

# **TECHNICAL REPORT ON THE CORONEL OVIEDO URANIUM PROJECT, PARAGUAY**

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## **PREPARED FOR CRESCENT RESOURCES CORP.**

**NI 43-101 Report**

**Author:**

**Hrayr Agnerian, M.Sc., (Applied), P.Geo.**

**January 25, 2008**



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**SCOTT WILSON ROSCOE POSTLE ASSOCIATES INC.**

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# 1 SUMMARY

## EXECUTIVE SUMMARY

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) has been retained by Crescent Resources Corp. (Crescent) to prepare a Technical Report on the Coronel Oviedo Uranium Project. The purpose of this report is to provide an independent assessment of the potential for uranium mineralization in the vast property, which comprises approximately 504,500 ha in southeastern Paraguay. The Technical Report is conformable to NI 43-101 Standards of Disclosure for Mineral Projects. Scott Wilson RPA visited the project area on July 10, 2007, and again on October 13, 2007.

Crescent is earning a 70% interest in the Coronel Oviedo Project from Coronel Oviedo Mining Company (Coronel) by paying US\$500,000 cash, issuing 2.5 million shares in the capital of Crescent, spending US\$5 million on exploration over three years, and completing a Prefeasibility Study on or before the fourth anniversary of the agreement with Coronel. Coronel is a subsidiary of Transandes de Paraguay S.A. (Transandes), the property holders. Upon completing the earn-in commitments, Crescent will become the operator of the Coronel Oviedo Project. Transandes acquired the Coronel Oviedo mineral concession by map staking and by Ministerial Approval.

## CONCLUSIONS

Based on our review of technical reports on past exploration and publications, Scott Wilson RPA concludes that:

- The Coronel Oviedo Project area is underlain by Upper Permian to Carboniferous (UPC) continental, deltaic and marine sandstones of the Paraná basin, which hosts the Figueira uranium deposit in Brazil and includes a number of uranium occurrences in eastern Paraguay.
- Twelve areas of uranium anomalies, with uranium content in the samples ranging from 0.033% eU<sub>3</sub>O<sub>8</sub> to 0.153% eU<sub>3</sub>O<sub>8</sub> (equivalent U<sub>3</sub>O<sub>8</sub>) are associated with units of subhorizontal sandstones. The anomalous zones range from 30 cm to 5 m intersections of the sandstones situated from 30 m to 250 m below the surface.

- Of the eight diamond drill holes completed by Anschutz Corporation (Anschutz), of which seven were in the Tres Corrales target area during the early 1980s, four holes encountered anomalous radioactivity at depths ranging from 30 m to 150 m. One of these holes (272-T-14) intersected 0.153%  $U_3O_8$  over 1.9 m at 150 m depth, and a 5 m thick radioactive anomaly at 67 m depth. Another hole (251-T-7) intersected 0.063%  $U_3O_8$  over 30 cm.
- Twenty-one of the 26 rotary holes were drilled by Anschutz into the UPC sandstones, and of these 21 holes 14 encountered anomalous radioactivity. One of these holes (272-T-3) intersected 0.02%  $U_3O_8$  over 3.9 m at 243 m depth, and 0.03%  $U_3O_8$  over 0.6 m at 247 m depth.
- Of the 28 recent drill holes completed by Crescent in the Tres Corrales target area, eleven intersected significant uranium mineralization of  $\geq 0.03\%$   $eU_3O_8$  over intervals ranging from 0.3 m to 5.58 m. The average thickness of these intercepts was 3.06 m with an average grade of 0.041%  $eU_3O_8$  with an equivalent grade x thickness (eGT) value of 0.129.
- Past and recent exploration has established some favourable criteria suggesting the possibility of sizeable uranium accumulations within the Coronel Oviedo Property. These criteria are:
  - Radiometric anomalies detected from airborne radiometric surveys.
  - Occurrence of wide areas of Permo-Carboniferous sandstones.
  - Major north-northwest trending regional structure.
- The style of uranium mineralization is that of sandstone hosted uranium mineralization. Sandstone-type deposits are characteristically sedimentary formations of clastic-detrital origin containing reducing environments. These deposits are usually tabular in shape and may occur in continental sandstones, deltaic or shallow marine environments.
- Exploration data suggest that the likely environments of uranium mineralization are a coastal plain depositional system and a deltaic environment with fine-grained sands containing some organic material, which could serve as reductant for the precipitation of uranium.
- In general, the drill core samples collected by Scott Wilson RPA contain low grade uranium mineralization. These values range from 0.6 ppm U to 7.4 ppm U. The drill core, however, was not assayed by Anschutz, and it is uncertain as to whether the sampled interval coincides directly with zones of mineralization identified from downhole logging.
- In general, the exploration work and lithologic and radiometric logging procedures by Crescent are in keeping with industry standards.

- There is good potential for the discovery of additional uranium mineralization within the Coronel Oviedo mineral licence and further work is warranted.

### **RECOMMENDATIONS**

Scott Wilson RPA recommends that Crescent continue with the reverse circulation (RC) drilling at Tres Corrales, as well as the regional exploration program. The objective of this work is to discover uranium mineralization similar to known sandstone-hosted uranium deposits. The recommended work would consist of:

- A program of core drilling, which would allow estimation of mineral resources.
- Continuation of the regional exploration program, involving additional drilling, to assess the exploration potential for uranium mineralization within the vast Coronel Oviedo mineral concession in southeastern Paraguay.
- Metallurgical testing to assess the recovery of uranium in the sandstones by in-situ leaching or by underground mining methods.

Crescent has prepared a preliminary budget for 2008 in the order of US\$3.6 million (Table 1-1). This includes 20,000 m of rotary and diamond core drilling in Tres Corrales area followed by the preparation of a mineral resource estimate. Scott Wilson RPA concurs with this program and budget.

**TABLE 1-1 RECOMMENDED EXPLORATION PROGRAM AND BUDGET FOR 2008**  
**Crescent Resources Corp. – Coronel Oviedo Uranium Project, Paraguay**

Item	Amount (\$)	Remarks
Rotary drilling: 20,000 m@\$100/m	2,000,000	Tres Corrales – Santa Catalina areas 50 m x 50 m.
Core drilling: 5,000 m@\$150/m	750,000	
Leach testing	100,000	On core drilling samples.
Travel and related	50,000	
Consultants, supervision and G & A	100,000	NI 43-101 resource estimate
Subtotal, direct costs	3,000,000	
Contingencies @ 10%	300,000	
Paraguay IVA tax @10%	300,000	
<b>Total</b>	<b>3,600,000</b>	



## **TECHNICAL SUMMARY**

### **OBJECTIVE**

Crescent's objectives in the Coronel Oviedo area in southeastern Paraguay are to confirm past results, outline economic uranium deposits and develop a uranium mine. The exploration target is sandstone-hosted uranium deposits that bear similarities to the roll front-type uranium deposits of the Powder River Basin, Wyoming, in the United States.

### **PROPERTY STATUS**

The Coronel Oviedo Uranium Project is at an early to intermediate stage of exploration. Several areas have received some drilling in the past by Anschutz and recently by Crescent. The Tres Corrales area has the most drilling. Other parts of the Coronel Oviedo Property are at an early stage of exploration. Crescent is in the process of acquiring a 70% interest in the property from Transandes, a private company registered in Paraguay. The Property consists of a large mineral concession covering a total area of approximately 504,500 ha in southeastern Paraguay. Transandes acquired this mineral concession by map staking and by Ministerial approval.

### **LOCATION AND ACCESS**

The Coronel Oviedo Uranium Project is located approximately 150 km east of Asunción, the capital of Paraguay. The vast property lies within an area of low relief, ranging from 5 m to 10 m, and the elevation in the area is in the order of 150 m above mean sea level. The geographic coordinates of the southern part of the property, where the bulk of past exploration has been carried out (Tres Corrales area), are approximately 25°20'S and 56°10'W.

Access to the Coronel Oviedo Uranium Project area is by roads. The project area includes Coronel Oviedo, a town of approximately 48,000 people, and current exploration is being carried out from Tres Corrales, a village of approximately 250 people. Supplies and heavy equipment is brought to the community by trucks.

The climate in southeastern Paraguay is sub-tropical to temperate with little difference in seasonal temperature. The mean temperature during the winter months (June to September, the “dry season”) is 20°C and ranges from 15°C to 30°C. The mean temperature during the summer months (December to March, the “rainy season”) is 30°C and ranges from 25°C to 35°C. The average annual precipitation ranges from 75 cm to 150 cm. Exploration in the Coronel Oviedo area may be carried out throughout the year, although there may be heavy rains during the summer months, which may cause temporary, short-term disruption of exploration activities and transportation of goods to the local communities.

Local infrastructure is available at Coronel Oviedo and nearby towns. Infrastructure at the site includes electrical power, cell phone network and road building equipment. Water, both industrial and potable, is drawn from wells. The RC drilling equipment is brought from Argentina or Peru, since there are no RC drills available in Paraguay. Rotary drilling rigs are available in Asunción.

The area is covered with extensive lateritic and saprolitic material, and outcrops are rare. Vegetation consists predominantly of tall grass and fruit trees, typical of the pampas in Argentina and Paraguay. Overburden cover ranges from 5 m to 15 m.

The land in the southeastern part of Paraguay, and in particular the Coronel Oviedo area, is used mainly for agriculture by local villagers. Wildlife in the area includes various species of frogs, turtles, snakes, birds (including white swan, parrots, hawk, field dove, Tucán and owl) foxes, ocelot (wild cat) tapir, wild boar, deer, and various species of insects.

## **HISTORY**

Exploration for uranium in southeastern Paraguay was started in 1976 by Anschutz, after signing of the Concession Agreement with the Government of Paraguay in December 1975. This agreement allowed Anschutz to explore for “all minerals, excluding oil, gas, and construction materials”. Previously intermittent exploration had

been carried out by international oil companies, with insignificant results. The region, however, is known for its limited mining activities and production of high grade iron ore, mineral pigments clays, limestone, sandstone, sand and gravel by indigenous people.

The initial uranium exploration by Anschutz covered an exclusive exploration-exploitation concession of some 162,700 km<sup>2</sup>, virtually the whole eastern half of Paraguay. This was followed by a program of diamond drilling and rotary drilling over selected target areas. In total some 75,000 m of drilling was completed from 1976 to 1983. Anschutz carried out exploration on behalf of a Joint Venture with Korea Electric Power Corporation (Kepco) and Taiwan Power Company (Taiwan Power). Anschutz intersected uranium mineralization in drill holes ranging from 0.115% U<sub>3</sub>O<sub>8</sub> over 10.2 m to 0.351% U<sub>3</sub>O<sub>8</sub> over 0.3 m in sandstones and siltstones. Work was suspended in 1983 due to the slump of the price of uranium, and no further work has been done since that time.

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 apart. 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 apart, within and between the fences of reconnaissance holes, to establish and outline target areas. All drill holes were logged and probed by gamma, neutron and resistivity surveys.

Exploration work by Anschutz outlined two large target areas underlain by the UPC, as follows:

- Primary Target Area: This contains the San Antonio, San Miguel, Typychaty and Yarati-í targets near and around the village of Yuty, approximately 200 km southeast of Asunción.
- Other Targets of Interest: These targets include two areas situated northeast and north of the Town of Coronel Oviedo, approximately 150 km east of Asunción.

In April 16, 2007, Crescent signed an Option Agreement with Coronel Oviedo Mining Company (Coronel, a subsidiary of Transandes) to earn a 70% interest in the Coronel Oviedo Project, and started a systematic exploration program including compilation of previous results and RC drilling in the Tres Corrales area. Presently, this work is in progress.

#### ***GEOLOGICAL SETTING AND MINERALIZATION***

The Coronel Oviedo Uranium Project area is situated within the western part of the Paraná Basin in southeastern Paraguay. The Paraná Basin hosts a number of uranium occurrences, including the Figueira uranium deposit in Brazil and the San Antonio zone near the town of Yuty in southeastern Paraguay. The area is underlain by Upper Permian to Carboniferous continental sedimentary rocks, and is known for uranium occurrences. Significant radiometric anomalies also occur in Precambrian igneous and metamorphic rocks, Cambrian limestone, Silurian sandstone and Cretaceous to Tertiary carbonatites and alkaline intrusive rocks.

Uranium mineralization at Coronel Oviedo is also similar to that at the Amarinópolis deposit hosted by Devonian sandstones in Goiás State, Brazil.

The exploration methodology applied during past programs has been to determine the favourable host rocks of the UPC sequence, and explore favourable areas of the host sandstone.

Continental sedimentary units of the Independencia Formation (of the UPC) are known to have high potential for uranium exploration in eastern Paraguay. This unit is recognized within the northern part of the UPC in eastern Paraguay and is known as

Northern UPC (NUPC). Early work also suggests that the basal sandstone, a 20 m to 90 m thick unit known as the San Miguel Formation (within the Independencia Formation) to be the best host for uranium mineralization in the Coronel Oviedo area. 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. Outcrops are rare, mostly along road cuts, and mapping is done by drilling.

The dominant structural feature in the area is the north-northwest trending topographic lineament/fault in the south-central part of the mineral concession. This lineament also coincides with an airborne magnetic lineament.

The rocks of the Coronel Oviedo area are very gently east dipping and undeformed. Other northwest and northeast trending normal faults cut the sedimentary units.

