Verification of Mineral Resource estimate.

Discussions were held with following Denison personnel who have contributed to the geological, geochemical, geophysical, environmental, and resource estimation sections of this Technical Report:

- Steve Blower, P.Geo., Vice President Exploration
- Lawson Forand, P.Geo., Exploration Manager
- Clark Gamelin, P.Geo., Senior Project Geologist
- Chad Sorba, P.Geo., Senior Project Geologist
- Dale Verran, Pr.Sci.Nat., Technical Director

All geological and sampling data were provided by Denison. Drilling and geological data were generated from May 2008 to August 2015. All field activities are currently managed by Denison.

Dr. Roscoe and Mr. Mathisen share responsibility for all sections of this report.

The documentation reviewed, and other sources of information, are listed at the end of this report in Section 27 References.

LIST OF ABBREVIATIONS

Units of measurement used in this report conform to the Metric system. All currency in this report is Canadian dollars (C$) unless otherwise noted.

a	annum
A	ampere
bbl	barrels
btu	British thermal units
°C	degree Celsius
C$	Canadian dollars
cal	calorie
cfm	cubic feet per minute
cm	centimetre
cm^2	square centimetre
d	day
dia	diameter
dmt	dry metric tonne
dwt	dead-weight ton
% eU_3O_8	equivalent grade U_3O_8
°F	degree Fahrenheit
ft	foot
ft^2	square foot
ft^3	cubic foot
ft/s	foot per second
g	gram
G	giga (billion)
Gal	Imperial gallon
g/L	gram per litre
Gpm	Imperial gallons per minute
g/t	gram per tonne
gr/ft^3	grain per cubic foot
gr/m^3	grain per cubic metre
ha	hectare
hp	horsepower
hr	hour
Hz	hertz
in.	inch
in^2	square inch
J	joule
k	kilo (thousand)
kcal	kilocalorie
kg	kilogram
km	kilometre
km^2	square kilometre
km/h	kilometre per hour
kPa	kilopascal
kVA	kilovolt-amperes
kW	kilowatt
kWh	kilowatt-hour
L	litre
lb	pound
L/s	litres per second
m	metre
M	mega (million); molar
m^2	square metre
m^3	cubic metre
µ	micron
MASL	metres above sea level
µg	microgram
m^3/h	cubic metres per hour
mi	mile
min	minute
µm	micrometre
mm	millimetre
mph	miles per hour
MVA	megavolt-amperes
MW	megawatt
MWh	megawatt-hour
oz	Troy ounce (31.1035g)
oz/st, opt	ounce per short ton
ppb	part per billion
ppm	part per million
psia	pound per square inch absolute
psig	pound per square inch gauge
RL	relative elevation
s	second
st	short ton
stpa	short ton per year
stpd	short ton per day
t	metric tonne
tpa	metric tonne per year
tpd	metric tonne per day
US$	United States dollar
USg	United States gallon
USgpm	US gallon per minute
V	volt
W	watt
wmt	wet metric tonne
wt%	weight percent
yd^3	cubic yard
yr	year

3 RELIANCE ON OTHER EXPERTS

This report has been prepared by Roscoe Postle Associates Inc. (RPA) for Denison Mines Corp. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to 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 Denison Mines Corp. and other third party sources.

For the purpose of this report, RPA has relied on ownership information provided by Denison. RPA has not researched property title or mineral rights for the Wheeler River Project and expresses no opinion as to the ownership status of the property.

Except for the purposes legislated under provincial securities laws, any use of this report by any third party is at that party's sole risk.

4 PROPERTY DESCRIPTION AND LOCATION

PROPERTY LOCATION

The Wheeler River Property, comprising the Phoenix and Gryphon uranium deposits, is located in the eastern Athabasca Basin, approximately 600 km north of Saskatoon, 260 km north of La Ronge, and 110 km southwest of Points North Landing, in northern Saskatchewan (Figure 4-1). The centre of the Property is located approximately 35 km northeast of the Key Lake mill and 35 km southwest of the McArthur River mine, which are operated by Cameco. The Property straddles the boundaries of NTS map sheets 74H-5, 6, 11, and 12. The UTM coordinates of the approximate centre of the Property are 475,000E and 6,370,000N (NAD83, Zone 13N).

The Gryphon deposit is located approximately three kilometres northwest of Denison's Phoenix deposit, also within the Property. The Phoenix deposit was discovered in 2008 and contains a significant uranium Mineral Resource, which was last updated in the 2014 Phoenix Report. The Phoenix deposit is at the unconformity between the Athabasca Basin and basement rocks, approximately 400 m below surface, whereas the Gryphon deposit is located in the basement rocks, approximately 60 m to 350 m below the unconformity surface.

LAND TENURE

The Property comprises 19 contiguous claims held as a joint venture among Denison (60%), Cameco (30%), and JCU (Canada) Exploration Co. Ltd. (10%) with no back-in rights or royalties that need to be paid. The claims are shown in Figure 4-2 and listed in Table 4-1. Denison has been the operator of the Property since November 10, 2004.

TABLE 4-1 LAND TENURE DETAILS
Denison Mines Corp. – Wheeler River Property

Disposition #	Area (ha)	Annual Assessment ($)	Excess Credit ($)	Years Protected
S-97677	322	8,050	152,950	19
S-97678	335	8,375	159,125	19
S-97690	1,087	27,175	516,325	19
S-97894	246	6,150	116,850	19
S-97895	314	7,850	149,150	19
S-97896	356	8,900	169,100	19
S-97897	524	13,100	248,900	19
S-97907	352	8,800	167,200	19
S-97908	1,619	40,475	769,025	19
S-97909	1,036	25,900	492,100	19
S-98339	362	9,050	171,950	19
S-98340	250	6,250	118,750	19
S-98341	802	20,050	380,950	19
S-98342	1,016	25,400	482,600	19
S-98343	362	9,050	171,950	19
S-98347	939	23,475	446,025	19
S-98348	951	23,775	451,725	19
S-98349	540	13,500	256,500	19
S-98350	307	7,675	145,825	19

MINERAL RIGHTS

In Canada, natural resources fall under provincial jurisdiction. In the Province of Saskatchewan, the management of mineral resources and the granting of exploration and mining rights for mineral substances and their use are regulated by the Crown Minerals Act and The Mineral Tenure Registry Regulations, 2012, that are administered by the Saskatchewan Ministry of the Economy. Mineral rights are owned by the Crown and are distinct from surface rights.

In Saskatchewan, a mineral claim does not grant the holder the right to mine minerals. A Saskatchewan mineral claim in good standing can be converted to a lease upon application. Leases have a term of 10 years and are renewable. A lease proffers the holder with the exclusive right to explore for, mine, work, recover, procure, remove, carry away, and dispose of any Crown minerals within the lease lands which are nonetheless owned by the Province. Surface facilities and mine workings are therefore located on Provincial lands and the right to use and occupy lands is acquired under a surface lease from the Province of Saskatchewan.

A surface lease carries a maximum term of 33 years, and may be extended as necessary, to allow the lessee to develop and operate the mine and plant and thereafter to carry out the reclamation of the lands involved.

ROYALTIES AND OTHER ENCUMBRANCES

RPA is not aware of any royalties due, back-in rights, or other encumbrances by virtue of any underlying agreements.

PERMITTING

RPA is not aware of any environmental liabilities associated with the Property.

RPA understands that Denison has all the required permits to conduct the proposed work on the Property. RPA is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the Property.

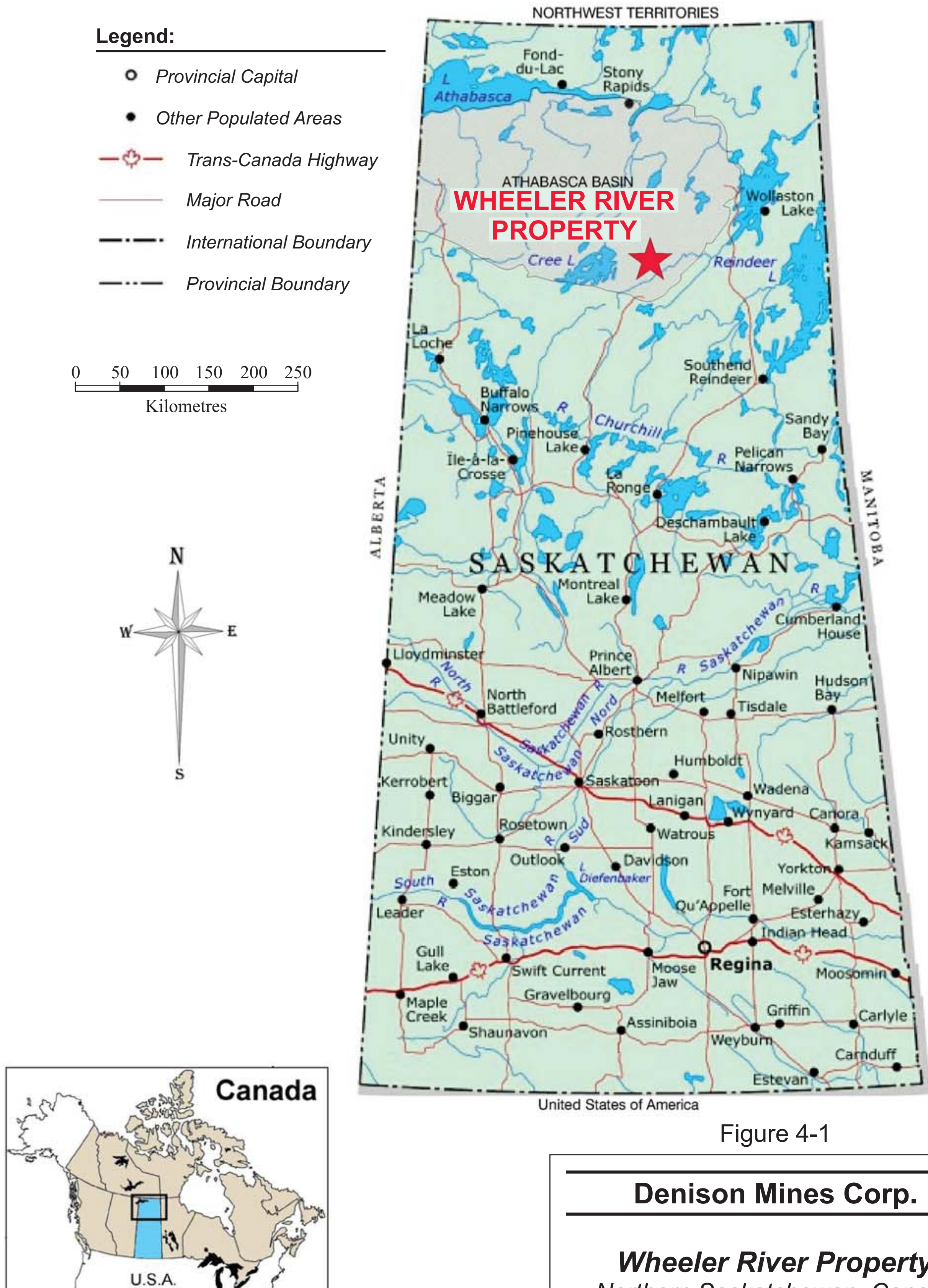


Figure 4-1

Denison Mines Corp.

Wheeler River Property
Northern Saskatchewan, Canada
Location Map

November 2015 **Source: Natural Resources Canada.**

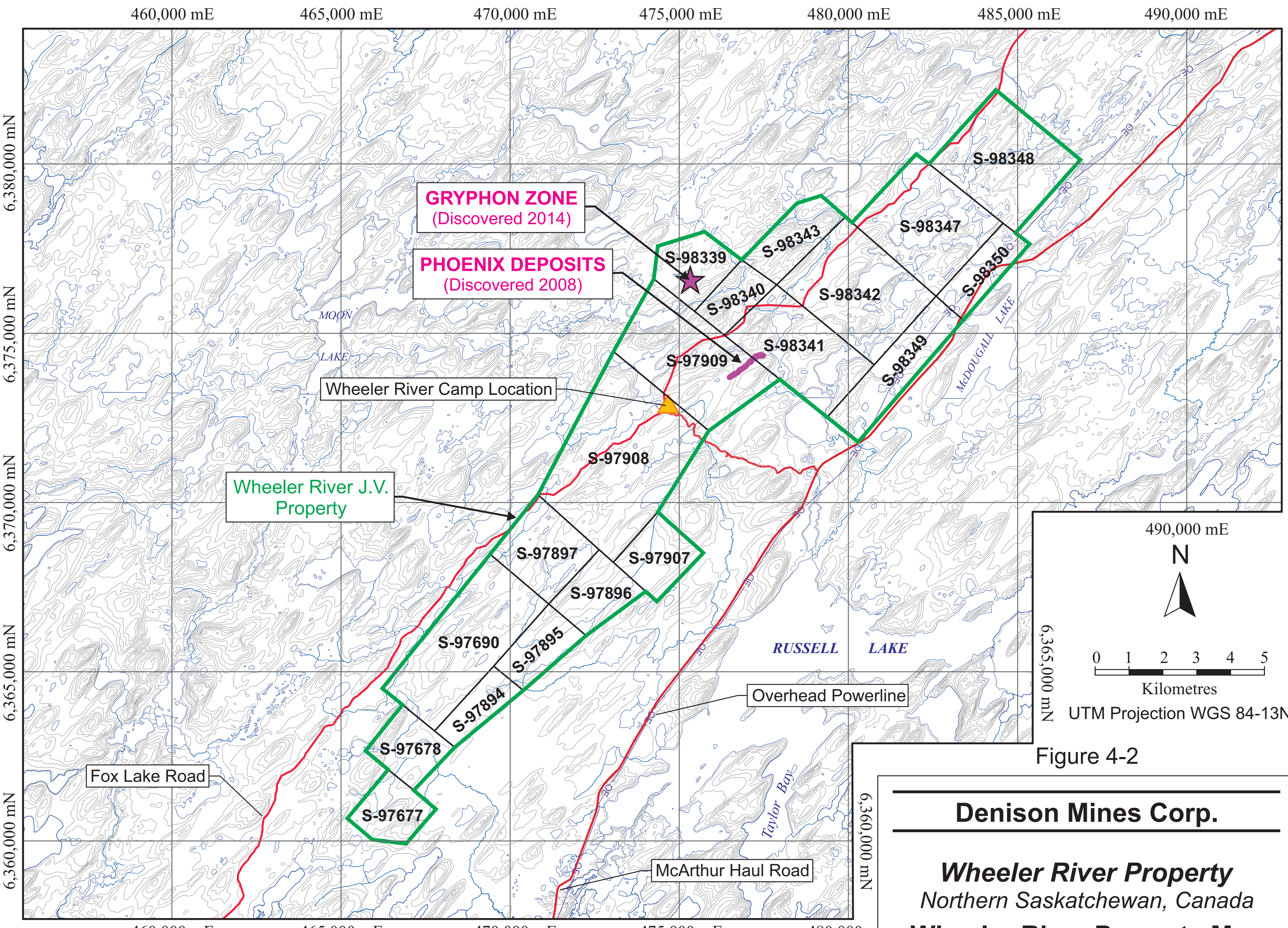


Figure 4-2

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Wheeler River Property Map

November 2015

Source: Denison Mines Corp., 2015.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

ACCESSIBILITY

Access to the Property and deposits is by road, helicopter, or fixed wing aircraft from Saskatoon. Vehicle access to the Property is by Highway 914, which terminates at the Key Lake mill. The ore haul road between the Key Lake and McArthur River operations lies within the eastern part of the Property. An older access road, the Fox Lake Road, between Key Lake and McArthur River provides access to most of the northwestern side of the Property. Gravel and sand roads and drill trails provide access by either four-wheel-drive or all-terrain-vehicle to the rest of the Property.

CLIMATE

The climate is typical of the continental sub-arctic region of northern Saskatchewan, with temperatures ranging from +32°C in summer to -45°C in winter. Winters are long and cold, with mean monthly temperatures below freezing for seven months of the year. Winter snow pack averages 70 cm to 90 cm. Field operations are possible year round with the exception of limitations imposed by lakes and swamps and the periods of break-up and freeze-up.

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

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

LOCAL RESOURCES AND INFRASTRUCTURE

La Ronge is the nearest commercial/urban centre where most exploration supplies and services can be obtained. Two airlines offer daily, scheduled flight services between Saskatoon and La Ronge (located approximately 600 km and 260 km respectively, south of the Property). Most company employees are on a two week-in and two week-off schedule. Contractor employees are generally on a longer work schedule.

As noted previously, the Property is well located with respect to all weather roads and the provincial power grid. Most significantly, the operating Key Lake mill complex, owned and operated by Cameco, is approximately 35 km south of the Property.

Field operations are currently conducted from Denison's Wheeler River camp, four kilometres south of Gryphon and three kilometres southwest of Phoenix (Figure 4-2). The camp, which is operated by Denison, provides accommodations for up to forty exploration personnel. Fuel and miscellaneous supplies are stored in existing warehouse and tank facilities at the camp. The site generates its own power. Abundant water is available from the numerous lakes and rivers in the area.

PHYSIOGRAPHY

The Property is characterized by a relatively flat till plain with elevations ranging from 477 m to 490 MASL. Throughout the area, there is a distinctive northeasterly trend to landforms resulting from the passage of Pleistocene glacial ice from the northeast to the southwest. The topography and vegetation at the Property are typical of the taiga forested land common to the Athabasca Basin area of northern Saskatchewan.

The area is covered with overburden from 0 m to 130 m in thickness. The terrain is gently rolling and characterized by forested sand and dunes. Vegetation is dominated by black spruce and jack pine, with occasional small stands of white birch occurring in more productive and well-drained areas. Lowlands are generally well drained but can contain some muskeg and poorly drained bog areas with vegetation varying from wet, open, non-treed vistas to variable density stands of primarily black spruce as well as tamarack depending on moisture and soil conditions. Lichen growth is common in this boreal landscape mostly associated with mature coniferous stands and bogs.

6 HISTORY

PRIOR OWNERSHIP

The Wheeler River Property was staked on July 6, 1977, due to its proximity to the Key Lake uranium discoveries, and was vended into an agreement on December 28, 1978 among AGIP Canada Ltd. (AGIP), E&B Explorations Ltd. (E&B), and Saskatchewan Mining Development Corporation (SMDC), with each holding a one-third interest. On July 31, 1984, all parties divested a 13.3% interest and allowed Denison Mines Limited, a predecessor company to Denison, to earn a 40% interest. On December 1, 1986, E&B allowed PNC Exploration (Canada) Co. Ltd. (PNC) to earn a 10% interest from one-half of its 20% interest. In the early 1990s, AGIP sold its 20% interest to Cameco, which was a successor to SMDC. In 1996, Imperial Metals Corporation, a successor to E&B, sold an 8% interest to Cameco and a 2% interest to PNC. Participating interests in 2004 were Cameco 48%, JCU 12% (a successor to PNC), and Denison 40%.

In late 2004, Denison entered into an agreement to earn a further 20% interest by expending $7 million within six years. When the earn-in obligations were completed, the participating interests were Denison 60%, Cameco 30%, and JCU 10%. Since November 2004, Denison has been the operator of the Wheeler River Joint Venture.

EXPLORATION AND DEVELOPMENT HISTORY

Excluding years 1990 to 1994, exploration activities comprising airborne and ground geophysical surveys, geochemical surveys, prospecting and diamond drilling have been carried out on the Wheeler River Property continuously from 1978 to the present.

Subsequent to the discovery of the Key Lake mine in 1975 and 1976, the Key Lake exploration model (Dahlkamp and Tan 1977) has emphasized the spatial association between uranium deposition at, immediately above, or immediately below the unconformity with graphitic pelite units in the basement subcrop under the basal Athabasca sandstone. The graphitic pelite units are commonly intensely sheared and are highly conductive in contrast to the physically more competent adjoining rock types that include semipelite, psammite, meta-arkose, or granitoid gneiss. From the late 1970s to the present, the Key

Lake model has been useful in discovering blind uranium deposits throughout the Athabasca Basin (Jefferson et al. 2007), although it is worth noting that the vast majority of electromagnetic (EM) conductors are unmineralized.

Following the Key Lake exploration model, EM techniques were the early geophysical methods of choice for the Wheeler River Property area during the period 1978 to 2004 and more than 152 line-km of EM conductors have been delineated on the Property. These conductive units have been delineated to depths of 1,000 m, through the quartz-rich Athabasca Group sandstones that are effectively transparent from an EM perspective.

These conductors or conductor systems were assigned a unique designation and follow-up exploration drilling successfully identified several zones of uranium mineralization.

In 1982, AGIP discovered the MAW Zone. This alteration system contains rare earth element (REE) mineralization in a structurally disrupted zone which extends from the unconformity to the present surface. There is no evidence of uranium mineralization. The REE mineralization contains yttrium values greater than 2.0%, boron values up to 2.5%, and total rare earth oxide (REO) up to 8.1%.

In 1985, SMDC (predecessor to Cameco) drilled ZK-02 to test a moderate UTEM conductor axis in a previously unexplored area along the K-North conductor, which is now known as Gryphon. The drill hole intersected several zones of hydrothermal alteration in the sandstone indicating the conductor was likely overshot and thus lay grid east of ZK-02.

In 1986, SMDC intersected uranium mineralization associated with Ni-Co-As sulphides at the unconformity in the M Zone (DDH ZM-10, 0.79% U_3O_8 over 5.75 m), and also discovered uranium mineralization at the O Zone, which is associated with a 72 m vertical unconformity offset. The O Zone basement-hosted mineralization graded 0.048% U_3O_8 over 0.9 m at 378.8 m in drill hole ZO-02.

In 1988, Cameco drilled ZK-04 and ZK-06 on the same drill section to test for the UTEM conductor and follow up on the sandstone alteration. Hole ZK-04 was drilled 120 m grid east of ZK-02, and hole ZK-06 was drilled 35 m grid west of ZK-04. In drill hole ZK-04, a major basement fault structure was intersected from 572.6 m to 603.2 m, with associated strong hydrothermal alteration and a 9.8 m radioactive zone from 581.7 m to 591.5 m. Assays from drill hole ZK-04 returned 0.08% U_3O_8 over 2.4 m at 580.0 m and 0.19% U_3O_8 over 2.3 m at 587.7 m. Moderate to strong hydrothermal alteration and associated fault gouges and fracturing continued to the end of the hole at 631 m (approximately 112 m below the unconformity surface).

The third hole on this section, ZK-06, was drilled up-dip of ZK-04 in an attempt to locate the up-dip and unconformity extension of the mineralization intersected in drill hole ZK-04. Two significant zones of weak mineralization and elevated radioactivity were intersected within a 12.1 m zone, 11 m to 50 m below the unconformity. ZK-06 returned 0.17% U_3O_8 over 7.7 m at 532.0 m and 0.06% U_3O_8 over 4.4 m at 564.6 m. Intense alteration, fracturing and faulting in the sandstone was noted as well as alteration and structure extending approximately 50 m into the basement rocks. At this time, ZK-06 was thought to have intersected the unconformity target and no follow-up was conducted for several years.

From 1995 to 1997, exploration by Cameco identified strong alteration and illitic and dravitic geochemical enrichment associated with major structures in both the sandstone and the basement and a significant unconformity offset associated with the "quartzite ridge" which had been delineated as a result of drilling the Q conductor system.

In 1998, further drilling was carried out at the Q Zone and also at the R Zone (the Phoenix deposit area). At the R Zone, two drill holes were abandoned in sandstone due to quartz dissolution (desilicification). The possibility that this sandstone alteration might be of significance was not emphasized at the time.

In 1999, a geological setting similar to McArthur River's P2 trend was intersected at the WC Zone, where faulted graphite-pyrite pelitic gneiss overlay the quartzite ridge. The former operator (Cameco) noted extensive dravite (boron) alteration in the overlying sandstones.

In 2001, Cameco drilled ZK-23, testing the K1A SWML conductor approximately 250 m grid east of the ZK-02\ZK-04\ZK-06 drill fence in what is now the Gryphon area. The drill hole intersected a wide zone of structural disruption within the sandstone 40 m above the unconformity. The conductive response was explained by a wide zone of moderately graphitic-pyritic pelitic gneisses. No unconformity or basement mineralization was intersected and no follow-up drill holes were recommended.

In 2002, drill hole WR-185 intersected a 175 m unconformity offset along the west contact of the quartzite ridge. This area was the initial focus of the Wheeler River Joint Venture after Denison became operator in 2004.

In 2003, 61 shallow reverse circulation (RC) holes were drilled, targeting the sandstone/overburden interface exploring for alteration zones in the upper sandstone. No anomalies were detected. Drill hole WR-190A tested the WS UTEM conductor and was abandoned at 364 m due to deteriorating drilling conditions. This drill hole is located only 90 m from the eventual Phoenix discovery drill hole WR-249. Noticeable desilicification and bleaching of the sandstone were present, but no noteworthy geochemical anomalies were identified. A direct current (DC) resistivity survey was also completed to map trends of alteration within the Athabasca sandstones and underlying basement rocks that might be related to uranium mineralization.

In November 2004, Denison became operator of the Wheeler River Joint Venture and in 2005 carried out property-wide airborne Fugro GEOTEM EM and Falcon gravity surveys with five subsequent ground transient EM (TEM) grids completed on GEOTEM anomalies. The focus for Denison, based on a McArthur River analogy, was the quartzite ridge, particularly the west, or footwall side of the ridge. Several small regional campaigns were carried out to test EM conductors located by airborne and ground geophysical surveys.

In 2007, a 154.8 line-km geophysical induced polarization (IP) and magnetotelluric (MT) survey using Titan 24 DC resistivity technology was undertaken with the prime goals being the extension of Cameco's 2003 resistivity survey, surveying of the K and M zones and exploration of the REA or "Millennium" (WS) zone, which appeared to have attractive geological features in an underexplored part of the Property. The results showed the following:

- A very strong resistivity high which delineated the quartzite unit.
- Two strong, well defined resistivity lows both occurring in areas where previous drill holes had been lost in the Athabasca sandstone.
- Well defined resistivity chimneys.

Although 2007 drilling on various 2003 resistivity anomalies did not discover any significant uranium mineralization, there was some support for the concept that resistivity did "map" alteration chimneys within the Athabasca sandstone. Alteration chimneys in the Athabasca sandstone above the unconformity or basement-hosted uranium mineralization have been described from almost all Athabasca Basin uranium deposits, following the first thorough description of their occurrence at the McClean deposits (Saracoglu et al. 1983; Wallis et al. 1984). The chimneys nearly always have a prominent structural component consisting of broken and rotated sandstone and a high degree of fracturing and brecciation. These structural features are accompanied by alteration consisting of variable amounts of bleaching (removal of diagenetic hematite), silicification, desilification, druzy quartz-lined fractures, secondary hematite, dravite, and/or clay minerals which can cause resistivity anomalies.

During the winter and spring of 2008, the North Grid resistivity survey data was reinterpreted and three drill targets, A, B, and C were proposed. These targets were well defined alteration or resistivity chimneys situated close to the hanging wall of the quartzite unit in areas where previous attempts to drill ground EM conductors (the WS and the REA) had failed to reach the unconformity. In 2008, drill hole WR-249 led to the discovery of the Phoenix deposit. Subsequent drilling identified four mineralized zones over a strike length of more than one kilometre: Phoenix zones A, B, C, and D.

In March 2014, drill hole WR-556 resulted in discovery of the Gryphon deposit, intersecting uranium mineralization averaging 15.33% U_3O_8 over 4.0 m in basement graphitic gneiss, 200 m below the sub-Athabasca unconformity. Since the discovery of the Phoenix deposit in 2008, exploration efforts have been focused on the K-Zone trend which exhibits numerous favourable exploration criteria including basement quartzite and graphitic gneisses, basement structures, reverse offsets of the unconformity, weak basement hosted mineralization near the unconformity, and anomalous sandstone geochemistry and alteration. Historical holes ZK-04 and ZK-06 drilled in the late 1980s, targeting unconformity-related mineralization, intersected favourable sandstone structure and alteration as well as alteration and weak mineralization in the basement approximately 35 m below the unconformity. Follow-up drilling campaigns attempted to locate unconformity mineralization up dip of the weak basement mineralization. Gryphon deposit discovery drill hole WR-556 was the first to evaluate the down dip projection of these intersections.

Table 6-1 is a summary of the exploration activities that have been carried out on the Wheeler River Property.

TABLE 6-1 EXPLORATION AND DEVELOPMENT HISTORY
Denison Mines Corp. – Wheeler River Property

Period (Year)	Activity
1978-Present	The area was previously explored by AGIP and SMDC (Cameco). Since 1978, several airborne and ground geophysical surveys have defined 152 km of conductor strike length in fourteen conductive zones.
1986-1988	AGIP, SMDC, and Cameco drilled a total of 192 drill holes encountering sub-economic uranium mineralization in the M Zone (1986), O Zone (1986), and K-Zone (1988). Rare earth element mineralization was also discovered in the MAW Zone (1982).
2004	Denison assumed operatorship in 2004 and initially focused on the footwall side of the quartzite ridge (west side of the Property) intersecting sub-economic uranium mineralization.
2008	In 2008, three resistivity targets were drilled leading to the discovery of the Phoenix deposit.
2008-2012	During the period 2008 to 2012, drilling predominantly focused on defining the Phoenix deposits.
2012-Present	Subsequent drilling has discovered the Gryphon deposit.

PREVIOUS MINERAL RESOURCE ESTIMATES

An initial Mineral Resource estimate was reported for the Phoenix deposit in a NI 43-101 Technical Report by SRK Consulting (Canada) Inc. (SRK) dated November 17, 2010 (Table 6-2). An updated Mineral Resource estimate for the Phoenix deposit zones A and B was prepared by RPA on December 31, 2012 (Table 6-3). Both previous Mineral Resource estimates are superseded by the Mineral Resource estimate update in the 2014 Phoenix Report, which incorporates additional drilling since 2012.

TABLE 6-2 SRK MINERAL RESOURCE ESTIMATE AS OF NOVEMBER 17, 2010
(100% BASIS)
Denison Mines Corp. – Phoenix Deposit

Deposit	Classification	Tonnes (000)	Lbs U_3O_8 (000)	Average Grade (% U_3O_8)
Zone A	Indicated	89.9	35,638	18.0
Zone B	Inferred	23.8	3,811	7.3

Source: Arseneau and Revering, 2010.

TABLE 6-3 RPA MINERAL RESOURCE ESTIMATE AS OF DECEMBER 31, 2012 (100% BASIS)
Denison Mines Corp. – Phoenix Deposit

Category	Tonnes	Grade (% U_3O_8)	Million lb U_3O_8
Indicated	152,400	15.6	52.3
Inferred	11,600	29.8	7.6

Source: Roscoe, 2012.

The current report includes the Mineral Resource estimate update documented in the 2014 Phoenix Report as well as the initial Mineral Resource estimate for the Gryphon deposit. There are no previous Mineral Resource estimates for Gryphon.

PAST PRODUCTION

To date, no production has occurred on the Property and the Property is still at the exploration stage.

7 GEOLOGICAL SETTING AND MINERALIZATION

Portions of the following geological descriptions are taken from internal Denison reports of 2009 to 2015.

REGIONAL GEOLOGY

GENERAL

The Phoenix and Gryphon uranium deposits are located near the southeastern margin of the Athabasca Basin in the southwest part of the Churchill Structural Province of the Canadian Shield (Figure 7-1). The Athabasca Basin is a broad, closed, and elliptically shaped, cratonic basin with an area of 425 km (east-west) by 225 km (north-south). The bedrock geology of the area consists of Archean and Paleoproterozoic gneisses unconformably overlain by up to 1,500 m of flat-lying, unmetamorphosed sandstones and conglomerates of the mid-Proterozoic Athabasca Group. The Property is located near the transition zone between two prominent litho-structural domains within the Precambrian basement, the Mudjatik Domain to the west and the Wollaston Domain to the east.

The Mudjatik Domain is characterized by elliptical domes of Archean granitoid orthogenesis separated by keels of metavolcanic and metasedimentary rocks, whereas the Wollaston Domain is characterized by tight to isoclinal, northeasterly trending, doubly plunging folds developed in Paleoproterozoic metasedimentary rocks of the Wollaston Supergroup (Yeo and Delaney 2007), which overlie Archean granitoid orthogenesis identical to those of the Mudjatik Domain.

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 dikes up to 100 m in width and frequently associated with the faulting have intruded into both the Athabasca rocks and the underlying basement.

THE METAMORPHOSED BASEMENT

The basement rocks underlying the Athabasca Group have been divided into three tectonic domains: the Western Craton, the Cree Lake Mobile Zone, and the Rottenstone Complex (Figures 7-1 and 7-2). The central Cree Lake Mobile Zone is bounded in the northwest by the Virgin River Shear and Black Lake fault and in the southeast by the Needle Falls Shear Zone.

The Cree Lake Mobile Zone has been further subdivided into the Mudjatik Domain in the west half and the Wollaston Domain in the east half. The lithostructural character of these domains is the result of the Hudsonian Orogeny in which an intense thermo-tectonic 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 Archean granitoid gneisses overlain by an assemblage of Aphebian pelitic, semipelitic, and arkosic gneisses, with minor interlayered calc-silicate rocks and quartzites. These rocks are overlain by an upper assemblage of semipelitic and arkosic gneisses with magnetite bearing units.

The Wollaston Domain basement rocks are unconformably overlain by flat lying, unmetamorphosed sandstones, and conglomerates of the Helikian age Athabasca Group, which is a major aquifer in the area.

THE ATHABASCA GROUP

The Athabasca Group sediments consist of unmetamorphosed pink to maroon quartz-rich pebbly conglomerate and red siltstone of the Read Formation and maroon quartz-pebble conglomerate, maroon to white pebbly sandstone, sandstone and clay-clast-bearing sandstone belonging to the Manitou Falls Formation. The sandstone is poorly sorted near the base, where conglomerates form discontinuous layers of variable thickness. Minor shale and siltstone occur in the upper half of the succession. Locally, the rocks may be silicified and indurated or partly altered to clay and softened. In spite of their simple composition, their diagenetic history is complex (Jefferson et al. 2007). The predominant regional background clay is dickite.

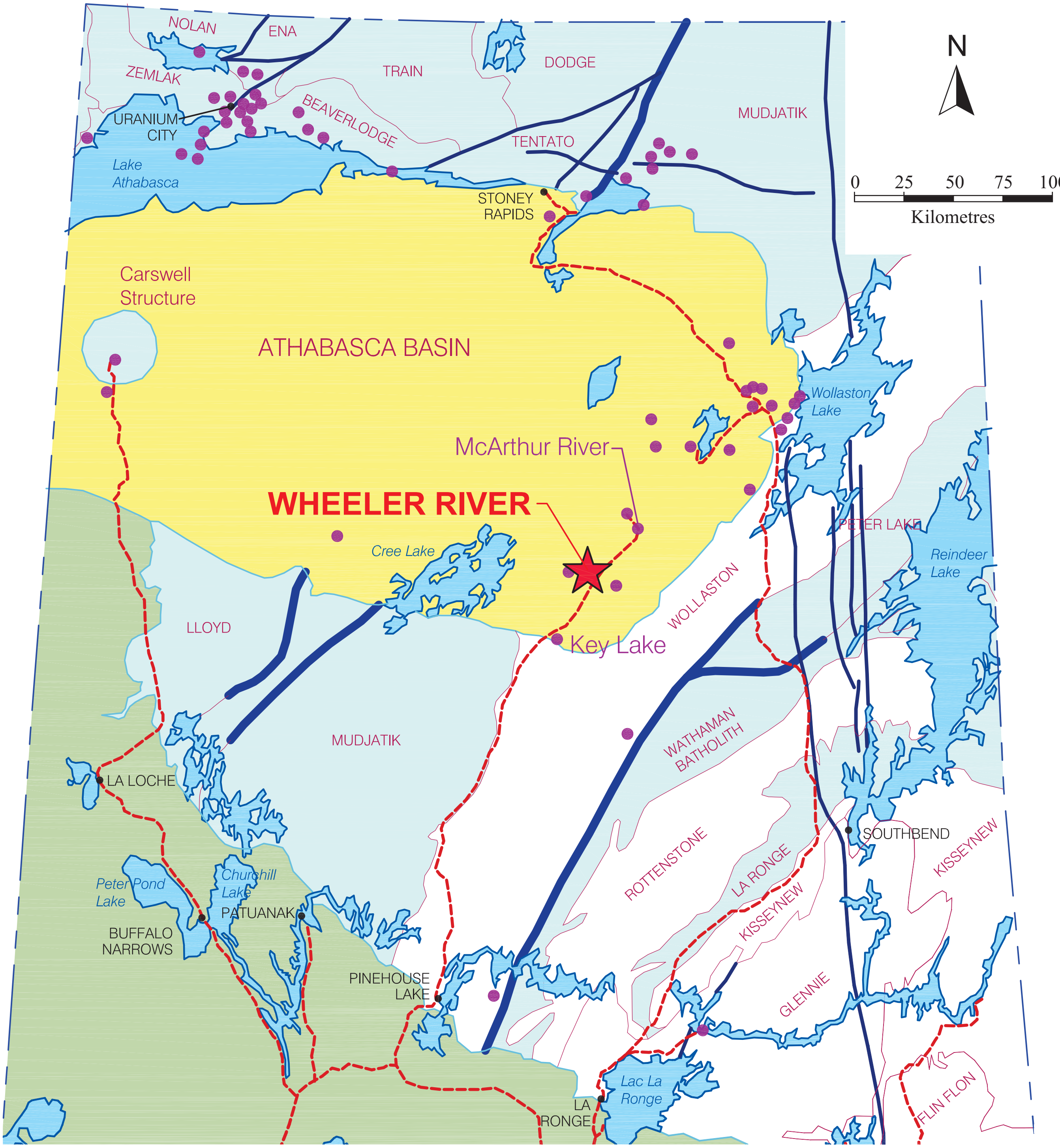


Figure 7-1

Legend:

Phanerozoic	Road
Athabasca Group (Helikian)	Major Shear Zone
Pre-Athabasca Basement	Faults
	Uranium Deposits

Source: From Saskatchewan Ministry of Energy and Resources, 2009.

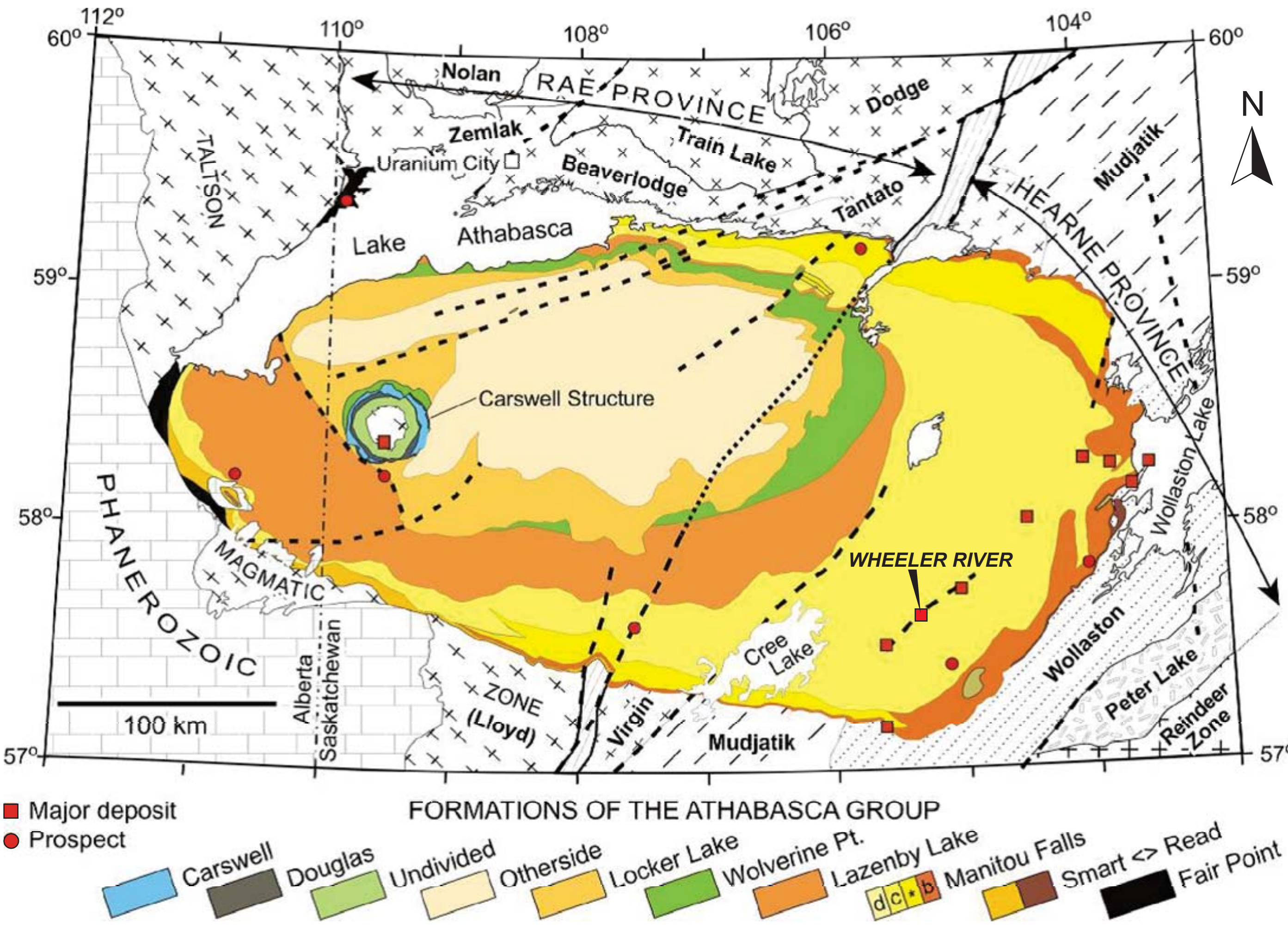
November 2015

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Regional Geology and Uranium Deposits



NOTE: Crystalline basement domains are labeled in bold text. The sub-unit of the Manitou Falls Formation labeled "*" in the legend corresponds to the Warnes and Raible members, which interfinger with the Bird (MFb) Member in southern and northern Athabasca Basin respectively.

Figure 7-2

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Simplified Geological Map of Athabasca Basin

November 2015

Source: EXTECH IV.

The basin is interpreted to have developed from a series of early northeast-trending fault-bounded sub-basins that coalesced. The topographic profile of the unconformity suggests a gentle inward slope in the east, moderate to steep slopes in the north and south, and a steeper slope in the west.

Subdivisions of the Athabasca Group in the eastern part of the basin (Figure 7-2) include four members from bottom to top:

- Read Formation (formerly the MFa Member) - a sequence of poorly sorted sandstone and minor conglomerate;
- Bird Member (MFb) - interbedded sandstone and conglomerate distinguished from the underlying MFa and overlying MFc by the presence of at least 1% to 2% conglomerate in beds thicker than 2 cm;
- Collins Member (MFc) - a sandstone with rare clay intraclasts;
- Dunlop Member (MFd) - a fine-grained sandstone with abundant (>1%) clay intraclasts.

QUATERNARY DEPOSITS

In the eastern Athabasca Basin, Quaternary glacial deposits up to 100 m thick drape bedrock topography of ridges, typically associated with granitic gneiss domes, and structurally controlled valleys (Campbell 2007). At least three tills, locally separated by stratified gravel, sand, and silt, can be distinguished. The dominant ice-flow direction was southwesterly, but a late glacial re-advance was southerly in eastern parts of the basin and westerly along its northern edge.

LOCAL AND PROPERTY GEOLOGY

GENERAL

The Wheeler River Property lies in the eastern part of the Athabasca Basin where undeformed, late Paleoproterozoic to Mesoproterozoic sandstone, conglomerate, and mudstone of the Athabasca Group unconformably overlie early Paleoproterozoic and Archean crystalline basement rocks, as described below. The local geology of the Property is very much consistent with the regional geology described above.

QUATERNARY DEPOSITS

The Property is partially covered by lakes and muskeg, which overlie a complex succession of glacial deposits up to 130 m in thickness These include eskers and outwash sand plains, well-developed drumlins, till plains, and glaciofluvial plain deposits (Campbell 2007). The orientation of the drumlins reflects southwesterly ice flow.

ATHABASCA GROUP

Little-deformed late Paleoproterozoic to Mesoproterozoic Athabasca Group strata comprised of Manitou Falls Formation sandstones and conglomerates unconformably overlie the crystalline basement and have a considerable range (Figure 7-3) from 170 m over the quartzite ridge to at least 560 m on the western side of the Property.

The Manitou Falls Formation is locally separated from the underlying Read Formation (formerly the MFa) by a paraconformity, and comprises three units, the Bird Member (MFb), Collins Member (MFc), and Dunlop Member (MFd), which are differentiated based on conglomerates and clay intraclasts (Bosman and Korness 2007) (Ramaekers et al. 2007). Thickness of the Read Formation ranges from zero metres at the north end of the property and over parts of the quartzite ridge to 200 m west of the quartzite ridge. The thickness of the MFb, which is absent above the quartzite ridge, is as much as 210 m in the northeastern part of the Property. The MFc unit is a relatively clean sandstone with locally scattered granules or pebbles and one-pebble-thick conglomerate layers interpreted to be pebble lag deposits. The MFc ranges in thickness from 30 m to 150 m. The MFd is distinguished from the underlying MFc sandstone by the presence of at least 0.6% clay intraclasts (Bosman and Korness, 2007). The MFd is up to 140 m thick. The upper 100 m to 140 m of sandstone is typically buff coloured, medium to coarse grained, quartz rich and cemented by silica, kaolinite, illite, sericite, or hematite. Alteration of the sandstone is noted along much of the Phoenix deposit trend.

Variations in thickness of the Athabasca sub-units reflect syndepositional subsidence. In particular, the thinning of the Read Formation towards the quartzite ridge, and the absence of both the Read and the MFb Member over much of the ridge, indicate syn-Read uplift of the latter along the thrust fault that bounds it to the west. This is supported by the Read Formation sedimentary breccia, interpreted as a fault-scarp talus deposit, along the western margin of the ridge.

Although the predominant regional background clay in the Athabasca Basin is dickite, the Property lies within a broad illite anomaly trending northeasterly from Key Lake through the McArthur River area (Earle and Sopuck 1989). Chlorite and dravite are also relatively common in sandstones within this zone.

