

# MAR 20110015: WHISKEY GAP

Whiskey Gap - A report on uranium exploration in southern Alberta.

Received date: Jul 18, 2011

Public release date: Jun 03, 2012

## **DISCLAIMER**

By accessing and using the Alberta Energy website to download or otherwise obtain a scanned mineral assessment report, you ("User") agree to be bound by the following terms and conditions:

- a) Each scanned mineral assessment report that is downloaded or otherwise obtained from Alberta Energy is provided "AS IS", with no warranties or representations of any kind whatsoever from Her Majesty the Queen in Right of Alberta, as represented by the Minister of Energy ("Minister"), expressed or implied, including, but not limited to, no warranties or other representations from the Minister, regarding the content, accuracy, reliability, use or results from the use of or the integrity, completeness, quality or legibility of each such scanned mineral assessment report;
- b) To the fullest extent permitted by applicable laws, the Minister hereby expressly disclaims, and is released from, liability and responsibility for all warranties and conditions, expressed or implied, in relation to each scanned mineral assessment report shown or displayed on the Alberta Energy website including but not limited to warranties as to the satisfactory quality of or the fitness of the scanned mineral assessment report for a particular purpose and warranties as to the non-infringement or other non-violation of the proprietary rights held by any third party in respect of the scanned mineral assessment report;
- c) To the fullest extent permitted by applicable law, the Minister, and the Minister's employees and agents, exclude and disclaim liability to the User for losses and damages of whatsoever nature and howsoever arising including, without limitation, any direct, indirect, special, consequential, punitive or incidental damages, loss of use, loss of data, loss caused by a virus, loss of income or profit, claims of third parties, even if Alberta Energy have been advised of the possibility of such damages or losses, arising out of or in connection with the use of the Alberta Energy website, including the accessing or downloading of the scanned mineral assessment report and the use for any purpose of the scanned mineral assessment report so downloaded or retrieved.
- d) User agrees to indemnify and hold harmless the Minister, and the Minister's employees and agents against and from any and all third party claims, losses, liabilities, demands, actions or proceedings related to the downloading, distribution, transmissions, storage, redistribution, reproduction or exploitation of each scanned mineral assessment report obtained by the User from Alberta Energy.

**ALBERTA ENERGY,  
OFFICIAL MINERAL ASSESSMENT  
REPORT OF RECORD**

## **The Whiskey Gap Uranium Project**

**Alberta Permit Numbers**

093 9305050704, 093 9305050703, 093 9306031154,

### **Part B**

#### **Summary of Exploration**

**Diamond Drilling**

**NTS 83H**

**For**

**Zadar Ventures**

**By**

**G.S. Hartley P.Geol.**

**May 1, 2011**

**IMPORTANT NOTICE**

This report was prepared , for Zadar Ventures, by Hartley and Associates. The quality of information, conclusions contained herein is consistent with the level of effort involved in Hartley's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report.

**Table of Contents Parts B and C**

<b>1.0 SUMMARY</b> .....	6
1.1 Scope of this Report	
1.2 Location	
1.3 History	
1.4 Geology and Mineralization	
1.5 Previous drilling	
1.6 The 2010 Drill Program	
1.7 Conclusions and Recommendations	
<b>2.0 INTRODUCTION AND TERMS OF REFERENCE</b> .....	8
2.1 Terms of Reference	
2.2 Units and Abbreviations	
<b>3.0 RELIANCE ON OTHER EXPERTS</b> .....	9
<b>4.0 PROPERTY LOCATION</b> .....	10
4.1 Property Location	
4.2 Land Tenure	
4.3 Permits and site access	
<b>5.0 ACCESSIBILITY, TOPOGRAPHY, CLIMATE, AND INFRASTRUCTURE</b> .....	11
5.1 Accessibility	
5.2 Topography climate	
5.3 Infrastructure	
<b>6.0 HISTORY</b> .....	12
6.1 International Ranger	
6.2 North American Gem	
6.3 Alberta Geological Survey	
6.4 Geo Minerals	
<b>7.0 GEOLOGICAL SETTING</b> .....	13
7.1 Regional Geology	
7.2 Property Geology	
7.2.1 Willow Creek Formation	
7.2.2 St Mary River Formation	
7.2.3 Blood Reserve Formation	
<b>8.0 POTENTIAL DEPOSIT TYPES</b> .....	17
<b>9.0 MINERALIZATION</b> .....	18
9.1 Description of Previously Defined Mineralized Drill intersections on the Property	
9.1.1 Hole NWG-05-02	
9.1.2 Hole NWG-06-20	

<b>10.0 DRILLING 2010</b> .....	21
<b>11.0 SAMPLING METHOD AND APPROACH</b> .....	23
11.1 Diamond drill core .....	
<b>12.0 INTERPRETATION AND CONCLUSIONS</b> .....	23
<b>13.0 RECOMMENDATIONS</b> .....	24
<b>14.0 CERTIFICATE/ QUALIFICATIONS</b> .....	25
<b>22.0 REFERENCES</b> .....	26

#### LIST OF FIGURES

Figure 1- Location of the Whiskey Gap Property.....	9
Figure 2- Whiskey Gap Lands.....	10
Figure 3- Typical Physiography looking west.....	11
Figure 4- Regional Geological map .....	13
Figure 5- Geological map of the Whiskey Gap Permit Area.....	15
Figure 6 – Stratigraphic Succession Southeast Alberta.....	16
Figure 7 – Conceptual Model of Uranium Roll Front Deposit.....	17
Figure 8 – Radioactive Zone from DDH 05-02.....	19
Figure 9 –Favorable Radioactivity and Geochemistry from DH 06-20.....	20
Figure 10 Section through DDH 2010-1 and 2010-2 looking north.....	23

#### LIST OF MAPS

Map 1 Current and Historical Drilling areas.....	21
Map 2 Drill Hole Locations 2010.....	22

#### Table of Appendices Part C

Appendix 1 Phase One Diamond Drill Core logs
Appendix 2 Geophysical Logs
Appendix 3 Phase One Assay Results

## 1.0 Summary

---

### 1.1 Scope of this Report

This report is prepared on behalf of Zadar Ventures Ltd. who commissioned the author to conduct a diamond drilling program on the Whiskey Gap Property, during May and June 2010. The purpose of this report is to document those drilling results. A brief summary of exploration that has been conducted and significant mineralization identified previous operators is included. For detailed historical information, the reader is referred to Previous assessment reports, Hartley G.S. (2007) Assessment Report 20070017 and Hartley G.S. (2009) Assessment report 20090007

### 1.2 Location

The Whiskey Gap Property is situated immediately north of the Canada US border in southern Alberta, (49° 2' 16" N, 113° 0' 28" W). The lands are west of the Delbonita Port of Entry, along paved Alberta Highway 501 (Figure 4-1) and approximately 25 kilometres south east of the town of Cardston, Alberta .

Access to the Whiskey Gap Property is by paved Alberta Highway from the city of Lethbridge or town of Cardston. Internal access through the property is by well-maintained all weather county grid road system,

### 1.3 History

At the request of International Ranger, the Author conducted a Radon in water survey of domestic well waters on the Permits in August 2005 and the property was optioned to North American Gem of Vancouver October 5, 2005. North American Gem subsequently conducted a program of NQ Diamond Drilling totaling 1342.6 meters (4004 ft) in 12 holes, and a program of Reverse Circulation Drilling totaling 2927.6 meters (9605 ft) in 30 holes in early 2006. Geo Minerals of Vancouver drilled 5 reverse circulation holes on the property in March 2008.

Work conducted on the permits by the Author ( Hartley 2007) and the Alberta Geological Survey in 2007 have outlined strong radon and Uranium in water values, comparable to Uranium producing areas near Corpus Christi Texas. ( Beaman and Tissot 2004 )

### 1.4 Geology and Mineralization

The geology of the area is characterized by poorly exposed bedrock of Tertiary and Upper Cretaceous sandstones and shale, belonging to the Willow Creek and St Mary River formations, of southern Alberta. Rocks of similar age and character are host to a family of worldwide deposits, commonly referred to as sandstone hosted Uranium deposits in the United States.

Sandstone Uranium deposits are low grade, but currently produce 28% of the worlds Uranium. Deposits of this type, may be recovered by insitu leach methods, cutoff grades can be as low as of 100 ppm . It is common practice for ISL projects to use a grade times thickness (GT) contour method. This method is based on the product of mineralization grade and true thickness, indicated for each major intercept within the mineralized horizons.

During formation of these deposits, Uranium mineralization is released by the weathering of felsic source rocks, and transported by oxidizing ground water, as soluble U+6 ions. The Uranium ions are deposited in the aquifer at sites where conditions become strongly reducing. Reducing conditions are commonly created by the presence of organic carbon, and pyrite, but may also be caused by small quantities of methane gas in the aquifer.

The oxidation reduction front causes Uranium minerals and other heavy metals, for example, copper, molybdenum, and arsenic, to precipitate in pore spaces and along grain boundaries, if present, in the solution.

Radon gas, dissolved in ground water or present as soil gas, is produced by radioactive decay of the Uranium deposit, and has successfully been used worldwide to indicate exploration targets.

Research by the Alberta Geological Survey( Matveeva 2009) indicates that Uranium occurs within common rock forming minerals of the St Mary River formation, thus potential Uranium source rocks exist in the area.

### **1.5 Previous Drilling**

Most of the previous drill holes, on the Whiskey Gap Property intersected strongly oxidized zones. Strongly reducing conditions, with associated radioactivity, were encountered in two exploration holes. The reducing zones, encountered in holes DDH 05-02, and DH 06-20 were associated anomalous radioactivity and significant Uranium mineralization (to 136 ppm U )

The reduced zones, containing organic carbon and pyrite, had associated heavy metal enrichment. Heavy metals included, Arsenic, Copper, Molybdenum, Antimony, Selenium, and Barium. The values of heavy metals occurring in the radioactive zones were: Arsenic 593 ppm, Copper 62 ppm, Antimony 18 ppm, Selenium 12 ppm, Barium 3740 ppm and Molybdenum 79 ppm.

Uranium mineralization, in all instances, occurred within an "envelope" of associated heavy metals. The best Uranium assay returned from all drill programs was 136 ppm over a 30 centimeter core interval occurring within a 2.4 meter zone of heavy metal enrichment in DDH 05-02

A strong Oxidation Reduction boundary was intersected in Reverse Circulation Hole 06-20. Chip assay results indicated an 8 meter zone of anomalous heavy metal enrichment with weak uranium values to a maximum of 30 ppm.

Sample quality of previous Reverse Circulation programs conducted in 2006 and 2008 was very low due to extremely wet conditions. Massive Pyrite and Organic plant trash (coal ) were identified in several holes indicating the presence of a persistent reducing zone near hole DH 06-20, drilled during the latter part of a large reverse circulation program conducted in 2006. It was previously recommended that the area proximal to DH 06-20 should be re investigated using a Diamond drill.

### **1.6 The 2010 Drill Program**

The 2010 Diamond drill program, conducted by Zadar Ventures, consisted of drilling of four NQ diamond core holes to better understand the distribution and control of Uranium and heavy mineral concentrations indicated in reverse circulation drill hole DH 06-20.

Hard Core Diamond Drilling Ltd of Naramata B.C. was contracted to do a minimum of 400 meters of NQ diamond drilling on the whiskey Gap property. All holes were radiometrically logged by Electrolog Services of Calgary.

Best assay for the program was obtained from hole WG10-02 where a value of 68 ppm U accompanied by significant heavy metals enrichment occurs within a radioactive zone approximately 12 feet (3.65m) in thickness.

Weak but significant radioactivity and Uranium values with heavy metals were encountered in all four of the drill holes of the 2010 program.

### **1.7 Conclusions and Recommendations.**

The Author believes that exploration by International Ranger and North American Gem, as well as work conducted by the Alberta Geological Survey and others, supports the analogy that Sand stone Uranium Deposits, could exist on the Whiskey Gap Project lands. A potentially interesting Uranium concentration of 136ppm was intersected in DDH 05-02 during drilling of the Whiskey Gap lands in 2005.

Uranium mineralization up to .9% U308 occurs within rare fossil debris within the Willow Creek section west of the Whiskey Gap Property (Firestone Ventures).

This occurrence, confirms that processes capable of uranium transport and deposition, responsible for the formation of Sandstone Uranium deposits are active in the Project area.

Weak but significant radioactivity and Uranium values with heavy metals were encountered in all four of the drill holes of the 2010 program. The mineralized zone, first defined in hole 06-20, has been confirmed and expanded by the current Zadar drill program.

A very strong radon in water anomaly near 06-20, first identified by International Ranger in 2005, was subsequently confirmed by Alberta Geological Survey field data in 2007.

Additional diamond drilling should be done in the area to further understand and delineate the mineralized system.

## 2.0 INTRODUCTION

---

### 2.1 Terms of Reference

This report is prepared on behalf of Zadar Ventures Ltd. who commissioned the author To conduct diamond drilling on the Whiskey Gap Property ("the Property"), located in southern Alberta, and illustrated in Figure 2-1.

The author has personally supervised all exploration conducted by International Ranger and North American Gem on the Whiskey Gap Property since 2005 further, acting as a Consulting Geologist, has compiled and authored all previous geological reports and data on the project.

In preparing this report, the author relied on personal knowledge, and experience as well as the geological reports and maps, miscellaneous technical papers listed in the References section of this report. Only data believed to be accurate was included in the assessment, and this report is based on information known to the author as of the report date.

### 2.2 Units and Abbreviations

All measurements and units used in this Technical Report are metric, with the following abbreviations: tonnes (t), million tones (Mt), meter (m), millimeters (mm), kilometer (km), hectare (ha), gram (g), kilogram (kg), gram per tonne (g/t), parts per billion (ppb), becquerals per liter (Bq/l) Picocuries per liter (pc/l), parts per million (ppm) degree centigrade (°C), and percent (%). Units of currency are expressed in Canadian dollars unless stated otherwise.

Figure 1: Location of the Whiskey Gap Property



### 3.0 RELIANCE ON OTHER EXPERTS

The results and opinions expressed in this report are based on historical geological and Technical data listed in the References section of this report and augmented by the author's observations made during field examination. While the author have exercised all reasonable diligence in checking the data in the preparation of this report and believes the information to be reliable, the author has relied on

reports published by the Alberta Geological Survey (AGS) and on data analysis provided by the Saskatchewan Research Council (SRC).