Exploration work to date suggests the uranium mineralization within the Independencia Formation to be stratabound and possibly syngenetic or diagenetic in origin. Recent interpretation of exploration data suggests that areas of limonite+hematite alteration within the grey-green, fine grained sandstones in the Tres Corrales area have characteristics similar to the alteration assemblages present at roll front-type uranium deposits of the Powder River basin in the United States.

#### **EXPLORATION**

On April 16, 2007, Crescent commenced a systematic uranium exploration program including compilation of all previous exploration data by Anschutz in the Coronel Oviedo Uranium Project area, such as lithologic and radiometric logs stored at Ministry of Public Works (MOPC) in Asunción. Since August 2007, Crescent has been carrying on a program of drilling at Tres Corrales as well as evaluating other uranium target areas on the Coronel Oviedo Property.

**DRILLING AND SAMPLING**

Approximately 4,970 m of core drilling was completed in 21 holes by Anschutz in previous campaigns. NQ core was retrieved and the drilling contractor was Geosol from Belo Horizonte, Brazil. In addition, approximately 10,980 m of drilling was completed in 51 holes by Anschutz by rotary drill rigs.

The procedures used during the diamond and rotary drilling programs were drafted by Anschutz. Scott Wilson RPA reviewed a number of drill logs at the (MOPC) in Asunción. Scott Wilson RPA is of the opinion that the lithologic logging procedures are comparable to Western industry standards.

Detailed information on sampling method and approach during the Anschutz drilling campaigns is not available. Nevertheless, Scott Wilson RPA understands that sampling procedures were comparable to Western industry standards of that time. These included:

- Sampling of the whole core of diamond drill holes, with sample intervals of approximately 30 cm (1 ft.).
- Calculation of equivalent uranium grades from radiometric (gamma) logs.

Since mid-August 2007, Crescent has completed approximately 7,640 m of RC drilling in 28 holes at the Tres Corrales target area (four holes were abandoned before reaching the target depth). One drill was brought in from Argentina and the drilling contractor is Compañía Paraguaya de Minería (COPAMI, a subsidiary of Northwest Drilling (Northwest) of Buenos Aires, Argentina. This rig has drilled 18 holes. The other ten holes were drilled by a rotary rig contracted from 9 de Junio, a company based in Asunción, Paraguay.

The procedures used during the recent drilling program were reviewed and verified by Scott Wilson RPA. Scott Wilson RPA reviewed a number of drill logs and is of the opinion that the lithologic and radiometric logging procedures are in keeping with industry standards. These include:

- Splitting the RC drill chips with a riffle and sampling half of the chips (5 kg to 7 kg), with sample intervals of two metres.
- Calculation of equivalent uranium grades from radiometric (gamma) logs.

**DATA VERIFICATION**

During the early exploration in the area by Anschutz, data verification was done by company geologists. Data on quality assurance and quality control (QA/QC) procedures, however, are not available. Recently, Crescent has carried out a review of the calculation of equivalent uranium grades ( $eU_3O_8$ ) from a number of Anschutz holes. Scott Wilson RPA understands that the two results are comparable. Scott Wilson RPA also understands that the drill hole data were verified by Crescent as part of the recent compilation program. In terms of recording field data, Crescent has established detailed procedures for technical staff.

During the recent site visits, Scott Wilson RPA reviewed the Crescent exploration results and the methodology of lithologic and radiometric logging of drill holes by Crescent crews. Scott Wilson RPA is of the opinion that the field practices used by Crescent crews are in keeping with industry standards.

As a check of past exploration results, Scott Wilson RPA collected eight independent samples (four each from diamond drill hole 272-T14 and 272-R2) of the Tres Corrales target area and sent them to SGS Laboratories, Don Mills, Ontario (SGS), for analysis. The uranium determinations were done at the Becquerel Laboratories, Hamilton, Ontario, on behalf of SGS, using the Neutron Activation Analysis (NAA) method. The sample intervals cannot be compared with earlier results, because Anschutz did not sample the drill core. The Scott Wilson RPA samples yielded low uranium values ranging from 0.6 ppm U to 7.4 ppm U.

**MINERAL RESOURCES**

There are no mineral resources within the area of the Coronel Oviedo Uranium Project at the present time.

***EXPLORATION POTENTIAL***

The Coronel Oviedo Uranium Project is at an early to intermediate stage of exploration. A number of areas of anomalous concentrations of uranium occur in Upper Permian to Carboniferous sedimentary rocks within the property area. Past work was focused on developing roll front-type targets. Preliminary interpretation of drill results in the Tres Corrales area suggests that the basal sandstone unit (Providencia Formation) is the favourable host for uranium mineralization.

There are other areas of anomalous uranium within the Coronel Oviedo Project area, such as along the north-northwest trending lineament and elsewhere on the property. These areas warrant further exploration work.



## **2 INTRODUCTION AND TERMS OF REFERENCE**

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) has been retained by Crescent Resources Corp. (Crescent) to prepare a Technical Report on the Coronel Oviedo Uranium Project. The purpose of this report is to provide our independent assessment of the potential for uranium mineralization in the vast property, which comprises approximately 504,500 ha in southeastern Paraguay (Figure 2-1). The Technical Report is conformable to NI 43-101 Standards of Disclosure for Mineral Projects. Scott Wilson RPA visited the project area on July 10, 2007 and again on October 13, 2007.

Crescent is a reporting issuer in British Columbia and Alberta, and is listed on the TSX Venture Exchange with its office in Vancouver. The company is a Tier 2 issuer. On April 16, 2006, Crescent signed an option agreement with Coronel Oviedo Mining Company (Coronel), a subsidiary of Transandes de Paraguay S.A. (Transandes, the property holders) to earn up to 70% interest in the Coronel Oviedo Concession in southeastern Paraguay (Crescent Corp. Press Release, June 12, 2007).

Crescent is earning a 70% interest in the Coronel Oviedo Project from Coronel by paying US\$500,000 cash, issuing 2.5 million shares in the capital of Crescent, spending US\$5 million on exploration over three years, and completing a Prefeasibility Study on or before the fourth anniversary of the agreement with Coronel. Upon completing the earn-in commitments, Crescent will become the operator of the Coronel Oviedo Project. Transandes acquired the Coronel Oviedo mineral concession by map staking and by Ministerial Approval.

Currently, Servicios Mineros S.A. (Seminsa), a subsidiary of Transandes, is the operator of the project and Búscore Consulting de Paraguay S.A. (Buscore) provides contract exploration services to Seminsa/Crescent.

The Coronel Oviedo Uranium Project area is underlain by Permian and Carboniferous sedimentary rocks of the Paraná basin which hosts the Figueira uranium deposit in Brazil, and includes a number of uranium occurrences hosted by Upper Permian to Carboniferous (UPC) sandstones.

For this report, Scott Wilson RPA carried out a review of old exploration results by the Anschutz Corporation (Anschutz) of Denver, Colorado, on behalf of a joint venture with Korea Electric Power Company (Kepco) and Taiwan Power Company (TPC) during the late 1970s and early 1980s, such as reconnaissance geological mapping and exploration programs including diamond and rotary drilling. Scott Wilson RPA also carried out a review of recent exploration work and results by Crescent, and site visits to the project area, first on July 10, 2007 and again on October 15, 2007.

Information for this Technical Report is supplied by Crescent, and by Seminsa. Technical documents and other sources of information are listed at the end of this report.

Mr. Hrayr Agnerian, M.Sc. (Applied), P.Geo., Associate Consulting Geologist with Scott Wilson RPA, is the Qualified Person for this Technical Report and is responsible for all of the sections included in this Technical Report.

In preparation of this report, Mr. Agnerian also held discussions with professionals knowledgeable on the project including:

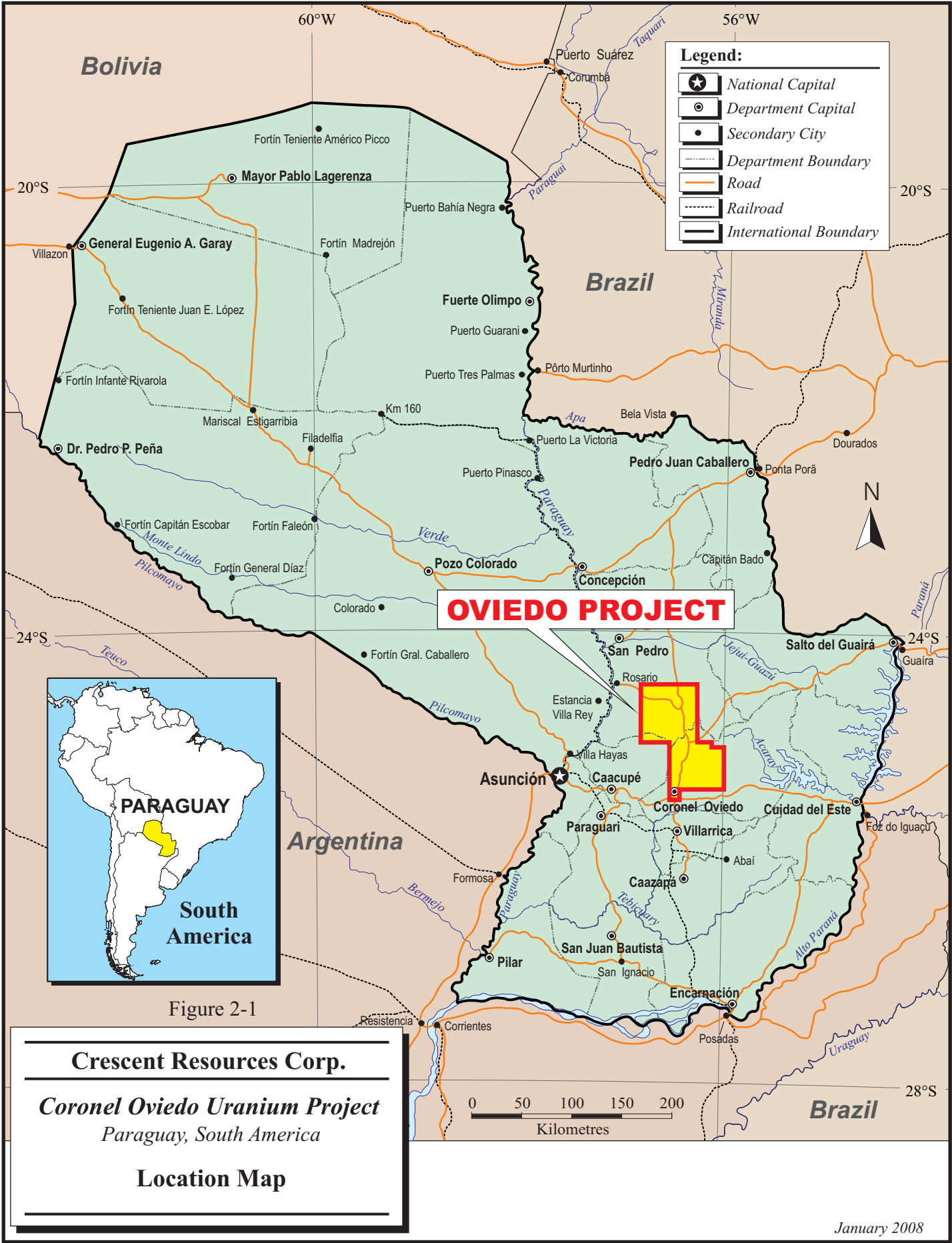
- Mr. Michael Hopley, President of Crescent Resources Corp.
- Mr. Chris Healey, B.Sc., P.Geo., Consultant for Crescent.
- Mr. Bernie D. Schmeling, Ph.D., Chief Geophysicist of Seminsa.
- Mr. Guillermo Casado, Director, Transandes de Paraguay S.A. and Seminsa.
- Mr. Horacio P. Fialayre C. of Horacio Fialayre & Asociados, Legal Counsel for Transandes de Paraguay S.A. and Seminsa.
- Mr. Carlos Figuerero, Chief Geologist for Seminsa.
- Mr. Bart Wilson, Partner of Buscore, contractors for exploration services for Seminsa/Crescent.

Scott Wilson RPA has relied on technical data contained in reports of past exploration and title documents supplied by Crescent and Transandes. Scott Wilson RPA has retained the reporting of uranium content in drill holes as equivalent %  $U_3O_8$  (% e $U_3O_8$ ) since this is the calculated grade of the uranium mineralization from down-hole radiometric probe results from Anschutz drilling as well as recent drilling by Crescent. Scott Wilson RPA further notes that this type of reporting is an accepted practice in the industry.

Units of measurement used in this report conform to the SI (metric) system. All currency in this report is in United States dollars (US\$) unless otherwise noted. The list of abbreviations used in this report is shown in Table 2-1.

**TABLE 2-1 LIST OF ABBREVIATIONS**  
**Crescent Corp. – Coronel Oviedo Uranium Project**

$\mu$	micron	kg	kilogram
$^{\circ}C$	degree Celsius	kcal	kilocalorie
$^{\circ}F$	degree Fahrenheit	km	kilometre
$\mu g$	microgram	$km^2$	square kilometres
A	annum	l	litre
$m^3/h$	cubic metres per hour	lb	pound (mass)
C\$	Canadian dollars	m	metre
Cal	calorie	M	mega (million)
Cm	centimetre	$m^2$	square metre
$cm^2$	square centimetre	$m^3$	cubic metre
g	gram	masl	metres above sea level
G	giga (billion)	mm	millimetre
g/l	gram per litre	pH	measure of acidity of solutions
g/t	gram per tonne	ppm	part per million
ha	hectare	sS	second (time)
k	kilo (thousand)	t	metric tonne
cps	counts per second	yr	year



### **3 RELIANCE ON OTHER EXPERTS**

This report has been prepared by Scott Wilson RPA for Crescent Resources Corp. (Crescent). The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to Scott Wilson RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other information supplied by Crescent.