The topography of the sub-Athabasca basement varies dramatically across the Property. From elevations of 160 MASL to 230 MASL along its southeastern edge, the unconformity rises gently to a pronounced northeasterly trending ridge up to 350 MASL, coincident with the subcrop of a quartzite unit in the crystalline basement. The unconformity surface drops steeply westward to as low as 30 m below sea level. The unconformity surface is less variable in the northern part of the Property, ranging from 40 MASL in the northeast to 200 MASL in the northwest.

The west side of the quartzite unit forms a prominent topographic scarp, rising up to 200 m above the sub-Athabasca unconformity lying to the west. The breccia of angular quartzite blocks, centimetres to metres in size, with a finely laminated sandstone matrix, has been intersected in numerous drill holes along the western margin (footwall) of the quartzite ridge. The quartzite breccia is often intimately associated with uranium mineralization that occurs at numerous locations along the footwall of the quartzite unit.

The Athabasca sandstones were deposited as a succession of sandy and gravelly braided river deposits in westward-flowing streams. The conglomerates typical of MFb indicate increased stream competence, due either to increased flow (i.e., higher precipitation) or increased subsidence. The mud chips typical of MFd are fragments of thin mud beds deposited from suspension during the late stages of a flood and re-worked by the next one. Hence, they indicate intermittent, possibly seasonal, stream flow (Liu et al. 2011).

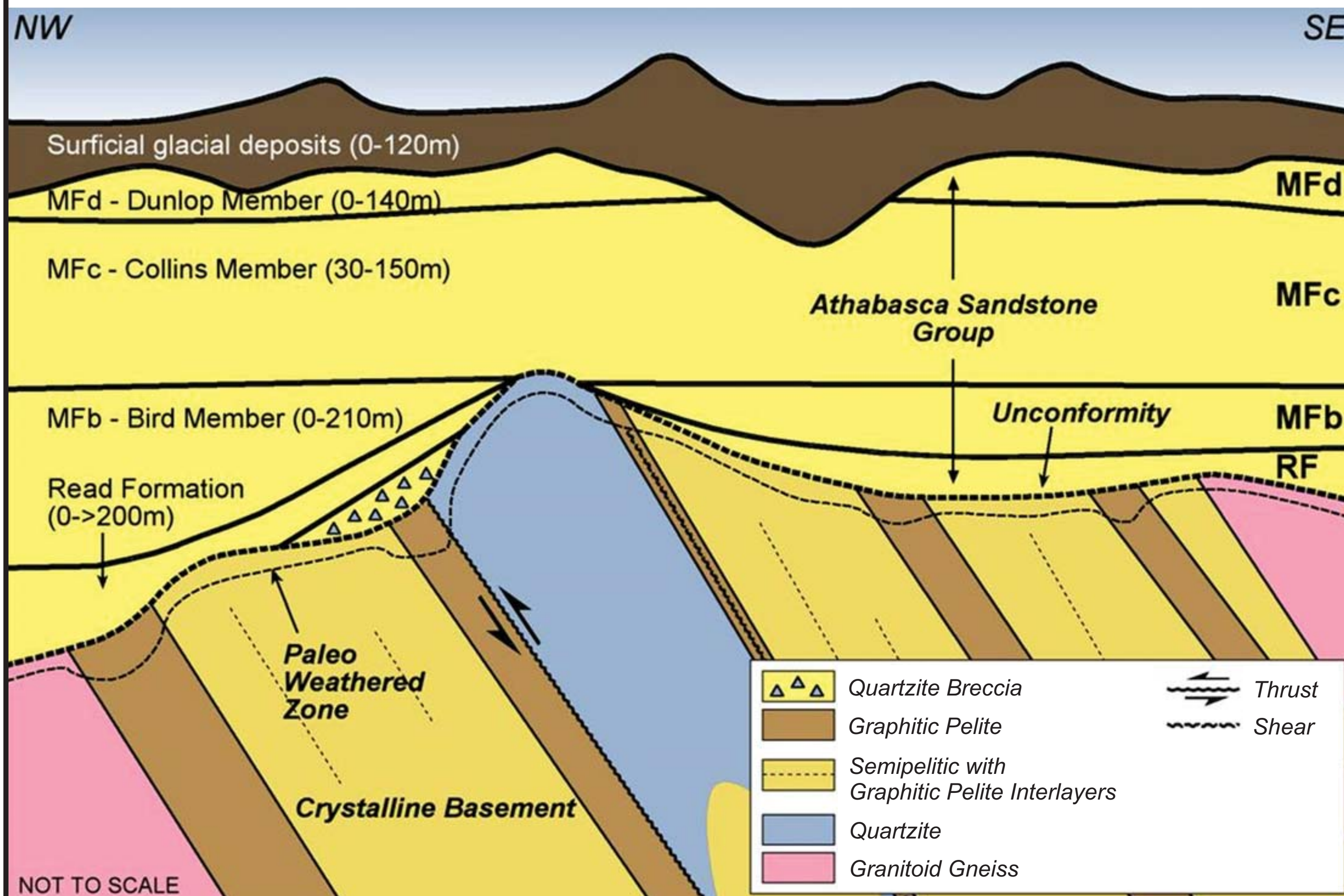


Figure 7-3

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Schematic Section of Athabasca and Basement Rock Types

November 2015 ***Source: Denison Mines Corp., 2015.***

BASEMENT GEOLOGY

Basement rocks beneath the Phoenix and Gryphon deposits are part of the Wollaston Domain and are comprised of metasedimentary and granitoid gneisses (Figure 7-4). The metasedimentary rocks belong to the Wollaston Supergroup and include graphitic and non-graphitic pelitic and semipelitic gneisses, meta-quartzite, and rare calc-silicate rocks together with felsic and quartz feldspathic granitoid gneisses. These metasedimentary rocks are interpreted to belong to the Daly Lake Group (Yeo and Delaney 2007). Pegmatitic segregations and intrusions are common in all units with garnet, cordierite, and sillimanite occurring in the pelitic strata, indicating an upper amphibolite grade of metamorphism.

Graphitic pelite and quartzite units appear to play important roles in the genesis of Athabasca Basin unconformity-type deposits (Jefferson et al. 2007). Thus the presence of extensive subcrop of both units: 18 km of quartzite and 152 line-km of conductors (assumed to be graphitic pelite), greatly enhances the economic potential of the Wheeler River Property.

All of these rock types have a low magnetic susceptibility. The metasedimentary rocks are flanked by and intercalated with granitoid gneisses, some of which have a relatively high magnetic susceptibility. Some of these granitoid gneisses are Archean (Card et al. 2007). Prior to extensive drilling, interpretation of basement geology depends heavily on airborne magnetic data combined with airborne and ground EM interpretation.

A “Paleoweathered Zone”, generally from three to ten metres thick, is superimposed on the crystalline rocks and occurs immediately below the unconformity.

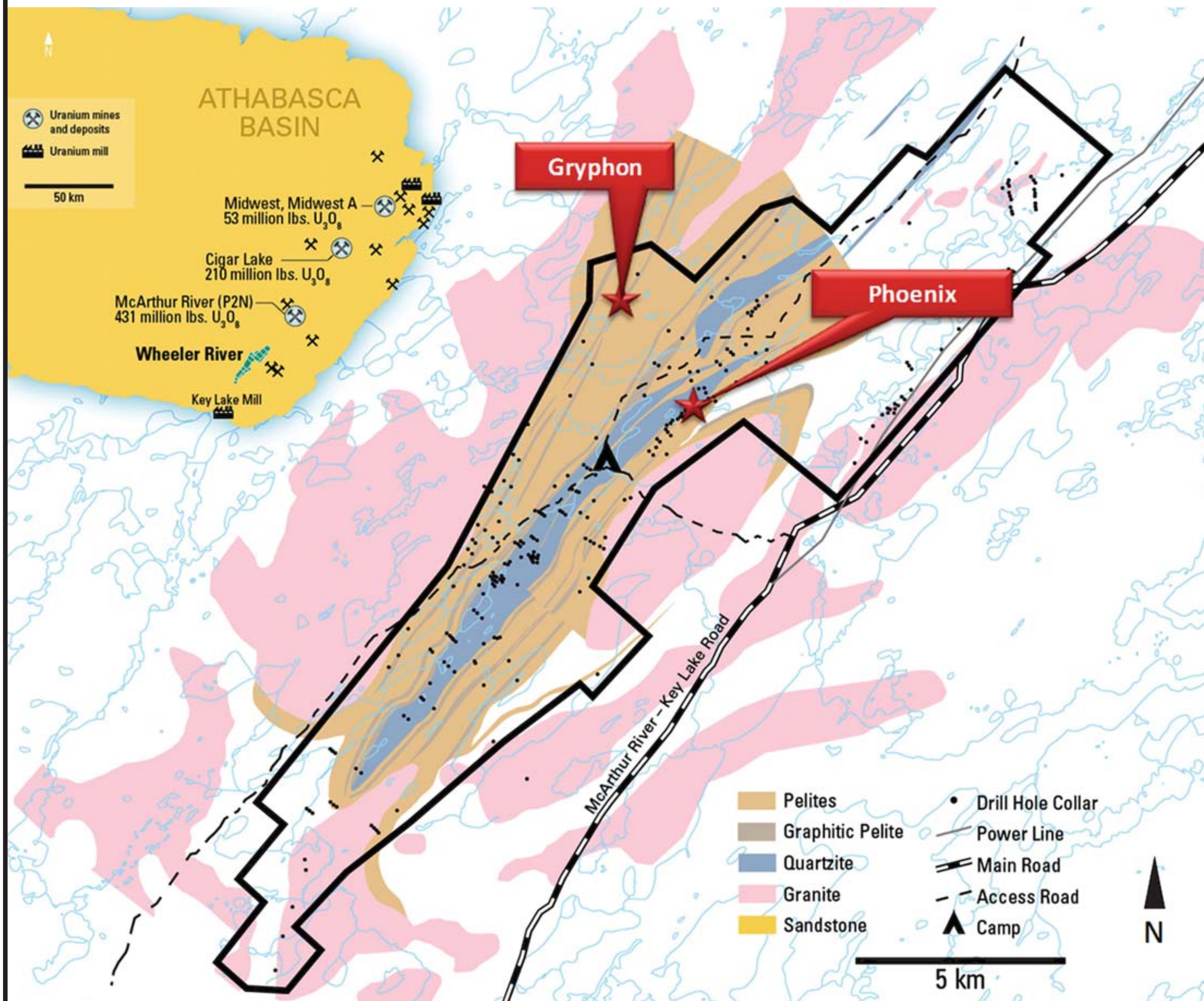


Figure 7-4

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Basement Geology

November 2015

Source: Denison Mines Corp., 2015.

PHOENIX DEPOSIT

The quartzite ridge, an interpreted impermeable and structural barrier forming the footwall to the mineralization (Figure 7-5), dominates the basement geology at the Phoenix deposit. The quartzite unit exhibits variable dips from 45º to 75º to the southeast, averaging 50º, and with an undulating, but generally 055º azimuth. Immediately overlying the quartzite is a garnetiferous pelite, which varies from seven metres to 60 m in thickness. This generally competent and unmineralized unit contains distinctive porphyroblastic garnets and acts as a marker horizon. Overlying the garnetiferous pelite is a graphitic pelite in which the graphite content varies from 1% to 40%. The graphitic pelite is approximately five metres wide in the southwest, increases to approximately 70 m near drill hole WR-249, and is 50 m wide at the northeast extremity. Overlying the graphitic pelite is a massive, non-graphitic, unaltered pelite unit.

Mineralization at Phoenix generally occurs at the Athabasca unconformity with basement rocks at depths ranging from 390 m to 420 m. It is interpreted to be structurally controlled by the northeast-southwest trending (055º azimuth) WS fault which dips 55º to the southeast on the east side of the quartzite ridge (Figure 7-6).

GRYPHON DEPOSIT

The geology of the Gryphon deposit comprises highly deformed crystalline basement rocks overlain by the relatively undeformed Athabasca sandstone. There are four main sandstone members of the Manitou Falls (MF) Formation present (from youngest to oldest): MFd, MFc, MFb, and the Read Formation. At the Gryphon deposit, the thickness of the Athabasca sandstone cover ranges from 480 m in the southeast to 540 m in the northwest. The unconformity surface down-drops in a series of steps to the northwest. There is approximately 60 m of vertical displacement over 250 m across strike.

Four major basement lithological units have been defined at Gryphon (Figure 7-7):

1. Upper Graphite - The Upper Graphite is approximately 110 m thick, occurs furthest stratigraphically to the southeast, and is located in the hanging wall to the mineralization (Upper Lens). This pelitic unit averages 5% to 8% graphite in the upper portion of the unit grading to 10% to 15% in the lower portion of the unit. The unit is well foliated and strikes at 030° dipping at 50° to the southeast.

2. Quartz-Pegmatite Assemblage – Stratigraphically below the Upper Graphite is the Quartz-Pegmatite Assemblage. This unit is approximately 55 m thick and consists of

several smaller (five metre to nine metre) discrete sub-units of alternating quartzite, quartz-rich pegmatite, pegmatite, and graphitic pelites.

3. Lower Graphite - Underlying the Quartz-Pegmatite Assemblage is the Lower Graphite. This pelitic unit is approximately 15 m thick and averages 10% to 15% graphite. It is well foliated and strikes approximately 030° and dips 45° to the southeast, and is located in the footwall to the Upper Lens mineralization. The Lower Lens mineralization occurs predominantly in this unit.

4. Basal Pegmatite – Stratigraphically below the Lower Graphite is the Basal Pegmatite. This is a pegmatitic to coarse grained granitic unit which is competent and relatively unaltered. Within the Basal Pegmatite, there are multiple minor (one metre to two metre) pelitic intervals.

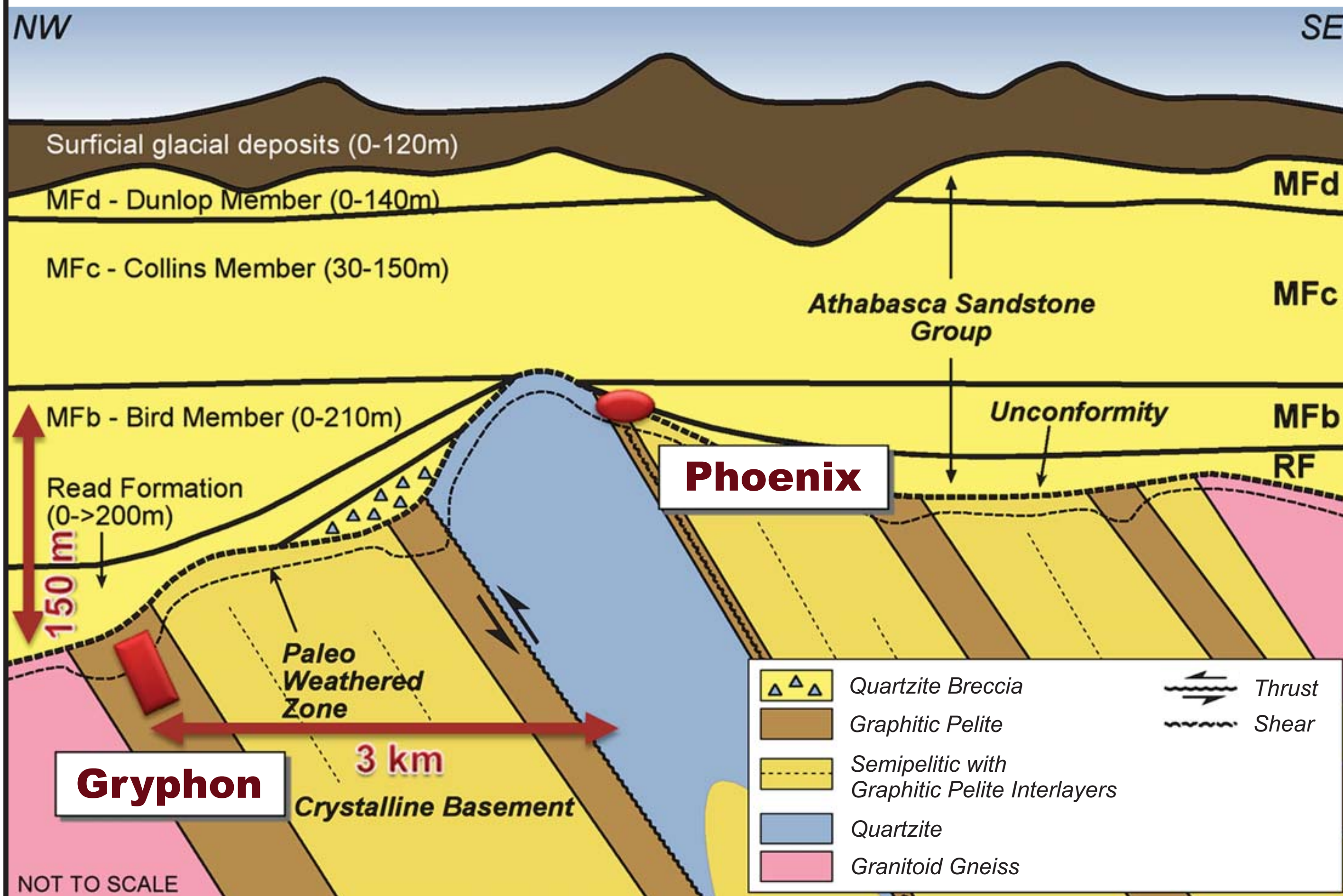


Figure 7-5

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Schematic of the Quartzite Ridge

November 2015 **Source: Denison Mines Corp., 2015.**

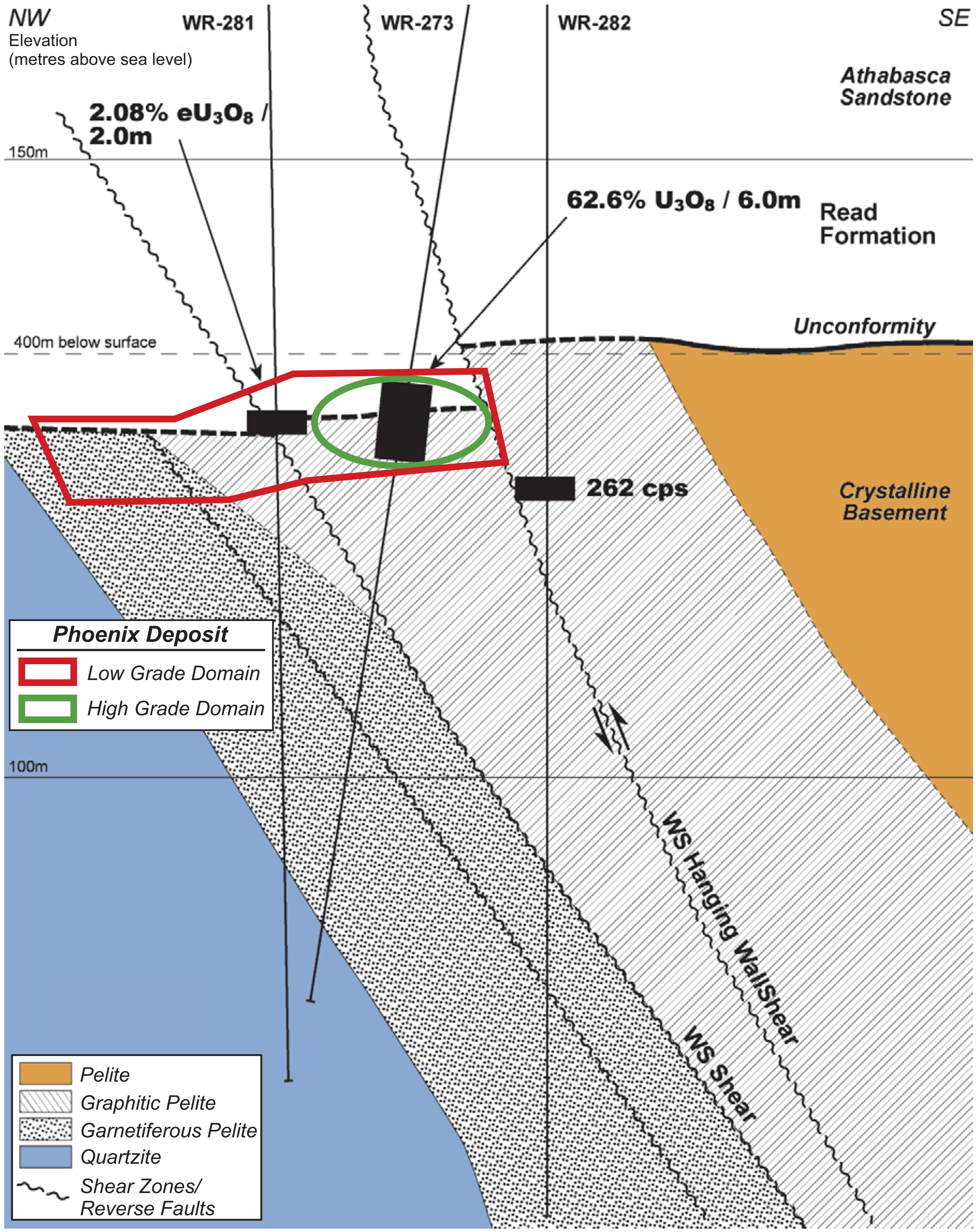


Figure 7-6

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

WS Reverse Fault Offset and the Phoenix Deposit

November 2015

Source: Denison Mines Corp., 2010.

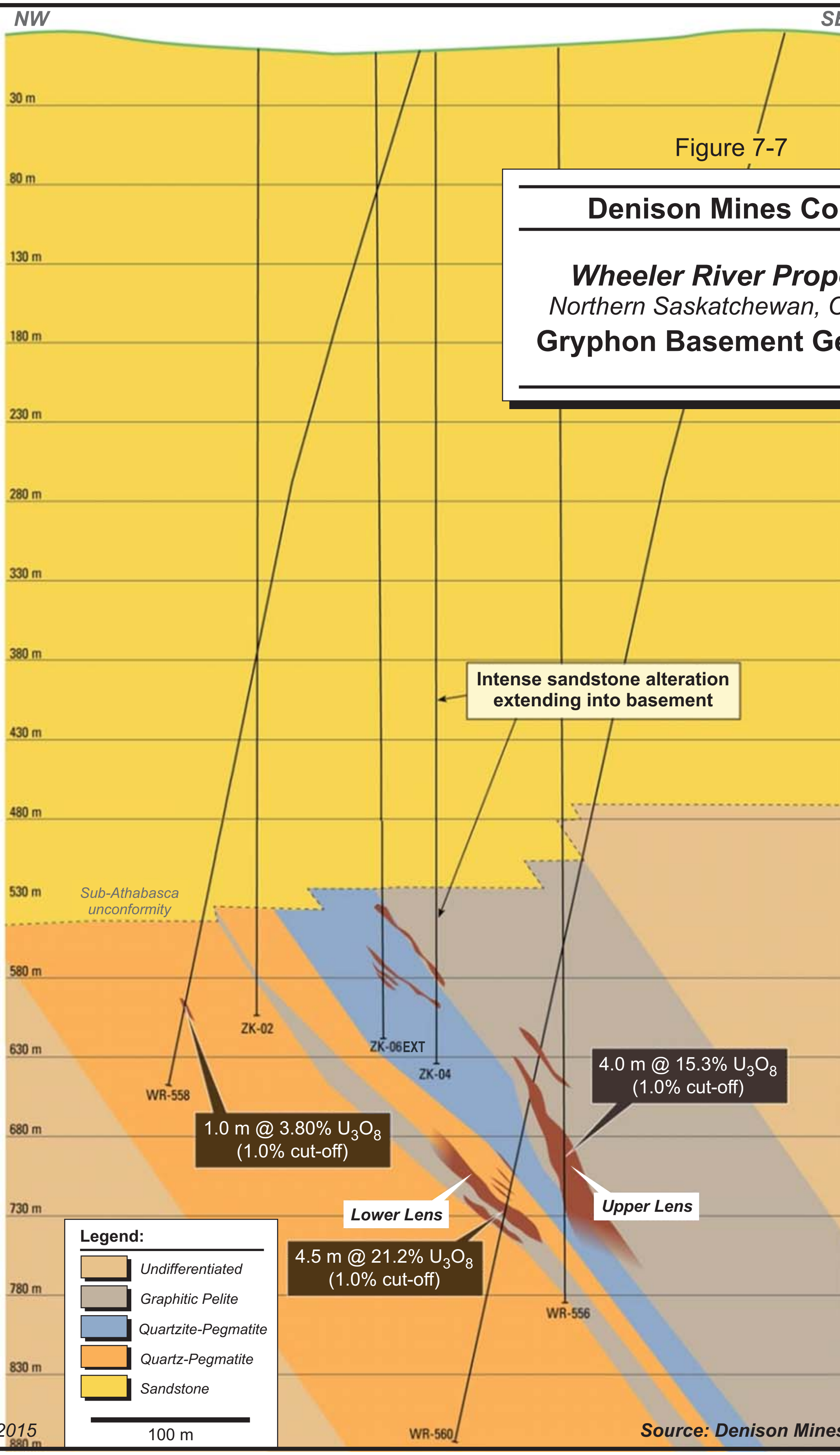


Figure 7-7

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Gryphon Basement Geology

November 2015

Source: Denison Mines Corp., 2015.

ALTERATION

PHOENIX DEPOSIT

At Phoenix, typical unconformity-associated alteration is evident, with a form and nature similar to other Athabasca Basin unconformity-associated deposits. The sandstones are altered for as much as 200 m above the unconformity and exhibit varying degrees of silicification and desilicification (which causes many technical drilling problems), as well as dravitization, chloritization, and illitization. In addition, hydrothermal hematite and druzy quartz are present in the sandstone and commonly in the basement rocks. Alteration is focussed along structures propagating upward from the WS shear and associated splays, and probably does not exceed 100 m width across strike, making this a relatively narrow exploration target. The basement in the northeast part of the Phoenix deposit is much more extensively bleached and clay altered than that to the southwest.

GRYPHON DEPOSIT

At Gryphon, alteration in the Athabasca sandstone is quite variable relative to the basement-hosted mineralization. Directly above Gryphon, the typical alteration sequence above the unconformity (from surface to the unconformity) is described as follows:

- The upper 100 m to 150 m of sandstone is typically weakly bleached and silicified.
- From approximately 150 m to 440 m, there is no significant alteration. Diagenetic hematite banding is predominant.
- From approximately 440 m to 540 m, variable amounts of alteration occur, which include:
    - Moderate bleaching, irregular bands of hydrothermal hematite, and patchy silicification from 490 m to 540 m;
    - Pervasive silicification and strong dravitic interstitial clays from 515 m to 540 m;
    - Alternating silicification and desilicification with strong grey alteration, pyrite development, and dravite rich breccias from 440 m to 540 m.

Sandstone alteration is generally lacking in the hanging wall to the Gryphon mineralization, although drill holes that intersected an up-faulted basement wedge exhibit moderate silicification with preserved diagenetic hematite.

Sandstone alteration in the footwall to the Gryphon mineralization consists of isolated alteration zones with strong bleaching, grey alteration, silicification, and vuggy quartz. The isolated zones of alteration are assumed to be related to the up-dip projection of the offsetting basement reverse faults to the southeast.

Basement alteration exhibits a zoned sequence around mineralization. Directly below the unconformity, the typical basement paleoweathering profile is preserved. Distal alteration includes chlorite and sericite. Proximal alteration signatures include weak bleaching, dravite and druzy quartz formation. Strong clay replacement, pervasive bleaching, and strong dravite are intimately associated with mineralization. Hematite is also commonly directly associated with mineralization. Clay alteration mineralogy is dominated by illite with subordinate kaolinite and chlorite.

STRUCTURAL GEOLOGY

The Wheeler River Property lies in the Wollaston Domain, a northeast trending fold and thrust belt with recumbently folded, early Paleoproterozoic, Wollaston Supergroup metasedimentary rocks intercalated with granitoid gneisses, some of which are of Archean age.

Numerous hypothetical structural models have been proposed for the Property. The simplest model infers a southeast dipping homocline. The presence of mechanically competent quartzite units, as well as the bounding units of competent granitoid gneiss, together with the many kilometres of relatively incompetent graphitic pelite provides a situation for the extensive development of thrust and strike slip/wrench fault tectonics, as well as later normal faults, at competent/incompetent interfaces (Liu et al. 2011).

PHOENIX DEPOSIT

The major structural feature at the Phoenix deposit is the northeast-southwest trending (055º azimuth) WS reverse fault which dips 55º to the southeast and lies within or at the base of the graphitic pelite unit along the east edge (hanging wall) of the quartzite ridge, which appears to have acted as a buttress for thrusting and reverse faulting (Kerr 2010; Kerr et al. 2011). Deformation within the WS fault has occurred partly by ductile shearing, but mainly by fracturing. A progressive sequence of fracturing is evident by variations in the strike and dip of slickensides. The principal stress directions responsible for early deformation were northwest-southeast. A change in the principal stress to an east-west direction led to later strike-slip movement along the WS shear. Later extension is indicated by northwest-striking normal faults, which dip steeply to the southwest.

With the limited data currently available, it appears that the WS structure was most active during deposition of the Read Formation, however, continued uplift is indicated by westward tilting of MFc strata along the fault zone. Reverse fault displacements on the western edge of the quartzite ridge occurred primarily within the highly resistant quartzite unit. Within the Wheeler River area, vertical offset on the footwall of the quartzite unit can be as much as 60 m; however, at the Phoenix deposit, known vertical displacements in the hanging wall sequence are always less than 10 m (Figure 7-6).

Mineralization hosted in the lower 15 m of the Athabasca sandstone appears to have some relationship to the extensions of the WS fault and its various hanging wall splays; hence, movement on these faults must have continued after deposition of rocks of the Read Formation and probably the MFd member of the Manitou Falls Formation. The WS fault and its various interpreted hanging wall splays may have been the main conduit for the mineralizing fluids. Thus, determining favourable locations along the WS fault, where zones of long-lived permeability are present, is of critical importance. A northwesterly trending diabase dyke, probably part of the 1.27 Ga Mackenzie dyke swarm, cuts across the sandstones on the northern part of the Property.

GRYPHON DEPOSIT

Gryphon's structural setting is characterized by a series of thrust faults displacing the unconformity upwards to the southeast in multiple steps. These structures are generally located at the contact between the less competent graphitic pelites and more competent quartz-pegmatites, pegmatites, and pelitic units. They are described as a combination of cataclasites and gouges, and intervals of blocky and friable core. The most significant structures occur at the contact of the upper graphite with the overlying pelite and at the base of the upper graphite in contact with the underlying quartz-pegmatite. These structures are termed the Offset Fault and Graphitic Fault (G-Fault) respectively. Mineralization generally occurs along the G-Fault and its associated subordinate parallel structures where a shallowing of stratigraphic foliation is observed. Structural data analysis has recorded several thrust faults with reverse sinistral movement. The shallowing of foliation in combination with reverse sinistral movement would have provided a zone of dilation, amenable to fluid movement and uranium precipitation.

MINERALIZATION

PHOENIX DEPOSIT

Uranium mineralization at the Phoenix deposit occurs at the unconformity between Athabasca sandstones and basement rocks, with the most intense mineralization adjacent to the WS fault. A minor amount is basement fracture hosted mineralization extending below the north part of zone A. The Phoenix deposit can be classified as an unconformity-associated uranium deposit.

Mineralization and alteration have been traced over a strike length of approximately one kilometre. Since discovery hole WR-249 was drilled in 2008, 253 drill holes have reached the target depth, delineating two distinct zones (A and B) of high-grade uranium mineralization.

Mineralization is in the form of the oxide uraninite/pitchblende (UO_2). Analyses of all accompanying metals are low, particularly in comparison with other unconformity or sandstone-hosted deposits, which can have very high values for nickel, cobalt, and arsenic (Jefferson et al. 2007). For example, drill hole WR-273, from 406.0 m to 406.5 m, assays 78.3% U_3O_8, 35 ppm Ni, 30 ppm Co, 0.05 ppm As, 26 ppm Zn, 221 ppm Ag, 284 ppm Cu, and 9.83% Pb. Some intersections can have significantly higher values for many trace elements, e.g., drill hole WR-287, from 408.5 m to 409.0 m, assays 26.8% U_3O_8, 461 ppm Ni, 119 ppm Co, 170 ppm As, 1,070 ppm Zn, 11.2 ppm Ag, 3,200 ppm Cu, and 2.25% Pb. Average trace metal concentrations for Phoenix assay samples greater than 0.2% U_3O_8 are as follows: 576 ppm Ni, 194 ppm Co, 319 ppm As, 2,092 ppm Zn, 18 ppm Ag, 7,176 ppm Cu, and 9,143 ppm Pb.

GRYPHON DEPOSIT

Mineralization at Gryphon occurs 720 m below surface and is centred approximately 220 m below the sub-Athabasca unconformity. It is within 80 m of the unconformity at its highest point and 370 m below the unconformity at its deepest point. The deposit consists of a set of parallel, stacked, elongate lenses that are broadly conformable with the basement geology and associated with a significant fault zone (G Fault) that separates a thin unit of quartzite (quartz-pegmatite) from an overlying graphitic pelite (upper graphite). The lenses dip moderately to the southeast and plunge moderately to the northeast. The deposit is approximately 450 m long in the plunge direction and 80 m wide across the plunge.

Thickness is variable and is a function of the number of stacked lenses present, generally varying between two metres and 20 m. To date, the majority of mineralization is hosted within two lenses associated with the upper and lower graphite units. Two predominant types of mineralization have been noted:

- Irregular Fracture Fill - Weak, dark black, low grade mineralization occurring as blebs and foliation-parallel fracture fill associated with breccias and centimetre-scale dravite veinlets in the Upper Graphite.
- Semi Massive - Black, high grade mineralization associated with hematite and secondary uranium minerals occurring as lenses and pods parallel to foliation. “Worm rock” textures are also observed.

Mineralization at Gryphon is dominated by uraninite/pitchblende, with very minor coffinite and trace carnotite, uranophane, and brannerite. Gangue mineralogy is dominated by alteration clays (illite, kaolinite, chlorite), dravite and hematite with minor relict quartz, biotite, graphite, zircon, and ilmenite. Only trace concentrations of sulphides are noted comprising galena, chalcopyrite, and pyrite.

Average trace metal concentrations for Gryphon assay samples greater than 0.2% U_3O_8 are as follows: 107 ppm Ni, 62 ppm Co, 30 ppm As, 18 ppm Zn, 14 ppm Ag, 301 ppm Cu, and 3,525 ppm Pb. These concentrations are lower than those recorded for the Phoenix deposit.

8 DEPOSIT TYPES

Both the Phoenix and Gryphon deposits are classified as Athabasca Basin unconformity-associated uranium deposits. Phoenix straddles the unconformity contact between the Athabasca Sandstone and underlying basement, while Gryphon is entirely hosted in the basement rocks. Jefferson et al. (2007) offered the following definition for the geological environment of this type of mineralization.

Unconformity-associated uranium deposits are pods, veins, and semi-massive replacements consisting of mainly uraninite, close to basal unconformities, in particular those between Proterozoic conglomeratic sandstone basins and metamorphosed basement rocks. Prospective basins in Canada are filled by thin, relatively flat-lying, and apparently unmetamorphosed but pervasively altered, Proterozoic (~1.8 Ga to <1.55 Ga), mainly fluvial, red-bed quartzose conglomerate, sandstone, and mudstone. The basement gneiss was intensely weathered and deeply eroded with variably preserved thicknesses of reddened, clay-altered, hematitic regolith grading down through a green chloritic zone into fresh rock. The basement rocks typically comprise highly metamorphosed interleaved Archean to Paleoproterozoic granitoid and supracrustal gneiss including graphitic metapelite that hosts many of the uranium deposits. The bulk of the U-Pb isochron ages on uraninite are in the range of 1,600 Ma to 1,350 Ma. Monometallic, generally basement-hosted uraninite fills veins, breccia fillings, and replacements in fault zones. Polymetallic, commonly subhorizontal, semi-massive replacement uraninite forms lenses just above or straddling the unconformity, with variable amounts of uranium, nickel, cobalt and arsenic; and traces of gold, platinum-group elements, copper, rare-earth elements, and iron.

The uranium deposits in the Athabasca Basin occur below, across, and immediately above the unconformity, which can lie within a few metres of surface at the rim of the Basin, to over 1,000 m deep near its centre. The deposits formed by extensive hydrothermal systems occurring at the unconformity's structural boundary between the older and younger rock units. Major deep-seated structures are also interpreted to have played an important role in the hydrothermal process, likely acting as conduits for hot mineralized fluids that eventually pooled and crystallized in the structural traps provided by the unconformity. One of the necessary reducing fluids originates in the basement, and flows along basement faults. A second, oxidizing fluid originates within the Athabasca sandstone stratigraphy and migrates through the inherent porosity. In appropriate circumstances, these two fluids mix and precipitate uranium in a structural trap at or near the basal Athabasca unconformity with basement rocks.

Two end-members of the deposit model have been defined (Quirt 2003). A sandstone-hosted egress-type model (e.g., Midwest A) involved the mixing of oxidized, sandstone brine with relatively reduced fluids issuing from the basement into the sandstone. Basement-hosted, ingress-type deposits (e.g., Rabbit Lake) formed by fluid-rock reactions between oxidizing sandstone brine entering basement fault zones and the local 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.

Although either type of deposit can be high grade, ranging in grade from a few percent to 20% U_3O_8, they are not volumetrically large and typically occur as narrow, linear lenses often at considerable depth. In plain view, the deposits can be 100 m to 150 m long and a few metres to 30 m wide and/or thick. Egress-type deposits tend to be polymetallic (U-Ni-Co-Cu-As) and typically follow the trace of the underlying graphitic pelites and associated faults, along the unconformity. Ingress-type, essentially monomineralic U deposits, can have more irregular geometry.

Unconformity-type uranium deposits are surrounded by extensive alteration envelopes. In the basement, these envelopes are generally relatively narrow but become broader where they extend upwards into the Athabasca group for tens of metres to even 100 m or more above the unconformity. Hydrothermal alteration is variously marked by chloritization, tourmalinization (high boron, dravite), hematization (several episodes), illitization, silicification/desilicification, and dolomitization. Modern exploration for these types of deposits relies heavily on deep-penetrating geophysics and down-hole geochemistry.

Figures 8-1 and 8-2 illustrate various models for unconformity-type uranium deposits of the Athabasca Basin. The geology of both the Phoenix and the Gryphon deposits and the controls on mineralization are sufficiently well understood for Mineral Resource estimation, in RPA's opinion.

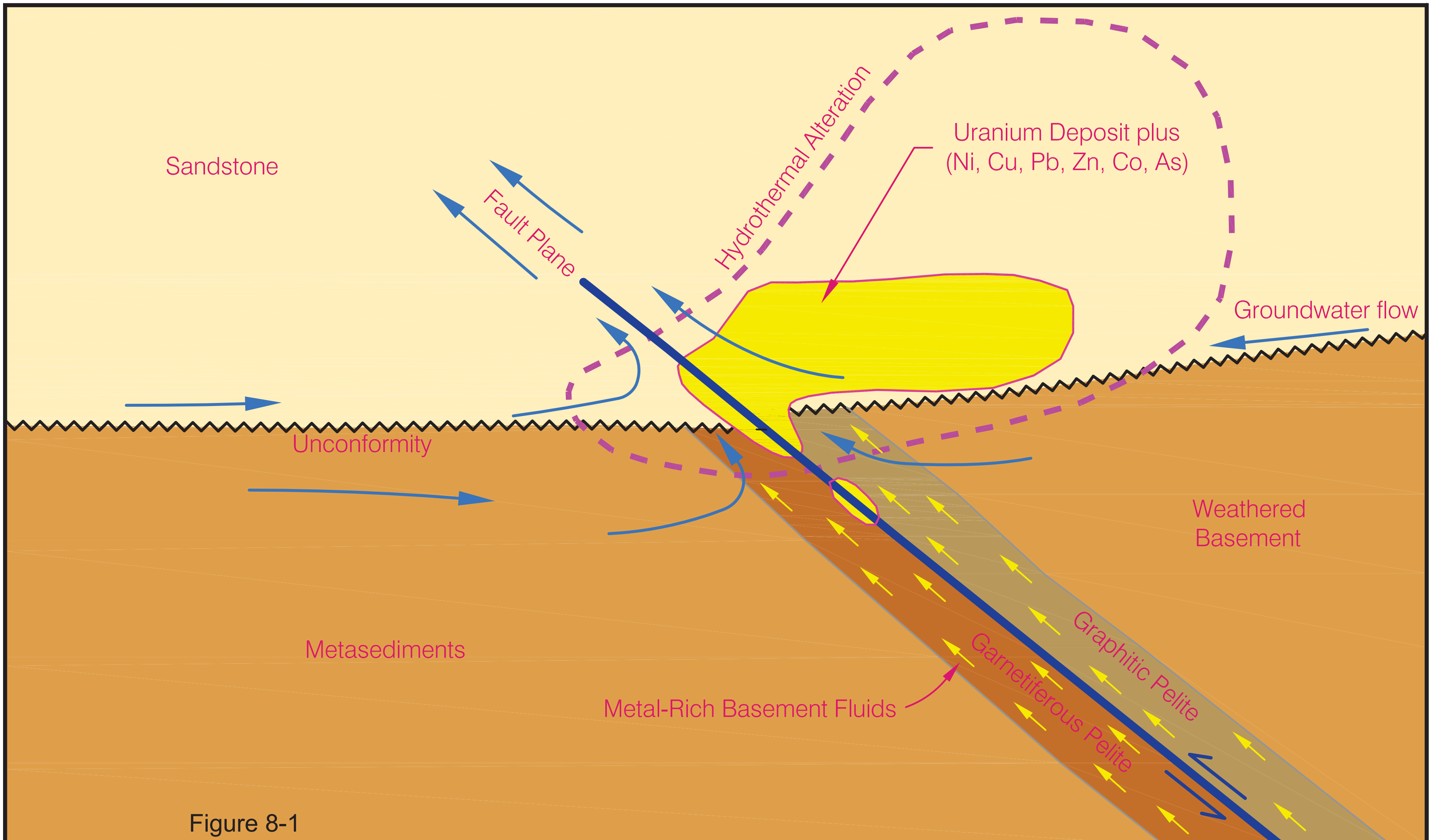


Figure 8-1

NOT TO SCALE

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Schematic of Uncomformity Type Uranium Deposit

November 2015

Source: Denison Mines Corp., 2010.

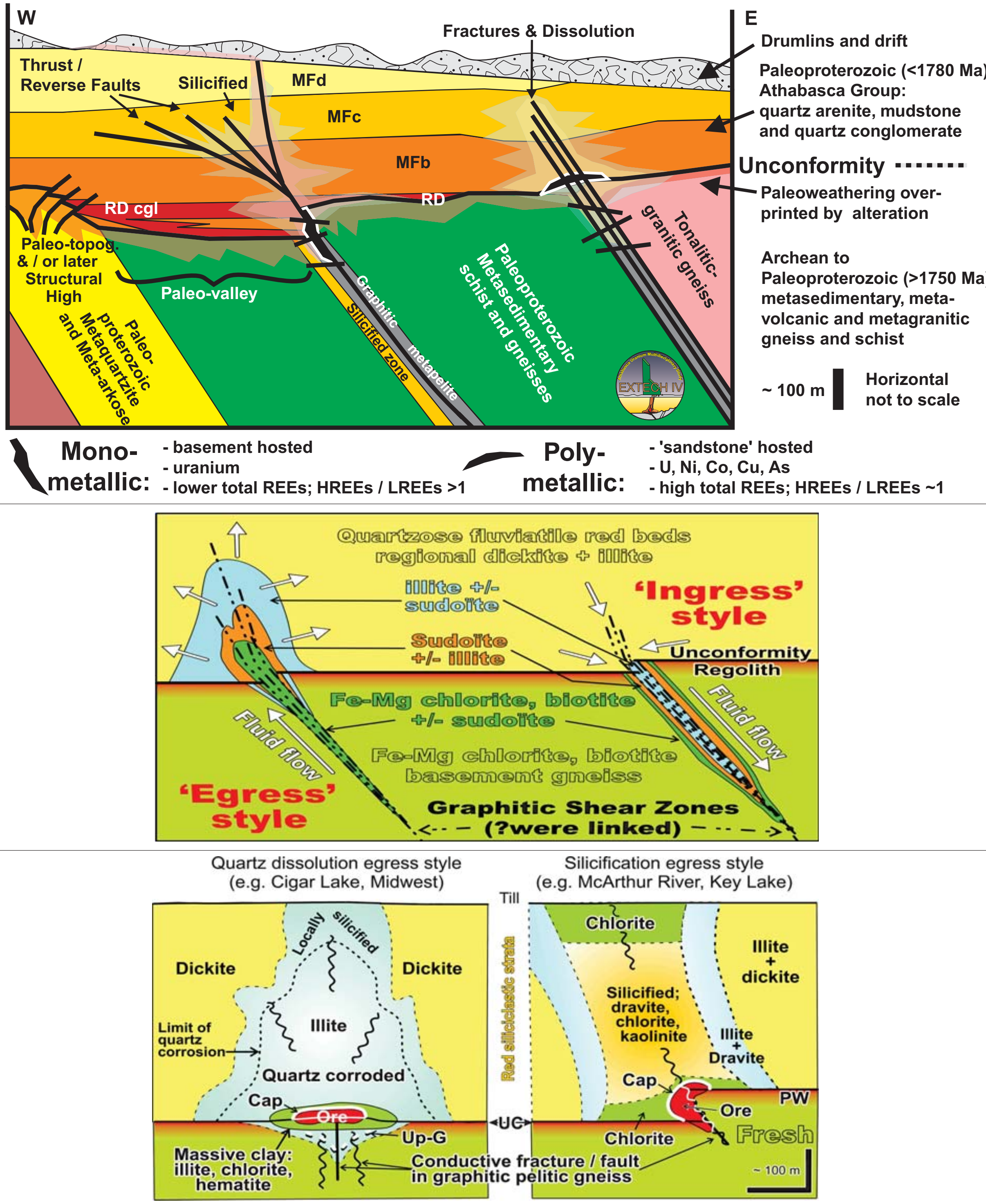


Figure 8-2

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Illustration of Various Models for Unconformity Type Deposits of the Athabasca Basin

November 2015

Source: From Jefferson et al., 2007.