## 4.0 PROPERTY LOCATION

### 4.1 Property Location

The Whiskey Gap Property is situated immediately north of the Canada US border in southern Alberta, (49° 2' 16" N, 113° 0' 28" W), Township 1, Range 22 and 23, west of the 4<sup>th</sup> meridian

The property lies immediately north of and along the Alberta Montana border. Access to and through the property is by paved Alberta highways # 501 and # 62, graveled grid roads traverse the property lands and service the local farming community.

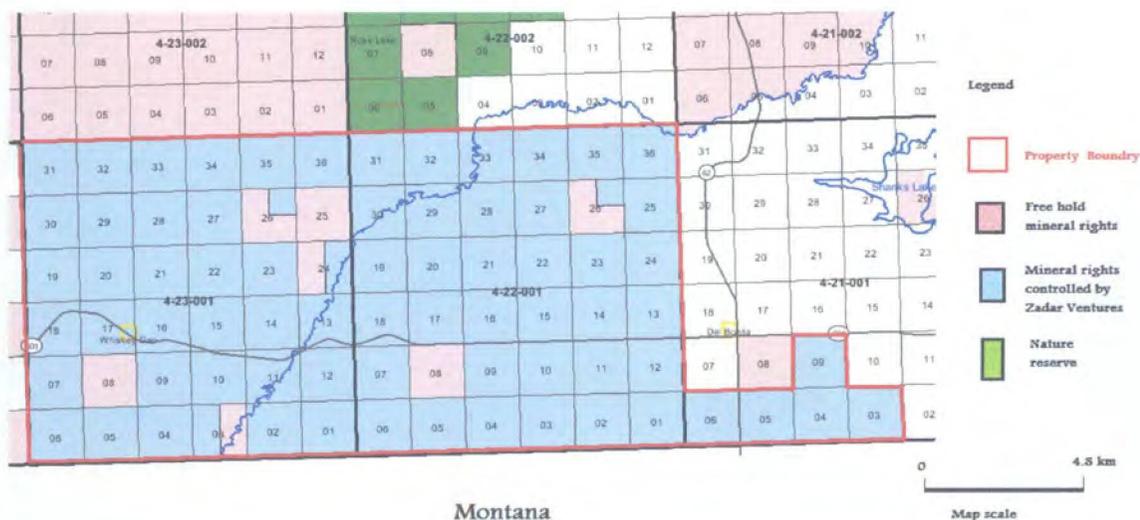


Figure 2 Whiskey Gap lands (May 01 2010)

### 4.2 Land Tenure

The Whiskey Gap Property consists of 3 metallic mineral permits, numbered 093 9305050704, 093 9305050703, and 093 9306031154 granted by the Province of Alberta. The total area contains 71 full sections, comprising an area of 18,263.3 hectares. The property is in good standing until, May 09, 2011. The permits may be renewed for further two year period by an exploration expenditure of 10 dollars per hectare before May 09 2011.

### 4.3 Permits and site access

Permits to conduct shallow drilling operations are required from the Department of Sustainable Resource Development (SRD) of the Alberta Government.

Alberta Governmental approval to conduct diamond drilling was received June 1, 2010 as MME 100002. Site access for drilling equipment and personnel was negotiated with individual surface rights owners.

## 5.0 ACCESSIBILITY, TOPOGRAPHY, CLIMATE, AND INFRASTRUCTURE AND LOCAL RESOURCES

### 5.1 Accessibility

Access to and through the property is by paved Alberta highways # 501 and # 62, graveled grid roads traverse the property lands and service the local farming community



**Figure 3. Typical Physiography looking west along Highway 501 near the center of Zadar Permits**

### 5.2 Topography and climate

The permits are flat to gently rolling farm and ranch land. Topography varies from 1270 to 1408 meters. Drainage is mature, and bedrock exposures are poor excepting along major drainage and in occasional road cuts. Climate is typical of the Alberta plains, subject to seasonal temperatures of -40C in winter to 30C in summer.

Drilling operations have historically been successfully conducted throughout the winter months, summer operations are subject to intermittent rain that limits field access over bentonite rich soils. The area generally receives little precipitation during the summer months.

### 5.3 Infrastructure

The Area is serviced by paved highways # 501 and # 62, graveled grid roads traverse the permits and provide excellent access to and through the property. A variety of farm equipment, including trucks and heavy tractors is available on a rental basis from local farmers in the region. Rental construction equipment, fuel, hardware, and supplies are readily available in the commercial centers of Cardston (30

km to the west along Highway 501) and Lethbridge. The region is the site of historical coal mining operations near Lethbridge, and oil production occurs near Delbonita, on the eastern limit of the property.

The method of recovery of Uranium from shallow sandstone hosted deposits, by insitu leaching, has successfully operated for many years in Wyoming. The environmental foot print and visual surface facilities are similar those commonly employed in Oil and Gas recovery.

It is not anticipated that extensive land disturbance by open pit mining techniques would be associated or required for Uranium recovery at the Whiskey Gap site.

## 6.0 HISTORY

---

The Permit area has no known Uranium reserves or mineral production history, although small amounts of coal have been recovered for domestic use by local farmers. The organizations whose activities are summarized below have contributed to the understanding and definition of uranium occurrences on the Zadar permits.

### 6.1 International Ranger

The permits were acquired by International Ranger, through the purchase of a private company, for \$30,000 and the issuance of 1 million shares of Ranger stock. In August 2005, the Author was contracted by Ranger to conduct a Radon in water survey of domestic water sources in the permit area. Uranium values averaged 11 ppb and 880 picocuries per liter Radon for entire survey, Strong Uranium and radon in water anomalies, to a maximum value were 30 ppb U and 5000 picocuries per liter were defined.

### 6.2 North American Gem

The Whiskey Gap property was optioned to North American Gem of Vancouver in October 2005. The Author was retained by North American Gem to conduct diamond drilling to test the area Targets. An initial program of 1342.6 meters (4404 ft) of NQ diamond drilling in 12 holes and 2775.3 meters (9105 ft) of reverse circulation drilling, in 28 holes, was completed in March 2006. All holes were radiometrically logged, and lithologically described. Radioactive zones as defined by the radiometric logs, were sampled and sent the Saskatchewan Research Council (SRC) for analysis. The Best Uranium result was 136 ppm U in DDH NWG 05-02.

### 6.3 Alberta Geological Survey

In summer 2007 Geologists employed by the Alberta Geological Survey, (Olsen and Anderson 2007) conducted water sampling in the region, results indicated a second well, not previously sampled, containing greater than 5000 picocuries per liter radon, was centrally located with respect to the anomalies as defined by the previous reconnaissance program conducted by Ranger.

### 6.4 Geo Minerals

In December 2007 Geo Minerals of Vancouver optioned the Whiskey Gap Property and contracted to drill 5 reverse circulation holes in the area near the AGS radon anomaly and approximately 4 kilometers east of the favorable zone indicated by North American Gem drill hole 06-20. Anomalous radioactivity was encountered in 2 of 5 exploration holes. Thickness of the zones varied from less than 1 meter to 2 meters. Only weak heavy metal enrichment of 22 ppm arsenic and .8 ppm molybdenum occurred in association with the radioactive zones of the 2008 drill program. No economic grades of Uranium mineralization were encountered. The highest assay of the 2008 program was 30 ppm

U recovered over a five meter interval from drill hole WG 08-4. Sample recovery and quality was an issue with the Geo Minerals program.

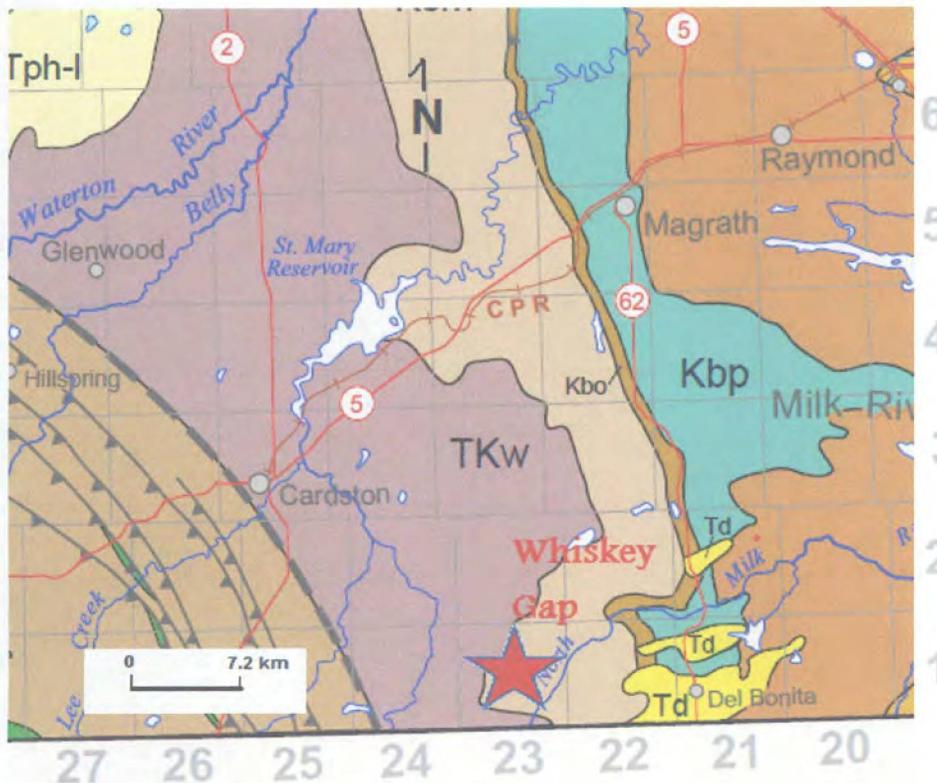
## 7.0 GEOLOGICAL SETTING

### 7.1 Regional Geology

Southern Alberta is underlain by a clastic package of Cretaceous and Tertiary rocks of the Alberta foreland basin. This package thickens from an erosional edge of zero in central Saskatchewan to a maximum of 4000 m in the southern foothills of Alberta.

The provenance of Upper Cretaceous sandstones of southern Alberta is believed to be the now eroded volcanics of the Omineca crystalline terrain of central British Columbia.

Although the geologic sequence is dominated by sedimentary rocks, past volcanic activity in the region occurred as the Crowsnest Volcanic Suite, at the base of the Willow Creek formation, and the Sweet Grass potassic intrusives immediately to the south east in Montana.



**Figure 4 Regional Geology Map**

(Source: Geological Map of Alberta, Alberta Geological Survey Map 236D, CD Rom version)

## PALEOCENE

Tph  
Tph-u  
Tph-l

**PORCUPINE HILLS FORMATION:** pale grey, thick-bedded, cherty, calcareous sandstone; pale grey calcareous mudstone; nonmarine  
Tph-u: upper Porcupine Hills  
Tph-l: lower Porcupine Hills

Note: division of Porcupine Hills Formation into upper and lower sub-units is tentative, subject to verification as formal members

## TERTIARY AND CRETACEOUS

## PALEOCENE AND UPPER CRETACEOUS

TKw

**WILLOW CREEK FORMATION:** pale grey, fine-grained, calcareous sandstone, thick bedded and coarse grained in upper part; grey, green and pink bentonitic mudstone with abundant white-weathering calcareous concretions; scattered thin limestone beds; nonmarine

## CRETACEOUS

## UPPER CRETACEOUS

Ksm

**ST. MARY RIVER FORMATION:** pale green and grey, fine- to medium-grained, calcareous sandstone; green and grey siltstone and mudstone; thin coal beds; coquinoid limestone in basal part; nonmarine

Kbo

**BLOOD RESERVE FORMATION:** grey and greenish grey, thick-bedded, feldspathic sandstone; shoreline complex

Kbp

**BEARPAW FORMATION:** dark grey blocky shale and silty shale; grey clayey sandstone; thin concretionary ironstone and bentonite beds; marine

Ko

**OLDMAN FORMATION:** pale grey, thick-bedded, medium- to coarse-grained, feldspathic sandstone; grey clayey siltstone; green and grey mudstone; dark grey and brown carbonaceous shale; concretionary ironstone beds; nonmarine

Kfm

**FOREMOST FORMATION:** pale grey feldspathic sandstone, grey and green siltstone; greenish grey mudstone and dark grey carbonaceous shale; concretionary ironstone beds; thin coal beds; nonmarine

Kpa

**PAKOWKI FORMATION:** dark grey shale and silty shale; minor sandstone; thin chert-pebble conglomerate or pebble bed at base; marine

Kmr

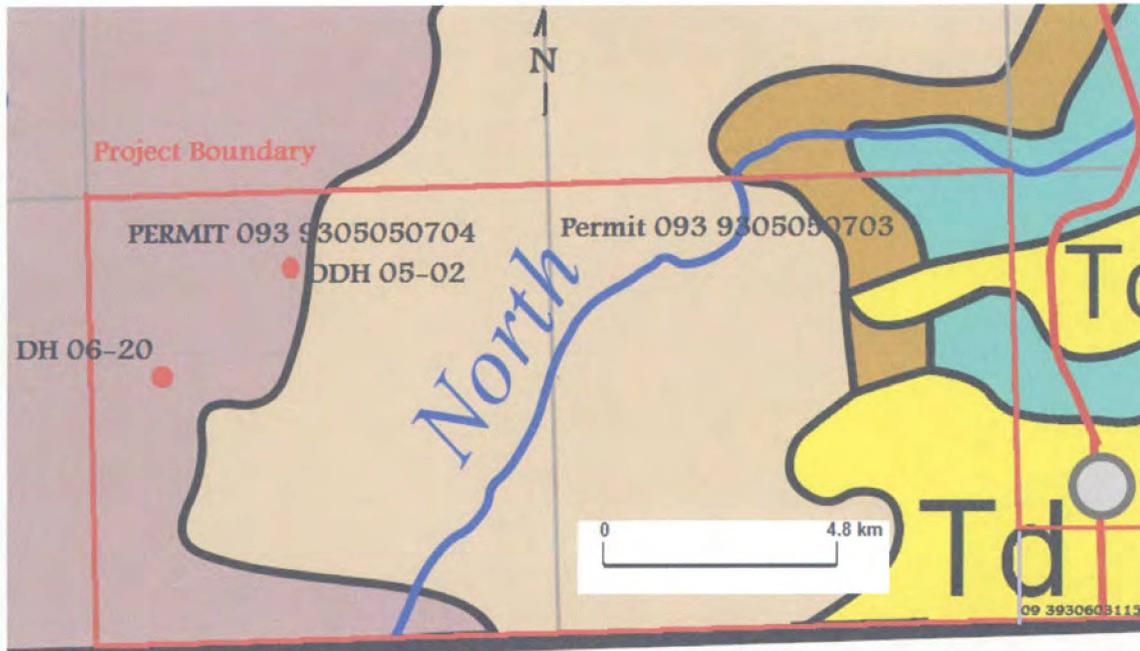
**MILK RIVER FORMATION:** pale grey, thick-bedded, feldspathic sandstone with hard calcareous beds; pale to dark grey shale and silty shale; ironstone concretions; marine and nonmarine

KA

**ALBERTA GROUP:** dark grey fissile shale and silty shale; minor grey cherty sandstone; marine

## 7.2 Property Geology

The geology of the area is characterized by poorly exposed bedrock subcrops of upper Cretaceous sandstones and shale (Bear Paw, Blood Reserve, St Mary River, and Willow Creek Formations, The Bear paw is the oldest and stratigraphically lowest formation and the Willow Creek is the youngest and stratigraphically highest formation. The Paleocene Del Bonita gravels lie in the eastern half of Permit 0939305050703



**Figure 5 Geological map of the Whiskey Gap Permit Area**  
 (Source: Geological Map of Alberta , Alberta Geological Survey Map 236D , CD Rom version)

### 7.1 The Willow Creek Formation

This formation overlies the Knee hills tuff zone and is comprised of about 1200 ft of in part volcanically derived shale and sandstones The Willow creek formation can easily be identified by alternating red and white, hemititic and strongly oxidized sandstones of non marine origin.