Scott Wilson RPA has relied on information supplied by Transandes in terms of title to the Coronel Oviedo Property.

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

## **4 PROPERTY DESCRIPTION AND LOCATION**

### **PROPERTY STATUS**

Except for the Tres Corrales area, the Coronel Oviedo Uranium Project is at an early stage of exploration. The Tres Corrales area is at an intermediate stage, since it has received some drilling in the past by Anschutz and currently by Crescent. The property consists of one large mineral concession covering a total area of approximately 504,500 ha in southeastern Paraguay. The property is located approximately 150 km east of Asunción, the Capital of Paraguay, and includes the area surrounding the town of Coronel Oviedo. It is situated within the Districts of Juan de Mena, Itacurubí del Rosario, Guayaibí, San Estanislao, Yataity del Norte, Unión, 25 de Diciembre, Santa Rosa del Mbuty, Simón Bolívar, San Joaquín, Cecilio Báez, Carayaó, Coronel Oviedo, Caaguazú R.I. 13 Corrales, and La Pastora, Departments of San Pedro, Cordillera y Caaguazú, Eastern Paraguay.

Crescent is earning a 70% interest in the Coronel Oviedo Prospecting Licence from Coronel Oviedo Mining Company S.A. (Coronel), a subsidiary of Transandes de Paraguay S.A. (Transandes), a private company registered in Paraguay. Transandes acquired the Coronel Oviedo mineral concession by map staking and approval by the Ministerio de Obras Públicas y Comunicaciones (MOPC), as described below.

The mineral concession was issued by Ing. Pánfilo Benítez E., Minister, MOPC, and Jorge Coronel, Interim Director General of Secretariat of Environment (Secretaría del Medio Ambiente “SEAM”). The coordinates of the vertices of the rectangular area for the prospecting licence are shown in Figure 4-1 and provided in Table 4-1.

**TABLE 4-1 COORDINATES OF CORONEL OVIEDO PROSPECTING LICENCE****Crescent Resources Corp. – Coronel Oviedo Project, Paraguay**

<b>Corner</b>	<b>UTM Coordinates</b>	
A	525 000 E	7 290 000 N
B	576 000 E	7 290 000 N
C	576 000 E	7 235 000 N
D	589 000 E	7 235 000 N
E	589 000 E	7 230 000 N
F	600 000 E	7 230 000 N
G	600 000 E	7 190 000 N
H	560 000 E	7 190 000 N
I	560 000 E	7 180 000 N

Source: Duarte, 2007.

**Notes:**

1. Coordinates are based on topographic maps Carta Itacurubi del Rosario (No. 5571), Coronel Oviedo (No. 5670) and San Estanislao (No. 56t1).
2. Request for above licence made by Coronel Oviedo Mining Company S.A. to the MOPC and approval was received on May 18, 2007 (Martínez, 2007).
3. Above licence issued to Coronel Oviedo Mining Company S.A. by MOPC Resolution No. 357.
4. Environmental licence issued to Coronel Oviedo Mining Company S.A. by SEAM Document No. 56.197/07 and 56.136"B"/07 and Declaration No. 621.

On May 18, 2007, by Resolution No. 848 and 357, MOPC approved Coronel's application to conduct exploration on the Coronel Oviedo Prospecting Licence (Benítez, 2007).

**OPTION AGREEMENT**

On April 16, 2007, Crescent and Coronel entered into an Option Agreement whereby Coronel granted Crescent to earn up to 70% interest in the Coronel Oviedo Project. The terms of the agreement were as follows:

- Earn an initial 50% interest in the property by:
  - Incurring or funding a minimum of US\$5 million of exploration expenditures on the property within a period of three years following the execution of the Concession Contract (the Effective Date), including:
    - US\$2 million in expenditures on or before the first anniversary of the Effective Date.
    - US\$2.5 million in additional expenditures on or before the second anniversary of the Effective Date.

- US\$500,000 in additional expenditures on or before the third anniversary of the Effective Date.
- Making total cash payments of US\$750,000 and issuing 2.5 million shares in the capital of Crescent to Coronel, as follows:
  - A cash payment of US\$200,000 and 800,000 shares on or before the Effective Date.
  - A cash payment of US\$250,000 and 1.2 million shares on or before the first year anniversary of the Effective Date.
  - A cash payment of US\$300,000 and 1.5 million shares on or before the second year anniversary of the Effective Date.
- On or before the third anniversary date of the Effective Date, Crescent shall be further required to make cash payments of US\$500,000 or, subject to regulatory approval, issue shares in the capital of Crescent, and fund an additional US\$2.5 million of expenditures in order to maintain its 50% interest in the property. In the event that Crescent fails to satisfy its funding obligations pursuant to the above, Crescent shall lose its 50% interest in the property.
- Coronel grants to Crescent the sole and exclusive right and option (Additional Option) to earn an additional 20% interest in the property by funding for a Prefeasibility Study on the property on or before the fourth year anniversary of the Effective Date. Should Crescent extend the completion of the Prefeasibility Study to the fifth year anniversary of the Effective Date, Crescent shall pay a further US\$500,000 to Coronel.

Scott Wilson RPA understands that “there is no public or private litigation, arbitration, option or understanding pending or threatened involving any of the Property or Coronel or any of its Affiliates which may, if adversely determined, materially and adversely affect the Property or the interests of Coronel therein or which seeks to or would, if successful, prevent, restrain or prohibit any of the transactions contemplated” in the Option Agreement (Seminsa, 2007a).

Scott Wilson further understands that “to the best of its knowledge, information and belief, there are no outstanding orders or directions relating to environmental matters requiring any work, repairs, construction or capital expenditures with respect to the Property and the conduct of operations related” to exploration activities (Seminsa, 2007a).



**OPERATING AGREEMENT**

On April 16, 2007, Crescent, Coronel and Seminsa also entered into an Operating agreement whereby, subject to the terms of the Option Agreement, Crescent agreed that Seminsa will be the operator of the joint venture until such time that Crescent earns its 50% interest in the Coronel Oviedo Property. Crescent further agreed that Coronel has the right to subcontract the operatorship of the project to Seminsa (Seminsa, 2007b).

**LAND TENURE**

Scott Wilson RPA understands that all the mineral lands of the Coronel Oviedo Uranium Property are in good standing for the foreseeable future (Fialayre, 2007).

**MINERAL LICENCES**

Under the Paraguay Mining Law, the Coronel Oviedo Uranium Mineral Licence is map-staked, and hence does not have physical boundaries. A map-staked licence may be in good standing for an indefinite period. All mineral licences are drawn using the Universal Transverse Mercator (UTM) coordinate system. The following is a summary of the Mining Law, regarding mineral exploration in Paraguay (Law No. 3180, April 30, 2007).

- Application for mineral prospecting work over a specific area to the MOPC, addressed to Vice Ministry of Mines and Energy, by the Chairman of the company which is planning to conduct exploration. The amount of required investment (exploration work):
  - For an initial (Prospecting) stage licence it is US\$15/ha.
  - For an exploration stage licence it is US\$45/ha. In case the licence is renewed, the amount of investment required may increase by 20%, depending on the status of the property, i.e., whether it is at the Prospecting or Exploration stage.
  - For exploitation (development) stage licence it is 30% of the amount required for the exploration stage of the property.
- Approval (or rejection) by the Vice Minister and the Department of Environment (SEAM). This is followed by a Municipal Localization Certificate and

Departmental Interest Certificate from the Department (like a Province) for the area of interest.

- Publication of the request in a newspaper, such as La Nación in Asunción.
- If there is no objection from the public, the MOPC grants a Prospecting Licence to the applicant for a period of eight months. In some cases this may be extended to a further six months. No assessment or minimum work is required at this stage. The applicant only has to submit trimestral reports to the MOPC.
- Signing of a contract with the Government of Paraguay for Prospecting, Exploration, and Exploitation work (Permits) in a specific area. The annual licence fee:
  - For a Prospecting Permit ranges from US\$0.35/ha to US\$0.55/ha, as follows:
 

▪ 1 ha to 500 ha	US\$0.55/ha
▪ 501 ha to 1,500 ha	US\$0.50/ha
▪ 1,501 ha to 10,000 ha	US\$0.45/ha
▪ 10,101 ha to 50,000 ha	US\$0.40/ha
▪ 50,001 ha to 100,000 ha	US\$0.35/ha
  - For an Exploration Permit ranges from US\$0.55/ha to US\$1.00/ha, as follows:
 

▪ 1 ha to 500 ha	US\$0.55/ha
▪ 501 ha to 1,500 ha	US\$0.70/ha
▪ 1,501 ha to 10,000 ha	US\$0.85/ha
▪ 10,101 ha to 50,000 ha	US\$1.00/ha
  - For an Exploitation (Development stage) Permit ranges from US\$1.50/ha to US\$2.25/ha, as follows:
 

▪ 1 ha to 500 ha	US\$1.50/ha
▪ 501 ha to 1,500 ha	US\$1.75/ha
▪ 1,501 ha to 10,000 ha	US\$2.00/ha
▪ 10,101 ha to 25,000 ha	US\$2.25/ha
  - Upon completion of the exploration phase, the exploitation phase starts, by which time the applicant must have reduced the size of the property, and the new property is granted.



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

### **LOCATION**

The Coronel Oviedo Uranium Project is located approximately 150 km east of Asunción, the capital of Paraguay. The vast property lies within an area of low relief, ranging from 5 m to 10 m. The elevation in the area is in the order of 150 m above mean sea level. The geographic coordinates of the southern part of the property, where the bulk of past exploration has been carried out (Tres Corrales area), are approximately 25°20'S and 56°10'W.

### **ACCESS**

Access to the Coronel Oviedo Uranium Project area is by roads. The project area includes Coronel Oviedo, a town of approximately 48,000 people, and current exploration is being carried out from Tres Corrales, a village of approximately 250 people. Supplies and heavy equipment is brought to the community by trucks.

### **CLIMATE**

The climate in southeastern Paraguay is sub-tropical to temperate with little difference in seasonal temperature. The mean temperature during the winter months (June to September, the “dry season”) is 20°C and ranges from 15°C to 30°C. The mean temperature during the summer months (December to March, the “rainy season”) is 30°C and ranges from 25°C to 35°C. The average annual precipitation ranges from 75 cm to 150 cm. Exploration in the Coronel Oviedo area may be carried out throughout the year, although there may be heavy rains during the summer months, which may cause temporary, short-term disruption of exploration activities and transportation of goods to the local communities.

## **INFRASTRUCTURE**

Local infrastructure is available at the town of Coronel Oviedo and nearby villages. Infrastructure at the site includes electrical power, cell phone network and road building equipment. Water, both industrial and potable, is drawn from wells. The reverse circulation (RC) drilling equipment is brought from Argentina or Peru, since there are no RC drills available in Paraguay. Rotary drilling rigs are available in Asunción.

## **LAND USE**

The area is covered with extensive lateritic and saprolitic material, and outcrops are rare. Vegetation consists predominantly of tall grass and fruit trees, typical of the pampas in Argentina and Paraguay. Overburden cover ranges from 5 m to 15 m.

## **FAUNA AND FLORA**

The land in the southeastern part of Paraguay, and in particular the Coronel Oviedo area, is used mainly for agriculture by local villagers. Wildlife in the area includes various species of frogs, turtles, snakes, birds (including white swan, parrots, hawk, field dove, Tucán and owl) foxes, ocelot (wild cat) tapir, wild boar, deer, and various species of insects (Naturavita, 2006).

## 6 HISTORY

Exploration for uranium in southeastern Paraguay was started in 1976 by Anschutz, after signing of the Concession Agreement with the Government of Paraguay in December 1975. This agreement allowed Anschutz to explore for “all minerals, excluding oil, gas, and construction materials” over an exclusive exploration-exploitation concession covering some 162,700 km<sup>2</sup>, virtually the whole eastern half of Paraguay. Previously intermittent exploration had been carried out by international oil companies, with insignificant results. The region, however, is known for its limited mining activities and production of high grade iron ore, mineral pigments, clays, limestone, sandstone, sand and gravel by indigenous people.