9 EXPLORATION

Since discovery of the McArthur River deposit in 1988, the McArthur River exploration model (McGill et al. 1993) has emphasized a different association between uranium mineralization and rock type compared to the earlier Key Lake exploration model. At McArthur River, one of the most significant rock types in the basement succession is a massive, homogenous, and competent quartzite. Mechanically, particularly compared to the adjacent layered members of the basement stratigraphy, the quartzite is extremely competent, and thus exerts an important control both in basement and post-Athabasca sandstone structural evolution. Both the footwall and hanging wall contacts of the quartzite unit, particularly where these contacts involve highly incompetent rocks such as graphitic pelite, are sites of major thrust and strike-slip faults.

Although these faults are loci for mineralization; the poor conductivity, low magnetic susceptibilities, and low density values associated with the quartzite limits the effectiveness of airborne and ground geophysical methods in mapping these basement units especially when they are covered by hundreds of metres of sandstone. Another noteworthy characteristic of McArthur River type mineralization is the widespread presence of hydrothermal dravite, indicating boron addition into the overlying Athabasca sandstone. Thus, borehole geochemistry and drilling are the primary exploration methods.

With the exception of drilling, exploration work performed on the Property by Denison since 2008 is summarized in this section. Work completed on the Property and its immediate vicinity by other parties prior to 2008 is summarized in Section 6 of this report. Drilling completed on the Phoenix and Gryphon deposits is summarized in Section 10 Drilling.

GROUND GEOPHYSICAL SURVEYS

2009 INDUCED POLARIZATION SURVEY

Following the discovery of the Phoenix deposit in 2008, Denison as operator of the Wheeler River Joint Venture, completed DC Resistivity/IP surveys comprising 60.2 line-km in 2009.

2010 TRANSIENT ELECTROMAGNETIC (TEM) SURVEY

During February and March 2010, a geophysical program consisting of 25.2 km of a fixed loop surface TEM survey and 51.0 km of a step loop TEM survey was completed on three lines of the previously established 2007 Wheeler River grid. Three lines of step-wise moving loop (SWML) TEM surveying was completed on three previously defined resistivity anomalies in attempt to better define any conductive axis associated with graphitic basement features that could act as conduits for mineralizing events. The resistivity signature located on L40+00N is known to be associated with the uranium mineralization associated with the Gryphon deposit.

2011-2012 INDUCED POLARIZATION SURVEY

The 2011 exploration program on the Property carried out by Denison included a 120.6 line-km Titan 24 DC/IP survey. Additional Titan 24 surveying (48.8 line-km) was completed in 2012.

2013 INDUCED POLARIZATION SURVEY

In 2013, the Wheeler River Joint Venture completed a 127.0 line-km Titan 24 DC/IP survey over two areas previously not covered (R North and K West areas)

2014 INDUCED POLARIZATION, GRAVITY AND SWML EM SURVEYS

Geophysical exploration in 2014 consisted of the following work, with primary focus being the K-North area and its close vicinity:

- 46.05 line-km over three lines of infill SWML EM in the K-North area to complete areas previously not covered.
- 43 line-km over two lines of SWML in the WS South area covering areas of interest from the 2013 Titan 24 DC/IP survey.
- 48 line-km of ground gravity covering the O Zone, where historic drilling showed a large unconformity offset with weak uranium mineralization.
- A 52.0 line-km ground gravity survey was carried out in 2014 over the K-North area to test if the unconformity offset seen in drill core could be defined by this method.
- A 67.2 km extension of the 2007 North Titan 24 DC/IP survey to complete the coverage over the K-North area.
- A 3D DC/IP survey to attempt to resolve a 2 km by 2 km geologically/geophysically complex area north of Phoenix zone A.

2015 INDUCED POLARIZATION SURVEY

In 2015, the Wheeler River Joint Venture completed a 149.5 line-km Titan 24 DC/IP survey over two areas previously not covered (O Zone and the southern parts of the K and Q Zones).

AIRBORNE SURVEYS

2013 VTEM SURVEY

In 2013, a helicopter borne versatile time-domain electromagnetic (VTEM)-magnetic-radiometric survey was conducted over the Property. The survey comprised 990 line-km at a 300 m line-spacing covering an area of approximately 249 km^2. This survey used a larger loop than previously in an attempt to remove noise that caused difficulties in interpretation of a previous survey.

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10 DRILLING

Diamond drilling on the Wheeler River Property is the principal method of exploration and delineation of uranium mineralization after initial geophysical surveys. Drilling can generally be conducted year round on the Property. Drill holes on the Property are labelled with a prefix of the Project name (WR) followed by the hole number.

Since 1979, a total of 641 diamond drill holes and 84 reverse circulation (RC) drill holes totalling 302,127 m have been completed within the Property (Table 10-1) The following sections provide details of the holes drilled on the Phoenix and Gryphon deposits.

TABLE 10-1 WHEELER RIVER PROPERTY DRILLING STATISTICS
Denison Mines Corp. – Wheeler River Property

Year	Company	# Diamond Drill Holes (including wedge holes and re-starts)	# Rotary Drill Holes	Total Drilled (m)
1979	AGIP Canada Ltd.	6	0	2,111
1980	AGIP Canada Ltd.	6	0	1,968
1981	AGIP Canada Ltd.	14	0	5,352
1982	AGIP Canada Ltd.	13	0	4,974
1983	AGIP Canada Ltd.	9	0	2,255
1984	AGIP Canada Ltd.	13	0	2,986
1985	SMDC	13	0	3,395
1986	SMDC	11	0	4,174
1987	SMDC	12	23	6,362
1988	SMDC	12	0	5,882
1989	SMDC	9	0	4,617
1995	Cameco	4	0	1,890
1996	Cameco	5	0	2,544
1997	Cameco	7	0	3,218
1998	Cameco	7	0	3,074
1999	Cameco	3	0	1,263
2001	Cameco	2	0	1,213
2002	Cameco	4	0	2,099
2003	Cameco	4	61	3,470
2004	Cameco	1	0	494
2005	Denison Mines Inc.	12	0	4,837
2006	Denison Mines Inc.	27	0	10,514
2007	Denison Mines Corp.	18	0	6,147

Year	Company	# Diamond Drill Holes (including wedge holes and re-starts)	# Rotary Drill Holes	Total Drilled (m)
2008	Denison Mines Corp.	14	0	6,104
2009	Denison Mines Corp.	43	0	18,950
2010	Denison Mines Corp.	60	0	28,264
2011	Denison Mines Corp.	80	0	38,428
2012	Denison Mines Corp.	58	0	26,810
2013	Denison Mines Corp.	52	0	25,656
2014	Denison Mines Corp.	50	0	30,833
2015	Denison Mines Corp.	72	0	42,243
TOTAL		**641**	**84**	**302,127**

PHOENIX DEPOSIT EXPLORATION DRILLING

During the summer of 2008, WR-249 was drilled on geophysics line 4300 to test resistivity target “A”. WR-249 was spotted 90 m northwest of WR-190A, which had been lost in the sandstone 34 m above the unconformity in 2003. The hole encountered strong desilicification, silicification, hydrothermal hematite, druzy quartz and increased fracture density, with progressively more intense alteration towards the unconformity, together with a strong grey bleached zone consisting of extremely fine grained pyrite which provided a strong visual contrast to bleached zones in other nearby holes. At the unconformity, disseminated and massive uranium mineralization was present from 406.65 m to 409 m. The assay grade was 1.06% U_3O_8 over 2.35 m. This was the highest grade intercept on the Property to date. This hole was located seven kilometres northeast of the previous work in the WR-204 area and, more significantly, was drilled on the hanging wall rather than the footwall side of the quartzite ridge.

Target “B” was tested by WR-251, which was located 600 m along strike from WR-249. It intersected similar alteration along with three mineralized zones occurring both at the unconformity and in the basement. The best intersection graded 0.78% U_3O_8 over 2.25 m.

All 2008 follow-up drilling was located in the WR-251 area. Additional uranium mineralization (1.4% U_3O_8 over 4.0 m and 1.75% U_3O_8 over 0.5 m) was intersected in WR-253, which was drilled to test for mineralization 15 m to the southeast of WR-251.

All drill holes completed during the summer of 2008 intersected either uranium mineralization or very strong alteration located in the hanging wall to the quartzite unit. This new discovery was termed Phoenix.

During 2009, three drill programs consisting of a total of 43 diamond drill holes (19,006 m), were carried out, each of which established significant milestones in the advancement of the Property. During the winter program, the first indications of higher grade mineralization came from hole WR-258, which returned 11.8% U_3O_8 over 5.5 m from a depth of 397 m. The summer drill program continued to test the Phoenix discovery, with hole WR-273 returning a value of 62.6% U_3O_8 over 6.0 m at a depth of 405 m. Mineralization was monomineralic pitchblende with very low concentrations of accessory minerals and was reported to be remarkably similar to the high-grade McArthur River P2 deposits. Most of the mineralization occurs as a horizontal sheet at the base of the Athabasca sandstone proximal to where a graphitic pelite unit in the basement intersects the unconformity. In addition, the alteration changes to the northeast with intense and strong basement bleaching becoming more prominent, and the strongest graphitic faulting observed. More significantly, the new mineralized zone returned the highest grades intersected in more than 40 years of continuous exploration on the Property.

A further drill program in the fall of 2009 established continuity of the high-grade portion of the mineralized zone and extended the overall zone as a possibly continuous unit for a strike length of greater than one kilometre.

During 2010, 62 diamond drill holes totalling 28,362.3 m were carried out on two claims along the Phoenix deposit trend. Of the 62 drill holes, 59 totalling 27,853.25 m were completed to the desired depth and three were lost or abandoned due to poor ground conditions or excessive deviation. The three lost holes were re-drilled and successfully completed to the desired depth. Twenty-seven holes were drilled on claim S-98341 during two drill seasons from January to April and June to August. Thirty-five holes were drilled on claim S-97909 during two drill seasons from January to April and June to August. The two-phase drilling program was carried out during the periods of January to April 2010 and June to August 2010.

During 2011, a two-phase drilling program of 80 diamond drill holes totalling 38,426.6 m was carried out on mineral dispositions S-97908, S-97909, and S-98341. Of the 80 drill holes completed, 77 were successfully completed to design depth.

During 2012, Denison completed 51 diamond drill holes totalling 23,073 m on the Phoenix deposit during two drilling campaigns.

In 2013, 30 diamond drill holes totaling 13,797 m were carried out on mineral dispositions across the Property of which 14 were completed as infill delineation drilling on Phoenix zone A.

In 2014, an additional 11 diamond drill holes were completed on Phoenix zone A to extend higher grade portions of the deposit.

Since 2008, 263 drill holes totalling 123,749 m of drilling have delineated the Phoenix deposit (Figure 10-1, Table 10-2). Well-established drilling industry practices were used in the drilling programs.

TABLE 10-2 PHOENIX DRILLING STATISTICS
Denison Mines Corp. – Wheeler River Property

Deposit	Year	Company	# Holes	Total Drilled (m)
Phoenix	2008	Denison	14	6,499
	2009	Denison	31	14,549
	2010	Denison	55	25,949
	2011	Denison	71	34,436
	2012	Denison	51	23,073
	2013	Denison	25	12,083
	2014	Denison	10	4,298
	2015	Denison	6	2,862
Phoenix Total			**263**	**123,749**

Target	# Holes	Total Drilled (m)
Zone A	137	62,678
Zone B	55	25,347
Zone C	24	10,438
Zone D	27	15,214
North Target	18	9,482
East Target	2	591

To date, the Phoenix deposit area has been systematically drill tested over approximately one kilometre of strike length at a nominal 25 m to 50 m section spacing (Figure 10-1).

Delineation diamond drilling at Phoenix was primarily done with NQ sized core (47.6 mm diameter) in holes WR-249 through WR-275 and HQ sized core (63.5 mm diameter) reducing down to NQ at 350 m in holes WR-276 through WR-561A, with most holes successfully penetrating into the basement. In general, drilling in the higher grade areas of the Phoenix deposit has been conducted on a nominal drill hole grid spacing of 25 m northeast-southwest by 10 m northwest-southeast. Some additional infill holes were drilled primarily to test the spatial continuity of the mineralization. The most notable results from drilling to date are the intersections of 6.0 m of 62.6% U_3O_8 in hole WR-273, 3.5 m of 58.2% U_3O_8 in hole WR-305, 8.4 m of 38.4% U_3O_8 in hole WR-401, and 10.5 m of 50.1% U_3O_8 in hole WR-525. The bulk of the flat lying high-grade mineralization is positioned at and sub-parallel to the unconformity.

All holes were logged for lithology, structure, alteration, mineralization, and geotechnical characteristics. Data were entered into DHLogger software on laptops in the field. The DHLogger data were transferred into a Fusion database. All drill hole data were validated throughout the drilling program and as an integral component of the current recent resource estimation work. Hard copies of drill logs are stored at site.

Figure 10-1

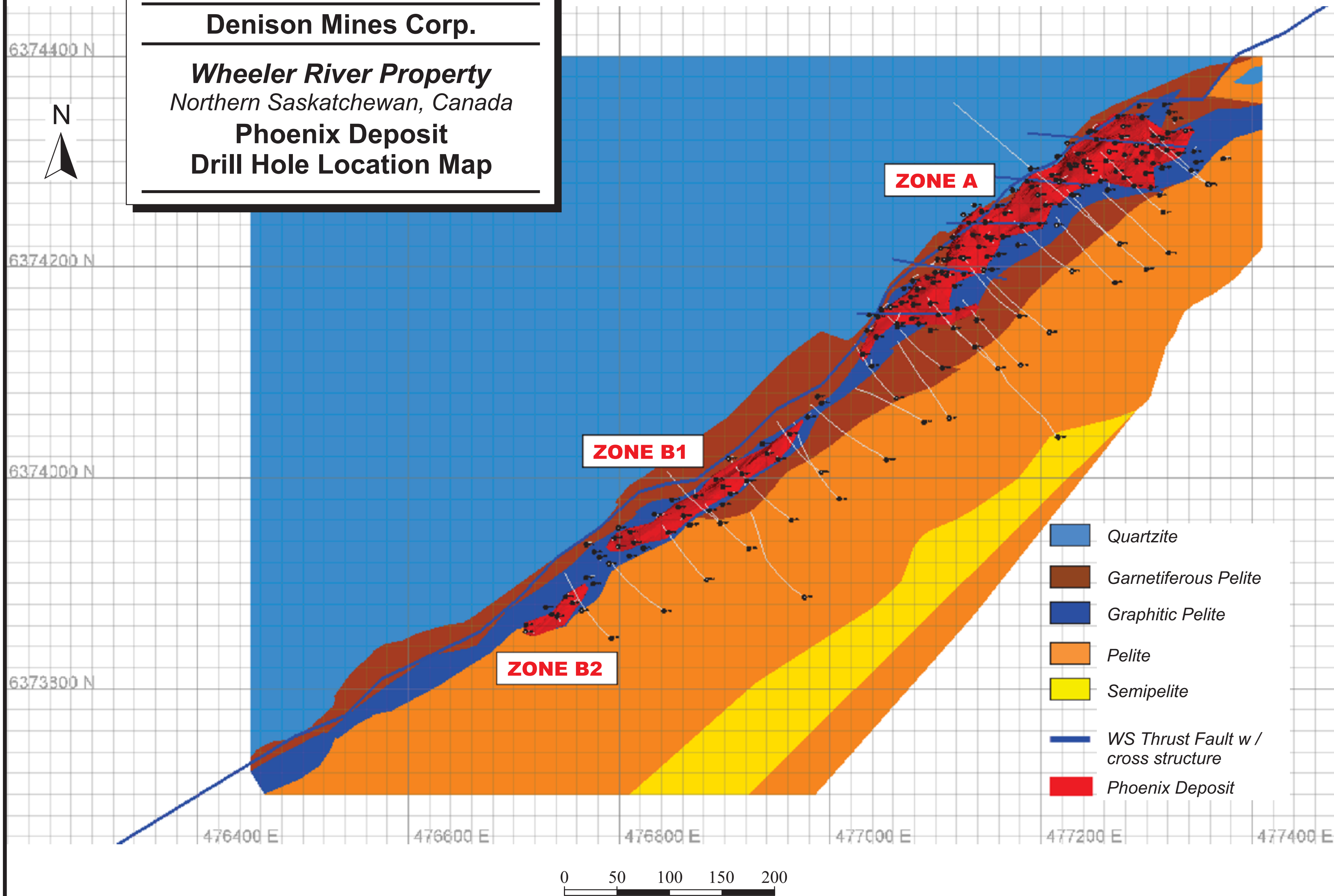
Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit

Drill Hole Location Map



UTM Projection WGS 84-13N

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GRYPHON DEPOSIT EXPLORATION DRILLING

The first exploration drilling in the Gryphon area began in 1988 and continued intermittently through 2013.

In 2013, Denison drilled two holes, WR-507D1 and WR-509. WR-507D1 was drilled approximately 40 m up dip on section northwest of hole ZK-23, to test for more favourable geology (Figure 10-2). No significant mineralization was intersected at the unconformity or in the basement, but similar lithological units and structure were intersected which hosted mineralization in the ZK-02/ZK-04/ZK-06 drill fence. WR-509 was drilled approximately 100 m grid west of the ZK-02/ZK-04/ZK-06 drill fence within the K1a conductive corridor to test for unconformity mineralization. No significant unconformity alteration or mineralization was intersected, however, there was some weak basement mineralization intersected over approximately 0.5 m from 634.2 m within a pelitic lens in a large pegmatite body. No further follow-up was recommended for either hole at this time.

In 2014, Denison completed a drilling campaign of 25 holes for 18,546 m which included the Gryphon discovery hole WR-556. WR-556 was drilled on the ZK-02/ZK-04/ZK-06 fence to test two targets:

1. The unconformity down-dip of a sandstone structure intersected in ZK-06, and
2. The down-dip projection of basement hosted mineralization intersected in ZK-04 and ZK-06.

No unconformity mineralization was intersected, but high grade mineralization was intersected at the contact of a graphitic pelite and a quartzite unit down dip from hole ZK-06. The mineralization graded 15.3% U_3O_8 over 4.0 m from 697.5 m (approximately 207 m below the unconformity). This mineralization was termed the Upper Lens.

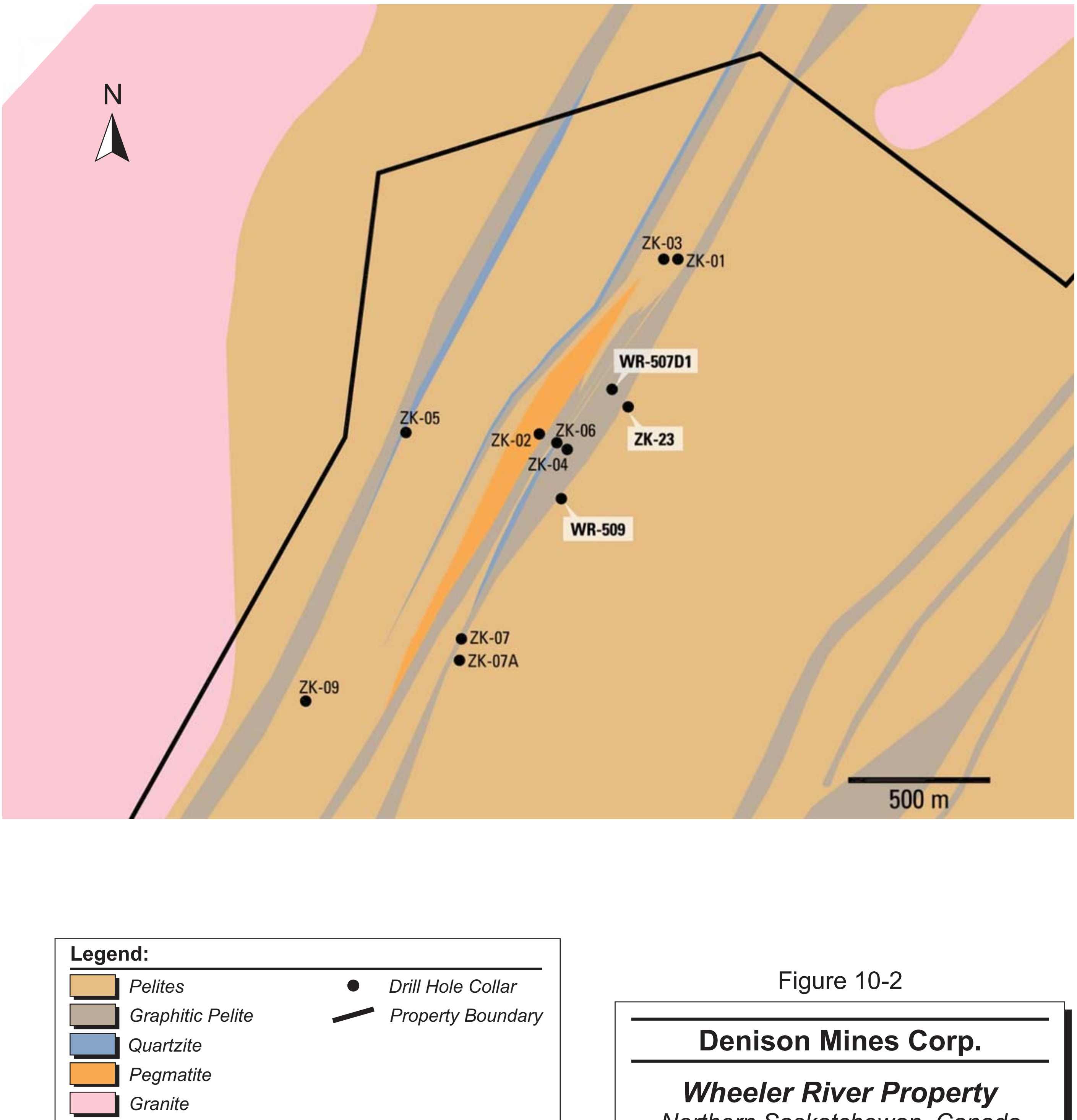


Figure 10-2

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Gryphon Deposit
2013 Drill Hole Location Map

November 2015 ***Source: Denison Mines Corp., 2015.***

In 2014, Denison also drilled holes WR-558 and WR-560. WR-558 was drilled to target the contact of the unconformity with the western most graphitic unit northwest of ZK-02. While no unconformity mineralization was encountered, basement mineralization was intersected in a pegmatite unit approximately 54 m below the unconformity. The mineralization graded 7.3% U_3O_8 over 0.5 m from 611.7 m and is considered peripheral mineralization to the Gryphon Upper Lens. WR-560 was drilled 35 m up dip of the WR-556 intersection. WR-560 intersected high grade mineralization at a lower stratigraphic position to that found in WR-556 and was termed the Lower Lens. The WR-560 mineralization graded 21.2% U_3O_8 over 4.5 m from 759 m (approximately 234 m below the unconformity).

Since the discovery of Gryphon, definition drilling has continued on both the Upper Lens and Lower Lens. The Upper Lens has been defined as a body of multiple stacked high grade lenses that plunge toward the northeast, approximately 80 m to 370 m below the sub-Athabasca unconformity. Denison followed up the 2014 drilling with 2015 winter and summer drilling campaigns with an additional 37 holes, totalling 21,591 m. As of September 17, 2015, the effective date of the current Mineral Resource estimate, Denison and predecessor companies have drilled a total of 69 holes totalling 44,083 m over the Gryphon deposit. Table 10-3 lists the holes by drilling program.

TABLE 10-3 GRYPHON DRILLING STATISTICS
Denison Mines Corp. – Wheeler River Property

Deposit	Year	Company	# Holes	Total Drilled (m)
Gryphon	1988	SMDC	3	1,848
	2001	Cameco	1	584
	2013	Denison	3	1,515
	2014	Denison	25	18,546
	2015	Denison	37	21,591
Gryphon Total			**69**	**44,083**

Diamond drilling at Gryphon was primarily done with NQ sized core (47.6 mm diameter) with 68 of 76 holes angled between 67° to 79° to the northwest with the remaining holes drilled vertically.

Highlights from the Gryphon drilling program are listed in Table 10-4.

TABLE 10-4 GRYPHON DEPOSIT MINERAL INTERSECTIONS
Denison Mines Corp. – Wheeler River Property

Hole no.	From (m)	To (m)	Thick (m)	% U_3O_8	GT
WR-560	759.0	763.5	4.5	21.21	95.46
WR-556	697.5	701.5	4.0	15.33	61.33
WR-573D1	548.5	551.0	2.5	22.16	55.39
WR-569A	680.0	683.5	3.5	13.16	46.07
WR-604	779.0	784.5	5.5	6.34	34.86
WR-584B	641.6	646.1	4.5	7.50	33.75
WR-569A	702.5	705.5	3.0	10.27	30.82
WR-574	696.5	698.5	2.0	14.60	29.19
WR-571	757.5	760.0	2.5	8.79	21.98
WR-571D2	512.0	517.5	5.5	3.95	21.72

Notes:
1. Intersection interval is composited at cut-off grade of 1.0% U_3O_8 and minimum thickness of 1 m.

DRILL HOLE SURVEYING

The collar locations of drill holes are spotted on a grid established in the field, and collar sites are surveyed by differential base station GPS using the NAD83 UTM zone 13N reference datum. The drill holes have a concise naming convention with the prefix "WR" denoting "Wheeler River"" followed by the number of the drill hole. In general, most of the drilling was completed on northwest-southeast oriented profiles spaced approximately 50 m apart.

The trajectory of all drill holes is determined with a Reflex instrument in single point mode, which measures the dip and azimuth at 50 m intervals down the hole with an initial test taken six metres below the casing and a final measurement at the bottom of the hole. All mineralized and non-mineralized holes within the Phoenix deposit are cemented from approximately 25 m below the mineralized zone to approximately 25 m above the zone. All mineralized and non-mineralized holes within the Gryphon deposit are cemented for the entire basement column to approximately 25 m above the unconformity.

RADIOMETRIC LOGGING OF DRILL HOLES

All drill holes on the Property are logged with a radiometric probe to measure the natural gamma radiation, from which an indirect estimate of uranium content can be made. Most of the U_3O_8 grade data (76%) used for the Phoenix Mineral Resource estimate are obtained from chemical assays of the rock. The remainder of the data are derived from radiometric probe results, typically when poor drill core recovery prevents representative sampling for chemical assays. For the Gryphon Mineral Resource estimate, 100% of the U_3O_8 grade data are obtained from chemical assay of the rock.

RADIOMETRIC PROBING

Probing with a Mount Sopris gamma logging unit employing a triple gamma probe (2GHF-1000) was completed systematically on every drill hole. The probe measures natural gamma radiation using three different detectors: one 0.5 in. by 1.5 in. sodium iodide (NaI) crystal assembly and two Geiger Mueller (G-M) tubes installed above the NaI detector. These G-M tubes have been used successfully to determine grade in very high concentrations of U_3O_8. By utilizing three different detector sensitivities (the sensitivity of the detectors is very different from one detector to another), these probes can be used in both exploration and development projects across a wide spectrum of uranium grades. Accurate concentrations can be measured in uranium grades ranging from less than 0.1% to as high as 80% U_3O_8. Data are logged from all three detectors at a speed of 10 m/min down hole and 15 m/min up hole through the drill rods.

The radiometric or gamma probe measures gamma radiation which is emitted during the natural radioactive decay of uranium (U) and variations in the natural radioactivity originating from changes in concentrations of the trace element thorium (Th) as well as changes in concentration of the major rock forming element potassium (K).

Potassium decays into two stable isotopes (argon and calcium) which are no longer radioactive, and emits gamma rays with energies of 1.46 MeV. Uranium and thorium, however, decay into daughter products which are unstable (i.e., radioactive). The decay of uranium forms a series of about a dozen radioactive elements in nature which finally decay to a stable isotope of lead. The decay of thorium forms a similar series of radioelements. As each radioelement in the series decays, it is accompanied by emissions of alpha or beta particles or gamma rays. The gamma rays have specific energies associated with the decaying radionuclide. The most prominent of the gamma rays in the uranium series originate from decay of ^{214}Bi (bismuth 214), and in the thorium series from decay of ^{208}Tl (thallium 208).

The natural gamma measurement is made when a detector emits a pulse of light when struck by a gamma ray. This pulse of light is amplified by a photomultiplier tube, which outputs a current pulse which is accumulated and reported as “counts per second”, or “cps”. The gamma probe is lowered to the bottom of a drill hole and data are recorded as the tool travels to the bottom and then is pulled back up to the surface. The current pulse is carried up a conductive cable and processed by a logging system computer which stores the raw gamma cps data.

Since the concentrations of these naturally occurring radioelements vary between different rock types, natural gamma ray logging provides an important tool for lithologic mapping and stratigraphic correlation. For example, in sedimentary rocks, sandstones can be easily distinguished from shales due to the low potassium content of the sandstones compared to the shales. The greatest value of the gamma ray log in uranium exploration, however, is in determining equivalent uranium grade.

The basis of the indirect uranium grade calculation (referred to as "eU_3O_8" for "equivalent U_3O_8") is the sensitivity of the detector used in the probe which is the ratio of cps to known uranium grade and is referred to as the probe calibration factor. Each detector’s sensitivity is measured when it is first manufactured and is also periodically checked throughout the operating life of each probe against a known set of standard "test pits," with various known grades of uranium mineralization or through empirical calculations. Application of the calibration factor, along with other probe correction factors, allows for immediate grade estimation in the field as each drill hole is logged.

Downhole total gamma data are subjected to a complex set of mathematical equations, taking into account the specific parameters of the probe used, speed of logging, size of bore hole, drilling fluids, and presence or absence of any type of drill hole casing. The result is an indirect measurement of uranium content within the sphere of measurement of the gamma detector. A Denison in-house computer program known as GAMLOG converts the measured counts per second of the gamma rays into 10 cm increments of equivalent percent U_3O_8 (%eU_3O_8). GAMLOG is based on the Scott’s Algorithm developed by James Scott of the Atomic Energy Commission (AEC) in 1962 and is widely used in the industry.

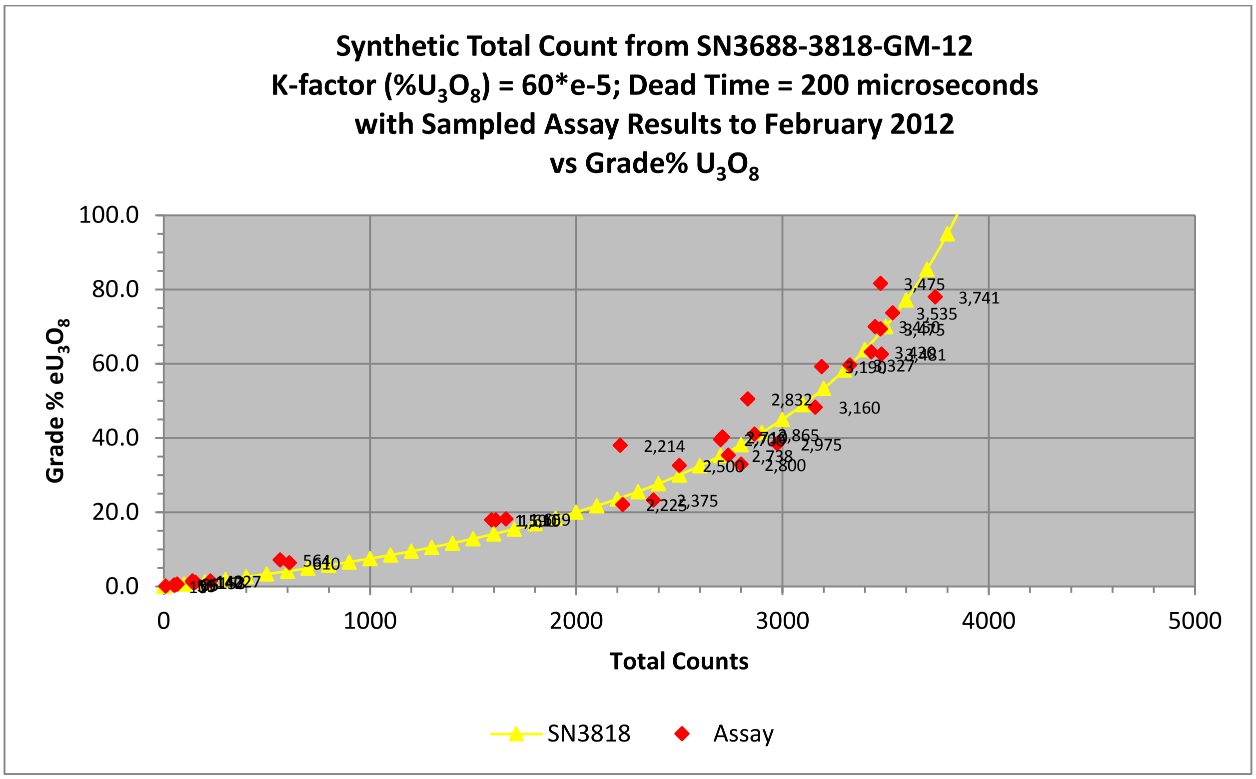
The conversion coefficients for conversion of probe counts per second to %eU_3O_8 equivalent uranium grades are based on the calibration results obtained at the Saskatchewan Research

Council (SRC) uranium calibration pits (sodium iodide crystal) and empirical values developed in-house (Sweet and Petrie 2010) for the triple-gamma probe (Figure 10-3).

SRC downhole probe calibration facilities are located in Saskatoon, Saskatchewan. The calibration facilities test pits consist of four variably mineralized holes, each approximately four metres thick. The gamma probes are calibrated a minimum of two times per year, usually before and after both the winter and summer field seasons.

Drilling procedures, including collar surveying, downhole Reflex surveying, and radiometric probing are standard industry practice.

FIGURE 10-3 CALIBRATION CURVE FOR GEIGER-MUELLER SN 3818 PROBE



SAMPLING METHOD AND APPROACH

DRILL CORE HANDLING AND LOGGING PROCEDURES

At each drill site, core is removed from the core tube by the drill contractors and placed directly into three row NQ wooden core boxes with standard 1.5 m length (4.5 m total) or two row HQ wooden boxes with standard 1.5 m (3.0 m total). Individual drill runs are identified with small wooden blocks, onto which the depth in metres is recorded. Diamond drill core is transported at the end of each drill shift to an enclosed core handling facility at Denison's Wheeler River camp. The core handling procedures at the drill site are industry standard. Drill holes are logged at the Wheeler River camp core logging facilities by Denison personnel.

Before the core is split for assay, the core is photographed, descriptively logged, measured for structures, surveyed with a scintillometer, and marked for sampling. Sampling of the holes for assay is guided by the observed geology, radiometric logs, and readings from a hand-held scintillometer.

The general concept behind the scintillometer is similar to the gamma probe except the radiometric pulses are displayed on a scale on the instrument and the respective count rates are recorded manually by the technician logging the core or chips. The hand-held scintillometer provides quantitative data only and cannot be used to calculate uranium grades; however, it does allow the geologist to identify uranium mineralization in the core and to select intervals for geochemical sampling, as described below.

Scintillometer readings are taken throughout the hole as part of the logging process, usually over three metre intervals, and are averaged for the interval. In mineralized zones, where scintillometer readings are above five times background (approximately 500 cps depending on the scintillometer being used), readings are recorded over 10 cm intervals and tied to the run interval blocks. The scintillometer profile is then plotted on strip logs to compare and adjust the depth of the downhole gamma logs. Core trays are marked with aluminum tags as well as felt marker.

DRILL CORE SAMPLING

ASSAY SAMPLING

Denison submits assay samples for geochemical analysis for all the cored sections through mineralized intervals, where core recovery permits. All mineralized core is measured with the scintillometer described above by removing each piece of drill core from the ambient background, noting the most pertinent reproducible result in counts per second, and carefully returning it to its correct place in the core box. Any core registering over 500 cps is flagged for splitting and sent to the laboratory for assay. Early drill holes were sampled using variable intervals (0.2 m to 1.0 m); after drill hole WR-253, holes were sampled using 0.5 m lengths. Barren samples are taken to flank both ends of mineralized intersections, with flank sample lengths at least 0.5 m on either end, which, however, may be significantly more in areas with strong mineralization.

All core samples are split with a hand splitter according to the sample intervals marked on the core. One-half of the core is returned to the core box for future reference and the other half is bagged, tagged, and sealed in a plastic bag. Bags of mineralized samples are sealed for shipping in metal or plastic pails depending on the radioactivity level. Samples collected on 0.5 m spacing through the mineralized zone are analyzed using inductively coupled plasma optical emission spectroscopy (ICP-OES) (Section 11).

OTHER SAMPLING

Three other types of drill core samples are collected as follows:

1) Composite geochemical samples are collected over approximately 10 m intervals in the upper Athabasca sandstone and in fresh lithologies beneath the unconformity (basement) and over five metre intervals in the basal sandstone and altered basement units. The samples consist of one to two centimetre disks of core collected at the top or bottom of each row of core in the box over the specified interval. Care is taken not to cross lithological contacts or stratigraphic boundaries.

2) Representative/systematic core disks (one to five centimetres in width) are collected at regular five to ten metre intervals throughout the entire length of core until basement lithologies become unaltered. These samples are analyzed for clay minerals using reflectance spectroscopy.

3) Select “spot” samples are collected from significant geological features (i.e., radiometric anomalies, structure, alteration etc). Core disks one to two centimetre thick are collected for reflectance spectroscopy and split core samples, over the desired interval, are sent for geochemical analysis. Ten centimetre wide core samples may also be collected for density measurement.

These sampling types and approaches are typical of uranium exploration and definition drilling programs in the Athabasca Basin. The drill core handling and sampling protocols are industry standard.

CORE RECOVERY AND USE OF PROBE DATA

At Phoenix, the mineralized zones (sandstones or basement) are moderately to strongly altered, and occasionally disrupted by fault breccias. In places, the core can be broken and blocky, however, recovery is generally good with an overall average of 89.65%. Local intervals of up to five metres with less than 80% recovery have been encountered due to washouts during the drilling process. Where 80% or less of a composited interval is recovered during drilling (>20% core loss), or where no geochemical sampling has occurred across a mineralized interval, uranium grade determination has been supplemented by radiometric probe data. Radiometric probe data accounts for approximately 23% of the drill holes used for the Mineral Resource estimate at Phoenix. There are 1,708 U_3O_8 assay records totalling 848 m in the Phoenix deposit database. Of these, 1,464 U_3O_8 assay records totalling 726 m are in zone A and 244 U_3O_8 assay records totalling 122 m are in zone B.

Core recovery at Gryphon is excellent. Of the 69 drill holes drilled at Gryphon, 19 drill holes contained only radiometric data and were not sampled for assay, 36 drill holes contained both radiometric and assays, and 14 drill holes did not have any grade data. In total there were 55 drill holes used to interpret the mineralized domains, but only the 36 holes containing assays were used for Mineral Resource estimate. There are 1,019 U_3O_8 assay records totalling 510 m in the Gryphon deposit database

RPA is not aware of any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

As described in Section 10 Drilling, core from the Property is photographed, logged, marked for sampling, split, bagged, and sealed for shipment by Denison personnel at the Wheeler River field logging facility. All samples for assay or geochemical analyses are sent to the Saskatchewan Research Council Geoanalytical Laboratories (SRC) in Saskatoon, Saskatchewan. Samples for reflectance clay analyses have been analyzed using a PIMA spectrometer or an ArcSpectro FT-NIR ROCKET spectrometer and sent to Rekasa Rocks Inc. (Rekasa) or AusSpec International Ltd. (AusSpec), respectively, for interpretation. All samples for geochemical or clay analyses are shipped to Saskatoon by airfreight or ground transport. All samples for U_3O_8 assays are transported by land to the SRC laboratory by Denison personnel. A sample transmittal form is prepared that identifies each batch of samples. SRC performs sample preparation on all samples submitted. There is no sample preparation, apart from drying, involved for the samples sent for clay analyses.

GEOCHEMICAL SAMPLE PREPARATION PROCEDURES

SAMPLE RECEIVING

Samples are received at the SRC laboratory as either dangerous goods (qualified Transport of Dangerous Goods (TDG) personnel required) or as exclusive use only samples (no radioactivity documentation attached). On arrival, samples are assigned an SRC group number and are entered into the Laboratory Information Management System (LIMS).

All received sample information is verified by sample receiving personnel: sample numbers, number of pails, sample type/matrix, condition of samples, request for analysis, etc. The samples are then sorted by radioactivity level. A sample receipt and sample list is then generated and e-mailed to the appropriate authorized personnel at Denison. Denison is notified if there are any discrepancies between the paperwork and samples received.

SAMPLE SORTING

To ensure that there is no cross contamination between sandstone and basement, non-mineralized, low level, and high-level mineralized samples, they are sorted by their matrix and radioactivity level. Samples are firstly sorted in their group into matrix type (sandstone and basement/mineralized).

The samples are then checked for their radioactivity levels. Using a Radioactivity Detector System, the samples are classified into one of the following levels:

- "Red Line" (minimal radioactivity) <500 cps
- "1 Dot" 500 – 1,999 cps
- "2 Dots" 2000 – 2,999 cps
- "3 Dots" 3000 – 3,999 cps
- "4 Dots" 4000 – 4,999 cps
- "UR" (unreadable) >5,000 cps

The samples are then sorted into ascending sample numerical order and transferred to their matrix designated drying oven.

SAMPLE PREPARATION

After the drying process is complete, "Red line" and "1 Dot" samples are sent for further processing (crushing and grinding) in the main SRC laboratory. All radioactive samples at "2 Dots" or higher are sent to a secure radioactive facility at SRC for the same sample preparation. Plastic snap top vials are labelled according to sample numbers and sent with the samples to the appropriate crushing room. All highly radioactive materials are kept in a radioactive bunker until they can be transported by TDG trained individuals to the radioactivity facility for processing.

Rock samples are jaw crushed to 60% passing -2 mm. Samples are placed into the crusher (one at a time) and the crushed material is put through a splitter. The operator ensures that the distribution of the material is even, so there is no bias in the sampling. One portion of the material is placed into the plastic snap top vial and the other is put in the sample bag (reject). The first sample from each group is checked for crushing efficiency by screening the vial of rock through a 2 mm screen. A calculation is then carried out to ensure that 60% of the material is -2 mm. If the quality control (QC) check fails, the crushing is redone and checked for crushing efficiency; if it still fails, the QC department is notified and corrective action is taken.

The crusher, crusher catch pan, splitter, and splitter catch pan are cleaned between each sample using compressed air.

The reject material is returned to its original sample bag and archived in a plastic pail with the appropriate group number marked on the outside of the pail. The vials of material are then sent to grinding; each vial of material is placed in pots (six pots per grind) and ground for two minutes. The material is then returned to the vials. The operator shakes the vial to check the fineness of the material by looking for visible grains and listening for rattling. The sample is then screened through a 106 μm sieve, using water. The sample is then dried and weighed; to pass the grinding efficiency QC, there must be over 90% of the material at -106 μm. The material is then transferred to a labelled plastic snap top vial.

The pots are cleaned out with silica sand and blown out with compressed air at the start of each group. In the radioactive facility, the pots are cleaned with water. Once sample pulps are generated, they are returned to the main laboratory to be chemically processed prior to analysis. All containers are identified with sample information and their radioactivity status at all times. When the preparation is completed, the radioactive pulps are returned to a secure radioactive bunker, until they can be transported back to the radioactive facility. All rejected sample material not involved in the grinding process is returned to the original sample container. All highly radioactive materials are stored in secure radioactive designated areas.

Sample preparation methods for the samples used in the Gryphon and Phoenix Mineral Resource estimates meet or exceed industry standards.

ANALYTICAL METHODS

All assay core samples from Gryphon and Phoenix were analyzed by the ICP1 package offered by SRC. Composite geochemical samples, up to and including WR-269, were also analyzed using this method after which the method was changed to ICP-MS1 because of a lower detection limit.

METHOD: ICP1-URANIUM MULTI-ELEMENT EXPLORATION ANALYSIS BY ICP-OES

Method Summary: In ICP-OES analysis, the atomized sample material is ionized and the ions then emit light (photons) of a characteristic wavelength for each element, which is recorded by optical spectrometers. Calibrations against standard materials allow this technique to provide a quantitative geochemical analysis.

The analytical package includes 62 analytes (46 total digestion, 16 partial digestion), with nine analytes being analyzed for both partial and total digestions (Ag, Co, Cu, Mo, Ni, Pb, U, V, and Zn) plus boron. These samples are also sometimes analyzed for Au by fire assay.

Partial Digestion: For partial digestion analysis, samples were crushed to 60% -2 mm and a 100 g to 200 g sub-sample was split out using a riffler. The sub-sample pulverized to 90% -106 µm using a standard puck and ring grinding mill. The sample was then transferred to a plastic snap top vial. An aliquot of pulp is digested in a digestion tube in a mixture of HNO_3:HCl, in a hot water bath for approximately one hour, then diluted to 15 mL using de-ionized water. The samples were then analyzed using a Perkin Elmer ICP-OES instrument (models DV4300 or DV5300)

Total Digestion: An aliquot of pulp is digested to dryness in a hot block digestor system using a mixture of concentrated HF:HNO_3:$HClO_4$. The residue is dissolved in 15 mL of dilute HNO_3 and analyzed using the same instrument(s) as above.

METHOD: ICPMS1 - THE MULTI-ELEMENT DETERMINATION BY ICP-MS

Method Summary: The analytical package includes the analysis of 47 elements and oxides using a three acid (HF/HNO_3/$HClO_4$) "total" digestion and a suite of 42 elements using a two acid (HNO_3/HCl) "partial" digestion. Analysis of the lead isotopes (^{204}Pb, ^{206}Pb, ^{207}Pb, and ^{208}Pb) are also included in the package. Boron is determined by ICP-OES analysis after fusion with NaO_2/$NaCO_3$. PerkinElmer instruments (models Optima 300DV, Optima 4300DV, and Optima 5300DV) are currently in use. The samples generally analyzed by this package are non-radioactive, non-mineralized sandstones and basement rocks with low concentrations of uranium (<100 ppm).

Partial Digestion: An aliquot of pulp is digested in a mixture of ultra-pure concentrated nitric and hydrochloric acids (HNO_3:HCl) in a digestion tube in a hot water bath then diluted to 15 mL using de-ionized water prior to analysis. As, Ge, Hg, Sb, Se and Te are subject to partial digestion only, as these elements are not suited to total digestion analysis. The ICP-MS instruments used are PerkinElmer Elan DRC II.