### 7.2 The St Mary River Formation

The St Mary river formation is a fluvial sandstone sequence that overlies the marine Bear Paw shale deposited as the Bear paw Sea regressed eastward across Saskatchewan and parts of Manitoba. The formation consists of approximately 1500 feet of fluviially derived greenish sands and siltstones; the Formation is overlain by the volcanic Knee Hills Tuff zone.

### 7.3 The Blood Reserve Formation

This formation is comprised of grey to green thick bedded feldspathic sandstones deposited as a shore line complex .Both marine and non marine in origin.

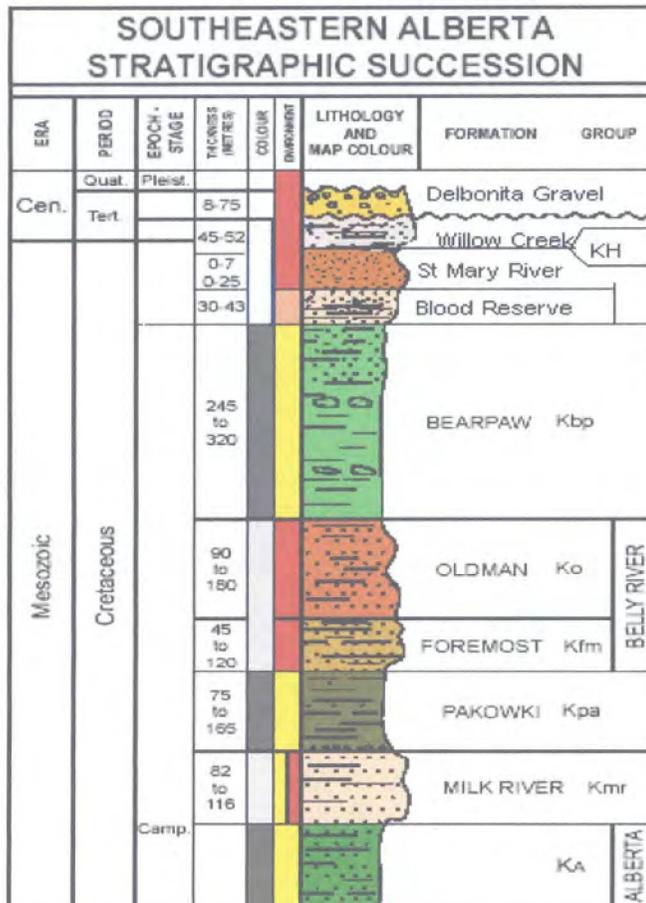


Figure 6. Stratigraphic succession in south east Alberta

## 8.0 POTENTIAL DEPOSIT TYPES

Sandstone deposits constitute about 18% of world uranium resources. Ore bodies of this type are commonly low to medium grade (0.05 - 0.4%  $U_3O_8$ ) and individual ore bodies are small to medium in size (ranging up to a maximum of 50 000 t  $U_3O_8$ ).

The United States has large resources in sandstone deposits in the Western Cordillera region, and most of its uranium production has been from these deposits. The Powder River Basin in Wyoming, the Colorado Plateau and the Gulf Coast Plain in south Texas are major sandstone uranium provinces.

The Smith Ranch uranium mine located in the Powder River Basin is the newest and largest uranium production centre in the United States, and today is producing at a rate of 580 tU (1.5 million lbs  $U_3O_8$ ) per year.

On a worldwide basis Sandstone Uranium Deposits require Uranium bearing source rocks, commonly granitic basement or felsic volcanics, that are exposed to weathering. Physical and chemical breakdown of the common rock forming mineral, feldspar results in the liberation of trace amounts of uranium as the  $U^{+6}$  ion that is soluble in oxidizing ground water. Uranium ions remain in solution until the waters become reduced by contact with organic carbon, pyrite or hydrocarbons, causing precipitation of Uranium as the insoluble form,  $U^{+4}$ .

The variability of potential source rocks, weathering, transport and reducing conditions generate Uranium deposits in a wide range of environments.

International Ranger's exploration concept is that the Tertiary and Cretaceous sediments in Southern Alberta were formed under conditions analogous to sediments that host economically viable Uranium deposits.

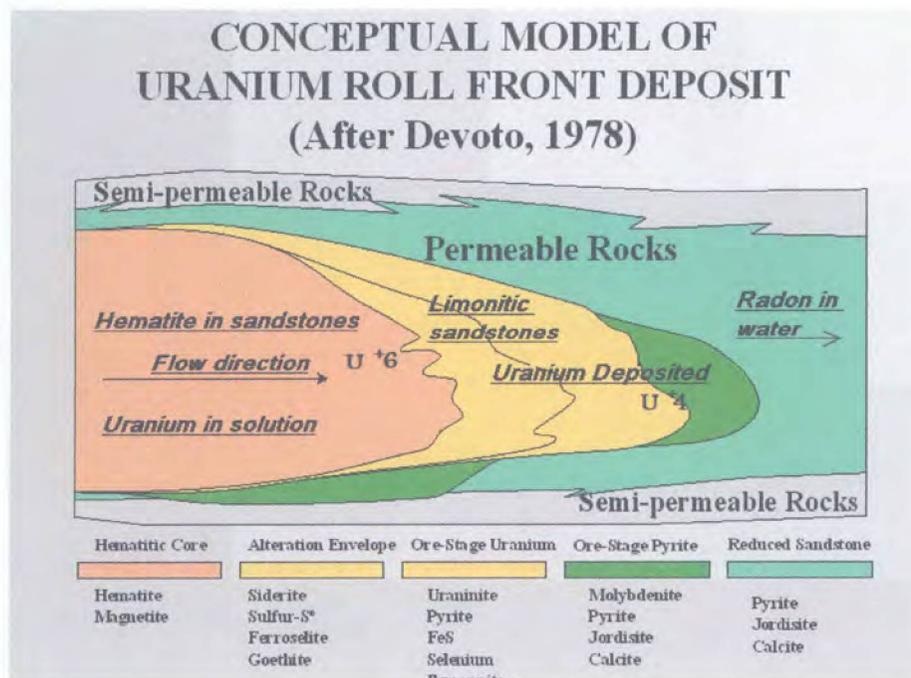


Figure 7. Conceptual model of a Uranium Roll Front Deposit

## 9.0 MINERALIZATION

No mineralogical studies have been conducted to identify specific Uranium minerals from the property. Drill cores and percussion chip samples have been assayed for Uranium and other elements, using ICP total and partial digestions. In the Uranium analysis, both total and partial digestion results are similar, suggesting that uranium exists in a leachable state possibly as coffinite. A hydrous uranium silicate mineral.

Within sandstone hosted Uranium deposits in the US, the minerals pitchblende and coffinite associated with vanadium minerals and pyrite are the principal ore minerals in unoxidized rocks. Ore minerals are often disseminated throughout the sandstone in irregular masses roughly concordant with bedding and generally coincide with carbonaceous zones, or as crescent shaped bodies on the leading edge of an oxidation reduction front

### 9.1 Description of Previously Defined Mineralized Drill Intersections on the Property

Since commencement of exploration in on the property, 45 exploration holes have been drilled for a total of 4498.3 meters. Two drill intersections from previous exploration programs are deemed to be extremely significant. Both drill holes intersected reducing conditions, with associated radioactivity, and heavy metal enrichment, in the Willow Creek Formation, that is comprised of about 1200 ft of in part volcanically derived shale and sandstones of non marine origin.

#### 9.1.1 Hole NWG-05-02

This NQ Diamond core hole contained the strongest radioactivity (to 640 API units) and the best Uranium mineralization encountered to date, on the project. The data below is for the interval 83.0 to 87.2 meters depth in NWG 05-02.

Here a 30.4 cm (1 FT) sample returned 132 ppm Uranium, the 6 meter thick radioactive zone was also enriched in Arsenic to 127 ppm over 1.21 meters( 4 FT), Copper to 31 ppm over a width of 2.43 meters( 8 FT), Antimony to 10 ppm, and Selenium to 3.4ppm over 60.8 cm ( 2 FT), Barium was over 91.2 cm (3FT) to a maximum of 3050 ppm, and Molybdenum to 109 ppm over 30.4cm (1 FT) .

From the lithological descriptions the radioactivity occurs within a package of intercalated mudstones and sandstones, and is strongest along a micaceous sandstone, carbonaceous mudstone contact. The grey to black mudstone contains gastropods, and is clearly reducing. The geological section is oxidized both above and below radioactive intersection.

The area around hole 05-02 was subsequently investigated by 5 reverse circulation holes at 10 meter offsets. Although the follow up holes contained radioactive intersections, assay values were all lower than hole 05-02.

Sample Number	As ppm	Cu ppm	Sb ppm	Se ppm	Ba ppm	Mo ppm	U, ppm
NWG-0502-9	1.2	6.3	2.9	0.2	303	1	6
NWG-0502-10	1.3	5	6.5	<0.2	383	1	7
NWG-0502-11	2.3	5.6	0.8	0.8	1700	1	7
NWG-0502-12	4.2	8.9	3.5	2.8	3050	2	13
NWG-0502-13	24.7	31.1	<0.2	3.4	1210	6	136
NWG-0502-14	127	21.8	10	1.3	853	19	38
NWG-0502-15	56.8	14.4	5.4	<0.2	525	109	21
NWG-0502-16	17.7	17.5	<0.2	1.4	619	2	13
NWG-0502-17	6.8	26	<0.2	1.1	591	1	8
NWG-0502-18	2.7	28.1	<0.2	0.6	521	1	15
NWG-0502-19	2.5	27.6	1.1	0.5	436	1	14
NWG-0502-20	2.7	22.2	<0.2	0.4	418	1	18
NWG-0502-21	2.8	13.1	0.3	0.2	485	1	14
NWG-0502-22	3	5.3	0.4	0.2	577	1	14

Table 2 Selected Assay values from the radioactive zone in DDH 05-02 , shown below, Drill Core was split using a diamond saw and sampled on 30.4cm intervals

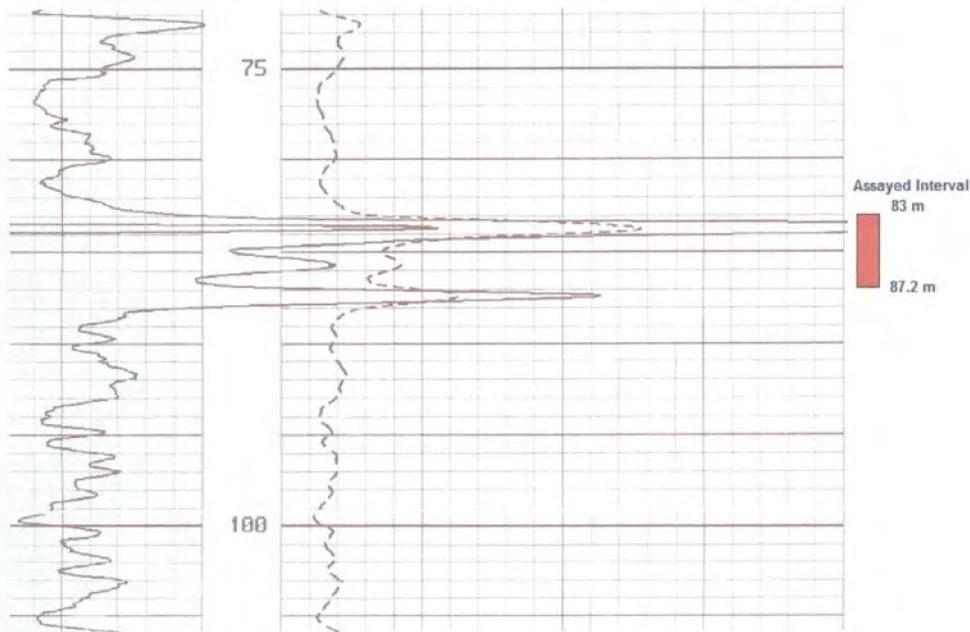


Figure 8 Radioactive zone from DDH 05-02 Maximum recorded counts are 640 API (Right log is 50 API per division) (Depth is in meters)

10.2.2 Hole NWG-06-20

In the reverse circulation drill hole DH 06-20 a mineralized package of weak Uranium mineralization, heavy metals, and pyrite occur in the presence of organic trash (thin coals) over a combined stratigraphic thickness of 8.5 meters ( 28 FT) from a depth of 60.0 to 68.5 meters.