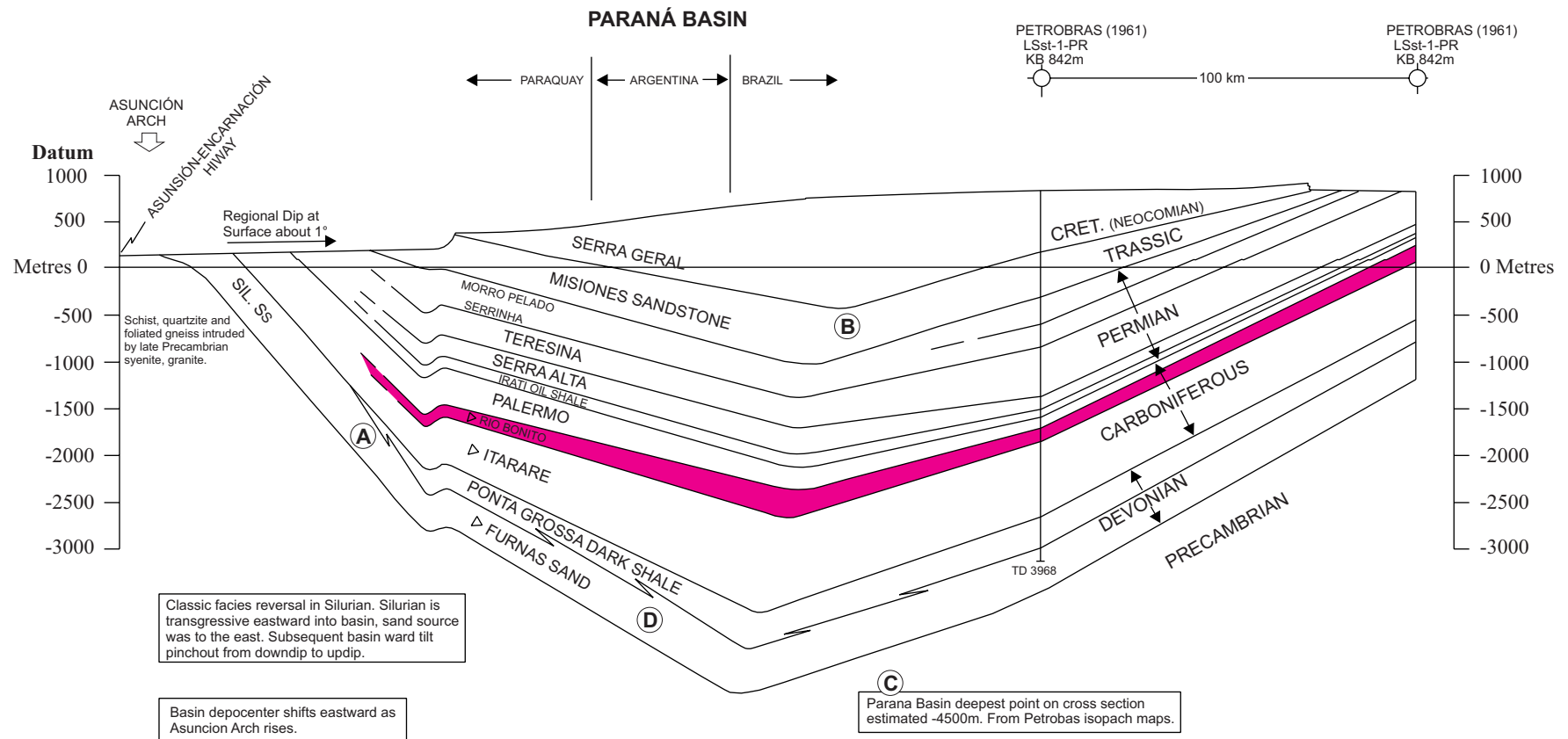
In early 1976, a number of reports prepared by Anschutz consultants A.F. Renfro, D.G. Bryant, and G.E. Thomas, covered the geology of eastern Paraguay based on reconnaissance field trips made through the southern Precambrian area, the sedimentary section from north to south, and the alkalic intrusions 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 regional correlation of stratigraphic horizons favourable for uranium mineralization is shown in Figures 6-1 and 6-2 (Anschutz, 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 apart. The station spacing for the Track Etch survey was subsequently reduced to 5 km 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 of drilling was completed from 1976 to 1983 (Grote, 1979 and Dalidowicz, 1979). Flight line spacing for the airborne radiometric survey was 5 km with a clearance of 100 m above the surface.

Exploration work by Anschutz has intersected uranium mineralization in drill holes ranging from 0.02% eU<sub>3</sub>O<sub>8</sub> to 0.20% eU<sub>3</sub>O<sub>8</sub> (equivalent U<sub>3</sub>O<sub>8</sub>) associated with layers of subhorizontal sandstones, and higher grade intersections ranging from 0.115% eU<sub>3</sub>O<sub>8</sub> over 10.2 m to 0.351% eU<sub>3</sub>O<sub>8</sub> over 0.3 m in sandstones and siltstones (Anschutz, 1981). These results are shown in Table 25-1 (Appendix B). Scott Wilson RPA notes that the higher grades were recorded on the neighbouring Yuty Property. Work was suspended in 1983 due to the slump of the price of uranium, and no further work has been done since that time.

G-3



Basal sand is Silurian on west side, Devonian on east side at basin. Probably represents a continuous basal time-transgressive unit.

**Legend:**

**Uraniferous Zone of the UPC**

NOTE: THIS CROSS SECTION IS LOCATED APPROXIMATELY 75 KILOMETRES NORTH OF THE YUTY PROJECT AREA

January 2008

Source: Anschutz Corp., 1982.

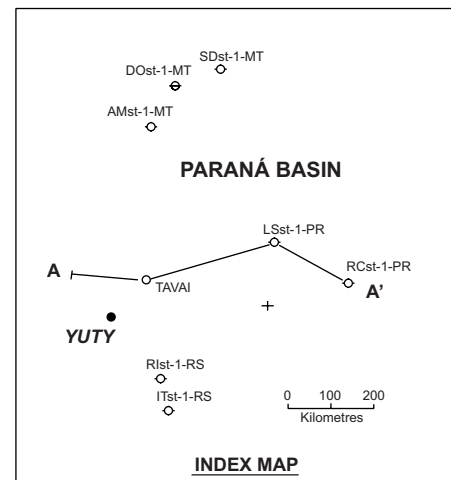


Figure 6-1

**Crescent Resources Corp.**

**Coronel Oviedo Uranium Project**

Paraguay, South America

**Regional Correlation of Stratigraphy  
Paraguay-Argentina-Brazil**



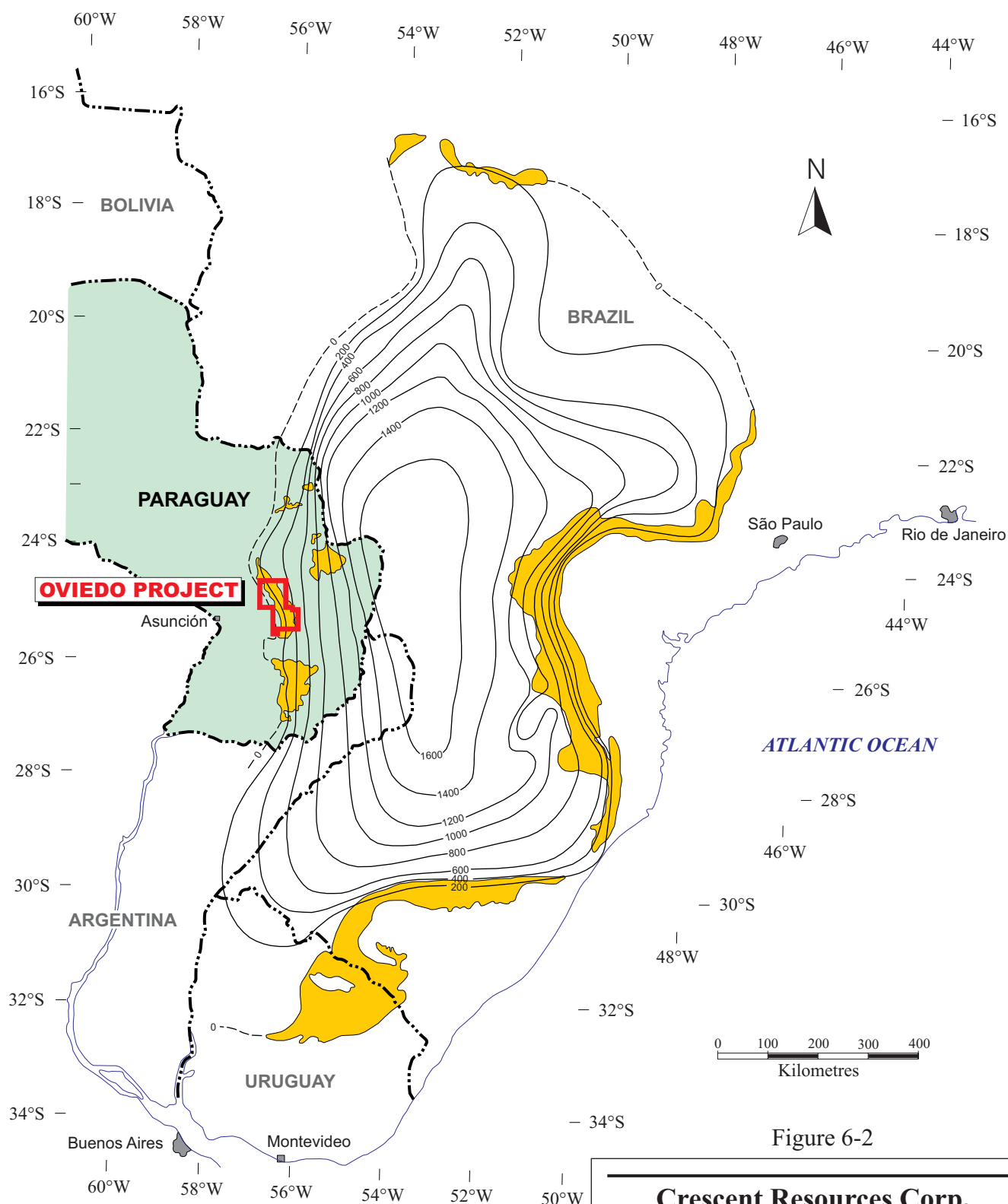


Figure 6-2

**Legend:**

Upper Permo-Carboniferous Rocks

Note: Isopach contours are in metres (m)  
UPC & Upper Permo-Carboniferous assemblage