Total Digestion: An aliquot of pulp is digested to dryness in a hot block digestor system using a mixture of ultra-pure concentrated acids HF:HNO_3:$HClO_4$. The residue is dissolved in 15 mL of 5% HNO_3 and made to volume using de-ionized water prior to analysis.

METHOD: U_3O_8 WT% ASSAY - THE DETERMINATION OF U_3O_8 WT% IN SOLID SAMPLES BY ICP-OES

Method Summary: When ICP1 U partial values are ≥1,000 ppm, sample pulps are re-assayed for U_3O_8 using SRC's ISO/IEC 17025:2005-accredited U_3O_8 (wt%) method. In the case of uranium assay by ICP-OES, a pulp is already generated from the first phase of preparation and assaying (discussed above).

Aqua Regia Digestion: An aliquot of sample pulp is digested in a 100 mL volumetric flask in a mixture of 3:1 HCl:HNO_3, on a hot plate for approximately one hour, then diluted to volume using de-ionized water. Samples are diluted prior to analysis by ICP-OES.

Instrument Analysis: Instruments in the analysis are calibrated using certified commercial solutions. The instruments used were PerkinElmer Optima 300DV, Optima 4300DV, or Optima 5300DV.

Detection Limits: 0.001% U_3O_8

METHOD: U_3O_8 WT% ASSAY - THE DETERMINATION OF U_3O_8 WT% IN SOLID SAMPLES BY DELAYED NEUTRON COUNTING

SRC in 2009 documented the method summary for the Delayed Neutron Counting (DNC) technique as follows. Samples previously prepared as pulps for ICP total digestion are used for the DNC analysis. The pulps are irradiated in a Slowpoke 2 nuclear reactor for a given period of time. After irradiation, the samples are pneumatically transferred to a counting system equipped with six helium-3 detectors. After a suitable delay period, neutrons emanating from the sample are counted. The proportion of delayed neutrons emitted is related to the uranium concentration. For low concentrations of uranium, a minimum of one gram of sample is preferred, and larger sample sizes (two to five grams) will improve precision. Several blanks and certified uranium standards are analyzed to establish the instrument calibration. In addition, control samples are analyzed with each batch of samples to monitor the stability of the calibration. At least one in every ten samples is analyzed in duplicate. The results of the instrument calibration, blanks, control samples, and duplicates must be within specified limits otherwise corrective action is required.

Analysis for uranium by DNC incorporates four separate flux/site conditions of varying sensitivity to produce an effective range of analysis from zero to 150,000 µg U per capsule (samples of up to 90% U can be analyzed by weighing a fraction of a gram to ensure that there is no more than 150,000 µg U in the capsule). Each condition is calibrated using between three and seven reference materials. For each condition, one of these materials is designated as a calibration check sample. As well, there is an independent control sample for each condition.

DRILL CORE BULK DENSITY ANALYSIS

Drill core samples collected for bulk density measurements were sent to SRC. Samples were first weighed as received and then submerged in de-ionized water and re-weighed. The samples were then dried until a constant weight was obtained. The sample was then coated with an impermeable layer of wax and weighed again while submersed in de-ionized water. Weights were entered into a database and the bulk density of each sample was calculated. Water temperature at the time of weighing was also recorded and used in the bulk density calculation.

REFLECTANCE CLAY ANALYSES

Prior to 2015, core chip samples for clay analysis were analyzed using a PIMA II spectrometer. This included all analyses performed on samples from the Phoenix deposit. Short wave infrared (SWIR) spectra were sent to Rekasa, a private facility in Saskatoon, for interpretation. Samples were air or oven dried prior to analysis in order to remove any excess moisture. Reflective spectra for the various clay minerals present in the sample were compared to the spectral results from Athabasca samples for which the clay mineral proportions have been determined in order to obtain a semi-quantitative clay estimate for each sample.

In 2015, core chip samples for clay reflectance analysis were analyzed using an ArcSpectro FT-NIR (Fourier transform near-infrared) ROCKET spectrometer. This included all analyses performed on samples from the Gryphon deposit. Sample collection and preparation is identical to procedures used for PIMA analysis. The transmission spectra of the reflectance samples were sent to AusSpec, based in New Zealand. The spectra are analyzed using an aiSIRIS automated spectral interpretation system. The mineral assemblage for each sample is listed in order of spectral dominance and represents the spectral contribution of the mineral to the spectrum. The results compared well with previous PIMA spectra interpretations undertaken by Rekasa.

QUALITY ASSURANCE AND QUALITY CONTROL

Quality assurance/quality control (QA/QC) programs provide confidence in the geochemical results and help ensure that the database is reliable to estimate Mineral Resources. Denison has developed and documented several QA/QC procedures and protocols for all exploration projects which include the following components:

1) Determination of precision – achieved by regular insertion of duplicates for each stage of the process where a sample is taken or split;

2) Determination of accuracy – achieved by regular insertion of standards or materials of known composition;

3) Checks for contamination – achieved by insertion of blanks.

RPA reviewed Denison's procedures and protocols and considers them to be reasonable and acceptable.

SAMPLE STANDARDS, BLANKS AND FIELD DUPLICATES

URANIUM ASSAY STANDARDS

Analytical standards are used to monitor analytical precision and accuracy, and field standards are used as an independent monitor of laboratory performance. Six uranium assay standards have been prepared for use in monitoring the accuracy of uranium assays received from the laboratory. Due to the radioactive nature of the standard material, insertion of the standard materials is preferable at SRC instead of in the field. During sample processing, the appropriate standard grade is determined, and an aliquot of the appropriate standard is inserted into the analytical stream for each batch of materials assayed.

Denison uses standards provided by its Wheeler River Joint Venture partner Cameco for uranium assays. Cameco standards are added to the sample groups by SRC personnel, using the standards appropriate for each group. As well, for each assay group, an aliquot of Cameco's blank material is also included in the sample run. In a run of forty samples, at least one will consist of a Cameco standard and one will consist of a Cameco blank. Accuracy of the analyses and values obtained relative to the standard values, based on the analytical results of the six reference standards used, is acceptable for Mineral Resource estimates. Chronological plots for the six standards are shown in Figures 11-1 to 11-6 with upper limit (UL) and lower limit (LL) being equal to the mean plus or minus three standard deviations respectively. Note in Figures 11-1 and 11-6 that the standards were changed during 2011.

FIGURE 11-1 USTD1 ANALYSES

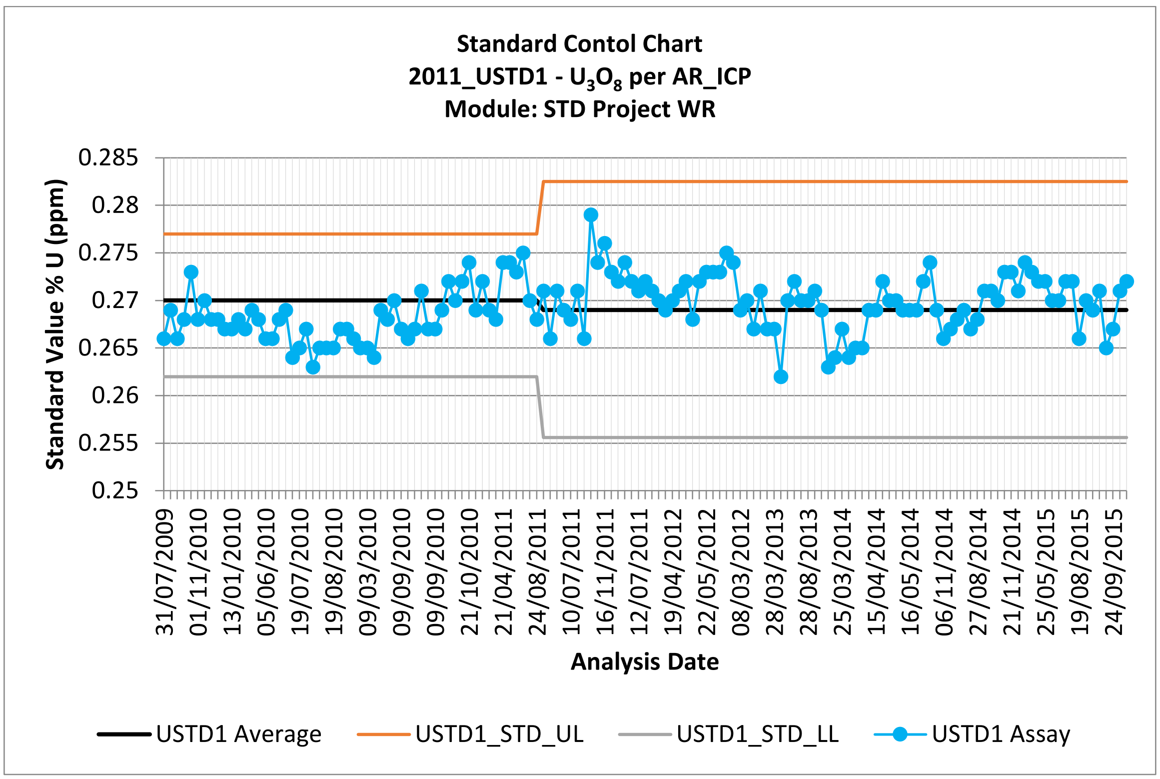


FIGURE 11-2 USTD2 ANALYSES

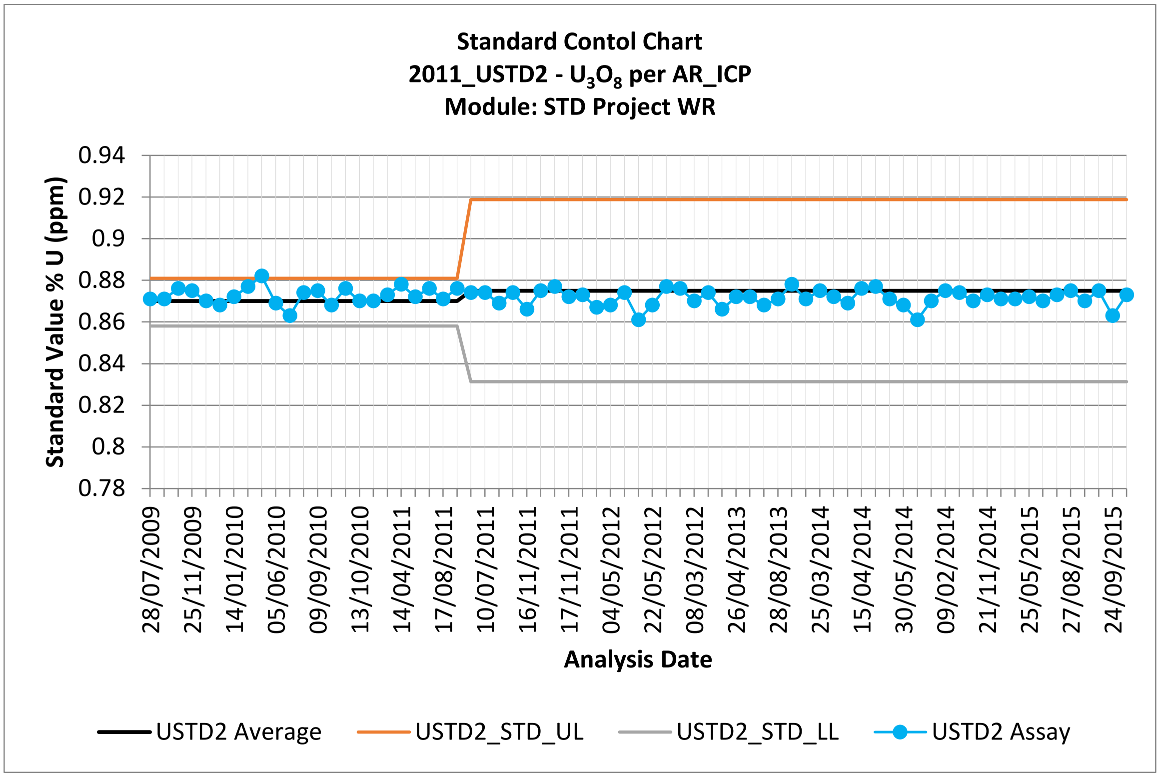


FIGURE 11-3 USTD3 ANALYSES

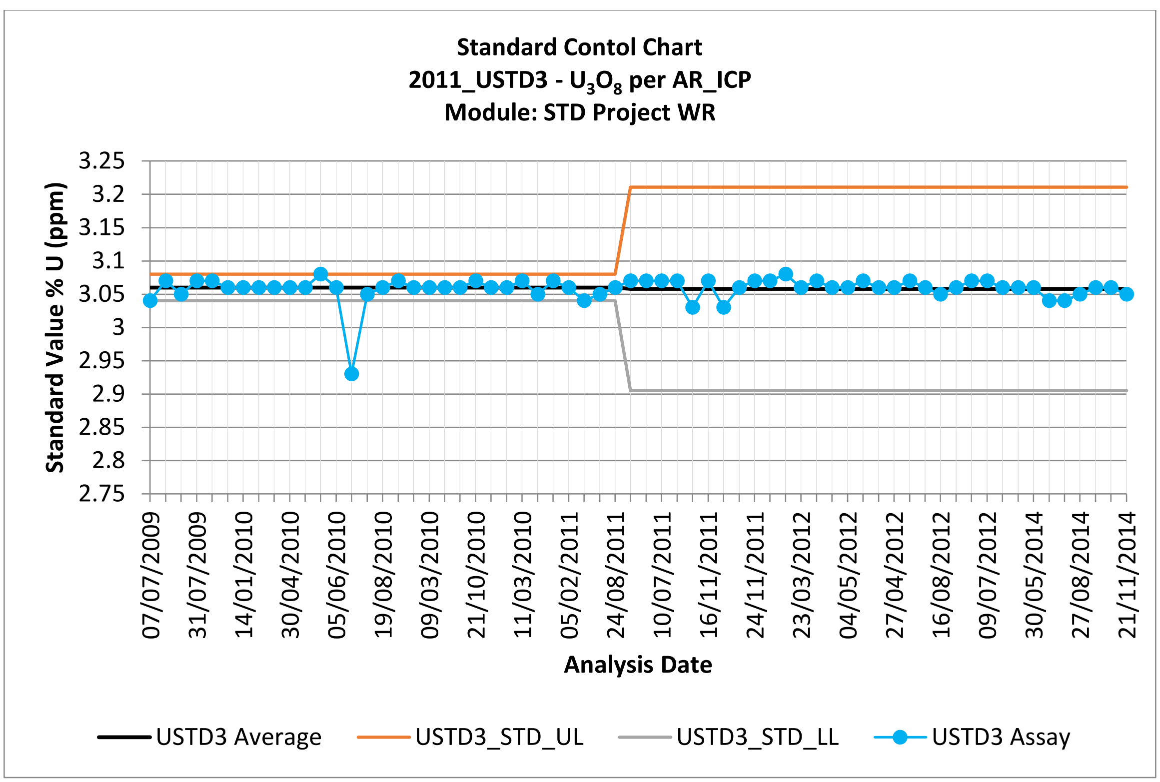


FIGURE 11-4 USTD4 ANALYSES

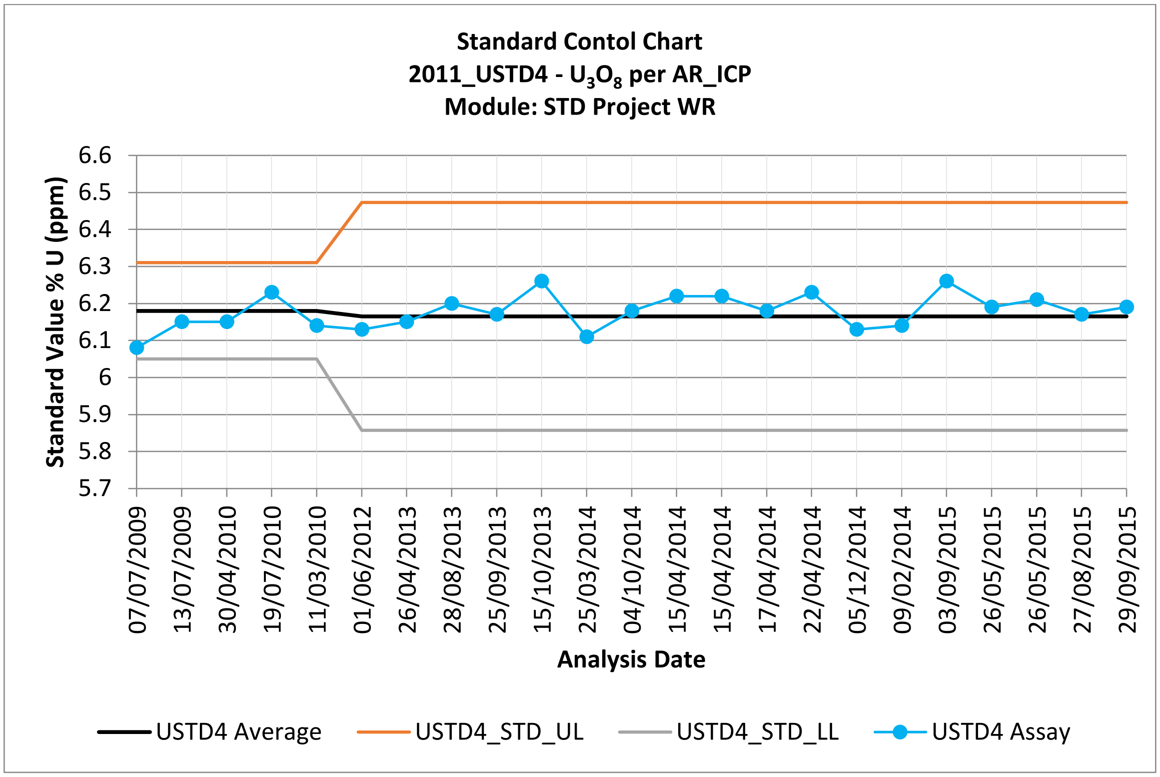


FIGURE 11-5 USTD5 ANALYSES

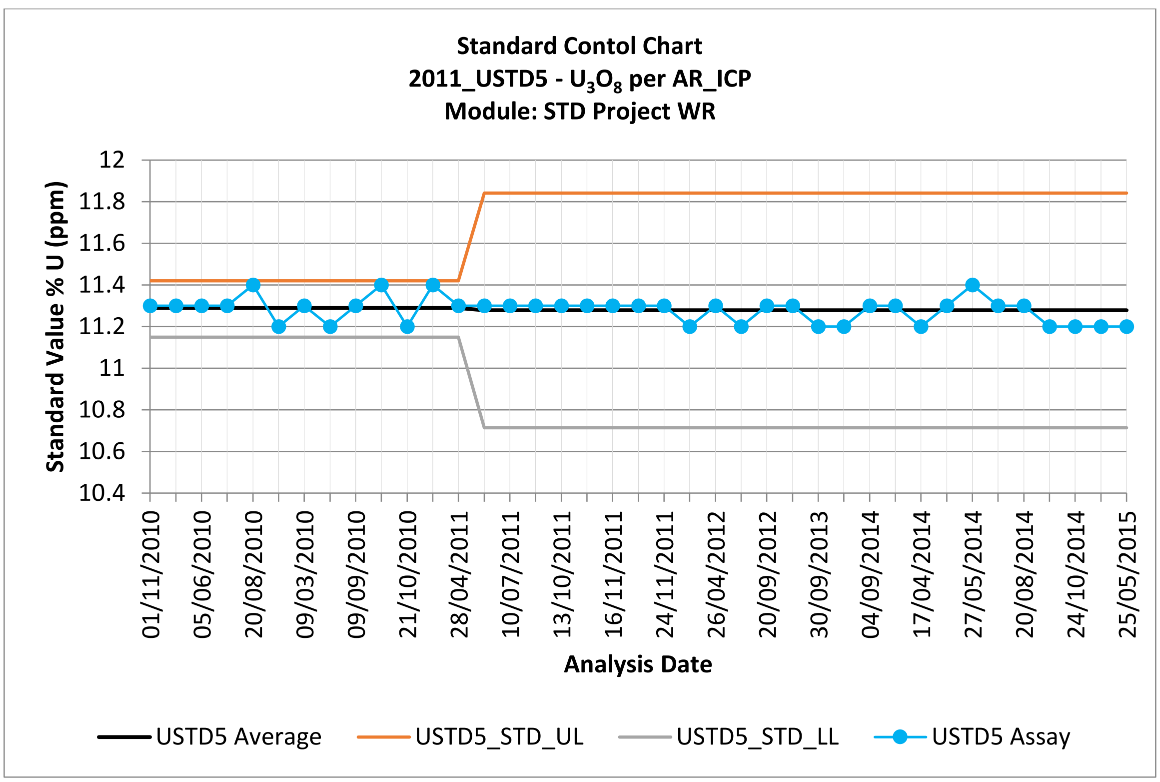
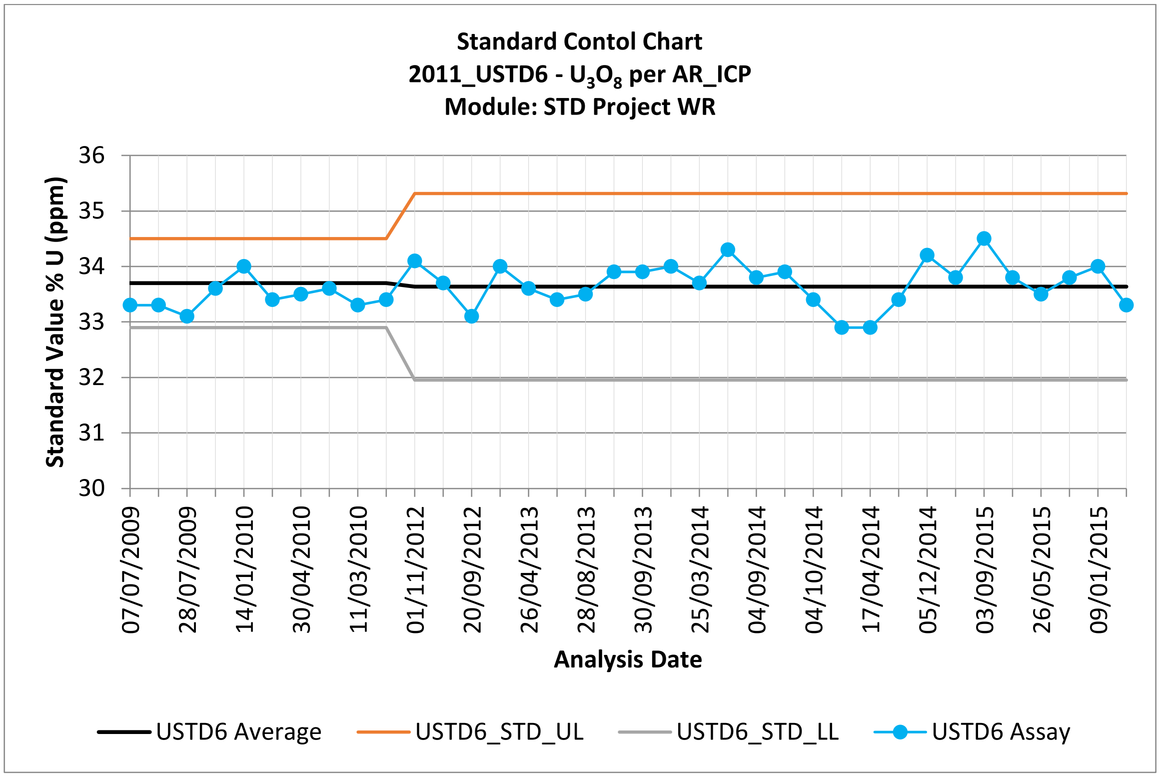


FIGURE 11-6 USTD6 ANALYSES



BLANKS

Denison employs a lithological blank composed of quartzite to monitor the potential for contamination during sampling, processing, and analysis. The selected blank consists of a material that contains lower contents of U_3O_8 than the sample material but is still above the detection limit of the analytical process. Due to the sorting of the samples submitted for assay by SRC based on radioactivity, the blanks employed must be inserted by the SRC after this sorting takes place, in order to ensure that these materials are ubiquitous throughout the range of analytical grades. In effect, if the individual geologists were to submit these samples anonymously, they would invariably be relegated to the minimum radioactive grade level, preventing their inclusion in the higher radioactive grade analyses performed by SRC. Figure 11-7 shows results of analyses of blank samples. It can be seen that most are below the upper limit of 0.013% U_3O_8, with a maximum analysis of 0.024% U_3O_8.

FIELD ASSAY DUPLICATES

Analyses of duplicate samples are a mandatory component of quality control. Duplicates are used to evaluate the field precision of analyses received, and are typically controlled by rock heterogeneity and sampling practices. Core duplicates are prepared by collecting a second sample of the same interval, through splitting the original sample, or other similar technique, and are submitted as an independent sample. Duplicates are typically submitted at a minimum rate of one per 20 samples in order to obtain a collection rate of 5%. The collection may be further tailored to reflect field variation in specific rock types or horizons. Figure 11-8 shows results of analyses of field core duplicates plotted against original analyses. It can be seen that results are satisfactory with a correlation coefficient of 98%.

FIGURE 11-7 BLANK SAMPLE ANALYSES RESULTS

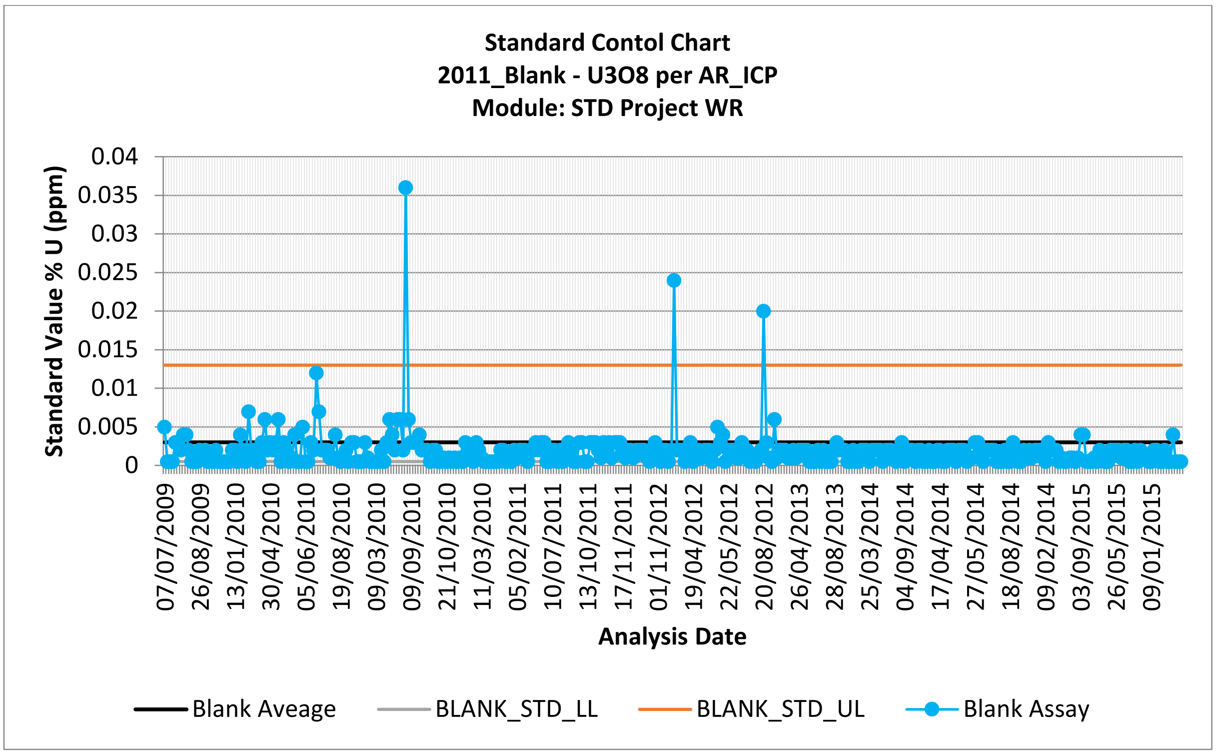
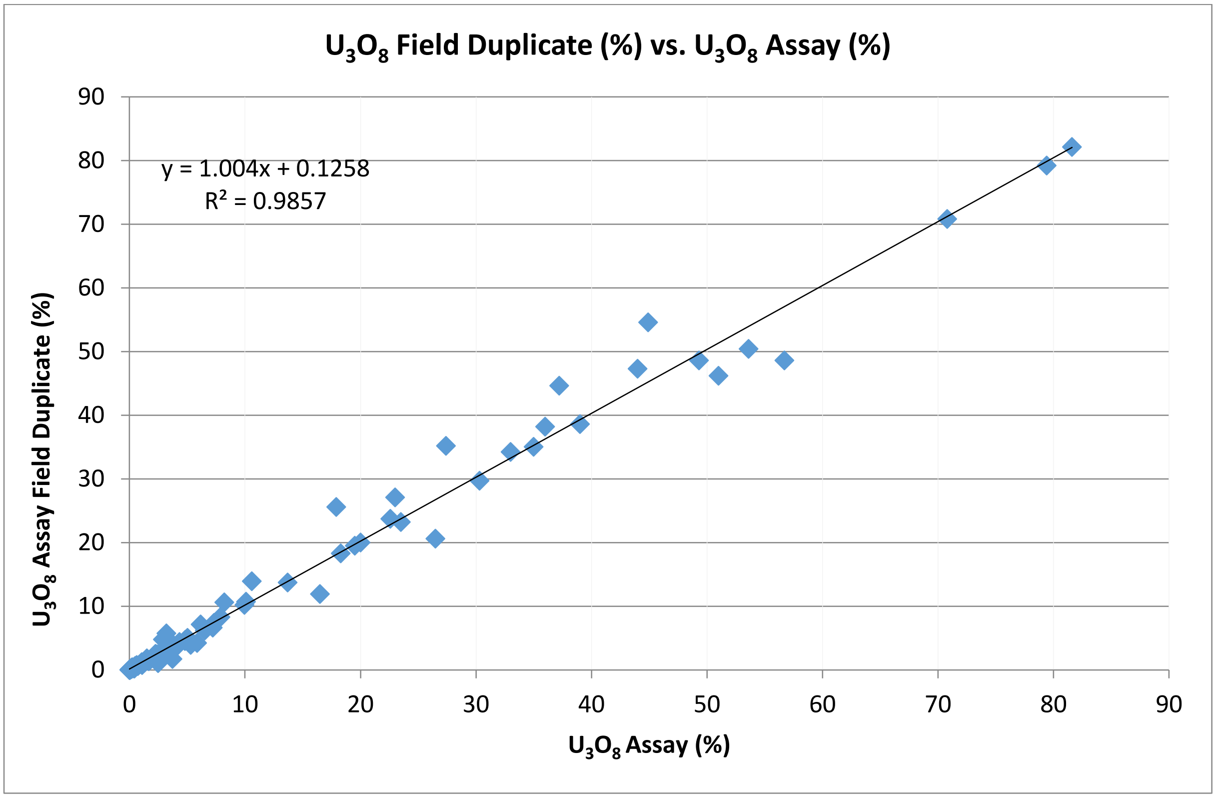


FIGURE 11-8 FIELD DUPLICATE ANALYSES



SRC INTERNAL QA/QC PROGRAM

The SRC laboratory has a Quality Assurance program dedicated to active evaluation and continual improvement in the internal quality management system. The laboratory is accredited by the Standards Council of Canada as an ISO/IEC 17025 Laboratory for Mineral Analysis Testing and is also accredited ISO/IEC 17025:2005 for the analysis of U_3O_8. The laboratory is licensed by the Canadian Nuclear Safety Commission (CNSC) for possession, transfer, import, export, use, and storage of designated nuclear substances by CNSC Licence Number 01784-1-09.3. As such, the laboratory is closely monitored and inspected by the CNSC for compliance.

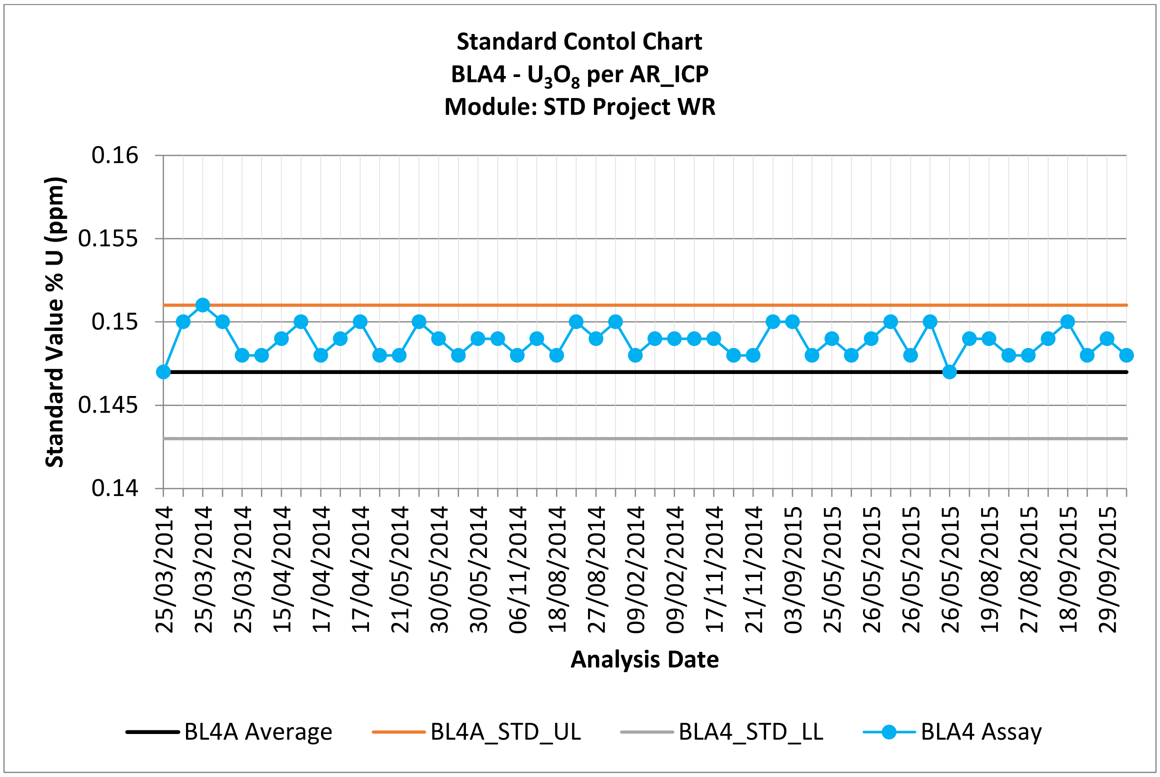
All analyses are conducted by SRC, which has specialized in the field of uranium research and analysis for over 30 years.

SRC is an independent laboratory, and no associate, employee, officer, or director of Denison is, or ever has been, involved in any aspect of sample preparation or analysis on samples from the Gryphon or Phoenix deposits.

The SRC uses a Laboratory Management System (LMS) for Quality Assurance. The LMS operates in accordance with ISO/IEC 17025:2005 (CAN-P-4E) "General Requirements for the Competence of Mineral Testing and Calibration Laboratories" and is also compliant to CAN-P-1579 "Guidelines for Mineral Analysis Testing Laboratories". The laboratory continues to participate in proficiency testing programs organized by CANMET (CCRMP/PTP-MAL).

All instruments are calibrated using certified materials. Quality control samples were prepared and analyzed with each batch of samples. Within each batch of 40 samples, one to two quality control samples were inserted. Five U_3O_8 reference standards are used: BLA2, BL3, BL4A (Figure 11-9), BL5, and SRCUO2 which have concentrations of 0.502%, 1.21% U_3O_8, 0.148% U_3O_8, 8.36% U_3O_8, and 1.58% U_3O_8, respectively. One in every 40 samples is analyzed in duplicate; the reproducibility of this is 5%. Before the results leave the laboratory, the standards, blanks, and split replicates are checked for accuracy, and issued provided the senior scientist is fully satisfied. If for any reason there is a failure in an analysis, the sub-group affected will be re-analyzed, and checked again. A Corrective Action Report will be issued and the problem is investigated fully to ensure that any measures to prevent the re-occurrence can and will be taken. All human and analytical errors are, where possible, eliminated. If the laboratory suspects any bias, the samples are re-analyzed and corrective measures are taken.

FIGURE 11-9 BLA4 ANALYSES



Quality control samples (reference materials, blanks, and duplicates) are included with each analytical run, based on the rack sizes associated with the method. The rack size is the number of samples (including QC samples) within a batch. Blanks are inserted at the beginning, standards are inserted at random positions, and duplicates are analyzed at the end of the batch. Quality control samples are inserted based on the analytical rack size specific to the method (Table 11-1).

TABLE 11-1 QUALITY CONTROL SAMPLE ALLOCATIONS
Denison Mines Corp. – Wheeler River Property

Rack Size	Methods	Quality Control Sample Allocation
20	Specialty methods including specific gravity, bulk density, and acid insolubility	2 standards, 1 duplicate, 1 blank
28	Specialty fire assay, assay-grade, umpire and concentrate methods	1 standard, 1 duplicate, 1 blank
40	Regular AAS, ICP-AES and ICP-MS methods	2 standards, 1 duplicate, 1 blank
84	Regular fire assay methods	2 standards, 3 duplicates, 1 blank

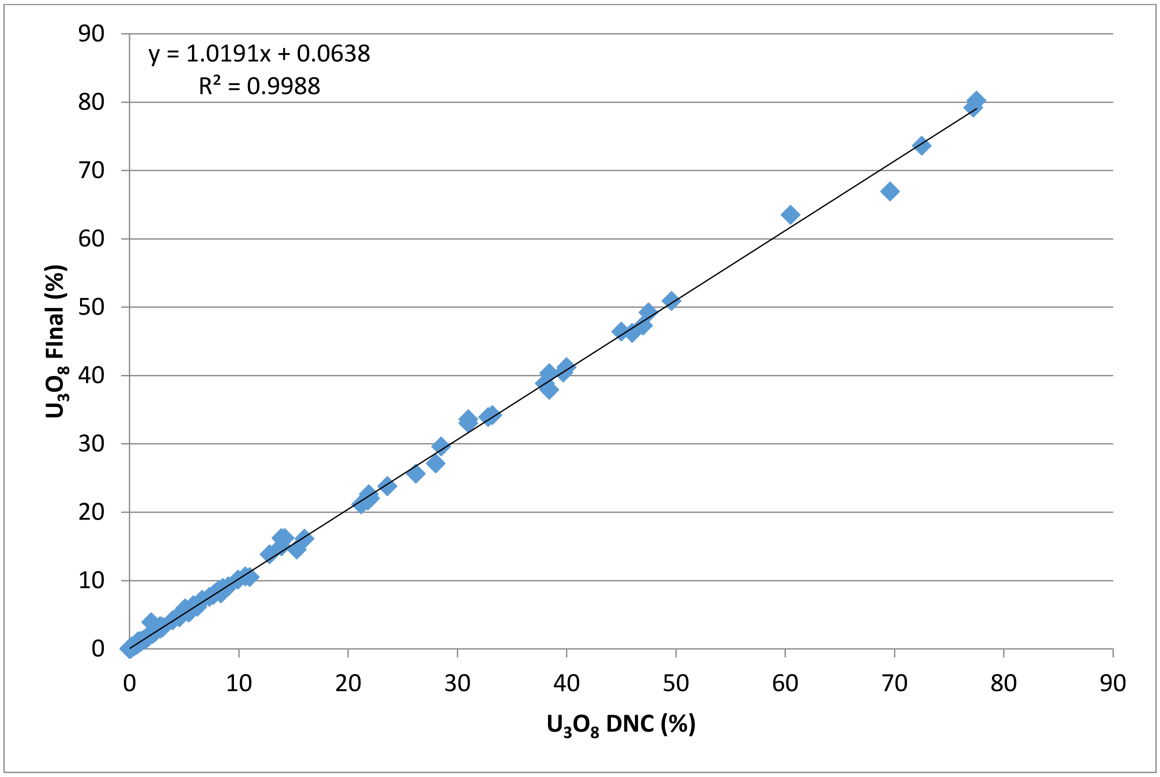
EXTERNAL LABORATORY CHECK ANALYSIS

In addition to the QA/QC described above, Denison sends one in every 25 samples to the SRC's Delayed Neutron Counting (DNC) laboratory, a separate facility located at SRC Analytical Laboratories in Saskatoon, to compare the uranium values using two different methods, by two separate laboratories.

The DNC method is specific for uranium and no other elements are analyzed by this technique. The DNC system detects neutrons emitted by the fission of U-235 in the sample, and the instrument response is compared to the response from known reference materials to determine the concentration of uranium in the sample. In order for the analysis to work, the uranium must be in its natural isotopic ratio. Enriched or depleted, uranium cannot be analyzed accurately by DNC.

There are 85 assay pairs that used both ICP-OES Total Digestion and the DNC assay technique. Figure 11-10 shows the correlation between the SRC Geoanalytical and the SRC DNC laboratories. It can be seen that correlation is excellent. Uranium grades obtained with the DNC technique were used only as check assays and were not directly used for Mineral Resource estimation.

FIGURE 11-10 U_3O_8 DNC VERSUS ICP-OES ASSAY VALUES



SECURITY AND CONFIDENTIALITY

SRC considers customer confidentially and security to be of utmost importance and takes appropriate steps to protect the integrity of sample processing at all stages from sample storage and handling to transmission of results. All electronic information is password protected and backed up on a daily basis. Electronic results are transmitted with additional security features. Access to SRC's premises is restricted by an electronic security system. The facilities at the main laboratory are regularly patrolled by security guards 24 hours a day.

After the analyses are completed, analytical data are securely sent using electronic transmission of the results, by SRC to Denison. The electronic results are secured using WINZIP encryption and password protection. These results are provided as a series of Adobe PDF files containing the official analytical results and a Microsoft Excel spreadsheet file containing only the analytical results.

In RPA's opinion, sample preparation, security, and analytical procedures meet industry standards, and the QA/QC program as designed and implemented by Denison is adequate;

consequently, the assay results within the drill hole database are suitable for use in a Mineral Resource estimate.

12 DATA VERIFICATION

RPA reviewed and verified the resource database used to estimate the Mineral Resources for both the Phoenix and Gryphon deposits. The verification included a review of the QA/QC methods and results, verifying assay certificates against the database assay table, standard database validation tests, and two site visits.

Denison has developed and documented several QA/QC procedures and protocols for all exploration projects operated by Denison. The review of the QA/QC program and results is presented in Section 11, Sample Preparation, Analyses and Security. RPA reviewed Denison's procedures and protocols and considers them to be reasonable and acceptable

SITE VISIT AND CORE REVIEW

Dr. Roscoe visited the Property on June 16, 2014 in connection with the Phoenix deposit Mineral Resource estimate and held discussions with technical personnel in RPA's Toronto office on May 4, 2014. Mr. Mathisen visited the Property on March 23 to 25, 2015, during the winter drill program in connection with the Gryphon Mineral Resource estimate. RPA visited several drill sites and reviewed all core handling, logging, sampling, and storage procedures. RPA examined core from several drill holes and compared observations with assay results and descriptive log records made by Denison geologists. As part of the review, RPA verified the occurrences of mineralization visually and by way of a hand-held scintillometer.

DATABASE VALIDATION

RPA conducted audits of historic records to ensure that the grade, thickness, elevation, and location of uranium mineralization used in preparing the current uranium resource estimate correspond to mineralization. RPA performed the following digital queries. No significant issues were identified.

- Header table: searched for incorrect or duplicate collar coordinates and duplicate hole IDs.
- Survey table: searched for duplicate entries, survey points past the specified maximum depth in the collar table, and abnormal dips and azimuths.

- Core recovery table: searched for core recoveries greater than 100% or less than 80%, overlapping intervals, missing collar data, negative widths, and data points past the specified maximum depth in the collar table.

- Lithology and Probe tables: searched for duplicate entries, intervals past the specified maximum depth in the collar table, overlapping intervals, negative widths, missing collar data, missing intervals, and incorrect logging codes.

- Geochemical and assay table: searched for duplicate entries, sample intervals past the specified maximum depth, negative widths, overlapping intervals, sampling widths exceeding tolerance levels, missing collar data, missing intervals, and duplicated sample IDs.

INDEPENDENT VERIFICATION OF ASSAY TABLE

The assay table contains 3,233 laboratory records. RPA verified approximately 1,010 records representing 30% of the data for uranium values against 39 different laboratory certificates. No discrepancies were found.

Based on the data validation by Denison and RPA and the results of the standard, blank, and duplicate analyses, RPA is of the opinion that the assay database is of sufficient quality for Mineral Resource estimation.

DISEQUILIBRIUM

Radioactive isotopes lose energy by emitting radiation and transition to different isotopes in a "decay series" or "decay chain" until they eventually reach a stable non-radioactive state. Decay chain isotopes are referred to as "daughters" of the "parent" isotope. When all the decay products are maintained in close association with uranium-238 for the order of a million years, the daughter isotopes will be in equilibrium with the parent. Disequilibrium occurs when one or more decay products is dispersed as a result of differences in solubility between uranium and its daughters, and/or escape of radon gas.

Knowledge of, and correction for, disequilibrium is important for deposits for which the grade is measured by gamma-ray probes, which measure daughter products of uranium. Disequilibrium is considered positive when there is a higher proportion of uranium present compared to daughters. This is the case where decay products have been transported elsewhere or uranium has been added by, for example, secondary enrichment. Positive disequilibrium has a disequilibrium factor which is greater than 1.0. Disequilibrium is considered negative where daughters are accumulated and uranium is depleted. This so called "negative" disequilibrium has a disequilibrium factor of less than 1.0 but not less than zero.

Disequilibrium is determined by comparing uranium grades measured by chemical analyses with the "gamma only" radiometric grade of the same samples measured in a laboratory. There are practical difficulties in comparing chemical analyses of uranium from drill hole samples with corresponding values from borehole gamma logging, because of the difference in sample size between drill core (average grades in core or chip samples) and radiometric probe measurements (gamma response from spheres of influence up to one metre in diameter). Also, any probe calibration (and/or assay) error can be misinterpreted as disequilibrium. If the gamma radiation emitted by the daughter products of uranium is in balance with the actual uranium content of the measured interval (assay), then uranium grade can be calculated solely from the gamma intensity measurement.