This hole contained 2 radioactive zones separated by approximately 1.8 meters, both zones significant enrichment of Arsenic, to a maximum of 593 ppm, Copper to a maximum of 37ppm, Molybdenum to a maximum of 5.6ppm, Antimony to a maximum of 9.6 ppm and Uranium to a maximum of 20 ppm. The presence of strongly reducing conditions, radioactivity, pyrite, and associated heavy metals within the Willow Creek sequence, is highly encouraging.

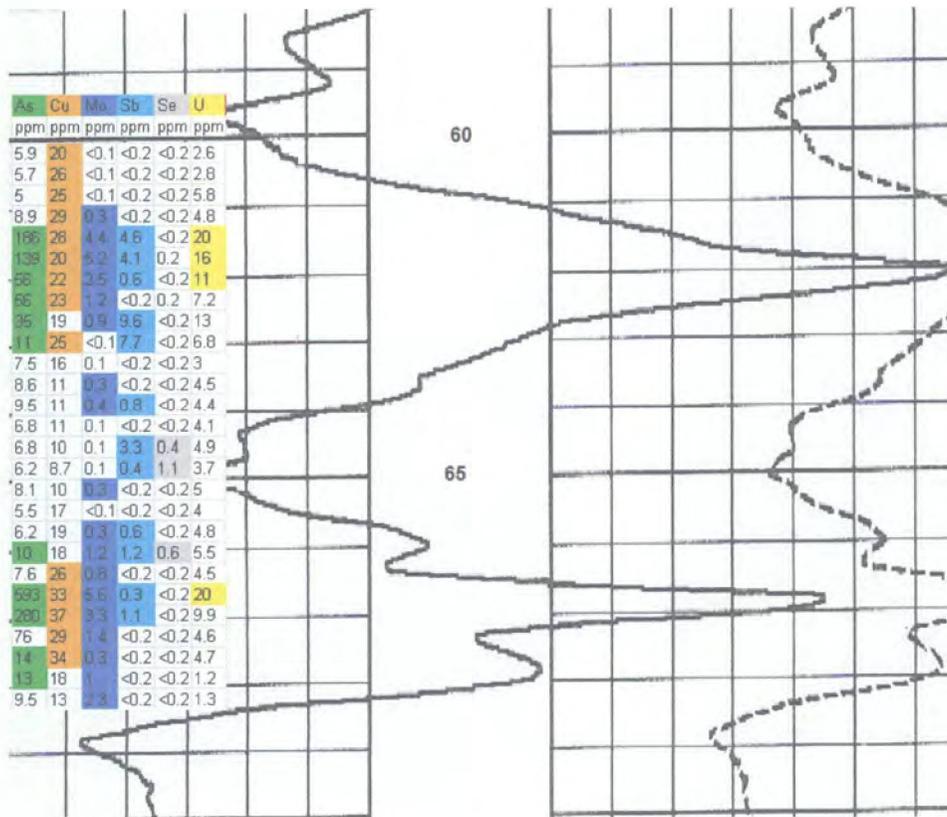


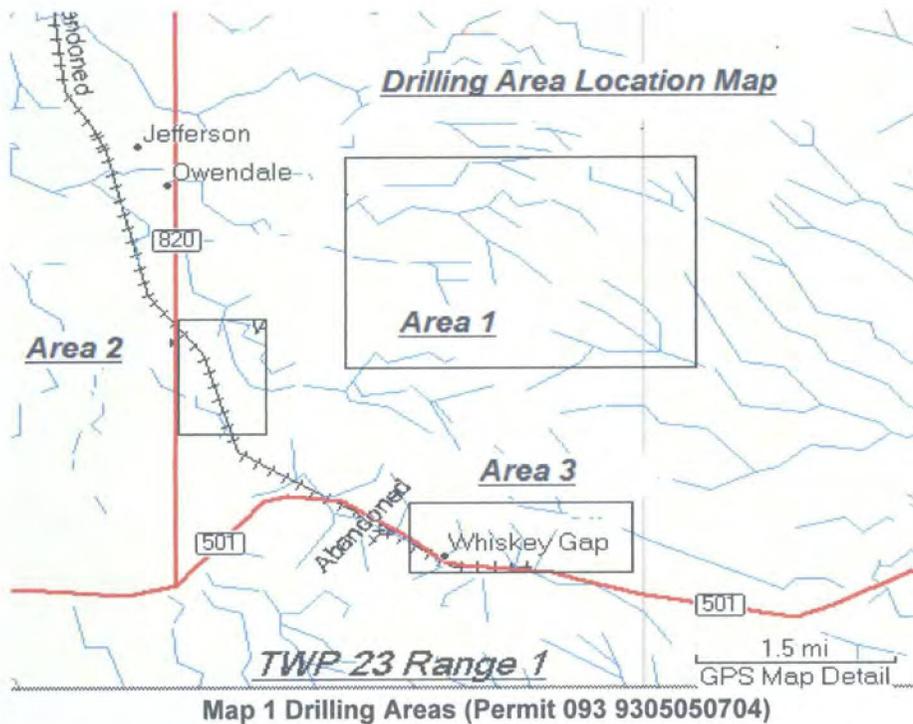
Figure 9 Favorable Radioactivity and Geochemistry from Zone 2 in DH 06-20, sample interval was 30.4 cm (depth shown in meters)

## 10.0 DRILLING

### 11.1 Diamond Drilling 2010

Hard Core Diamond Drilling of Naramata B.C. was contracted may 2, 2010, to drill a minimum of 400 meters of NQ drilling in a maximum of 5 vertical diamond drill holes. The drill was a conventional Atlas Copco 1000 diamond drill mounted on a wheeled trailer that could be easily moved between sites using the drillers pickup trucks.

The actual total of NQ drilling conducted under this contract was of 1308 Feet ( 398.6 meters) in 4 holes. All 2010 diamond drilling was conducted in Area 2 to test the area proximal to reverse circulation hole 06-20.

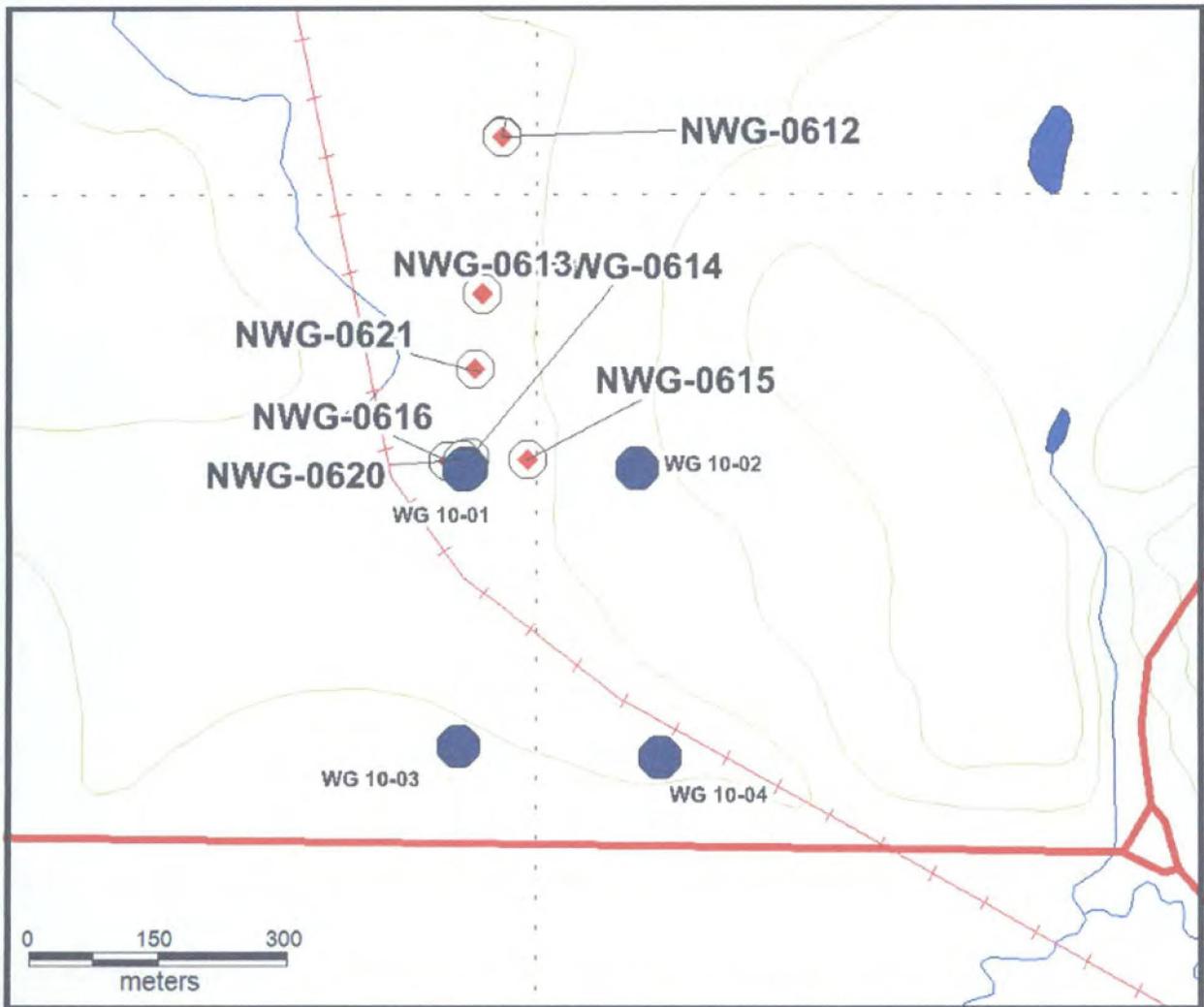
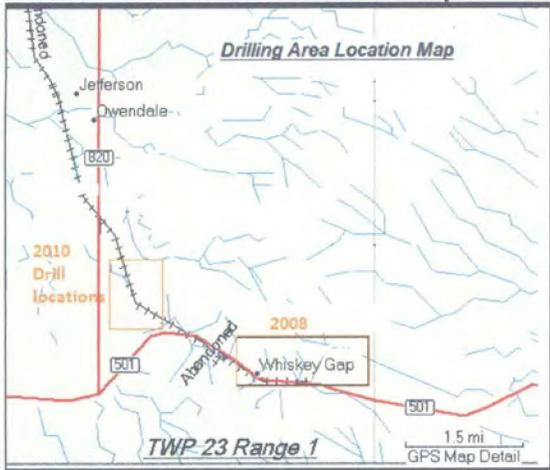


Water for drilling was available on site from farm dugouts. All drill holes were sealed using bentonite chips. Prior to drilling the area was swept for buried cable and pipelines by commercial line locators from Lethbridge.

On reaching total depth, drilling operations were suspended; the hole was radiometrically logged by Electro log services of Calgary. The Gamma probe was calibrated then lowered inside the drill rods, Dual trace Gamma logs were recorded while pulling out of the hole. The drill string was pulled following completion of gamma logging.

All holes were sealed using bentonite chips after the completion of radiometric logging.

**Drill Hole Locations 2010 index map**



**Map 2. 2010 Detailed Drill Hole Locations (Permit 093 9305050704)**

---

## 12.0 SAMPLING METHOD AND APPROACH

---

### 12.1 Diamond drilling

Diamond drill core recovery was in excess of 95%. Drill cores were transported from the drill site to a secure storage site on the Gruninger farm described and split using a small Diamond saw. Samples for assay were selected on the basis of the down hole gamma response recorded in the drill logs. The sample interval for the diamond drill program was one foot (30.4 cm). The selected interval was cut with a diamond saw and placed in numbered plastic sample bags for shipment to the Saskatchewan Research Council (SRC), for wet chemical analysis.

Samples were selected for assay on the basis of their proximity to radioactive zones identified during borehole logging.

Packages containing samples for assay were checked for safe levels of radiation and shipped in secure containers to the Saskatchewan Research Council (SRC) for chemical analysis.

---

## 19.0 INTERPRETATION AND CONCLUSIONS

---

Uranium mineralization up to 7640 ppm U (.901%U<sub>3</sub>O<sub>8</sub>) was previously documented within the Willow Creek formation, occurring within fossil bone fragments ( Firestone Ventures news release May 3, 2005) Exploration by North American Gem and others, confirms that processes, capable of uranium transport and deposition of Sandstone Uranium deposits, are active in the Whiskey Gap area.

The sedimentary sequence on the property contains a small but significant organic component that may have accumulated Uranium ions, transported by oxidized ground water movement. Uranium ions in domestic well waters and Radon Gas produced by radioactive decay exist at strongly anomalous levels at several locations on the property.

It has been shown in a study of the five major producing sandstone uranium regions of the US (Harshman 1974) that the metal ions like molybdenum, arsenic, selenium and copper, travel in solution with Uranium and are precipitated under reducing conditions proximal to the site of the uranium deposit.

At Whiskey Gap, previous drilling yielded two radioactive intersections that contained Uranium associated with anomalous values of arsenic molybdenum selenium and copper. The most significant intersection was hole NWG 06-20, here, organic carbon, radioactivity, weak uranium, and anomalous heavy metals to a maximum of 583 ppm arsenic were encountered over a total zone thickness of 8 meters.

During the 2010 Zadar drilling campaign a four hole grid of diamond drill holes was drilled in the area of NWG hole 06-20 to better understand the control on and distribution of uranium and heavy metals encountered in NWG 06-20.

The occurrence of radioactivity, heavy metals ( arsenic 325ppm, copper 26ppm, molybdenum 8ppm) and Uranium (27ppm), associated with reducing conditions in sandstones was confirmed in DDH 2010-01.

Drill hole 2010-02, located approximately 200 meters east of DDH 2010-01, encountered substantially lower heavy metals( arsenic 1ppm, copper 14ppm, molybdenum <1 ppm ) and much higher Uranium values(to 68ppm ) and radioactivity, at the boundary of oxidizing and reducing conditions in sandstone.

The figure below indicates the relative position of the radioactive zones intersected in drill holes 1 and 2 drilled, 200 meters apart, along an east west section line.

Drill hole 3 is located 400 m south of hole 1 and is shown here, to illustrate that the radioactive zones are not a response to shale or the occurrence of some other wide spread lithology in the section.

Looking at the radioactive zones in holes 1 and 2 it is apparent that the zones cross cut stratigraphy and appear to converge in an easterly direction.

