

**CORONEL OVIEDO URANIUM PROJECT  
TECHNICAL REPORT, EXPLORATION POTENTIAL  
NATIONAL INSTRUMENT 43-101  
PARGUAY, SA**



**PREPARED FOR:  
URANIUM ENERGY CORPORATION**



**AUTHORED BY:  
Douglas L. Beahm, P.E., P.G.  
Principal Engineer**



**October 15, 2012**

## DATE AND SIGNATURE PAGE

### DOUGLAS L. BEAHM

I, Douglas L. Beahm, P.E., P.G., do hereby certify that: I am the author of the report titled "*CORONEL OVIEDO URANIUM PROJECT TECHNICAL REPORT, EXPLORATION POTENTIAL, NATIONAL INSTRUMENT 43-101*", dated October 15, 2012 (the "Technical Report").

1. I am responsible for all sections of the Technical Report.
2. I am the Principal Engineer and President of BRS, Inc., 1130 Major Avenue, Riverton, Wyoming 82501.
3. I graduated with a Bachelor of Science degree in Geological Engineering from the Colorado School of Mines in 1974.
4. I am a licensed Professional Engineer in Wyoming, Colorado, Utah, and Oregon; a licensed Professional Geologist in Wyoming; and Registered Member of the Society for Mining, Metallurgy and Exploration, Inc. ("SME")
5. I have worked as an engineer and a geologist for over 38 years. My work experience includes uranium exploration, mine production, and mine/mill decommissioning and reclamation within sandstone-hosted uranium districts similar in geologic setting to the Coronel Oviedo Project.
6. I have read the definition of "qualified person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by reason of my education, professional registration, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
7. I have not had prior working experience on the property as stated in the report.
8. I have visited and inspected the project site during the period of 25 June through 28 June, 2012.
9. 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.
10. I am independent of the issuer within the meaning of section 1.5 of NI 43-101.
11. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with same.

October 15, 2012



Douglas L. Beahm, PE, PG  
Principal Engineer, BRS Inc.

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## SECTION 1: SUMMARY

This report titled, “CORONEL OVIEDO URANIUM PROJECT TECHNICAL REPORT, EXPLORATION POTENTIAL, NATIONAL INSTRUMENT 43-101”, and dated October 15, 2012 was prepared by BRS Inc., of Riverton, Wyoming, on behalf of Uranium Energy Corporation (UEC) and was prepared in compliance with National Instrument 43-101, *Standards of Disclosure for Mineral Projects* (NI 43-101) and in accordance with Canadian Institute Mining (CIM) *Best Practice Guidelines for the Estimation of Mineral Resources and Mineral Reserves*(CIM standards).

This report is a restricted disclosure, as allowed under NI 43-101 Part 2.3.2, which defines Exploration Target(s) within the project area, disclosing the potential quantity and grade of mineralization, expressed as ranges, for further exploration. No estimate of mineral resources or reserves in accordance with NI 43-101 and/or Canadian Institute of Mining, Metallurgy, and Petroleum (CIM) guideline has been made. All tonnages, grade, and contained pounds of uranium, as stated in this report, should not be construed to reflect a calculated mineral resource (inferred, indicated, or measured). The potential quantities and grades, as stated in this report, are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

No current preliminary economic assessment of the Project and/or feasibility study has been completed for the Project. Thus, the additional requirements of Form 43-101F1, for advanced technical reports, Sections 15 through 22, do not currently apply to this report.

Table 1.1 provides a brief list of terms and abbreviations used in this report:

**Table 1.1 Terms and Abbreviations:**

GENERAL TERMS AND ABBREVIATIONS					
	METRIC		US		Metric : US
	Term	Abbreviation	Term	Abbreviation	Conversion
Area	Square Meters	M <sup>2</sup>	Square Feet	Ft <sup>2</sup>	10.76
	hectare	Ha	Acre	Ac	2.47
Volume	Cubic Meters	m <sup>3</sup>	Cubic Yards	Cy	1.308
Length	Meter	m	Feet	Ft	3.28
	Meter	m	Yard	Yd	1.09
Distance	Kilometer	km	Mile	mile	0.6214
Weight	Kilogram	Kg	Pound	Lb	2.20
	Metric Ton	km <sup>3</sup>	Short Ton	Ton	1.10
URANIUM SPECIFIC TERMS AND ABBREVIATIONS					
Grade	Parts Per Million	ppm U <sub>3</sub> O <sub>8</sub>	Weight	% U <sub>3</sub> O <sub>8</sub>	
			Percent		
Radiometric Equivalent Grade		ppm eU <sub>3</sub> O <sub>8</sub>		% eU <sub>3</sub> O <sub>8</sub>	
Thickness	meters	m	Feet	Ft	
Grade Thickness Product	grade x meters	GT(m)	grade x feet	GT(Ft)	

## Project Overview

The Coronel Oviedo project area is located within the Paraná Basin, and is underlain mainly by sedimentary rocks of undivided Permo-Carboniferous age. The area was explored on a reconnaissance basis by Anschutz Corporation (Anschutz) of Denver, Colorado in the late 1970's and early 1980's. The Paraná Basin is host to a number of known uranium deposits, including Figueira and Amarinópolis in Brazil, and the San Antonio deposit on the Yuty Concession in Paraguay.

This report addresses only the RI 3 Corrales and Cecilio Baez mineral concessions which are controlled by UEC through its wholly owned subsidiary Piedra Rica Mining S.A. UEC holds other mineral concessions in Paraguay which are not addressed in this report including the adjacent La Pastora and Carayo mineral concessions and the Yuty mineral concessions in southeastern Paraguay.

## Project Description and Ownership

The Project has a Mining Prospecting Permit covering a total area of approximately 100,000 Há hectares (247,100 acres) in southeastern Paraguay. This mineral concession consists of the RI 3 Corrales (Tres Corrales) and Cecilio Baez blocks. The Project is located about 130 km (81 miles) east of Asuncion, Paraguay's capital, and immediately to the north and east of the city of Coronel Oviedo, capital of the department of Caaguazú. (Refer to Figure 1.1)

## Development Status

The project is an exploration project. Current data is not sufficient to define a mineral resource or reserve in compliance with CIM guidelines. No current preliminary economic assessment of the Project and/or feasibility study has been completed for the Project. The purpose of this report is to define an Exploration Target for the project.

## Regulatory Status

Permits and surface agreements necessary to conduct drilling and exploration activities are in place. No other permits have been acquired or are necessary at this stage of the project.

## Geology and Mineralization

The Coronel Oviedo Project area is situated within the Paraná Basin in eastern Paraguay. Uranium mineralization in the Paraná Basin is sandstone hosted within the Upper Permian Carboniferous (UPC) stratigraphic sequence. Hydrologic testing has shown the formation has suitable aquifer properties to support in situ recovery.

## Exploration and Drilling Status

Drill data is available for some 91 drill holes of which 38% were completed by UEC in 2012. Drilling has encountered uranium mineralization and has defined an oxidation reduction boundary typical of Roll Front type mineralization.

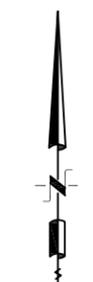


LEGEND	
INTERNATIONAL BOUNDARY	
PARAGUAY BOUNDARY	
DEPARTMENT BOUNDARY	
MAJOR ROADWAY	
MINERAL CONCESSION	
NATIONAL CAPITAL	
DEPARTMENT CAPITAL	
SECONDARY CITY	



REVISION DATE: 09/19/12
CAD FILENAME: LOCATION_MAP.dwg
DWG. NUMBER: FIGURE 1.1
UEC CORONEL OVIEDO PARAGUAY
LOCATION MAP
SCALE: 1:400,000
DATE: 8/22/12
DRAWN BY: CDS

**PROJECT AREA**



## Conclusions

The Coronel Oviedo Uranium Project is an exploration project with insufficient data to calculate mineral resources or reserves in accordance with CIM guidelines at this time. Available data used in this report has been verified and, in the opinion of the author, is reliable for the purposes of defining an Exploration Target. In addition, other portions of the project area are sparsely explored. Surface radiometric anomalies and the favorable geologic setting in these areas warrant further exploration.

The Coronel Oviedo Uranium Project is situated within the Paraná Basin in eastern Paraguay on the western side of the Paraná Basin, which also hosts the Yuty Uranium Project in southeast Paraguay. Based on interpretation of both current and historic drill data, uranium mineralization is Sandstone-Type mineralization within the Upper Permian Carboniferous (UPC) stratigraphic sequence specifically within the San Miguel Formation.

Aquifer testing to date indicates that the uranium bearing unit has aquifer characteristics that would support operational rates for ISR mining and that the aquifer properties determined from the test fall within the range of values determined at other uranium ISR projects located in Wyoming, Texas and Nebraska. The author has reviewed the aquifer test report and concurs with the conclusion for the area tested, but cautions that although these results are positive they may or may not be indicative of other areas and/or geologic horizons within the Project area.

Limited core data indicates that the uranium mineralization is in radiometric equilibrium.

With respect to the definition of an Exploration Target, the most significant result was that the drilling identified a Redox boundary along some 21 kilometers (13 miles) and demonstrated that significant thicknesses (1.9 to 11.1 meters) of mineralization are present. In addition, based on surface radiometric anomalies and limited drill data the Redox boundary may be projected an additional 40 kilometers.

An Exploration Target has been calculated for the Project based on interpretation of mineralization as Sandstone Type Roll Front as follows:

### Exploration Target Quantities:

	Tonnes	Tons	Pounds	Grade % eU <sub>3</sub> O <sub>8</sub>
Lower Limit	26,300,000	28,900,000	23,100,000	0.040
Upper Limit	48,900,000	53,800,000	56,000,000	0.052

All tonnages, grade, and contained pounds of uranium should not be construed to reflect a calculated mineral resource (inferred, indicated, or measured). The potential quantities and grades, as stated in this report, are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

The Project is an exploration property. Principal risks associated with advancing the Project are geologic uncertainty and uncertainty with mineral tenure including variations in thickness, grade, width and continuity of mineralization along the redox front; and variations in the location of the redox front including the possibility that the front lies outside the mineral concession.

Risks associated with the future feasibility of the project include variations in commodity price, environmental restraints, variations in operating and capital costs, and mineral recovery. The author is not aware of any unique or specific risks and/or uncertainties that might significantly affect the overall project.

## Recommendations

Exploration results to date at the Coronel Oviedo Project indicate the presence Sandston-Type uranium mineralization in the San Miguel Formation which warrants further exploration and development. Specific recommendations and budgetary cost estimates follow.

### Phase 1

UEC owns equipment to perform radon gas surveys and surface gamma surveys. The author understands that these surveys will be completed by local staff as part of the process of planning the drilling program. As this is an internal cost a budget is not provided herein.

An initial drilling program of approximately 20,000 meters (65,617 feet core and rotary) or 70 holes is recommended with the following priorities:

1. Define the width, grade, and thickness of mineralization along the projected Roll Front by offset drilling perpendicular to the trend. This could begin with offsets of holes UEC002, UEC014, UEC015 and others.
2. Further define and extend the Redox Front by offsetting the fences of drill holes reflected in cross sections C-C', D-D' and E-E'. It is recommended the initial offsets be spaced by approximately 1 kilometer along trend.
3. The goal of this drilling program would include development of sufficient data to support a mineral resource estimate in accordance with CIM guidelines.

The estimated direct budget for this drilling program including drilling, geophysical logging, surface owner compensation, and travel and per diem is approximately \$4,000,000.00 US. It is recommended that this drilling program be completed during the next field season if practical.

### Phase 2

Dependent on the results of Phase 1, it is recommended that data necessary to support a preliminary economic assessment (PEA) be collected and a PEA completed. This would include:

1. Additional drilling to delineate mineral resource areas, if discovered.
2. Mineralogical identification of uranium and gangue minerals.
3. Determination of engineering properties related to density, porosity and permeability.
4. Determination of disequilibrium conditions.
5. Determination of amenability to acid and alkaline leaching.
6. Additional aquifer testing to evaluate the aquifer within the mineralized zone and overlying and underlying aquifer conditions.
7. Evaluation of mineral resources.
8. Determination conceptual mining methods.
9. Completion of a preliminary economic assessment.

The budget for Phase 2 activities would be wholly dependent on the results of Phase 1 but would likely exceed \$10,000,000.00 US. Phase 2 would sequentially follow Phase 1 subject to market conditions and other factors.

## SECTION2: INTRODUCTION

This Technical Report was prepared for Uranium Energy Corporation (UEC), in compliance with National Instrument 43-101, *Standards of Disclosure for Mineral Projects* and in accordance with CIM *Best Practice Guidelines for the Estimation of Mineral Resources and Mineral Reserves*.

This report is a restricted disclosure which defines Exploration Target(s) within the project area. No estimate of mineral resources or reserves in accordance with CIM guidelines has been made. All tonnages, grade, and contained pounds of uranium, as stated in this report, should not be construed to reflect a calculated mineral resource (inferred, indicated, or measured). The potential quantities and grades, as stated in this report, are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

No current preliminary economic assessment of the Project and/or feasibility study has been completed for the Project. Thus, the additional requirements of Form 43-101F1, for advanced technical reports, Sections 15 through 22, do not currently apply to this report.

The lead author of this report, Mr. Douglas Beahm, is both a Professional Geologist and a Professional Engineer, and a Registered Member of the US Society of Mining Engineers (SME). He is independent of UEC, using the test set out in Section 1.5 of NI 43-101. Mr. Beahm is experienced with uranium exploration, development, and mining including past employment with the Homestake Mining Company, Union Carbide Mining and Metals Division, and AGIP Mining USA. In addition, as a consultant and principal engineer of BRS, Inc., Mr. Beahm has provided geological and engineering services relative to the development of mining and reclamation plans for a variety uranium projects. Mr. Beahm's experience spans a period of thirty-eight years dating back to 1974. Mr. Beahm has direct work experience in Paraguay related to preparation of a mineral resource report on the Yuty Project on behalf of Uranium Power Corporation in 2010/2011.

BRS was retained to provide professional engineering and geological services for the Project by UEC. Mr. Beahm visited the project and local geologic offices during the period of June 25 through June 28, 2012. During this time Mr. Beahm;

- Examined the core collected during the 2012 drilling program.
- Reviewed the core sampling procedure.
- Reviewed geologic and geophysical logging procedures.
- Examined both recent and historical drill data.
- Visited numerous drill sites.
- Observed and reviewed surveying methodology.

Based on review of the data collection and preservation methods employed by UEC, the author is of the opinion that the field practices employed are in keeping with industry standards.

During the site visit copies of all current drill data including lithologic and geophysical log data were provided in hard copy and electronic format. Subsequently all historic data was provided in electronic format. BRS digitized the historic geophysical logs, obtained calibration data, and calculated the equivalent radiometric grade ( $eU_3O_8$ ). This data was used in the report and was compared to historic data to verify that data. The author concludes that the drill hole database available for the Project is reliable.

### **SECTION 3: RELIANCE ON OTHER EXPERTS**

The location of mineral holdings was in part provided by UEC and was relied upon as defining the mineral holdings of UEC in the development of this report. To the extent practical such information has been independently verified.

## SECTION 4: PROPERTY DESCRIPTION AND LOCATION

The Project is located about 130 km (81 miles) east of Asuncion, Paraguay's capital, and immediately to the north and east of the city of Coronel Oviedo, capital of the department of Caaguazú.

The Project has a Mining Prospection Permit covering a total area of approximately 100,000 Há hectares (247,100 acres) in southeastern Paraguay. This mineral concession consists of the RI 3 Corrales (Tres Corrales) and Cecilio Baez blocks. The map of location covered by the project and the coordinates of the vertices of the area are shown on Figure 4.1. Mineral concessions are “Map Staked”, i.e. there are not physical demarcations of the project boundaries in the field. These permits were granted to coronel Oviedo Mining, SA, through the following resolutions:

Permit granted by Resolution N° 807

Date: 4/05/2011

Block: R.I.3 Corrales

Surface: 50.000 Has.

Permit granted by Resolution N° 841

Date: 9/05/2011

Block: Cecilio Báez

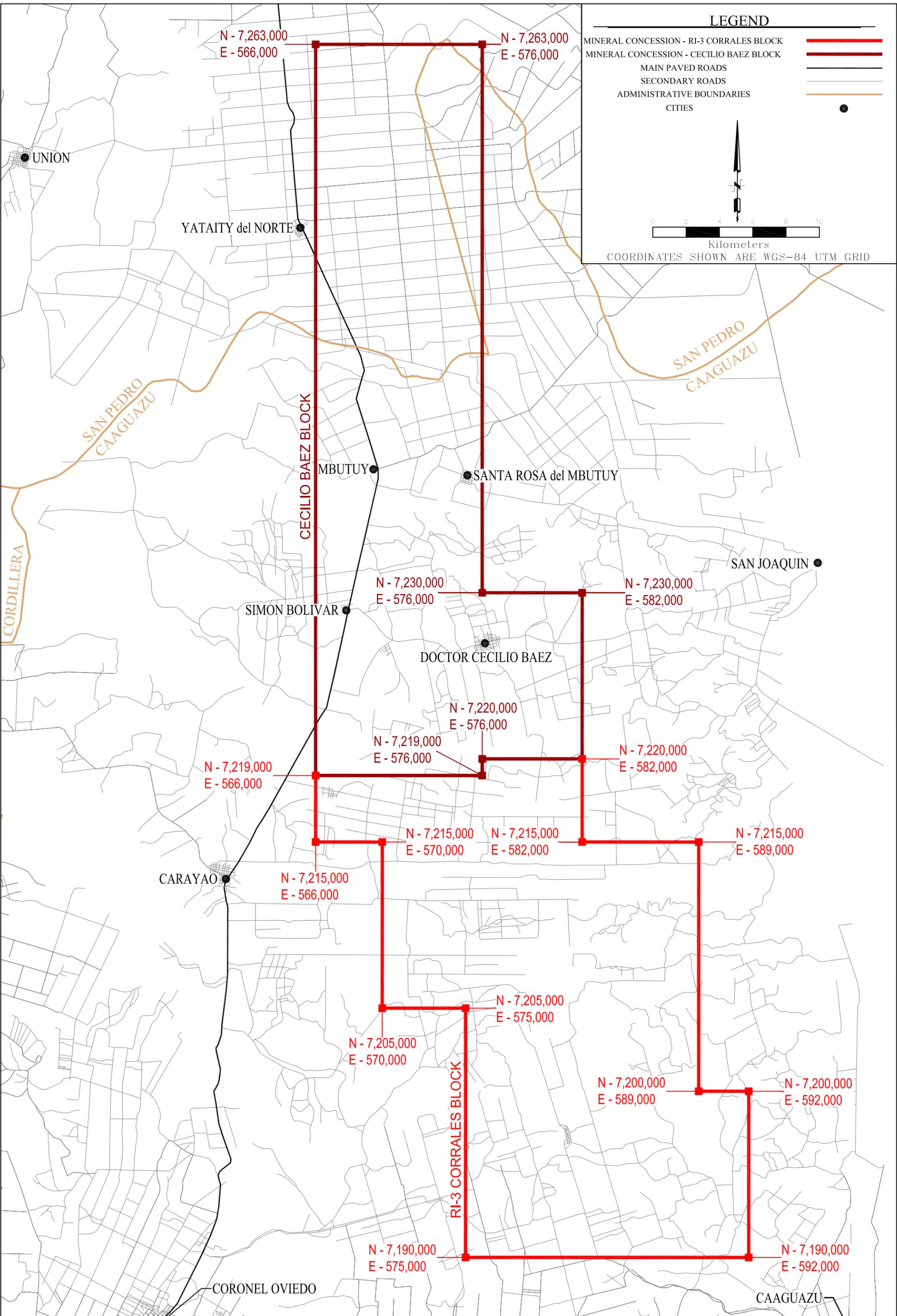
Surface: 50.000 Has.

As discussed in Section 6 the concession area has passed control to Piedra Rica Mining, S.A. who is wholly owned by UEC. Piedra Rica Mining S.A. has two mining permits to prospect minerals granted by the Ministerio de Obras Públicas y Comunicaciones. They are permits # 807/2011 and 841/2011. Title to the concessions is now held through a “Mineral Prospection Permit ” granted by the Ministry of Public Works and Communications (MOPC), authorizing prospecting for metallic and non-metallic minerals and gems and allows access to the next phase of mineral exploration for a up to a 8-year period in stages that would expire in 2019. Piedra Rica Mining S.A. has presented environmental licenses, insurance policies and quarterly reports, completed all payments of land fees (currently US\$ 0.60 per Ha) and completed landowners notifications and appropriate payments, as established by the legislation, for the current prospecting phase.

For the exploitation phase, under current prospection permit the company Piedra Rica Mining S.A. is entitled at any time to apply, through MOPC, for the approval of a "concession contract" by the Congress of the Republic for a 20-year “Mining Concession”, which may be extended for an additional period of 10 years to 2049. To move from one stage to another, the company must have fulfilled all the commitments of the contract including:

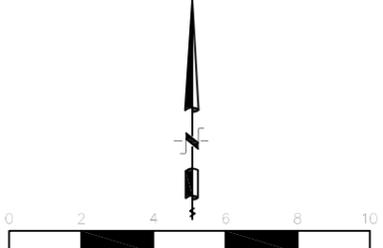
- Fulfill the duties related to the prospection stage;
- Submit the environmental license;
- Submit an invested plan to the exploration stage, that must be calculated according to the following scale: USD 1.50 per Ha during the first year; USD 2.00 per Ha during the second year; USD 2.50 per Ha during the third year; USD 3.00 per Ha during the first extension year; USD 3.50 per Ha during the second extension year; and USD 4.00 per Ha during the third extension year.
- Submit an insurance policy in favor of the Ministry of Public Works, equal to the 100% of the committed investment.

To the author’s knowledge there are no other significant factors that may affect access, title, or the right or ability to perform work on the property, if these aforementioned requirements are met.



**LEGEND**

- MINERAL CONCESSION - RI-3 CORRALES BLOCK ▬
- MINERAL CONCESSION - CECILIO BAEZ BLOCK ▬
- MAIN PAVED ROADS ▬
- SECONDARY ROADS ▬
- ADMINISTRATIVE BOUNDARIES ▬
- CITIES ●



COORDINATES SHOWN ARE WGS-84 UTM GRID



**PROPERTY MAP**  
 SCALE: 1:20,000  
 DATE: 9/10/12  
 DRAWN BY: CDS

**UEC**  
**CORONEL OVIEDO**  
**PARAGUAY**

REVISION DATE: 09/19/12  
 CAD FILENAME: PROPERTY MAP.dwg  
 DWG. NUMBER: FIGURE 4.1

### Surface Rights

It is the intent of the mineral concessions granted by Paraguay to proceed to development. While surface rights are not specifically provided, it is the author's opinion that this will not unduly encumber the project.

### Royalties

The Company has agreed to pay the Vendor a royalty interest in the amount of one and one-half percent (1.5%) of the gross proceeds received by the Company in connection with any uranium which is produced and sold from mineral interests in the Property. The Company also has the exclusive right and option at any time to acquire one-half percent (0.5%) of the aggregate royalty interest for US\$500,000. The Vendor has granted the Company a right of first refusal to acquire all or any portion of the remaining one percent (1.0%) royalty interest.

A further royalty of 2.5% is due to the Republic of Paraguay on traded goods.

### Permits Required

The approval of an Environmental Management Plan by Environmental Office Control (SEAM) resolutions No. 2.480/11, 2.546/11 and 302/12, authorizes the Company to drill in the area (Law No. 994/93 environment and legal regulations).

Written permission from the landowners of the affected lands by the drilling works has been obtained, thus complying with Article 51 of Mining Law 3.180/07.

The foregoing permits are sufficient for current exploration activities. Should the project move forward to mine development additional environmental permits would be required.

### Description of all Environmental Liabilities to Which the Property is Subject

The Project is in the exploration phase. To the author's knowledge there are no outstanding environmental liabilities with respect to the subject properties of this report.

### Encumbrances and Risk

To the author's knowledge there are no other forms of encumbrance related to the Project. It is the author's opinion that the risks associated with this project are similar in nature to other mining projects in general and uranium mining projects specially, i.e., risks common to mining projects include:

- Future commodity demand and pricing;
- Environmental and political acceptance of the project;
- Variance in capital and operating costs; and
- Mine and mineral processing recovery and dilution.

## **SECTION 5: ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY**

### **PHYSIOGRAPHIC FEATURES**

The topography of the Project area is dominated by the Cordillera de Caaguazu (hill range) which established an area of relatively low relief, ranging from 5m to 150 m (16.5 to 492 feet). The average elevation in the area is 150 m above mean sea level.

The northern and western portions of the Project are characterized by areas of low relief with extensive grazing land, while the eastern region of the Project area is characterized by higher relief, with abundant forests.

### **ACCESS**

Access to the Project area is by vehicle over both paved and unpaved roads. The Project area is crossed by both north-south and east-west state maintained highways, providing excellent access from all directions. Asuncion is 132 km (82 miles) to the west via a main highway and Ciudad del Este is 195 km (121 miles) to the east.

The greatest amount of exploration work is being carried out around Tres Corrales, a village with a population of about 9,000 people, approximately 30 km (18.5 miles) from Coronel Oviedo. The supplies and heavy equipment are transported by heavy trucks to the community and from there, to the workplace where drilling would take place.

### **CLIMATE**

The climate in southeastern Paraguay is subtropical to warm with little difference in seasonal temperature. In summer (December 21 - March 20) seasonal average maximum temperatures are 33 ° C, and minimum averages are 21 ° C. The extreme maximum can reach 40 ° C. During fall (March 21-June 20), the region experiences rain and thunderstorms, with high temperatures around 25 ° C, with minimum averages around 15 ° C. Winter (June 21-September 20), the driest season, is known for being cool in general. Higher temperatures during this season averaging 21 ° C with minimum averages of 11 ° C, the extreme minimum range is from 0 to 5 C °. During spring (September 21-December 20), the maximum temperatures average 27 ° C with minimum averages of 16 ° C. Exploration in the Project area can occur throughout the year, although heavy rains occur during the summer months, which can temporarily slow and/or interrupt exploration activities.

## **INFRASTRUCTURE**

Local infrastructure is available in Coronel Oviedo city and surrounding villages.

- Electricity is provided by ITAIPU hydroelectric.
- Several private companies supply gas and fuel both locally and regionally.
- The Arroyo Tobatyry and Arroyo Hondo rivers are the most important surface water sources in the area.
- Telephone service in the region is digital with modern fiber optic service as well as local cell phone coverage.

In Coronel Oviedo 75% of the city has water service, and 73% has waste collection services. In addition, Coronel Oviedo has a modern airport for light aircraft which will contribute to the business and commercial service in the area. Coronel Oviedo supports more than 4,500 small commercial businesses and service providers.

Conventional drilling equipment, rotary drilling and core drilling, is available in Asuncion. Reverse circulation drill rigs are available in Argentina, Brazil and Peru.

## **LAND/USE**

The area is covered with expensive lateritic and saprolitic material, and outcrops are rare. Vegetation consists predominantly of tall grasses, fruit trees, and various agricultural products such as soybeans. Overburden cover ranges from 5 m to 15 m (16.5 to 49 feet).

## **FAUNA AND FLORA**

The land in this part of Paraguay, and in particular the Coronel Oviedo area, is used mainly for agriculture and livestock grazing. The wildlife in the area includes several species of frogs, turtles, snakes, birds (such as white swans, parrots, hawks, doves field, Toucan and owl) foxes, ocelots (wild cat) tapirs, wild boars, deer, and several insects species.

## **SURFACE RIGHTS**

It is the intent of the mineral concessions granted by Paraguay to proceed to development. While surface rights are not specifically provided it is the author's opinion that this will not unduly encumber the project.

## SECTION 6: HISTORY

### Early History – Anschutz Exploration

Exploration for uranium in Paraguay began in 1976 by Anschutz, after they received approval of a Concession Agreement with the Government of Paraguay in December 1975. Law 557/1976 granted the concession for the exploration and exploitation of mineral resources in the eastern part of the country, with the exception of areas corresponding to the Department of Alto Parana. This agreement allowed Anschutz to explore for “all minerals, excluding oil, gas, and construction materials” over an exclusive exploration and exploitation concession covering some 162,700 km<sup>2</sup> (16,300,000 Ha or 40,200,000 Ac) virtually the whole eastern half of Paraguay. Previously intermittent exploration had been carried out by international oil companies, with insignificant results.

In early 1976, a number of reports prepared by Anschutz consultants A.F. Renfro, D.G. Bryant, and G.E. Thomas, covered the geology of eastern Paraguay based on reconnaissance field trips made through the southern Precambrian area, the sedimentary section from north to south, and the alkalic intrusions in the north-central part of a large concession. Based on field examinations and airborne radiometric data, Renfro concluded that the Anschutz Concession contained areas with good potential for uranium mineralization (Pearson, 1981).

The initial uranium exploration by Anschutz included geological mapping, water sampling, soil sampling and a broad reconnaissance Track Etch program, with stations spaced 10 km (6.2 miles) apart. The station spacing for the Track Etch survey was subsequently reduced to 5 km (3 miles) in the southern part of the concession. The reconnaissance program outlined large anomalous zones and Anschutz concluded that the concession constituted a new uranium province in an area underlain by granitic rocks and sandstones (Dunlop, 1979).

The initial reconnaissance program by Anschutz was followed by a program of airborne radiometric and magnetic surveys, detailed Track Etch survey, with station spacing of 100 m to 200 m, geochemical stream sediment and soil sampling and diamond drilling and rotary drilling over selected target areas (Figures 6-3 and 6-4). In total, some 75,000 m (246,000 feet) of drilling was completed from 1976 to 1983 (Grote, 1979 and Dalidowicz, 1979). Flight line spacing for the airborne radiometric survey was 5 km (3 miles) with a clearance of 100 m (328 feet) above the surface.

Drilling by Anschutz intercepted mineralization predominantly in the San Miguel Formation of the Upper Permian Carboniferous (UPC) within several distinct sandstone units. The highest grade intercept encountered by Anschutz within the project area was in drill hole 272T4 which had 5 mineralized intercepts within 3 distinct sandstone units including one intercept at a depth of 243.8 (800 Ft) to 244.3 meters, a thickness of 1.9 meters (6.2 Ft), at a grade of 0.153 % eU<sub>3</sub>O<sub>8</sub>. Drill hole 272T4 is located within what is referred to as the Tres Corrales portion of the Project.

Work on the project was suspended by Anschutz in 1983 due to the slump of the price of uranium.

### Crescent Resources Corporation

In April 2007, Crescent signed an agreement with Coronel Oviedo Mining SA, the owner of a property originally acquired by a Resolution No. 357/07 of the Ministry of Public Works and Communications that grant mining permits and subsequently by Paraguayan National Concesión Law No. 3574/08 which approved the contract signed between the Government of the Republic of Paraguay and Coronel Oviedo Mining S.A.

The agreement included provisions for an exploration campaign that Crescent would carry out in Coronel Oviedo Mining S.A. concession, located about 150km (492 miles) east from Asuncion, in an area of approximately 504,500 Há ( 246,620 Ac) which included the current project area.

Initial work involved the summary of data from previous exploration of Anschutz, such as lithologic and radiometric logs and other drill hole data in the Tres Corrales area specifically. Beginning in mid-August 2007, Crescent completed 28 drill holes totaling 7640 meters (~25,000 Ft) of drilling. All drilling was in the Tres Corrales area and thus, did not evaluate the potential for uranium mineralization in the remainder of the concession area.

In 2011 due to lack of compliance with the requirements established in the mining law of Paraguay the MOPC (Ministry of Public Works and Communications) advised Coronel Oviedo Mining S.A. that their concession would expire in accordance with the Law contract N° 3.574/08 expiration and by Presidential Decree N° 5.328/10.

#### Piedra Rica Mining S.A

Subsequent to expiration of the Coronel Oviedo concession, Piedra Rica Mining S.A. and Rio Bravo S.A. applied for mining prospecting permits to the Ministry of Public Works and Communications (MOPC) over a south portion of the former Coronel Oviedo Mining S.A. concession area, covering the districts of Tres Corrales, Carayao, Cecilio Baez and the eastern part of the Caaguazu city's district. Mining prospecting permits were granted to those companies by Ministerial Resolution N°. 807/11 and 841/11 for Piedra Rica Mining S.A. and N° 757/11 and 774/11 for Rio Bravo S.A., an area of 200,000 Há. Rio Bravo S.A. subsequently transferred its mining rights to Piedra Rica Mining S.A., with government approval by MOPC resolution N°. 973/12. This action resulted in Piedra Rica Mining S.A. gaining 100% control of the mineral concession.