Denison routinely compares borehole natural gamma data to chemical assays as part of its QA/QC program as illustrated in the example in Figures 12-1 to 12-9 (Phoenix) and Figures 12-10 to 12-13 (Gryphon). The downhole depths for gamma results in Figures 12-1 to 12-13 have not been corrected for depth so they do not correspond exactly to the chemical assay depths. Reasonable uranium grades can be calculated from the triple gamma probe (Geiger Mueller, or GM, tube) empirical data up to 80%. Above 80%, the counts (the maximum count rate is about 3,500 cps) increase very little with increased grades due to the physical characteristics of the GM tube (Sweet and Petrie 2010). In general, radiometric grades are somewhat lower than chemical assay grades because:

- The GM tube can become saturated at very high grades and it cannot count any higher.
- Some gamma rays are captured by the uranium, converted to photons, and absorbed (self-absorption), i.e., they are not available to the detector.

Denison and RPA carried out a check of the digital probe database used for resource estimation by verifying the resource database against original assay data. Denison and RPA concluded that in instances where core recovery was less than 80%, radiometric data could be substituted for chemical assays and that the assay database was of sufficient quality for Mineral Resource estimation.

FIGURE 12-1 WR-318 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

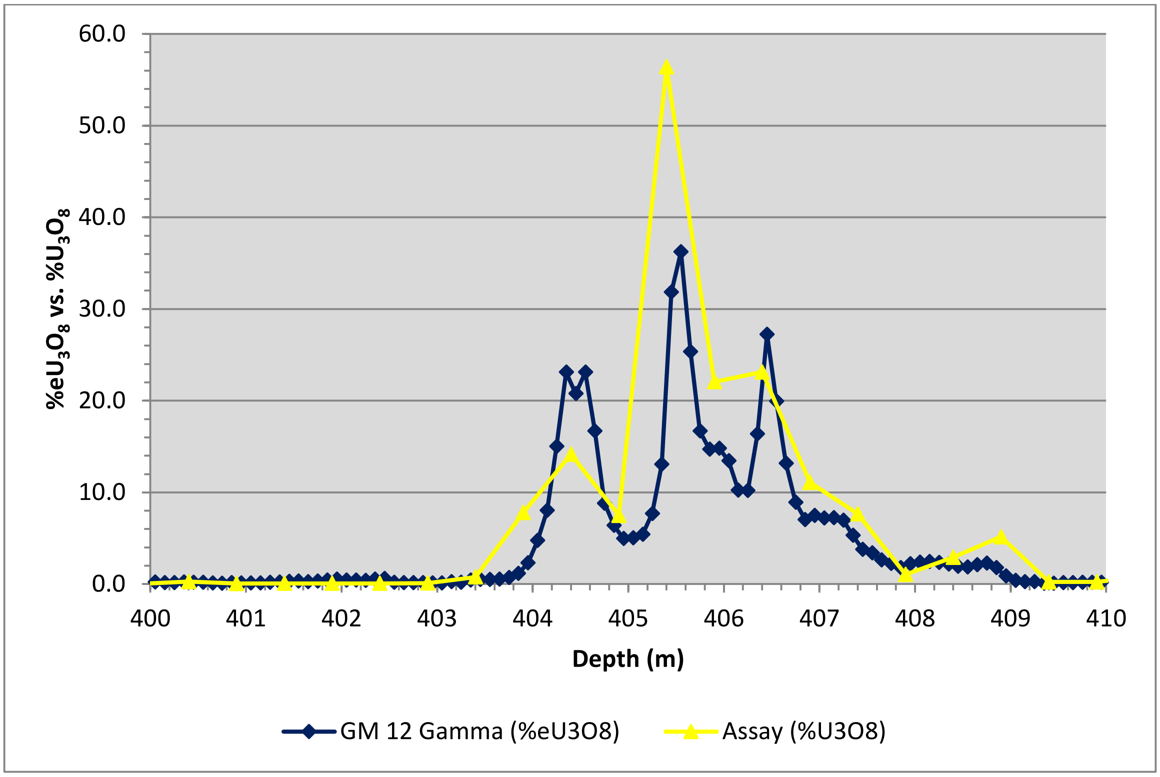


FIGURE 12-2 WR-334 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

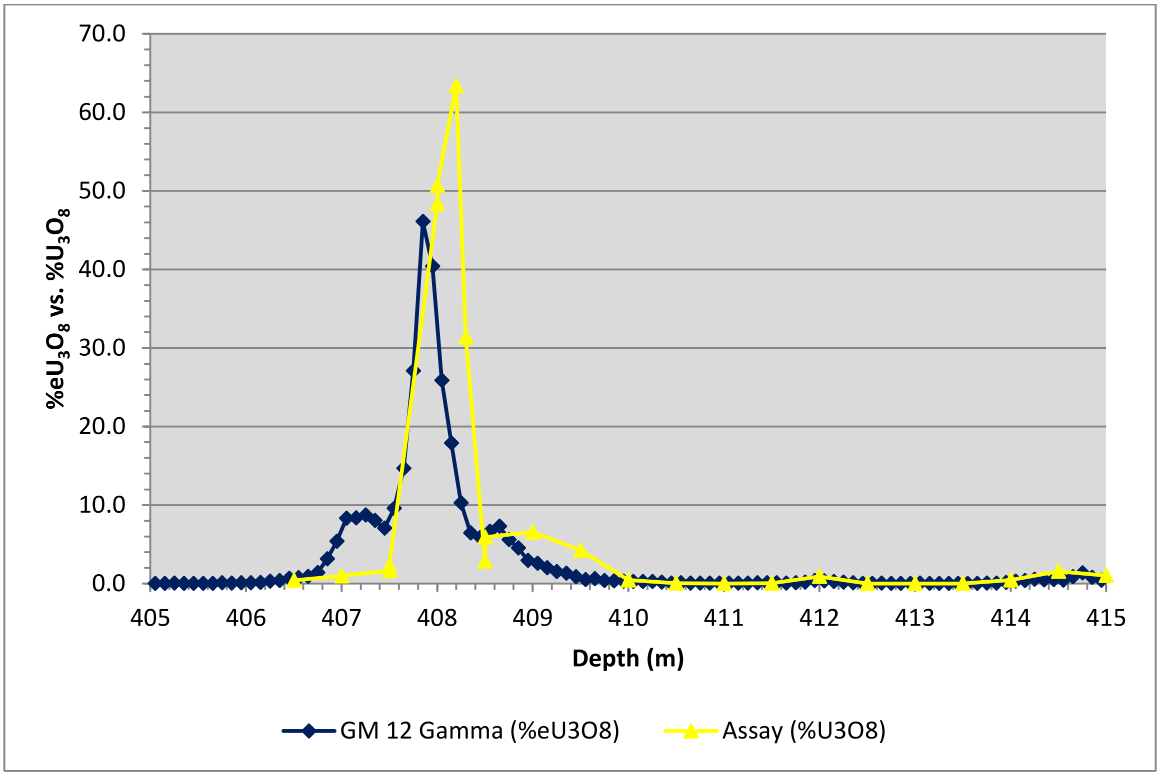


FIGURE 12-3 WR-273 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

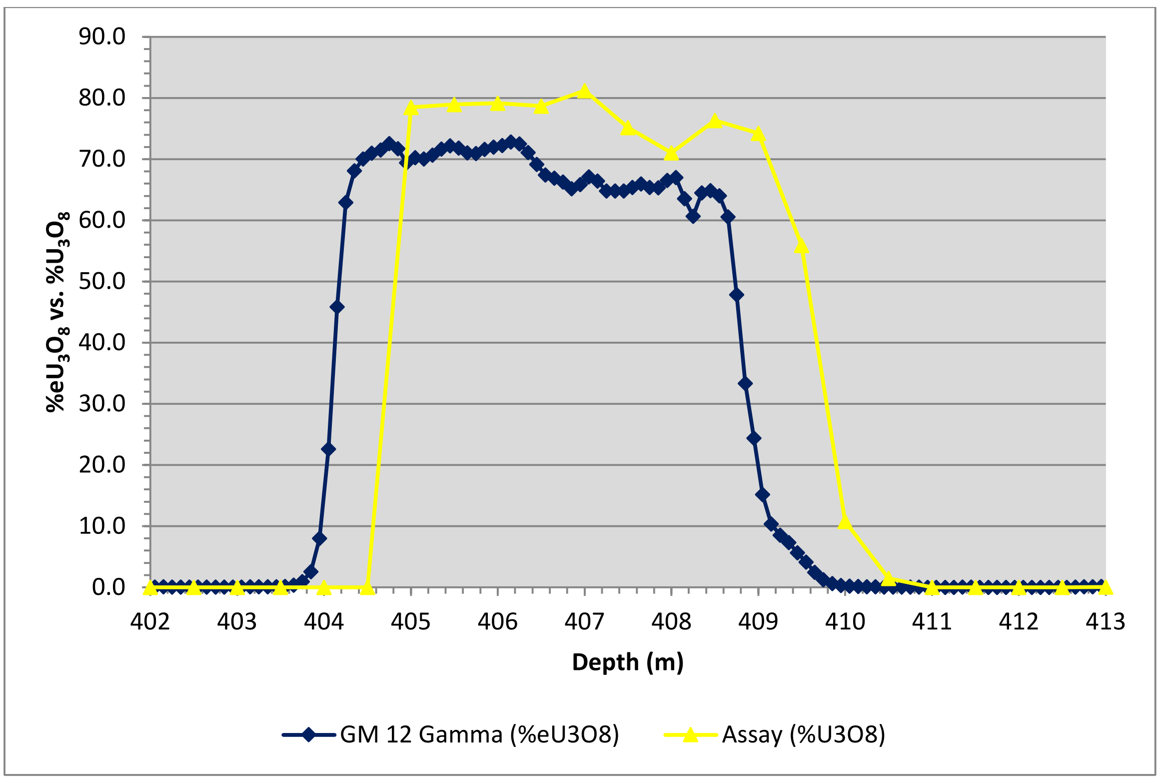


FIGURE 12-4 WR-435 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

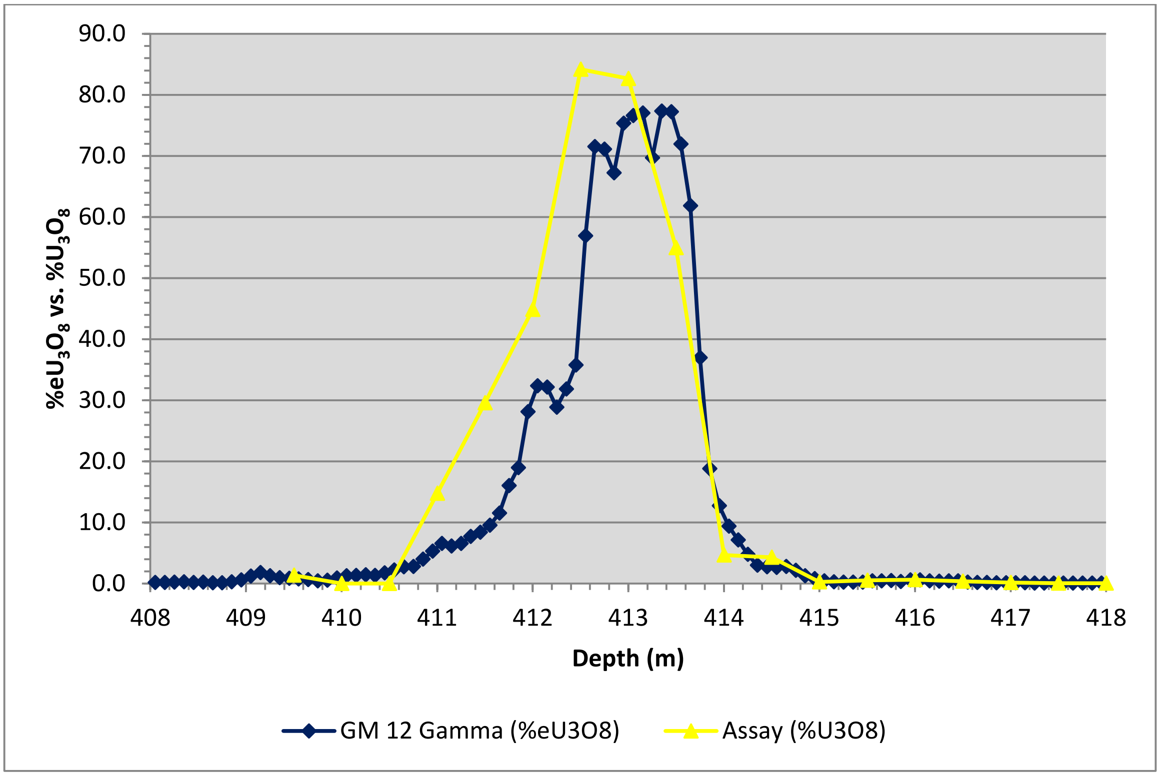


FIGURE 12-5 WR-548 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

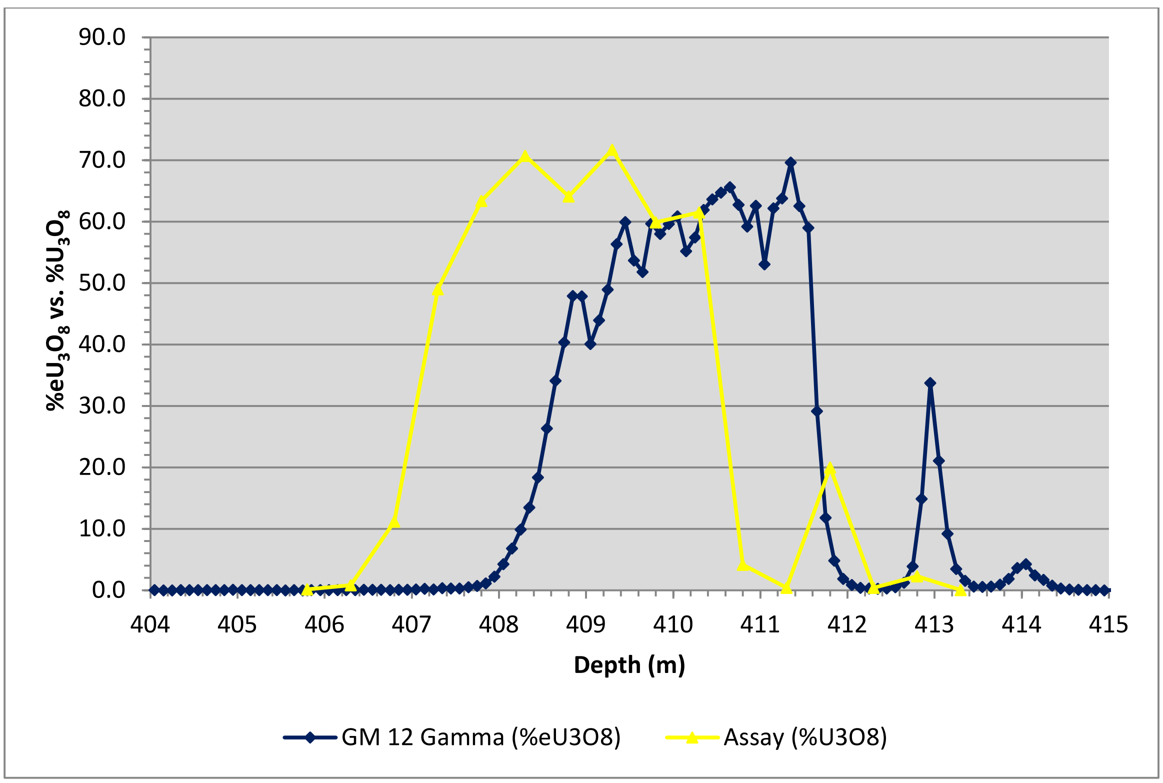


FIGURE 12-6 WR-525 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

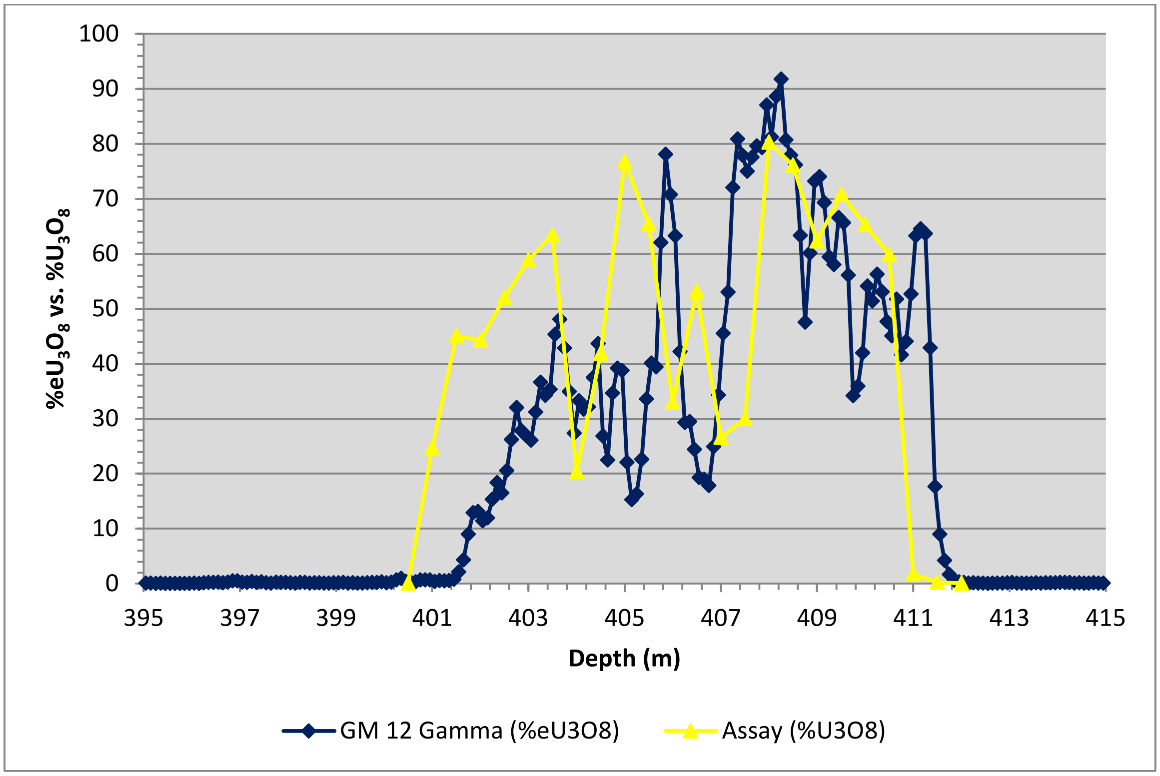


FIGURE 12-7 WR-401 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

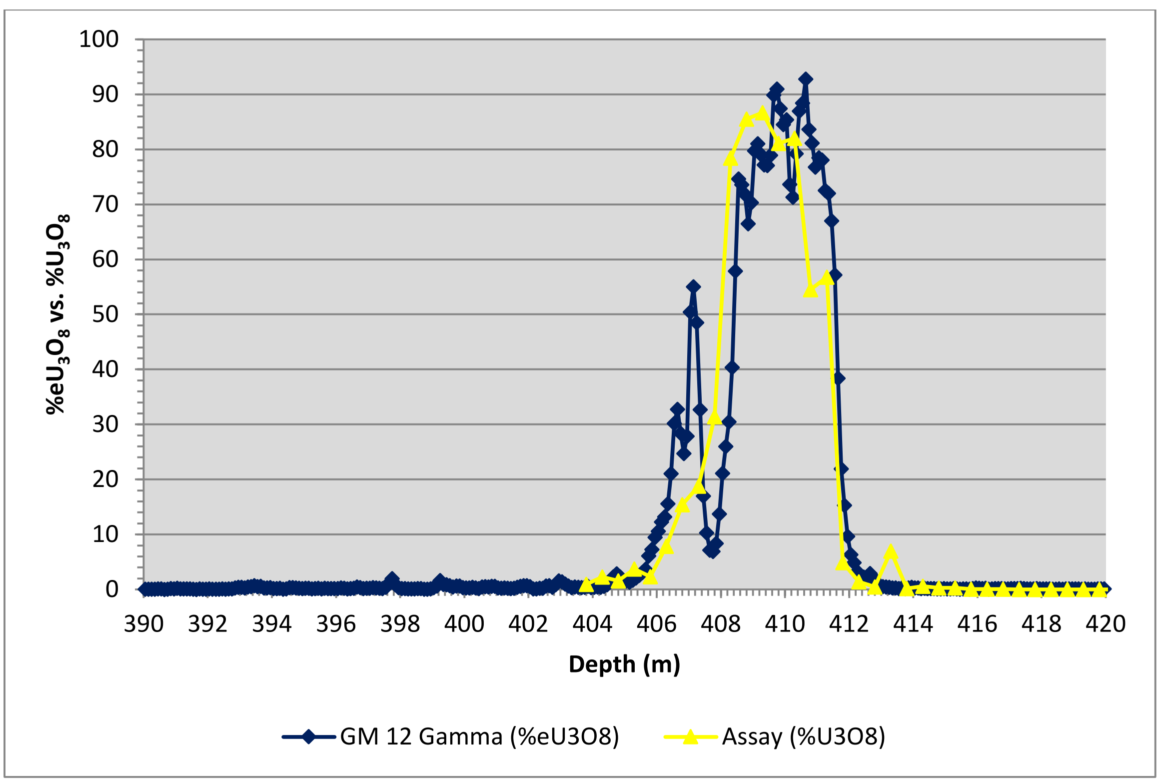


FIGURE 12-8 WR-306 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

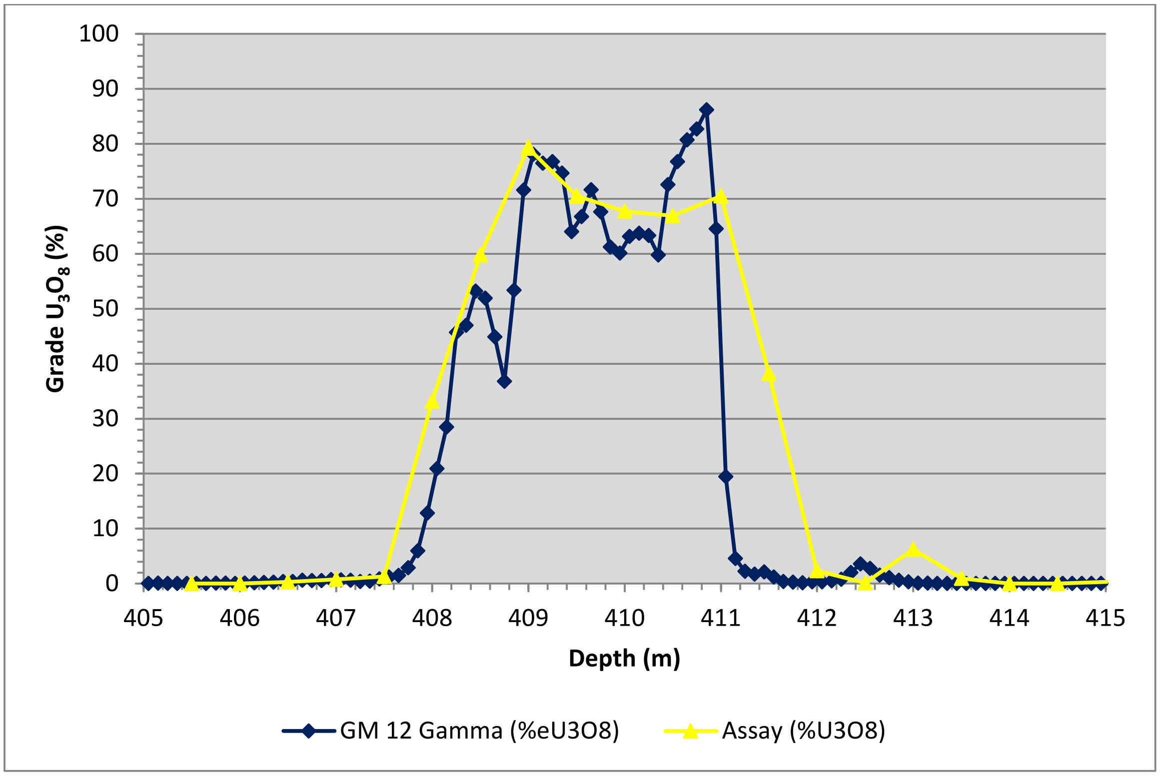


FIGURE 12-9 WR-539 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

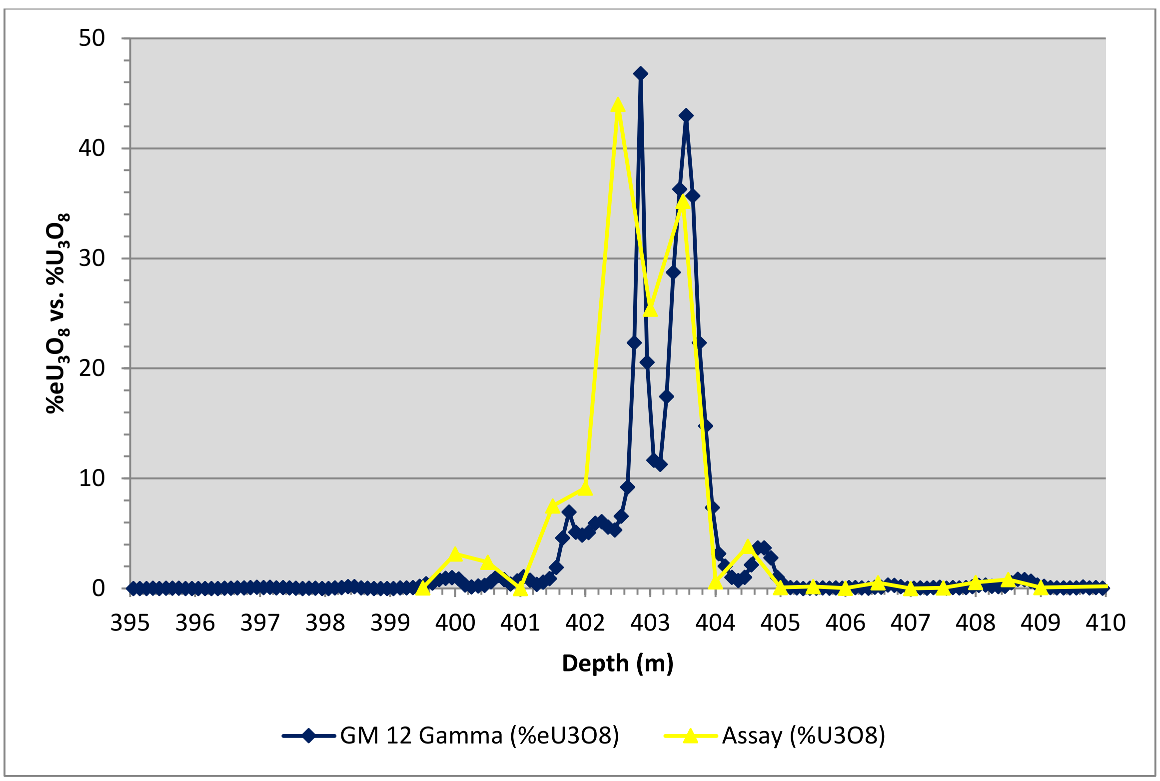


FIGURE 12-10 WR-560 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

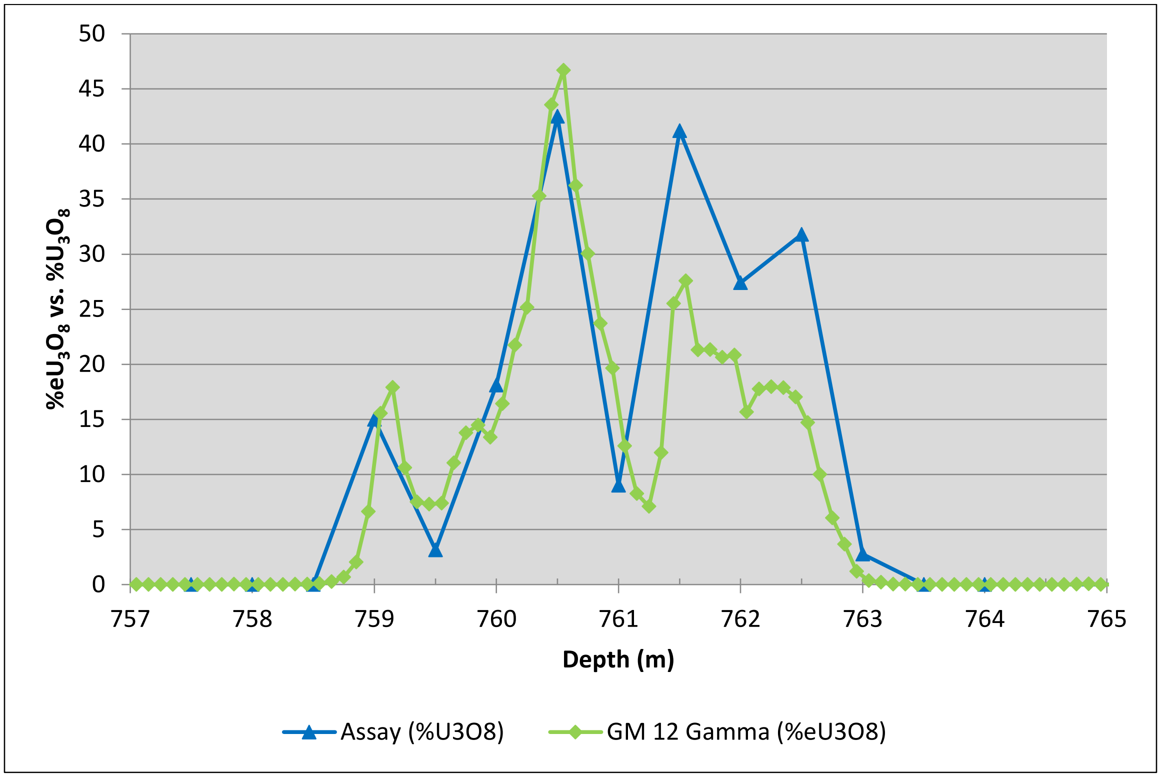


FIGURE 12-11 WR-573D1 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

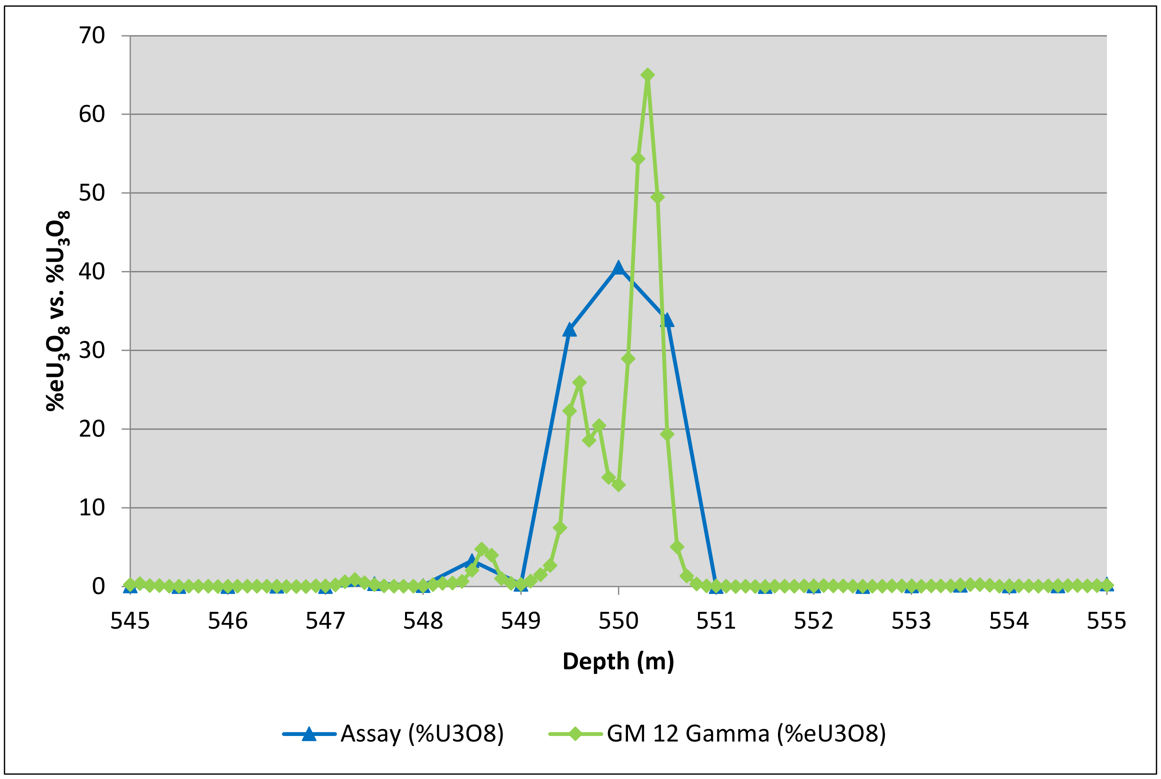


FIGURE 12-12 WR-582 RADIOMETRIC VS. ASSAY % U_3O_8 VALUES

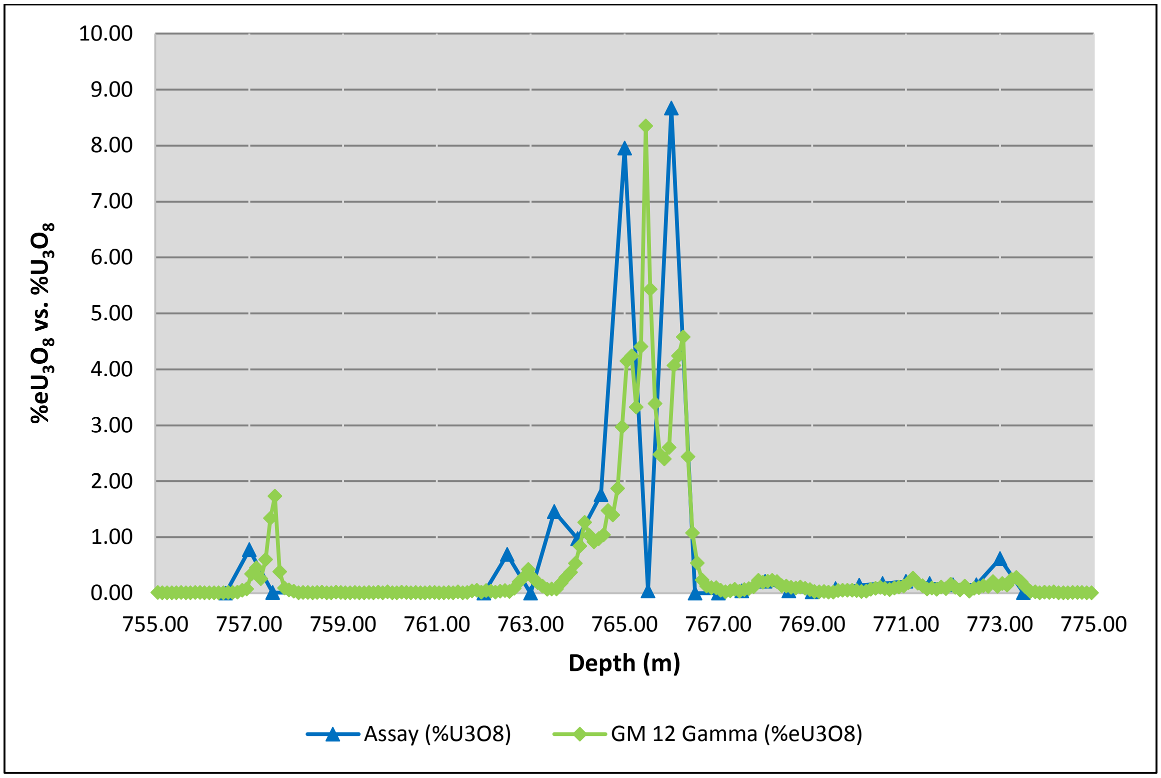
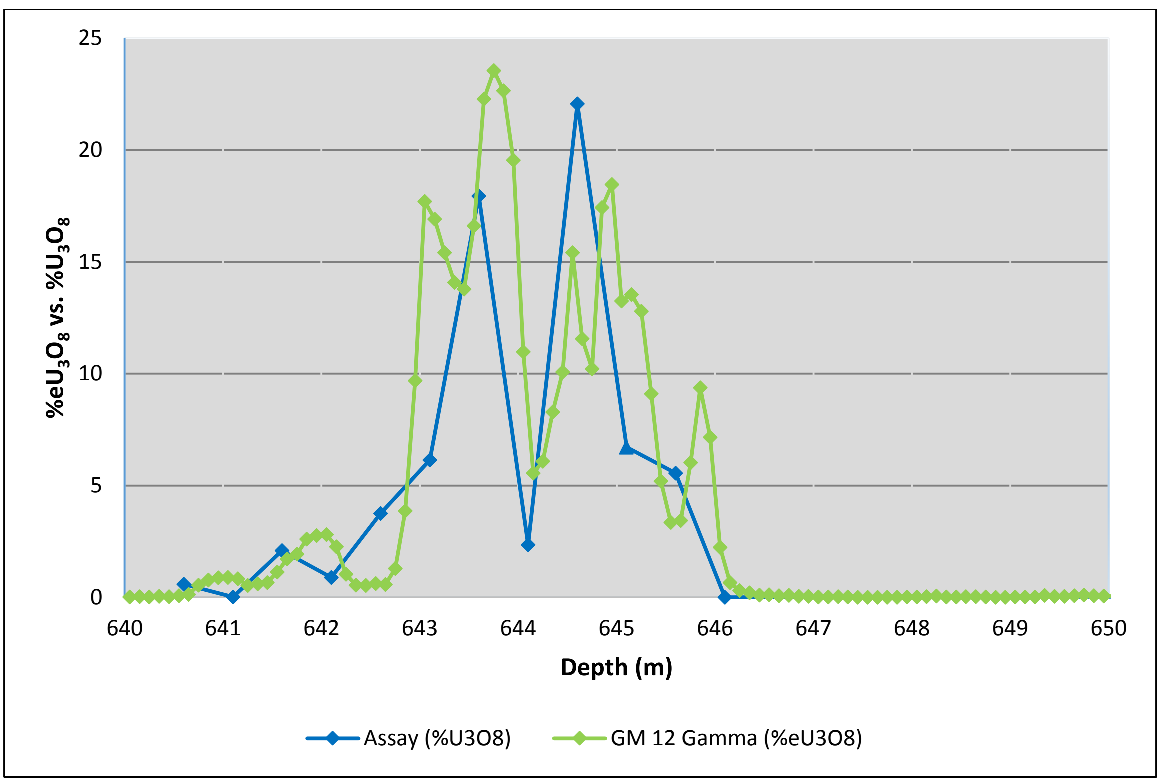


FIGURE 12-13 WR-584B RADIOMETRIC VS. ASSAY % U_3O_8 VALUES



13 MINERAL PROCESSING AND METALLURGICAL TESTING

Preliminary metallurgical testing was carried out on a composite sample from the Phoenix deposit by the Saskatchewan Research Council in Saskatoon under the direction of Chuck Edwards, Director of Metallurgy at AMEC Americas Limited. A representative composite sample consisting of 17.5 kg of split drill core from the Phoenix deposit was subjected to QEMSCAN analysis, preliminary sulphuric acid leaching tests, leach residue settling tests, solvent extraction tests, and a yellowcake production test. The grade of the sample was 19.7% U_3O_8, approximately the same as the average grade of the deposit.

Key points from the test work are summarized below:

- Uraninite is the primary uranium mineral.
- Deleterious element concentrations are very low.
- Over 95% of the uraninite was exposed in all size fractions, indicating that a relatively coarse grind can be planned for leaching.
- Leach tests suggest that over 99.5% of the uranium can be extracted in 8-12 hours at a temperature of 50°C, atmospheric pressure, and addition of an oxidant.
- Acid consumption was low at 1.6-1.7 kg/lb U_3O_8.
- Solvent extraction is effective to selectively extract and purify uranium.
- A high purity yellowcake product was produced that met all ASTM C967-13 specifications.

Preliminary metallurgical testing for the Gryphon deposit is near finalization. The Gryphon deposit is expected to have similar high extraction efficiencies based on observation of drill core, petrographic work, and geochemical data.

14 MINERAL RESOURCE ESTIMATE

RPA has estimated Mineral Resources for the Phoenix and Gryphon deposits based on results of several surface diamond drilling campaigns from 2008 to 2015. The Phoenix deposit consists of zone A and zone B at the Athabasca unconformity, and zone A basement mineralization which is immediately below the north part of zone A. The Gryphon deposit consists of several stacked lenses in the basement, and is located approximately three kilometres northwest of the Phoenix deposit.

Table 14-1 summarizes the Mineral Resource estimate, of which Denison's share is 60%. The effective date of the Mineral Resource estimate is September 25, 2015. The Mineral Resource estimate for Phoenix was reported in a previous NI 43-101 Technical Report (Roscoe 2014) dated June 17, 2014 with and effective date of May 28, 2014, and there has been no change to the Phoenix Mineral Resource estimate since that time. Details of the estimation methodology follow below.

TABLE 14-1 MINERAL RESOURCE ESTIMATE FOR THE WHEELER RIVER PROJECT AS OF SEPTEMBER 25, 2015 (100% BASIS)
Denison Mines Corp. – Wheeler River Property

Category	Deposit	Tonnes	Grade (% U_3O_8)	Million lbs U_3O_8
Indicated	Phoenix - Zone A	147,200	19.81	64.3
Indicated	Phoenix - Zone B	19,200	13.94	5.9
Total Indicated		**166,400**	**19.14**	**70.2**
Inferred	Phoenix - Zone B	5,500	3.30	0.4
Inferred	Phoenix - Zone A Basement	3,100	10.24	0.7
Inferred	Gryphon Deposit	834,000	2.31	43.0
Total Inferred		**842,600**	**2.37**	**44.1**

Notes:
1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources for Phoenix are reported above a cut-off grade of 0.8% U_3O_8, which is based on internal Denison studies and a price of US$50 per lb U_3O_8.
3. Mineral Resources for Gryphon are reported above a cut-off grade of 0.2% U_3O_8, which is based on RPA assumptions and a price of US$50 per lb U_3O_8.
4. High grade composites are subjected to a high grade search restriction without capping at Phoenix.
5. High grade mineralization was capped at 30% U_3O_8 with no search restrictions at Gryphon.
6. Bulk density is derived from grade using a formula based on 196 measurements at Phoenix and 65 measurements at Gryphon.
7. Numbers may not add due to rounding.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource estimate.

DRILL HOLE DATABASE

The Property drill hole database includes drilling results from 2008 to 2015, which comprise 433 diamond drill holes totalling 222,154 m, of which 196 drill holes totalling 89,835 m have delineated the Phoenix deposit and 55 holes totalling 40,041 m have delineated the Gryphon deposit. Zone A at Phoenix is the northeastern lens and strikes N52°E and zone B consists of two subzones, B1 and B2, which form the southwestern part of the Phoenix deposit. Zone A basement mineralization is within a narrow fracture zone that extends below the northern end of zone A. The Gryphon deposit is a series of stacked basement mineralized lenses striking N20ºE.

Upon completion of the initial data processing, the borehole data as well as radiometric logging information was uploaded into VULCAN software. Table 14-2 lists details of the VULCAN database used for the resource estimate. Section 12, Data Verification, describes the verification steps made by RPA. In summary, no discrepancies were identified and RPA is of the opinion that the drill hole database is valid and suitable to estimate Mineral Resources for the Phoenix and Gryphon deposits.

TABLE 14-2 VULCAN DATABASE RECORDS
Denison Mines Corp. – Wheeler River Property

Table Name	Number of Records	
	Gryphon	Phoenix
Collar	69	253
Survey	857	2,879
Stratigraphy	934	2,632
Assay Values	1,019	2,111
Radiometric Values (% eU_3O_8)	118,048	166,287
Block Model 1m Composites in Wireframes	419	703
A Deposit UC – Composites		*471*
B Deposit UC – Composites		*92*
A Deposit Basement – Composites		*140*

Drill holes at Phoenix were completed on northwest-southeast oriented sections spaced at approximately 25 m intervals along strike with a drill hole spacing of approximately 10 m along the sections. Earlier holes were drilled at steep angles to the northwest and later holes were collared vertically. Figure 14-1 shows zones A and B with locations of drill holes. Figure 14-2 shows the location of the zone A basement mineralization.

For Gryphon, drill holes were completed on northwest-southeast oriented sections spaced at approximately 50 m intervals along strike with a drill hole spacing of approximately 50 m along the sections. Figure 14-3 shows the locations of drill holes at Gryphon.

Figure 14-1

Denison Mines Corp.