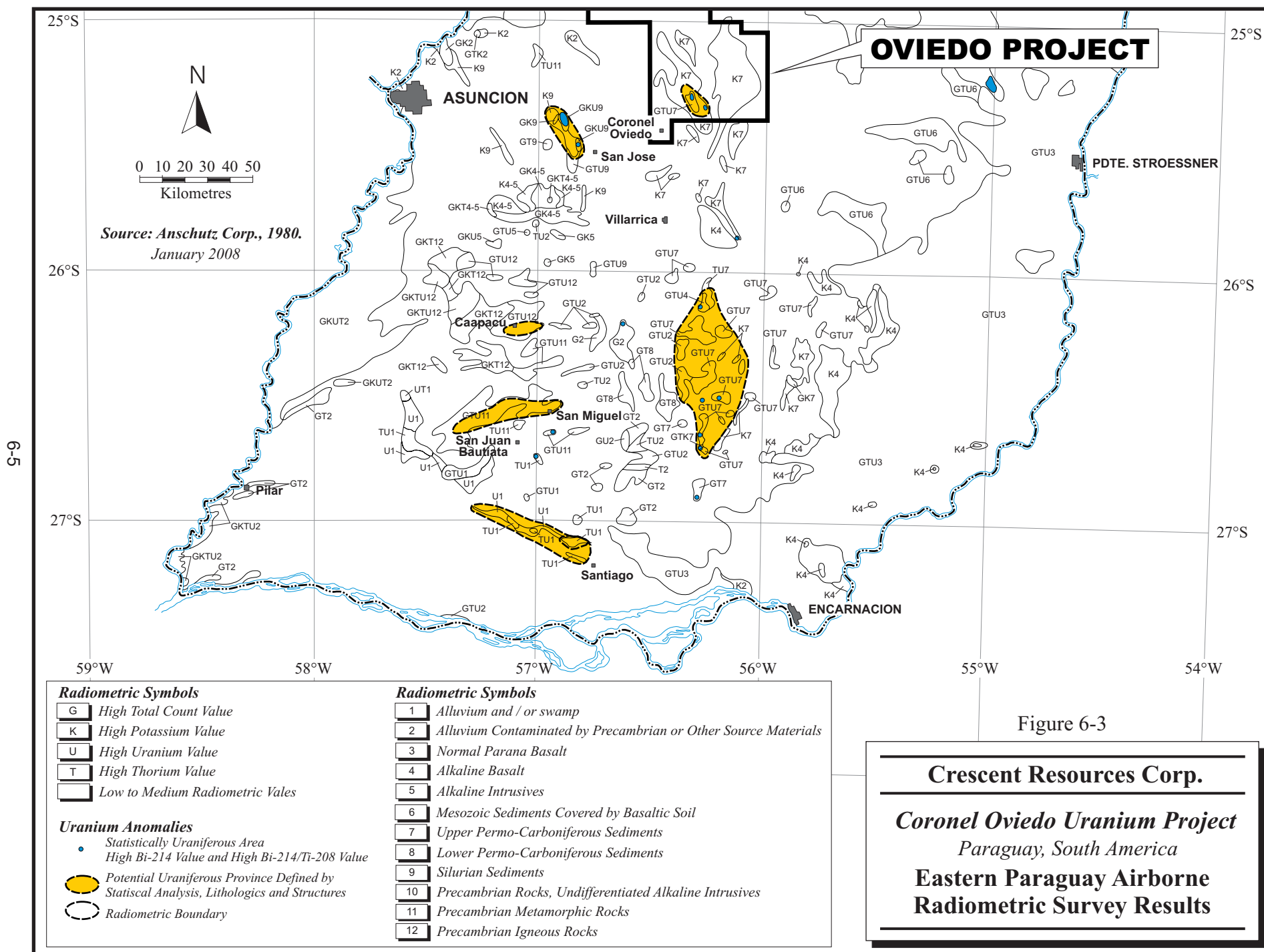
January 2008

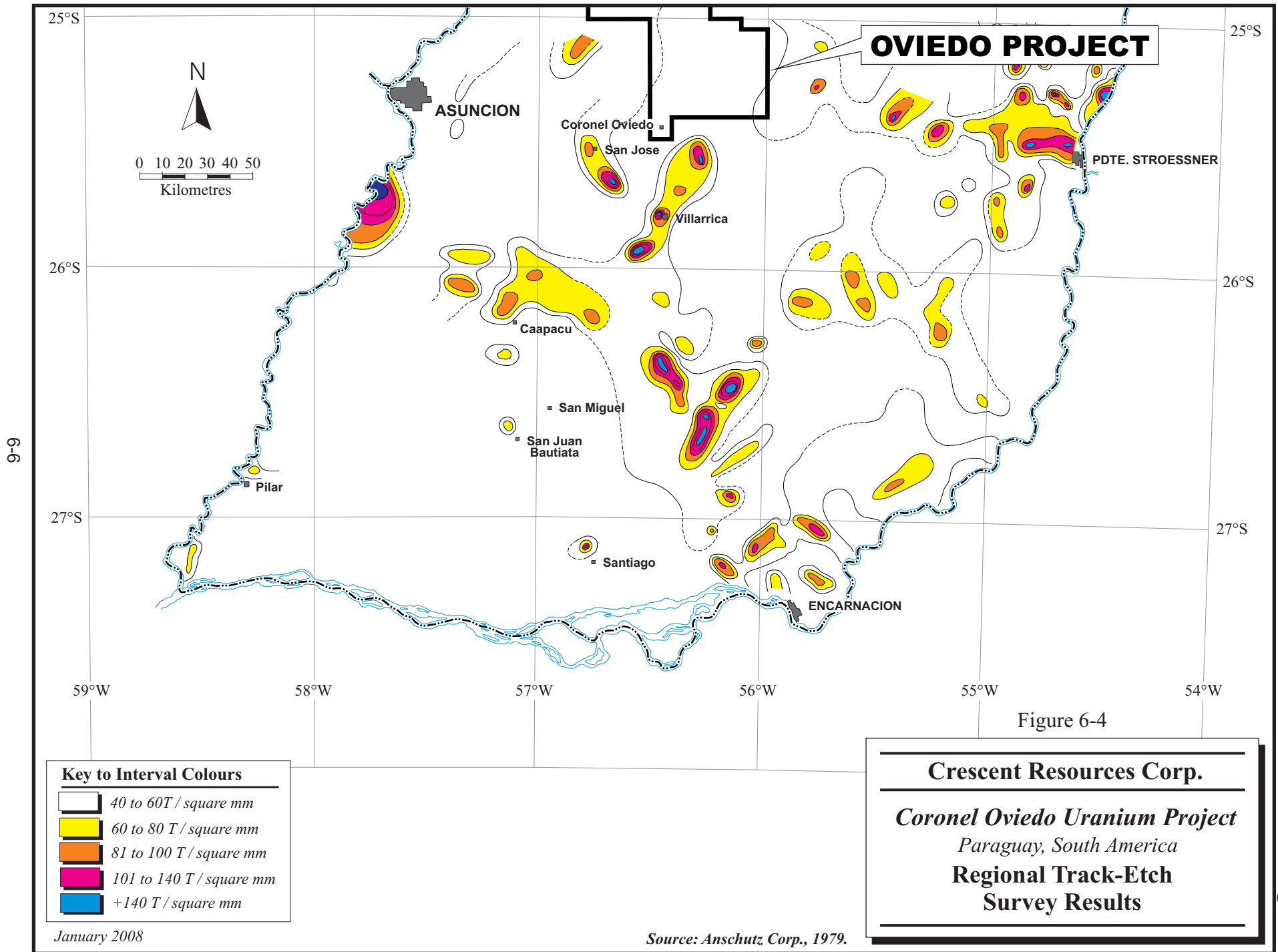
Source: Anschutz Corp., 1982.

**Crescent Resources Corp.**

*Coronel Ovedio Uranium Project*  
*Paraguay, South America*

**Paraná Basin - Isopach Map of  
Upper Permo-Carboniferous Rocks**





## 7 GEOLOGICAL SETTING

### REGIONAL GEOLOGY

The Coronel Oviedo Uranium Project area is situated in southeastern Paraguay, within the western part of the Paraná Basin, which hosts the Figueira uranium deposit in Brazil (Figure 7-1). The area is underlain by Upper Permian to Carboniferous continental sedimentary rocks, and is known for uranium occurrences, such as the Tres Corrales and Santa Catalina occurrences within the Coronel Oviedo Project area, and the Yarati-í and San Antonio occurrences within the neighbouring Yuty Project area. Significant radiometric anomalies also occur in Precambrian igneous and metamorphic rocks, Cambrian limestone, Silurian sandstone and Cretaceous to Tertiary carbonatites and alkaline intrusive rocks.

The exploration methodology applied during past programs has been to locate the favourable host rocks of the Upper Permian-Carboniferous (UPC) sequence, and determine favourable areas for uranium mineralization within the host sandstone.

The stratigraphic sequence of the lithologies in the Coronel Oviedo Project area has been divided into the Northern UPC (NUPC) rocks and Lower Permian-Carboniferous (LPC) rocks. From top to bottom, the regional stratigraphy is recognized as follows:

- Tacuari Formation: approximately 350 m thick silty to fine-to-medium-grained sandstones.
- San Miguel Formation: approximately 100 m of coarse-grained sandstones in the upper part and medium-grained and fine-grained and silty sandstones in the lower part.
- Coronel Oviedo Formation (LPC): at least 200 m thick sequence of siltstones.

The NUPC is interpreted to cover an area more than 4,000 km<sup>2</sup>, which includes most of the Coronel Oviedo Project area. This is based on reconnaissance drilling by Anschutz, with drill holes spaced 5 km to 10 km apart.

The rocks of the UPC are subhorizontal (dipping 1° to 5° to the east) and cover the western flank of the Paraná Basin. Data from reconnaissance drilling indicate that “the basin margin is cut by a series of west and northwest trending faults, with displacements ranging from a few metres to several hundred metres” (Blair, 2006 and Figure 7-1).

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 thick unit known as the San Miguel Formation (within the Independencia Formation), to be the best host for uranium mineralization from the Coronel Oviedo to the Yuty area. 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, such as at the San Antonio area near the town of Yuty. Outcrops are rare, mostly along road cuts, and mapping is done by drilling.

The Massive Sand Unit of the NUPC overlies the fine grained sand which hosts the mineralized layers in the NUPC, near (within 10 m to 20 m of) the LPC-UPC contact. The uranium mineralization is best developed in areas of thinner sands flanking thicker accumulations of sands, which may be due to pre-sedimentation faulting, changes in sedimentation in a deltaic environment or infilling of previously existing erosional features of the LPC surface. Figure 7-3 is a regional (east-west) cross section showing the correlation of the stratigraphic units of the fine-grained sand unit of the Northern UPC, a distance of 16 km.

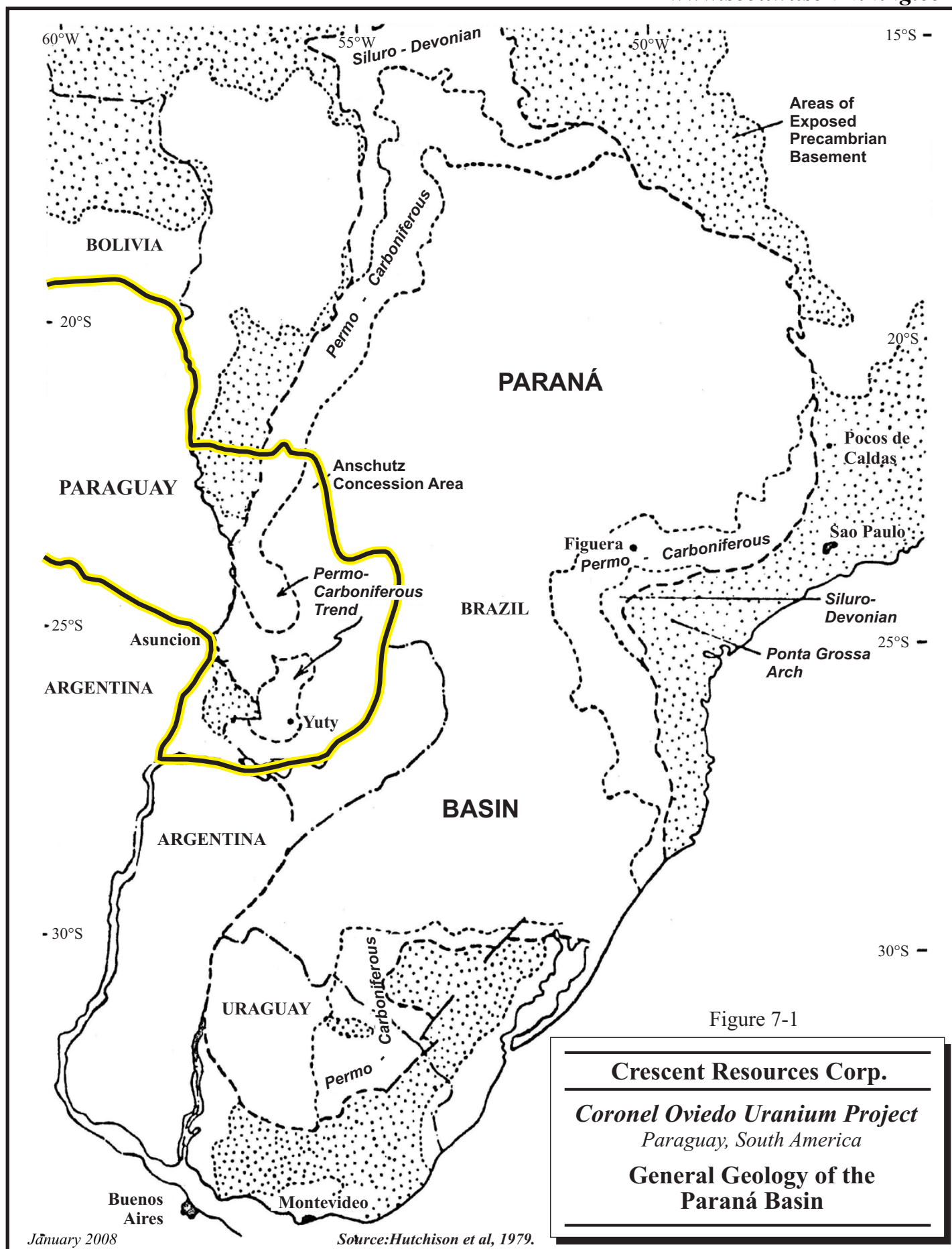
Airborne magnetic survey results indicate a north-northwest trending lineament which coincides with a similarly oriented topographic lineament. In the past Anschutz recognized this feature and tentatively interpreted as being the surface expression of a

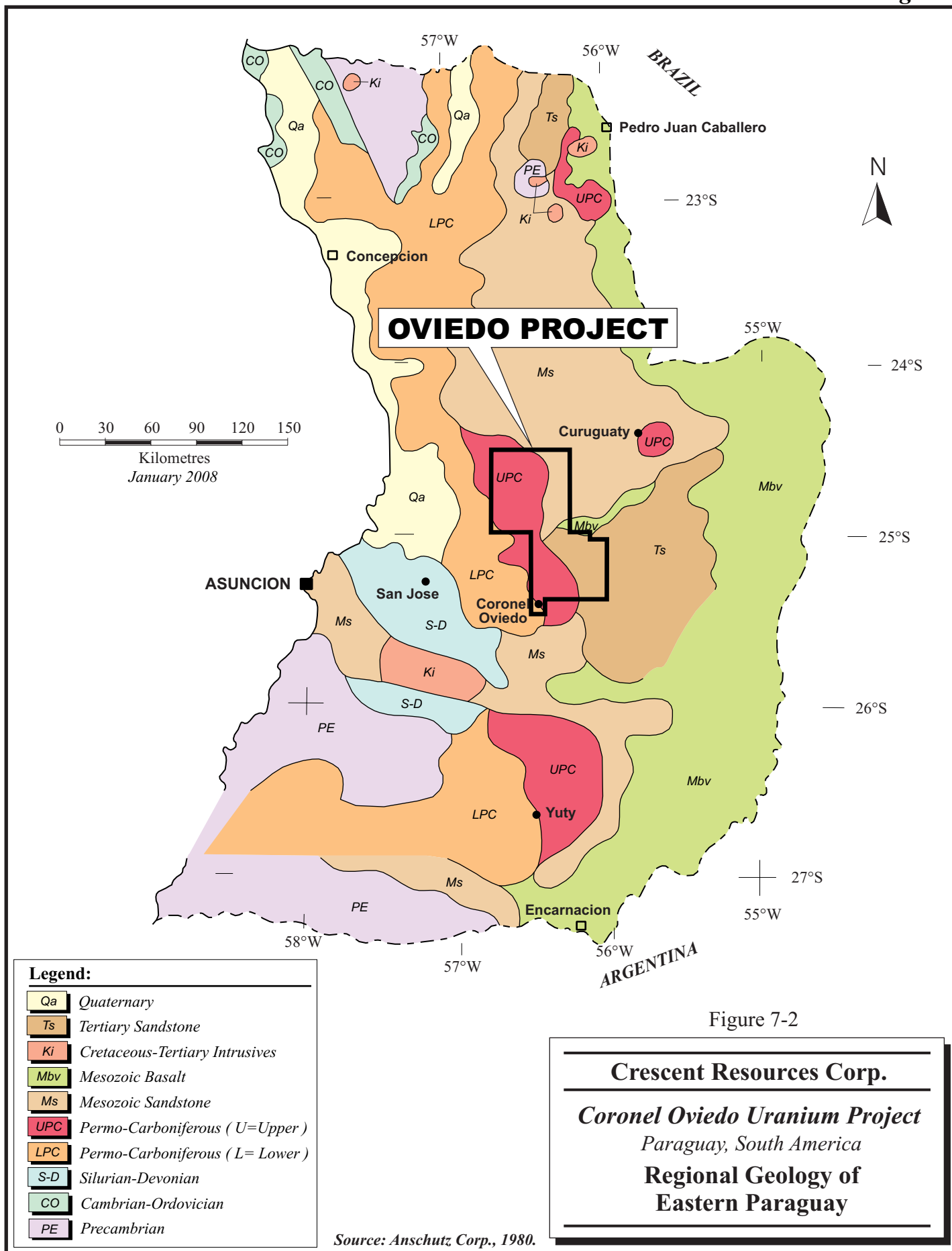
major regional fault or fracture zone (Figure 7-4). This was interpreted from the apparent offset of marker horizons from widely spaced regional drill holes. Anschutz, however, did not test the mineral potential of this fault zone (Hsu, 1982b).