The zone morphology, from such limited data, could simplistically be interpreted as having the classic "C" shape, of typical solution derived Uranium deposits occurring in the Midwestern US.

In reality, the shape of the radioactive zone can only be defined by further grid drilling in the area

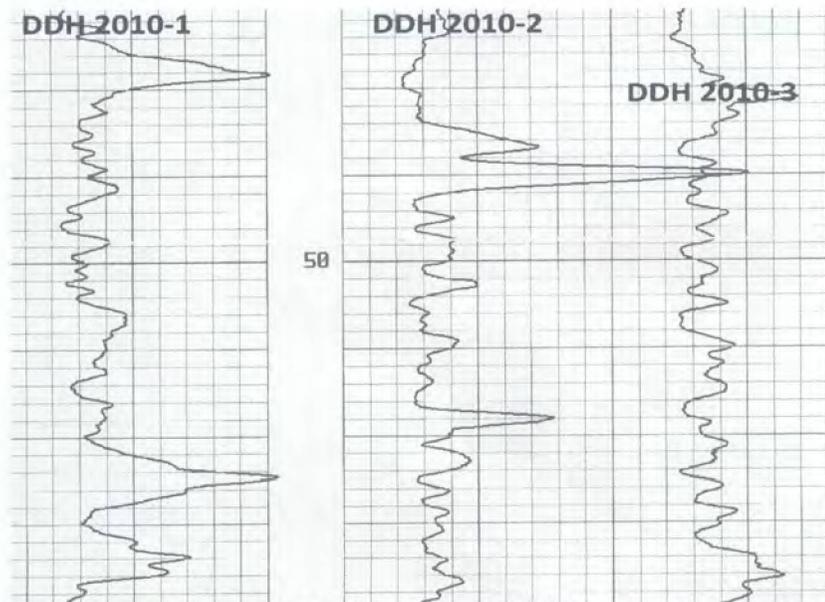


Figure 10 Section through DDH 2010-1 and 2010-2 looking north ( DDH 2010-03 is 400 m south of 2010-01)

## 20.0 Recommendations

The four hole grid of diamond drill holes was drilled in the area of hole 06-20 to better understand the control on and distribution of uranium and heavy metals encountered in NWG 06-20.

Confirmation of the occurrence of radioactivity, heavy metals and Uranium associated with reduction conditions in sandstones was obtained in DDH 2010-01.

Drill hole 2010-02, located approximately 200 meters east of DDH 2010-01, encountered substantially lower heavy metals and much higher Uranium values at the boundary of oxidizing and reducing conditions in sandstone.

The drilled area is proximal to very high Radon in water anomalies, first identified by International Ranger in 2005 and confirmed by the AGS (Olsen and Anderson 2007)

The following Drilling program is recommended to further explore the Whiskey Gap property. Drilling costs for the Project, are subject to availability, and timing, and as such, are estimates only.

## 20.1 Phase 2 Drilling

A further 8 diamond drill holes are recommended for the project. The continuation of the Project as Phase Two drilling is contingent on:

1. Good core recovery, returned as in Phase 1 drilling.
2. The availability of competent drilling contractors

<b>Phase 2</b>	<b>CAD \$</b>
Drilling & Assays (800 m)	80000.00
Logistics/Vehicles/Camp	30000.00
Personnel & Consultants	30000.00
Assay/radiometric logging	20000.00
Reclamation	10000.00
Contingency 25%	42500.00
<b>Total Phase 2</b>	<b>\$ 212,500.00</b>

## 21.0 CERTIFICATE

---

I, Glenn S. Hartley, P. Geol., do hereby certify that:

1. I am a Professional Geologist , residing at , 7302-118 a st Edmonton Alberta
2. I am a graduate of the University of Alberta BSc Geology (1977 ) In addition, I obtained a Diploma in Exploration Technology from the Northern Alberta Institute of Technology in 1971.
3. I am a current member of the Association of Professional Geologists and Geophysicists of Alberta.
4. I have worked in the field of geology for a total of 33 years since my graduation from university.
5. 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.
6. I am responsible for all sections of the report.
7. I have conducted 3 prior Exploration Programs on the property that is the subject of the Technical Report. My last visit to the property was on May 11, 2010.
8. As of the date of the certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
9. I am independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of this Technical Report entitled "The Whiskey Gap Project", dated May 15 2010, with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15<sup>th</sup> Day of May, 2010.  
("Signed")

*Glenn S. Hartley P. Geol*

## 22.0 REFERENCES

**Alberta Energy website**, <http://www.energy.alberta.ca/OurBusiness/1072.asp>.

**Beaman, M, Tissot P, (2004)** Radon in ground water of the South Texas Uranium district, ERSI Conference, San Francisco

**Firestone Ventures (2005)** May3, Firestone announces results from Alberta Sun Property, Sedar <http://www.sedar.com>

**Harshman E.N.( 1974)** Distribution of Elements in Some Roll-Type Uranium Deposits Formation of Uranium deposits International Atomic Energy agency Vienna 1974

**Hartley G.S. (2007)** Summary of Exploration and Diamond Drilling NTS 83H for North American Gem and International Ranger Corp Alberta Assessment report 20070017 194 pp

**Hartley G.S. (2009)** The Whiskey Gap Uranium Project NTS 83H for North American Gem and International Ranger Corp. Alberta assessment Report 20090007, 50pp.

**Matveeva T. and D. A. Anderson (2007)** Sandstone Hosted Uranium Potential of Southern Alberta Preliminary Assessment, EUB/AGS Earth Sciences Report\_2007-10 57 pp

**Matveeva T and Kafel B., (2009)** Sandstone hosted Uranium in Southern Alberta; Energy Resources Conservation Board, ERCB/AGS Open File Report 2009-12. 45pp

**Stepic, J. and Matveeva, T. (2010):** Sandstone-hosted uranium in southern Alberta: petrographic descriptions of exposed Upper Cretaceous and Tertiary rock formations; Energy Resources Conservation Board, ERCB/AGS Open File Report 2009-13, 82pp..

**Olsen, R.A, and Anderson S. (2007)** Preliminary water well sampling to assess the Uranium Potential of the Whiskey Gap area of Southern Alberta. EUB/AGS Earth Science Report 2007-08, 41pp

**Appendix 1**

Zadar Ventures Ltd Whiskey Gap Project									
		Driller: Bob							
DDH WG-10-01		Geologist: G Hartley							
Total Depth: 317 Feet		Dip 90							
interval									
(FT)	(M)	Lithology	Colo	Remarks	AS ppm	Cu ppm	Mo ppm	Sb ppm	U ppm
0-50	0-15.24	Casing							
50-59.5	15.24-18.25	Grey to Maroon claystone and siltstone irregular white Barite or gypsum noduals, laminated and thin sst interbeds near bottem	red						
59.5-81	18.25-24.68	Fine sst, well sorted pink to white							
81-83.5	24.68-25.45	Soft mudstone grey, dissication cracks							
83.5-90.5	25.45-27.78	dense maroon mudstone barite lens and nodules							
90.5-119	27.78-36.27	Fine to medGr well sorted sst maroon on top of interval, grey to light grey near bottom							
119-120	36.27-36.57	grey to black soft mud trace coal becoming sandy near bottem							
120-125	36.57-38.10	dark grey to green mudstn dark spots, possible bentonite strongly fractured horizontally and vertically( hackly)		sampled 125-131 ft					
125-127	38.10-38.70	soft sst maroon to red thin bedded		api 250					
127-132.5	38.70-40.38	varicolored mudstn small to large barite noduals							
132.5-142	40.38-43.28	Fg sst well sorted maroon to white some limonite							
142-156	43.28-47.5	maroon mudstn to sltstn							
156-161	47.5-49.07	Fg sst well sorted maroon to white some limonite							
161-169.5	49.07-51.66	maroon mudstn to sltstn laminated neare bottem							
169.5-170	51.66-51.81	grey to back sand to mud with organics laminated							
170-182	51.81-55.47	Fg varicolored mudstn maroon to green limonitic near bottem		sampled 200-210					
182-187	55.47-56.99	Fg sst well sorted grey		261 api					
187-200	56.99-60.96	grey sltstn thin interbed sst, soft sed deformation							
200-205	60.96-62.48	dk grey sltstn mudstn white grains, braciopods							
205-211	62-48-64.31	grey sst fg well laminated thin interbeds							
211-246		grey fg sst and sitlstn well laminated thin bedded		samples 218-223					
246-257		black sst Fg, well sorted many brachiopods less on bottem		180 api					
257-317		dk grey vfg sst and sltstn interbeds well laminated							
317 EOH									

6 foot interval(125-131)				
AS	Cu	Mo	Sb	U
ppm	ppm	ppm	ppm	ppm
<1	23	3	<1	11
<1	22	3	<1	15
<1	7	1	<1	29
<1	3	3	<1	9
1	3	4	<1	2
1	7	4	<1	<2
2	18	3	<1	4

10 foot interval(200-210)				
AS	Cu	Mo	Sb	U
ppm	ppm	ppm	ppm	ppm
325	26	7	<1	23
169	22	8	<1	27
28	22	3	<1	17
52	26	5	<1	13
51	23	6	<1	16
8	16	1	<1	4
5	10	2	<1	6
33	9	4	<1	7
2	8	2	<1	5
2	8	2	<1	4

5 foot interval(218-223)				
AS	Cu	Mo	Sb	U
ppm	ppm	ppm	ppm	ppm
12	29	1	<1	3
6	12	1	<1	5
7	16	3	<1	7
2	17	2	<1	6
2	18	1	<1	4

**Zadar Ventures Ltd Whiskey Gap Project**

Driller: Bob

DDH WG-10-02 Geologist: G Hartley

Total Depth: XXX Feet Dip 90

Interval

(FT)	(M)	Lithology	Colo	Remarks	AS	Cu	Mo	Sb	U
					ppm	ppm	ppm	ppm	ppm
0-47	0-14.32	Casing							
47-55	14.32-16.76	Varicolored siltstn Maroon to green							
55-58	16.76-17.72	Grey to white Vfg sst well sorted							
58-68	17.72-20.72	Maroon sltstn occnl irregular green patches less than 1cm possible barium carbonate?irregular noduals @ 62							
68-75	20.72-22.86	Varicolored mudstn and siltstn hemite and trace limonite soft sed deformation at contact with lower unit							
75-78	22.68-23.77	grey sst med to fine gr well sorted							
78-82	23.77-24.99	maroon sltstn occnl barium carb noduals to 4 cm thick in core possible rip up clasts near bottem of unit							
82-87	24.99-26.51	Grey sst Fine to med well sortedas above							
87-90	26.51-27.43	maroon sltstn fractured hem on fractures							
90-98	27.43-29.87	med sst strong hemitite near top of unit white to grey on bottom grey irreg patches on bottem							
98-102	29.87-31.08	maroon to green mudstn irregular green pacches become more frequent near bottom							
102-118	31.08-35.96	maroon to grn mudstn frequent large barium carb noduals rip up clasts chaotic bedding							
118-143	35.96-43.58	Fg grey sst numerous sst clasts near top very hematitic near top grey to black patches along bedding planes near middle of unit		139-151 sampled for assay 394.5 max					
143-147	43.58-44.80	maroon mudstn and sltstn							
147-166	44.80-50.47	grey sst fg varicolored trace limonite occnl siltstn patches silvery mica on bedding							
166.5-175	50.47-52.42	maroon mudstn and sltstn barium carb noduals near bottom							
172-177	52.42-53.94	Grey sst varicolored limonitic nodual near bottom							
177-181	53.94-55.16	maroon sltstn and thin sands							
					AS	Cu	Mo	Sb	U
					ppm	ppm	ppm	ppm	ppm
					interval 139-151				
					1	12	<1	<1	7
					<1	8	1	<1	9
					1	12	1	<1	10
					1	14	<1	<1	12
					1	7	<1	<1	64
					<1	5	<1	<1	32
					1	4	<1	<1	27
					1	5	<1	<1	68
					<1	5	<1	<1	3
					<1	5	<1	<1	<2
					2	5	1	<1	<2
					2	6	1	<1	<2
					AS	Cu	Mo	Sb	U
					ppm	ppm	ppm	ppm	ppm
					interval 187-193				
					<1	10	5	<1	<2
					<1	8	6	<1	4
					<1	13	4	<1	6
					<1	8	6	<1	3
					<1	7	10	<1	12
					<1	6	12	<1	12
					1	11	7	2	11
					3	15	3	2	6
					2	13	3	1	5
181-189	55.16-57.75	Grey sst well sorted limonitic, dark orcanic s on bebbing plane		sampled					
189.5-195	57.75-59.43	brown mudstn white graims poss shell fragments unit becomes progressively maroon with white patches near the bottom		187-195 197 api					
195-200	59.43-60.96	varicolored mudstn red to green occnl white noduals							
200-212	60.96-64.61	grey white fg sst maroon on top 15 cm							
212- 213	64.61-64.92	mudstn brown highly fractured							
213-222	64.92-67.66	mudstn green , patchy limonite 220-222							
222-337	67.66-114.91	dense green mudstn and occnl sst units little alteration occnl grey brown mudstn units with trace gastropods 337 EOH							