#### UEC Acquisition of Mineral Rights

On May 12, 2011, UEC announced that they had entered into an agreement to acquire Piedra Rica Mining S.A. The total purchase price for Piedra Rica Mining S.A. included the issuance of 225,000 restricted common shares in UEC and a retained royalty interest in the amount of one and one-half percent (1.5%) of the gross proceeds received by the Company in connection with any uranium which is produced and sold from mineral interests in the Property.

Beginning in October 2011, UEC through its wholly owned Piedra Rica Mining S.A., initiated a drilling campaign of 10,000 meters (32,800 Ft) which included the districts of Tres Corrales, Carayao, and Cecilio Baez. This program included 35 core drill holes with maximum depths of 399 meters (1,300 Ft). The drilling depth was intended to fully penetrate the Upper Permian Carboniferous (UPC) sedimentary formations and define the contact with the Lower Permian Carboniferous (LPC). The location of the drill points were initially planned based on a car-borne radiometric survey (Schmeling, 2011) and available from the historical drill data by Anschutz and Crescent Resources. The drilling campaign was completed in May 2012 reaching a total of 10,034 meters (32,900 feet). Results as subsequently discussed in Section 10 of this report.

## SECTION 7: GEOLOGICAL SETTING AND MINERALIZATION

### REGIONAL GEOLOGY

The Coronel Oviedo Project area is situated within the Paraná Basin in eastern Paraguay (Refer to Figure 7.1). The Project is located on the western side of the Paraná Basin, which also hosts the Yuty Uranium Project in southeast Paraguay. In addition, the Paraná Basin hosts the Figueira and Amarinópolis uranium deposits along its eastern margin in Brazil. Uranium mineralization in the Paraná Basin is sandstone hosted within the Upper Permian Carboniferous (UPC) stratigraphic sequence, examples include:

- The Yuty Uranium Project has a NI 43-101 compliant, measured + indicated, mineral resource of 7,837,000 tons containing an estimated 8,914,000 pounds  ${}^e\text{U}_3\text{O}_8$  at an average grade of 0.052  ${}^e\text{U}_3\text{O}_8$  (Beahm, 2011).
- The Figueira and Amarinópolis uranium deposits with mineral resources reported in the literature as, 5,000 – 10,000 tons U (~10 – 20 million pounds) and 2,500 – 5,000 tons (5 – 10 million pounds), respectively (IAEA, 2009).

The reader is cautioned the mineral resources reported in the literature with respect to Figueira and Amarinópolis are not NI 43-101 compliant. The fact that mineral resources have been defined at the Yuty Uranium Project does not imply that that such a mineral resource is present at the Coronel Oviedo Project. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

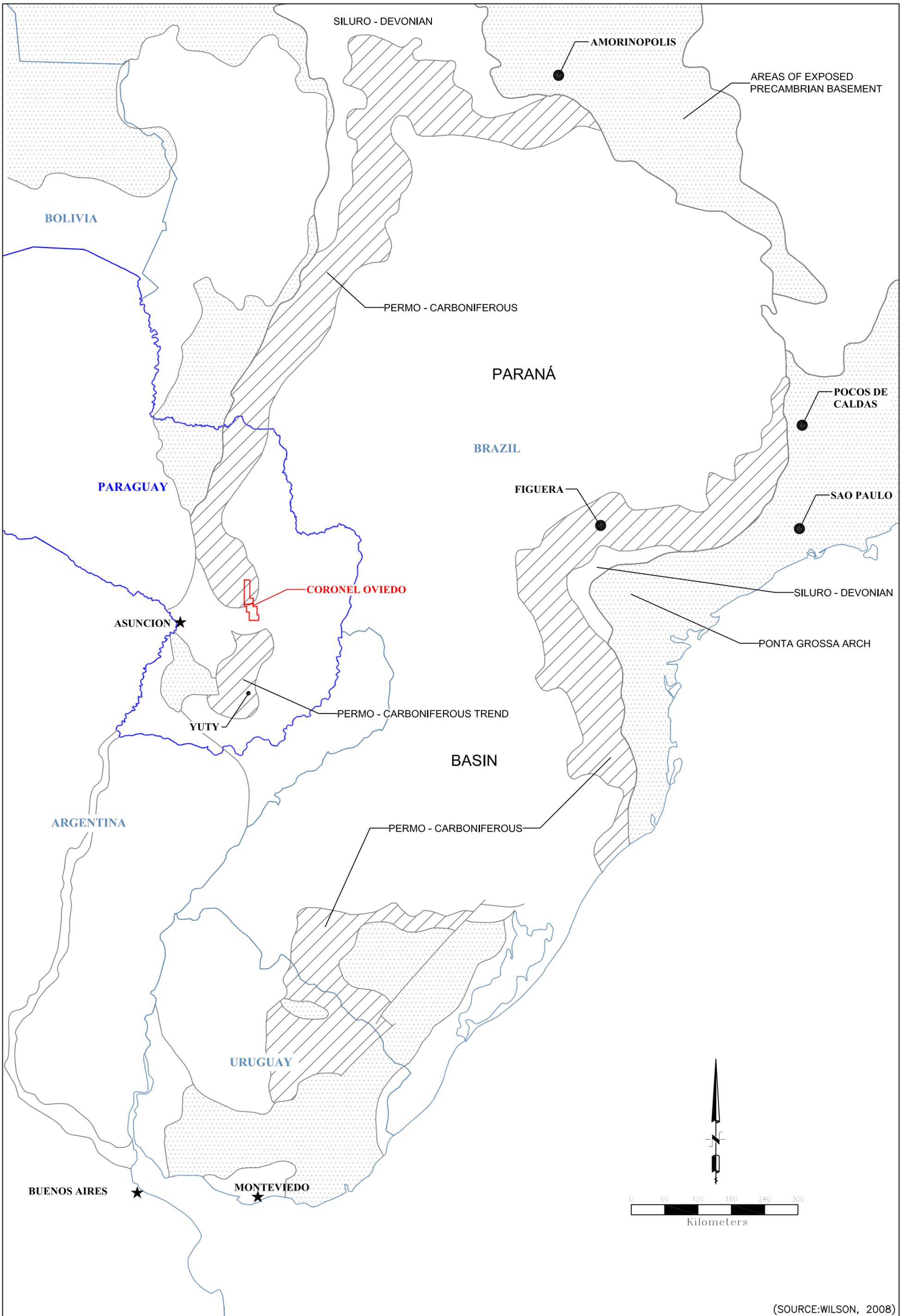
Within Paraguay the UPC is exposed at or near the surface over an area of over 4,000 km<sup>2</sup> (1544.5 miles<sup>2</sup>) including the majority of the Project area. The sedimentary formations of the UPC are sub-horizontal (dipping 1° to 5° to the east) and cover the western flank of the Paraná Basin. Continental sedimentary units of the Independencia Formation (of the UPC) are known to have high potential for uranium exploration in eastern Paraguay. Earlier work also suggests that the basal sandstone, a 20 m to 90 m (65.5 to 295 feet) thick unit known as the San Miguel Formation (within the Independencia Formation), to be the best host for uranium mineralization regionally. Earlier work further suggests that the San Miguel Formation can be correlated with the Rio Benito Formation in the uranium bearing Permian rocks near Figueira, in the Paraná Basin in Brazil. The source of the uranium is thought to be the Lower Permian-Carboniferous Coronel Oviedo Formation, which is correlated with the Itataré Formation underlying the Rio Benito Formation in Brazil. Occasional diabase sills and dikes intrude the sedimentary rocks (Agnerian, 2008). Regionally radiometric anomalies are also reported in igneous and metamorphic rocks of the Precambrian-Cambrian in limestone, Silurian sandstones and carbonatites, and alkaline intrusive rocks of the Cretaceous-Tertiary. Barretto (1985) suggests that the origin of sedimentary rocks, and therefore of uranium mineralization in the Paraná basin, was from west and describes uranium mineralization in the Parana Basin (specifically the Figueira and Amarinópolis uranium deposits of Brazil) as sandstone-type uranium deposits.

## GENERAL STRATIGRAPHY

Figure 7.2 shows the regional stratigraphic sequence within the western portion of the Parana Basin. Within the project area the sedimentary units of Permian Carboniferous have been subdivided into two units the UPC, the Independence Group, and the LPC, the Coronel Oviedo Formation. The Impendence Group consists of the:

- Tacuary's Formation: Up to 350 m (1150 feet) thick consisting mainly of siltstones and sandstones of fine and medium grain size predominantly; and the
- San Miguel's Formation: Averaging 100 m (328 feet) thick, consisting of coarse-grained sandstone on top, followed by sandstone from medium to fine grain size and siltstone at the bottom, and the

The Coronel Oviedo's Formation (LPC) which underlies the UPC is at least 200 m (656 feet) thick and is a predominantly marine shale sequence.



(SOURCE: WILSON, 2008)



**REGIONAL GEOLOGY**  
 SCALE: 1:600,000    DATE: 9/17/12  
 DRAWN BY: CDS

**UEC**  
**CORONEL OVIEDO**  
**PARAGUAY**

REVISION DATE: 09/18/12  
 CAD FILENAME: GENERAL GEOLOGY.dwg  
 DWG. NUMBER: FIGURE 7.1

PERIOD	SYSTEM	GEOLOGICAL UNIT		TARGET FORMATION		
CENOZOIC	QUATERNARY	Quaternary				
	TERTIARY	Tert. / Quat. undiff.				
	CRETACEOUS	Alto Paraná Gr.	Acaray Fm.		Asunción Gr.	Magm.
			Mahm.			Palacios Fm.
	JURASSIC		Misiones Fm.			
	TRIASSIC	Cabacúa Fm.				
	PERMIAN	Independencia Gr.	Tacuary Fm.			
			San Miguel Fm.			
		Cnel. Oviedo Gr.	Cnel. Oviedo diamict.			
			Aquidaban Fm.			
DEVONIAN	San Pedro Gr.	Lima Fm.				
		Sta. Elena Fm.				
SILURIAN	Itacur. Gr.	Cariy Fm.				
		Vargas Peña Fm.				
		Eusebio Ayala Fm.				
ORDOVICIAN	Caacupé Gr.	Co. Jhu/Tobatí fms.				
		Paraguarí Fm.				
CAMBRIAN	Caapucú - San Ramón Magm.		Paso Pindó Metased.			
			Paraguarí Lutites			
			Itapucumí Gr.			
PROTEROZOIC	PRECAMBRIAN	Río Apa Subcraton	Río Tebicuary Subcraton			



STRATIGRAPHIC COLUMN, EASTERN PARAGUAY  
FROM GUARANI, 2001

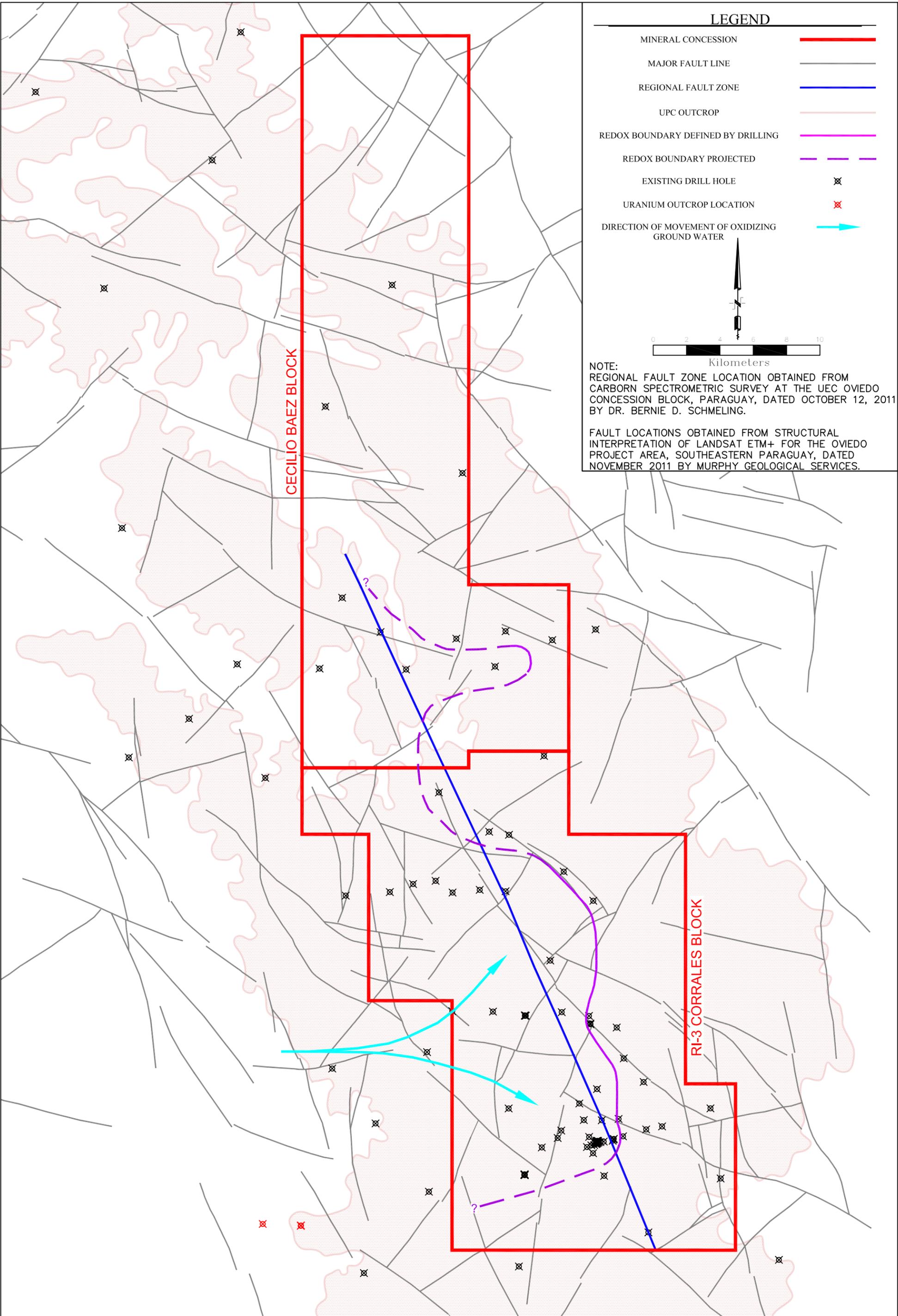
## STRUCTURAL GEOLOGIC SETTING

Various historical geophysical surveys, including magnetic, and seismic surveys, indicate a north to northwest lineament which coincides with a visible topographic lineament of a similar orientation (Refer to Figure 7.3). This feature was recognized by the Anschutz and tentatively interpreted as the surface expression of a large regional fault or fracture zone which down drops the Permian Carboniferous sedimentary units to the east or into the Paraná Basin.

Radiometric surveys and wide spaced drill data indicate that mineralization trends generally coincide with this structural trend, as further discussed in Section 9 of this report. The nature of the relationship between this structure and mineralization is not known, however; the relationship along with complimentary data including surface radiometric anomalies may aid exploration efforts.

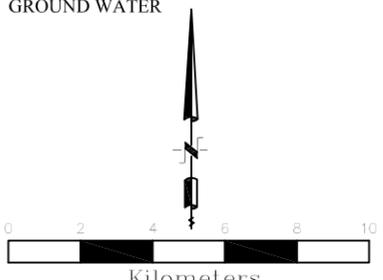
## LOCAL GEOLOGY

Figure 7.3 - Local Geology shows the outcrop of the UPC within the project area and shows the regional structural trend along with major lineaments from the structural interpretation of Landsat imagery (Murphy, 2011). Local surficial geologic exposures are dominated by the UPC and Quaternary alluvial cover. The location of drilling and the location of mineralized outcropping of the UPC is also shown on Figure 7.3.



**LEGEND**

- MINERAL CONCESSION ———
- MAJOR FAULT LINE ———
- REGIONAL FAULT ZONE ———
- UPC OUTCROP ———
- REDOX BOUNDARY DEFINED BY DRILLING ———
- REDOX BOUNDARY PROJECTED - - - -
- EXISTING DRILL HOLE ⊗
- URANIUM OUTCROP LOCATION ⊗
- DIRECTION OF MOVEMENT OF OXIDIZING GROUND WATER →



NOTE:  
 REGIONAL FAULT ZONE LOCATION OBTAINED FROM CARBON SPECTROMETRIC SURVEY AT THE UEC OVIEDO CONCESSION BLOCK, PARAGUAY, DATED OCTOBER 12, 2011 BY DR. BERNIE D. SCHMELING.

FAULT LOCATIONS OBTAINED FROM STRUCTURAL INTERPRETATION OF LANDSAT ETM+ FOR THE OVIEDO PROJECT AREA, SOUTHEASTERN PARAGUAY, DATED NOVEMBER 2011 BY MURPHY GEOLOGICAL SERVICES.



**LOCAL GEOLOGY**  
 SCALE: 1:20,000    DATE: 9/14/12  
 DRAWN BY: CDS

**UEC  
 CORONEL OVIEDO  
 PARAGUAY**

REVISION DATE: 10/8/12  
 CAD FILENAME:  
 LOCAL GEOLOGY.dwg  
 DWG. NUMBER: FIGURE 7.3

## LOCAL STRATIGRAPHY

Figure 7.4 – Type Log, shows the local stratigraphic units as described in this report. The type log is taken from drill hole UEC002. The units within the San Miguel Formation of the UPC were developed by the author based on the interpretation of historical drill data from Anschutz and Crescent, as well as recent drilling completed by UEC. Note that this interpretation is based on widely spaced drilling. The author considers it likely with additional drilling and exploration that the San Miguel Formation will be further subdivided into correlatable stratigraphic units.

UEC002 did encounter diabase in the upper portion of the hole. The diabase is a volcanic intrusive which may occur throughout the UPC and LPC formations within the project area.

### Alternating sandstone units (Tacuary Formation)

Alternating Sandstone Unit thickness ranges between 50 m to 200 meters (164 to 256 feet) locally and mainly consists of fine-grained sandstone interbedded with silt and shale. The unit typically does not host uranium mineralization although some radiometric anomalies were noted in the drill holes. Sandstone tends to be thin and discontinuous.

### Massive Sandstone Unit (San Miguel Formation)

Massive sandstone unit is approximately 100 meters (328 feet) thick and generally consists of fine to medium grained sandstone. This unit tends to be coarser grained in its upper portions and fines downward in the section. Sandstone units within the massive sandstone are commonly separated by thin interbeds of siltstone and shale.

As shown on the Type Log, Figure 7.4, the author has subdivided the Massive Sandstone Unit into four units.

- The upper sandstone unit tends to be relatively thin (less than 10 meters or 33 feet) and commonly has thin (1 meter or less) anomalous radioactivity and/or low grade mineralization related to carbonaceous material which appears to be tabular.
- The Upper Middle Massive Unit is approximately 40 meters (131 feet) thick and is bounded by silt and/or shale interbeds. Available drill data commonly shows anomalous radioactivity and/or low grade mineralization within this unit. As subsequently discussed in Section 8 the author interprets mineralization in this unit to be roll front type mineralization.
- The Lower Middle Massive Unit is approximately 40 meters (131 feet) thick and is bounded by silt and/or shale interbeds. Available drilling shows only limited radiometric anomalies within this unit, however, drilling in the western portion of the Project shows alteration in this unit considered by the author as indicative of roll front mineralization.
- The Lower Massive Unit is approximately 40 meters (131 feet) thick and corresponds to what was termed the “fine grained unit” by Anschutz. This unit commonly shows anomalous radioactivity and/or mineralization. The highest grade drill hole on the Project completed by Anschutz is within this unit and the drilling by Crescent focused on this unit within the Tres Coralles area. As subsequently discussed in Section 8 the author interprets mineralization in this unit to be roll front type mineralization.

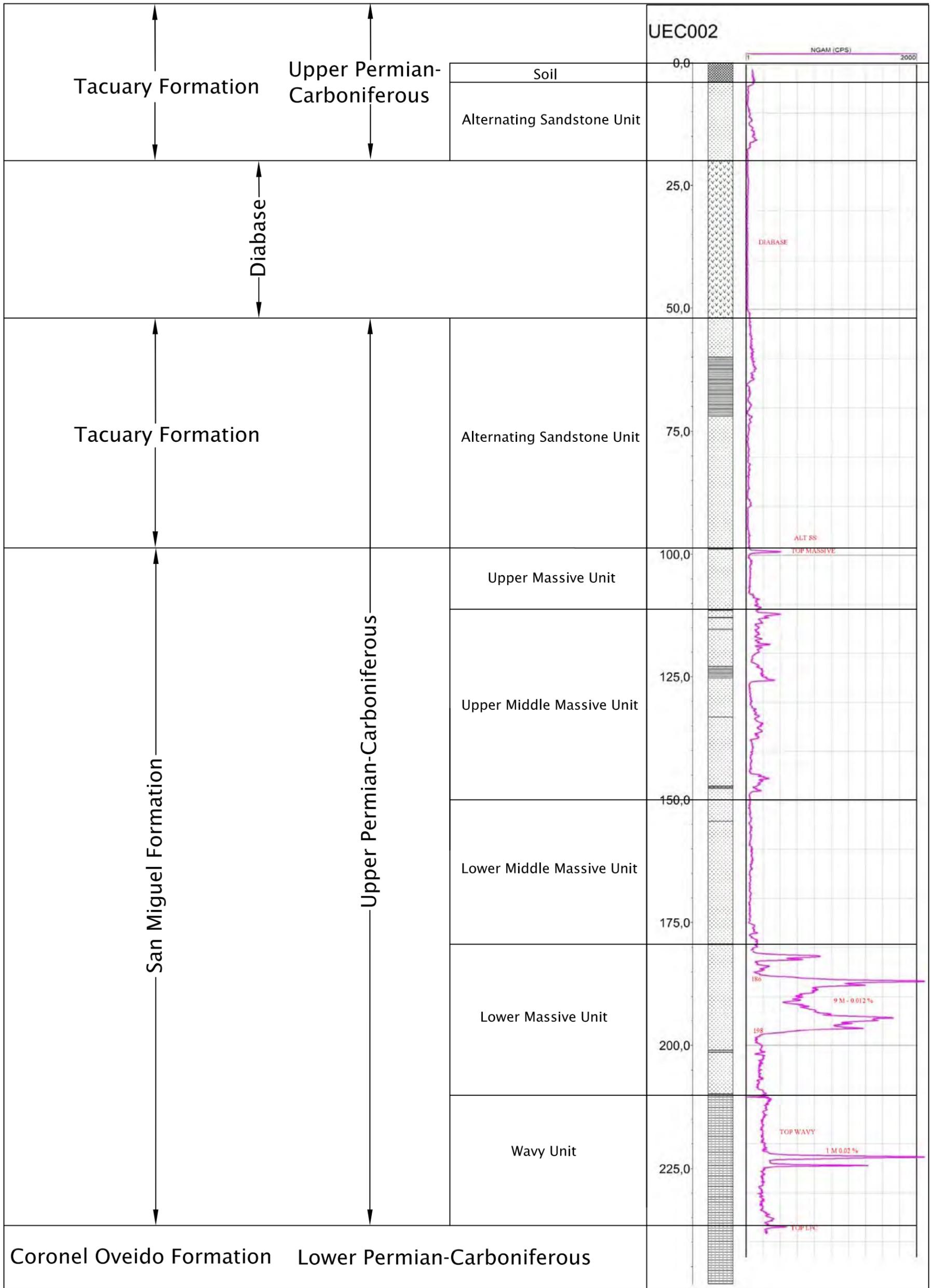
### Wavy Unit (San Miguel Formation)

This unit overlies the black shale unit of the LPC and expresses a transitional contact with the overlying Massive Sandstone. Thickness varies but is generally less than 20 meters (65.6 feet). It contains fine to very fine- grained sandstone interlayered with siltstones and shale which exhibit bioturbation structures giving the unit a “Wavy” appearance.

The Wavy unit commonly expresses anomalous radioactivity and/or mineralization. Based on available drill data the mineralization in the Wavy is thin (approximately 1 meter) and of low to moderate grade. As subsequently discussed in Section 8, the author interprets the mineralization in the Wavy to express a tabular morphology.

### **LPC**

The LPC is the Coronel Oviedo’s Formation which underlies the UPC is at least 200 m (656 feet) thick. The LPC is a predominantly marine shale sequence and is strongly reduced.



## SECTION 8: DEPOSIT TYPES

Previous reports relative to this project and/or uranium mineralization in the Parana Basin regionally describe the uranium deposits as Sandstone-Type. Relevant references include:

- Yancey, C. L., et. al, 2012, “Preliminary Uranium Exploration Results, Parana Basin, Paraguay”, presented at the Technical Meeting on the Origin of Sandstone Uranium Deposits: a Global Perspective, IAEA, May 31, 2012.
- Beahm, D.L., 2011, “NI 43-101 Updated technical report on the Yuty Uranium Project, Republic of Paraguay, prepared for Cue Resources Ltd”, available on SEDAR.
- Agnerian, H., 2008 “NI 43-101 Technical report on the Coronel Oviedo Uranium Project, Paraguay, prepared for Crescent Resources Corp.,” Scott Wilson Roscoe Postle Associates, Inc., available on SEDAR.
- Barretto, P.M.C., “Sedimentary and tectonic environments for uranium mineralization on the Parana Basin, Brazil,” in Geological Provinces of Sandstone-Type Uranium Deposits (IAEA-TECDOC 328), Vienna, IAEA, 1985.

The author has reviewed these and other reports and has reviewed all available historic and current drill data for the project and based on that review also concludes that uranium mineralization within the project is Sandstone-Type mineralization. Further, based on the available drill data, the author concludes that two general sub types of uranium mineralization are present within the Project. These are **Roll Front** and **Tabular** types of sandstone mineralization as described in the “World Distribution of Uranium Deposits (UDEPO) with Uranium Deposit Classification”, (IAEA, 2009).

### TYPES OF MINERALIZATION

As discussed in Section 7: Geologic Setting and Mineralization, the primary host stratigraphic unit is the San Miguel Formation. As shown on the Type Log UEC002, Figure 7.4, the two major sub units of the San Miguel are locally referred to as the Massive and Wavy units. The author further subdivided the Massive units into four sand units for the purposes of this report. The distinction between the Massive and Wavy units is that the Massive unit is characteristically a channel sandstone deposit consisting of a series of transgressive and regressive depositional sequences whereas the Wavy unit reflects a lower energy, paludal sedimentary environment of deposition. As such the Wavy unit consists of fine grained sandstones interbedded with siltstone and shale with abundant carbonaceous material, as compared to the Massive unit, which is a medium to coarse grained sandstone with limited siltstone and shale interbeds.

#### Roll Front Type Mineralization

The author interprets the mineralization within the Massive unit, from the available drill data, to be dominantly Roll Front type mineralization and primarily of epigenetic origin. As depicted on Figure 8.1, roll fronts are formed along an interface between oxidizing ground water solutions which encounter reducing conditions within the host sandstone unit. This boundary between oxidizing and reducing conditions is referred to as the “Redox Front”.

Sandstone uranium deposits are typically of diagenetic and/or epigenetic origin formed by low temperature oxygenated groundwater leaching uranium from the source rocks and transporting the uranium in low concentrations down gradient within the host formation where it is deposited along a Redox interface. Parameters controlling the deposition and consequent thickness and grade of mineralization include the host rock lithology and permeability, available reducing agents, ground water geochemistry, and time in that the ground water/geochemical system responsible for leaching, transportation and re-deposition of

uranium must be stable long enough to concentrate the uranium to potentially economic grades and thicknesses. Roll Front mineralization is common to Wyoming uranium districts including the Powder River Basin, Gas Hills, Shirley Basin, Great Divide Basin, and others, as well as districts in South Texas and portions of the Grants, New Mexico District.

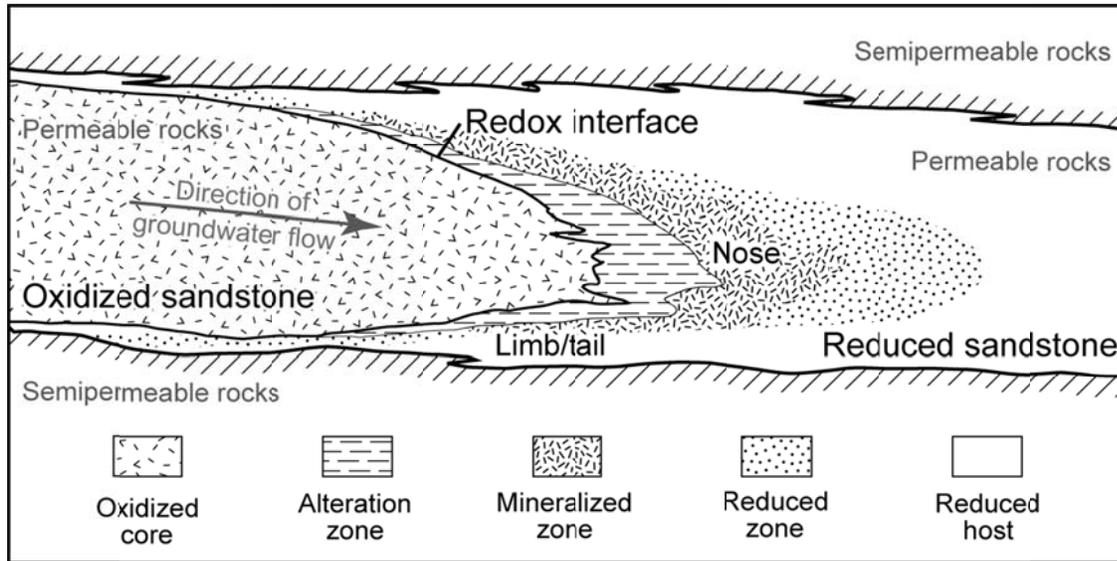


Figure 8.1 - Idealized cross-section of a sandstone-hosted roll front uranium deposit. Modified from Granger and Warren (1974) ; De Voto (1978).

### Tabular Type Mineralization

Tabular Type sandstone uranium deposits tend to form in irregularly shaped lenticular masses within reduced sediments. Mineralized zones are largely oriented parallel to the depositional trend (IAEA, 2009) Tabular type deposits tend to be stratabound as opposed to roll fronts which commonly cross bedding planes. Tabular type mineralization may form in much the same manner as Roll Front type mineralization or be more of a diagenetic origin. Examples of tabular type sandstone deposits include the primary deposits in the Grants, New Mexico District and the Salt Wash deposits in the Colorado Plateau.

The author interprets, based on available drill data, that mineralization in the Wavy unit is dominantly of the tabular type. However, Roll Front type mineralization could be present in the Wavy unit particularly in areas where the lenticular sandstone units thicken and our channel features are present.

## **SECTION 9: EXPLORATION**

### Historical Exploration

During the exploration programs by Anschutz airborne radiometric surveys, regional geological mapping and geochemical sampling were the main exploration tools for uranium exploration in the southeastern part of Paraguay. This was followed-up by core and rotary drilling, in two phases. The initial phase was to drill wide spaced reconnaissance diamond drill holes along fences spaced approximately 16 km (10 miles) apart, complemented by Track-Etch survey. The objective of this initial phase was to obtain stratigraphic information across an inferred host trend. The second phase was to drill rotary holes, spaced approximately 0.5 km (0.3 miles) apart, within as well as in between the fences of the reconnaissance holes, to establish and outline target areas. All drill holes were logged and probed by gamma, neutron and resistivity surveys. From 1978 to 1983, Anschutz completed more than 75,000 m (246,000 feet) of drilling (Agnerian, 2008).

### Recent Exploration

In 2011, UEC completed a airborne spectrometric survey (Schmeling, 2011) conducted over the entire Coronel Oviedo concession to identify radiometric anomalies. A remote sensing study (Murphy, 2011) was also conducted for the purpose of mapping the structural setting of the area and outlining changes in the clay and hematite alteration. A number of isolated radiometric anomalies and higher radiometric trends that were identified in the 2011 airborne spectrometric survey correlate with the main fault zone identified by Anschutz in 1980 trending northwest across the concession (Figure 7.3). This was followed up by ground geophysical magnetic and very low frequency electromagnetic (VLF-EM) surveying in 2008. In addition, one of the features identified in the remote sensing study was a NW-SE trending major structure that correlates well for about 12 km (7.5 miles) with the main fault zone. The significance of this structural feature for the possible local accumulation and distribution of uranium is unclear. The results of both the spectrometric survey and the remote sensing study identified a number of anomalous areas (Yancey, 2012).

### Exploration Target

No estimate of mineral resources or reserves in accordance with CIM guidelines has been made. Rather, the following calculations are intended to quantify an Exploration Target for the Project, as allowed under NI 43-101 Part 2.3.2.