In a recent publication on the sedimentary and tectonic environments for uranium mineralization in South America, Barretto (2006?) suggests that the source of the sedimentary rocks, and thus the uranium mineralization in the Paraná Basin, was from the west. The author also comments on the host rock of uranium mineralization at Figueira (carbonaceous siltstone and coal) which poses problems for metallurgical recovery of the uranium. It must be noted, however, that these same carbonaceous rocks have not been seen on the western flanks of the basin (i.e., in Paraguay).

There are a number of alkaline complexes within the Coronel Oviedo Property. These are interpreted to consist of carbonatite bodies with anomalous values of rare earth elements (REE), such as at Cerro Sarambí and Cerro Guazú. Trenching along the northeastern and southwestern extensions of Chirigüelo has revealed values in the range of 0.5% Nb in soil samples (Druecker, 1981).

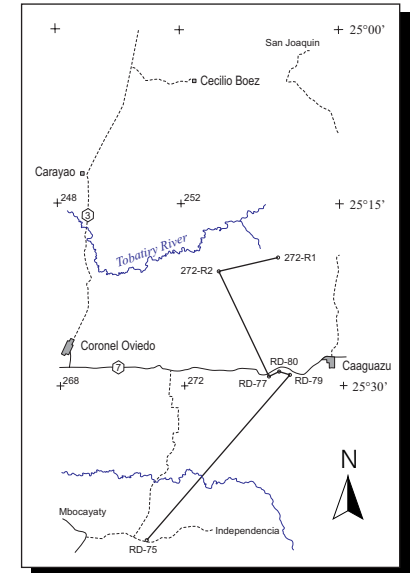
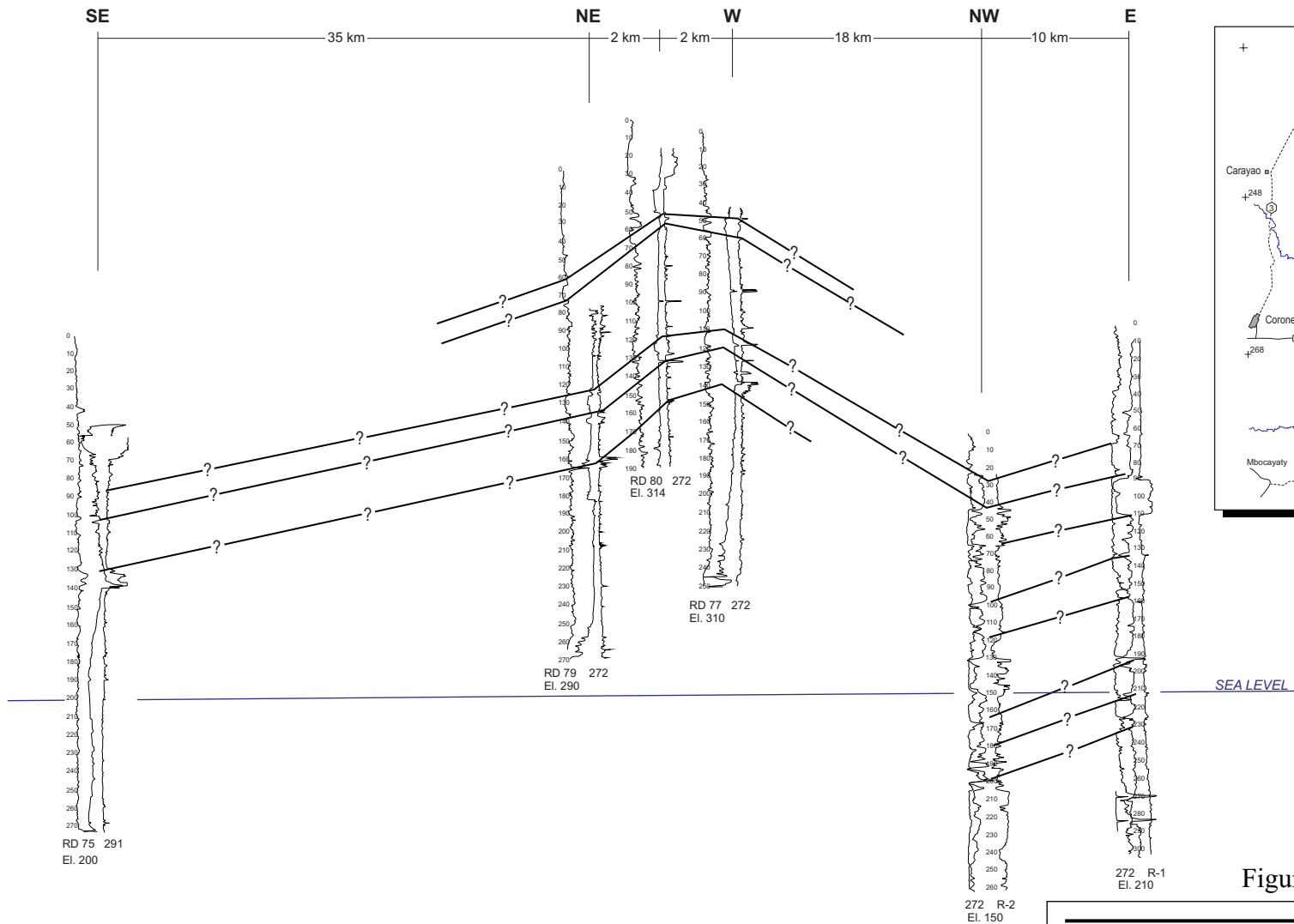
The area of the Coronel Oviedo Property also has undergone a number of igneous activities subsequent to the long period of sedimentation. The evidence for the igneous activity are the Permian volcanic rocks (lavas and ashes) syngenetic to the sedimentation, Jurassic and Cretaceous volcanic activity, such as the Serra Geral basalt flows covering "A" Sandstone discussed below in Local Geology, and the alkaline intrusive rocks, as noted above (Oh, 1978c).







7-6



## LOCAL GEOLOGY

Since the Coronel Oviedo Property is a large property, much of the local geology is the same as the regional geology. Based on information from reconnaissance drilling Anschutz had divided the Northern UPC into several target areas, as discussed under Section 10, Exploration in this report.

Results of the 1980 to 1981 exploration drilling indicate that the stratigraphic sequence of the rocks in the area comprises a number of sandy units, and that the depositional environment was of two types: a shallow marine environment and a deltaic environment (Oh, 1979). In descending stratigraphic order, these are:

- Upper Sand Unit: Estimated to be 50 m to 150 m thick.
- Alternating sandstone and shale unit: Estimated to be approximately 50 m thick.
- Massive Sand Unit: Estimated to be 60 m to 100 m thick.
- Fine-grained Sand Unit: Estimated to be up to 15 m thick.
- Wavy Unit: Estimated to be up to 20 m thick

### UPPER SAND UNIT

The Upper Sand Unit is comprised essentially of massive, locally cross-bedded medium- to fine-grained sandstone with some clay interbeds. It is exposed in the southeastern part of the area, where it is overlain by the Misiones Aeolian sand. It is equivalent to the Tapytá Formation of the Southern UPC. Strong oxidation and distinctively low radiometric response are the characteristic features of this unit in the area (Anschutz, 1981).

The Upper Sands units of the NUPC are divided according to lithologic facies into the “A” Sandstone Unit and the “B” Sandstone Unit. The two units were contemporaneously deposited and cover the Alternating Unit “just after a regression without erosional periods” (Oh, 1978c).

The “A” Sandstone Unit was deposited in fluvial and partly lacustrine environment. It consists of medium, medium-to-fine-grained, or fine-grained sandstones, coloured brown, reddish brown, light brown, pale pink, whitish, light grey, etc. It is well cross bedded and partly limonitic, with some lacustrine mudstone fragments. It crops out near Ybyturuзу and is estimated to be approximately 150 m thick.

The “B” Sandstone Unit crops out extensively in the eastern portion of the area, and consists of medium-to-fine-grained sandstones, eolian fine-grained sandstones and lacustrine sandstones.

### **ALTERNATING SANDSTONE AND SHALE UNIT**

This unit occurs more commonly in the Northern UPC region. For the most part, it is comprised of thinly laminated, fine-grained to silty layers of sandstone alternating with shale layers. In places, this sequence is interrupted “by a one-metre-thick sandstone layer which scours into the beds underlying them” (Anschutz, 1981). This unit in the Northern UPC is tentatively correlated with the Tacuary Formation of the Southern UPC.

The sandstones of this unit exhibit graded bedding, with conglomeratic material at the base to medium-grained sandstone to fine-grained sandstone at the top. Oolitic chert horizons are present in the lower part of the Alternating Sandstone and Shale Unit and can be used as a marker horizon in the interpretation of the stratigraphy of the general area. In a 1979 Anschutz report it is reported that “at the lower most portion of RD-76 an oolitic chert bed similar to silica bed was detected, but not found at any other holes. Stratigraphic columns of RD-73 and RD-74 (indicate) that a loose cemented, reduced arkosic and medium grained sandstone body is interbedded as a lenticular shape with maximum sixty meters (metres) thickness, which might be a sand bar in a (an) off shore environment. It is considered (that) this sand bar may be one of the favourable host rocks for secondary uranium mineralization” (Oh, 1979).

Gamma-ray logs of several holes drilled in the Santa Catalina-Cuarto Potrero area have shown three separate horizons of radioactivity and/or weak uranium mineralization. The mineralized horizons occur within the lower 60 m of the Alternating Sandstone and Shale Unit (Reese, 1982 and Lunceford, 2007).

### **MASSIVE SAND UNIT**

The Massive Sand Unit is characterized by generally massive, occasionally cross-bedded, coarse- to medium-grained, rounded, poorly sorted, friable, sub-arkosic sandstone, and is interpreted to represent a beach facies (Anschutz, 1981). This unit is the most commonly mineralized unit on the Coronel Oviedo Property.

In the western part of the Coronel Oviedo area, the Massive Sand Unit is intensely oxidized. In the east, it exhibits a reducing environment “with abundant pyrite and moderate to abundant amounts of carbonaceous material. These reduced sands within the Massive Sand Unit contain several gamma anomalies and/or weakly mineralized horizons throughout the unit” (Anschutz, 1981). Anschutz interpreted the uranium mineralization within this unit to be of tabular type.

### **FINE-GRAINED SAND UNIT**

“The Fine-grained Sand Unit represents a regressive depositional change from a shallow marine to a beach environment.” (Anschutz, 1981) Only minor radiometric anomalies are reported from this unit. In the Cuarto Potrero area this unit is 12 m to 19 m thick, and “consists of fine-to medium grained, bleached sandstones with no apparent pyrite, sandwiched by >1 m thick of compact, reduced very fine grained sandstone and siltstone” (Reese, 1982).

Based on limited drilling, Anschutz detected weak uranium mineralization at the top and bottom of this unit, and interpreted it to be of roll front type.

Recent drilling by Crescent has intersected zones with weak to strong radioactive response in this unit. The type of mineralization, however, is not yet determined.