**Zadar Ventures Ltd Whiskey Gap Project**

Driller: Bob

DDH WG-10-03

Geologist: G Hartley

Total Depth: 327 Feet

Dip 90

Interval					AS	Cu	Mo	Pb	U
(FT)	(M)	Lithology	Color	Remarks	ppm	ppm	ppm	ppm	ppm
0-60	0-18.28	casing							
60-69	18.28-21.03	varicolored mudstn maroon to green thin sst near bottom							
69-72	21.03-21.94	fg sst grey to green							
72-89	21.94-27.12	mudstone mottled maroon to green occnl white noduals and thin green sands							
89-92	27.12-28.04	dk green, yellow to black mudstones organics on lower section							
92-100	28.04-30.48	mudstones maroon to green mottled occnl white nodual							
100-126	30.48-38.40	sandstones red to grey-green to grey well sorted some mud sst sections lower 4 foot section varicolored limonitic							
126-127	38.40-38.70	blocky fractured organic rich mudstones green to tan							
127-131	38.70-39.92	fg sst grey well sorted		sampled	<1	9	<1	16	17
131-138	39.92-42.06	red to maroon mudstones mottled bentonitic upper 3 ft of zone		131-135	<1	3	<1	18	8
				max 175API	<1	3	<1	14	4
					2	10	<1	7	5
					4	14	<1	9	5
138-151.5	42.06-46.17	fg sst well sorted grey to red mottled limonitic throught							
151.5-158	46.17-48.15	varicolored mudstones numerous white noduals							
158-162	48.15-49.37	fg well sorted sst limonitic							
162-172	49.37-52.42	varicolored mudstones red maroon to green numerous white noduals limonitic last 5 ft of interval							
172-176	52.42-53.64	grey sst fg well sorted limonitic top 1 ft							
176-177	53.64-53.94	grey green mudstone fractured							
177-188	53.93-57.30	varicolored mudstones maroon to tan mottled white specks							
188-197.5	57.30-60.19	grey to white fg well sorted sst							
197-199	60.19-60.65	grey to black mudstns fractured bentonitic							
199-217	60.65-66.14	mudstn sandst occnl maroon molles tr limonitic							
217-327	66.14-99.66	dense grey to green sltsto and grey mudstones bracoipods 227-238' white noduals306-307 thin (3 inches)organics at 290 and 297							
327 EOH									

interval 131-135				
<1	9	<1	16	17
<1	3	<1	18	8
<1	3	<1	14	4
2	10	<1	7	5
4	14	<1	9	5

**Zadar Ventures Ltd Whiskey Gap Project**

Driller: Bob

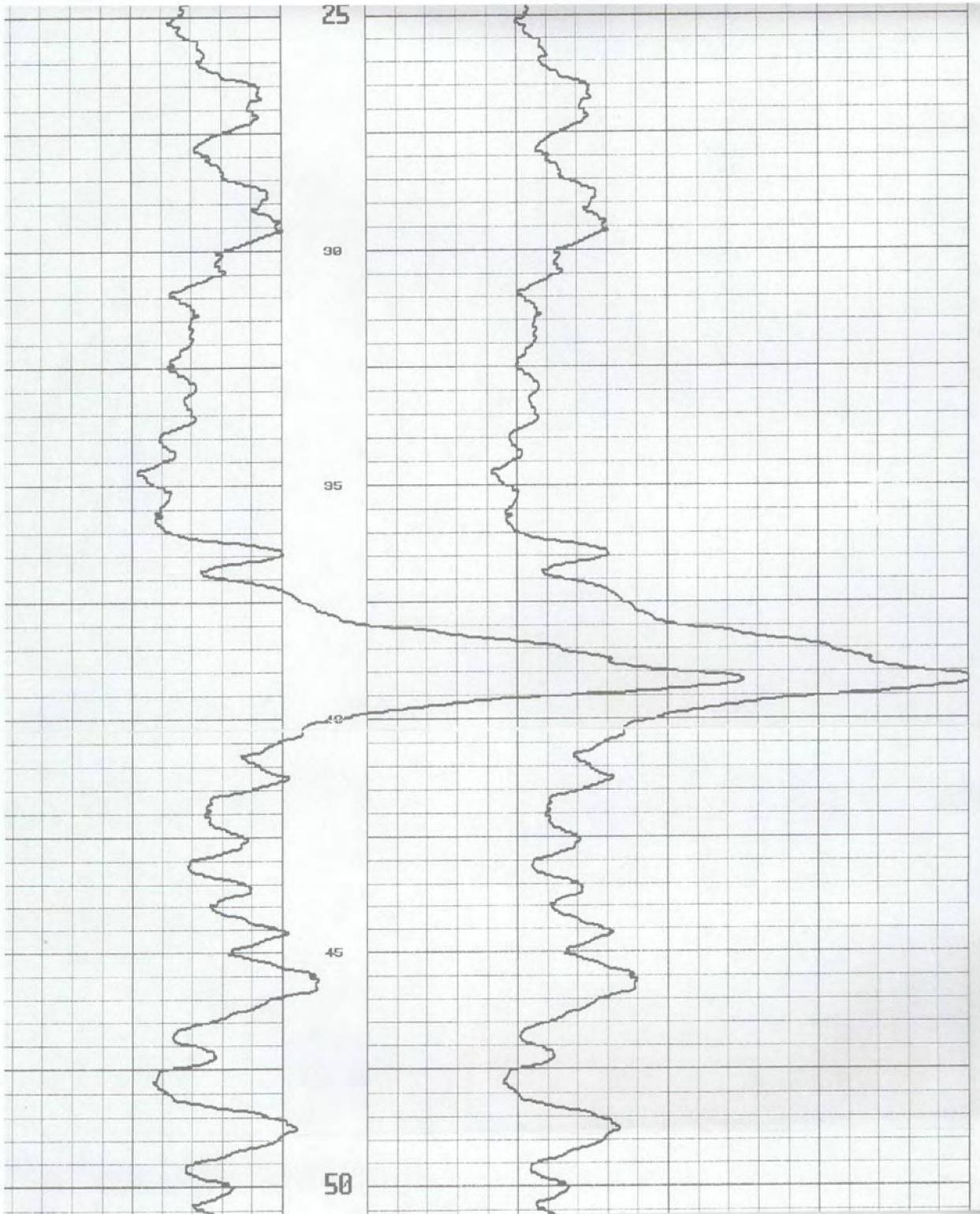
**DDH WG-10-04** Geologist: G Hartley

Total Depth: 327 Feet Dip 90

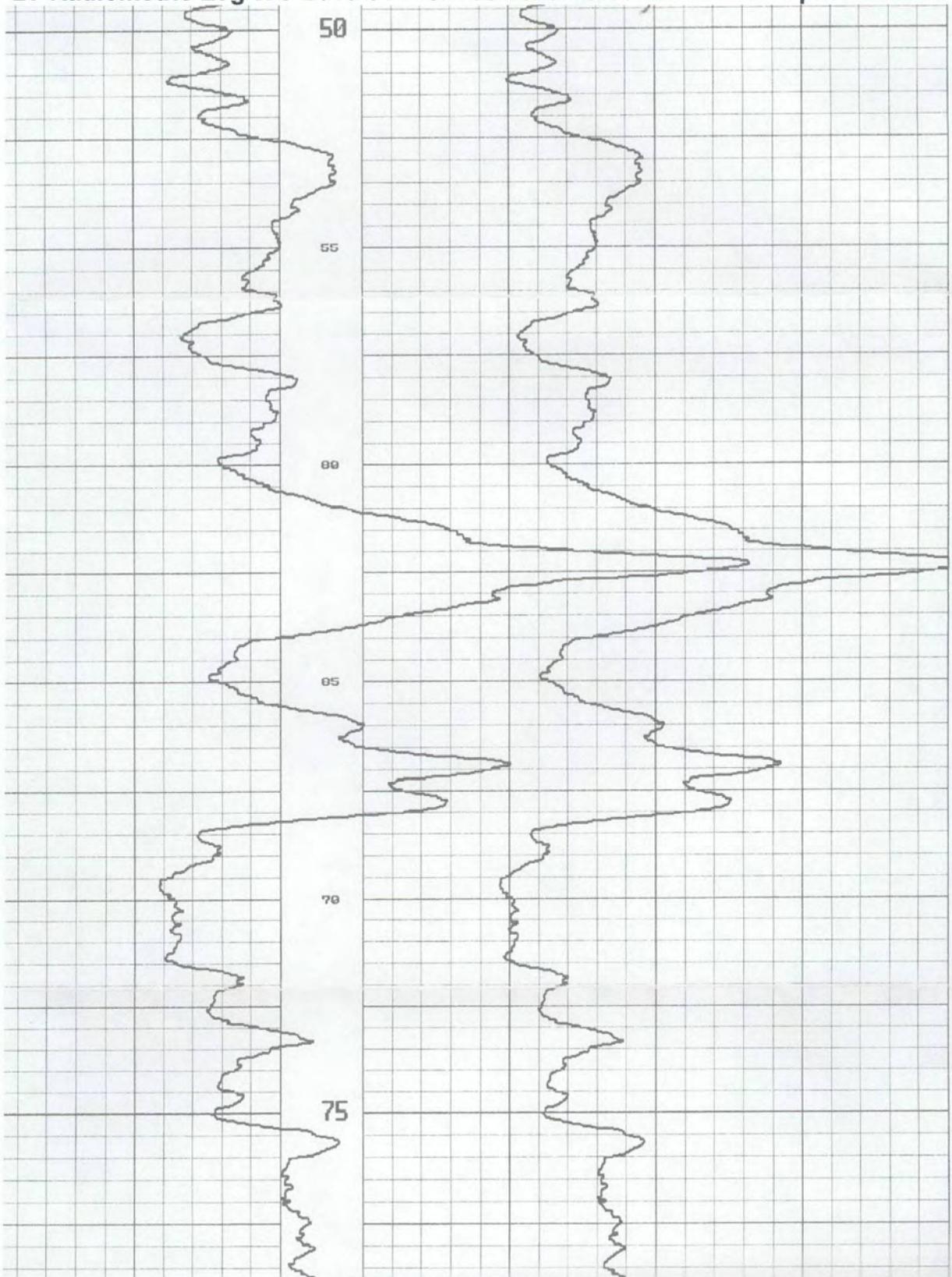
interval	(FT)	(M)	Lithology	Color	Remarks	AS	Cu	Mo	Pb	U
						ppm	ppm	ppm	ppm	ppm
0-80	0-24.38		casing							
80-83	24.38-25.29		varicolored mudstones mottled maroon to green hhsx							
83-86.5	25.29-26.36		fg Sstn well sorted very red slight green mottling near bottom							
86.5-89	26.36-27.12		green mudstn slightly bentonitic maroon near bottom of unit							
89-102	27.12-31.08		varicolored mudstns and sltstn mottled and slightly limonitic increase in limonite near base of unit							
102-112	31.08-34.13		grey sst fg well sorted top 2 ft of unit varicolored			<1	9	<1	19	25
112-119	34.13-36.27		grey green sltstn bentonitic trace organics		sampled	<1	4	<1	17	11
119-122	36.27-37.18		varicolored mudstones mottled maroon to green		118-123	1	3	<1	16	8
122-133	37.18-40.53		grey green sst well sorted hemitic on top 2 ft			1	4	<1	14	4
133-139	40.53-42.36		varicolored mudstones mottled maroon to green strong red sst last 6 inches of unit							
139-153	42.36-46.63		grey sst fg well sorted strong cross bedding with limonite 148-151 trace organics 151-152							
153-166	46.63-50.59		varicolored sltstn and sst limonitic crossbedded near bottom							
166-167	50.59-50.90		dark organic rich bentonitic muds fractured							
167-170	50.90-51.81		varicolored extremely mottled mudstn maroon to green white noduals							
170-180	51.81-54.86		grey sst coursening downwards trace organics as dark bands along bedding							
180-185	54.86-56.38		fg sst and sltstn grey to green							
185-188	56.38-57.30		grey fg sst							
188-196	57.39-59.74		bentonitic mudst and thin sst grey to green to black							
196-199	59.74-60.65		mottled varicolored mudstn maroon to green							
199-208	60.65-63.39		sandstone and sltstngrey to green							
208-217	63.39-66.14		green mudstone 211ft has mudstone with many shells or possible fish scales							
217-252	66.14-76.80		green sst occnl mudstones with white noduals							
252-257	76.80-78.33		grey white med sst							
257-327	78.33-99.66		grey sst and mudstonesw++++++ 291-292 very slight mottling with maroon hematite trace micaceous sst in sections							