All tonnages, grade, and contained pounds of uranium, as stated in this report, should not be construed to reflect a calculated mineral resource (inferred, indicated, or measured). The potential quantities and grades, as stated in this report, are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

Interpolation of an Exploration Target for the Project is based on the geologic interpretation that mineralization is Sandstone Type mineralization and that at least within the Massive unit, as previously described, is of the Roll Front sub-type. The geologic model for Roll Front mineralization implies that mineralization will be concentrated along an oxidation reduction boundary (Redox Front) within the host sandstone.

Figure 9.1 shows:

- The surficial extent of the UPC, the host formation;
- Drill hole and cross section locations;
- Areas of anomalous radioactivity;
- Locations of surface outcrop of the UPC which were sampled;
- The regional structural trend and faulting;
- The interpolated Redox boundary in the Lower Massive Unit;
  - Defined by Drilling, and
  - Projected

Note that the structural trend, surface radiometric anomalies, and the interpolated Redox Front are all sub-parallel trending north northwest within the project boundary. The interpolation of the Redox Front where noted as “Defined by Drilling” was based primarily on the correlation of drill data. The interpolation of the Redox Front where noted as “Projected” was based primarily on surface radiometric anomalies. In addition, surface samples at the outcrop of the UPC just west of the project area. These samples assayed 0.034 and 0.064 %U<sub>3</sub>O<sub>8</sub>. The presence of this mineralized outcrop did influence the author’s interpretation of the trend location within the project area. However, the calculation of an exploration target was based solely on the trend length, as projected within the project area.

As part of this process a variety of geologic cross sections were developed. A summary of the cross sectional interpretations follows:

Figure 9.2, Section A-A’, is generally north-south and looking west along the reduced side of the frontal system within the Tres Corrales block.

Figure 9.3, Section B-B’, is within the area of closely spaced drilling in the Tres Corrales block. This section was oriented along a mineralized trend that varied in width from 80 to 125 meters (262.5 to 410 feet) along a length of approximately 375 meters. Within this area twenty drill holes are mineralized in the Lower Massive unit with an average thickness of 4 meters and an average grade of 0.04 %eU<sub>3</sub>O<sub>8</sub> above a cutoff grade of 0.02%eU<sub>3</sub>O<sub>8</sub>.

Figure 9.4, Section C-C’, is north of Section B-B’, is generally east-west, and looks north. Beginning in the west holes UEC027, UEC008, and UEC013 are partially oxidized and express thin zones of mineralization in the lower and middle units of the Massive. Thin mineralization in the Wavy unit is also present. UEC015 is reduced and has over 18 meters of low grade mineralization. UEC015 is interpreted as being in the protore portion of the roll front (Refer to Figure 8.1) thus the Redox Front in the Lower Massive lies between holes UEC013 and UEC015.

Figure 9.5, Section D-D’, is approximately 8 Km (5 miles) north of Section C-C’ and also is east-west looking to the north. Beginning in the west hole UEC005 is strongly oxidized as evidenced by the visible staining and alteration in the core. UEC003, UEC032, and UEC001 are partially oxidized. UEC002 is reduced and has a 12 m thick zone of low grade mineralization. As with UEC015, UEC002 is interpreted to represent protore and the Redox front is interpreted to lie between UEC001 and UEC002. Thin mineralization in the Wavy unit is also present.

Figure 9.6, Section E-E’, is approximately 10 Km (6 miles) north of Section D-D’, is east-west and looks north. As was observed in the other cross sections, oxidation is pervasive to the west. Hole UEC018 is strongly oxidized and exhibits hematite and limonite alteration. To the east hole UEC014 is reduced and mineralized showing a thick zone of elevated radioactivity with an intercept of 1.9 m (6 feet) of 0.041%eU<sub>3</sub>O<sub>8</sub>. A core sample assay from this hole shows positive disequilibrium with chemical a grade

of 0.098 %  $U_3O_8$ . As with the previous cross sections C-C' and D-D' UEC014 is interpreted to be in protore with the front to the west. Thin mineralization in the Wavy unit is also present.

Figure 9.7, Section F-F', is within the Cecilio Baez block 10 or more Km north of Section E-E'. Drilling in this block is much sparser than the Tres Corrales block. Most of the drill holes are only sparsely mineralized, however, Anschutz hole 252T7 is mineralized in the Lower Massive and appears similar to holes UEC002, UEC014, and UEC015. While the Redox front that is well defined in the Tres Corrales area may extend into the Cecilio Baez block there is limited data to project this trend.

In summary, a Redox front, defined by drilling (Figure 9.1), extends along a north, northeast trend for approximately 21 km (13 miles) in the Tres Corrales and Cecilio Baez blocks. In addition, a Redox front was projected based on surface radiometric anomalies and limited drilling along a distance of approximately 40 Km (24.9 miles). Mineralization along this front is expected to occur primarily in the Lower Massive Unit along the trend length as defined by drilling and half of the trend length projected from surface radiometric anomalies. Additional mineralized fronts may occur primarily in the Upper Massive, and Upper Middle Massive units as well but have not been included in the Exploration Target estimate.

Throughout the area, the Wavy exhibits thin, 1-2 m (3-6 feet), mineralization which appears tabular. The Wavy also appears to be more strongly oxidized than the Massive. Mineralization in the Wavy has not been included in the estimation of the magnitude of the exploration target.

With respect to thickness and grade, the area of detailed drilling in Tres Corrales is defined by twenty drill holes with intercepts in excess of 0.02  $U_3O_8$ . This area averages 4 m (13 feet) thick at a grade of 0.04  $U_3O_8$  and varies in width along the trend from 80 to 125 m (262.5 to 410 feet). For comparison, the Yuty deposit, for which there is a 43-101 compliant mineral resource estimate, located in southeast Paraguay within a very similar geologic environment has similar average thickness, 4.76 m (15.5 feet) and an average grade, 0.052  $U_3O_8$ . The reader is cautioned that the fact that mineral resources have been defined at the Yuty Uranium Project does not imply that such a mineral resource is present at the Coronel Oviedo Project. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

### Cutoff Criteria

The author recommends a minimum cutoff grade of 0.02 %  $U_3O_8$  and minimum thickness of 1 meter (3 feet) for the purpose of estimating an Exploration Target.

Cutoff criteria of mining projects are determined based upon estimated metal recovery and production costs as compared to the value of the metal. No current preliminary economic assessment and/or feasibility study has been completed for the Project. Thus, calculation of project specific cutoff criteria is not possible for the Project at this time.

### Radiometric Equilibrium

By definition radioactive isotopes decay until they reach a stable non-radioactive state. The radioactive decay chain isotopes are referred to as daughters. When all the decay products are maintained in close association with the primary uranium isotope  $U_{238}$  for the order of a million years or more, the daughter isotopes will be in equilibrium with the parent isotope (McKay, 2007). Disequilibrium occurs when one or more decay products are dispersed as a result of differences in solubility between uranium and its daughters.

Disequilibrium is considered positive when there is higher proportion of uranium present compared to daughters and negative where daughters are accumulated and uranium is depleted. The disequilibrium factor (DEF) is determined by comparing radiometric equivalent uranium grade  $eU_3O_8$  to chemical uranium grade. Radiometric equilibrium is represented by a DEF of 1, positive radiometric equilibrium by a factor greater than 1, and negative radiometric equilibrium by a factor of less than 1. Only limited data is available to assess disequilibrium conditions at the Project. The data provided in Section 10 of this report favors positive equilibrium but is not conclusive. The author recommends using a DEF factor of 1.

### Calculation of Quantities

From the foregoing the following range of parameters are assumed for quantifying the range of tonnage, grade, and pounds of uranium. Calculations are based on radiometric equivalent data with a DEF factor of 1. A minimum grade cutoff of 0.02 %  $U_3O_8$  and minimum thickness of 1 meter was applied. A bulk dry density of 16 cubic feet per ton or 2.439 tons/m<sup>3</sup> was used.

The following parameters and/or ranges as summarized in Table 9.1 apply:

**Table 9.1 Mineralization Parameters**

Parameter	Lower Limit	Basis	Upper Limit	Basis
Thickness	4 meters	Tres Corrales average	4.76 meters	Yuty average
Grade	0.04 $eU_3O_8$	Tres Corrales average	0.52 $eU_3O_8$	Yuty average
Width	80 meters	Tres Corrales	125 meters	Tres Corrales
Length	41 kilometers*	Lower Massive	Same	

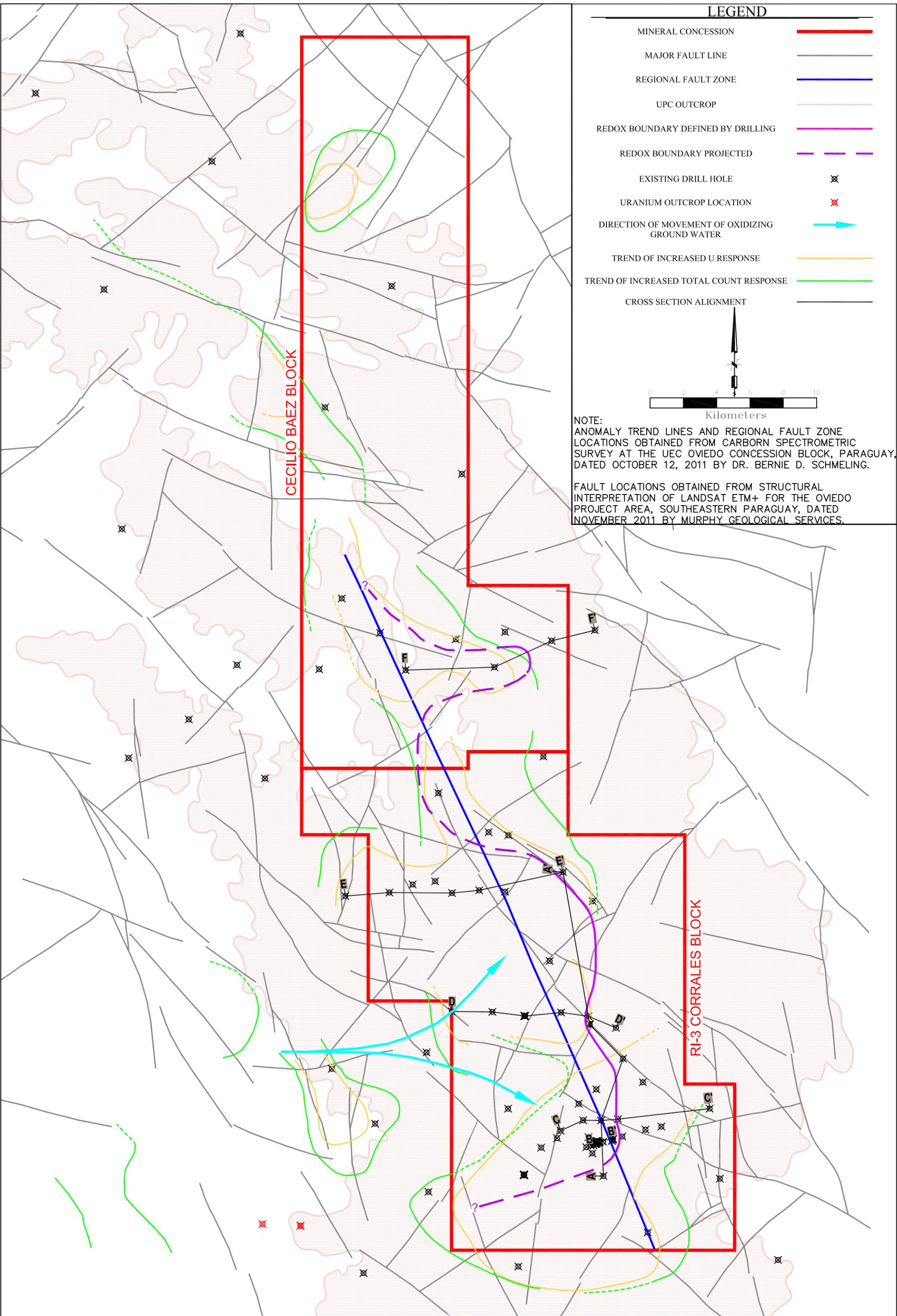
\*21 Km of the trend length defined by drilling and half of the 40 Km trend length projected based on radiometric anomalies.

Exploration Target Quantities are summarized in Table 9.2:

**Table 9.2 Exploration Target**

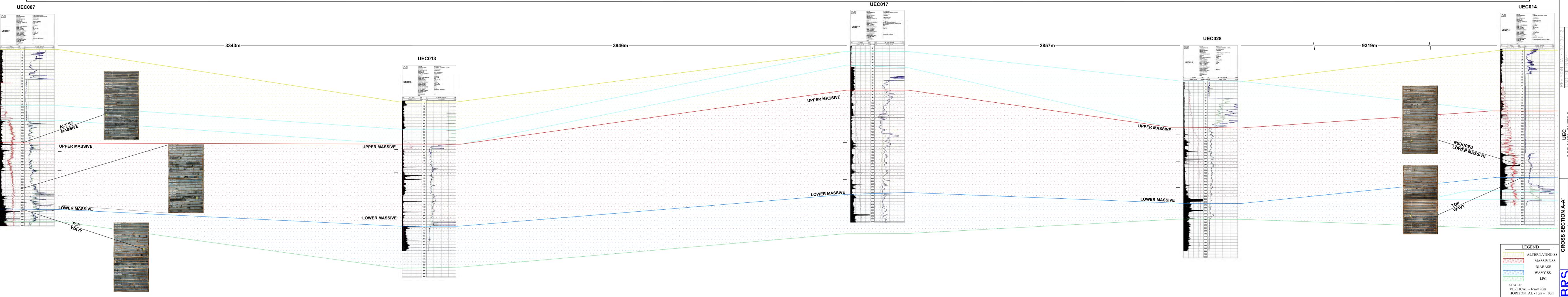
	Tonnes	Tons	Pounds	Grade % $eU_3O_8$
<b>Trend Defined by Drilling - 21 Km</b>				
Lower Limit	13,500,000	14,800,000	11,900,000	0.040
Upper Limit	25,000,000	27,600,000	28,700,000	0.052
<b>Trend Projected – 20 Km</b>				
Lower Limit	12,800,000	14,100,000	11,300,000	0.040
Upper Limit	23,900,000	26,200,000	27,300,000	0.052
<b>Total Exploration Target – 41 Km</b>				
Lower Limit	26,300,000	28,900,000	23,200,000	0.040
Upper Limit	48,900,000	53,800,000	56,000,000	0.052

All tonnages, grade, and contained pounds of uranium should not be construed to reflect a calculated mineral resource (inferred, indicated, or measured). The potential quantities and grades, as stated in this report, are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.



A

A'



**UEC007**

LOG NO.	UEC007
DATE	09/11/12
DEPTH (m)	0 - 100
DIAMETER (mm)	150
LOG TYPE	REGULAR
LOGGERS	...
DESCRIPTION	...

**UEC017**

LOG NO.	UEC017
DATE	09/11/12
DEPTH (m)	0 - 100
DIAMETER (mm)	150
LOG TYPE	REGULAR
LOGGERS	...
DESCRIPTION	...

**UEC013**

LOG NO.	UEC013
DATE	09/11/12
DEPTH (m)	0 - 100
DIAMETER (mm)	150
LOG TYPE	REGULAR
LOGGERS	...
DESCRIPTION	...

**UEC028**

LOG NO.	UEC028
DATE	09/11/12
DEPTH (m)	0 - 100
DIAMETER (mm)	150
LOG TYPE	REGULAR
LOGGERS	...
DESCRIPTION	...

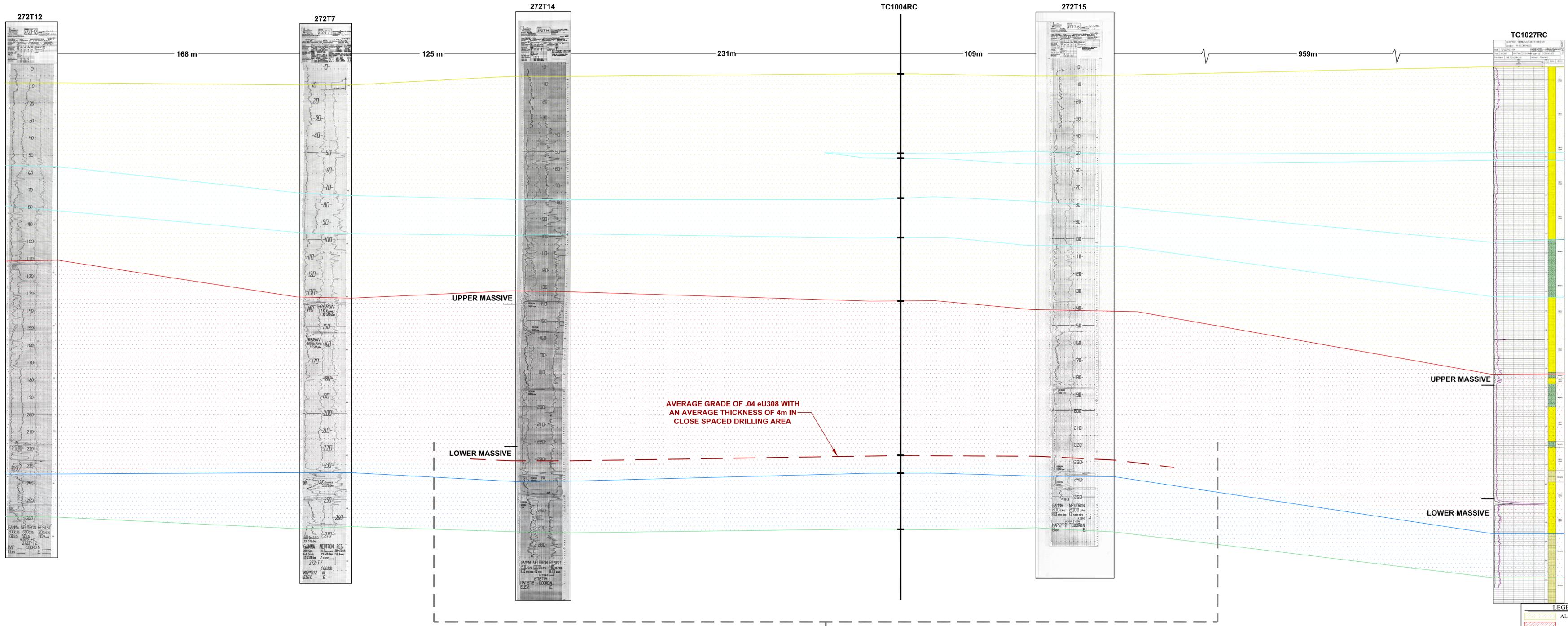
**UEC014**

LOG NO.	UEC014
DATE	09/11/12
DEPTH (m)	0 - 100
DIAMETER (mm)	150
LOG TYPE	REGULAR
LOGGERS	...
DESCRIPTION	...

REVISION DATE: 09/19/12  
 CAD FILENAME: ...  
 DWG: ...  
 UEC CORONEL OVIEDO PARAGUAY  
 CROSS SECTION A-A'  
 DATE: 9/11/12  
 SCALE: AS SHOWN  
 DRAWN BY: BRS  
 BRS ENGINEERING

B

B'



AVERAGE GRADE OF .04 eU308 WITH AN AVERAGE THICKNESS OF 4m IN CLOSE SPACED DRILLING AREA

UPPER MASSIVE

LOWER MASSIVE

UPPER MASSIVE

LOWER MASSIVE

AREA OF CLOSE SPACED DRILLING

**LEGEND**

- ALTERNATING SS
- MASSIVE SS
- DIABASE
- WAVY SS
- LPC

SCALE:  
VERTICAL - 1cm=10m  
HORIZONTAL - 1cm=10m

REVISION: DATE: 9/19/12  
 CAD: FILENAME:  
 DRAWING: SECTION B-B'  
 DWG: NUMBER: 0909-9.3

UEC  
 CORONEL OVIEDO  
 PARAGUAY

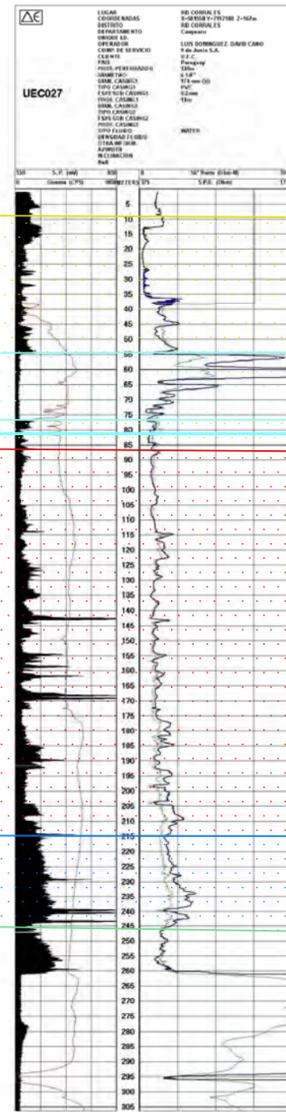
CROSS SECTION B-B'  
 SCALE: 1cm = 10m  
 DATE: 9/11/12  
 DRAWN: BY: GRS



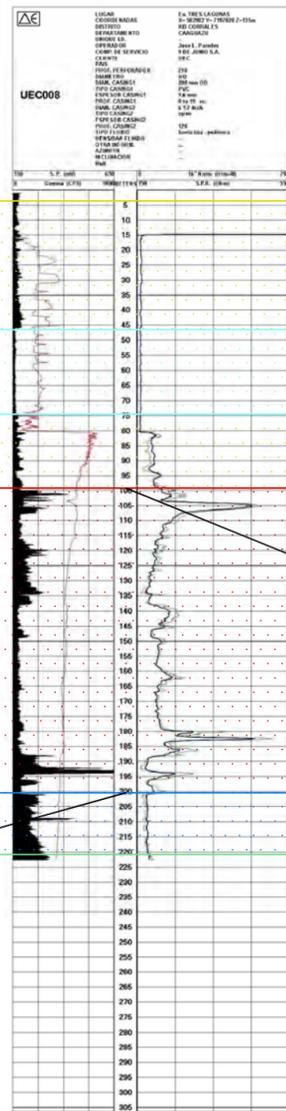
C

C'

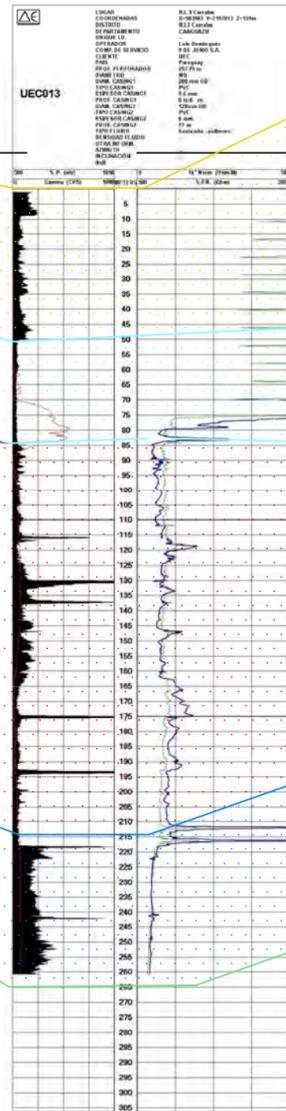
UEC027



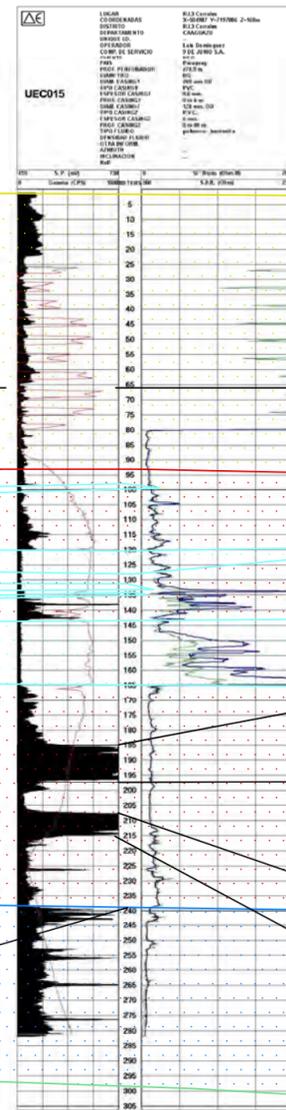
UEC008



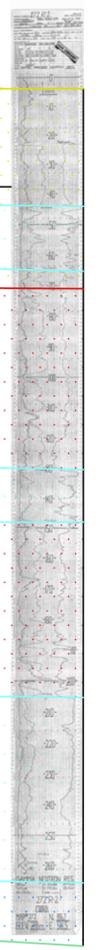
UEC013



UEC015



272R2



1492m

1077m

1012m

5548m

UPPER MASSIVE

LOWER MASSIVE

TOP WAVY

TOP MASSIVE

TOP WAVY

UPPER MASSIVE

MINERALIZED

LOWER MASSIVE

MINERALIZED

**LEGEND**

- ALTERNATING SS
- MASSIVE SS
- DIABASE
- WAVY SS
- LPC

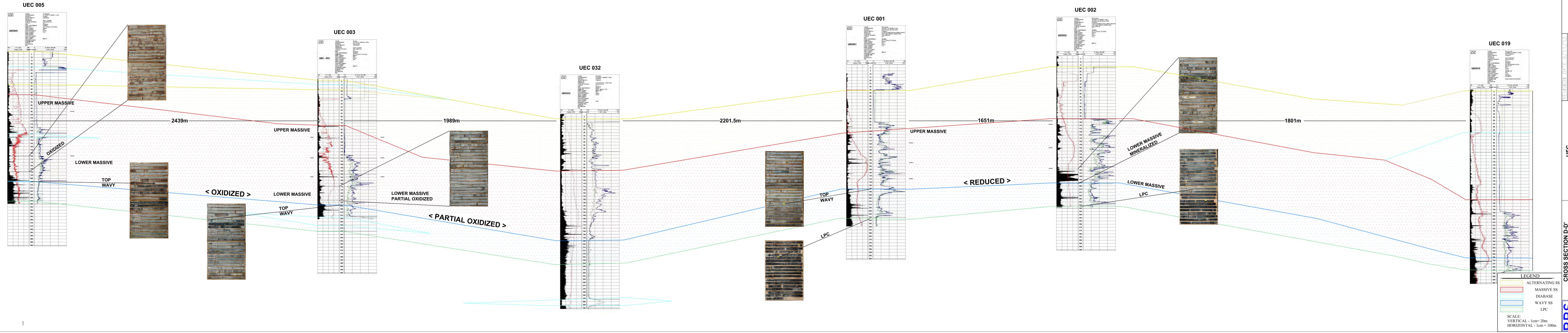
SCALE:  
VERTICAL - 1cm= 20m  
HORIZONTAL - 1cm = 100m

REVISION DATE: 9/11/12  
 CAD FILENAME:  
 GAD/CROSS SECTIONS/SECTION C

UEC  
 CORONEL OVIEDO  
 PARAGUAY

CROSS SECTION C-C'  
 SCALE: AS SHOWN  
 DATE: 9/11/12  
 DRAWN BY: BRS





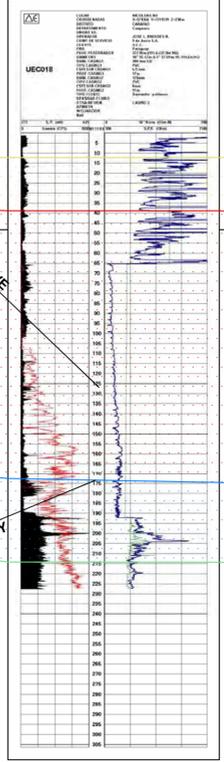
E

E'

251R2



UEC018



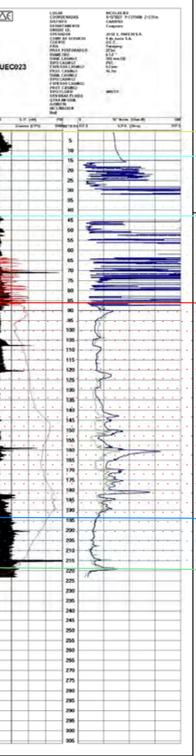
MASSIVE OXIDIZED

TOP WAVY

2654m

3762m

UEC023

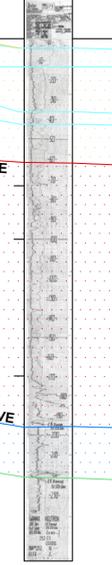


UPPER MASSIVE

LOWER MASSIVE

< OXIDIZED >

252T3



UPPER MASSIVE

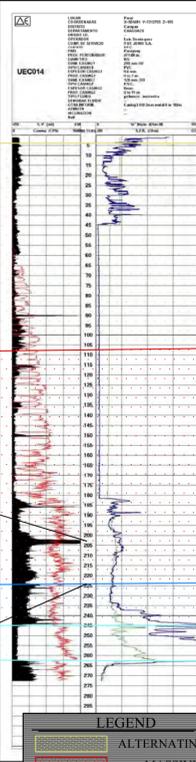
LOWER MASSIVE

1637m

5155m

< REDUCED >

UEC 014



UPPER MASSIVE

REDUCED LOWER MASSIVE

TOP WAVY

**LEGEND**

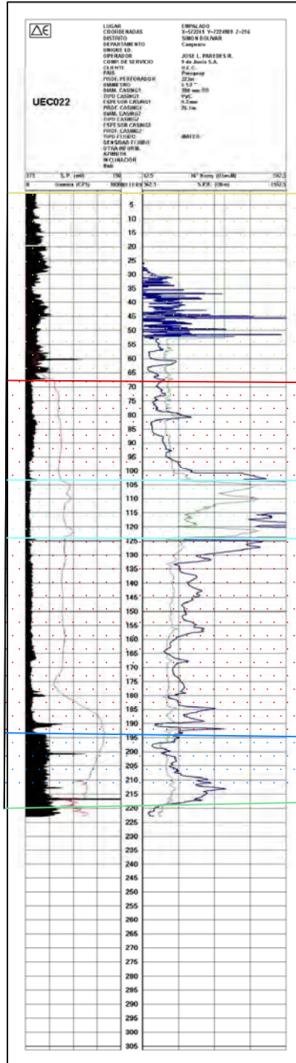
- ALTERNATING SS
- MASSIVE SS
- DIABASE
- WAVY SS
- LPC

SCALE:  
 VERTICAL - 1cm = 50m  
 HORIZONTAL - 1cm = 100m

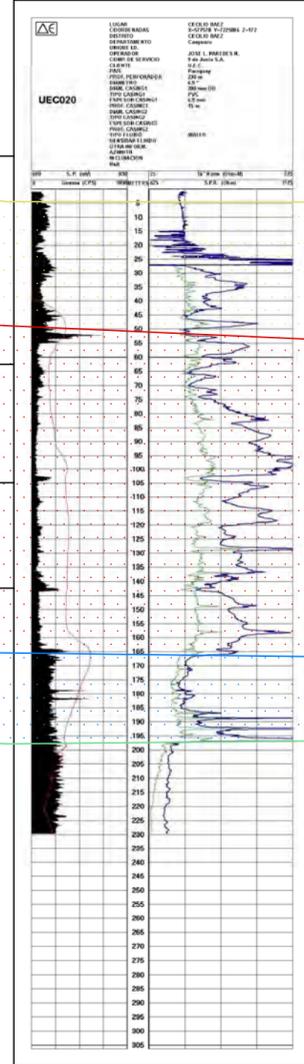
F

F'

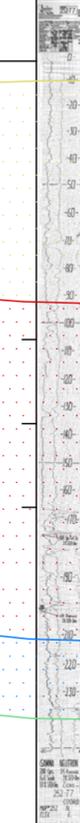
UEC022



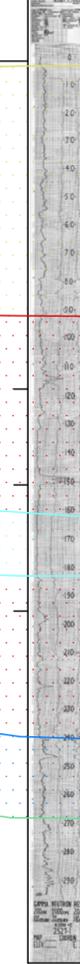
UEC020



252T7



252T1



5340m

3781m

2675m

UPPER MASSIVE

UPPER MASSIVE

UPPER MASSIVE

LOWER MASSIVE

LOWER MASSIVE

LOWER MASSIVE

**LEGEND**

	ALTERNATING SS
	MASSIVE SS
	DIABASE
	WAVY SS
	LPC

SCALE:  
 VERTICAL - 1cm = 20m  
 HORIZONTAL - 1cm = 100m

REVISION DATE: 9/11/12  
 CAD FILENAME: CAD/CROSS SECTIONS/SECTION F  
 DWG. NUMBER: FIGURE 9.7

**UEC**  
**CORONEL OVIEDO**  
**PARAGUAY**

**CROSS SECTION F-F'**  
 SCALE: SHOW BY: BRS  
 DATE: 9/11/12

**BRS**  
 ENGINEERING

## SECTION 10: DRILLING

Data from a total of 91 drill holes is available for the Project. The overall location of these drill holes are shown on Figure 10.1. As drilling in the Tres Corrales area was more closely spaced, Figure 10.2 shows the location of this area in greater detail.