## **WAVY UNIT**

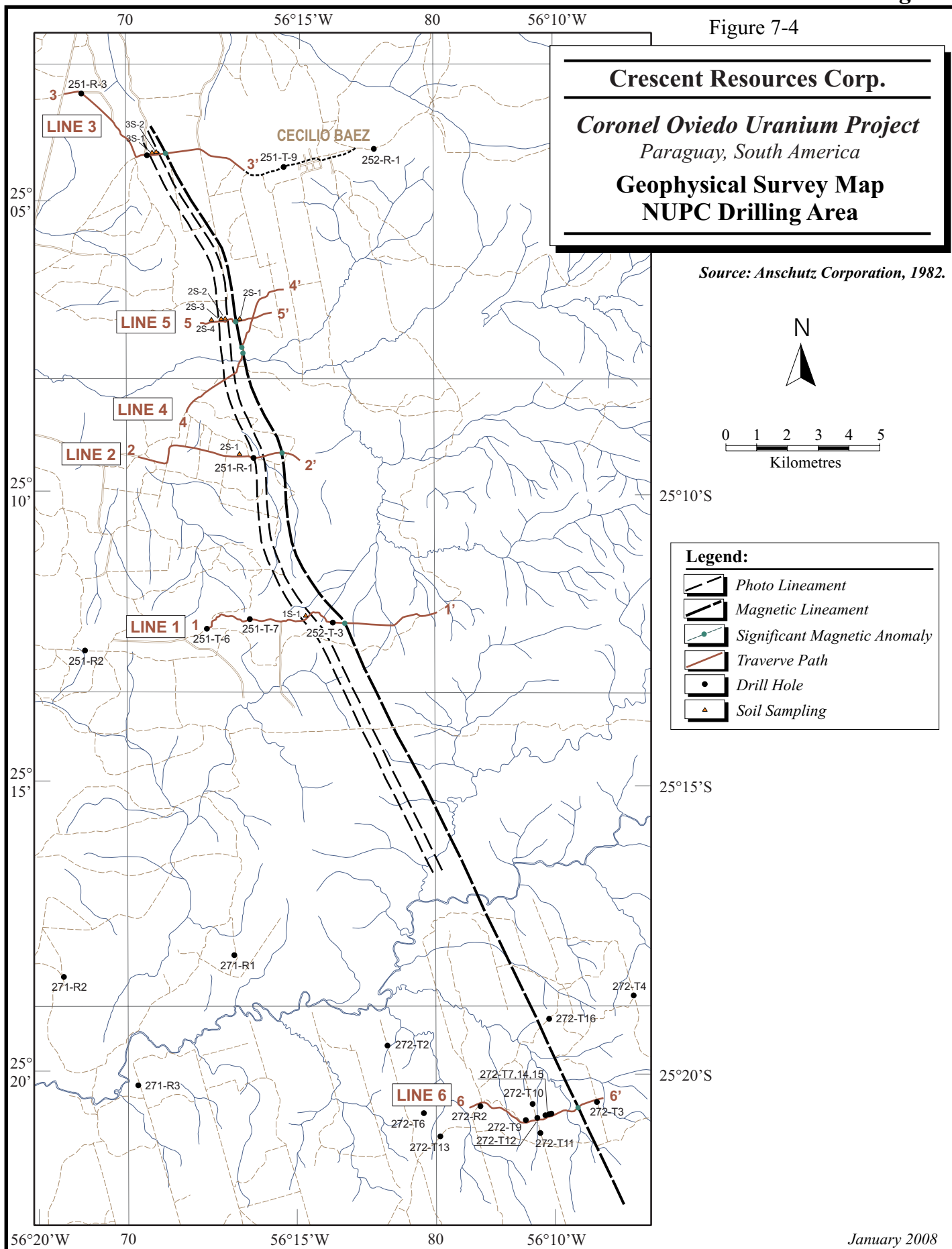
This unit overlies the black shale unit of the LPC. It contains fine to very fine-grained sandstone interlayered with siltstones and shales. “Wavy, flaser, lenticular and bioturbated structures are present. A few  $\pm 20$  cm thick, indurated fine grained sandstone stringers within the unit show strong radiometric anomalies” (Anschutz, 1981). Thirty-four of the 48 drill holes penetrating this unit encountered oxidized/reduced zones, suggesting the possibility of uranium mineralization. This mineralization, however, was interpreted to represent syngenetic uranium mineralization and is less prospective than the overlying units of the NUPC (Reese, 1982).

The Massive Sand Unit, Fine-Grained Unit and the Wavy Unit are collectively correlated with the San Miguel Formation of the Southern UPC.

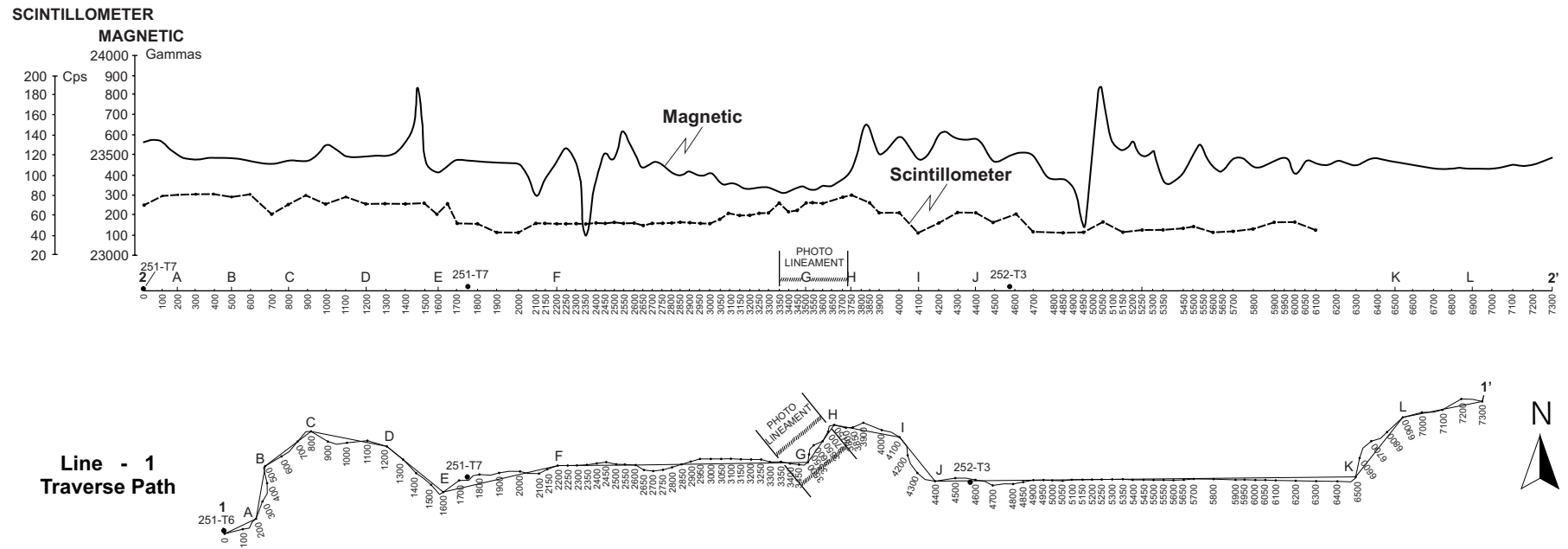
## **TECTONIC SETTING**

The rocks of the Coronel Oviedo Uranium Property were deposited in a shallow marine to continental environment. Review of airborne magnetic survey results indicate a north-northwest trending lineament which coincides with a similarly oriented topographic lineament, as noted above. The trace of this lineament is interpreted to be east of drill hole 251-R-3, passing through between holes 251-R-1 and 252-T-2 and between holes 271-T-4 and 271-R-1 (Figures 7-4, 7-5, 7-6, 7-7 and 7-8). The magnetic anomaly roughly coincides with the redox boundary of massive sandstone unit. Anschutz planned to test this lineament by drilling, but did not carry out the recommended program, probably due to the drop of the price of uranium.

Figure 7-4



January 2008



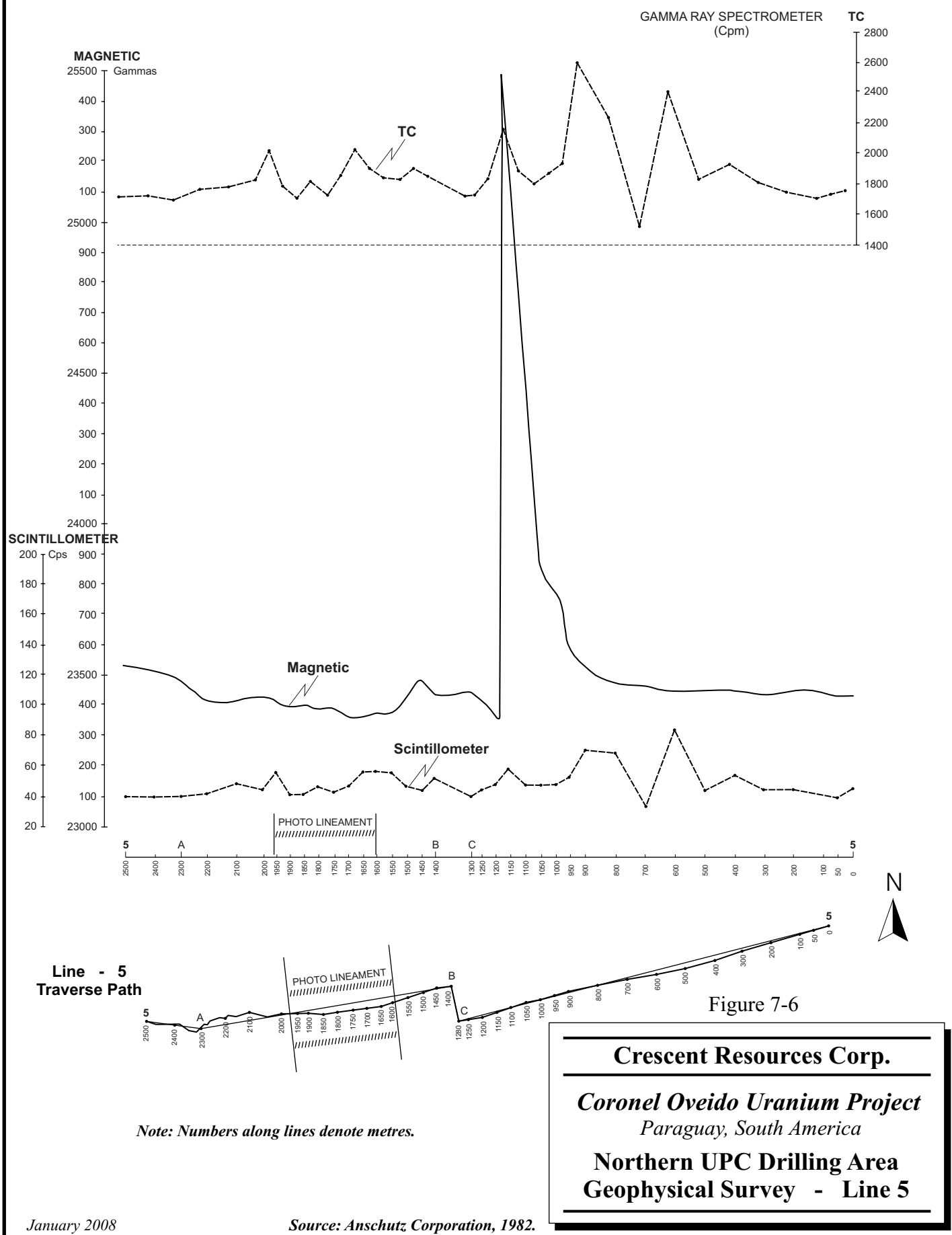
Note: Numbers along lines denote metres.