**Appendix 2**

A. Radiometric Log WG2010-01 From 25-50 m. Left trace is 15 API per division

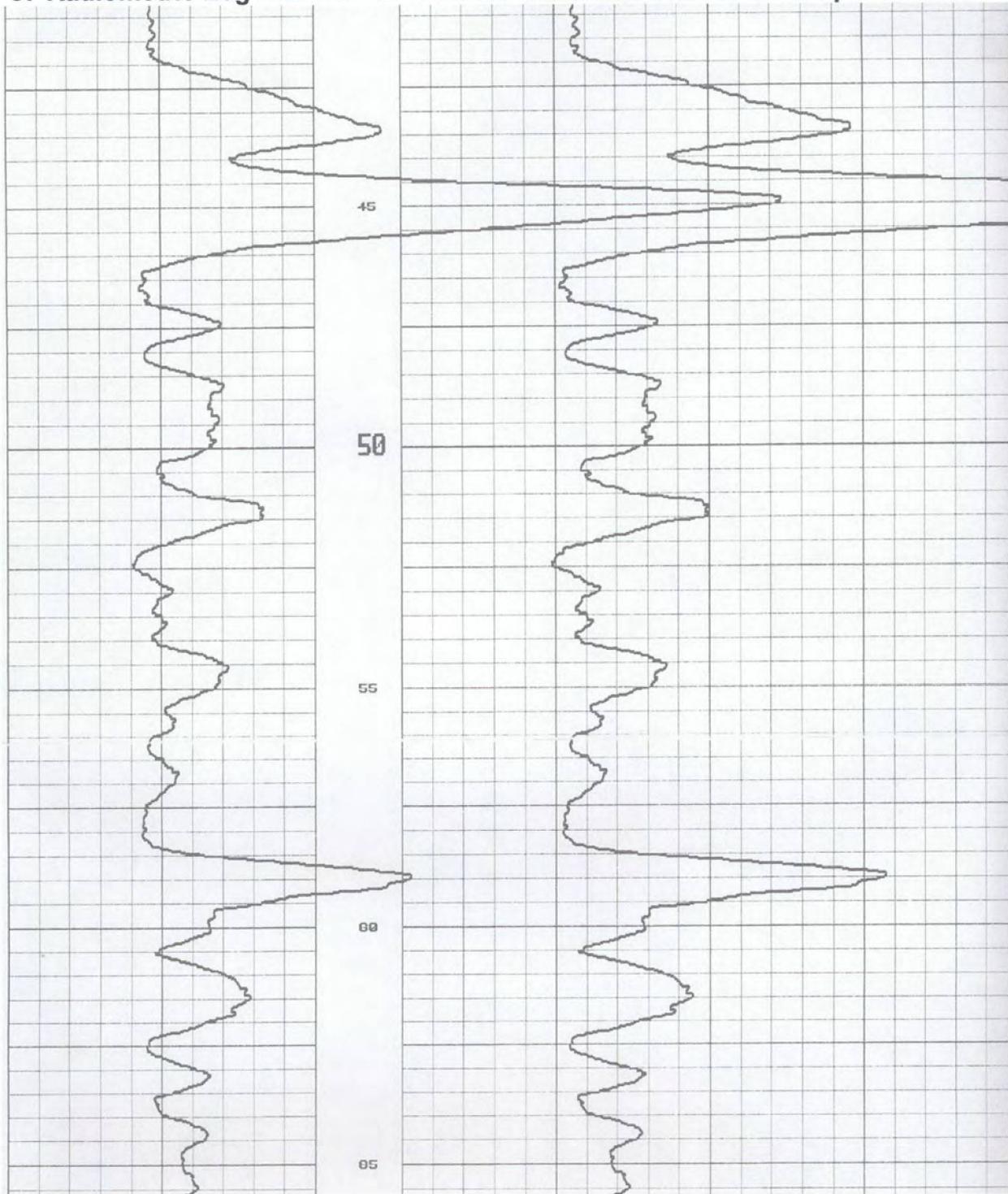


**B. Radiometric Log WG-2010-01 From 50-75m. Left trace is 15 API per division.**



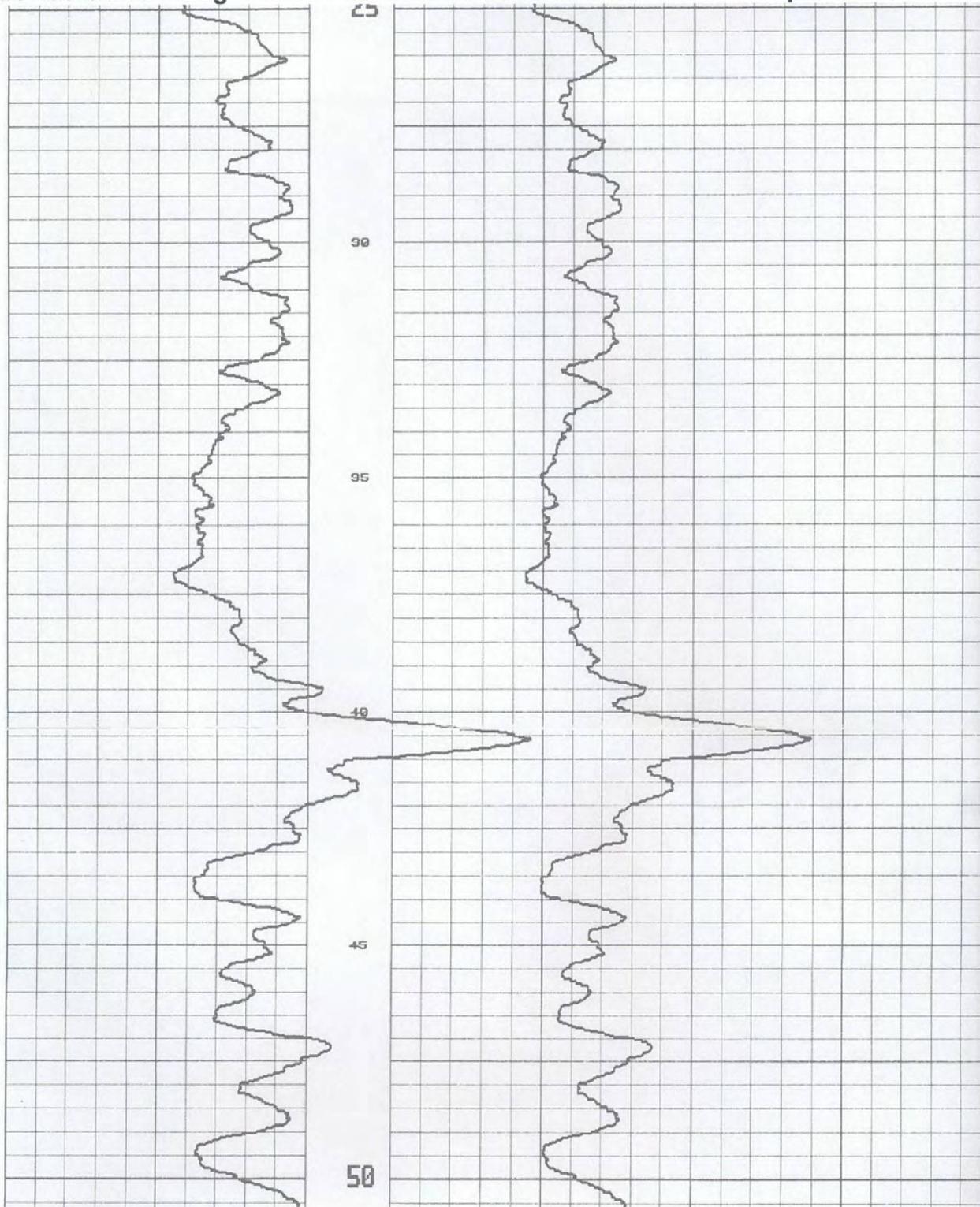
**No significant radioactivity below 77 m in this hole**

**C. Radiometric Log WG2010-02 from 32 - 66m. Left trace is 15 API per division**



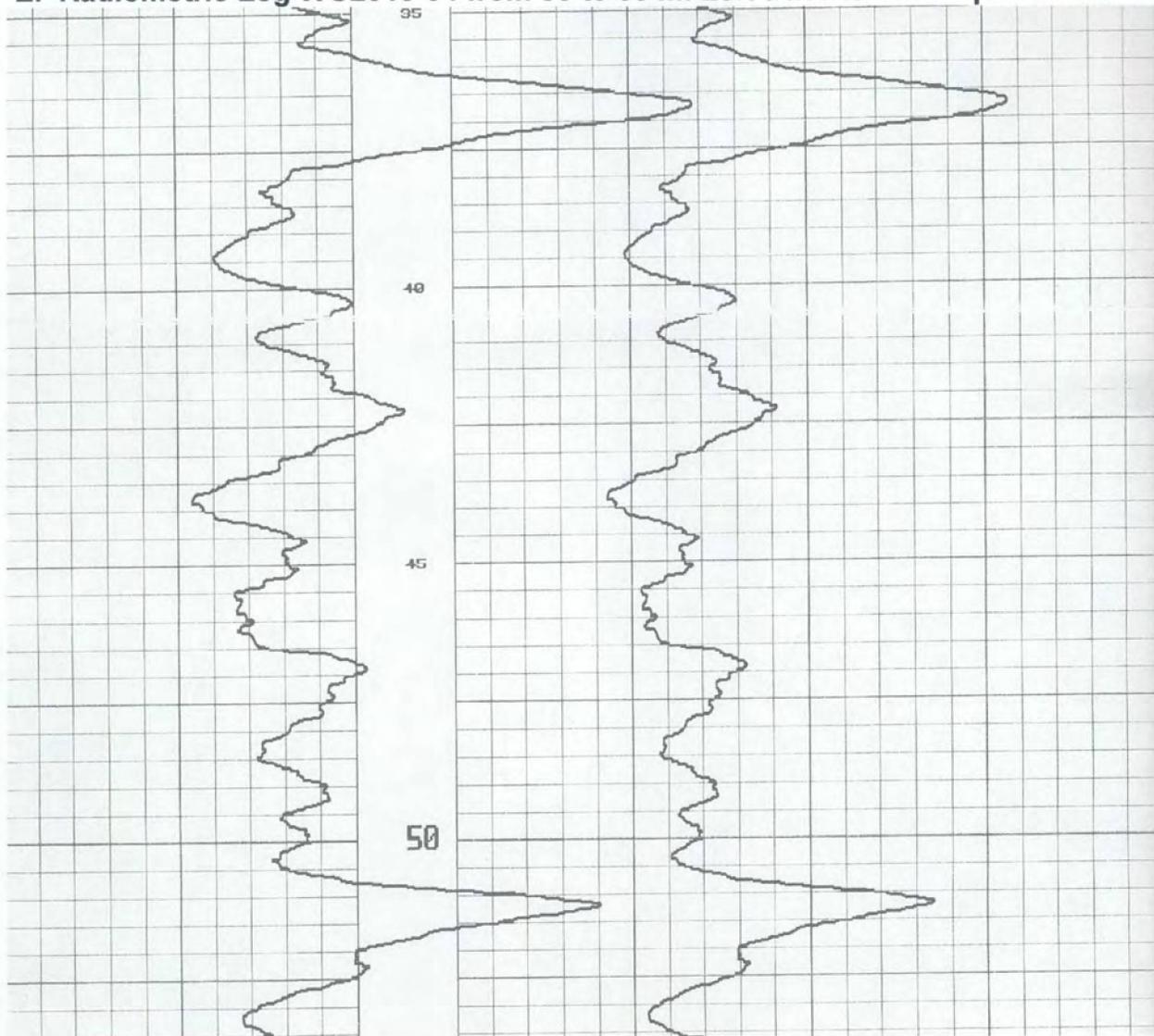
**No significant Radioactivity below 66m in this hole**

**D. Radiometric Log WG2010-03 from 25-50 m. Left trace is 15 API per division**



**No significant Radioactivity below 50 m in this hole**

**E. Radiometric Log WG2010-04 from 35 to 55 m. Left trace is 15 API per division**



**No significant radioactivity below 55 m in this hole**

**Appendix 3**

C Geoanalytical Laboratories  
1 - 15 Innovation Blvd., Saskatoon, Saskatchewan, S7N 2X8  
(306) 933-8118 Fax: (306) 933-5656 Email: oecolab@src.ca