A summary of drilling for the project follows.

### HISTORIC DRILLING

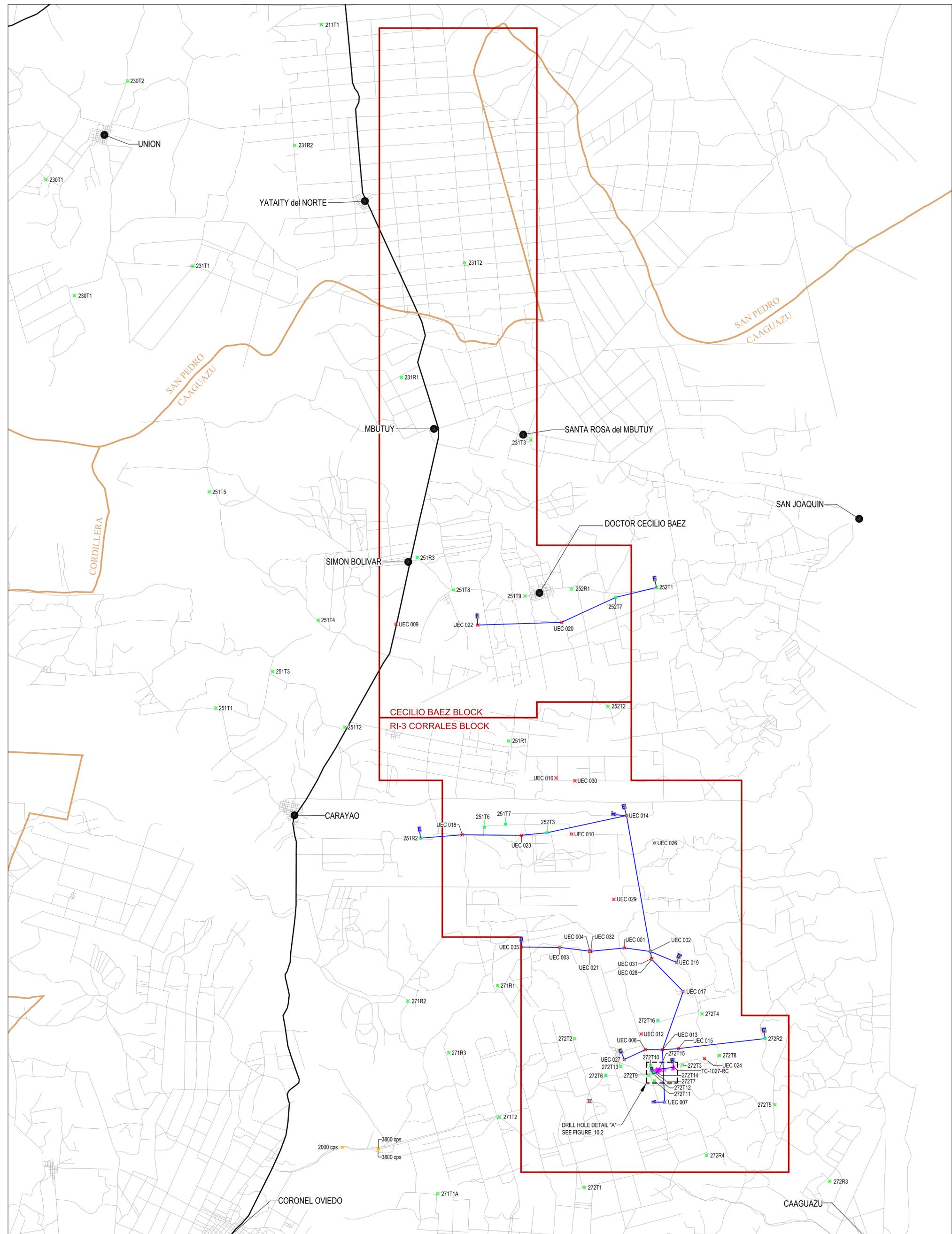
#### Anschutz:

Historic drilling includes the drilling completed by Anschutz in the late 1970's and early 1980's and the drilling completed by Crescent in 2007.

Anschutz completed approximately 15,775 m (51,750 feet) of drilling (core as well as rotary) from 1976 to 1982 (Angerian, 2008). Of this total drilling, data from 28 drill holes, which penetrated 6,881.5 meters (22,6feet), were completed within the Project. Drill hole summaries are provided in Appendix A-1.

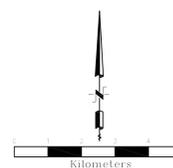
The following procedures were employed during this drilling program (Angerian, 2008):

- The collar locations of all drill holes were marked on 1:200,000 regional scale maps as well as 1:50 000, 1:25,000 and 1:5,000 scale maps, based on a local grid by Anschutz crews.
- A survey instrument was used to provide control information on the directional deviation (both azimuth and inclination) of each hole. Detailed information on drill hole deviations was not collected.
- Lithologic logging was done on drill core and rotary holes by company geologists, depicting all down-hole data including gamma, neutron and resistivity.
- Geophysical logs were interpreted to determine equivalent uranium values using the half amplitude method.
- All information was recorded on analog and hand written lithological logs and hole summaries.
- The lithologic logs included marking:
  - o Lithologic contacts
  - o Descriptive geology
  - o Intensity of various alteration types
  - o Structural features, such as fractured zones



**LEGEND**

- |                         |  |                                |  |              |
|-------------------------|--|--------------------------------|--|--------------|
| MINERAL CONCESSION      |  | ANSCHUTZ DRILL HOLE            |  | 271T6        |
| CROSS SECTION ALIGNMENT |  | UEC DRILL HOLE                 |  | UEC 007      |
|                         |  | CRESCENT DRILL HOLES           |  | TC-1027-RC   |
|                         |  | URANIUM OUTCROP LOCATIONS      |  | 3800cps      |
|                         |  | DRILL HOLE WITH MINERALIZATION |  | >0.02% eU308 |



**DRILL HOLE MAP**

SCALE: 1:10,000  
DRAWN BY: CDS

DATE:  
9/7/12

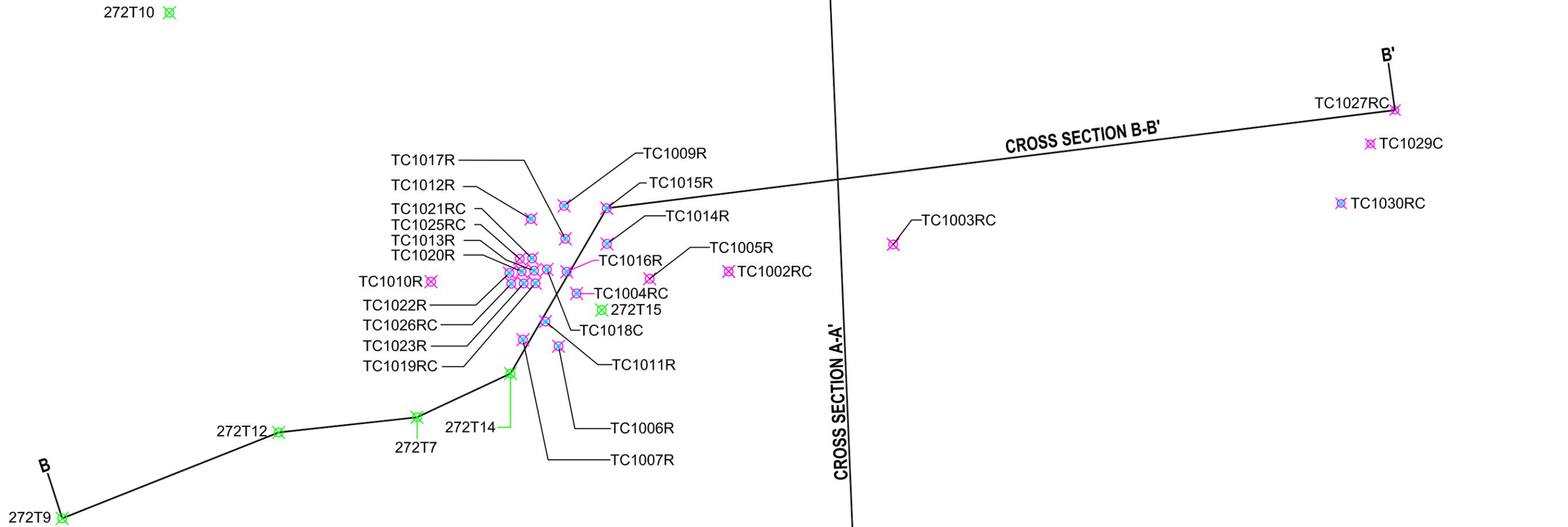
**UEC  
PARAGUAY**

REVISION DATE: 09/19/12

CAD FILENAME:

\\BRSINCSERV\Uranium Brsincserv\UEC\CAD\FIGURES\dwg\DRILL HOLE MAP REBUILD.dwg

DWG. NUMBER: FIGURE 10.1



### LEGEND

CROSS SECTION ALIGNMENT	—
ANSCHUTZ DRILL HOLE	⊗ 271T1
CRESCENT DRILL HOLES	⊗ TC-1022-RC
DRILL HOLE WITH MINERALIZATION	• >0.02% eU308

0 .5 1 1.5 2 2.5  
Kilometers

<b>UEC PARAGUAY</b>	REVISION DATE: 09/19/12 CAD FILENAME: DRILL_HOLE_MAP_REBUILD.dwg DWG. NUMBER: FIGURE 10.2
<b>DRILL HOLE DETAIL "A"</b>	SCALE: 1:500 DRAWN BY: CDS DATE: 9/11/12

Crescent:

The following summary was taken from (Angerian, 2008).

During the 2007 field season, Crescent completed 7,615 m (25,000 feet) of drilling in 11 RC and 17 rotary drill holes in the Tres Corrales target area. Drilling was carried out from August 15 to December 14, 2007. The goal of the 2007 drill program was to confirm the previous results and the uranium mineralization at Tres Corrales as documented in the historic Anschutz drilling. Thirteen of the 28 holes were located close (within 15 m to 50 m) to the old Anschutz holes. Five of the 28 holes were abandoned due to excessive formational water. Drill hole summaries of Crescent drilling are provided in Appendix A-2.

The procedures used during the RCD programs were as follows:

- The collar locations of all drill holes were surveyed and marked in the field. A Geographic Positioning System (GPS) instrument was used to mark the collar locations of both old Anschutz drill holes, as well as the new Crescent drill holes.
- Lithologic logging of drill core and geotechnical observations were provided by local contract geologists. Logging is done by depicting all down-hole data including radiometric values, and subsequently assay values. All information is recorded on previously prepared logs. This includes marking:
  - o Lithologic contacts;
  - o Descriptive geology;
  - o Intensity of various alteration types;
  - o Structural features, such as fracture and brecciated zones;
  - o Maintaining a photographic record of the core with a digital camera. Photographs are taken of all exploration drill core and key information is summarized in a digital database.
- Down-hole radiometric logging was completed by contractors using Mount Sopris Instrument Co., Inc. (MGX II model and Matrix digital logger S/N 0713). Each logging unit was equipped with one Poly Gamma Probe, type 2PGA-1000, S/N 3842 that can record in one run the gamma ray intensity (Gamma) in cps.

## CURRENT DRILLING

In October, 2012, UEC'S subsidiary company, "Piedra Rica Mining S.A." in Paraguay, carried out a drilling campaign of 10,000 meters (32,800 feet) in 35 holes in Coronel Oviedo Uranium Project.

Procedures used in the drilling campaign are as follows:

- Surface drill hole locations were surveyed and georeferenced in the field by Geographical Positioning System and subsequently plotted on a base map.
- All holes were initially advanced using a truck-mounted mud rotary drilling rig. Rotary drilling was used to penetrate overburden, the diabase section, and set surface casing through same.
- Cutting samples were collected and described lithologically from the upper portions of the drill holes completed by rotary drilling. After setting the casing, the rotary rig was removed and replaced by a diamond core rig capable of continuous coring. All cores were collected, described and stored in a field core storage yard. Cutting samples were collected every 1.5 meters. Core sampling was continuous.
- All holes were drilled vertical (90°) and no down-hole deviation surveys were completed.
- Lithological descriptions of all samples were performed including: rock type, grain size, permeability, alteration and color. In addition, contact zones and fracture zones were noted on the log and pictures were taken of all core samples.
- Sections of core samples were taken from the holes: UEC002, UEC004, UEC011, UEC014, UEC015 and UEC030, and sent to "ALS laboratory" in Lima, Peru, for analysis and assaying.
- Down-hole electric logging was performed on all open bore holes, recording resistivity, spontaneous potential and calibrated gamma. The radiometric records were performed in all holes, except for hole UEC 030, by Delta Epsilon instrument 600 DL model, 2009, made in USA, with Number Model GE9409 probe S / N 175, with reading intervals of 10 cm; it records the gamma intensity in counts per second (CPS), also, SP, SPR and normal resistivity were recorded.
- Down-hole CPS was converted to equivalent uranium grade in weight percent eU<sub>3</sub>O<sub>8</sub> using industry standard methodologies.

Significant results include:

Drilling results are provided in Appendix A-3. With respect to the definition of an Exploration Target, the most significant result was that the drilling identified a Redox boundary along some 21 kilometers (13 miles) and demonstrated that significant thicknesses of mineralization are present. Select intercepts are shown in Table 10.1 which follows:

**Table 10.1 Significant Drill Results:**

Hole_ID	Top m	Btm m	Thick m	eG	eGT m	eGT Ft
UEC 002	186.2	189.3	3.1	0.012	0.039	0.127
UEC 002	192.2	196.9	4.7	0.012	0.057	0.188
UEC 014	202.3	204.2	1.9	0.022	0.041	0.136
UEC 015	185.4	196.5	11.1	0.013	0.144	0.472
UEC 015	207.4	214.7	7.3	0.018	0.129	0.424
UEC 028	204.9	208.9	4	0.041	0.163	0.536
UEC 028	224.1	225.1	1	0.047	0.047	0.155

Section 9 provides cross sections displaying the drilling results and geological interpretation.

CORE RESULTS

Ten samples with a nominal thickness of 0.33 meters (1 foot) were sampled and assayed. Of these samples corresponding geophysical log data is available for seven of the samples. These samples show radiometric disequilibrium factors ranging from 0.89 to 2.81 (chemical : radiometric). Overall the data shows positive equilibrium conditions i.e. assay values exceeded radiometric equivalent data (refer to Table 10.2).

**Table 10.2 Core Data Summary:**

HOLE	SAMPLE ID	SAMPLE DATA				LOG DATA	
		FROM	TO	length (meter)	%U <sub>3</sub> O <sub>8</sub>	%U <sub>3</sub> O <sub>8</sub>	DEF
UEC-002	UEC002-A	186.39	186.74	0.35	0.023	0.023	0.99
	UEC002-B	194.25	194.54	0.29	0.014	0.015	0.92
UEC-004	UEC004-A	169.88	170.2	0.32	0.006	No Log	NA
	UEC004-B	182.83	183.15	0.32	0.028	No Log	NA
UEC-011	UEC011-A	89.82	90.08	0.26	0.090	0.078	1.15
UEC-014	UEC014-A	202.56	202.9	0.34	0.098	0.035	2.81
UEC-015	UEC-015 A	187.9	188.23	0.33	0.013	0.015	0.89
	UEC-015 B	194.12	194.48	0.36	0.024	0.014	1.70
	UEC-015 C	191.05	191.37	0.32	0.017	0.014	1.24
UEC-030	UEC-030 A	168.64	168.95	0.31	0.016	No Log	NA

SAMPLE LENGTH v. TRUE THICKNESS

All drilling, historical and current, was vertical and shallow (to depths of approximately 400m [1,300 feet] or less). The formation is flat lying (refer to Section 7) at about 1 to 5 degrees to the east. The down-hole drift surveys were not completed, however, given that the drilling was vertical or nearly vertical and with a nominal formational dip of 3 degrees, the thickness of mineralization as measured from the geophysical logs is less than 1 percent less than the true thickness and was not corrected for the purposes of this report.

## **SECTION 11: SAMPLE PREPARATION, ANALYSES, AND SECURITY**

The majority of the sample data available for the Project both historical and current is the geophysical and lithologic drill log data. Currently available drill data for this project includes 28 historical drill holes completed by Anschutz from 1976 to 1982, 28 drill holes completed by Crescent in 2007, and the 35 recent drill holes completed by UEC.

The author has reviewed all of the available data, digitized the historic geophysical logs, obtained calibration data for the various geophysical logging units, and independently calculated the equivalent uranium grades. The database used for this report was prepared by the author using standard industry methodologies.

Limited core samples have been taken, all from the current drill program. From the recent drill program 10 samples were selected for assay. Sample results are provided in Section 10. The samples were nominally 0.33 m (1 foot) in length. The core was split vertical with half retained and half sent to a certified laboratory, the ALS Laboratory in Lima, Peru. ALS Laboratory Minerals employs a Quality Management System (QMS) designed to ensure the production of consistently reliable data. The system covers all laboratory activities and takes into consideration the requirements of ISO standards. QMS is the process of external auditing by recognized organizations and the maintaining of ISO registrations and accreditations. ISO registration and accreditation provides independent verification for our clients that a QMS is in operation at the location in question.

Assay results were reported in ppm for uranium and a full suite of metals. With respect to the recent core analysis, a duplicate of one of the ten samples was assayed. Results for duplicate sample uranium assays were within 5% of each.

The author reviewed the chain of custody records and has been provided with the assay results. Although the author did not witness the sampling procedure, he did examine the retained core splits which were precisely split and preserved in plastic wrapping. The author concludes that the core handling and assay procedure is in keeping with industry standards and is adequate for the purposes of this report.

## **SECTION 12: DATA VERIFICATION**

### Surface Radiological Data

Carborne radiometric surveys (Schmeling, 2011) were completed for the project prior to the planning of the 2012 drilling. This work is current and was completed by Dr. Schmeling on behalf of UEC and is current. The author understands that Dr. Schmeling is a Qualified Person (QP) as defined by NI 43-101.

During his recent site visit the author observed an area in which the UPC outcrops between the Project and Coronel Oviedo and witnessed the measurement of elevated surface radiological levels at this location. The radiometric anomalies observed by the author were within an area depicted as anomalous in the 2011 carborne survey, substantiating the results of the carborne survey.

### Radiometric Drill Data

The current drill hole database consists of data from 91 drill holes within the project boundaries. Of the total drilling 31% was completed by Anschutz during the period of 1976 to 1982, 31% was completed by Crescent in 2007, and the remaining 38% was completed by UEC in 2012. Thus, 38% of the drilling is current.

The majority of the drill data available is radiometric equivalent data from down-hole geophysical logging. As previously stated, the author has reviewed all of the available data, digitized the historic geophysical logs, obtained calibration data for the various geophysical logging units, and independently calculated the equivalent uranium grades.

### Core Assays and Disequilibrium

Core assays were available from a limited number of samples. This data, while not conclusive, verifies the radiometric equivalent data and indicates that the deposit may exhibit slight positive equilibrium.

### Density

Specific density data is not available for the Project. Based on his mining experience with similar sandstone hosted uranium deposits the author expects the bulk dry density to range between 15 and 16 cubic feet per ton and recommends a unit weight of 16 cubic feet per ton or 2.439 tons/m<sup>3</sup> for all mineral resource and reserve calculations. The use of 16 cubic feet per ton will result in a more conservative estimate of tonnage by approximately 6% as compared to 15 cubic feet per ton.

### Summary

The author concludes that the data utilized in this report is accurate and reliable for the purposes of its use this report.

## **SECTION 13: MINERAL PROCESSING AND METALLURGICAL TESTING**

No metallurgical test work has been completed for the Project.

## **SECTION 14: MINERAL RESOURCE ESTIMATES**

No estimate of mineral resources or reserves in accordance with CIM guidelines has been made. Presently there is insufficient data to support such estimates.

All tonnages, grade, and contained pounds of uranium, as stated in this report, should not be construed to reflect a calculated mineral resource (inferred, indicated, or measured). The potential quantities and grades, as stated in this report, are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

**SECTION 15 through 22 – NOT APPICABLE**

## **SECTION 23: ADJACENT PROPERTIES**

The author is not aware of any adjacent properties which the issuer does not have an interest.

## **SECTION 24: OTHER RELEVANT DATA AND INFORMATION**

The Project is potentially amenable to In Situ Recovery (ISR). As such, the hydrologic properties within mineralized zones, is highly relevant to this type of recovery process.

In 2010 UEC contracted HydroSolutions of Golden, Colorado, USA to conduct aquifer pump test in the area of detailed drilling in the Tres Corrales area (Refer to Figure 10.1). The local stratigraphic zone tested corresponds to the Lower Massive unit as described in this report.

Test results demonstrate and average aquifer transmissivity of  $3.36\text{E-}04$  m<sup>2</sup>/sec (29.1 m<sup>2</sup>/day) and storativity of  $3.84\text{E-}04$  (unitless). The average hydraulic conductivity based on this thickness is  $1.87\text{E-}05$  m/sec (1.61 m/d).

The report states that the results of the aquifer testing indicate that the uranium bearing unit at Tres Corrales has aquifer characteristics that would support operational rates for ISR mining. There is sufficient head and aquifer transmissivity that would allow individual wells to be pumped at rates of up to 180 l/min for sustained intervals. The aquifer properties determined from the Tres Corrales hydrologic test fall within the range of values determined at other uranium ISR projects located in Wyoming, Texas and Nebraska. Production rates from wells in these areas are typically in the range of 20 to 100 l/min, coupled within reinjection of up to 99 percent of the extracted ground water (HydroSolutions, 2010).

The author has reviewed the aquifer test report and concurs with the conclusion for the area tested, but cautions that although these results are positive they may or may not be indicative of other areas and/or geologic horizons within the Project area.

The full report by HyrdoSolutions is provided in Appendix B.

## SECTION 25: INTERPRETATION AND CONCLUSIONS

### Conclusions

The Coronel Oviedo Uranium Project is an exploration project with insufficient data to calculate mineral resources or reserves in accordance with CIM guidelines at this time. Available data used in this report has been verified and, in the opinion of the author, is reliable for the purposes of defining and Exploration Target. In addition, other portions of the project area are sparsely explored. Surface radiometric anomalies and the favorable geologic setting in these areas warrant further exploration.

The Coronel Oviedo Uranium Project is situated within the Paraná Basin in eastern Paraguay on the western side of the Paraná Basin, which also hosts the Yuty Uranium Project in southeast Paraguay. Based on interpretation of both current and historic drill data, uranium mineralization is Sandstone-Type mineralization within the Upper Permian Carboniferous (UPC) stratigraphic sequence specifically within the San Miguel Formation.

Aquifer testing to date indicates that the uranium bearing unit has aquifer characteristics that would support operational rates for ISR mining and that the aquifer properties determined from the test fall within the range of values determined at other uranium ISR projects located in Wyoming, Texas and Nebraska. The author has reviewed the aquifer test report and concurs with the conclusion for the area tested, but cautions that although these results are positive they may or may not be indicative of other areas and/or geologic horizons within the Project area.

Limited core data indicates that the uranium mineralization is in radiometric equilibrium.

With respect to the definition of an Exploration Target the most significant result was that the drilling identified a Redox boundary along some 21 kilometers (13 miles) and demonstrated that significant thicknesses (1.9 to 11.1 meters) of mineralization are present. In addition, based on surface radiometric anomalies and limited drill data the Redox boundary may be projected an additional 40 kilometers.

An Exploration Target has been calculated for the Project based on interpretation of mineralization as Sandstone Type Roll Front as follows:

	Tonnes	Tons	Pounds	Grade % eU <sub>3</sub> O <sub>8</sub>
Lower Limit	26,300,000	28,900,000	23,100,000	0.040
Upper Limit	48,900,000	53,800,000	56,000,000	0.052

All tonnages, grade, and contained pounds of uranium should not be construed to reflect a calculated mineral resource (inferred, indicated, or measured). The potential quantities and grades, as stated in this report, are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. Furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on the property.

The Project is an exploration property. Principal risks associated with advancing the Project are geologic uncertainty and uncertainty with mineral tenure including variations in thickness, grade, width and continuity of mineralization along the redox front; and variations in the location of the redox front including the possibility that the front lies outside the mineral concession. Risks associated with the future feasibility of the project include variations in commodity price, environmental restraints, variations in operating and capital costs, and mineral recovery. The author is not aware of any unique or specific risks and/or uncertainties that might significantly affect the overall project.

## **SECTION 26: RECOMMENDATIONS**

Exploration results to date at the Coronel Oviedo Project indicate the presence Sandston-Type uranium mineralization in the San Miguel Formation which warrants further exploration and development. Specific recommendations and budgetary cost estimates follow.

### Phase 1

UEC owns equipment to perform radon gas surveys and surface gamma surveys. The author understands that these surveys will be completed by local staff as part of the process of planning the drilling program. As this is an internal cost a budget is not provided herein.

An initial drilling program of approximately 20,000 meters (65,617 feet core and rotary) or 70 holes is recommended with the following priorities:

1. Define the width, grade, and thickness of mineralization along the projected Roll Front by offset drilling perpendicular to the trend. This could begin with offsets of holes UEC002, UEC014, UEC015 and others.
2. Further define and extend the Redox Front by offsetting the fences of drill holes reflected in cross sections C-C', D-D' and E-E'. It is recommended the initial offsets be spaced by approximately 1 kilometer along trend.
3. The goal of this drilling program would include development of sufficient data to support a mineral resource estimate in accordance with CIM guidelines.

The estimated direct budget for this drilling program including drilling, geophysical logging, surface owner compensation, and travel and per diem is approximately \$4,000,000.00 US. It is recommended that this drilling program be completed during the next field season if practical.

### Phase 2

Dependent on the results of Phase 1, it is recommended that data necessary to support a preliminary economic assessment (PEA) be collected and a PEA completed. This would include:

1. Additional drilling to delineate mineral resource areas, if discovered.
2. Mineralogical identification of uranium and gangue minerals.
3. Determination of engineering properties related to density, porosity and permeability.
4. Determination of disequilibrium conditions.
5. Determination of amenability to acid and alkaline leaching.
6. Additional aquifer testing to evaluate the aquifer within the mineralized zone and overlying and underlying aquifer conditions.
7. Evaluation of mineral resources.
8. Determination conceptual mining methods.
9. Completion of a preliminary economic assessment.

The budget for Phase 2 activities would be wholly dependent on the results of Phase 1 but would likely exceed \$10,000,000.00 US. Phase 2 would sequentially follow Phase 1 subject to market conditions and other factors.

## SECTION 27: REFERENCES

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## **APPENDIX A – DRILL RESULTS**

Appendix A1: Anschutz Drilling Results

Drill hole	Coordinates		TD	Mineralization interval(m)			G	OBSERVATION
	North	East		From	to	Thickness		
210R1	7,263,183	539,106	134.30	30.7	31.0	0.3	0.028	
210T1	7,279,583	543,506	208.00	165.9	166.6	0.7		
210T2	7,280,783	534,106	250.60					BARREN
211R1	7,266,183	553,406	233.50	201.5	202.5	1.0		
211T1	7,263,183	562,206	307.00					BARREN
211T2	7,276,483	552,656	339.00					BARREN
230R1	7,253,283	544,706	111.30					BARREN
230T1	7,245,883	546,506	85.70					BARREN
230T2	7,259,583	549,906	272.00					BARREN
231R1	7,240,683	567,306	139.20	18	18.6	0.6		
				118.2	118.5	0.3		
				129.4	129.8	0.4	0.02	
				134.5	134.9	0.4		
231R2	7,255,483	560,506	311.60	194.0	195.5	1.5		
				280.0	283.5	3.5		
				294.0	295.0	1.0		
				305.5	306.5	1.0		
				308.0	308.5	0.5		
231T1	7,247,783	554,006	153.00					BARREN
231T2	7,247,983	571,306	309.50					BARREN
231T3	7,236,683	575,506	203.00	126.6	126.9	0.3	0.023	
				154.5	154.8	0.3	0.054	
231T4	7,248,383	536,506	244.00	217.6	217.9	0.3	0.03	
					82.0			
251R1	7,217,483	574,106	300.60					BARREN
251R2	7,211,283	568,506	164.40	147.0	147.3	0.3	0.0141	
					19.4			

					25.5			
				112.0	113.5	1.5		
					145.0			
<b>251R3</b>	7,229,183	568,306	165.20	61.6	66.0	4.4		
				155.5	155.8	0.3	0.033	
<b>251T1</b>	7,219,583	555,506	47.00					BARREN
<b>251T2</b>	7,218,383	563,706	112.00					BARREN
<b>251T3</b>	7,221,883	559,106	92.60					BARREN
<b>251T4</b>	7,225,183	562,006	110.00					BARREN
<b>251T5</b>	7,233,383	555,106	108.00					BARREN
<b>251T6</b>	7,211,983	572,556	193.00	175.4	175.8	0.4	0.0547	
				170.7	171.1	0.4	0.0398	
				50.4	50.8	0.4		
<b>251T7</b>	7,212,183	573,906	220.20	51.7	52.0	0.3	0.0327	
				171.6	171.9	0.3	0.027	
				192.2	192.5	0.3	0.0625	
<b>251T8</b>	7,227,133	570,606	101.80					BARREN
<b>251T9</b>	7,226,733	575,156	190.00					BARREN
<b>252R1</b>	7,227,183	578,106	219.00		62.5			
					64.0			
					70.0			
<b>252T1</b>	7,227,283	583,506	303.80	115.0	115.9	0.9		
				150.0	152.0	2.0		
<b>252T2</b>	7,219,683	580,406	244.40		79.5			
					156.5			
					159.5			
					181.0			
					212.0			
<b>252T3</b>	7,211,633	576,556	240.00	186.3	189.8	3.5	0.0138	
				191.5	192.3	0.8	0.034	
				218.9	219.4	0.5	0.0323	
<b>252T7</b>	7,226,633	580,906	254.00	198.8	199.4	0.6	0.021	
				174.6	174.9	0.3	0.022	
<b>271R1</b>			261.40	115.0	115.5	0.5		

	7,201,883	573,406						
				120.0	120.5	0.5		
<b>271R2</b>	7,200,883	567,706	202.30	28.5	29.0	0.5		
				31.5	32.0	0.5		
				41.0	41.5	0.5		
<b>271R3</b>	7,197,583	570,306	77.50					BARREN
<b>271T1</b>	7,188,583	569,606	138.00		64.0			
					76.0			
					113.5			
					125.0			
<b>271T2</b>	7,193,483	573,506	210.00	204.4	205.2	0.8		
<b>272R1</b>	7,196,683	581,406	305.10	191	192	1		
				215.5	216	0.5		
					270			
					283.5			
<b>272R2</b>	7,196,701	581,329	264.30	166.5	167.0	0.5		
				198.5	199.0	0.5		
<b>272R3</b>	7,189,383	594,506	286.80					BARREN
<b>272R4</b>	7,191,065	586,763	277.00					BARREN
<b>272T1</b>	7,188,983	578,906	220.00		179.5			
					191.5			
					203.5			
<b>272T2</b>	7,198,483	578,306	246.50		62.0			
					151.0			
					163.0			
					217.0			
<b>272T3</b>	7,196,848	585,254	290.00	239.6	243.5	3.9	0.017	
				246.4	247	0.6	0.03	
<b>272T4</b>	7,200,192	586,415	323.00	295.5	295.7	0.2	0.0142	
				296.5	296.8	0.3	0.0133	
<b>272T5</b>	7,194,283	591,006	319.00					BARREN
<b>272T6</b>	7,196,583	579,406	213.00	70.7	71.0	0.3	0.0248	
				71.9	72.5	0.6	0.0164	
				125.6	126.0	0.4	0.0231	