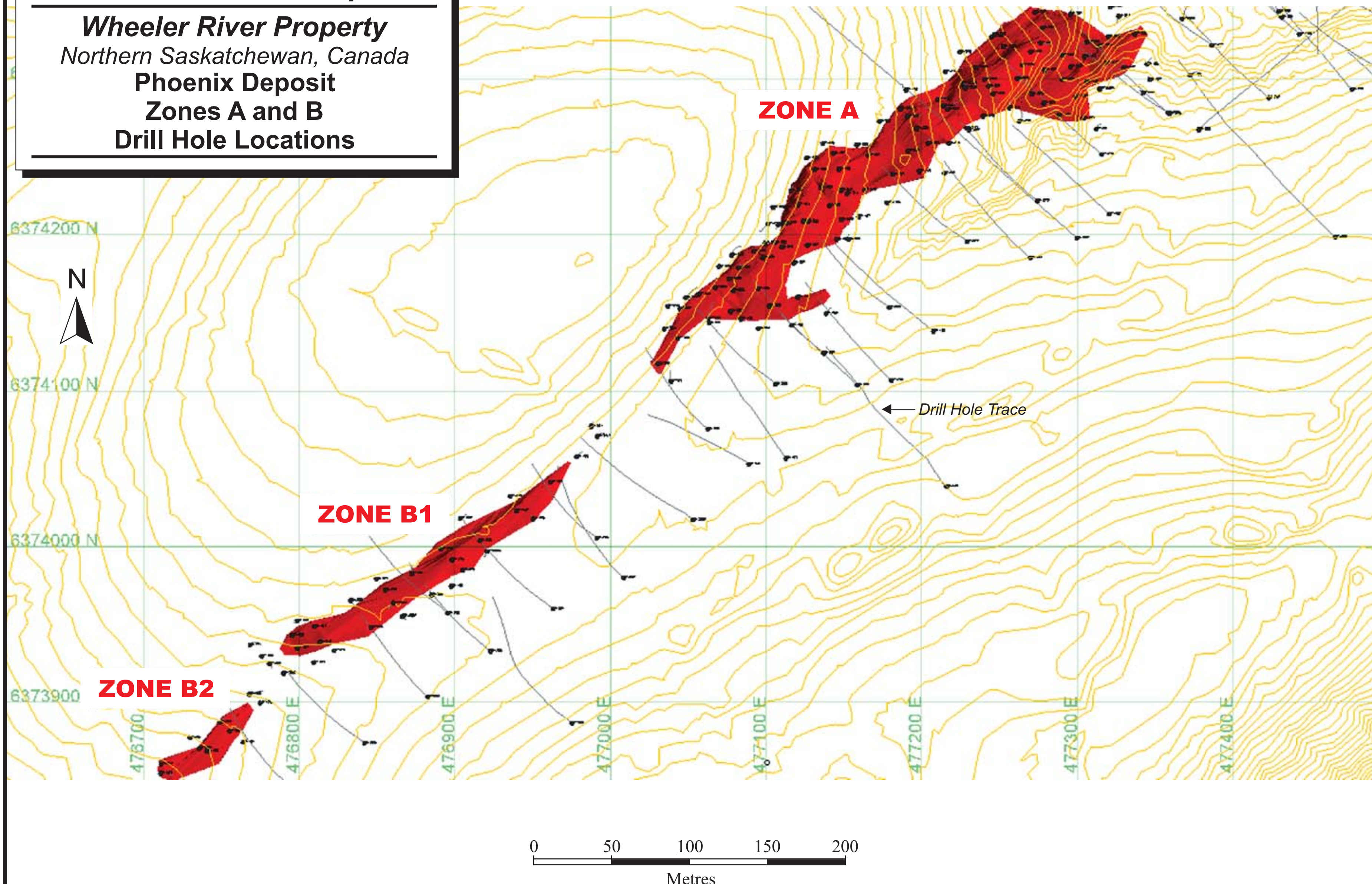
Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit

Zones A and B

Drill Hole Locations



UTM Projection WGS 84-13N

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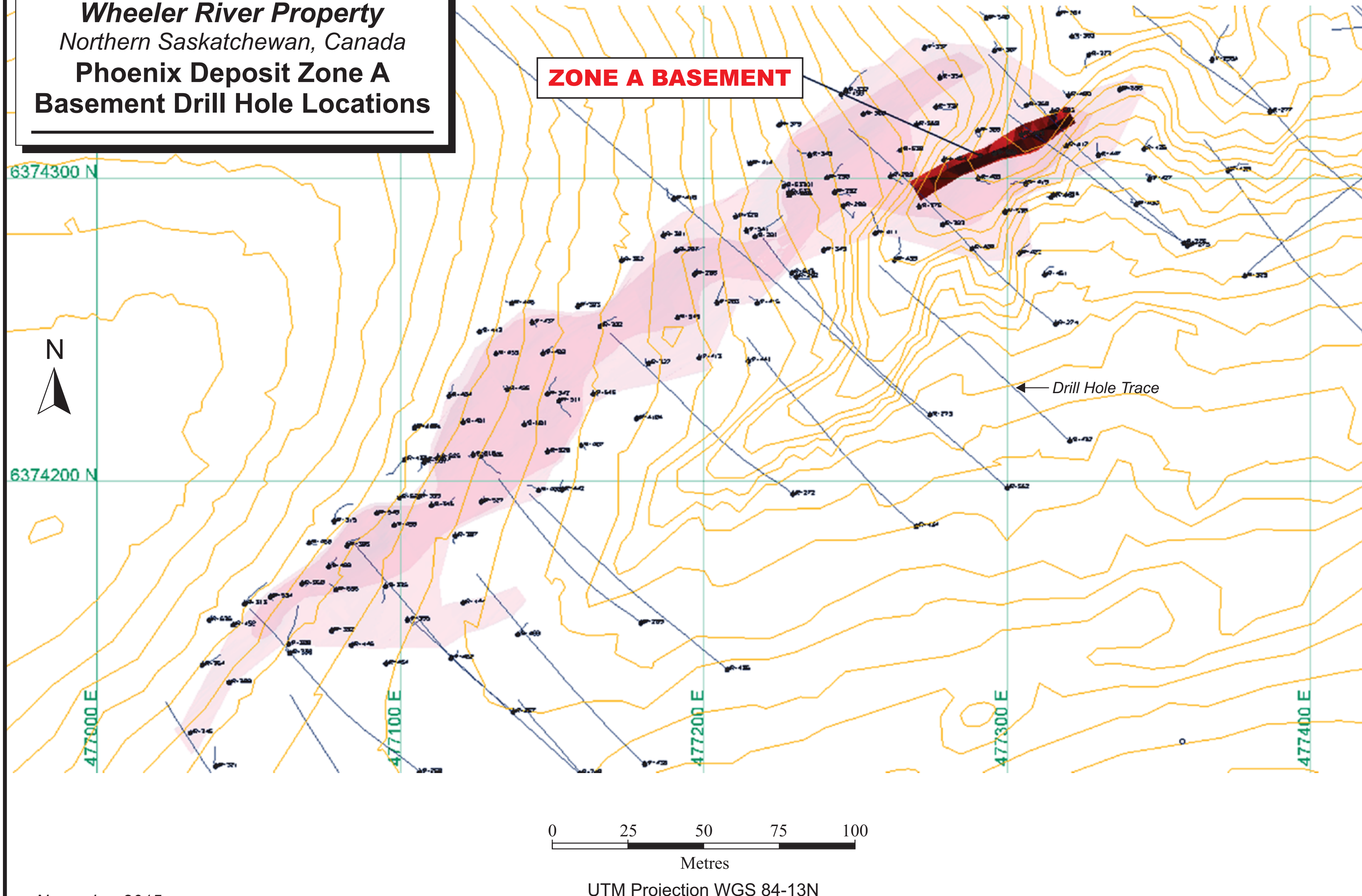
Figure 14-2

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit Zone A Basement Drill Hole Locations



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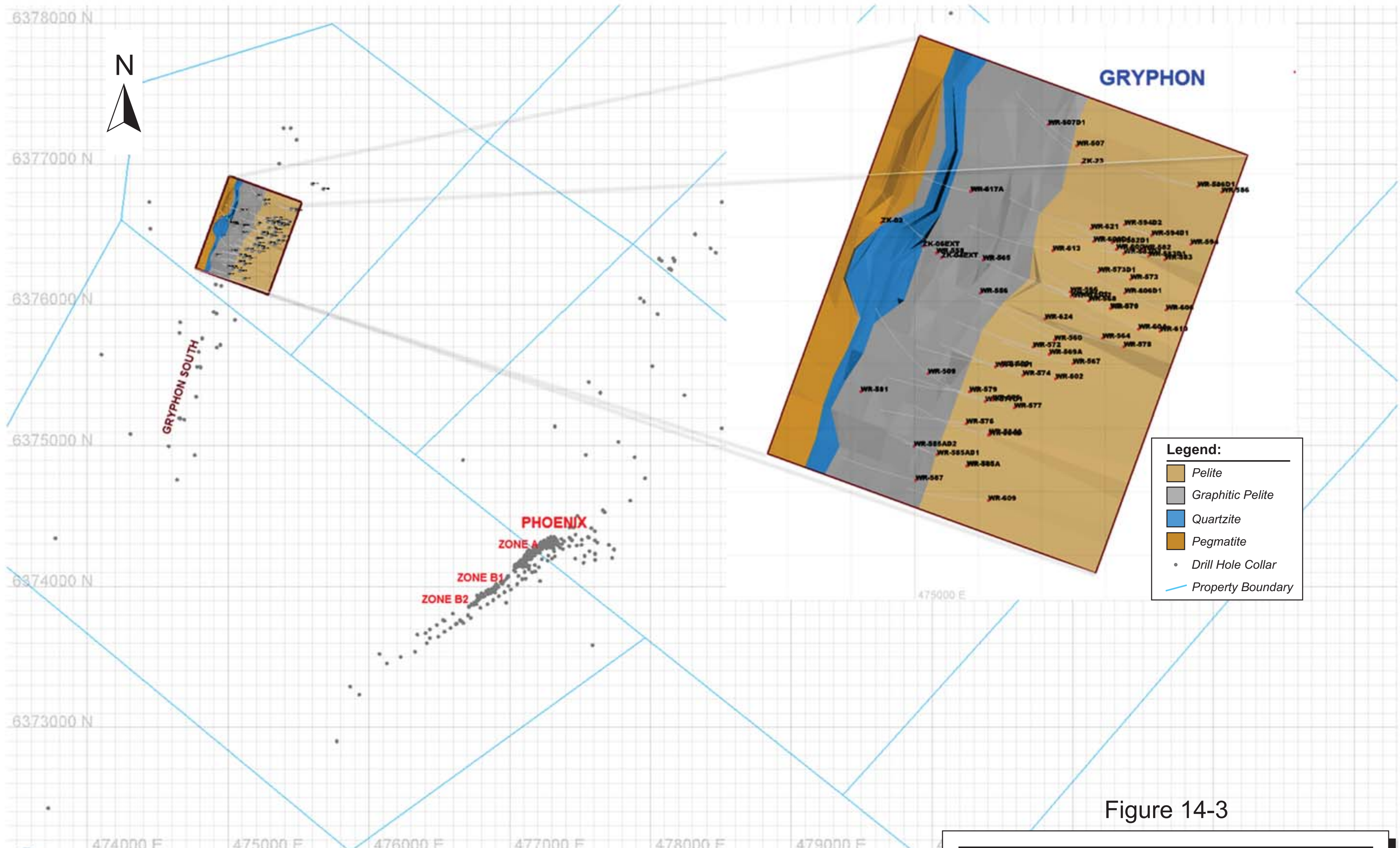

0 500 1000 1500 2000

Metres

Figure 14-3

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Gryphon Deposit

Drill Hole Locations

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GEOLOGICAL INTERPRETATION AND 3D SOLIDS

PHOENIX DEPOSIT

Denison has interpreted the geology, structure, and mineralized zones at Phoenix using data from 196 diamond drill holes that penetrate the basal unconformity of the Athabasca sandstone. Uranium mineralization occurs at the unconformity surface and in the adjacent sandstone above and in the adjacent graphitic pelite basement rocks below the unconformity. Zones A and B both strike approximately N52°E and are essentially horizontal.

A regional fault, the WS fault, is spatially associated with mineralization in the Phoenix deposit. The WS fault trends northeasterly, parallel to the mineralization, and dips moderately to the southeast. It appears to be a steep angle reverse fault, displacing the unconformity in the order of five metres or more upward on the southeast side. Uranium mineralization extends outward to the southeast from the WS fault, suggesting that the primary controls on the Phoenix deposit are the intersection of the WS fault with the unconformity and graphitic pelite in the basement. Some uranium mineralization occurs on the northwest side of the WS fault along the unconformity which is at lower elevation, however, it is limited in extent to the northwest. Other faults are present in the Phoenix deposit sub-parallel to the WS fault but with lesser vertical displacements. Some cross faults with easterly or southeasterly trends are interpreted, with displacements in the order of five metres or more.

The zone A basement mineralization is restricted to a narrow (<3 m) fracture zone extending approximately 20 m below the northern end of zone A. The fracture zone runs parallel to the strike of zone A at approximately N52°E and dips at -65° to the southeast. The axis of the fracture is centred along drill holes WR-503, WR-403, and WR-506 and is interpreted as splay faulting associated with the WS fault described previously.

Denison developed three dimensional (3D) wireframe models, which were reviewed and accepted by RPA for the Phoenix deposit zones A and B. The models represent grade envelopes using the geological interpretation described above as guidance. The wireframes consisted of a lower grade (LG) domain and a higher grade (HG) domain. For the LG wireframe, a threshold grade of 0.05% U_3O_8 was used as a guide. For zone A, the threshold grade for inclusion in the HG domain was approximately 20% U_3O_8, although lower grades were incorporated in places to maintain continuity and to maintain a minimum thickness of two metres. For zone B, the minimum threshold for the HG domain was approximately 10% U_3O_8 over a minimum thickness of two metres. Figures 14-4 to 14-6 are cross sections of zone A showing drill holes with one metre composite grades and the outlines of the HG and LG domains. Figure 14-7 shows the same for zone B. Figure 14-8 is a longitudinal view of the zone A basement domain.

The wireframe model developed for zone A is approximately 380 m long, 36 m wide, and ranges in thickness from two metres to 17 m with an average thickness of five metres. The zone B wireframe model measures approximately 290 m long, averages 19 m wide, and is approximately three metres thick. The wireframes were used to assign domain codes to the blocks in the block model and for generating and coding composited assays.

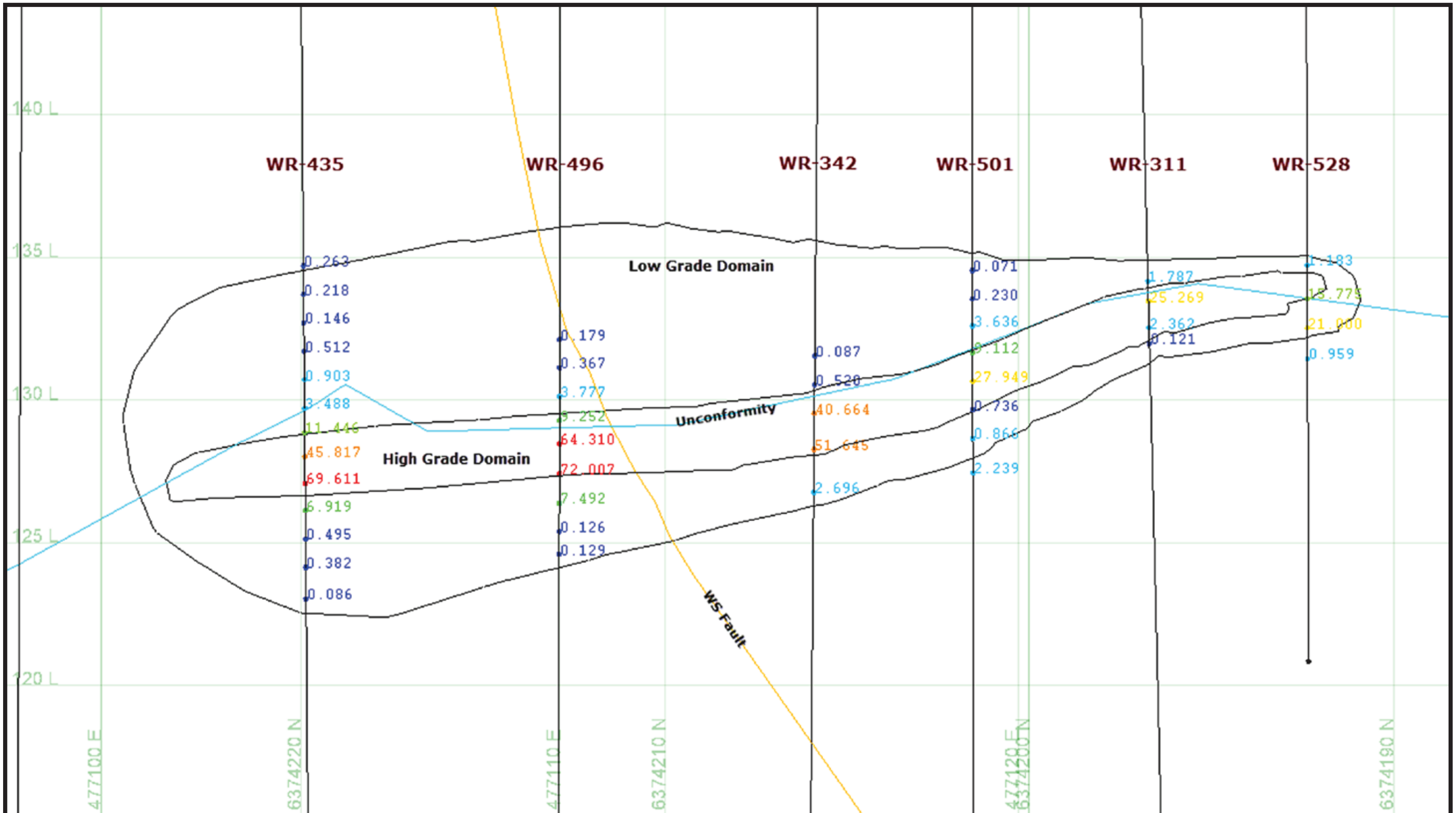

Figure 14-4

Legend:

1 metre composite with grade in % U_3O_8

1.07
14.40
Drill Hole
11.25
1.08

0 2 4 6 8 10
Metres

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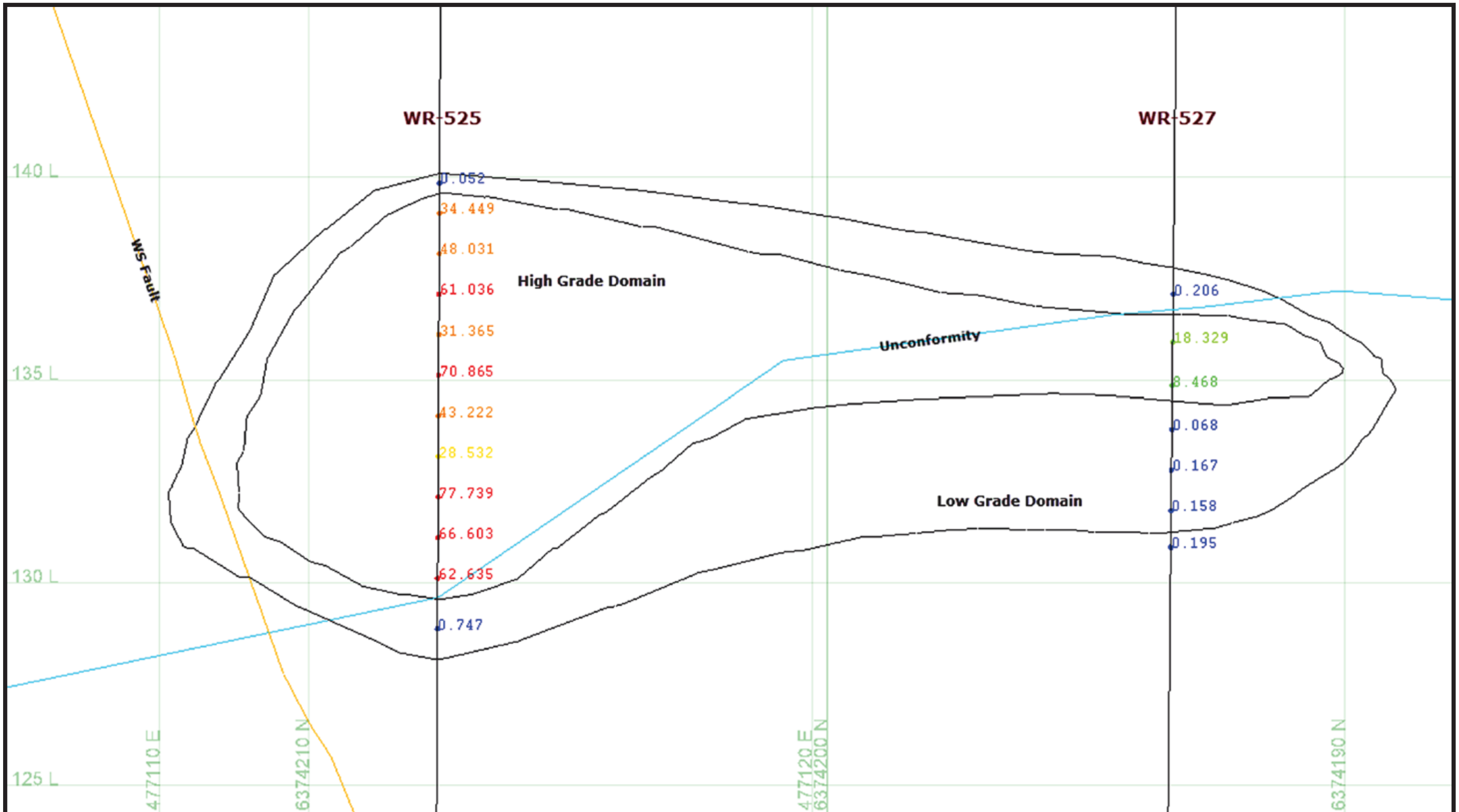
Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit, Zone A
Typical Cross Section Including WR-435 with HG and LG Domains



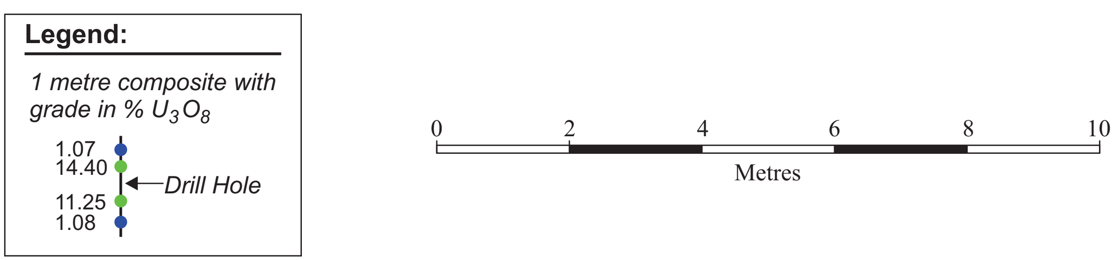


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Figure 14-5

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit, Zone A
Typical Cross Section Including
WR-525 with HG and LG Domains

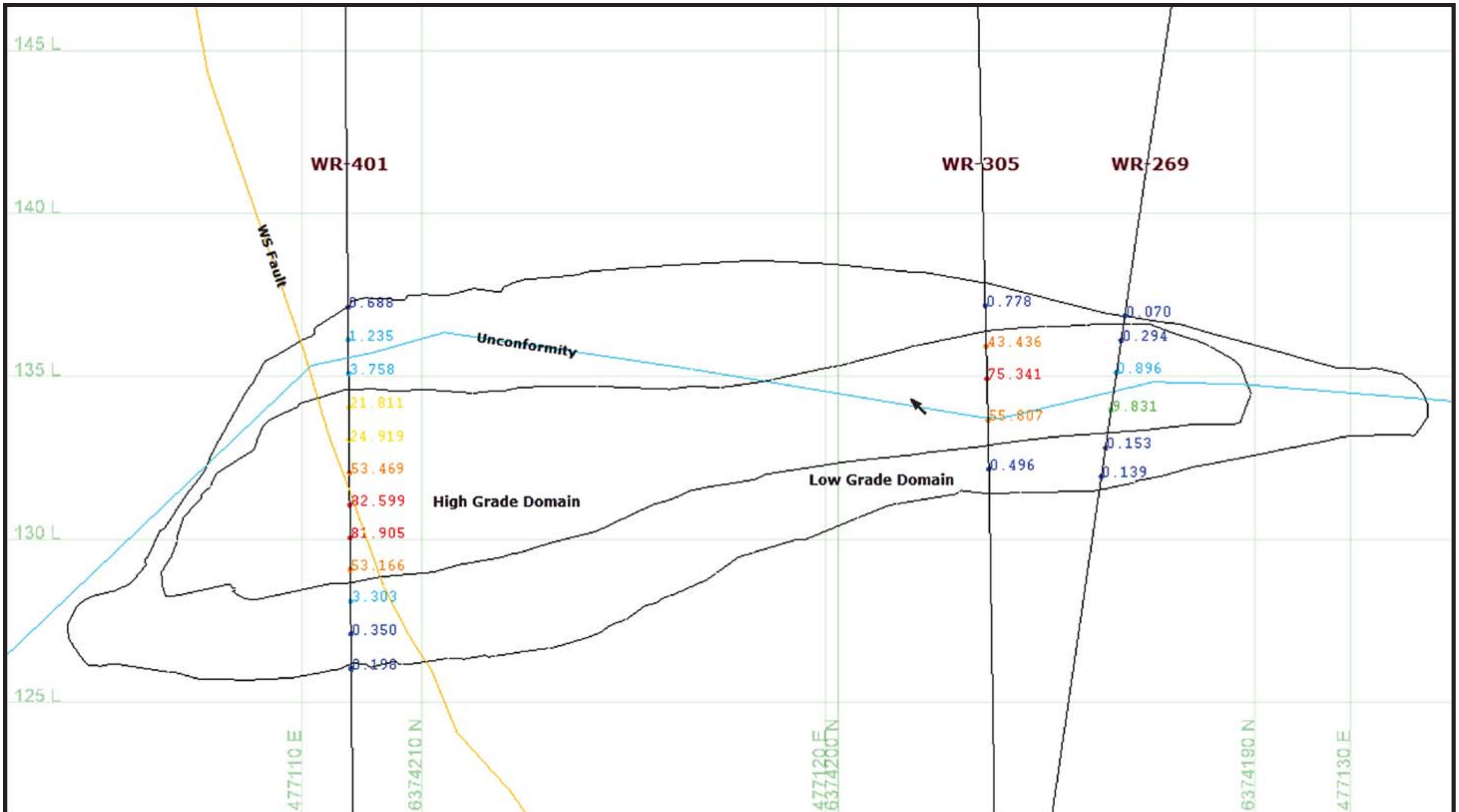

Figure 14-6

Legend:

1 metre composite with grade in % U_3O_8

1.07
14.40
Drill Hole
11.25
1.08

0 2 4 6 8 10
Metres

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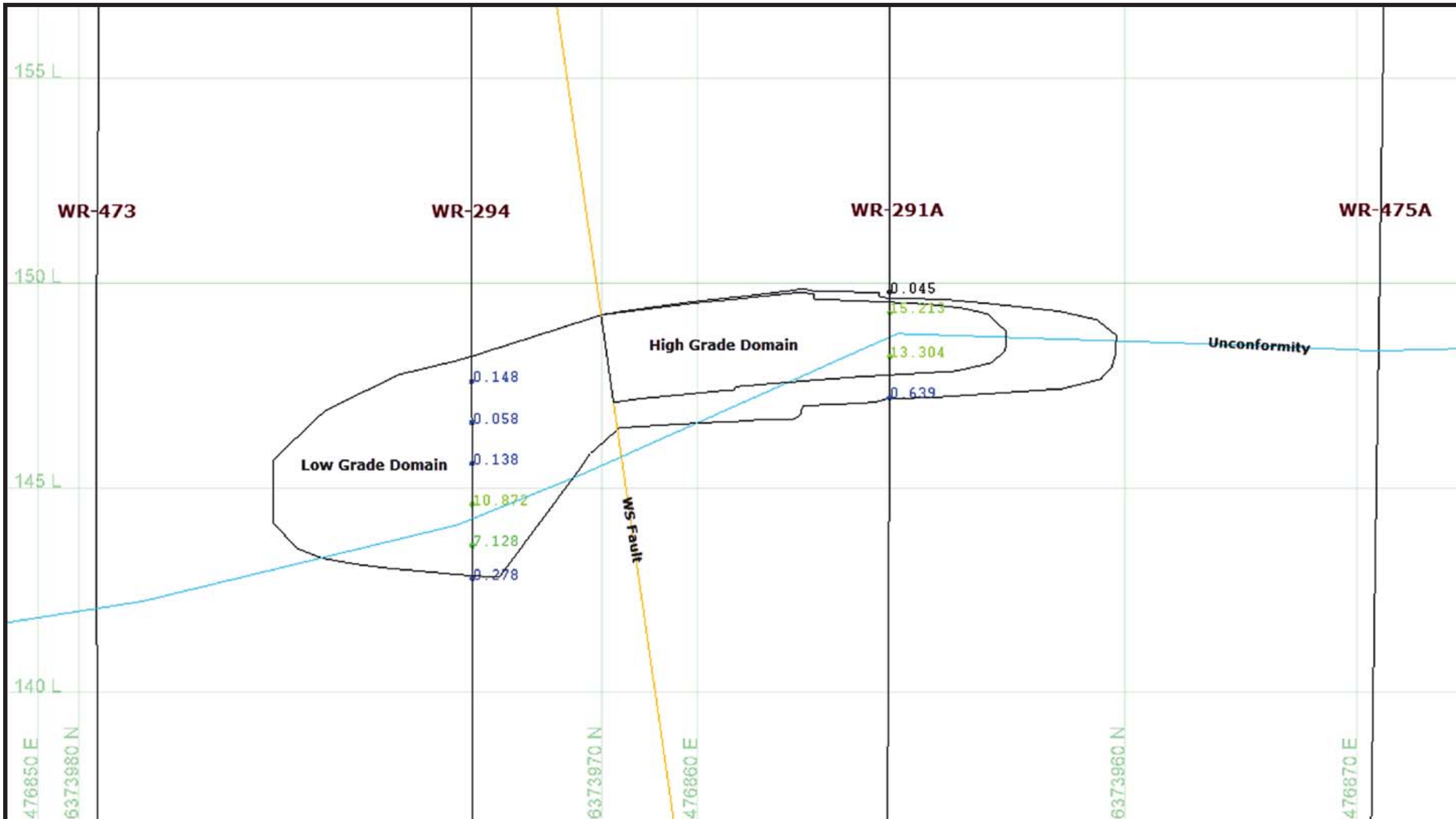
Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit, Zone A
Typical Cross Section Including WR-401 with HG and LG Domains



Legend:

1 metre composite with grade in % U_3O_8

1.07
14.40
Drill Hole
11.25
1.08

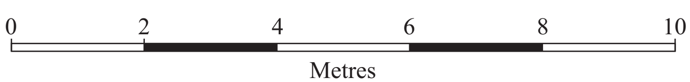


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Figure 14-7

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Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit, Zone B

Typical Cross Section Including WR-294 with HG and LG Domains

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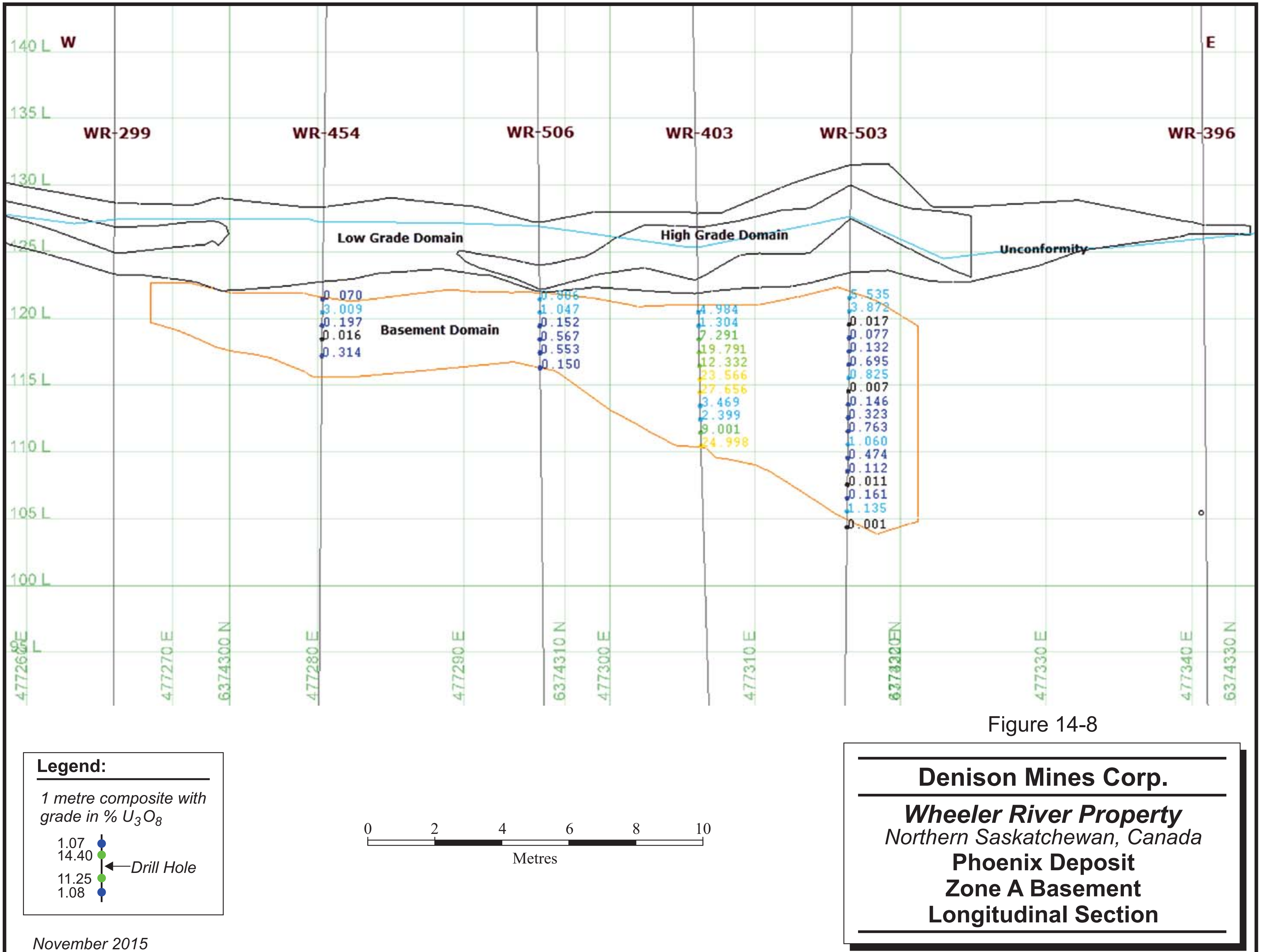

Figure 14-8

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit
Zone A Basement
Longitudinal Section

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GRYPHON DEPOSIT

Wireframe models of mineralized zones were used to constrain the block model grade interpolation process, based on a total of 55 holes. RPA built the wireframe models using 3D polylines on northeast looking vertical sections spaced approximately 12.5 m apart. Polylines were "snapped" to assay intervals along the drill hole traces such that the sectional interpretations "wobbled" in 3D space. Polylines were joined together in 3D and the continuity was checked using a longitudinal section and level plans.

A threshold grade of 0.05% U_3O_8 and a minimum core length of two metres was used as a guide, resulting in a series of eight stacked lenses or domains of variable thicknesses that plunge 35° to 60° at 035° to 040° northeast, and dip 25° to 50° to the southeast (Table 14-3 and Figures 14-9 and 14-10). The mineralized wireframes were subsequently clipped to include only drill holes with intersections greater than 0.2% U_3O_8 over a minimum thickness of two metres. The stacked lenses form a zone of mineralization measuring approximately 280 m long (along plunge) by 113 m wide (across plunge) and remain open both up and down plunge. Wireframes were assigned to zones as identified by Denison disclosures.

TABLE 14-3 SUMMARY OF GRYPHON WIREFRAME MODELS
Denison Mines Corp. – Wheeler River Property

Zone	Wireframe Name	Points	Triangles	Surface Area	Volume	Tonnage	Block Model Code
A1	rpa_gryphon_min_a1_1.00t	893	1,782	98,989	169,823	382,731	1
A2	rpa_gryphon_min_a2_1.00t	810	1,616	62,098	72,158	162,622	2
A3	rpa_gryphon_min_a3_1.00t	188	372	9,539	8,467	19,082	3
B1	rpa_gryphon_min_b1_1.00t	525	1,046	46,301	63,537	143,192	4
B2	rpa_gryphon_min_b3_1.00t	367	730	30,191	36,606	82,499	5
B3	rpa_gryphon_min_b2_1.00t	205	406	8,855	11,467	25,844	6
C1	rpa_gryphon_min_c1_1.00t	402	800	28,343	30,812	69,440	8
C2	rpa_gryphon_min_c2_1.00t	511	1,018	13,895	12,053	27,163	9
D1	rpa_gryphon_min_d1.00t	65	126	6,779	6,330	14,267	10
D2	rpa_gryphon_min_d2.00t	46	88	3,121	2,912	6,563	11
D3	rpa_gryphon_min_d3.00t	14	24	1,215	1,046	2,357	12
D4	rpa_gryphon_min_d4.00t	24	44	800	637	1,435	13
Total		**4,050**	**8,052**	**310,127**	**415,848**	**937,196**	

Notes:

- A-Series (A1, A2, and A3): represent the mineralized zones on the hanging wall (Upper Zone) of the quartz-pegmatite assemblage (wireframes 1, 2 and 3)
- B-Series (B1, B2, and B3): represent the mineralized zones within the quartz-pegmatite assemblage (wireframes 4, 5, and 6)
- C-Series (C1 and C2): represent the mineralized zones along the foot wall (Lower Zone) of the quartz-pegmatite assemblage (wireframes 8 and 9)

- D-Series (D1, D2, D3, and D4): represent four low grade mineralized zones (wireframes 10, 11, 12 and 13), which do not have enough drilling to be included in the resource estimate

Mineral Resources were estimated for the A, B, and C Series lenses, and not for the D Series, which were considered to have insufficient drilling. The A1 and C1 domains collectively make up nearly 69% of the contained pounds of U_3O_8 in the Mineral Resource.

RPA conducted audits of the wireframes to ensure that the wireframes used in preparing the current resource estimate correspond to the reported mineralization. Quality control measures and the data verification procedures repeated in 2015 included the following:

- Check for overlapping wireframes to determine possible double counting.
- Check mineralization/wireframe extensions beyond last holes to see if they are reasonable and consistent.
- Check for reasonable compositing intervals.
- Check that composite intervals start and stop at wireframe boundaries.
- Validate the solids for closure and consistent topology, and check that the triangles intersect properly (crossing). Any issues found were corrected with the appropriate Vulcan utility to ensure accurate volume and grade estimates.

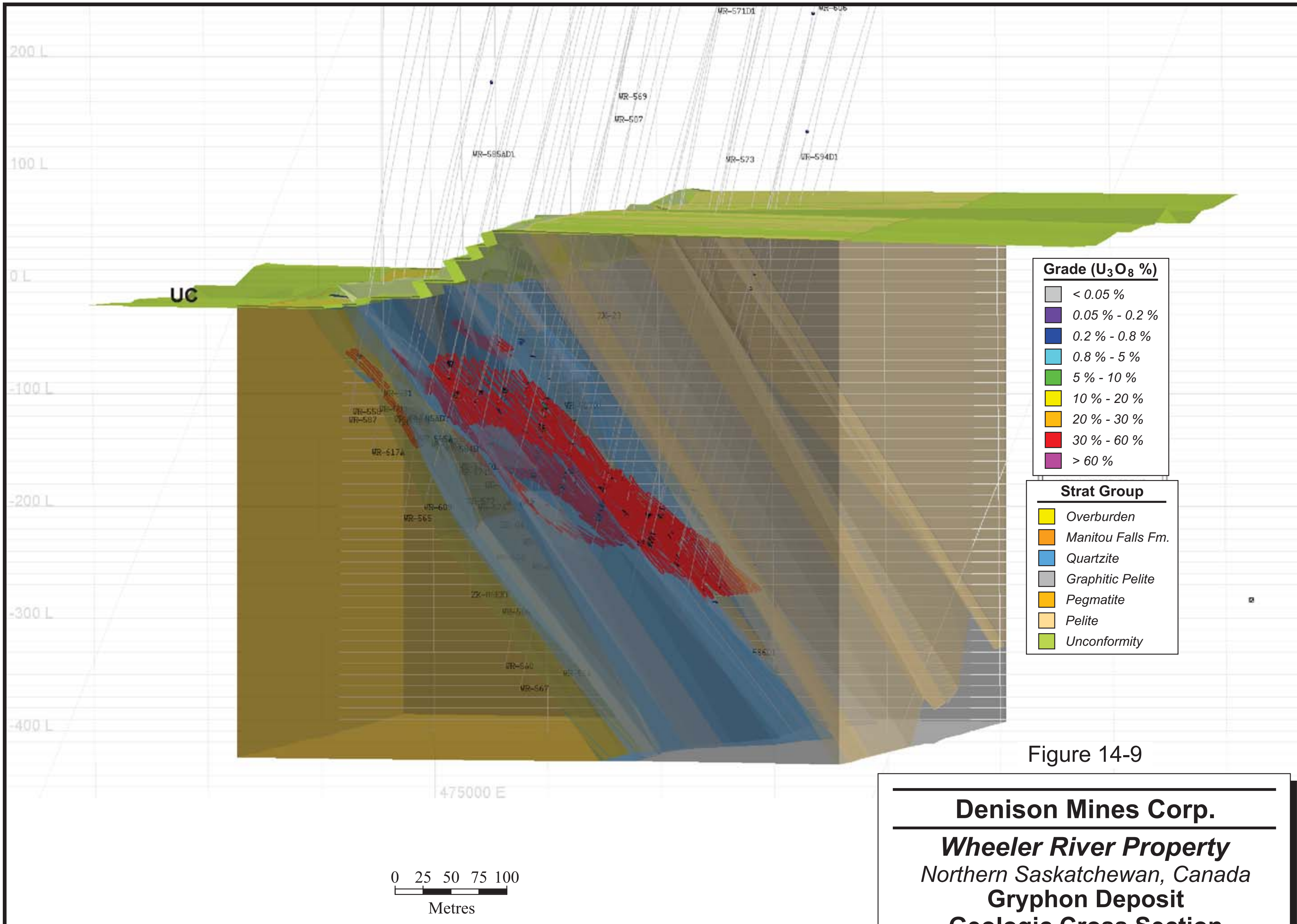

Figure 14-9

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Gryphon Deposit
Geologic Cross Section
Schematic of Mineralization

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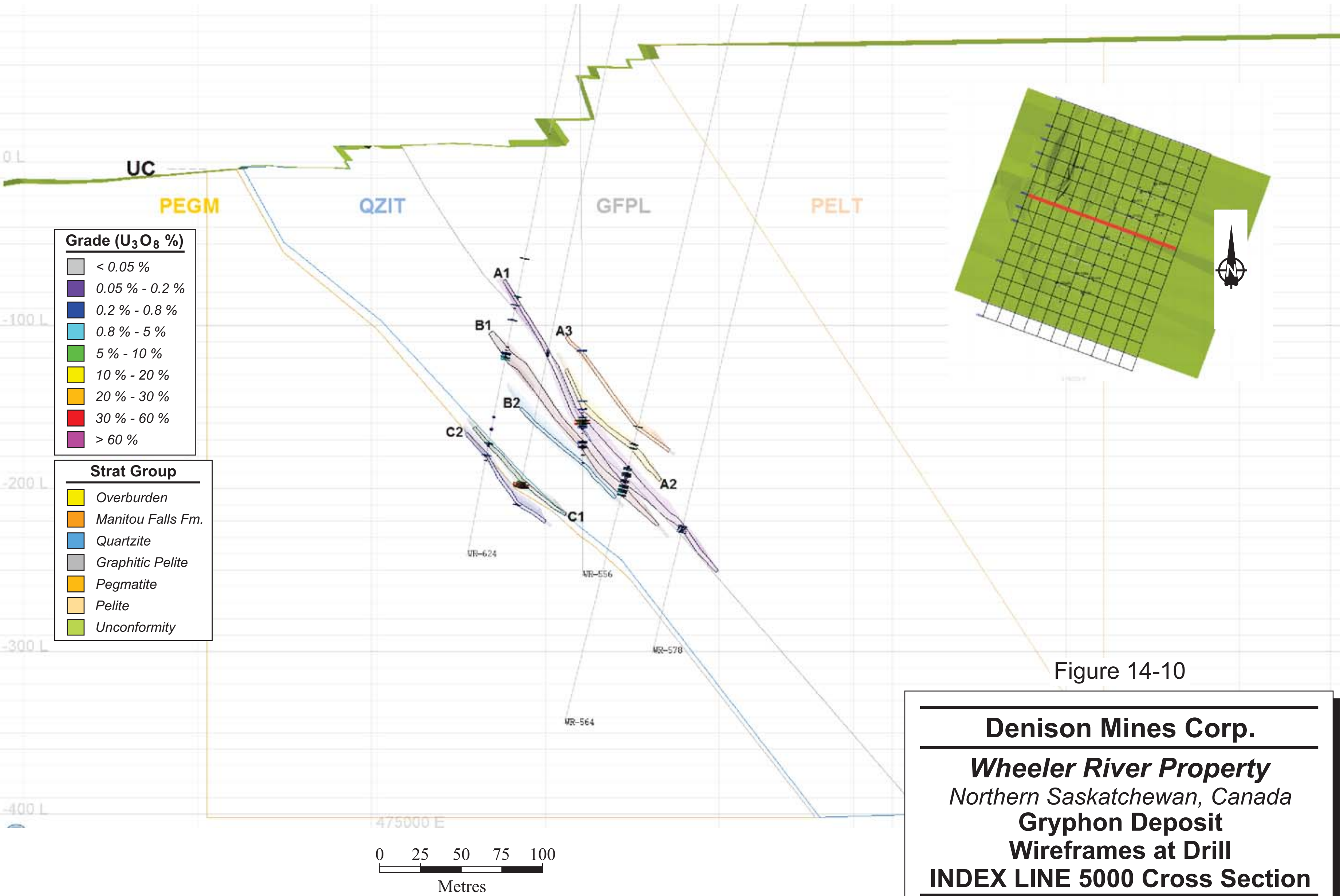


Figure 14-10

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Gryphon Deposit
Wireframes at Drill
INDEX LINE 5000 Cross Section

November 2015

BULK DENSITY

Bulk density is used to convert volume to tonnage and to weight the block grade estimates. In high grade uranium deposits such as Gryphon, bulk density varies with grade due to the very high density of pitchblende/uraninite compared to host lithologies. Bulk density also varies with clay alteration and in situ rock porosity. For Mineral Resource estimates of high grade uranium deposits, it is important to estimate bulk density values throughout the deposit and to weight grade values by density since small volumes of high grade material contain large masses of uranium oxide.

Bulk density is determined by Denison with specific gravity (SG) measurements on drill core. SG is calculated as: weight in air/(weight in air – weight in water). Under all reasonable conditions, SG (a unitless ratio) is equivalent to density in t/m^3.

PHOENIX DEPOSIT

From 2012 to 2014, Denison completed a program of dry bulk density sampling from diamond drill core in order to establish the relationship between bulk density and grade for the Phoenix deposit zones A and B. Dry bulk density samples were selected from the main mineralized zones to represent local major lithologic units, mineralization styles, and alteration types. Samples were collected from half split core, which had been previously retained in the core box after geochemical sampling. Samples were tagged and placed in sample bags on site, then shipped to the SRC in Saskatoon, Saskatchewan. In total, SRC has performed SG measurements on a total of 196 samples; 162 from zone A and 34 from zone B.