File: Glenn  
Location: Glenn Hartley  
Project: #/Project:  
Index: 64

Sample	As	ICP	As	ICP	Bi	ICF	Cu	ICP	Cu	ICP	Ge	ICF	Ha	ICF	Mo	ICP	Ni	ICF	Pb	ICF	Sb	ICF	Se	ICF	Ta	ICF	U	ICF	Zn	ICF	Al	ICF	Al2O3	Ba	ICF	Ba	ICF	Ca	ICF	Ca	ICF	Cr	ICF	Cr	ICF	Cu	ICF	Cu	ICF	Dy	ICF	Er	ICF	Eu	ICF	Fe	ICF	Fe	ICF	Fe2O3	Ga	ICF	Gd	ICF	Hf	ICF	Hf	ICF	Ho	ICF	K2O	ICF	La	ICF	Li	ICF	MgO	ICF	Mn	ICF	Mn	ICF	Mo	ICF	Mo	ICF	Na2O	ICF
R110	2.8	403	23	67	199	<1	<1	50	352	390	<1	3	<1	3240	129	97	3.5	13.2	1650	3.4	3.18	<1	768	78	184	229	12.2	5.2	8.8	4.37	24	24	6	3	3.16	404	65	3.29	0.08	60	1.35																																															
G-10-01-123-124	<0.2	<1	1	9	21	<1	<1	<1	17	13	<1	1	<1	9	15	54	<0.2	13.9	493	1.9	3.18	<1	80	11	80	29	3.7	2.1	1.2	4.32	21	4	3	<1	3.24	32	33	4.12	0.02	3	1.35																																															
G-10-01-124-125	<0.2	<1	<1	4	18	<1	<1	<1	10	23	<1	1	<1	13	8	26	<0.2	10.6	1580	1.7	1.72	<1	48	6	91	22	2.6	1.4	0.9	2.6	19	3	3	<1	2.17	24	25	2.7	0.01	3	1.78																																															
G-10-01-125-126	<0.2	<1	<1	3	5	<1	<1	<1	7	24	<1	<1	<1	20	6	10	<0.2	16.5	321	2.5	0.86	<1	44	8	63	7	2.9	1.4	0.8	3.44	25	3	3	<1	1.88	18	27	2.4	<0.01	1	1.7																																															
G-10-01-126-127	<0.2	<1	<1	3	2	<1	<1	<1	8	16	<1	<1	<1	4	7	9	<0.2	16	347	2.4	0.76	<1	67	7	71	3	3.6	1.7	1	3.91	25	4	3	<1	2.15	26	28	2.22	<0.01	3	1.78																																															
G-10-01-127-128	<0.2	1	<1	2	2	<1	<1	<1	5	14	<1	<1	<1	2	6	10	<0.2	14.7	355	2.2	0.69	<1	103	7	111	3	4.1	1.8	1.6	4.53	23	6	3	<1	2.36	84	26	2.02	<0.01	4	1.9																																															
G-10-01-128-129	<0.2	1	1	6	6	<1	<1	<1	14	11	<1	1	<1	1	19	26	<0.2	14.1	464	1.8	0.44	<1	66	9	117	7	3.2	1.7	1.3	5.19	22	4	2	<1	2.84	37	33	2.07	0.01	4	1.87																																															
G-10-01-129-130	<0.2	2	1	8	17	<1	<1	<1	21	10	<1	2	<1	3	18	43	<0.2	14	628	2	1.88	<1	90	10	85	16	3.4	1.8	1.2	4.73	22	4	2	<1	3.05	33	37	2.82	0.02	3	1.82																																															
G-10-01-200-201	<0.2	0.25	1	6	20	<1	<1	<1	16	15	<1	4	<1	22	21	61	<0.2	12	490	1.8	9.55	<1	57	9	98	27	3.9	2.1	1.2	4.97	18	4	2	<1	2.57	20	31	3.33	0.07	16	1.77																																															
G-10-01-201-202	<0.2	1.69	1	7	22	<1	<1	<1	14	10	<1	3	<1	25	20	35	<0.2	10.8	431	1.5	12	<1	56	7	127	22	3.5	2	1.1	3.59	14	4	2	<1	2.17	30	27	3.39	0.07	15	1.87																																															
G-10-01-202-203	<0.2	2.6	1	7	23	<1	<1	<1	14	10	<1	3	<1	15	20	52	<0.2	11.4	353	1.4	6.44	<1	59	8	127	23	3.2	1.7	1.1	3.65	15	4	2	<1	2.13	30	28	3.63	0.04	16	2																																															
G-10-01-203-204	<0.2	1.52	1	8	20	<1	<1	<1	16	13	<1	2	<1	12	21	60	<0.2	12	418	1.6	6.47	<1	63	9	113	27	3.3	1.6	1.2	4.02	17	4	2	<1	2.35	33	30	3.83	0.03	15	1.84																																															
G-10-01-204-205	<0.2	1.51	1	7	23	<1	<1	<1	14	11	<1	2	<1	3	20	40	<0.2	10.7	365	1.4	11	<1	50	7	133	24	3.1	1.7	1	3.56	15	3	2	<1	2.17	27	30	4.55	0.07	10	1.89																																															
G-10-01-205-206	<0.2	8	1	6	16	<1	<1	<1	15	12	<1	1	<1	3	14	<0.2	12.8	443	2	2.52	<1	53	8	175	19	2.7	1.5	0.9	3.61	20	3	2	<1	2.89	28	35	2.54	0.02	9	1.74																																																
G-10-01-206-207	<0.2	5	<1	5	10	<1	<1	<1	13	6	<1	2	<1	4	13	29	<0.2	10.3	334	1.3	4.94	<1	48	6	167	11	2.6	1.3	0.9	2.62	14	3	2	<1	1.93	24	26	2.65	0.03	7	1.89																																															
G-10-01-207-208	<0.2	3.3	1	4	9	<1	<1	<1	4	10	5	<1	1	<1	6	11	10	<0.2	9.08	323	1.1	11.6	<1	37	4	157	10	2.3	1.3	0.8	2.31	12	3	1	<1	1.9	20	23	2.25	0.08	8	1.76																																														
G-10-01-208-209	<0.2	2	<1	4	8	<1	<1	<1	2	10	6	<1	1	<1	4	15	25	<0.2	9.41	289	1	8.02	<1	47	4	145	8	2.3	1.4	0.9	2.33	12	3	1	<1	1.75	24	25	3.14	0.04	8	1.77																																														
G-10-01-209-210	<0.2	2	<1	6	6	<1	<1	<1	1	6	<1	1	<1	3	11	25	<0.2	10	309	1	6.28	<1	41	4	146	9	2.4	1.3	0.8	2.16	12	3	1	<1	1.8	21	25	2.37	0.04	7	1.87																																															
G-10-01-218-219	<0.2	12	1	10	29	<1	<1	<1	1	20	19	<1	2	<1	2	21	84	<0.2	15.3	567	2.2	4.27	<1	67	10	88	29	3.8	2	1.3	4.51	25	4	2	<1	3.75	35	40	4.25	0.03	4	1.64																																														
G-10-01-219-220	<0.2	6	<1	6	12	<1	<1	<1	13	10	<1	1	<1	4	11	24	<0.2	13.1	504	2.2	4.44	<1	61	7	157	18	2.9	1.4	1.1	3.17	18	4	2	<1	2.86	31	32	1.5	0.01	4	2.03																																															
R110	2.9	301	21	69	199	<1	<1	54	352	392	<1	2	<1	3220	126	95	3.6	13.3	1720	3.4	3.17	<1	813	75	191	229	12.7	6.5	9.9	4.51	24	24	6	3	3.2	406	68	3.37	0.08	68	1.37																																															
G-10-01-220-221	<0.2	7	1	6	16	<1	<1	<1	3	14	7	<1	<1	5	19	30	<0.2	10.8	369	1.3	8.5	<1	56	7	151	16	3.2	1.5	1.1	3.21	16	4	2	<1	1.91	30	31	3.61	0.08	10	2.1																																															
G-10-01-221-222	<0.2	2	1	6	17	<1	<1	<1	12	8	<1	2	<1	18	24	<0.2	10.5	360	1.2	10.8	<1	46	6	127	17	3	1.7	1	2.85	15	4	1	<1	1.91	26	30	3.55	0.08	8	2.1																																																
G-10-01-222-223	<0.2	2	1	6	16	<1	<1	<1	13	9	<1	2	<1	3	17	41	<0.2	11.6	379	1.4	7.07	<1	57	7	117	20	3.1	1.7	1	3.1	17	4	2	<1	2.1	29	33	3.72	0.03	7	2.17																																															
G-10-02-139-140	<0.2	1	<1	12	12	<1	<1	<1	21	6	<1	1	<1	6	14	46	<0.2	12.8	643	2	3.34	<1	52	13	123	13	3	1.7	1	3.39	19	3	2	<1	2.64	27	33	3.6	0.02	3	1.48																																															
G-10-02-140-141	<0.2	<1	<1	10	8	<1	<1	<1	1	20	9	<1	<1	7	15	27	<0.2	8.82	2240	0.9	9.79	<1	45	10	179	9	2.8	1.6	1	2.12	12	3	1	<1	1.59	25	24	3.44	0.08	7	1.57																																															
G-10-02-141-142	<0.2	1	1	20	12	<1	<1	<1	1	29	8	<1	<1	8	20	32	<0.2	9.12	2340	1.1	6.62	<1	52	20	154	11	2.9	1.6	1	2.94	13	4	2	<1	1.53	28	27	3.84	0.07	11	1.56																																															
G-10-02-142-143	<0.2	1	1	9	14	<1	<1	<1	17	12	<1	1	<1	10	13	42	<0.2	13.4	1730	1.9	3.30	<1	51	10	107	15	2.9	1.6	1	3.62	20	3	3	<1	2.42	26	33	3.42	0.02	3	1.58																																															
G-10-02-143-144	<0.2	1	<1	2	7	<1	<1	<1	6	18	<1	<1	<1	23	5	9	<0.2	16.3	340	2.5	0.80	<1	35	5	56	11	3.3	1.6	0.8	3.04	23	3	3	<1	1.7	17	34	2.06	<0.01	3	1.83																																															
G-10-02-144-145	<0.2	<1	<1	2	5	<1	<1	<1	5	19	<1	<1	<1	3	5	8	<0.2	16	337	2.5	0.85	<1	43	4	62	8	2.8	1.5	0.8	3.08	23	3	3	<1	1.72	20	31	2.03	<0.01	3	1.81																																															
G-10-02-145-146	<0.2	1	1	11	4	<1	<1	<1	20	16	<1	1	<1	25	8	9	<0.2	15.7	415	2.3	0.62	<1	99	15	71	5	4.3	2.2	1.2	4.46	24	4	3	<1	2.81	39	29	1.98	<0.01	2	1.74																																															

ICF n	Hd	Ni	IC1	P2O5	Pb	ICP	Pr	ICF	Sc	ICF	Sm	ICF	Sr	ICP	Ta	ICF	Tb	ICF	Th	ICF	TiO2	ICF	U	ICP	V	ICF	W	ICF	Y	ICF	Yb	ICF	Zn	ICF	Zr	ICP1	Total	Digestion
n	ppm	ppm	wt %	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	wt %	ppm	ppm															
348	413	0.84	435	88	10	45	4	734	<1	2	114	0.5	3370	245	3	59	3.9	124	275																			
26	23	0.13	20	6	10	4	5	168	<1	<1	12	0.53	11	101	<1	23	2.2	73	119																			
19	15	0.06	33	5	9	3	3	261	<1	<1	11	0.48	15	62	<1	16	1.7	45	121																			
15	18	<0.01	33	4	9	2	5	357	<1	<1	17	0.44	29	63	<1	19	1.8	35	154																			
20	12	0.01	25	5	9	4	9	320	<1	<1	14	0.47	9	63	<1	20	2	31	157																			
43	14	0.02	24	10	9	7	1	269	<1	<1	12	0.45	2	65	<1	20	2.1	31	137																			
31	19	0.04	22	8	10	5	4	178	<1	<1	12	0.51	<2	71	1	15	2	45	116																			
29	24	0.1	18	7	10	5	6	149	<1	<1	12	0.51	4	78	<1	18	2.1	56	116																			
25	29	0.14	19	5	7	3	2	182	<1	<1	10	0.45	23	62	<1	24	2.1	66	103																			
24	20	0.14	12	5	6	2	7	204	<1	<1	10	0.42	27	54	1	22	1.9	41	103																			
25	16	0.13	15	5	7	3	3	156	<1	<1	11	0.45	17	57	<1	18	1.8	57	109																			
27	19	0.14	17	6	7	4	5	157	<1	<1	11	0.48	13	63	<1	19	2	64	114																			
22	18	0.1	15	4	6	2	2	164	<1	<1	9	0.41	16	60	<1	19	1.8	42	98																			
22	20	0.08	14	5	8	3	10	132	<1	<1	11	0.48	4	72	<1	16	1.8	57	110																			
20	16	0.08	7	4	5	3	5	140	<1	<1	10	0.36	6	45	<1	14	1.5	33	92																			
16	11	0.06	7	3	4	1	4	172	1	<1	7	0.27	7	35	1	14	1.3	13	69																			
20	15	0.08	8	4	4	2	7	139	2	<1	9	0.33	5	37	<1	14	1.5	27	84																			
17	15	0.07	8	3	4	2	2	133	<1	<1	7	0.28	4	36	4	14	1.4	29	78																			
29	22	0.11	23	7	11	4	3	118	<1	<1	13	0.58	3	84	<1	22	2.4	93	123																			
26	16	0.03	15	7	8	4	5	153	<1	<1	11	0.51	5	65	1	15	1.7	37	108																			
351	387	0.83	437	88	10	46	5	737	<1	2	119	0.51	3370	254	4	61	4	121	269																			
24	15	0.09	11	5	6	3	2	161	2	<1	9	0.39	7	48	2	19	1.7	34	88																			
21	17	0.1	12	4	6	2	4	172	<1	<1	9	0.38	6	48	5	19	1.7	29	85																			
24	16	0.1	13	5	6	3	8	156	1	<1	10	0.42	4	52	1	19	1.8	45	92																			
23	27	0.12	10	5	9	3	3	152	<1	<1	11	0.49	7	85	<1	18	2	63	118																			
20	23	0.09	11	3	4	2	2	225	<1	<1	7	0.32	9	47	1	18	1.5	30	76																			
23	33	0.11	10	5	5	2	5	197	<1	<1	9	0.37	10	50	1	17	1.6	43	101																			
21	23	0.09	16	5	8	3	6	238	<1	<1	12	0.49	12	71	<1	17	1.8	57	124																			
14	12	0.01	28	3	7	2	1	345	1	<1	15	0.5	64	56	<1	22	1.7	32	154																			
15	11	<0.01	31	4	7	2	4	342	<1	<1	15	0.49	32	51	<1	19	1.7	27	153																			
29	28	0.02	22	7	10	5	4	262	<1	<1	13	0.51	27	77	<1	28	2.8	30	148																			
31	14	0.02	42	8	11	6	4	205	<1	1	13	0.53	88	81	5	70	5.1	31	137																			
44	13	0.02	20	11	8	7	3	194	<1	<1	11	0.48	3	60	<1	18	2	27	121																			
33	14	0.04	13	8	7	5	6	192	<1	<1	11	0.42	<2	48	2	13	1.6	28	103																			
24	13	0.06	9	6	5	4	3	188	<1	<1	9	0.38	<2	47	<1	14	1.6	31	87																			
26	13	0.07	7	6	5	4	4	191	<1	<1	9	0.36	<2	44	<1	15	1.6	33	81																			
21	14	0.09	8	4	4	2	3	191	<1	<1	8	0.34	<2	42	<1	13	1.4	31	81																			
21	14	0.1	9	4	4	2	4	232	2	<1	9	0.34	4	43	<1	13	1.4	28	86																			
21	12	0.14	20	4	6	2	3	430	<1	<1	12	0.39	6	39	<1	15	1.5	36	122																			
22	13	0.09	9	4	4	2	4	235	1	<1	9	0.34	3	42	<1	13	1.4	28	85																			
350	423	0.88	400	87	10	46	4	706	<1	2	109	0.5	3230	243	4	60	4	120	294																			
23	14	0.2	14	3	4	<1	<1	457	<1	<1	7	0.3	12	32	13	20	1.6	12	78																			
19	17	0.11	12	2	4	<1	<1	399	<1	<1	7	0.3	12	43	6	19	1.4	22	72																			
24	21	0.1	14	5	8	2	<1	178	<1	<1	10	0.44	11	75	2	22	2	24	96																			
25	21	0.08	19	6	9	3	3	163	<1	<1	10	0.47	6	80	<1	20	2.1	54	114																			
19	20	0.03	16	5	8	3	2	178	<1	<1	13	0.54	5	64	<1	14	1.6	50	132																			
18	13	0.01	25	4	7	3	<1	293	<1	<1	13	0.48	17	51	<1	20	1.9	29	142																			
31	16	0.01	27	7	10	5	<1	314	<1	<1	16	0.48	8	65	<1	22	1.9	36	172																			
38	15	0.02	23	9	10	7	2	259	<1	<1	13	0.49	4	85	<1	23	2.2	36	156																			
31	22	0.06	15	8	11	5	<1	142	<1	<1	12	0.55	5	79	<1	19	2.3	48	123																			
28	26	0.1	17	7	11	5	6	136	<1	<1	12	0.58	5	80	2	20	2.6	58	129																			
19	16	0.02	31	5	7	3	1	325	<1	<1	14	0.48	25	62	<1	21	1.9	35	143																			
15	13	<0.01	26	4	9	3	2	322	<1	<1	14	0.49	11	64	1	17	1.6	33	160																			
24	15	<0.01	25	6	10	4	1	285	<1	<1	13	0.5	8	67	<1	19	2	34	160																			
47	13	0.04	23	12	8	8	4	215	<1	<1	12	0.46	4	59	5	17	1.9	31	131																			
25	20	0.11	30	6	8	4	2	363	<1	<1	13	0.49	11	63	<1	19	2	57	131																			
18	13	0.02	17	5	8	3	4	259	<1	<1	12	0.52	7	46	2	15	1.7	46	137																			
26	24	0.11	22	7	12	4	3	117	<1	<1	12	0.58	10	90	<1	22	2.4	99	123																			
25	18	0.11	14	5	7	3	2	131	<1	<1	10	0.45	4	55	3	20	1.9	53	105																			
28	19	0.1	15	7	9	4	4	125	<1	<1	12	0.51	4	66	1	20	2.1	66	122																			
354	390	0.9	400	90	10	46	3	890	<1	2	110	0.51	3310	244	3	59	4	121	278																			
26	17	0.11	14	7	8	4	<1	161	<1	<1	10	0.54	5	63	<1	16	1.8	68	122																			
23	13	0.02	16	6	7	4	4	149	<1	<1	10	0.47	3	55	<1	13	1.6	52	113																			
24	15	0.02	16	6	7	4	5	151	<1	<1	10	0.47	3	54	2	13	1.6	44	111																			