				209.3	209.6	0.3	0.0311	
<b>272T7</b>	7,196,460	583,653	274.50	234.3	234.7	0.4	0.0588	
				235.2	237.0	1.8	0.0375	
				244.2	247.5	3.3	0.041	
<b>272T8</b>	7,196,749	587,584	300.00	239.0	241.0	2.0		
<b>272T9</b>	7,196,235	583,060	275.00					
<b>272T10</b>	7,197,006	583,136	275.00	129.9	130.1	0.2	0.021	
<b>272T11</b>	7,195,820	583,446	280.00	262.5	262.8	0.3	0.0316	
<b>272T12</b>	7,196,341	583,358	264.00	112.9	113.1	0.2	0.0424	
				217.0	217.7	0.7	0.0131	
				226.7	227.9	1.2	0.01908	
				252.2	252.4	0.2	0.0638	
<b>272T13</b>	7,196,133	580,306	110.00					BARREN
<b>272T14</b>	7,196,489	583,713	285.00	135.5	135.8	0.3	0.017	
				153.3	153.7	0.4	0.022	
				185.2	185.6	0.4	0.035	
				233.9	234.5	0.6	0.051	
				243.2	245.1	1.9	0.153	
<b>272T15</b>	7,196,506	583,721	255.90	186.3	186.7	0.4	0.029	
				236.8	237.3	0.5	0.044	
				244.5	246.0	1.5	0.023	
<b>272T16</b>	7,199,616	583,800	275.00	160.3	161.5	1.2	0.034	
				240.9	241.5	0.6	0.017	
				243.8	244.3	0.5	0.016	
<b>189R1</b>	7,292,100	512,300	199.65					BARREN
<b>209T1</b>	7,284,000	521,100	159					BARREN
<b>209T2</b>	7,289,000	515,100	301.55					BARREN
<b>209T3</b>	7,275,900	521,300	336	132	134	2		
				179.5	181	1.5		
<b>RD76</b>	7,182,200	573,000	146.30					BARREN
<b>RD77</b>	7,181,400	588,300	251.50					BARREN

<b>RD78/79</b>	7,181,900	591,800	269.70	164.0	165.0	1.0		
<b>RD80/81</b>	7,182,200	589,800	166.10					BARREN
<b>291T1</b>	7,173,400	571,500	167.00	157.9	158.1	0.2	0.112	
<b>291T2</b>	7,172,700	575,250	200.00					BARREN
<b>291T3</b>	7,172,150	572,400	164.00	130.1	130.4	0.3	0.0315	
<b>291T4</b>	7,174,450	573,100	160.00	155.5	155.7	0.2	0.066	
<b>291T5</b>	7,174,600	571,350	134.00	110.6	110.9	0.3	0.024	
				111.9	112.2	0.3	0.079	
<b>291T6</b>	7,172,900	575,150	136.00	125.1	125.3	0.2	0.032	
				130.6	130.8	0.2	0.035	
<b>292T1</b>	7,172,300	579,350	228.30	67.3	67.8	0.5	0.0139	
<b>292T2</b>	7,176,400	579,150	238.60					BARREN

Highlight denotes holes within study area

Appendix A2: Crescent Resources Drilling Results

<i>Drill hole</i>	<i>Coordinates</i>		<i>TD</i>	<i>Mineralization interval(m)</i>			<i>G</i>	<i>OBSERVATION</i>
	<i>North</i>	<i>East</i>		<i>From</i>	<i>to</i>	<i>Thickness</i>		
TC1002	583,896	7,196,497	271					Barren
TC1003	584,095	7,196,528	271.00					Barren
TC1004	583,714	7,196,467	289.00	234.4	234.5	0.1	0.0318	
				243.4	246.2	2.8	0.0535	
TC1005	583,803	7,196,486	300.00					Barren
TC1006	583,714	7,196,467	294.00	235.8	235.9	0.1	0.02437	
TC1007	584,801	7,196,732	288.00	235.3	235.4	0.1	0.026	
				233.5	234	0.5	0.0274	
TC1009	583,534	7,196,483	291.00	232.7	232.8	0.1	0.0264	
				234.7	235.1	0.4	0.0273	
TC1010	583,589	7,196,687	298.00					Barren
TC1011	584,801	7,196,732	294.00	237.2	237.3	0.1	0.0273	
				235.7	236.5	0.8	0.0334	
TC1012	583,658	7,196,559	294.00	237.6	238.6	1	0.032	
TC1013	583,655	7,196,506	300.00	240.3	241	0.7	0.04483	
				252.4	253.4	1	0.046752	
				238	238.5	0.5	0.070384	
TC1014	583,750	7,196,525	294.00	243.9	244.9	1	0.0411	
TC1015	583,745	7,196,571	295.00	236.6	236.8	0.2	0.0296	
TC1016	583,700	7,196,492	294.00	238.3	238.7	0.4	0.0239	
TC1017	583,700	7,196,530	294.00	240.1	240.6	0.5	0.021	
				236.6	236.8	0.2	0.043	
TC1018	583,670	7,196,498	294.00	241.9	243.1	1.2	0.028	
				253.4	253.9	0.5	0.0296	
TC1019	583,648	7,196,475	294.00	252.5	254	1.5	0.025	
				242.2	242.4	0.2	0.0257	
				242.8	243.5	0.7	0.0316	

				240.8	241	0.2	0.0353	
TC1020	583,648	7,196,475	294.00	241.5	243.3	1.8	0.0357	
				254.2	255.2	1	0.0641	
TC1021	583,661	7,196,510	300.00	246.3	247.5	1.2	0.0361	
				244.1	245	0.9	0.0478	
TC1022	583,631	7,196,510	294.00	256.1	256.5	0.4	0.0292	
				245.4	246.1	0.7	0.0388	
TC1023	583,647	7,196,483	300.00	240.7	241.5	0.8	0.0255	
				238	238.8	0.8	0.0598	
				239.4	240.1	0.7	0.0914	
TC1026	583,634	7,196,404	291.00	256	257.2	1.2	0.0233	
				246.7	247.5	0.8	0.0495	
TC1027	584,696	7,196,685	282.00					Barren
TC1029	584,672	7,196,658	284					Barren
TC1030	584,640	7,196,579	260	162.2	162.4	0.2	0.0294	
				163.4	163.6	0.2	0.0416	

Appendix A3: UEC Drilling Results

Drill hole	Coordinates		TD	Mineralization interval(m)			G	OBSERVATION
	North	East		From	to	Thickness		
UEC 001	581,577	7,204,308	246.60					Barren
UEC 002	583,211	7,204,082	248.50					Barren
UEC 003	577,453	7,204,342	245.70					Barren
UEC 004	579,367	7,204,118	187.70					Barren
UEC 005	575,014	7,204,367	240.00	222.9	223.2	0.3	0.021	
UEC 006	579,366	7,194,530	209.98					Barren
UEC 007	584,118	7,194,469	336.20					Barren
UEC 008	582,902	7,197,820	225.40					Barren
UEC 010	578,209	7,211,574	246.25	232.4	232.5	0.1	0.023	
				90.8	91.8	1	0.033	
UEC 011	579,355	7,194,533	276.45					Barren
UEC 012	582,599	7,198,811	379.30					Barren
UEC 013	583,983	7,197,813	257.75	175	175.3	0.3	0.020	
				193.2	193.7	0.5	0.021	
UEC 014	581,691	7,212,755	271.80					Barren
UEC 015	584,987	7,197,886	278.90					Barren
UEC 016	577,221	7,215,157	213.65					Barren
UEC 017	585,300	7,201,532	392.00					Barren
UEC 018	571,266	7,211,519	227.90					
				196.7	197	0.3	0.022	
UEC 019	584,875	7,203,391	335.15					Barren
UEC 021	579,367	7,204,086	216.00	191.1	191.7	0.6	0.022	
UEC 022	572,241	7,224,909	223.10					Barren
UEC 023	575,027	7,211,486	223.00					Barren
UEC 024	586,641	7,197,258	324.00					Barren
UEC 025	568,409	7,198,538	390.10					Barren
UEC 026	583,469	7,211,020	399.00					Barren
UEC 027	581,550	7,197,188	330.00	243.3	243.5	0.2	0.021	
				136.8	137.4	0.6	0.035	
UEC 028	583,304	7,203,572	300.00	205	208.9	3.9	0.034	
				224.3	225.1	0.8	0.044	
UEC 029	580,891	7,207,410	316.40	236	236.2	0.2	0.020	
UEC 031	583,284	7,203,625	300.00					Barren
UEC 032	579,426	7,204,094	400.00	92.6	93.3	0.7	0.021	

UEC 033	579,326	7,194,529	303.00	90.6	91.7	1.1	0.022	
UEC 034	579,352	7,194,564	303.00	292.7	293.2	0.5	0.020	
				91.6	92.7	1.1	0.026	
UEC 035	579,359	7,194,505	303.00					Barren

## APPENDIX B

Tres Corrales Hydrological Test Report

Coronel Oviedo Uranium Concession, Paraguay

Prepared for Uranium Energy Corporation

HydroSolutions August, 2010.

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# TRES CORRALES

## HYDROLOGIC TEST REPORT

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**Coronel Oviedo  
Uranium Concession,  
Paraguay**



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## EXECUTIVE SUMMARY

A hydrologic test was conducted at the Tres Corrales site in the Coronel Oviedo Uranium Concession, Paraguay. The test was designed to assess aquifer properties of the Fine Grained Sand Unit (FGSU), a uranium bearing sandstone within the San Miguel Formation. The focus of the test was to determine if the aquifer could sustain extraction rates typical of uranium ISR mining.

The FGSU aquifer was pumped at a rate of 184.7 l/min for 24 hours beginning at 13:00 on July 17, 2010. Water levels were monitored during the test at the pumping well and four observation wells. The distance between the observation wells and the pumping well ranged from 15 to 107 m. Maximum drawdown in the pumping well (TC-1025) at the end of pumping was test was 21.7 m, less than 10 percent of the available head in the aquifer.

The drawdown data were analyzed using the Theis and the Cooper-Jacob curve matching method. Results of the analysis indicate an average aquifer transmissivity of  $3.36E-04$  m<sup>2</sup>/sec (29.1 m<sup>2</sup>/day) and storativity of  $3.84E-04$  (unitless). The average hydraulic conductivity based on this thickness is  $1.87E-05$  m/sec (1.61 m/d).

Aquifer recovery was relatively rapid following shut-in of the pump. Water levels were within 0.6 m at all of the wells within eighteen hours of pump shut-in.

The distribution of transmissivity calculated from the test was relatively uniform. The drawdown cone was asymmetric, elongated toward the north. It is possible that a hydrologic boundary was encountered during the test (such as a fault or decrease in aquifer thickness or permeability) or that there is a directional component to the transmissivity. The pumping rate at the pumping well and drawdown rate at the observation wells were steady throughout the test, indicating that boundary conditions, if any, did not significantly reduce the capacity of the FGSU aquifer to produce water.

Results of the test indicate that the uranium bearing unit at Tres Corrales has aquifer characteristics that would support operational rates for ISR mining. There is sufficient head and aquifer transmissivity that would allow individual wells to be pumped at rates of up to 180 l/min for sustained intervals. The aquifer properties determined from the Tres Corrales hydrologic test fall within the range of values determined at other uranium ISR projects located in Wyoming, Texas and Nebraska. Production rates from wells in these areas are typically in the range of 20 to 100 l/min, coupled within reinjection of up to 99 percent of the extracted groundwater

This test was not designed to evaluate overlying and underlying confinement of the FGSU aquifer. No observation wells were completed in the overlying Massive Sand Unit or the underlying Wavy Unit. It cannot be determined from the results of this test, how much of the water pumped during the test was extracted solely from the FGSU and what proportion was extracted from the overlying and underlying units.

## 1.0 INTRODUCTION

HydroSolutions was retained by Uranium Energy Corporation (UEC) to conduct a hydrologic test at the Tres Corrales site within the Coronel Oviedo Uranium Concession in Paraguay. Tres Corrales is located approximately 150 kilometers east of Asuncion, Paraguay.

The purpose of the test was to evaluate aquifer properties of the uranium bearing Fine-Grained Sand Unit (FGSU) of the San Miguel Formation, within the Upper Permo-Carboniferous (UPC) sequence of southeastern Paraguay. The FGSU occurs at the Tres Corrales site between depths of 235 to 255 meters. The hydrologic test was designed to determine if the ore-bearing aquifer (FGSU) was capable of sustaining pumping rates typical for insitu recovery (ISR) mining of uranium in the United States. There are no known operational ISR facilities within Paraguay.

Tres Corrales initially was identified as a uranium prospect in the late 1970's to early 1980's by Anshutz Corporation. Anshutz conducted exploratory drilling that intercepted several uranium bearing horizons within the UPC rocks beneath the Tres Corrales area. In 2007 Crescent Resources Corporation (Crescent), under an option agreement with Coronel Oviedo Mining Company, drilled additional borings in the Tres Corrales area and further delineated uranium bearing zones within the San Miguel Formation. Scott Wilson Roscoe Postle & Associates, Inc (SWRPA) prepared an NI 43-101 Report for the Coronel Oviedo Uranium Project for Crescent in January 2008.

The Tres Corrales hydrologic test was conducted in July 2010 and included a pumping well and four observation wells. The target aquifer (the FGSU) was pumped for 24 hours at an average rate of 185 liter/minute. Water levels were monitored in the pumping well and all observation wells during the pumping and recovery phases of the test. Results of the hydrologic test were analyzed using typical curve matching methods. This report presents a summary of the hydrologic test design, operation, results, and analyses.

## 2.0 SITE GEOLOGY AND HYDROGEOLOGY

The following discussion regarding the geology and hydrogeology of the site is based on data included in the NI 43-101 Report by SWRPA (2008), an undated report on the Coronel Oviedo Project prepared by R. Lunceford (Crescent ), electric logs of the pumping well and observation wells, and data collected during the hydrologic test.

The uranium mineralization at Tres Corrales is predominately within the San Miguel Formation of the UPC sequence of southeastern Paraguay. Tres Corrales is located along the western margin of the Parana Basin. Figure 2-1 shows the general location of the Coronel Oviedo Concession Area and the Tres Corrales site.

In the Tres Corrales area, the San Miguel Formation has been divided into subunits as described below:

- Massive Sand Unit-Characterized by generally massive, occasionally cross-bedded, coarse- to medium-grained, rounded, poorly sorted, friable, sub-arkosic sandstone, interpreted to represent a beach facies (Anshutz, 1981). This unit overlies the Fine Grained Sand Unit.
- Fine-Grained Sand Unit-Consists of fine- to medium-grained sandstones with no apparent pyrite. Interpreted by Anshutz (1981) to represent a regressive depositional change from a shallow marine to a beach environment. This unit is from 15 to 20 m thick at Tres Corrales with an average of 18 m and is typically encountered at depths between 235 m and 255 m. The FGSU is the primary ore-bearing zone at Tres Corrales and is the unit that was pumped and monitored during the hydrologic test.
- Wavy Unit-Contains fine to very fine grained sandstone interlayered with siltstones and shales, wavy flaser bedding, lenticular and bioturbated structures are present. The Wavy Unit underlies the FGSU. The base of the wavy unit marks the contact between the Upper Permo-Carboniferous sequence and the Lower Permo-Carboniferous sequence.

A type log of the Tres Corrales area is shown on Figure 2-2.

Water levels measured in the FGSU are within 25 to 35 meters of the ground surface at the Tres Corrales site. The potentiometric surface for the FGSU is between 135 and 136 meters above mean sea level (m amsl). The water levels in wells completed within the FGSU are approximately 100 m above the top of the FGSU, indicating that confined conditions are present in the aquifer. Figure 2-3 is a potentiometric surface map of the FGSU from water levels measured on July 13, 2010, prior to any pump testing. The direction of groundwater flow within the FGSU is not well defined, but appears to be generally toward the west-southwest. However, the low value at well TC-1025 may be

residual drawdown as a result of extensive development of the well following drilling.

The Wavy Unit most likely acts as a lower confining unit to the FGSU based on its lithology of interlayered siltstones, shale and sandstones. It is unclear if there is hydraulic separation between the FGSU and the overlying Massive Sand Unit. Electric logs and lithologic descriptions do not clearly indicate a confining zone between the units.

### **3.0 MONITOR WELL LOCATIONS, INSTALLATION, AND COMPLETION**

One pumping well and four observation wells were installed for the Tres Corrales hydrologic test. The location of the wells is shown on Figure 3-1. The pumping well and observation wells were drilled and completed by the drilling company 9 de Junio, SA. All drilling activities were conducted under the supervision of chief geologist Carlos Figuerero of Semin S.A.

The wells were redrilled at the location of historic borings such that the subsurface geology was already well characterized prior to installation of the wells. The pumping well (TC-1025) was drilled with an 8 ½-inch borehole and set with 4 ½-inch PVC casing. The pumping well was constructed as an open-hole completion over the zone of interest (the FGSU) from 232 to 263 m.

Each of the observation wells were drilled with a 5 7/8 -inch borehole and set with 2-inch PVC casing. The observation wells were completed with a 16 m well screen across the FGSU. Gravel packs were placed from 6 meters below the bottom of the screen to 12 m above the top of the screen. Between 15 and 20 m of cement was placed in the annulus above the gravel pack. A cement pad was installed at the ground surface of each well.

The wells were developed using air-lift methods.

Table 3-1 presents a summary of well information including total depth and screen interval. Completion diagrams for each of the wells are included in Attachment A. Well logs from the original borings are included in Attachment B.

#### **4.0 HYDROLOGIC TEST DESIGN AND PROCEDURES**

The hydrologic test was designed to apply hydraulic stress to the uranium bearing unit, the FGSU, by pumping at rates comparable to those typical for uranium ISR mining. One well was installed as the pumping location (TC-1025) and four observation wells (TC-1012, TC-1014, TC-1021 and TC-1023) were installed at varying distances and directions from the pumping well. The pumping well and all of the observation wells were completed across the FGSU.

Depth to water was measured in the pumping well and the observation wells on July 13, 2010, prior to any testing to determine the static (non-pumping) water level elevation.

A 5.5 horsepower SAER Model E6 8 pump was used for the hydrologic test. The pump was installed in well TC-1025 to a depth of 83 m. Flow from the pump was controlled with a manual gate valve. Surface flow monitoring was accomplished with a totalizer meter.

Prior to conducting the hydrologic test, a step test was run to determine a viable pump rate to be used during the longer term hydrologic test. The step test was conducted in four stages, or steps on July 13, 2010. Each step was run for one hour. The rate was increased at the end of each hour. The rates of the test steps were approximately 45, 80, 120 and 180 l/min. At the end of the step test, the drawdown in the pumping well was 19.2 m (Figure 4-1). Based on the results of the step test, it was determined that the longer term pumping test could be conducted at a rate of 180 l/min or more. Typical ISR operations in the United States are usually in the range of 40 to 160 l/min, so a rate of 180 l/min would provide an adequate stress to the aquifer.

The water levels in the wells were allowed to recover from the step test before commencing the hydrologic test. Water levels measured prior to the start of the 24 hour hydrologic test on July 17, 2010 were within 0.1 m of the static levels measured on July 13, 2010.

Barometric pressures were not monitored for this test. Fluctuations due to barometric pressure changes over relatively short time periods are typically minor. For this test, it was apparent that several meters of drawdown would occur at all of the observation wells. Any changes in water levels resulting from barometric changes during the 24 hydrologic test would be insignificant compared to the drawdown resulting from pumping of the aquifer and would not affect the analysis of the results.

Data logging transducers (In-Situ® Level TROLL®) were installed in the pumping well and two of the observation wells to record changes in water levels during tests. The transducers were programmed to record depth to water measurements at 1 minute intervals through the pumping and recovery portions of the test. Hand held water level meters were also used to measure water levels in each of the observation

wells. Hand measurements were taken every fifteen minutes for the first four hours of the test, half hour intervals for the next four hours, one hour intervals for the next four hours and two hour intervals for the final twelve hours of pumping. Once the pump was shut in, the frequency of hand held water level measurements was again increased to every fifteen minutes for two hours and then once per hour for four hours. One final hand measurement was taken eighteen hours after the pump was shut in. The pump was run at a constant rate for a period of 24 hours.

## 5.0 TEST RESULTS

Pumping started at 13:00 on July 17, 2010. A constant rate was maintained during the Tres Corrales hydrologic test with an average of 184.7 l/min. The pump was shut off at 13:00 on July 18, 2010. The total volume extracted during the hydrologic test was 266,100 liters.

Maximum drawdown in the pumping well at the end of pumping was 21.6 m (Figure 5-1). Drawdown in the observation wells ranged from 5.1 to 2.4 m after 24 hours of pumping (Figure 5-2). A summary of the pump test results is presented in Table 5-1.

Figure 5-3 shows a map of the drawdown at the end of pumping. In a homogeneous, isotropic, aquifer system the drawdown contours would appear as a near perfect circle. As seen in the figure, the drawdown cone is elongated toward the north. This may be an indication of a hydrologic boundary to the north. The boundary could be structural (such as a fault), or stratigraphic (such as a thinning of the FGSU), or hydrologic (such as a change in permeability). The asymmetric drawdown could also be an indication of directional permeability within the FGSU. The drawdown data do not appear to indicate that a no flow boundary was encountered (such as an impermeable fault) as this would have result in a steepening of the drawdown curve at other wells over time. The asymmetric distribution of drawdown is more likely the result of directional permeability within the FGSU.

Once the pump was shut in, water levels rapidly started to recover to pre-pumping levels (Figures 5-1 and 5-2). Eighteen hours after pump shut in, water levels had recovered to within 0.6 meters at all of the wells, including the pumping well.

## 6.0 ANALYTICAL METHODS

Drawdown data collected from the pumping well and the observation wells during the hydrologic test were graphically analyzed to assess aquifer properties of the FGSU aquifer. The methods of analysis for the drawdown data were the Theis (1935) and the Cooper Jacobs (1946) solutions.

The significant assumptions inherent in these methods include:

- The aquifer is confined and has apparent infinite extent;
- The aquifer is homogeneous and isotropic, and of uniform effective thickness over the area influenced by pumping;
- The piezometric surface is horizontal prior to pumping;
- The well is pumped at a constant rate;
- The pumping well is fully penetrating; and,
- Well diameter is small, so well storage is negligible.

Although some of these assumptions are not fully satisfied, these methods still provide a reasonable approximation of the transmissivity of the pumped aquifer.

The software used to graphically analyze the data was AquiferTest (Version 3.5, Waterloo Hydrologic Inc, 2002).

## 7.0 TEST ANALYSES

Transmissivity results from the test analysis were very consistent for both the Theis and Cooper-Jacob solutions. Table 7.1 provides the analytical results for the Tres Corrales Hydrologic Test. The pumping well has lower calculated values than the observation wells, but this is typical in a pumping test because of increased drawdown at the well due to well inefficiency. The overall average transmissivity, using both solution methods, was  $3.1\text{E-}04 \text{ m}^2/\text{sec}$  ( $26.7 \text{ m}^2/\text{d}$ ). Excluding the pumping well from the average calculation raises the value slightly to  $3.36\text{E-}04 \text{ m}^2/\text{sec}$  ( $29.1 \text{ m}^2/\text{d}$ ). The transmissivity calculated without the pumping well is probably the most representative value for the FGSU aquifer.

The hydraulic conductivity is calculated by dividing the transmissivity by the thickness of the aquifer. Although the pumping well was completed over an interval of 31 m, the lower portion of the completion (based on spontaneous potential and resistivity well logs), does not appear to be of the same character as the upper portion of the FGSU. The apparent thickness of the FGSU from the logs of all of the observation wells averages 18 m. Based on an average thickness of 18 m for the FGSU, the average hydraulic conductivity (K) excluding the pumping well is  $1.87\text{E-}05 \text{ m/s}$  ( $1.61 \text{ m/d}$ ) (Table 7-1). At the standard condition of fresh water at ground surface conditions (fluid density of  $62.4 \text{ lb/ft}^3$  at 20 C) this hydraulic conductivity equates to a permeability of approximately 1.93 darcies (1930 millidarcies).

Storativity of the aquifer, without the pumping well value, averaged  $3.84\text{E-}04$  (unitless). This value is reasonable and within the expected range for a confined aquifer system (Freeze and Cherry 1979).

The distribution of aquifer properties is shown on Figure 7-1. Curve matches for all of the FGSU observation wells are provided in Attachment C.

The overlying or underlying aquifers were not monitored during the hydrologic test so it cannot be conclusively determined if any portion of the pumped water was derived from units other than the FGSU. However, the drawdown response of the pumping well (TC-1025) showed a flattening as the test progressed that did not match well with the Theis solution. The observed response may be an indication that additional water is "leaking" into the FGSU in response the pumping of well TC-1025.

## 8.0 SUMMARY

HydroSolutions conducted a hydrologic test at the Tres Corrales site in the Coronel Oviedo Uranium Project, Paraguay. The test was designed to assess aquifer properties of the FGSU, a uranium bearing sandstone within the San Miguel Formation. The focus of the test was to determine if the aquifer could sustain extraction rates typical of uranium ISR mining.

The aquifer was pumped at a rate of 184.7 l/min for 24 hours beginning at 13:00 on July 17, 2010. Maximum drawdown in the pumping well (TC-1025) at the end of pumping was test was 21.7 m. In addition to the pumping well, water levels were monitored at four observation wells. The distance between the observation wells and the pumping well ranged from 15 to 107 m. Maximum drawdown measured in the observation wells ranged from 2.4 to 5.1 m during the test. Total available head at the start of the test was approximately 220 meters. Drawdown at the pumping well at the end of the pumping test was less than 10 percent of the available head.

The drawdown data were analyzed using the Theis and the Cooper-Jacob curve matching method. Results of the analysis indicates an average aquifer transmissivity (excluding the pumping well) of  $3.36E-04 \text{ m}^2/\text{s}$  ( $29.1 \text{ m}^2/\text{d}$ ) and storativity of  $3.84E-04$  (unitless). Analytical results were consistent between wells and solution methods. The average thickness of the FGSU in the observation wells is approximately 18 m. The average hydraulic conductivity based on this thickness is  $1.87E-05 \text{ m/s}$  ( $1.61 \text{ m/d}$ ). This equates at surface conditions to a permeability of nearly 2 darcies.

Aquifer recovery was relatively rapid following shut-in of the pump. Water levels were within 0.6 m at all of the wells within eighteen hours of pump shut-in.

The distribution of transmissivity calculated from the test was relatively uniform, although well TC-1012 was slightly lower than the average (by about ten percent). The drawdown cone was asymmetric, elongated toward well TC-1012 to the north. It is possible that a hydrologic boundary was encountered during the test (such as a fault or decrease in aquifer thickness or permeability) or that there is a directional component to the transmissivity.

Results of the test indicate that the uranium bearing unit at Tres Corrales has aquifer characteristics that would support typical operational rates for ISR mining. There is sufficient head and aquifer transmissivity that would allow individual wells to be pumped at rates of up to 180 l/min for sustained intervals, particularly in a typical ISR well pattern where the majority of the extraction (99 percent) is treated and reinjected into the aquifer. Table 8-1 provides a comparison of the aquifer properties determined from this hydrologic test to aquifer properties of several uranium ISR projects in Wyoming, Nebraska and Texas. The aquifer properties determined from the Tres Corrales hydrologic test fall within the range of values determined at other ISR projects.

It should be noted however, that this test was not designed to evaluate overlying and underlying confinement of the FGSU aquifer. No observation wells were completed in the overlying Massive Sand Unit or the underlying Wavy Unit. It cannot be determined from the results of this test, how much of the water pumped during the test was extracted solely from the FGSU and what proportion was extracted from the overlying and underlying units.

## 9.0 REFERENCES

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## **TABLES**

3-1	Well Information
5-1	Drawdown Results, Tres Corrales Hydrologic Test
7-1	Summary of Aquifer Properties, Tres Corrales Hydrologic Test
8-1	Comparison of Tres Corrales Aquifer Properties to USA Uranium ISR Projects

Table 3-1. Well Data, Tres Corrales Hydrologic Test

Well ID	Type	Easting	Northing	Distance from Pumping Well	Total Depth	Top of Casing Elevation	Top of Screen	Bottom of Screen	Screen Length	Casing Diameter
		(meters)	(meters)	(meters)	(meters bgs)	(m amsl)	(meters bgs)	(meters bgs)	(meters)	(inches)
1012	Observation	583,657.76	7,196,559.28	49.9	294	167.25	233	249	16	2
1014	Observation	583,749.61	7,196,529.24	106.9	294	162.99	233	249	16	2
1021	Observation	583,659.06	7,196,511.76	14.9	300	167.07	242	258	16	2
1023	Observation	583,649.02	7,196,481.57	30.0	294	167.29	235	251	16	2
1025	Pumping	583,644.21	7,196,511.23	0.0	294	167.54	232*	263*	25*	4.5

m bgs -meters below ground surface

m amsl - meters above mean sea level

\* Open hole completion -no well screen

Table 5-1 Drawdown Results, Tres Corrales Hydrologic Test

Well ID	Type	Top of Casing Elevation (m amsl)	DTW Start of Test (meters)	W.L. Elev Start of Test (m amsl)	Bottom of Screen (meters bgs)	Elev. Bottom of Screen (m amsl)	Head at Start of Test (meters)	DTW End of Pumping (meters)	Drawdown (meters)
TC-1012	Observation	167.79	31.94	135.85	249	-81.21	217.06	37.04	5.10
TC-1014	Observation	163.49	27.67	135.82	249	-85.51	221.33	30.09	2.42
TC-1021	Observation	167.66	32.31	135.35	258	-90.34	225.69	36.44	4.13
TC-1023	Observation	167.88	32.49	135.39	251	-83.12	218.51	36.32	3.83
TC-1025	Pumping	168.99	33.76	135.23	263	-94.01	229.24	16.14	21.7

DTW - Depth to water  
m amsl - meters above mean sea level

Table 7-1. Summary of Aquifer Properties, Fine Grained Sand Unit, Tres Corrales Hydrologic Test

Method	Parameter	Units	Well					Average by method		
			TC-1012	TC-1014	TC-1021	TC-1023	TC-1025		All wells	All Wells Except Pumping Well
Theis	Transmissivity (T)	m <sup>2</sup> /s	2.85E-04	3.30E-04	3.62E-04	3.54E-04	1.29E-04	Avg T by Theis	2.92E-04	3.33E-04
	Storativity (S)	unitless	5.43E-05	2.13E-04	9.97E-04	2.75E-04	8.92E-03	Avg S by Theis	2.09E-03	3.85E-04
	Hydraulic Conductivity (K)*	m/s	1.58E-05	1.83E-05	2.01E-05	1.96E-05	7.17E-06	Avg K by Theis	1.62E-05	1.85E-05
Cooper-Jacobs	Transmissivity (T)	m <sup>2</sup> /s	3.15E-04	3.40E-04	3.60E-04	3.44E-04	2.77E-04	Avg T by Cooper-Jacobs	3.27E-04	3.40E-04
	Storativity (S)	unitless	4.08E-05	2.13E-04	8.57E-04	4.12E-04	5.10E-07	Avg S by Cooper-Jacobs	3.05E-04	3.81E-04
	Hydraulic Conductivity (K)*	m/s	1.75E-05	1.89E-05	2.00E-05	1.91E-05	1.54E-05	Avg K by Cooper-Jacobs	1.82E-05	1.89E-05
	Average T by Well	m <sup>2</sup> /s	3.00E-04	3.35E-04	3.61E-04	3.49E-04	2.03E-04			
	Average S by Well	unitless	4.76E-05	2.13E-04	9.27E-04	3.44E-04	4.46E-03			
	Average K by Well	m/s	1.67E-05	1.86E-05	2.01E-05	1.94E-05	1.13E-05			
								Avg T by both methods	3.10E-04	3.36E-04
								Avg S by both methods	1.20E-03	3.83E-04
								Avg K by both methods	1.72E-05	1.87E-05

\*Assumes a thickness of the FGSU of 18 meters

Table 8-1. Comparison of Tres Corrales Aquifer Properties of to USA Uranium ISR Projects