Denison carried out correlation analyses of the bulk density values against uranium grades which indicated a strong relationship between density and uranium grade (%U_3O_8) shown in Figure 14-11. The relationship can be represented by the following polynomial formula which is based on a regression fit.

$$\mathbf{y = 0.0008x^2 - 0.0077x + 2.3361}$$

where y is dry bulk density (g/cm^3) and x is the uranium grade in %U_3O_8. In some cases when the samples are very clay rich, core fatigue (sample crumbles) prevented the wax from being applied and SG was calculated using the wet/dry method only. Figure 14-12 shows a strong correlation between the methodologies and RPA is satisfied that either methodology is suitable for determining SG.

FIGURE 14-11 LOGARITHMIC PLOT OF DRY BULK DENSITY VERSUS URANIUM GRADE - PHOENIX DEPOSIT

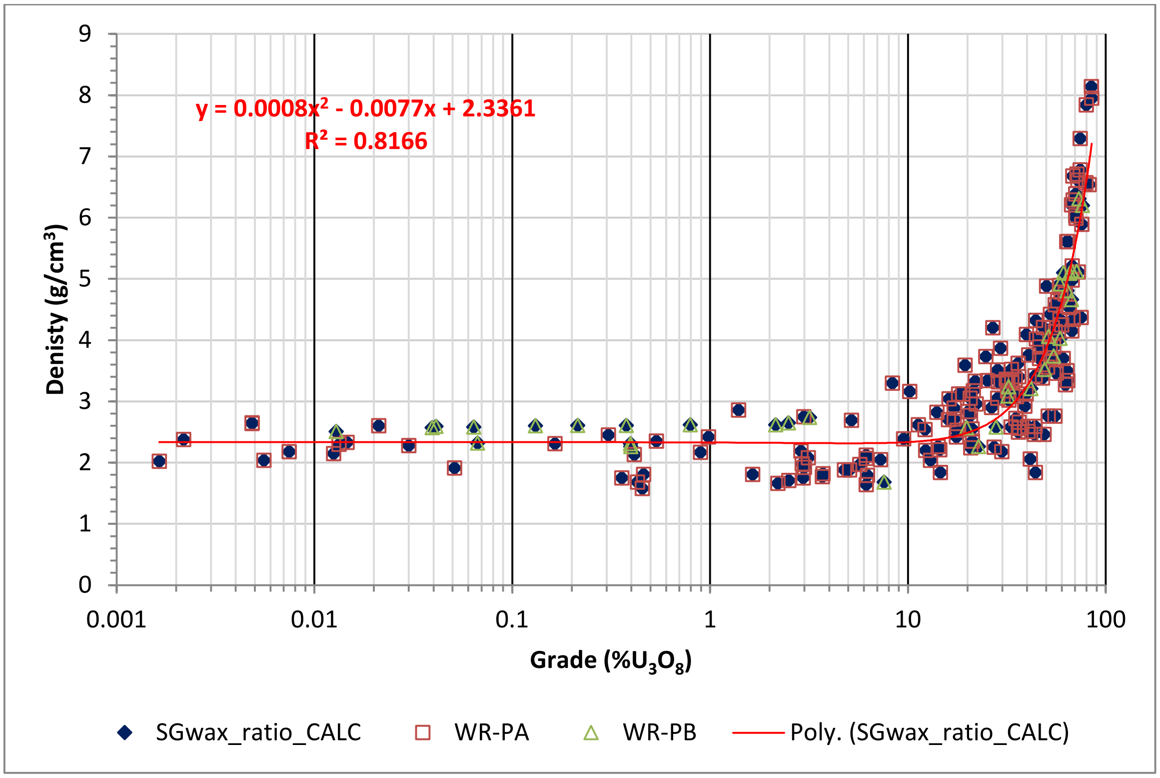
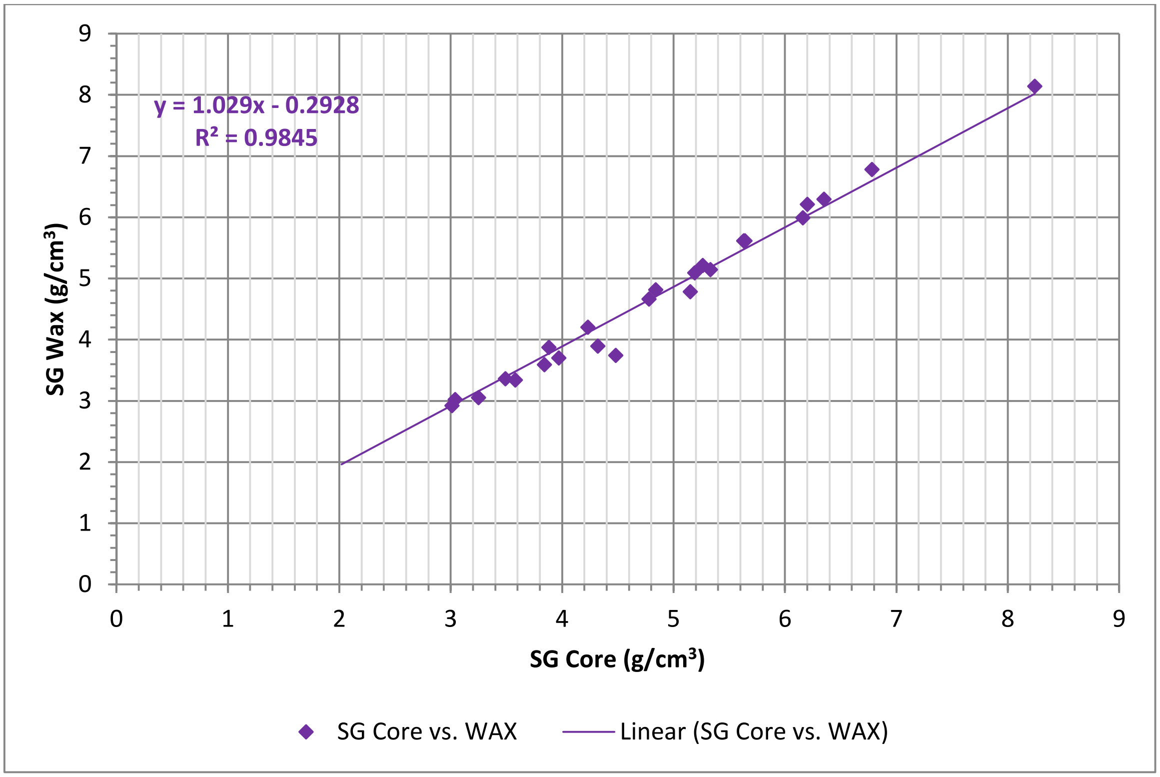


FIGURE 14-12 DRY BULK DENSITY WAX VERSUS DRY/WET METHODS - PHOENIX DEPOSIT



The regression curve in Figure 14-11 is relatively flat at a grade less than 10% U_3O_8, with density relatively constant at 2.33 g/cm^3. At grades greater than 20%, dry bulk density increases with higher uranium grades. There are a number of strongly mineralized samples that have low dry bulk densities and vice versa, which results in significant scatter in dry bulk density values. The lower bulk density values associated with strongly mineralized samples may be attributed to the amount of clay alteration in the samples. Generally, clay alteration causes decomposition of feldspar and mafic minerals with resultant replacement by lighter clay minerals as well as loss of silica from feldspar that lowers the dry bulk density of the rock.

Denison has estimated a dry bulk density value for each grade value in the drill hole database by using the polynomial formula shown above. In RPA's opinion, the SG sampling methods and resulting data are suitable for Mineral Resource estimation at Phoenix.

GRYPHON DEPOSIT

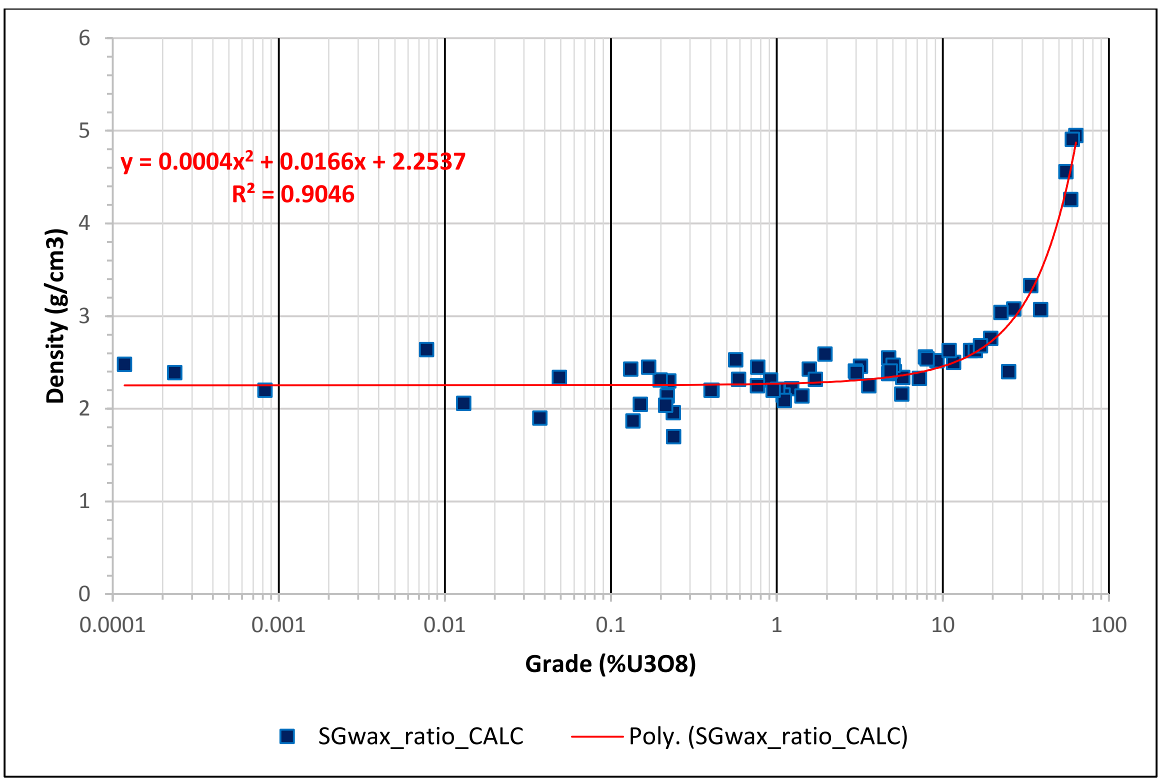
Based on 65 dry bulk density determinations, Denison developed a formula relating bulk density to grade which was used to assign a density value to each assay. Bulk density values were used to weight grades during the resource estimation process and to convert volume to tonnage.

Denison carried out correlation analyses of the bulk density values against uranium grades (%U_3O_8) as shown in Figure 14-13. The relationship can be represented by the following polynomial formula which is based on a regression fit.

$$\mathbf{y = 4E\text{-}05x^2 + 0.0166x + 2.2537}$$

where *y* is dry bulk density (g/cm^3) and *x* is the uranium grade in %U_3O_8. The available SG values for the assay data were reviewed and accepted by RPA and used to assign bulk density values to each sample.

FIGURE 14-13 LOGARITHMIC PLOT OF DRY BULK DENSITY VERSUS URANIUM GRADE - GRYPHON DEPOSIT



Denison has estimated a dry bulk density value for each grade value in the drill hole database by using the polynomial formula shown above. In RPA's opinion, the SG sampling methods and resulting data are suitable for Mineral Resource estimation at Gryphon.

STATISTICS

TREATMENT OF HIGH GRADE VALUES

Where the assay distribution is skewed positively or approaches log normal, erratic high grade assay values can have a disproportionate effect on the average grade of a deposit. One method of treating these outliers in order to reduce their influence on the average grade is to cut or cap them at a specific grade level. In the absence of production data to calibrate the cutting level, inspection of the assay distribution can be used to estimate a "first pass" cutting level.

PHOENIX DEPOSIT

Although the Phoenix deposit is a high grade uranium deposit, adequate sample support, the use of high grade domains, and lack of apparent high grade outliers made high grade capping unnecessary. The influence of high grade values, however, was restricted during the block estimation process as discussed below under interpolation parameters.

GRYPHON DEPOSIT

Assay values located inside the wireframe models were tagged with domain identifiers and exported for statistical analysis. Results were used to help verify the modelling process. Basic statistics by domain are summarized in Table 14-4.

TABLE 14-4 DESCRIPTIVE STATISTICS OF GRYPHON URANIUM ASSAY BY DOMAIN
Denison Mines Corp. – Wheeler River Property

Descriptive Statistic	Zone A1	Zone A2	Zone A3	Zone B1
Count	281	102	17	190
Mean	2.46	0.76	0.55	0.58
Median	0.25	0.08	0.16	0.09
Std. Dev.	6.22	1.75	1.14	2.00
Variance	38.73	3.05	1.30	4.00
Kurtosis	17.03	8.02	6.38	46.77
Skewness	4.00	2.94	2.73	6.44
Range	40.60	8.67	4.56	17.10
Minimum	0.00	0.00	0.00	0.00
Maximum	40.60	8.67	4.56	17.10

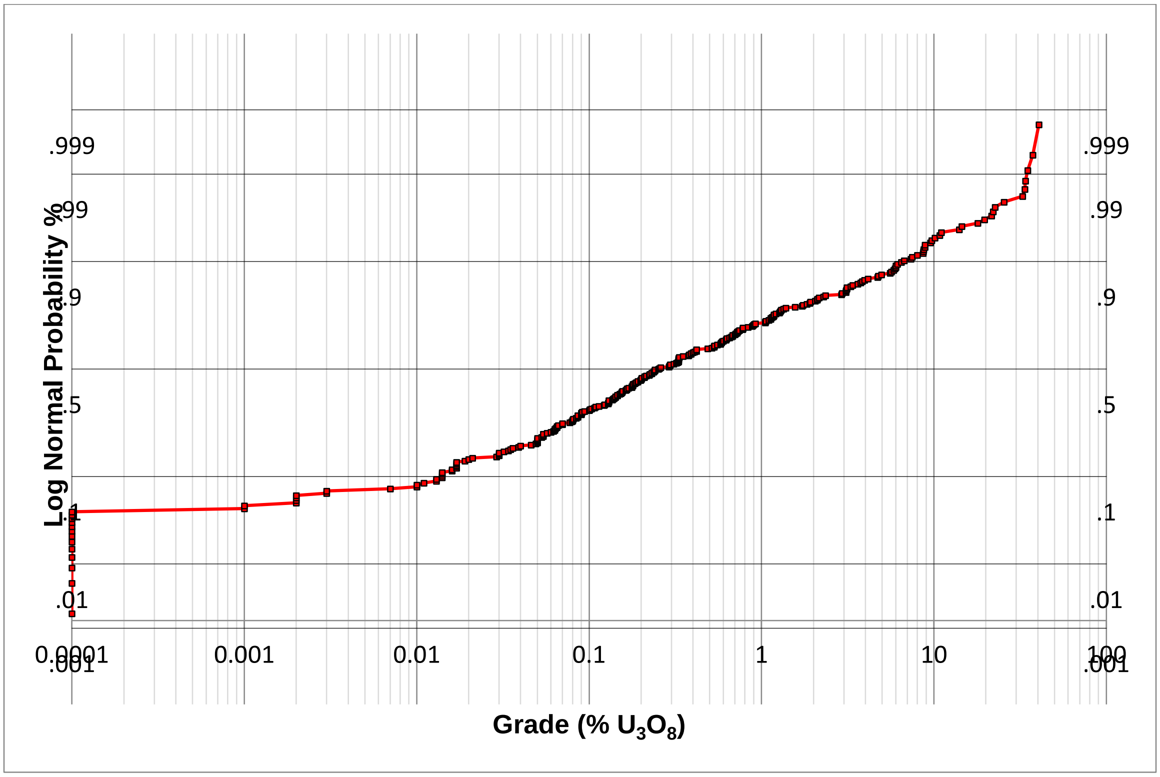
Descriptive Statistic	Zone B2	Zone B3	Zone C1	Zone C2
Coefficient of Variation	2.53	2.29	2.06	3.47
Count	49	24	46	15
Mean	2.60	3.89	4.75	0.26
Median	0.25	0.43	0.42	0.16
Std. Dev.	4.77	8.37	10.39	0.29
Variance	22.79	70.12	107.91	0.09
Kurtosis	3.31	6.73	5.68	0.47
Skewness	2.09	2.70	2.60	1.21
Range	18.80	36.00	42.50	1.01
Minimum	0.00	0.00	0.00	0.00
Maximum	18.80	36.00	42.50	1.01
Coefficient of Variation	1.84	2.15	2.19	1.14

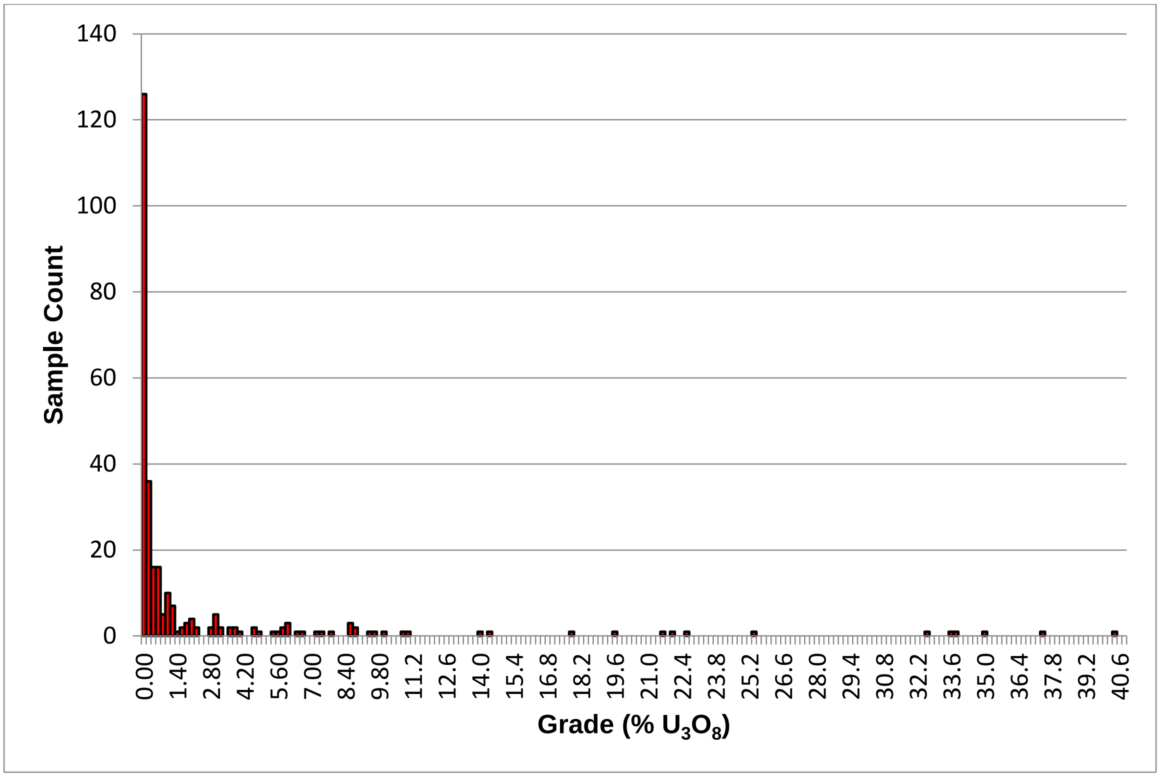
Review of the resource assay histogram and log normal probability plots within the wireframe domains and a visual inspection of high grade values on vertical sections suggest cutting erratic grade values to 30% (Figure 14-14), which only impacts zones A1, B3, and C1. Results of the capping impacted 10 (1.2%) values out of 834 assays. Table 14-5 lists descriptive statistics for the domains affected by cutting.

TABLE 14-5 STATISTICS OF GRYPHON CAPPED ASSAYS BY DOMAIN
Denison Mines Corp. – Wheeler River Property

	Zone A1		Zone B3		Zone C1	
Descriptive Statistic	**Raw**	**Cap**	**Raw**	**Cap**	**Raw**	**Cap**
Count	281	281	24	24	46	46
Mean	2.46	2.34	3.89	3.64	4.75	4.20
Median	0.25	0.25	0.43	0.43	0.42	0.42
Std. Dev.	6.22	5.61	8.37	7.61	10.39	8.66
Variance	38.73	31.49	70.12	57.91	107.91	75.04
Kurtosis	17.03	13.45	6.73	6.21	5.68	4.36
Skewness	4.00	3.61	2.70	2.56	2.60	2.36
Range	40.60	30.00	36.00	30.00	42.50	30.00
Minimum	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	40.60	30.00	36.00	30.00	42.50	30.00
Coefficient of Variation	2.53	2.39	2.15	2.09	2.19	2.06

FIGURE 14-14 ZONE A1 LOG NORMAL PROBABILITY AND HISTOGRAM PLOT – GRYPHON DEPOSIT





COMPOSITES

As discussed in Section 10 Drilling and Section 11 Sample Preparation, Analyses and Security, all drill core samples with chemical assays are 0.5 m long and all radiometric measurements are 0.1 m long. Radiometric measurements are used in lieu of chemical assays where core recovery is less than 80%.

Sample lengths range from 0.5 cm to 1.0 m within the wireframe models, however, 99.85% of the samples were taken at 0.5 m intervals. Given this distribution, and considering the width of the mineralization, RPA composited uranium grade (G), bulk density (D), and uranium grade multiplied by density (GxD) values over one metre run-length intervals to create a composite database for statistical analysis and block estimation purposes. Assay grades are weighted by both sample length and density when compositing. Compositing was restricted to within the wireframe models (hard boundaries). This can result in residual short composites at the bottom of the wireframes. These short composites were retained if they were between 0.5 m and 1.0 m long, and were added to the previous full length composite if they were less than 0.5 m long. As discussed below, block estimation was done by interpolating GxD and density and dividing them to obtain a density-weighted grade estimate for each block.

Approximately 23% of the drill holes used for the Phoenix deposit zone A resource estimate and approximately 25% of those used for the zone B resource estimate have radiometric measurements. No radiometric data were used in the Gryphon resource estimate.

PHOENIX DEPOSIT

Separate composite files were prepared for the zone A HG domain, zone A LG domain, zone B HG domain, zone B LG domain, and zone A basement domain. Table 14-6 lists descriptive statistics of composite grade and GxD for each of these domains.

Figure 14-15 shows histograms of grade for each of these domains. Figure 14-16 shows grade versus density plots of these domains.

TABLE 14-6 BASIC STATISTICS OF GRADE AND GXD COMPOSITES FOR PHOENIX DEPOSIT ZONES A AND B HG AND LG DOMAINS
Denison Mines Corp. – Wheeler River Property

Statistic	Zone A Grade			Zone B Grade		Zone A GxD			Zone B GxD	
	HG	LG	BSMT	HG	LG	HG	LG	BSMT	HG	LG
Mean	34.86	1.77	1.56	21.65	1.57	156.50	4.20	4.48	77.51	3.75
Standard Error	1.93	0.14	0.36	3.74	0.31	12.99	0.36	1.24	16.89	0.76
Median	31.52	0.59	0.32	17.14	0.53	107.54	1.36	0.88	43.68	1.24
Mode	#N/A	0.18	0.00	#N/A	0.25	#N/A	0.42	1.93	#N/A	0.35
Standard Deviation	21.62	2.69	4.26	15.85	2.64	145.26	6.63	14.28	71.67	6.46
Sample Variance	467.56	7.23	18.12	251.25	6.99	21,101.66	43.93	203.78	5,136.66	41.74
Kurtosis	-0.69	10.25	23.16	-1.02	4.65	0.77	15.12	31.86	-0.87	5.24
Skewness	0.45	2.81	4.72	0.54	2.36	1.27	3.23	5.49	0.84	2.46
Range	82.31	20.13	27.66	49.24	10.86	595.34	56.99	101.48	212.74	27.49
Minimum	0.29	0.01	0.00	1.46	0.01	0.69	0.02	0.00	3.42	0.02
Maximum	82.60	20.14	27.66	50.69	10.87	596.02	57.01	101.49	216.16	27.51
Sum	4,357.3	607.7	214.9	389.7	113.0	19,562.5	1,445.5	595.6	1,395.2	270.0
Count	125	344	138	18	72	125	344	133	18	72
Coefficient of Variation	0.62	1.52	2.73	0.73	1.68	0.93	1.58	3.19	0.92	1.72

FIGURE 14-15 GRADE COMPOSITE HISTOGRAMS FOR PHOENIX DEPOSIT ZONES A AND B HG AND LG DOMAINS

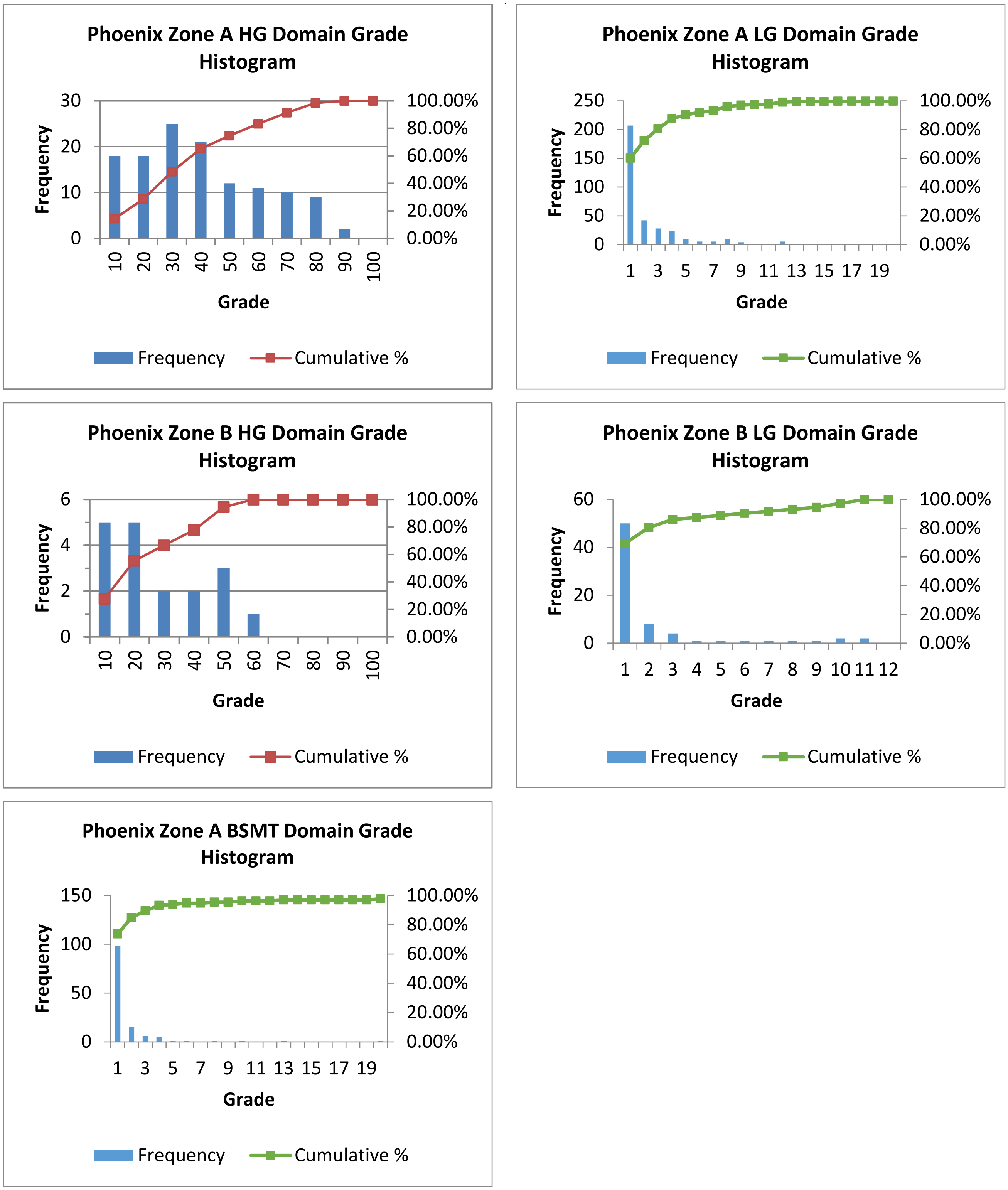
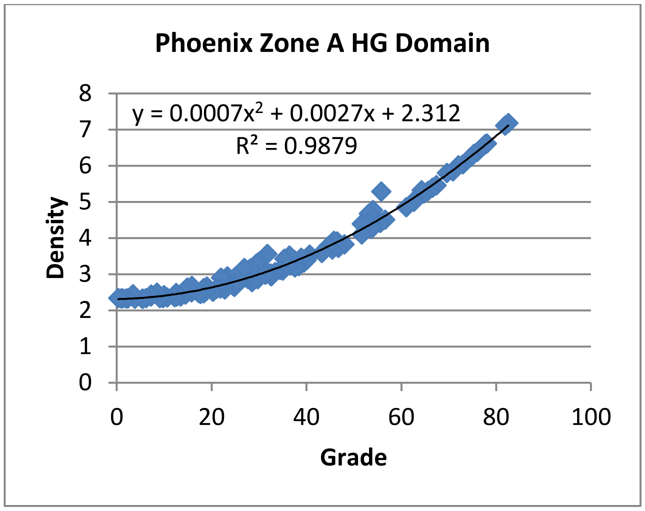
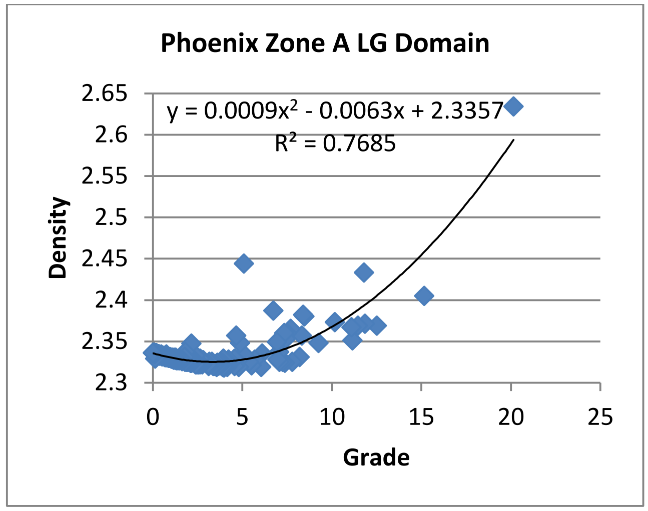
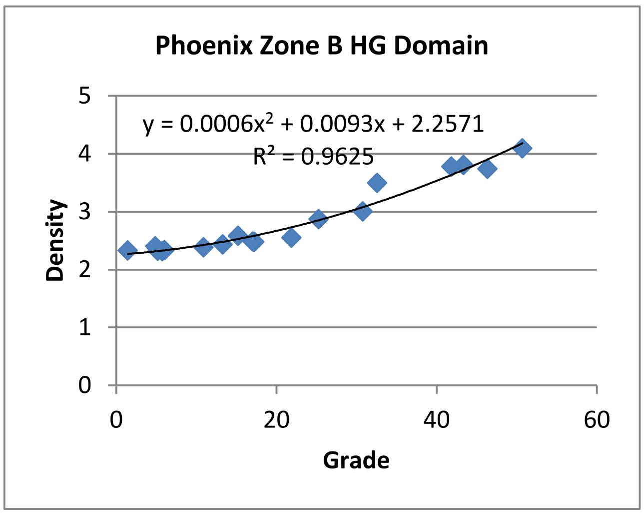
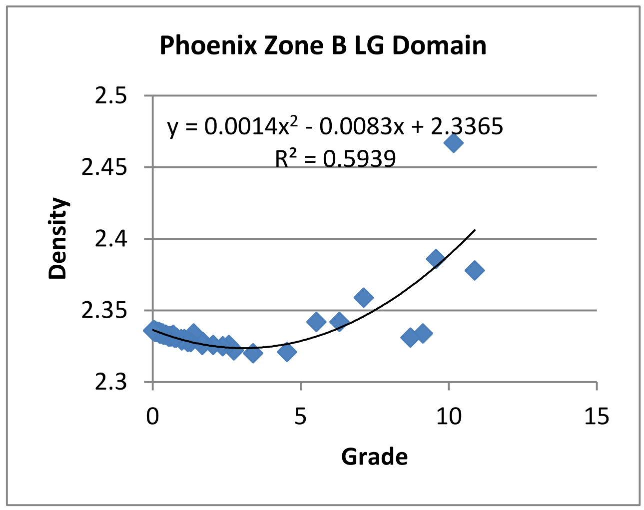


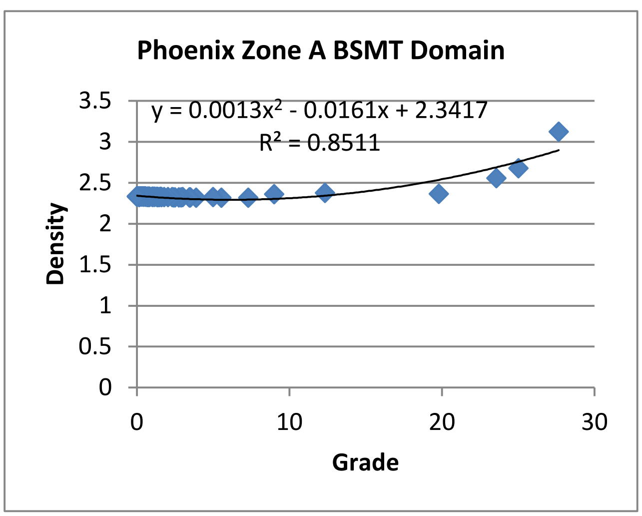
FIGURE 14-16 GRADE VS. DENSITY PLOTS FOR PHOENIX DEPOSIT ZONES A AND B HG AND LG DOMAINS











GRYPHON DEPOSIT

Assays were capped prior to compositing. Table 14-7 shows the composite statistics by domain.

TABLE 14-7 DESCRIPTIVE STATISTICS OF GRYPHON DEPOSIT COMPOSITE URANIUM ASSAY BY DOMAIN
Denison Mines Corp. – Wheeler River Property

Descriptive Statistic	Zone A1	Zone A2	Zone A3	Zone B1
Count	131	51	4	51
Mean	2.25	0.76	0.94	0.89
Median	0.38	0.16	0.67	0.18
Std. Dev.	4.53	1.32	0.96	2.34
Variance	20.52	1.74	0.92	5.46
Kurtosis	12.36	3.74	-1.28	16.26
Skewness	3.26	2.16	0.55	4.10
Range	30.00	5.43	2.42	12.34
Minimum	0.00	0.00	0.00	0.00
Maximum	30.00	5.43	2.42	12.34
Coefficient of Variation	2.02	1.74	1.02	2.64

	Zone B2	Zone B3	Zone C1	Zone C2
Count	26	15	26	15
Mean	2.33	2.76	3.48	0.19
Median	0.33	0.44	0.56	0.01
Std. Dev.	3.85	4.45	6.70	0.35
Variance	14.81	19.84	44.90	0.12
Kurtosis	1.97	1.46	3.15	5.94
Skewness	1.81	1.67	2.16	2.56
Range	13.54	14.77	24.03	1.39
Minimum	0.00	0.00	0.00	0.00
Maximum	13.54	14.77	24.03	1.39
Coefficient of Variation	1.65	1.61	1.92	1.83

VARIOGRAPHY – CONTINUITY ANALYSIS

PHOENIX DEPOSIT

For zone A, RPA reviewed variograms of grade and GxD for the HG domain composite data and grade for the LG domain composite data. Variograms were prepared in the downhole direction, along a northeasterly strike direction, and horizontally across the strike direction. Variograms were of fair quality considering the limited number of composite data. The nugget effect was approximately 10% of the sill. The GxD variograms were similar to those of grade. The variograms suggested approximate ranges for the zone A HG domain of 2.4 m downhole, 35 m along strike, and 10 m or less across strike; and for the zone A LG domain, 2.1 m downhole, 25 m or less along strike, and 25 m across strike. These ranges were used to derive search ellipse dimensions for block interpolations.

GRYPHON DEPOSIT

Zone specific variography has not been undertaken because the current drill hole spacing and number of samples are not adequate to generate meaningful variograms.

INTERPOLATION PARAMETERS

Three dimensional block models were constructed using Maptek Vulcan Mine Modelling Software. The variables G, D, and GxD were interpolated using an inverse distance squared (ID^2) algorithm for each mineralized domain. Hard boundaries were employed at domain contacts, so that composites from within a given domain could not influence block grades in other domains. Table 14-8 shows the block model parameters and variables used.

TABLE 14-8 PHOENIX AND GRYPHON BLOCK MODEL PARAMETERS AND VARIABLES
Denison Mines Corp. – Wheeler River Property

Model name:	H:\PROJECTS\2534 - Denison Mines Corp - Gryphon Deposit\Work\VULCAN_30Sept2015\wr_gryphon_sept2015_2m_capped-30
History list:	wr_gryphon_sept2015_2m_capped-3014Oct2015.bhst
Format:	extended
Structure:	regular
Smooth:	no
Number of blocks:	19,250,000
Number of variables:	13
Number of schemas:	1
Origin:	474,768.281 6,376,260.0 -400.0
Bearing/Dip/Plunge:	110.0 0.0 0.0
Offset:	550.0 700.00 1000.0
Model name:	H:\PROJECTS\2299-Denison Mines Corp.-Phoenix Uranium Deposits\Work\Vulcan\Phoenix\phx5_HG_zonea_u2
History list:	phx5_HG_zonea23May2014.bhst
Format:	extended
Structure:	non-regular
Smooth:	no

Number of blocks:	1808
Number of variables:	12
Number of schemas:	1
Origin:	476,725.0 6,373,800.0 30.0
Bearing/Dip/Plunge:	52.0 0.0 0.0
Offset:	820.0 120.0 200.0

Model name:	H:\PROJECTS\2299-Denison Mines Corp.-Phoenix Uranium Deposits\Work\Vulcan\Phoenix\phx5_HG_zoneb_u2
History list:	phx5_HG_zoneb23May2014.bhst
Format:	extended
Structure:	non-regular
Smooth:	no
Number of blocks:	324
Number of variables:	12
Number of schemas:	1
Origin:	476,725.0 6,373,800.0 30.0
Bearing/Dip/Plunge:	52.0 0. 0.0
Offset:	820.0 120.0 200.0

Model name:	H:\PROJECTS\2299-Denison Mines Corp.-Phoenix Uranium Deposits\Work\Vulcan\Phoenix\phx5_LG_zonea_u2
History list:	phx5_LG_zonea23May2014.bhst
Format:	extended
Structure:	non-regular
Smooth:	no
Number of blocks:	5417
Number of variables:	12
Number of schemas:	1
Origin:	476,725.0 6,373,800.0 30.0
Bearing/Dip/Plunge:	52.0 0. 0.0
Offset:	820.0 120.0 200.0

Model name:	H:\PROJECTS\2299-Denison Mines Corp.-Phoenix Uranium Deposits\Work\Vulcan\Phoenix\phx5_LG_zoneb_u2
History list:	phx5_LG_zoneb23May2014.bhst
Format:	extended
Structure:	non-regular
Smooth:	no
Number of blocks:	1506
Number of variables:	12
Number of schemas:	1
Origin:	476,725.0 6,373,800.0 30.0
Bearing/Dip/Plunge:	52.0 0. 0.0
Offset:	820.0 120.0 200.0

Variables	Default	Type	Description
den	-99.0	float	density
gxd_d	-99.0	float	gxd / den
gxd	-99.0	float	grade (raw) x density
grade_id2	-99.0	float	interpolated raw grade ID^2
grade_ok	-99.0	Double	interpolated grade ordinary kriging
nsamp	-99.0	short	number of samples per estimate
nholes	-99.0	short	number of holes per estimate
strat	unclass	name	stratigraphy
nn	-99.0	double	nearest neighbor
est_flag_id	-99.0	integer	estimation flag for ID
est_flag_ok	-99.0	integer	estimation flag for OK
ore	-99.0	integer	zones 1-13

PHOENIX DEPOSIT

For zones A and B, blocks were five metres long along the main northeast trend, two metres wide across the main trend, and one metre high. For the zone A basement domain, blocks were two metres long along the main northeast trend, one metre wide across the main trend, and one metre high. A whole block approach was used whereby the block was assigned to the domain where its centroid was located.

The interpolation strategy involved setting up search parameters in two passes for each domain. Search ellipses were oriented with the major axis oriented parallel to the dominant northeasterly trend of the zones. The semi-major axis was oriented horizontally, normal to the major axis (across strike) and the minor axis was vertical.

GxD and D were interpolated into the model using an initial pass. Blocks which did not receive an interpolated grade were then interpolated in the second pass, which resulted in all blocks being populated. Block grade was derived from the interpolated GxD value by dividing that value by the interpolated density value for each block. Grades not weighted by density (G) were also interpolated as a check.

In order to reduce the influence of very high grade composites, grades greater than a designated threshold level for each domain were restricted to shorter search ellipse dimensions. If the search ellipse contained a composite greater than the specified grade, it was used for interpolation only if it fell within the restricted search ellipse. The threshold grade levels were chosen from the basic statistics and from visual inspection of the apparent continuity of very high grades within each domain.

Search parameters are listed in Table 14-9 for the Phoenix deposit zones A and B, HG and LG domains. Major axis is horizontal along the main mineralized trend of N52°E, semi-major axis is horizontal normal to the main trend, and the minor axis is vertical.

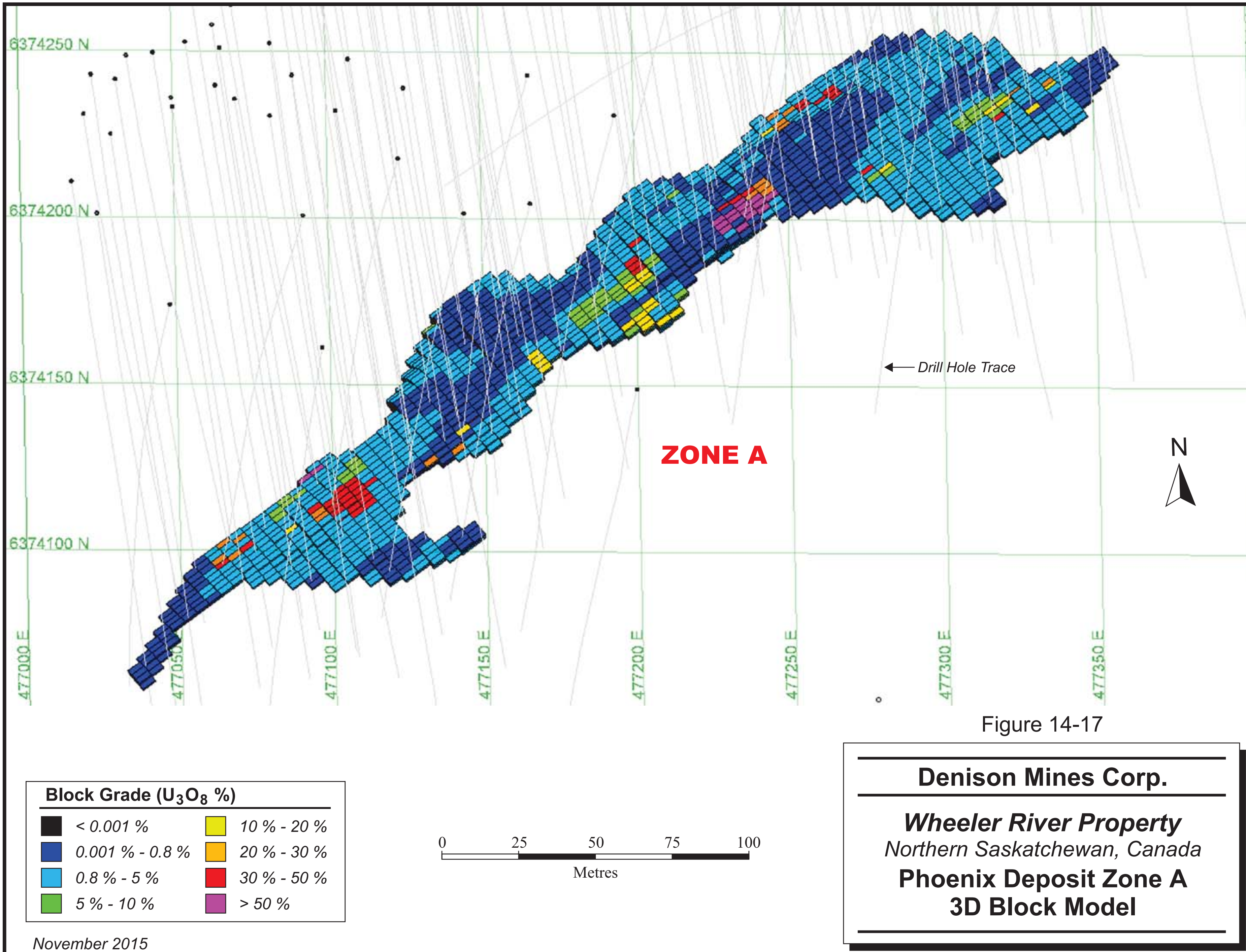
TABLE 14-9 PHOENIX DEPOSIT BLOCK MODEL INTERPOLATION PARAMETERS
Denison Mines Corp. – Wheeler River Property

Deposit and Domain	Pass	Search Radii (m)			Number of Composites Used		
		Major	Semi-major	Minor	Min	Max	Max per DH
A Deposit HG	First	35	15	8	3	8	2
	Second	50	25	10	3	8	2
	Restricted >60% U_3O_8	15	6	4	3	8	2
A Deposit LG	First	35	15	8	3	8	2
	Second	50	25	10	3	8	2
	Restricted >6% U_3O_8	15	6	4	3	8	2
A Deposit Basement	First	10	10	4	2	6	2
	Second	20	20	4	2	6	2
	Restricted >3% U_3O_8	10	10	4	2	6	2
B Deposit HG	First	35	15	6	3	8	2
	Second	50	25	10	3	8	2
	Restricted >40% U_3O_8	15	5	4	3	8	2
B Deposit LG	First	35	15	6	3	8	2
	Second	50	25	10	3	8	2
	Restricted >4% U_3O_8	15	5	4	3	8	2

Figure 14-17 is a three-dimensional isometric view looking downward to the north at the zone A block model with colour coded grades. Higher grades are red and green. The blocks shown are mostly in the LG domain. Figure 14-18 is an isometric view looking downward to the north at the HG domain of the zone A block model with colour coded grades. Higher grades are red and purple.