Client	Site	Test Description	State	Year	Aquifer	Depth (ft bgs)	Duration (hours)	Rate (gpm)	T (ft <sup>2</sup> /d)	Aquifer Thickness (ft)	K (ft/d)	S
<b>UEC</b>	<b>Tres Corrales</b>	<b>Para</b>	<b>2010</b>	<b>FGSU</b>	<b>790</b>	<b>24</b>	<b>48.8</b>	<b>313</b>	<b>59</b>	<b>5.3</b>	<b>3.8E-04</b>	
Crow Butte Resources, Inc.	CSA	Regional	NE	1996	B Chadron		55.0	51.2	330	34	9.71	9.00E-05
Crow Butte Resources, Inc.	CSA	Regional	NE	2002	B Chadron	740	64.5	50.2	826	40	20.65	6.20E-05
Crow Butte Resources, Inc.	North Trend	Regional	NE	2006	B Chadron	640	356.5	16.4	60	26	2.30	5.32E-05
Crow Butte Resources, Inc.	Three Crow	Regional	NE	2007	LB Chadron	760	183.0	44.7	477	64	7.45	8.81E-05
Power Resources, Inc	Smith/Highland	I Well Field	WY	-	-	-	-	-	68	-	0.91	5.25E-05
Power Resources, Inc	Smith/Highland	Mine Unit 15	WY	-	-	-	-	-	1258	-	9.70	4.50E-04
Power Resources, Inc	Smith/Highland	Mine Unit J	WY	-	-	-	-	-	63	-	1.00	4.90E-05
Power Resources, Inc	Southwest Area	SW Area Regional	WY	-	-	-	-	-	125	-	1.52	8.47E-05
Uranium One	Moore Ranch	PW-1 Regional	WY	2007	70 Sand	237	238.0	15.5	61	77	8.19	4.39E-03
Uranium One	Moore Ranch	MW-2 Regional	WY	2007	70 Sand	237	24.4	26	711	97	7.33	NA
Uranium One	Moore Ranch	MW-3 Regional	WY	2007	70 Sand	237	92.3	14.5	321	72	4.46	NA
Uranium One	Moore Ranch	5-Spot Study Area	WY	2008	70 Sand	260	82.7	22.32	535	72	5.50	1.38E+00
Uranium One	LaPalangana	PA2	TX	2008	E Sand		38.0	21.4	141	27	5.30	1.00E-04
UrE/Lost Creek ISR	Lost Creek	HJ North Regional	WY	2007	HJ Sand	450	137.5	42.9	61	120	0.51	1.10E-04
UrE/Lost Creek ISR	Lost Creek	HJ South Regional	WY	2007	HJ Sand	450	130.8	37.4	76	120	0.63	2.90E-04
UrE/Lost Creek ISR	Lost Creek	UKM North Regional	WY	2007	UKM Sand	525	143.0	28.75	138	50	2.88	8.59E-05
COGEMA	Irigaray	2-3	WY	Jun-05	UISS	-	96	13.8	120.3	112	1.07	2.00E-04
COGEMA	Irigaray	Sec. 5	WY	Jun-05	UISS	-	50	16.2	41.4	111	0.37	1.60E-04
COGEMA	Irigaray	8-9	WY	Jun-05	UISS	-	48	10	38.6	92	0.42	1.60E-04
COGEMA	Irigaray	A	WY	Feb-82	UISS	-	15	10	66.8	100	0.67	8.00E-05
COGEMA	Irigaray	B	WY	Feb-82	UISS	-	5	17	91.4	100	0.91	2.70E-04
COGEMA	Irigaray	C & D	WY	Feb-82	UISS	-	23	15	58.7	100	0.59	2.30E-04
COGEMA	Irigaray	E	WY	Feb-79	UISS	-	24	20	40.1	100	0.40	1.70E-04
COGEMA	Irigaray	G (5)	WY	??	UISS	-	48	16	136	100	1.36	3.70E-05
COGEMA	Irigaray	7-8	WY	Dec-87	UISS	-	2.5	7.6	53.4	100	0.53	4.00E-04
COGEMA	Irigaray	6-9	WY	Sep-87	UISS	-	96	12.5	50.8	100	0.51	7.00E-04
COGEMA	Irigaray	Area 5I7	WY	Nov-87	UISS	-	27	19.5	56.8	111	0.51	8.90E-04
COGEMA	Irigaray	F	WY	Nov-78	UISS	-	18	20	39.4	100	0.39	2.40E-04

NE - Nebraska  
WY -Wyoming  
Tx - Texas

T - Transmissivity  
K - Hydraulic conductivity  
S - Storativity

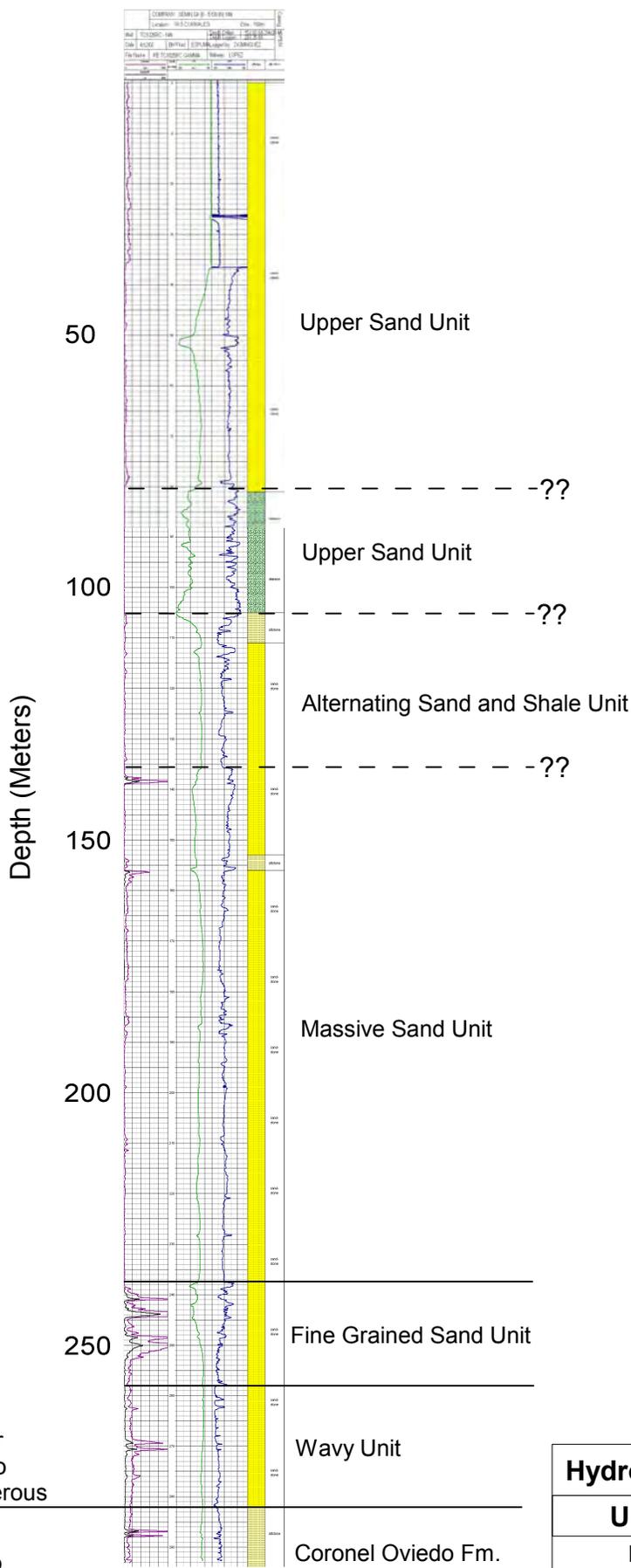
## FIGURES

- 2-1 Project Location Map
- 2-2 Tres Corrales Type Log and Generalized Stratigraphic Section
- 2-3 Potentiometric Surface of the Fine-Grained Sand Unit
- 3-1 Pumping Well and Observation Well Locations, Tres Corrales Hydrologic Test
- 4-1 Drawdown In Pumping Well TC-1025 During the Step Test
- 5-1 Drawdown In Pumping Well TC-1025 During the Hydrologic Test
- 5-2 Depth to Water In Observation Wells During the Hydrologic Test
- 5-3 Drawdown at End of Pumping, Fine-Grained Sand Unit
- 7-1 Distribution of Aquifer Properties, Fine-Grained Sand Unit



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<b>URANIUM ENERGY CORPORATION</b>	
<b>Figure 2-1. Location of Project Area</b>	
<b>Coronel Oviedo Uranium Concession, Paraguay</b>	
By: EPL Checked:CY File ID:fig21_TC_HydroTest Date: 7/29/10	

**TC 1025**



Upper  
Permo  
Carboniferous

Lower  
Permo  
Carboniferous

Upper Sand Unit

Upper Sand Unit

Alternating Sand and Shale Unit

Massive Sand Unit

Fine Grained Sand Unit

Wavy Unit

Coronel Oviedo Fm.

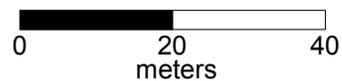
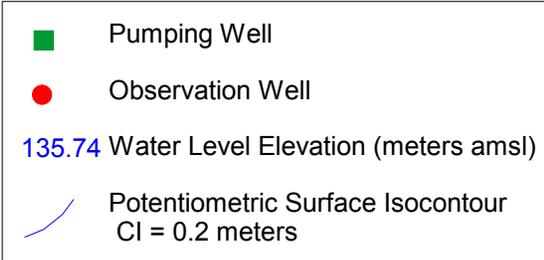
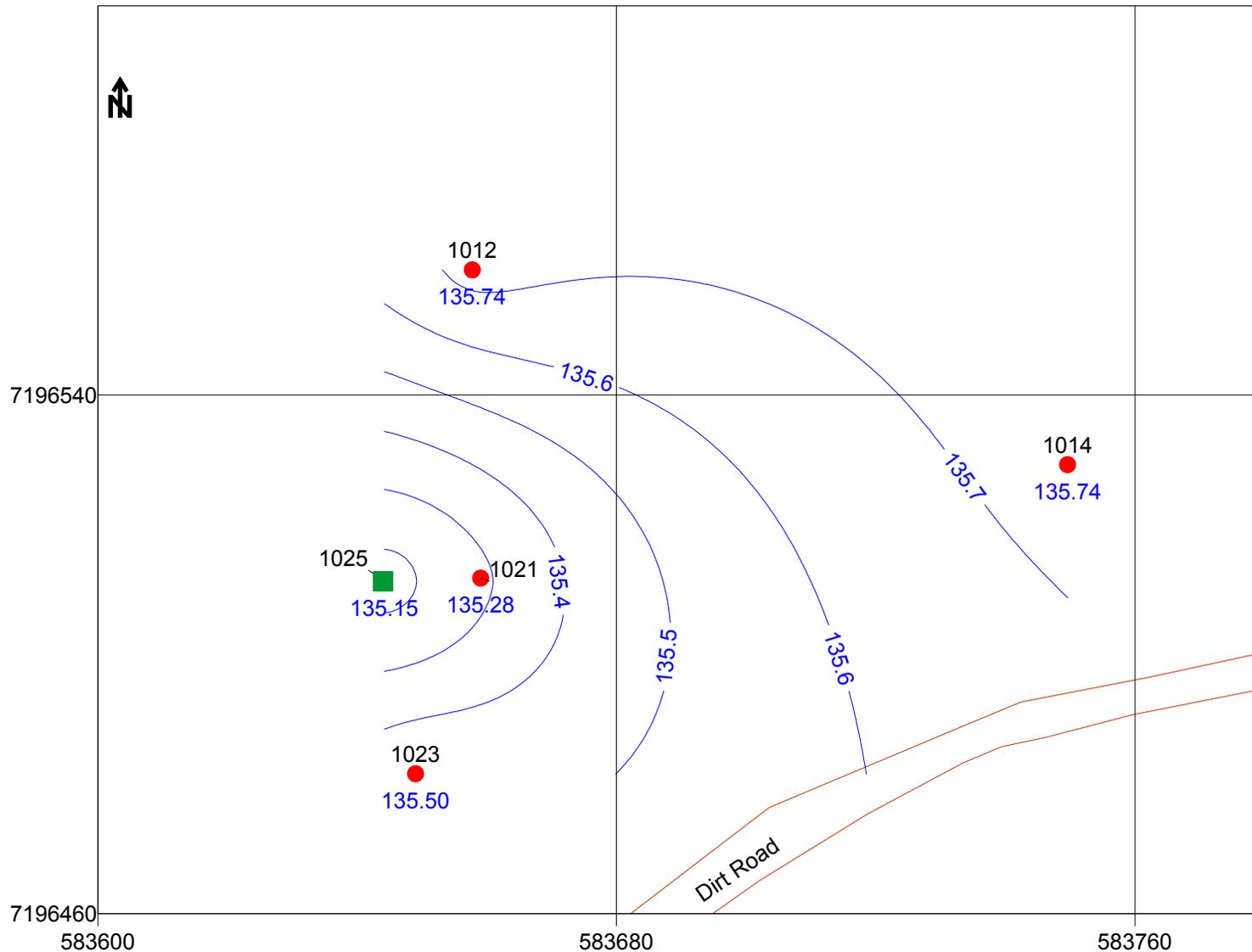
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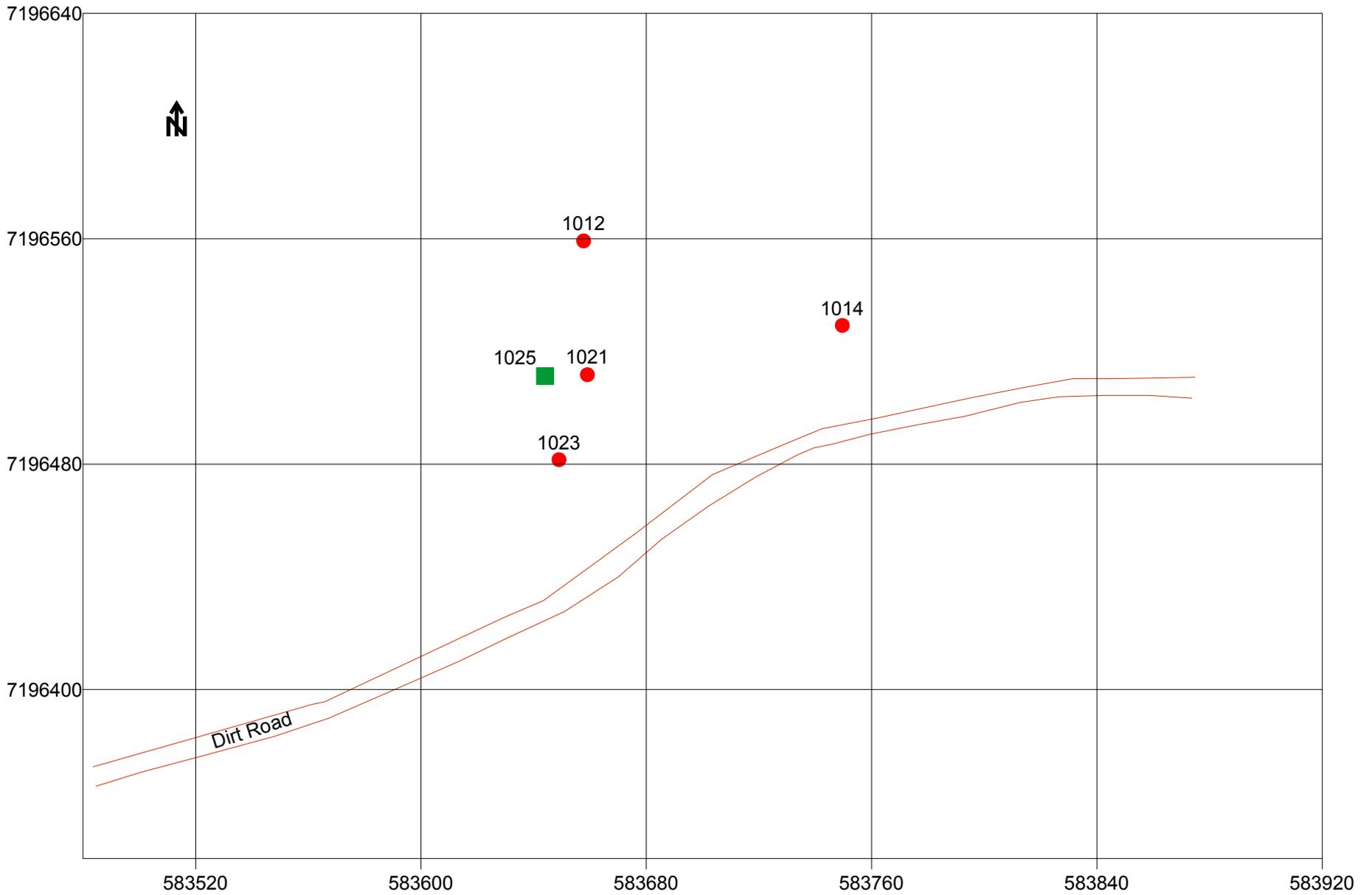
**URANIUM ENERGY CORPORATION**

**Figure 2-2. Tres Corrales, Type Log and  
Generalized Stratigraphic Section  
Coronel Oviedo Uranium Concession, Paraguay**

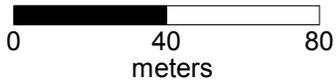
By: EPL Checked:CY File ID:fig22\_TC\_HydroTest Date: 7/29/10



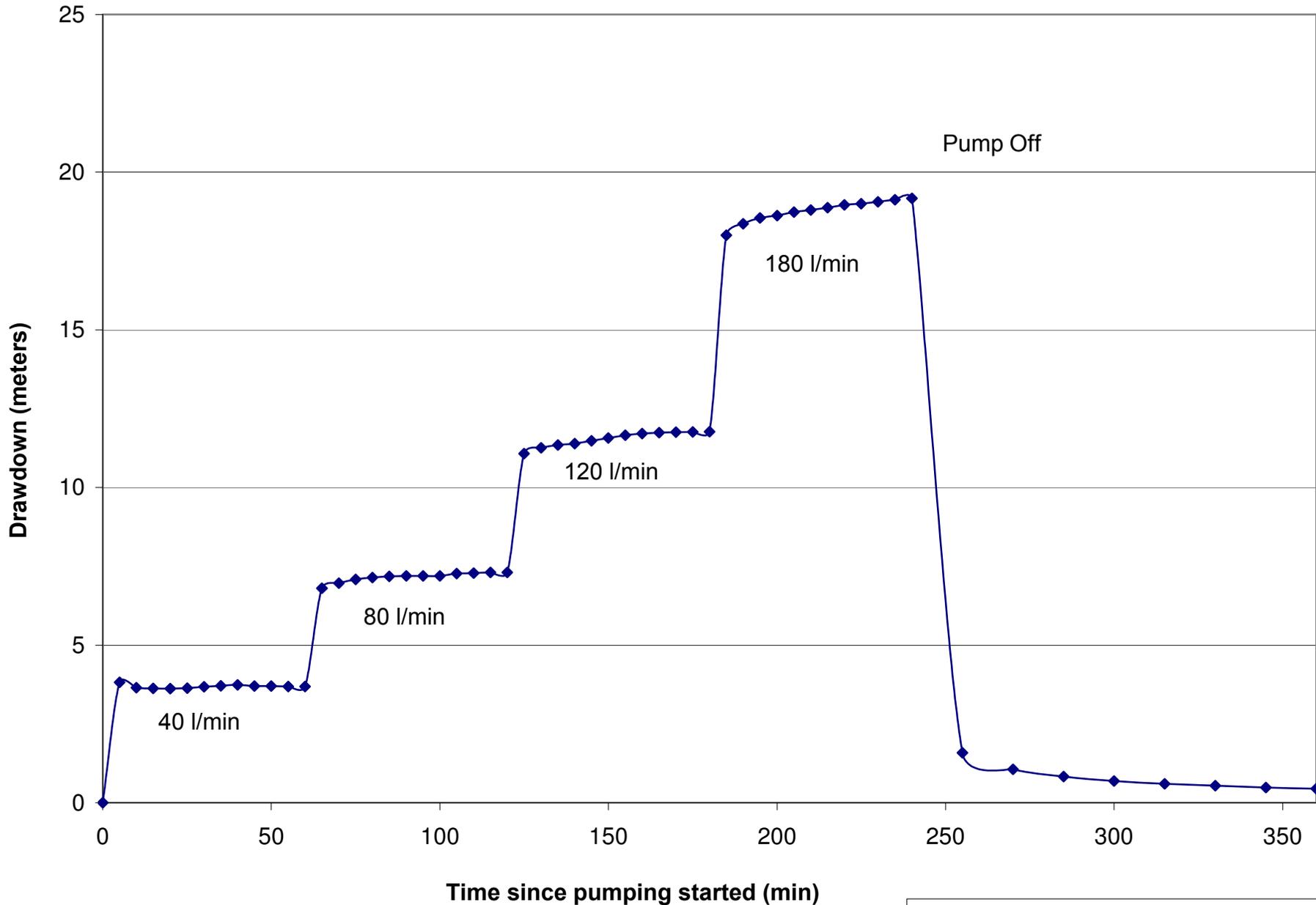
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<b>URANIUM ENERGY CORPORATION</b>	
<b>Figure 2-3. Potentiometric Surface of the Fine Grained Sand Unit Coronel Oviedo Uranium Concession, Paraguay</b>	
By: EPL Checked:CY File ID:fig23_TC_HydroTest Date: 7/29/10	



- Pumping Well (TC 1025)
- Observation Well (TC 1012, TC 1014, TC 1021, TC 1023)



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<b>Figure 3-1. Pumping Well and Observation Well Locations Tres Corrales Hydrologic Test Coronel Oviedo Uranium Concession, Paraguay</b>	
By: EPL Checked:CY File ID:fig52_TC_HydroTest Date: 7/29/10	



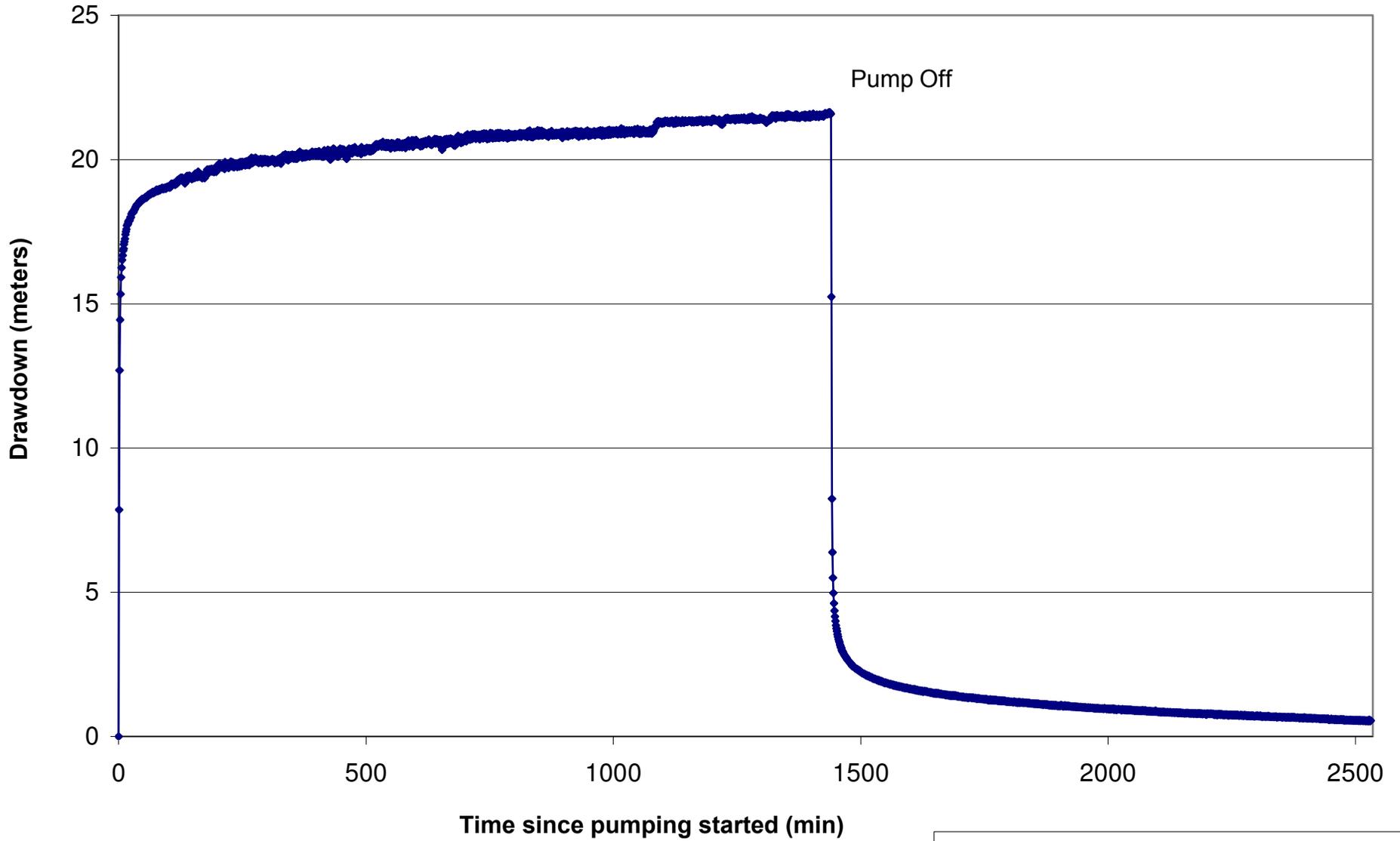
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**Figure 4-1. Drawdown in Pumping Well TC-1025  
During the Step Test  
Coronel Oviedo Uranium Concession, Paraguay**

By: EPL Checked:CY File ID:fig41\_TC\_HydroTest Date: 7/29/10



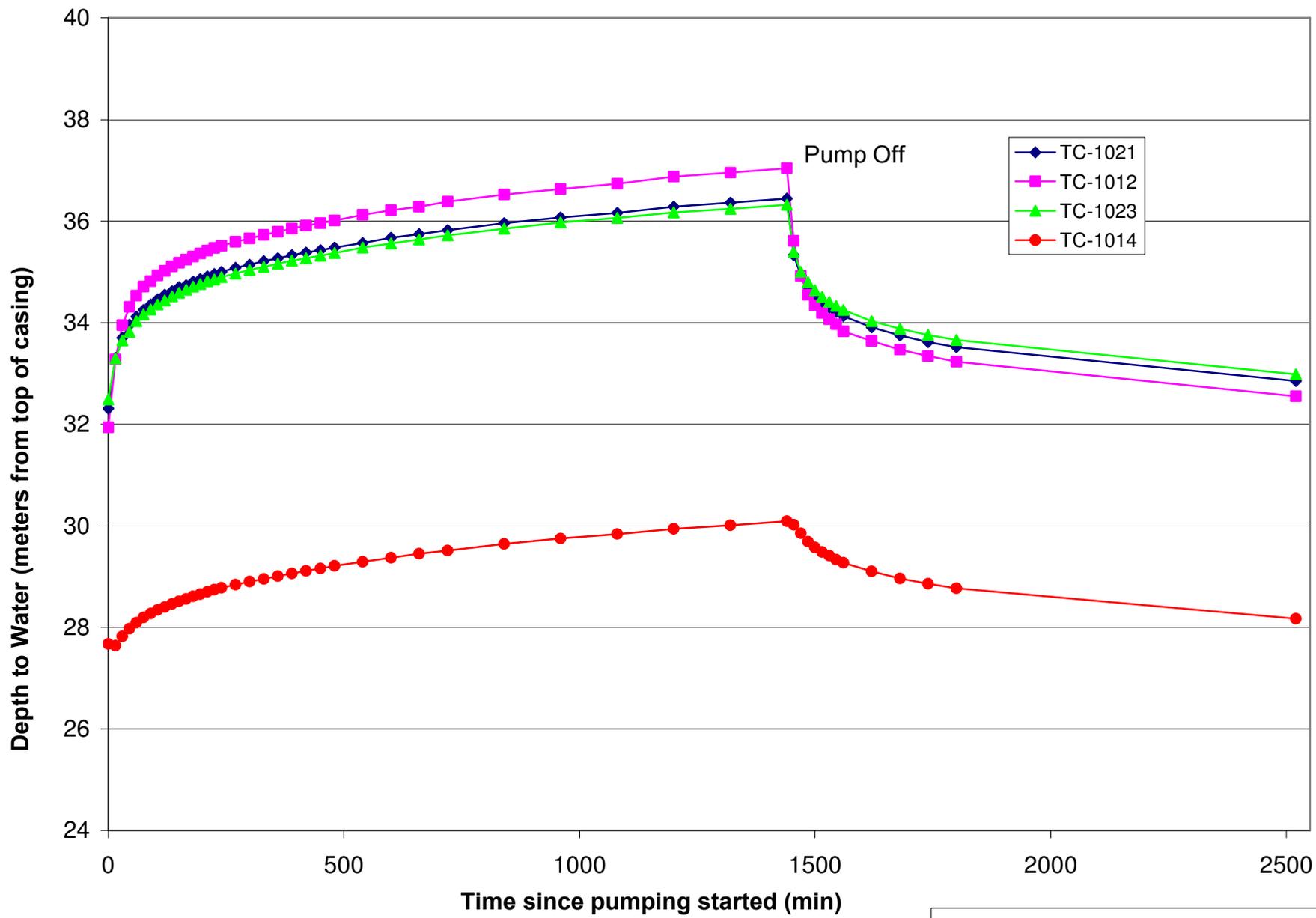
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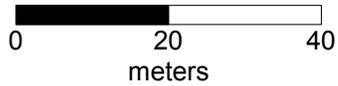
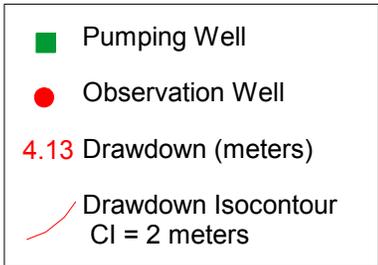
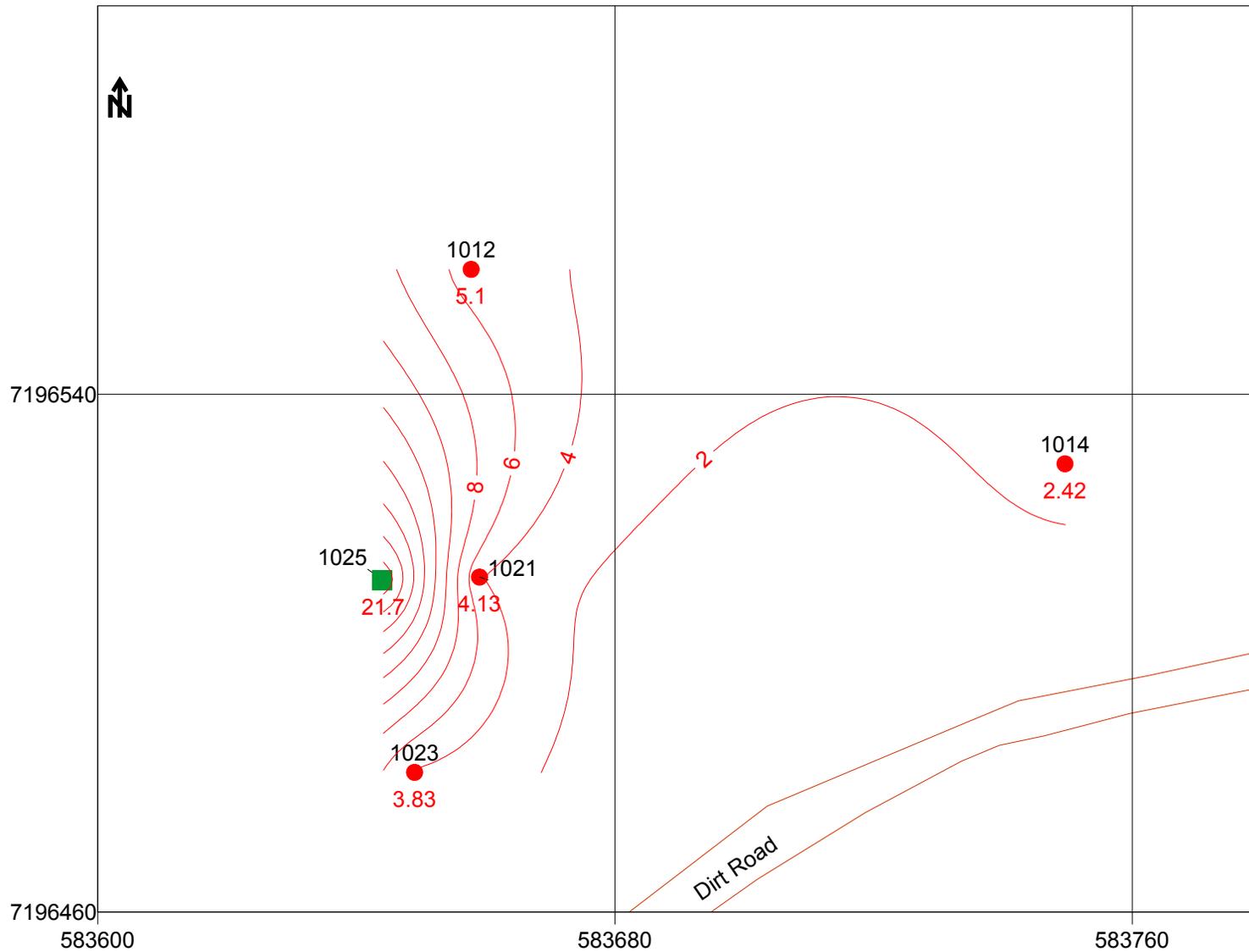
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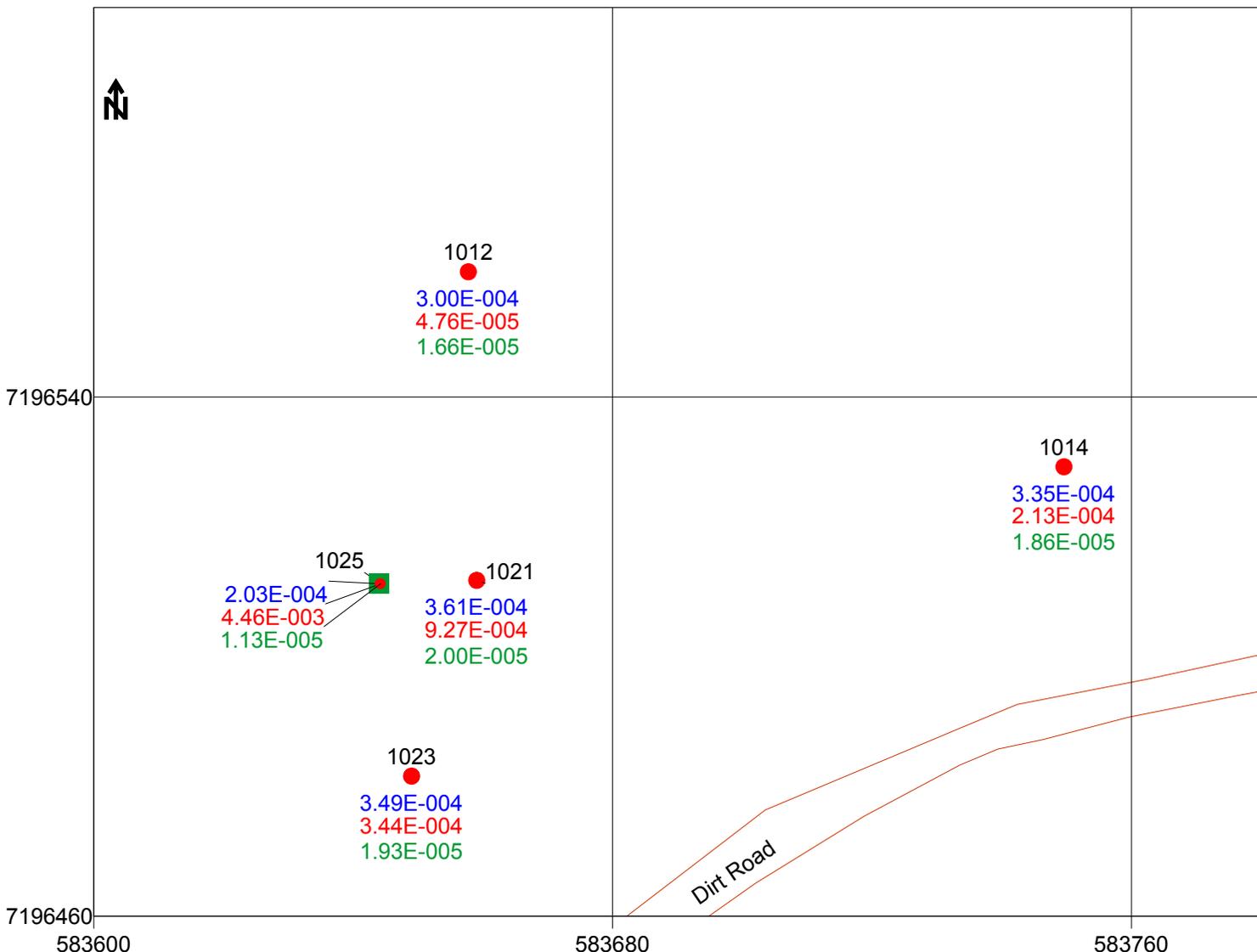
**Figure 5-1. Drawdown in Pumping Well TC-1025  
During the Hydrologic Test  
Coronel Oviedo Uranium Concession, Paraguay**

By: EPL Checked:CY File ID:fig51\_TC\_HydroTest Date: 7/29/10

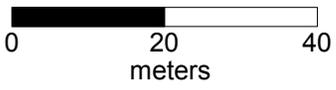




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Figure 5-3. Drawdown at the End of Pumping Fine Grained Sand Unit Coronel Oviedo Uranium Concession, Paraguay	
By: EPL Checked:CY File ID:fig53_TC_HydroTest Date: 7/29/10	



■ Pumping Well  
● Observation Well  
 Aquifer Properties  
2.03E-004 Transmissivity (m<sup>2</sup>/s)  
4.46E-003 Storativity (unitless)  
1.13E-005 Hydraulic Conductivity (m/s)



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<b>Figure 7-1. Distribution of Aquifer Properties Fine Grained Sand Unit Coronel Oviedo Uranium Concession, Paraguay</b>	
By: EPL Checked:CY File ID:fig71_TC_HydroTest Date: 7/29/10	

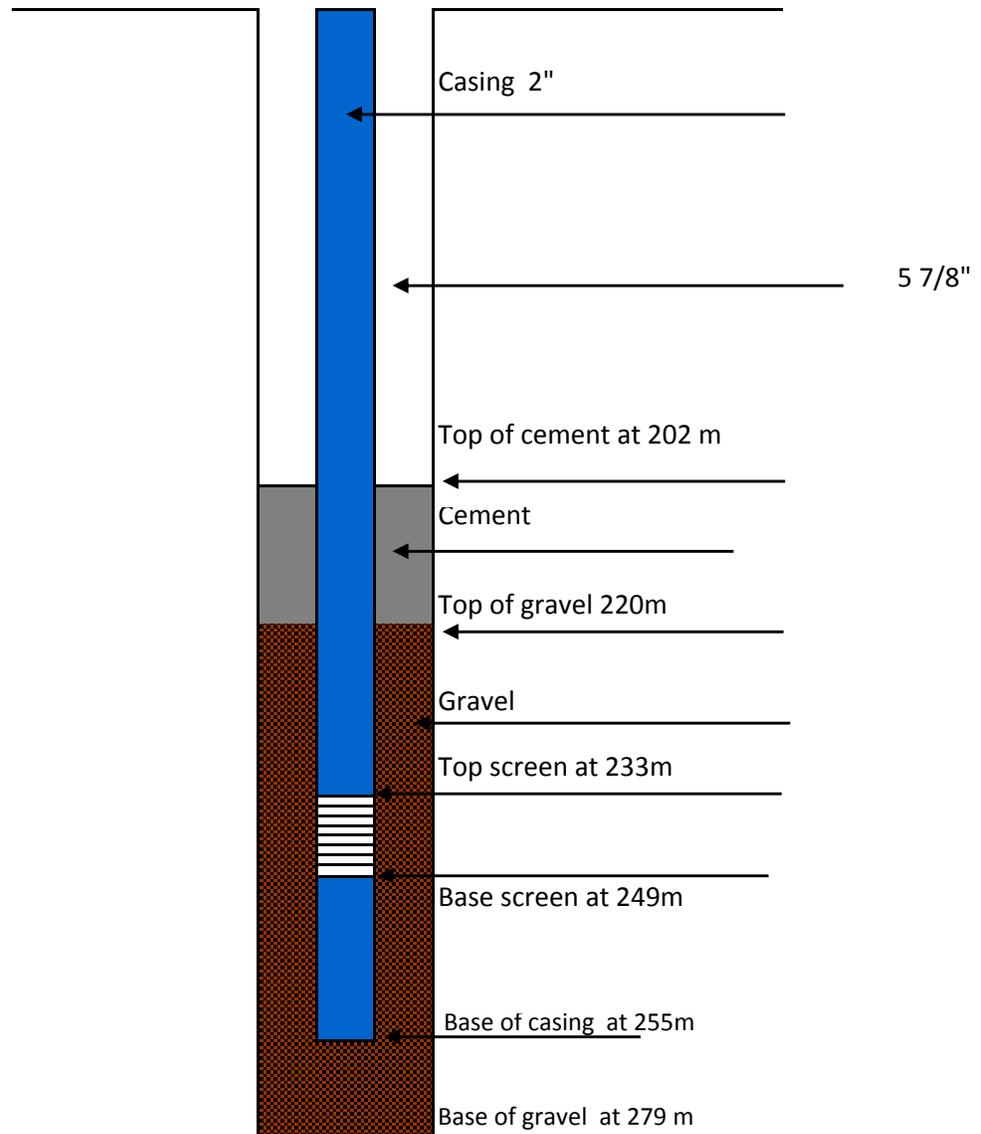
## **ATTACHMENTS**

- A Completion Reports
- B Electronic Well Logs
- C Type Curve Matches

**ATTACHMENT A**

**WELL COMPLETION REPORTS**

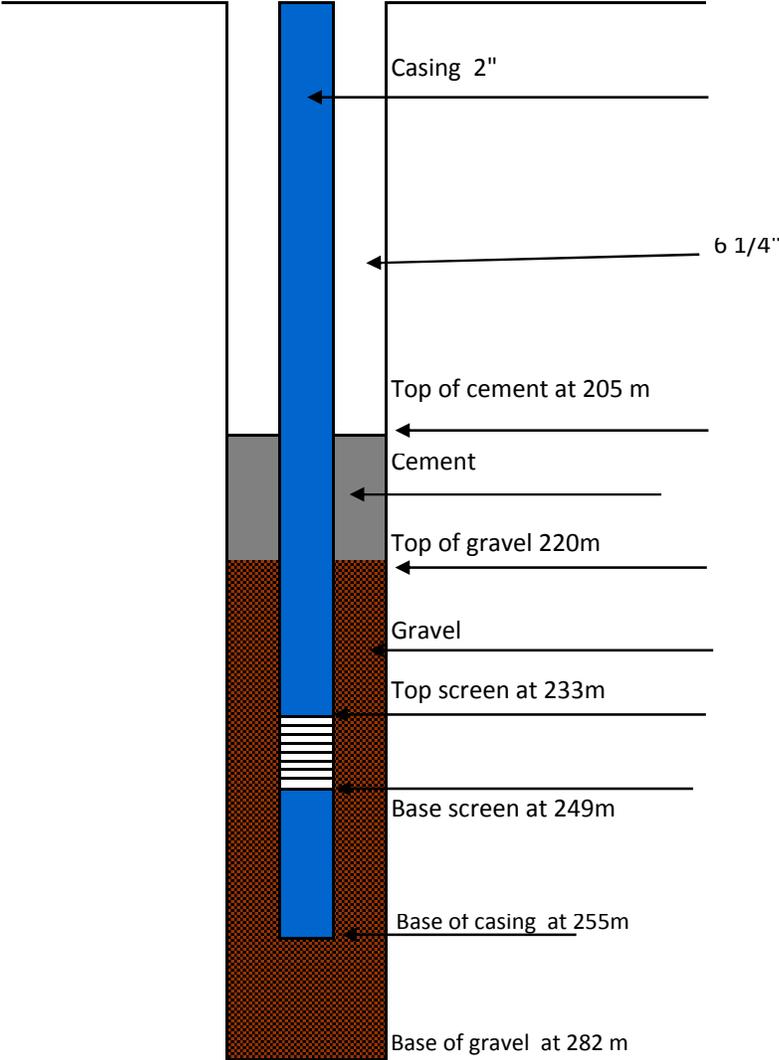
HOLE TC - 1012



Well Completion Diagram for TC-1012

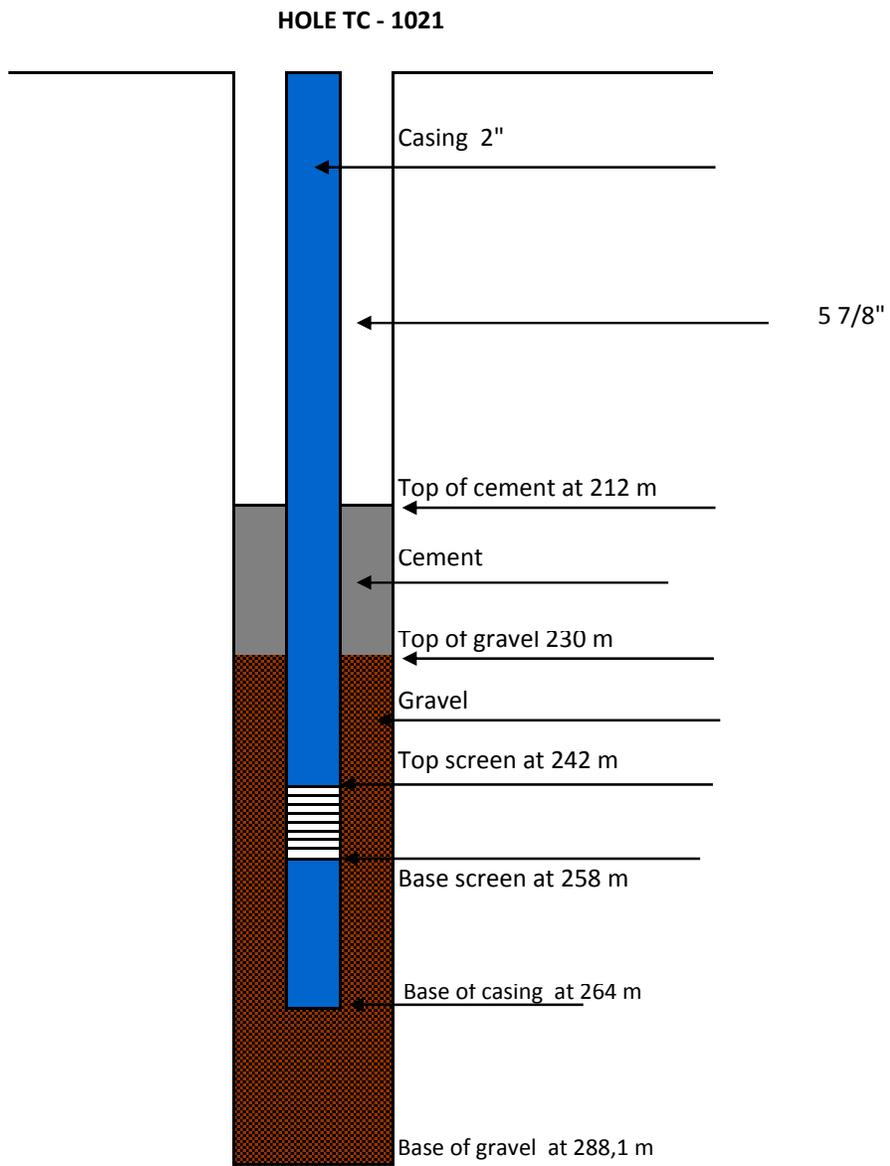
Prepared by C. Figuerero, Semin S.A.

HOLE TC - 1014



Well Completion Diagram for TC-1014

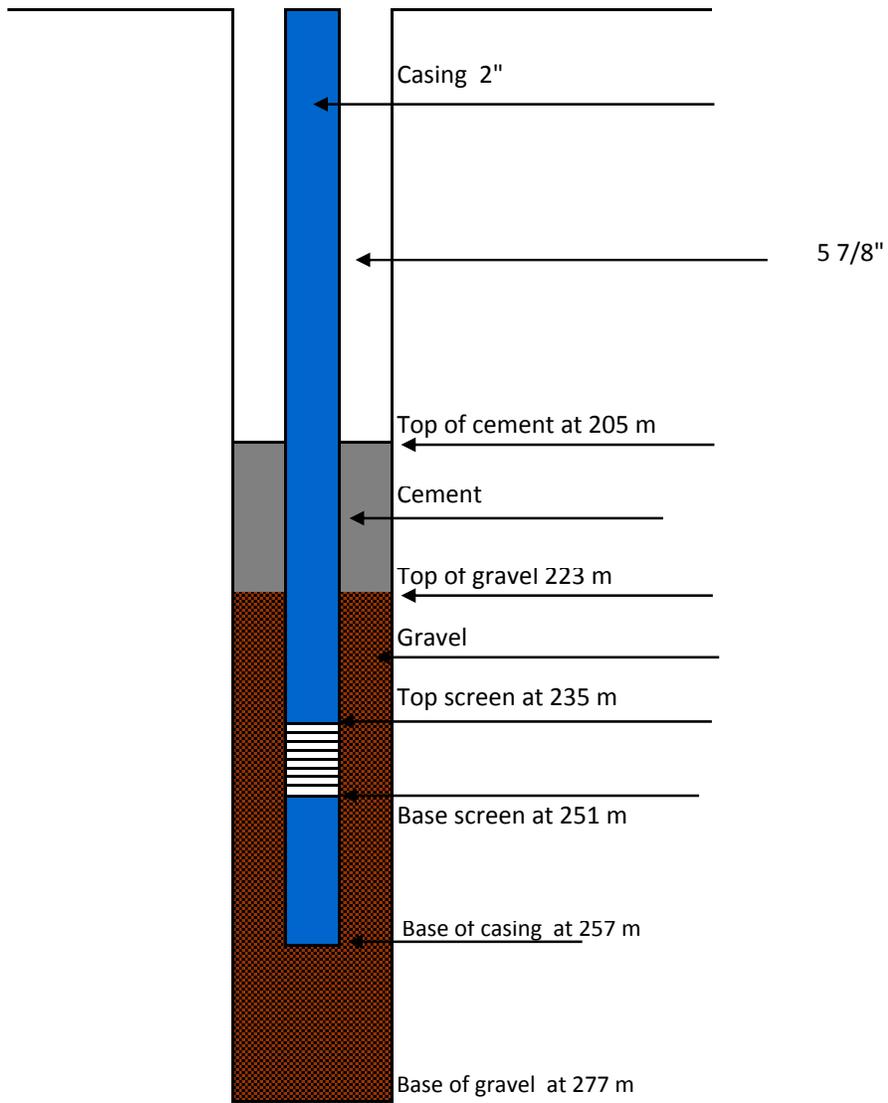
Prepared by C. Figuerero, Semin S.A.



Well Completion Diagram for TC-1021

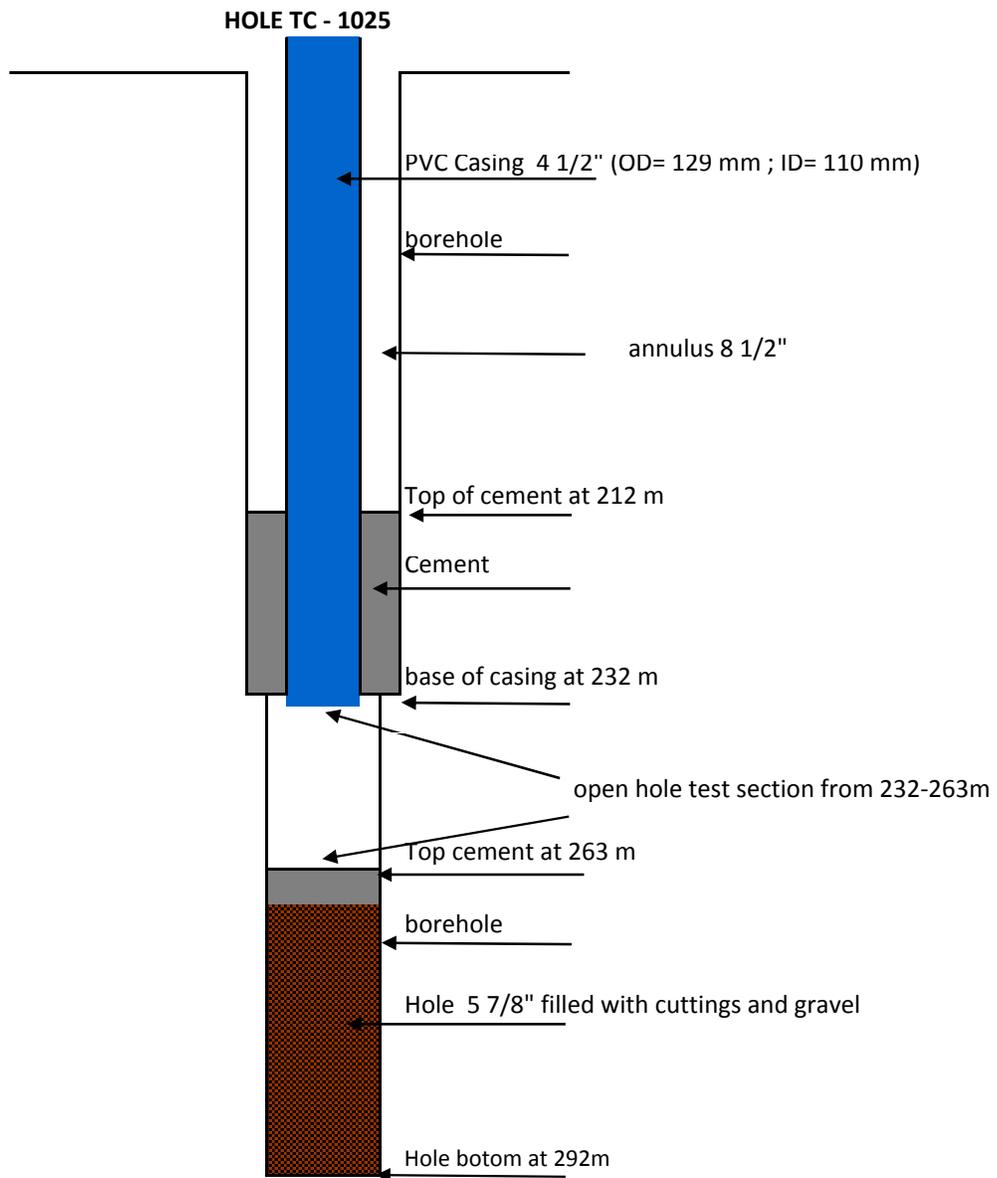
Prepared by C. Figuerero, Semin S.A.

HOLE TC - 1023



Well Completion Diagram for TC-1023

Prepared by C. Figuerero, Semin S.A.



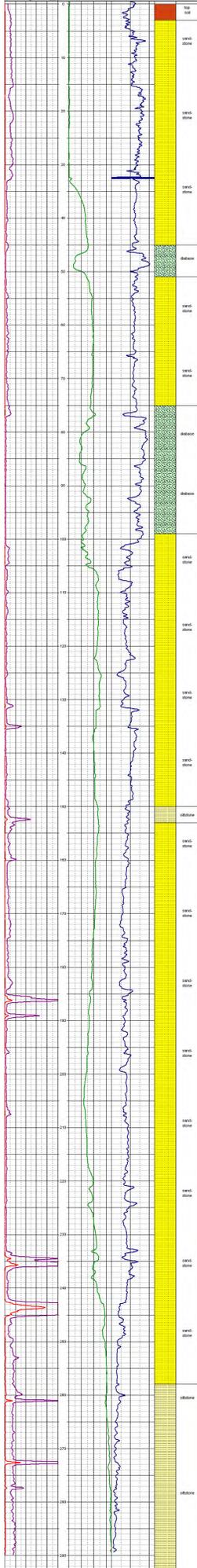
Well Completion Diagram for TC-1025

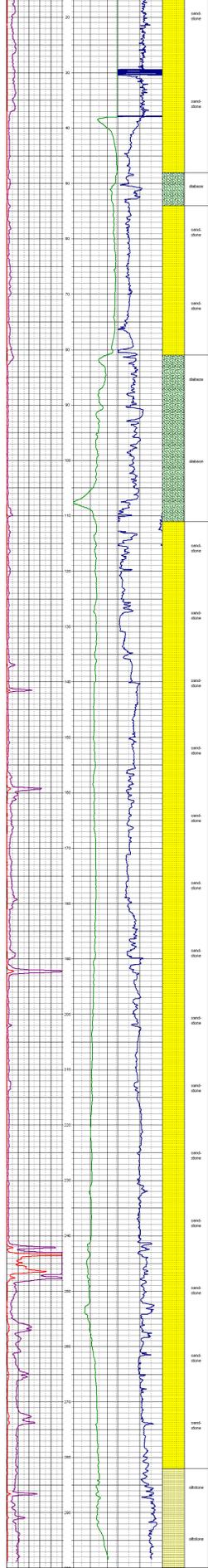
Prepared by C. Figuerero, Semin S.A.

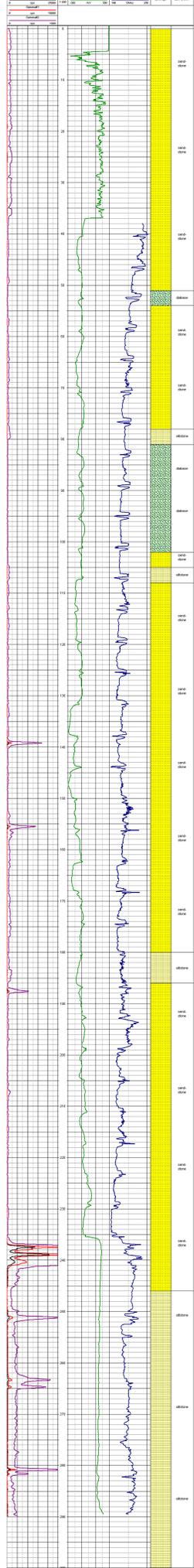
**ATTACHMENT B**

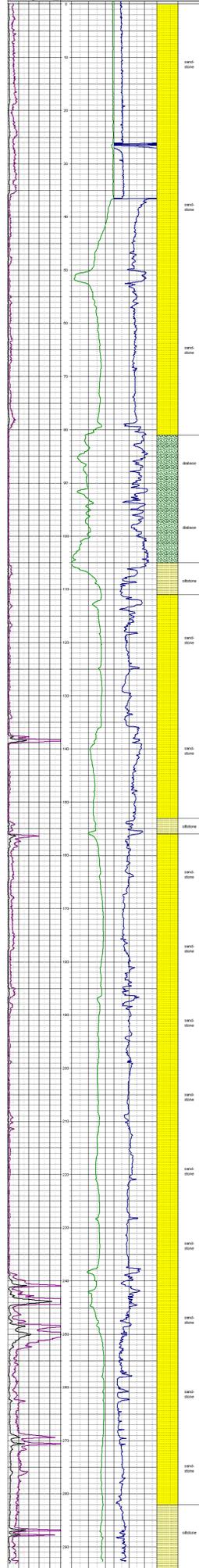
**ELECTRIC LOGS**











**ATTACHMENT C**

**TYPE CURVE MATCHES**

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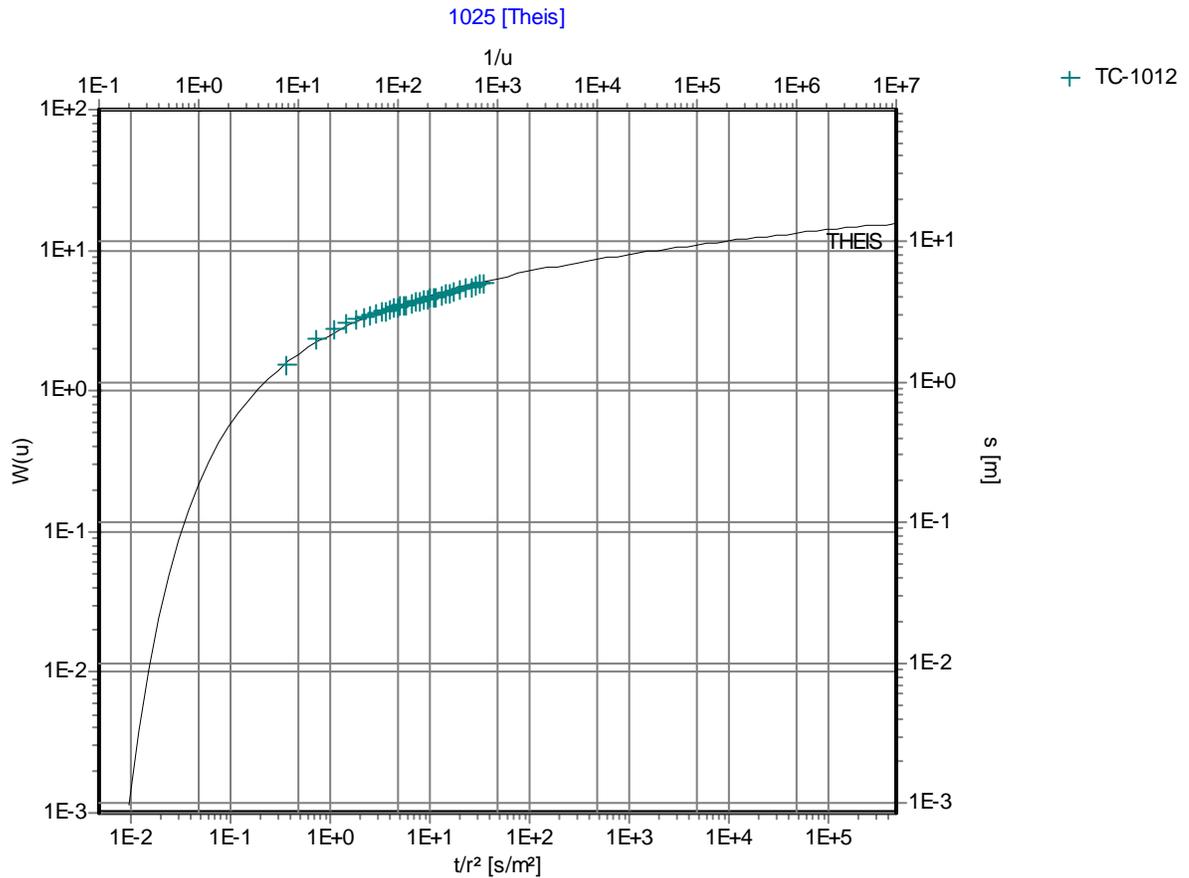
Phone: +1 303-880-9175

**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

**Pumping Test:** 1025**Analysis Method:** Theis

<b>Analysis Results:</b>	Transmissivity:	2.85E-4 [m <sup>2</sup> /s]	Conductivity:	1.58E-5 [m/s]
	Storativity:	5.43E-5		

<b>Test parameters:</b>	Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
	Casing radius:	0.057 [m]	Confined Aquifer	
	Screen length:	31 [m]		
	Boring radius:	0.108 [m]		
	Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

**Comments:**

Evaluated by: EPL

Evaluation Date: 7/17/2010

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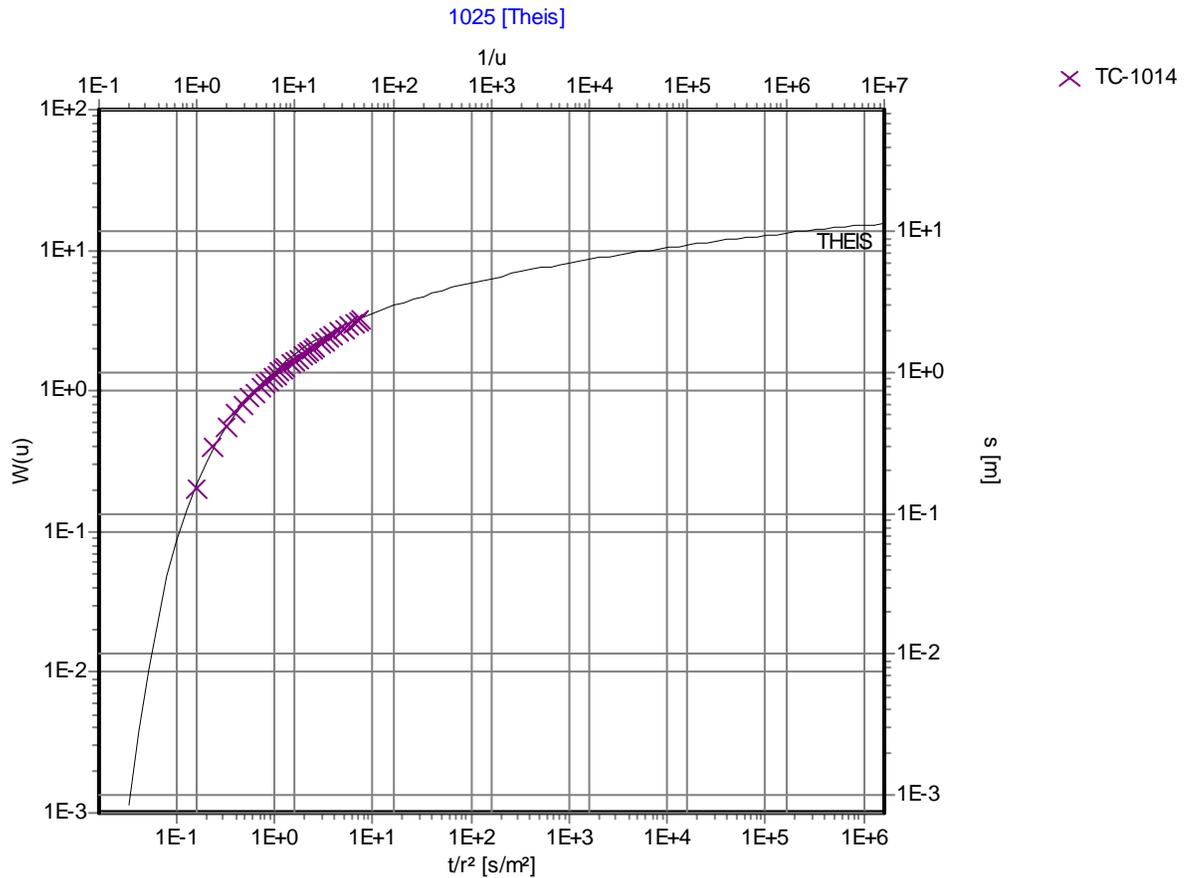
Phone: +1 303-880-9175