GRYPHON DEPOSIT

Following the generation of the wireframes for each zone, the wireframes were filled by a block model. The wireframes were used to assign domain codes to the blocks in the block model and for generating and coding composited assays (Figure 14-19). RPA determined that the 2 m by 10 m by 1 m block size was appropriate for modelling the individual mineralized units.



November 2015

Figure 14-17

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit Zone A
3D Block Model

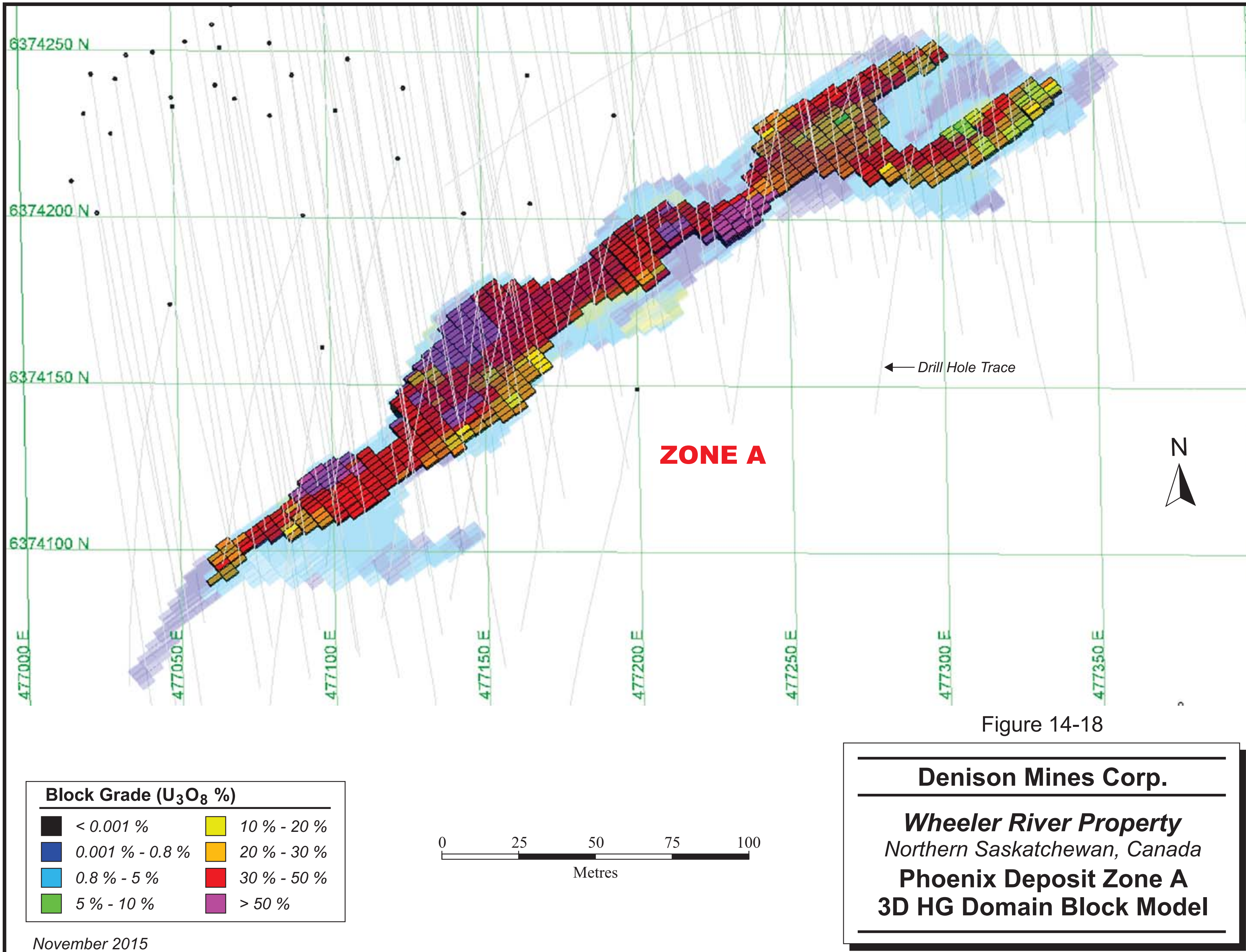


Figure 14-18

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit Zone A
3D HG Domain Block Model

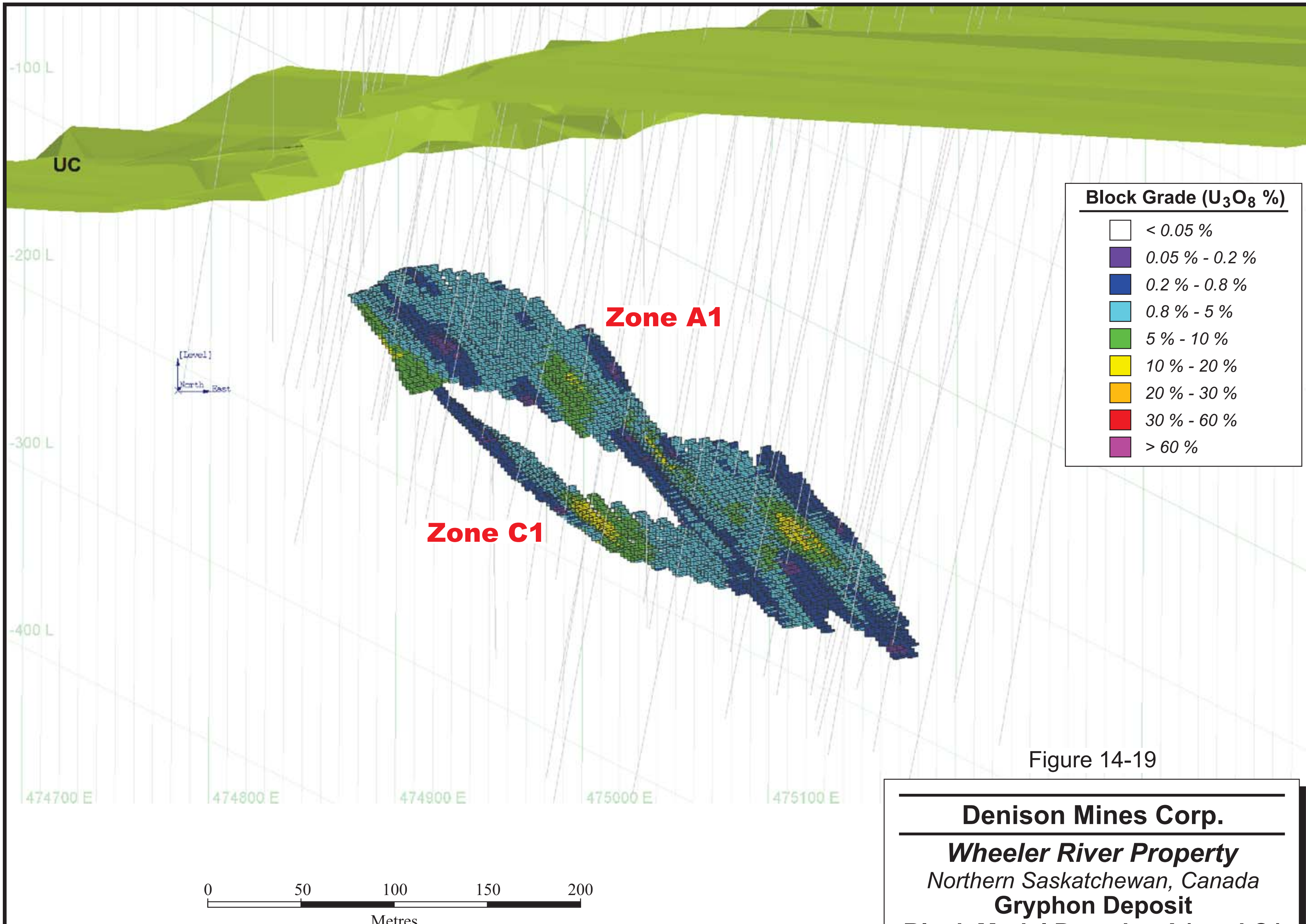


Figure 14-19

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Gryphon Deposit

Block Model Domains A1 and C1

(Looking North)

November 2015

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Composited GxD values and D values were interpolated into each block model domain using an ID^2 algorithm for each mineralized domain. Domain boundaries were treated as hard boundaries, so that composites from any given domain could not influence block grades in other domains. Block grade was derived from the interpolated GxD value divided by the interpolated D value for each block (GxD_D). Block tonnage was based on volume times the interpolated D value.

The interpolation strategy involved setting up search parameters in two passes for each individual mineralized wireframe. Table 14-10 provides a list of the estimation parameters used for each pass, and all wireframes were subject to the same estimation parameters.

TABLE 14-10 GRYPHON BLOCK MODEL ESTIMATION PARAMETERS
Denison Mines Corp. – Wheeler River Property

estimation_id	flag_var	flag_value	alpha	zeta	beta	major	semi	minor	Min samples	Max samples	dh_limit
id1_a1	est_flag_id	1	40	-30	-45	120	60	12	6	9	3
id1_a2	est_flag_id	1	40	-25	-45	120	60	12	2	6	2
id1_a3	est_flag_id	1	40	-25	-45	120	60	12	2	6	2
id1_b1	est_flag_id	1	40	-25	-45	120	60	12	6	9	3
id1_b2	est_flag_id	1	40	-25	-45	120	60	12	2	6	2
id1_b3	est_flag_id	1	40	-25	-45	120	60	12	3	9	3
id1_b4	est_flag_id	1	40	-25	-45	120	60	12	2	6	2
id1_c1	est_flag_id	1	40	-20	-40	120	60	12	6	9	3
id1_c2	est_flag_id	1	40	-20	-35	120	60	12	2	6	2
id1_d1	est_flag_id	1	40	-30	-45	120	60	12	2	4	2
id1_d2	est_flag_id	1	40	-30	-45	120	60	12	2	4	2
id1_d3	est_flag_id	1	40	-30	-45	120	60	12	2	4	2
id1_d4	est_flag_id	1	40	-30	-45	120	60	12	2	4	2
id2_a1	est_flag_id	2	40	-30	-45	120	60	12	2	4	2
id2_a2	est_flag_id	2	40	-25	-45	120	60	12	2	4	2
id2_a3	est_flag_id	2	40	-25	-45	120	60	12	2	4	2
id2_b1	est_flag_id	2	40	-25	-45	120	60	12	2	4	2
id2_b2	est_flag_id	2	40	-25	-45	120	60	12	2	4	2
id2_b3	est_flag_id	2	40	-25	-45	120	60	12	2	4	2
id2_b4	est_flag_id	2	40	-25	-45	120	60	12	2	4	2
id2_c1	est_flag_id	2	40	-20	-40	120	60	12	2	4	2
id2_c2	est_flag_id	2	40	-20	-35	120	60	12	2	4	2
id2_d1	est_flag_id	2	40	-30	-45	120	60	12	1	2	2
id2_d2	est_flag_id	2	40	-30	-45	120	60	12	1	2	2
id2_d3	est_flag_id	2	40	-30	-45	120	60	12	1	2	2
id2_d4	est_flag_id	2	40	-30	-45	120	60	12	1	2	2

BLOCK MODEL VALIDATION

The Phoenix and Gryphon deposit block models were validated by the following checks:

- Comparison of domain wireframe volumes with block volumes.
- Visual comparison of composite grades with block grades.
- Comparison of block grades with composite grades used to interpolate grades.
- Comparison with estimation by a different method.

In RPA's opinion, block model validation is reasonable and acceptable.

VOLUME COMPARISON

Wireframe volumes were compared to block volumes for each domain at the Phoenix and Gryphon deposits. This comparison is summarized in Table 14-11 and results show that there is good agreement between the wireframe volumes and block model volume. The difference is less than 2%, except for the zone B HG, A3, and B2 domains where the difference ranges from 3.5% to 6% due to the small volume of the wireframe combined with the whole block approach.

TABLE 14-11 VOLUME COMPARISON FOR WIREFRAME AND BLOCKS BY DOMAIN
Denison Mines Corp. – Wheeler River Project

Deposit and Zone	Wireframe				Block Model		% Difference
	Points	Triangles	Surface Area	Volume (m^3)	Blocks	Volume (m^3)	
Phoenix Deposit							
Zone A HG	4,965	9,926	16,732	17,999	1,808	18,080	0.45%
Zone A LG	13,313	26,682	49,758	54,270	5,416	54,160	-0.20%
Zone B HG	308	612	3,722	3,109	324	3,240	4.05%
Zone B LG	1,604	3,254	14,911	15,142	1,492	14,920	-1.49%
Zone A Basement	132	260	2009	2	1,115	2,230	-1.02%
Gryphon Deposit							
A1	783	1,562	101,254	172,570	8614	172,280	0.17%
A2	770	1,536	76,882	86,959	4346	86,920	0.04%
A3	206	404	22,676	20,305	955	19,100	5.94%
B1	589	1,174	73,444	101,644	5156	103,120	-1.45%
B2	268	532	32,089	38,599	1861	37,220	3.57%
B3	82	160	11,205	14,929	762	15,240	-2.08%
C1	343	682	31,363	33,766	1648	32,960	2.39%
C2	267	530	23,213	21,189	1053	21,060	0.61%

VISUAL COMPARISON

Block grades were visually compared with drill hole composites on cross sections, longitudinal sections, and plan views. The block grades and composite grades correlate very well visually within both the Phoenix and Gryphon deposits.

STATISTICAL COMPARISON

Statistics of the block grades are compared with statistics of composite grades in Table 14-12 for all blocks and composites within the Phoenix deposit zones A and B, HG, and LG domains. Table 14-13 lists the composites versus block grades for Gryphon. Grades are weighted by density for the composites and tonnage for the blocks. In some cases, the average block grades are higher than the average composite grades, which RPA attributes to density weighting of the block grades or distribution of the drill holes within relatively small zones.

TABLE 14-12 STATISTICS OF BLOCK GRADES COMPARED TO COMPOSITE GRADES BY DOMAIN - PHOENIX
Denison Mines Corp. – Wheeler River Property

Statistic	Zone A HG		Zone A LG		Zone A BSMT		Zone B HG		Zone B LG	
	Blocks	***Comps***	**Blocks**	***Comps***	**Blocks**	***Comps***	**Blocks**	***Comps***	**Blocks**	***Comps***
Mean (%U_3O_8)	39.18	34.86	1.73	1.77	1.35	1.56	25.71	21.65	1.34	1.57
Standard Error	0.37	1.93	0.02	0.14	0.35	0.36	0.59	3.74	0.04	0.31
Median (%U_3O_8)	36.51	31.52	1.22	0.59	0.14	0.32	26.63	17.14	0.69	0.53
Mode (%U_3O_8)	N/A	N/A	0.44	0.18	0.00	0.00	N/A	N/A	N/A	0.25
Standard Deviation (%U_3O_8)	15.63	21.62	1.72	2.69	4.11	4.26	10.66	15.85	1.65	2.64
Sample Variance	244.16	467.56	2.98	7.23	16.91	18.12	113.73	251.25	2.71	6.99
Kurtosis	-0.13	-0.69	16.02	10.25	25.63	23.16	-1.18	-1.02	5.04	4.65
Skewness	0.67	0.45	3.05	2.81	4.90	4.72	-0.08	0.54	2.23	2.36
Range (%U_3O_8)	77.76	82.31	19.85	20.13	27.82	27.66	44.86	49.24	10.48	10.86
Min (%U_3O_8)	4.62	0.29	0.03	0.01	0.00	0.00	3.46	1.46	0.01	0.01
Max (%U_3O_8)	82.38	82.60	19.88	20.14	27.82	27.66	48.32	50.69	10.49	10.87
Sum	70,832	4,357	9,354	608	186.78	215	8,329	390	2,025	113
Count	1,808	125	5,417	344	138	138	324	18	1,506	72
Coefficient of Variation	0.40	0.62	1.00	1.52	3.04	2.73	0.41	0.73	1.23	1.68

TABLE 14-13 STATISTICS OF BLOCK GRADES COMPARED TO COMPOSITE GRADES BY DOMAIN - GRYPHON
Denison Mines Corp. – Wheeler River Property

Statistic	Zone A1		Zone A2		Zone A3		Zone B1	
	Comps	Blocks	Comp	Blocks	Comp	Blocks	Comp	Blocks
Count	131	8,486	51	3,528	4	398	51	3,219
Mean	2.25	2.72	0.76	0.88	0.94	0.97	0.89	1.34
Median	0.38	1.51	0.16	0.52	0.67	0.99	0.18	0.87
Std. Dev.	4.53	2.89	1.32	0.92	0.96	0.22	2.34	1.31
Variance	20.52	8.34	1.74	0.84	0.92	0.05	5.46	1.71
Kurtosis	12.36	5.48	3.74	2.12	-1.28	0.39	16.26	3.40
Skewness	3.26	2.00	2.16	1.59	0.55	0.46	4.10	1.68
Range	30.00	25.47	5.43	5.06	2.42	1.32	12.34	9.90
Minimum	0.00	0.05	0.00	0.05	0.00	0.47	0.00	0.05
Maximum	30.00	25.52	5.43	5.11	2.42	1.78	12.34	9.95
Coef. of Var.	2.02	1.06	1.74	1.04	1.02	0.23	2.64	0.98

Statistic	Zone B2		Zone B3		Zone C1		Zone C2	
	Comp	Blocks	Comp	Blocks	Comps	Blocks	Comp	Blocks
Count	26	1,757	15	580	26	1,513	15	454
Mean	2.33	1.72	2.76	3.94	3.48	3.13	0.19	0.18
Median	0.33	0.74	0.44	2.18	0.56	1.38	0.01	0.10
Std. Dev.	3.85	2.03	4.45	4.17	6.70	4.14	0.35	0.21
Variance	14.81	4.14	19.84	17.43	44.90	17.13	0.12	0.04
Kurtosis	1.97	2.50	1.46	-0.71	3.15	4.04	5.94	6.48
Skewness	1.81	1.75	1.67	0.87	2.16	2.09	2.56	2.66
Range	13.54	9.77	14.77	14.98	24.03	22.08	1.39	1.11
Minimum	0.00	0.05	0.00	0.11	0.00	0.07	0.00	0.05
Maximum	13.54	9.82	14.77	15.10	24.03	22.15	1.39	1.17
Coef. of Var.	1.65	1.18	1.61	1.06	1.92	1.32	1.83	1.15

CHECK BY DIFFERENT ESTIMATION METHODS

PHOENIX DEPOSIT

RPA has carried out check estimates of the Denison ID^2 block models of the Phoenix deposit using the contour method.

For the contour method (Agnerian and Roscoe, 2002), grade times thickness times density (GxTxD) values for each drill hole intercept were plotted on plans and contoured. The areas between the contours were measured and multiplied by the average value in the contour interval. The GxTxD values are proportional to pounds of U_3O_8 per square metre and the sum of these values times area are converted to total pounds of U_3O_8 for each domain.

Thickness times density (TxD) values were also plotted on plans and contoured. The areas between the contours were measured and multiplied by the average value in the contour interval. The sum of the TxD values multiplied by the area represents tonnage for each of the domains. For the contour method check on the Phoenix deposit zone A HG domain, the tonnes, grade, and contained pounds of U_3O_8 estimated by the contour method are in the same general range as the ID^2 block model estimate.

CUT-OFF GRADE

PHOENIX DEPOSIT

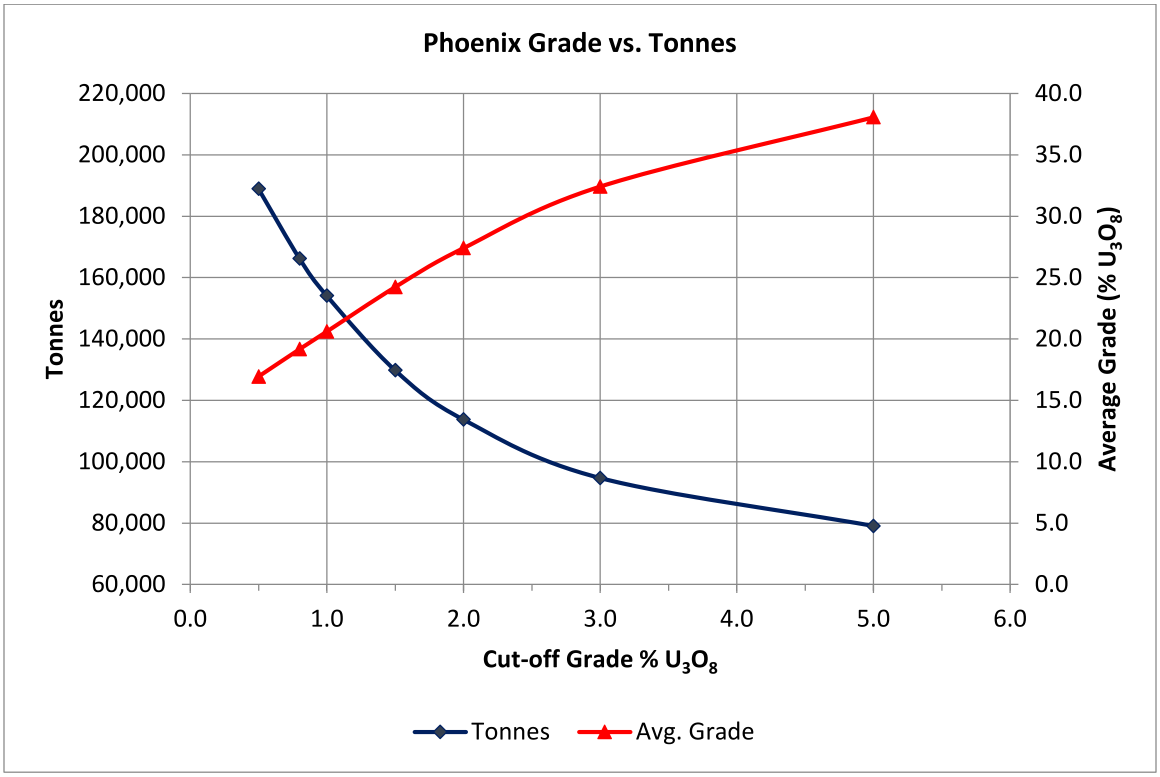
The cut-off grade of 0.8% U_3O_8 is based on internal conceptual studies by Denison and a price of US$50/lb U_3O_8. The HG domains are not sensitive to cut-off grades less than 5% U_3O_8 while the LG domains are quite sensitive to cut-off grade. RPA recommends that the cut-off grade should be revisited during future resource estimations on the Phoenix deposit.

Table 14-14 and Figure 14-20 show the sensitivity of the Indicated Mineral Resource to cut-off grade. It can be seen that, although there is some sensitivity of the tonnes and grade to cut-off grade, the contained pounds of U_3O_8 are much less sensitive to cut-off grade. The cut-off grade affects essentially only the LG domains of zones A and B because virtually all of the blocks in the HG domains of zones A and B are above the 5% U_3O_8 cut-off grade.

TABLE 14-14 PHOENIX DEPOSIT INDICATED MINERAL RESOURCE SENSITIVITY TO CUT-OFF GRADE
Denison Mines Corp. – Wheeler River Property

Cut-off % U_3O_8	Grade % U_3O_8	Tonnes	Lb U_3O_8 Millions
0.50	16.94	188,900	70.5
0.80	**19.13**	**166,200**	**70.2**
1.00	20.60	154,000	69.9
1.50	24.23	129,800	69.3
2.00	27.40	113,700	68.7
3.00	32.42	94,700	67.7
5.00	38.07	79,100	66.3

FIGURE 14-20 PHOENIX INDICATED MINERAL RESOURCE TONNES AND GRADE AT VARIOUS CUT-OFF GRADES



GRYPHON DEPOSIT

RPA estimated a potential underground mining cut-off grade using assumptions based on historical and known operating costs on mines operating in the Athabasca Basin. Table 14-15 shows the breakeven cut-off grade estimate by RPA using a price of US$50/lb U_3O_8 and based on assumptions for process plant recovery, total operating cost, and incremental component of operating cost. The estimated cut-off grade of 0.2% U_3O_8 is in line with the cut-off grade of 0.2% that RPA understands is used at Cameco's Rabbit Lake mine, which is basement mineralization similar geologically to Gryphon.

TABLE 14-15 GRYPHON DEPOSIT CUT-OFF GRADE CALCULATION
Denison Mines Corp. – Wheeler River Property

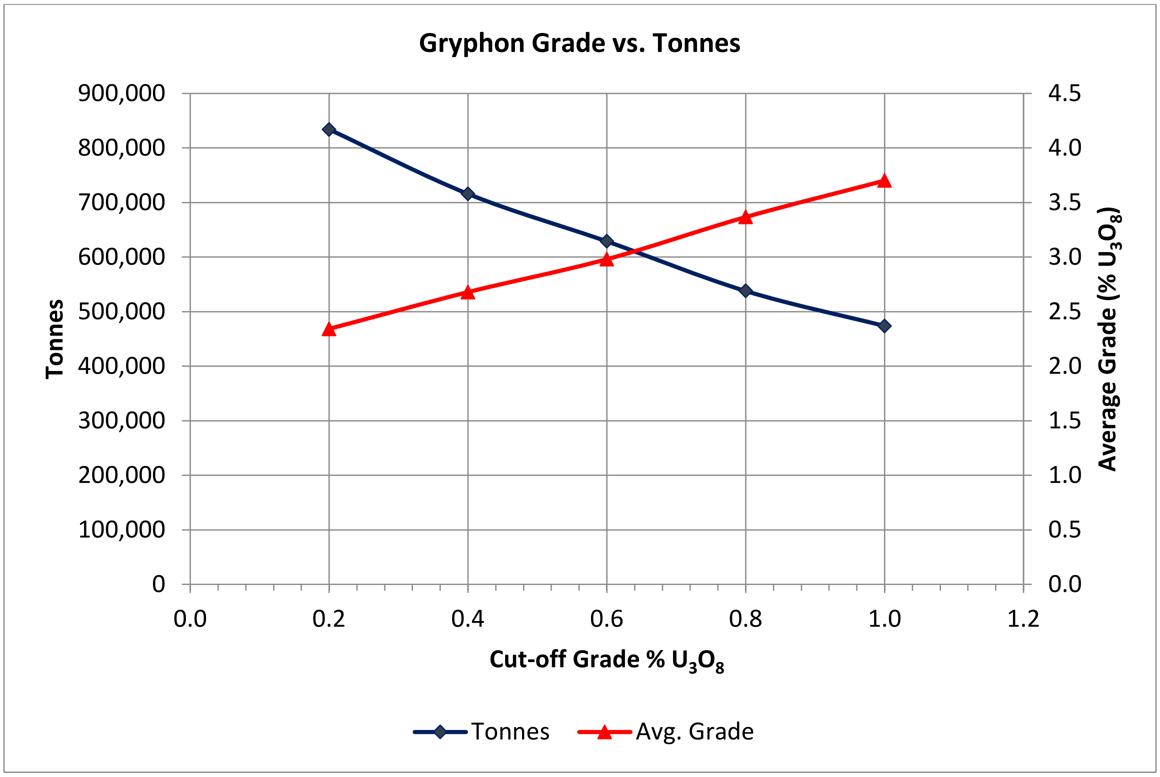
Item	Quantity
Price in US$/lb U_3O_8	US$50
Process plant recovery	90%
Operating cost per tonne	US$270
Incremental operating cost component (75%)	US$200
Cut-off grade	0.2%

Table 14-16 and Figure 14-21 show the sensitivity of the Gryphon block model to various cut-off grades. RPA notes that, although there is some sensitivity of average grade and tonnes to cut-off grade, the contained ounces are less sensitive.

TABLE 14-16 GRYPHON DEPOSIT INFERRED MINERAL RESOURCE SENSITIVITY TO CUT-OFF GRADE
Denison Mines Corp. – Wheeler River Property

Cut-off % U_3O_8	Grade % U_3O_8	Tonnes (000)	Mlb U_3O_8
0.20	2.342	834	43
0.40	2.679	716	42
0.60	2.981	629	41
0.80	3.367	538	40
1.00	3.701	474	39

FIGURE 14-21 GRYPHON INFERRED MINERAL RESOURCE TONNES AND GRADE AT VARIOUS CUT-OFF GRADES



CLASSIFICATION

Definitions for resource categories used in this report are consistent with those in the CIM (2014) and adopted by NI 43-101. In CIM (2014), a Mineral Resource is defined as "a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction". Mineral Resources are classified into Measured, Indicated, and Inferred categories. A Mineral Reserve is defined as the "economically mineable part of a Measured and/or Indicated Mineral Resource" demonstrated by studies at Pre-Feasibility or Feasibility level as appropriate. Mineral Reserves are classified into Proven and Probable categories. No Mineral Reserves have been estimated for the Property.

PHOENIX DEPOSIT

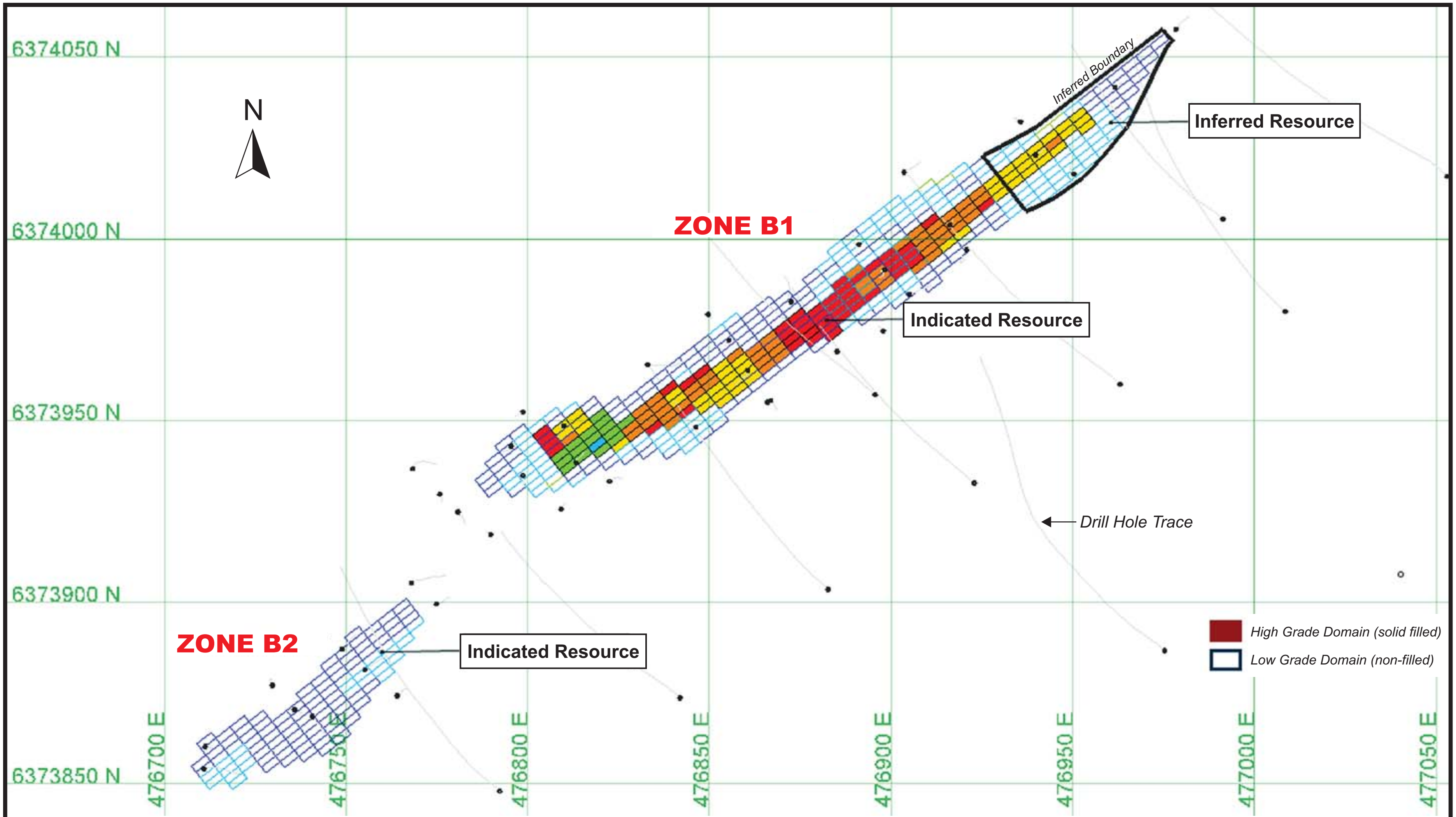
The Mineral Resources for the Phoenix deposit are classified as Indicated and Inferred based on drill hole spacing and apparent continuity of mineralization.

At zone A, the drill hole spacing is approximately 10 m on sections spaced 25 m apart. The classification of Indicated based on drill hole density and good grade continuity along strike is appropriate in RPA's opinion for all of the LG and HG domains. The zone A basement domain is classified as Inferred because of uncertainty of grade continuity due to the small number of drill holes.

At zone B, the drill hole spacing is approximately 10 m on sections spaced 25 m apart. The classification of Indicated is appropriate in RPA's opinion for most of the LG and HG domains. In the northeastern part of zone B, drill hole sections are spaced at approximately 35 m and the most northeasterly drill hole does not correlate well spatially with other drill holes because its elevation is slightly lower. This part of zone B is classified as Inferred because there is some uncertainty in the continuity of grade in both the HG and LG domains. Figure 14-22 shows the area of Inferred Mineral Resources along with Indicated Mineral Resources at zone B.

GRYPHON DEPOSIT

The Mineral Resources for the Gryphon deposit are classified as Inferred based on drill hole spacing and apparent continuity of mineralization.



November 2015

Figure 14-22

Denison Mines Corp.

Wheeler River Property

Northern Saskatchewan, Canada

Phoenix Deposit Zone B Block Model Showing Inferred and Indicated Resources

MINERAL RESOURCE ESTIMATE

Table 14-17 lists the Mineral Resource estimate for the Wheeler River Property by domain and resource category. The effective date of the resource estimate is September 25, 2015. The Phoenix cut-off grade of 0.8% U_3O_8 is based on internal conceptual studies by Denison and a price of US$50/lb U_3O_8, while a cut-off grade of 0.2% U_3O_8 for Gryphon is based on RPA estimates using assumptions based on historical and known mining costs on mines operating in the Athabasca Basin at a price of US50/lb U_3O_8.

For the Phoenix and Gryphon deposits, total Indicated Mineral Resources are estimated at 166,400 tonnes at an average grade of 19.13% U_3O_8 containing 70.2 million pounds of U_3O_8. Total Inferred Mineral Resources are estimated at 842,600 tonnes at an average grade of 2.37% U_3O_8 containing 44.1 million pounds of U_3O_8.

In RPA's opinion, the estimation methodology is consistent with standard industry practice and the Wheeler River Property Mineral Resource estimate is considered to be reasonable and acceptable.

TABLE 14-17 MINERAL RESOURCE ESTIMATE FOR THE WHEELER RIVER PROJECT AS OF SEPTEMBER 25, 2015
Denison Mines Corp. – Wheeler River Property

Category	Deposit and Domain	Tonnes	Grade (% U_3O_8)	Contained Metal (million lb U_3O_8)
Indicated	Phoenix Zone A HG	62,900	43.24	59.9
Indicated	Phoenix Zone A LG	84,300	2.37	4.4
Indicated	Phoenix Zone B HG	8,500	28.02	5.2
Indicated	Phoenix Zone B LG	10,700	2.91	0.7
Subtotal Indicated	Phoenix Zone A	147,200	19.81	64.3
Subtotal Indicated	Phoenix Zone B	19,200	13.94	5.9
Total Indicated		**166,400**	**19.13**	**70.2**
Inferred	Phoenix Zone A HG	0	0	0
Inferred	Phoenix Zone B HG	700	14.48	0.2
Inferred	Phoenix Zone B LG	4,800	1.79	0.2
Inferred	Phoenix Zone A Basement	3,100	10.24	0.7
Subtotal Inferred	Phoenix Zone A	0	0	0.0
Subtotal Inferred	Phoenix Zone B	5,500	3.30	0.4
Subtotal Inferred	Phoenix Zone A Basement	3,100	10.24	0.7
Subtotal Inferred	**Phoenix Deposit**	**8,600**	**5.80**	**1.1**
Inferred	Gryphon A1	387,200	2.89	24.6
Inferred	Gryphon A2	125,200	1.10	3.0
Inferred	Gryphon A3	18,100	0.97	0.4
Inferred	Gryphon B1	137,500	1.43	4.3
Inferred	Gryphon B2	73,300	1.90	3.1
Inferred	Gryphon B3	19,000	5.72	2.4
Inferred	Gryphon C1	69,700	3.33	5.1
Inferred	Gryphon C2	3,900	0.54	0.1
Subtotal Inferred	**Gryphon Deposit**	**834,000**	**2.37**	**43.0**
Total Inferred	**Phoenix and Gryphon**	**842,600**	**2.37**	**44.1**

Notes:
1. CIM definitions were followed for classification of Mineral Resources.
2. Mineral Resources for Phoenix are reported above a cut-off grade of 0.8% U_3O_8, which is based on internal Denison studies and a price of US$50 per lb U_3O_8.
3. Mineral Resources for Gryphon are reported above a cut-off grade of 0.2% U_3O_8, which is based on RPA assumptions and a price of US$50 per lb U_3O_8.
4. High grade composites are subjected to a high grade search restriction without capping at Phoenix.
5. High grade mineralization was capped at 30% with no search restrictions at Gryphon.
6. Bulk density is derived from grade using a formula based on 196 measurements at Phoenix and 65 measurements at Gryphon.
7. Numbers may not add due to rounding.

15 MINERAL RESERVE ESTIMATE

There is no current Mineral Reserve estimate on the Gryphon deposit.

16 MINING METHODS

This section is not applicable.

17 RECOVERY METHODS

This section is not applicable.

18 PROJECT INFRASTRUCTURE

This section is not applicable.

19 MARKET STUDIES AND CONTRACTS

This section is not applicable.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

This section is not applicable.

21 CAPITAL AND OPERATING COSTS

This section is not applicable.

22 ECONOMIC ANALYSIS

This section is not applicable.

23 ADJACENT PROPERTIES

This section is not applicable.

24 OTHER RELEVANT DATA AND INFORMATION

This section is not applicable.

25 INTERPRETATION AND CONCLUSIONS

Drilling at the Wheeler River Property from 2008 to 2014 discovered and delineated the Phoenix uranium deposit at the intersection of the Athabasca sandstone basal unconformity with a regional fault zone, the WS fault, and graphitic pelite basement rocks. Drilling from 2014 to 2015 discovered the basement hosted Gryphon uranium deposit located approximately three kilometres northwest of the Phoenix deposit.

The Phoenix deposit consists of two separate lenses known as zone A and zone B located at the Athabasca unconformity approximately 400 m below surface within a one kilometre long, northeast trending mineralized corridor. Both lenses contain a higher grade core within a lower grade mineralized envelope and extend southeastward from the WS fault along the unconformity. Some mineralization also occurs on the northwest side of the WS fault but commonly at a slightly lower elevation. In addition to zones A and B, a domain of uranium mineralization below and adjacent to zone A has been identified in basement rocks (zone A basement) and included in this report.

Mineral Resources for Phoenix, based on 196 diamond drill holes totalling 89,835 m, were estimated by RPA. Indicated Resources total 166,400 t at 19.13% U_3O_8 containing 70.2 million lb U_3O_8. Inferred Resources total 8,600 t at 5.80% U_3O_8 containing 1.1 million lb U_3O_8.

Mineralization at the Gryphon deposit, located three kilometres northwest of Phoenix, occurs in basement rocks approximately 200 m beneath the Athabasca sandstone unconformity. In this area, the unconformity drops to the northwest in a series of reverse fault offsets. Cumulative offset is approximately 60 m of vertical displacement over 250 m across strike. Basement rocks are Wollaston Group gneisses that dip moderately to the southeast and consist of an upper graphitic pelite unit overlying a quartzite/pegmatite assemblage which overlies a lower graphitic pelite unit followed by a basal pegmatite. To date, the mineralization is hosted in fault zones at the base of the upper graphitic pelite and within the lower graphitic pelite. The faults are assumed to dip moderately to the southeast, conformable with the bedding and foliation in the basement rocks.

Mineral Resources for Gryphon, based on 55 diamond drill holes totalling 40,041 m, were estimated by RPA. Inferred Resources total 834,000 t at 2.31% U_3O_8 containing 43.0 million lb U_3O_8. In RPA's opinion, additional infill drilling on 25 m profile spacing or wedging off of current drill holes would be needed to bring the Inferred Mineral Resource into Indicated status.

In RPA's opinion, a Preliminary Economic Assessment (PEA) could be carried out on the Phoenix and Gryphon deposits combined.

26 RECOMMENDATIONS

In the third quarter of 2015, the Wheeler River Joint Venture commenced a PEA. At the end of the PEA, a review of the project will be completed with recommendations for next steps. Should the project proceed into pre-feasibility, initial work will focus on environmental baseline studies, engineering field programs, and engineering studies.

The Wheeler River Joint Venture plans to continue exploration on the Property in 2016, with emphasis expected to be on the areas to the northeast and southwest of Gryphon, as well as other targets on the Property. In addition, an infill drilling program may be undertaken on the Gryphon deposit to bring the Inferred Mineral Resource into Indicated status if warranted by positive PEA results.

RPA has reviewed the preliminary plans for 2016 and concurs with the program planned for the Wheeler River Joint Venture in 2016. Denison's 2016 budget for the Wheeler River Joint Venture has not been disclosed yet, but RPA expects exploration expenditures to be in the order of C$10 million. Contingent on results of this program and the PEA, a second phase will consist of infill drilling at Gryphon, environmental baseline studies, engineering field programs, and engineering studies as part of the initiation of a pre-feasibility study. RPA expects that the cost of the second phase program will be in the order of C$3 million.

If further drilling is completed at Gryphon, RPA recommends that Denison continue to collect additional bulk density data to increase the confidence of estimated densities of the entire grade range.

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28 DATE AND SIGNATURE PAGE

This report titled "Technical Report on a Mineral Resource Estimate for the Wheeler River Property, Eastern Athabasca Basin, Northern Saskatchewan, Canada" and dated November 25, 2015, was prepared and signed by the following authors:

(Signed & Sealed) "*William E. Roscoe*"

Dated at Toronto, ON
November 25, 2015

William E. Roscoe, Ph.D., P.Eng.
Principal Geologist

(Signed & Sealed) "*Mark B. Mathisen*"

Dated at Lakewood, CO
November 25, 2015

Mark B. Mathisen, C.P.G.
Senior Geologist

29 CERTIFICATE OF QUALIFIED PERSON

WILLIAM E. ROSCOE

I, William E. Roscoe, Ph.D., P.Eng., as an author of this report entitled “Technical Report on a Mineral Resource Estimate for the Wheeler River Property, Eastern Athabasca Basin, Northern Saskatchewan, Canada”, prepared for Denison Mines Corp. (the “Issuer”), and dated November 25, 2015, do hereby certify that:

1. I am a Principal Geologist with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.

2. I am a graduate of Queen’s University, Kingston, Ontario, in 1966 with a Bachelor of Science degree in Geological Engineering, McGill University, Montreal, Quebec, in 1969 with a Master of Science degree in Geological Sciences and in 1973 a Ph.D. degree in Geological Sciences.

3. I am registered as a Professional Engineer (No. 39633011) and designated as a Consulting Engineer in the Province of Ontario. I have worked as a geologist for a total of 46 years since my graduation. My relevant experience for the purpose of the Technical Report is:
   - Thirty-one years of experience as a Consulting Geologist across Canada and in many other countries
   - Preparation of numerous reviews and technical reports on exploration and mining projects around the world for due diligence and regulatory requirements
   - Senior Geologist in charge of mineral exploration in southern Ontario and Québec
   - Exploration Geologist with a major Canadian mining company in charge of exploration projects in New Brunswick, Nova Scotia, and Newfoundland

4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

5. I visited the Wheeler River Project on October 30, 2012, and June 16, 2014.

6. I share responsibility with my co-author for all of the sections of the Technical Report.

7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.

8. I have previously authored a NI 43-101 Technical Report on the property (Phoenix deposit) that is the subject of the Technical Report.

9. I have read NI 43-101 and this Technical Report, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 25th day of November, 2015

(Signed & Sealed) "*William E. Roscoe*"

William E. Roscoe, Ph.D., P.Eng.

MARK B. MATHISEN

I, Mark B. Mathisen, CPG, as an author of this report entitled “Technical Report on a Mineral Resource Estimate for the Wheeler River Property, Eastern Athabasca Basin, Northern Saskatchewan, Canada”, prepared for Denison Mines Corp. (the “Issuer”), and dated November 25, 2015, do hereby certify that:

1. I am Senior Geologist with RPA (USA) Ltd. of Suite 505, 143 Union Boulevard, Lakewood, Co., USA 80228.

2. I am a graduate of Colorado School of Mines in 1984 with a B.Sc. degree in Geophysical Engineering.

3. I am a Registered Professional Geologist in the State of Wyoming (No. PG-2821) and a Certified Professional Geologist with the American Institute of Professional Geologists (No. CPG-11648). I have worked as a geologist for a total of 20 years since my graduation. My relevant experience for the purpose of the Technical Report is:
   - Mineral Resource estimation and preparation of NI 43-101 Technical Reports.
   - Director, Project Resources, with Denison Mines Corp., responsible for resource evaluation and reporting for uranium projects in the USA, Canada, Africa, and Mongolia.
   - Project Geologist with Energy Fuels Nuclear, Inc., responsible for planning and direction of field activities and project development for an in situ leach uranium project in the USA. Cost analysis software development.
   - Design and direction of geophysical programs for US and international base metal and gold exploration joint venture programs.

4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

5. I visited the Wheeler River Property on March 23 to 25, 2015.

6. I share responsibility with my co-author for all of the sections of the Technical Report.

7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.

8. I was working on the database QA/QC for Gryphon between late 2013 and April 2014. First resource modelling for Gryphon was done after I joined RPA in May 2014.

9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 25th day of November, 2015

(Signed & Sealed) "*Mark B. Mathisen*"

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