**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

Pumping Test:     **1025**Analysis Method:   **Theis**

<u>Analysis Results:</u>	Transmissivity:	3.30E-4 [m <sup>2</sup> /s]	Conductivity:	1.83E-5 [m/s]
	Storativity:	2.13E-4		

<u>Test parameters:</u>	Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
	Casing radius:	0.057 [m]	Confined Aquifer	
	Screen length:	31 [m]		
	Boring radius:	0.108 [m]		
	Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

Comments:

Evaluated by:     EPL

Evaluation Date:   7/17/2010

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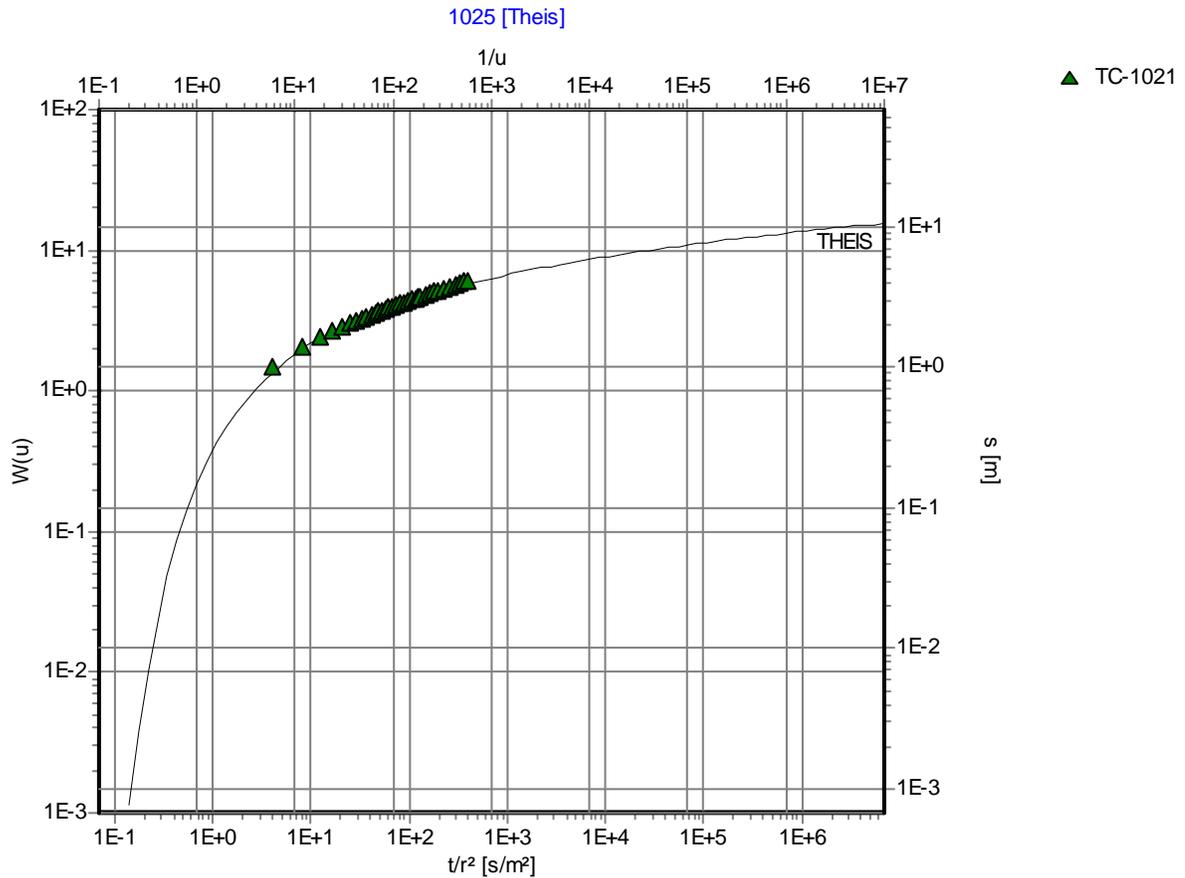
Phone: +1 303-880-9175

**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

**Pumping Test:** 1025**Analysis Method:** Theis

**Analysis Results:** Transmissivity: 3.62E-4 [m<sup>2</sup>/s]      Conductivity: 2.01E-5 [m/s]  
 Storativity: 9.97E-4

**Test parameters:** Pumping Well: TC-1025 P      Aquifer Thickness: 18 [m]  
 Casing radius: 0.057 [m]      Confined Aquifer  
 Screen length: 31 [m]  
 Boring radius: 0.108 [m]  
 Discharge Rate: 0.00308 [m<sup>3</sup>/s]

**Comments:**

Evaluated by: EPL

Evaluation Date: 7/17/2010

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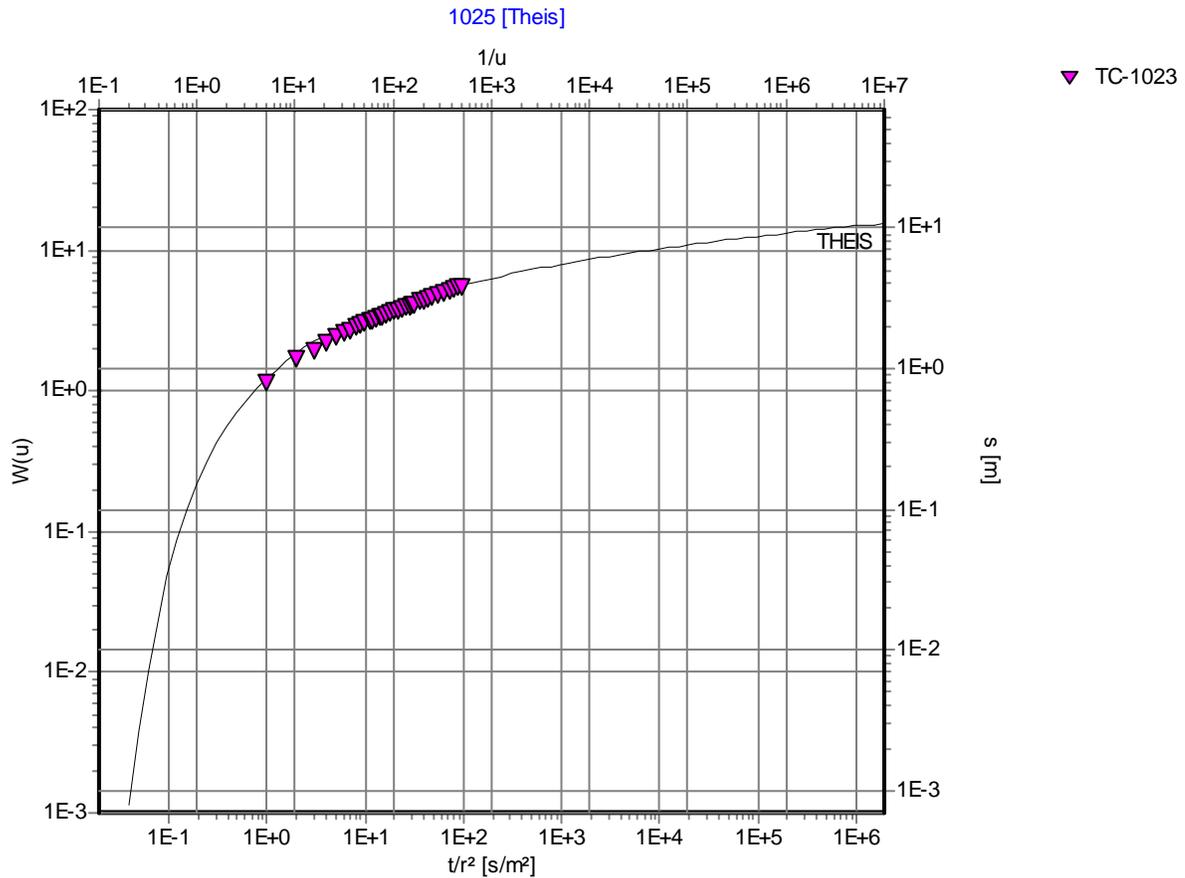
Phone: +1 303-880-9175

**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

Pumping Test:     **1025**Analysis Method:   **Theis**

<u>Analysis Results:</u>	Transmissivity:	3.54E-4 [m <sup>2</sup> /s]	Conductivity:	1.96E-5 [m/s]
	Storativity:	2.75E-4		

<u>Test parameters:</u>	Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
	Casing radius:	0.057 [m]	Confined Aquifer	
	Screen length:	31 [m]		
	Boring radius:	0.108 [m]		
	Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

Comments:

Evaluated by:     EPL

Evaluation Date:   7/17/2010

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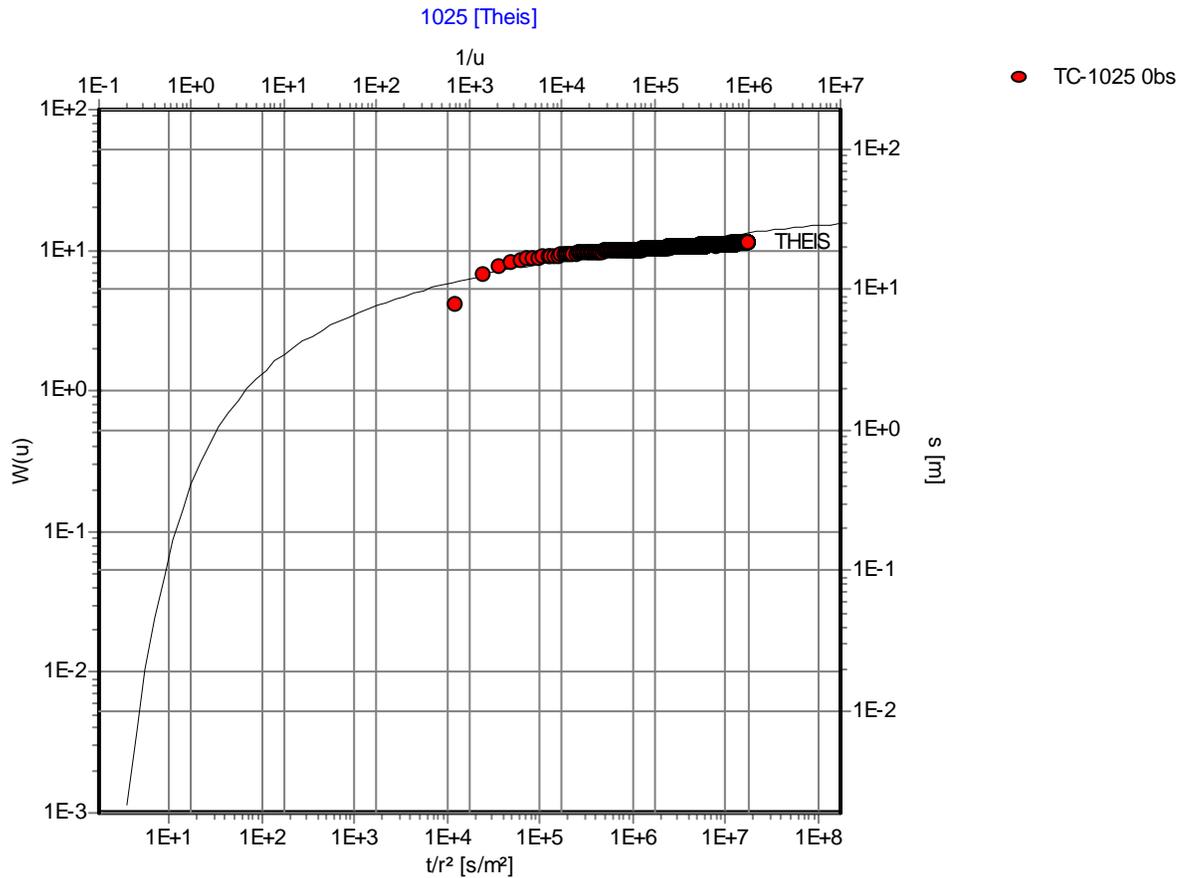
Phone: +1 303-880-9175

**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

Pumping Test:     **1025**Analysis Method:   **Theis**

<u>Analysis Results:</u>	Transmissivity:	1.29E-4 [m <sup>2</sup> /s]	Conductivity:	7.17E-6 [m/s]
	Storativity:	8.92E-3		

<u>Test parameters:</u>	Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
	Casing radius:	0.057 [m]	Confined Aquifer	
	Screen length:	31 [m]		
	Boring radius:	0.108 [m]		
	Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

Comments:

Evaluated by:     EPL

Evaluation Date:   7/17/2010

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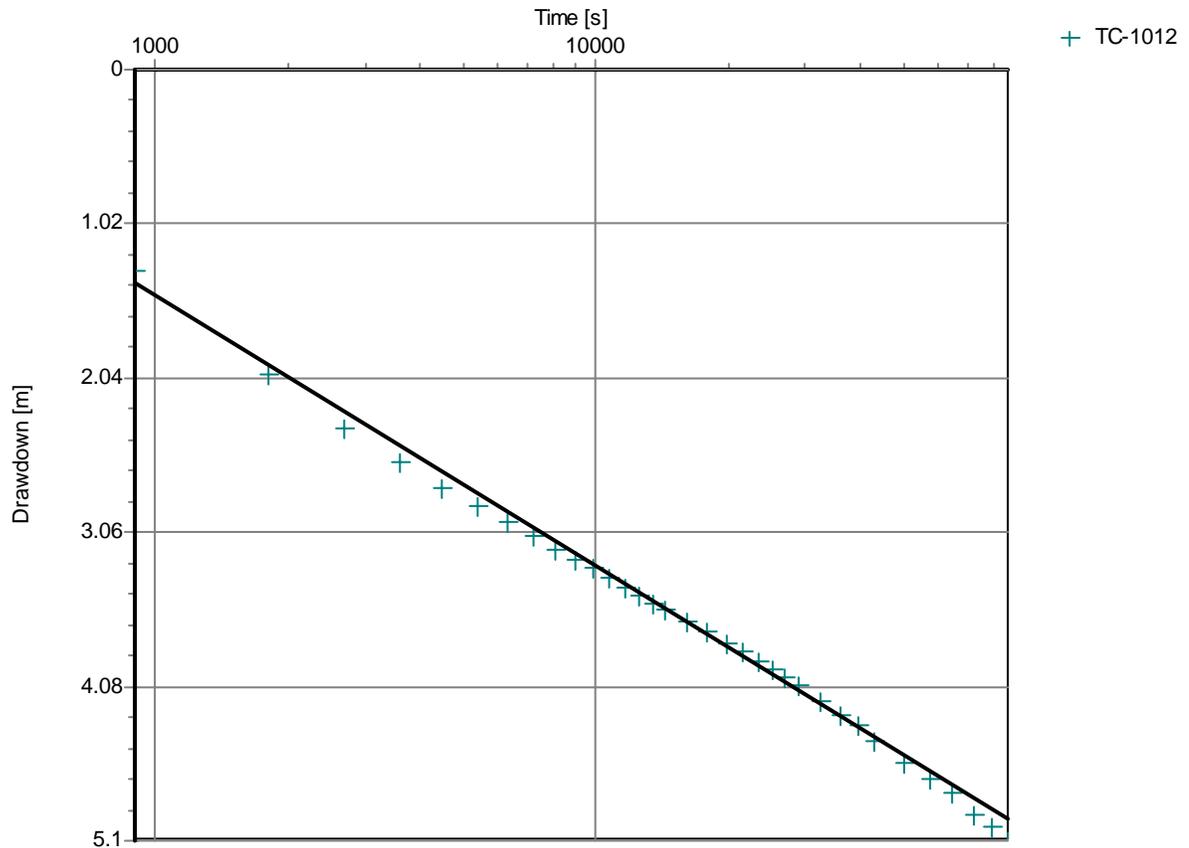
**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

## 1025 [Cooper-Jacob Time-Draw down]

Pumping Test: 1025Analysis Method: Cooper-Jacob Time-DrawdownAnalysis Results: Transmissivity: 3.15E-4 [m<sup>2</sup>/s] Conductivity: 1.75E-5 [m/s]

Test parameters:

Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
Casing radius:	0.057 [m]	Confined Aquifer	
Screen length:	31 [m]		
Boring radius:	0.108 [m]		
Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

Comments:

Evaluated by: EPL

Evaluation Date: 7/17/2010

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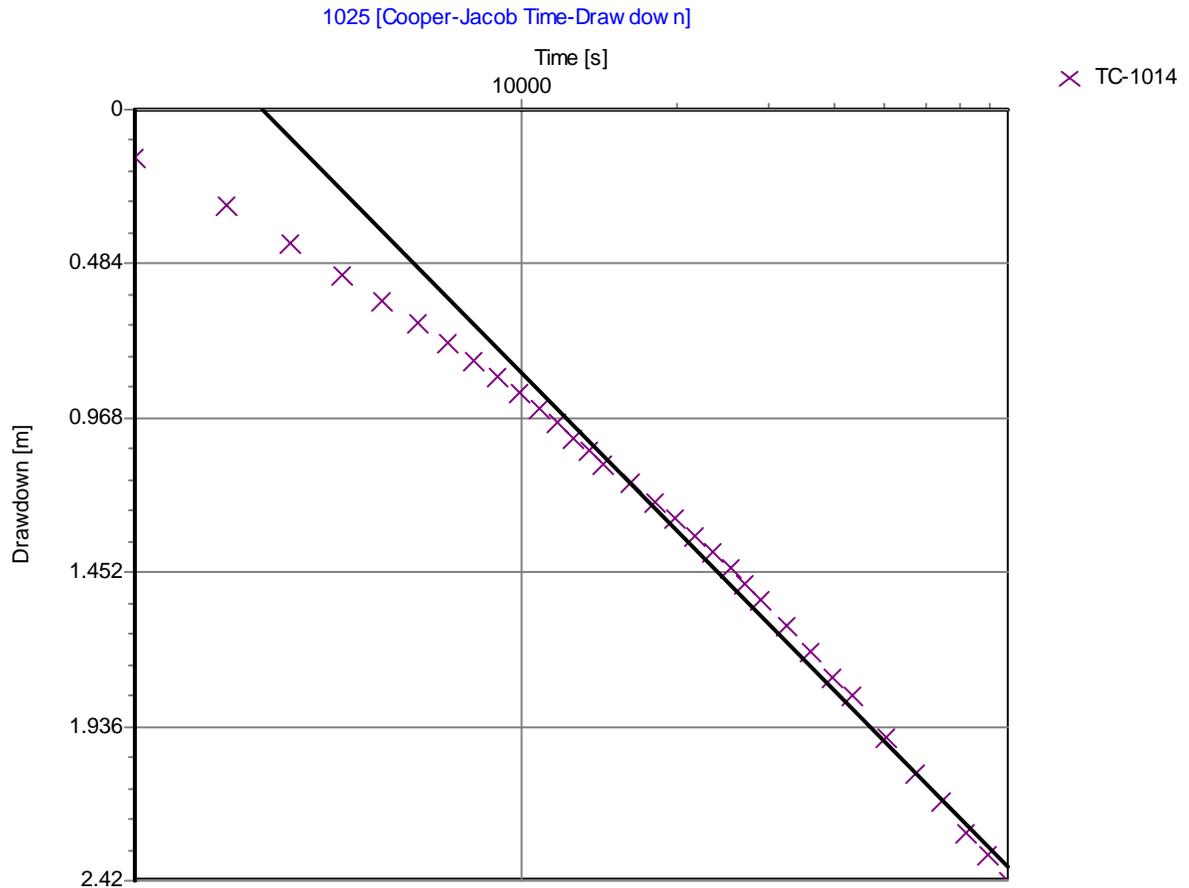
Phone: +1 303-880-9175

**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

Pumping Test:     **1025**Analysis Method:   **Cooper-Jacob Time-Drawdown**

<u>Analysis Results:</u>	Transmissivity:	3.40E-4 [m <sup>2</sup> /s]	Conductivity:	1.89E-5 [m/s]
--------------------------	-----------------	-----------------------------	---------------	---------------

<u>Test parameters:</u>	Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
	Casing radius:	0.057 [m]	Confined Aquifer	
	Screen length:	31 [m]		
	Boring radius:	0.108 [m]		
	Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

Comments:

Evaluated by:     EPL

Evaluation Date:   7/17/2010

**HydroSolutions**

PO Box 17450

Golden, Colorado, 80228 USA

Phone: +1 303-880-9175

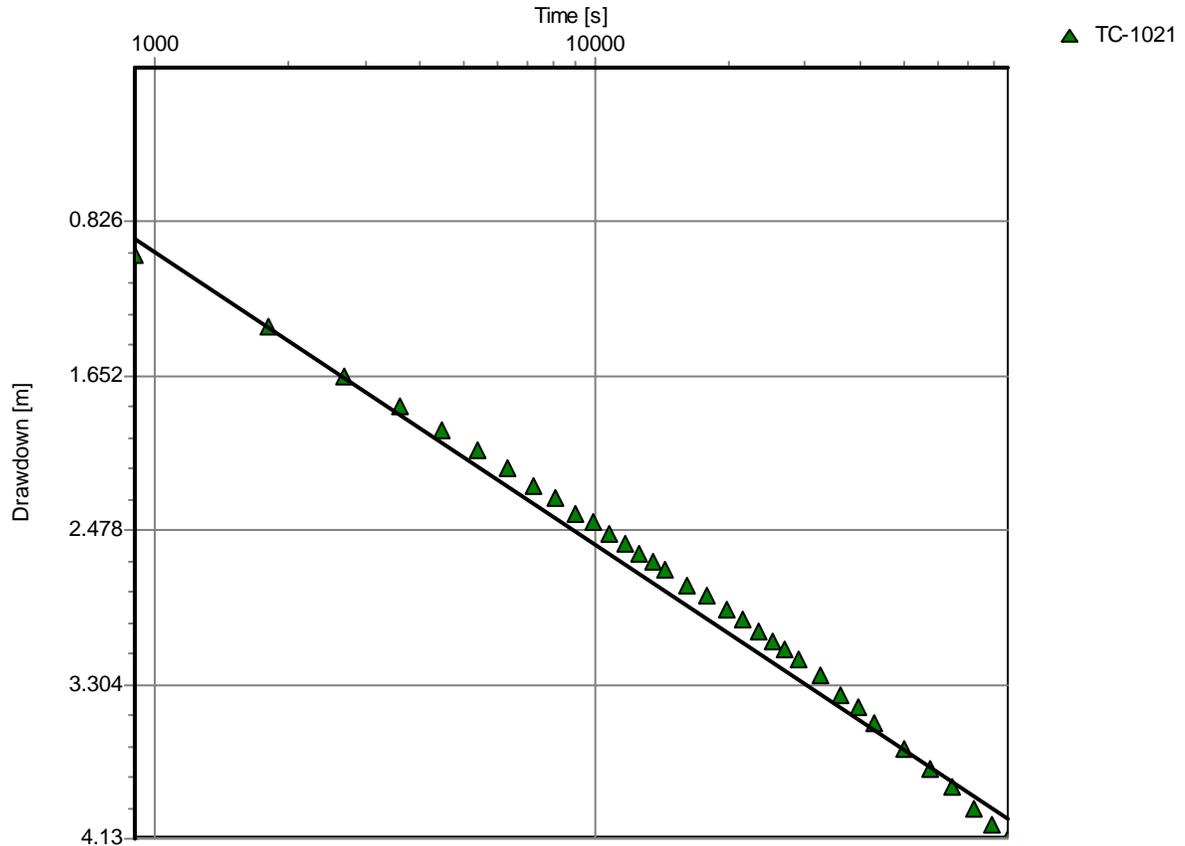
**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

## 1025 [Cooper-Jacob Time-Draw dow n]

Pumping Test: 1025Analysis Method: Cooper-Jacob Time-DrawdownAnalysis Results: Transmissivity: 3.60E-4 [m<sup>2</sup>/s] Conductivity: 2.00E-5 [m/s]

Test parameters:

Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
Casing radius:	0.057 [m]	Confined Aquifer	
Screen length:	31 [m]		
Boring radius:	0.108 [m]		
Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

Comments:

Evaluated by: EPL

Evaluation Date: 7/17/2010

**HydroSolutions**

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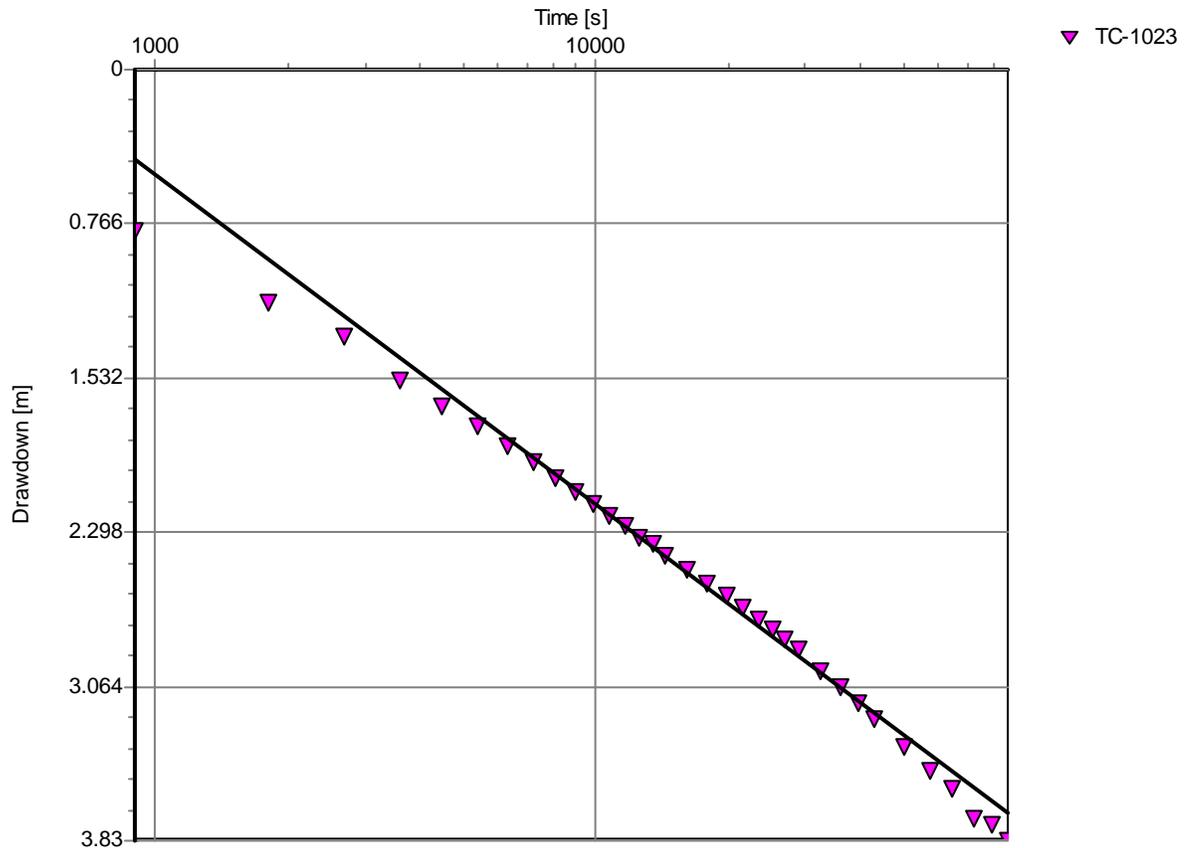
**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

1025 [Cooper-Jacob Time-Draw down]

Pumping Test: 1025Analysis Method: Cooper-Jacob Time-DrawdownAnalysis Results: Transmissivity: 3.44E-4 [m<sup>2</sup>/s] Conductivity: 1.91E-5 [m/s]

Test parameters:

Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
Casing radius:	0.057 [m]	Confined Aquifer	
Screen length:	31 [m]		
Boring radius:	0.108 [m]		
Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

Comments:

Evaluated by: EPL

Evaluation Date: 7/17/2010

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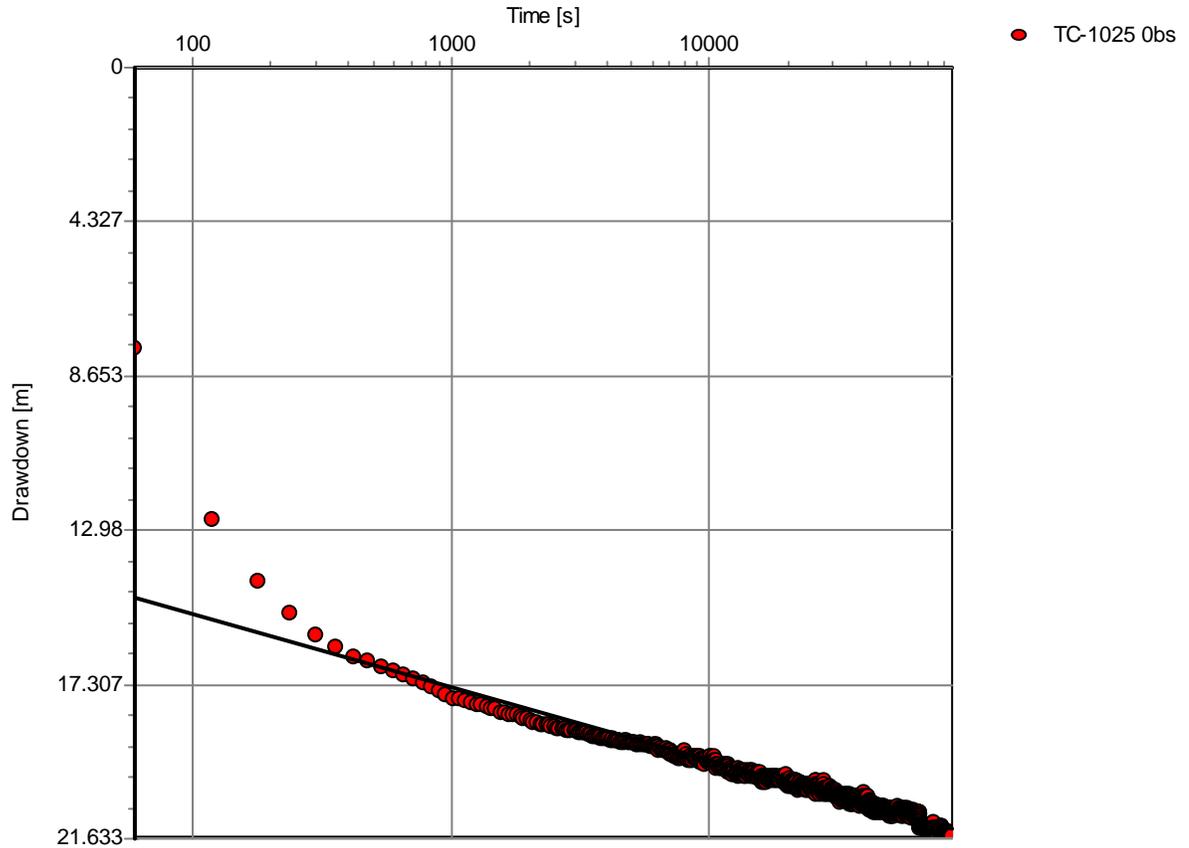
**Pumping Test Analysis Report**

Project: Coronel Oviedo Uranium Project

Number: UEC-002

Client: Uranium Energy Corporation

1025 [Cooper-Jacob Time-Drawdown]

Pumping Test: 1025Analysis Method: Cooper-Jacob Time-DrawdownAnalysis Results: Transmissivity: 2.75E-4 [m<sup>2</sup>/s] Conductivity: 1.53E-5 [m/s]

Test parameters:

Pumping Well:	TC-1025 P	Aquifer Thickness:	18 [m]
Casing radius:	0.057 [m]	Confined Aquifer	
Screen length:	31 [m]		
Boring radius:	0.108 [m]		
Discharge Rate:	0.00308 [m <sup>3</sup> /s]		

Comments:

Evaluated by: EPL

Evaluation Date: 7/17/2010