Figure 7-5

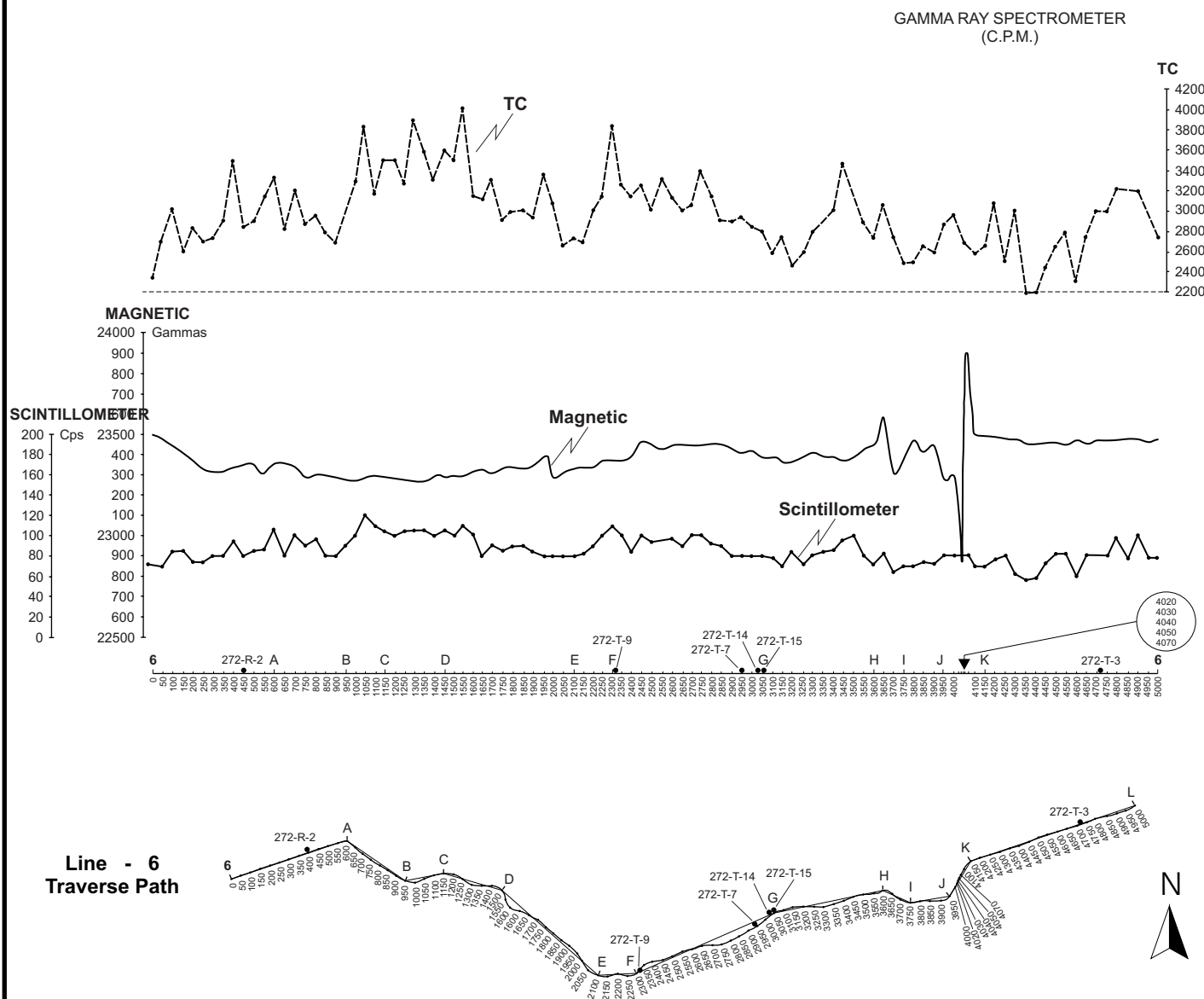
**Crescent Resources Corp.**

***Coronel Oveido Uranium Project***  
*Paraguay, South America*

**Northern UPC Drilling Area**  
**Geophysical Survey - Line 1**







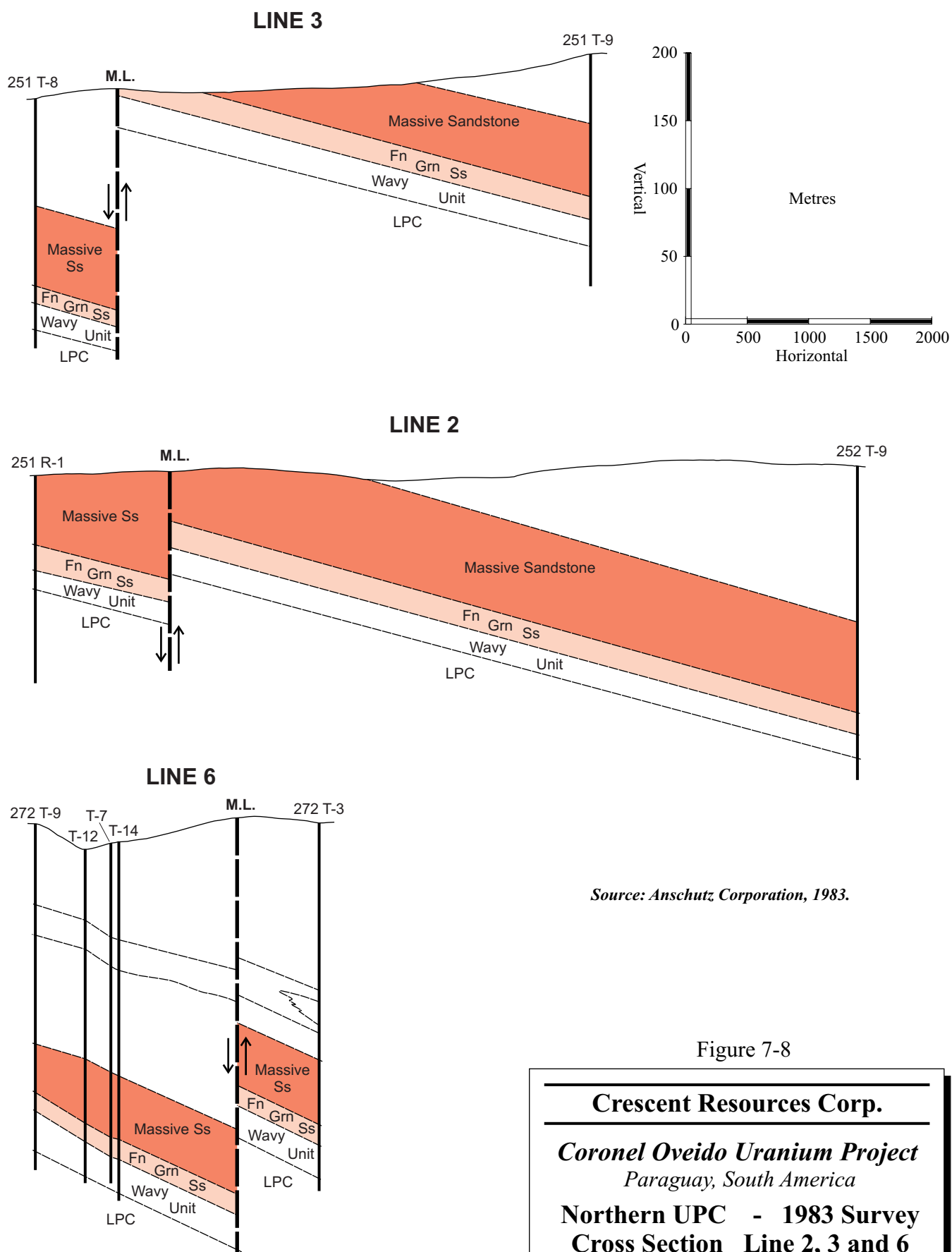
*Note: Numbers along lines denote metres.*

Figure 7-7

**Crescent Resources Corp.**

**Coronel Oveido Uranium Project**  
Paraguay, South America

**Northern UPC Drilling Area**  
**Geophysical Survey - Line 6**



January 2008

## 8 DEPOSIT TYPES

Uranium mineralization hosted by the basal Independencia Formation of the Northern UPC is interpreted to represent a sandstone hosted uranium mineralization. Sandstone-type deposits are characteristically sedimentary formations of clastic-detrital origin containing reducing environments. These deposits are usually tabular in shape and may occur in continental sandstones, deltaic or shallow marine environments.

In the past some of the anomalous radioactive zones and weak mineralization intersected in drill holes were interpreted to represent roll front-type uranium mineralization. Typically, roll front-type uranium deposits have, in the direction of the flow of ore bearing solutions, a barren (oxidized) interior zone surrounded by a (reduced) mineralized zone. Between the barren zone and the mineralized zone is an altered zone. The overall shape of the roll front is like a crescent with extended tails at each end, which also outline the barren interior zone, and uranium is deposited at the interface between the oxidized zone and the reduced zone. Ground water flow direction is usually a good guide in detecting roll front-type deposits in sandstones.

While the style of mineralization within the sandstones at Coronel Oviedo does include some characteristics of the roll front-type mineralization, as in the Powder River Basin of Wyoming in the United States, further exploration is required to determine the style of mineralization at Coronel Oviedo.

## 9 MINERALIZATION

### TYPES OF MINERALIZATION

Exploration work to date suggests that the uranium mineralization is stratabound and possibly syngenetic or diagenetic in origin. Recent interpretation of exploration data suggests that areas of limonite+hematite alteration within the grey-green Massive Sand Unit and possibly the Wavy Unit, are equivalent units of the San Miguel Formation of the Southern UPC. These sandstones have some characteristics similar to the alteration assemblages present at roll front-type uranium deposits of the Powder River Basin, Wyoming of the United States.

Based on compilation of past exploration data and results of limited drilling by Crescent, the controls of uranium mineralization at Coronel Oviedo are as follows:

- Carbonaceous material in the sandstones: uranium mineralization is best developed in the Massive Sand and Fine-grained Sand units. Anschutz interpreted the tabular mineralized zones to be developed in the Massive Sand Unit, especially near the base of redox boundary in the eastern part of the concession. Mineralization would be expected to be directly correlated with increased carbonaceous material in the Massive Sand Unit.
- Structural controls: Fault-controlled mineralization is likely to have occurred, especially along the main north-northwest trending lineament. Recent drilling by Crescent is focused on the interpreted trace of this lineament with the objective of intersecting significant uranium mineralization.
- Redox fronts: The methodology of exploring for sandstone hosted uranium mineralization by Anschutz has been to identify redox fronts within the sandstone sequence of the Independencia Formation. Whether roll front type or not, changes in the relative amount of alteration of pyrite in the sandstones are important guides to uranium mineralization in southeastern Paraguay. Figures 9-4 and 9-5 show the regional redox fronts as interpreted by Anschutz.

The host rock that is mineralized in the Coronel Oviedo area is the basal unit of the Independencia Formation. At least five mineralized zones are recognized. These are:

- Top peak: Associated with the unit of Lower Grey Siltstone.
- Upper Limb: Occurs in the upper and middle part of the sandstone.
- Lower Limb: Occurs in the lower part of the sandstone.
- Merged Zone: Where the Upper Limb and Lower Limb are joined.
- Basal Peak: Occurs at the contact of the basal Ayala Formation with the LPC.

An ideal roll front model of uranium mineralization includes an oxidized interior, with mineralization occurring at the oxidation/reduction interface, along the “tails” or limbs and in the nose of the roll, i.e., near the contact with the regionally reduced host (Figures 9-1 and 9-2, and Guilbert and Park, 1986). The clay minerals within the sandstone sequence of the host rocks also show zoning, with montmorillonite at the top, clinoptilolite in the middle and analcite at the bottom of the sequence as evidence of progressive diagenetic zeolitization of the sandstones (de Voto, 1978). Furthermore, there may be several generations of roll front-type uranium mineralization in a sandstone sequence, provided that the geochemical regime prevails for each unit (de Voto, 1978).

The style of uranium mineralization at Coronel Oviedo shows some of characteristics associated with roll front-type deposits. “There appears to be some increase in oxidation (increased limonite and decreased pyrite with an increase in brown-red-orange hues)” in the sandstones (Anschutz, 1981). These features may indicate a variety of a roll front, whereby the diagenetic fluids would have travelled through the host sandstone and emplaced uranium at or near the redox front. Additional ground investigations need to be carried out to assess the exploration potential of these anomalous areas.

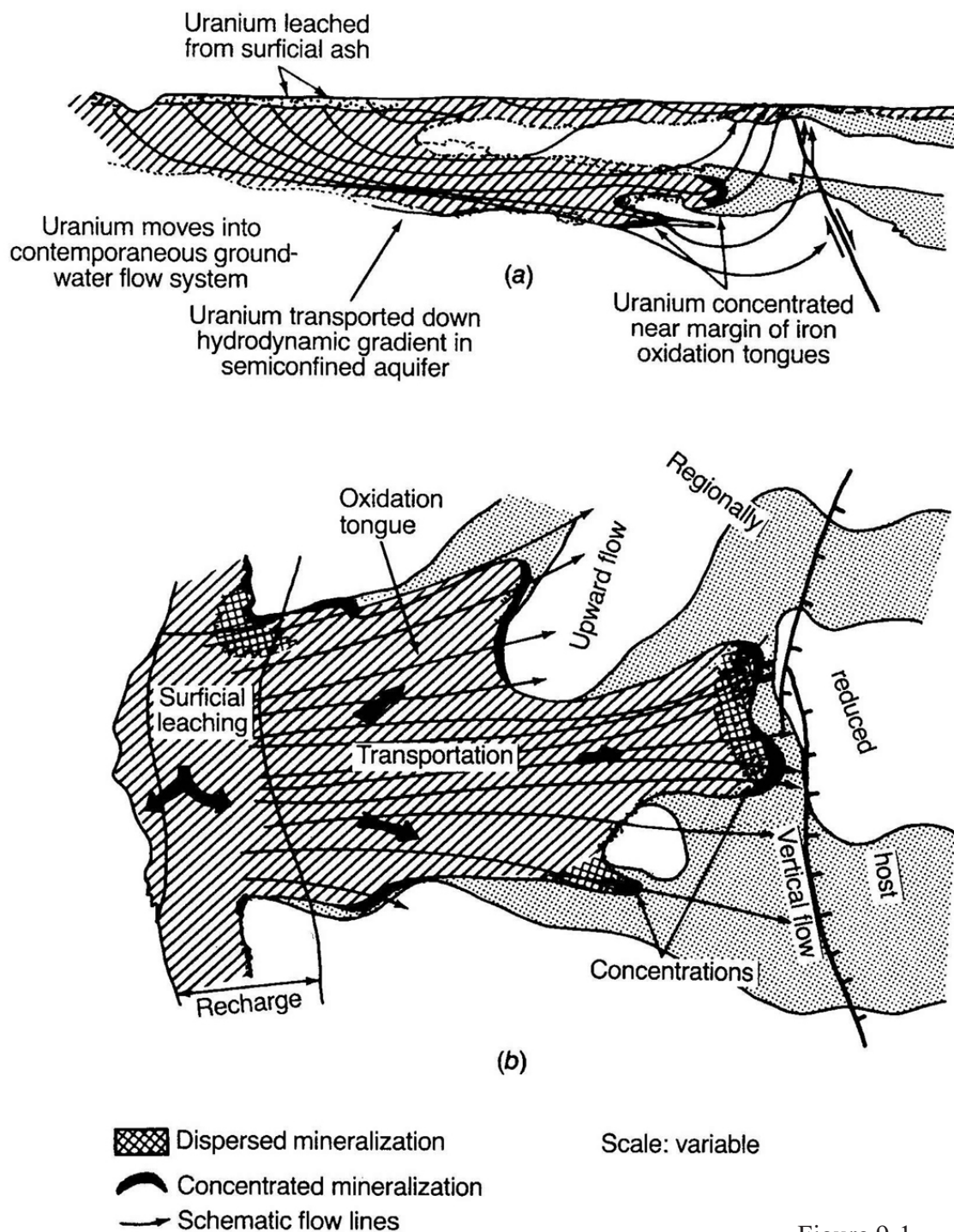


Figure 9-1

Crescent Resources Corp.

*Coronel Oviedo Uranium Project**Paraguay, South America***Cross Section and Plan View of  
Roll-Front Type Uranium Deposit**

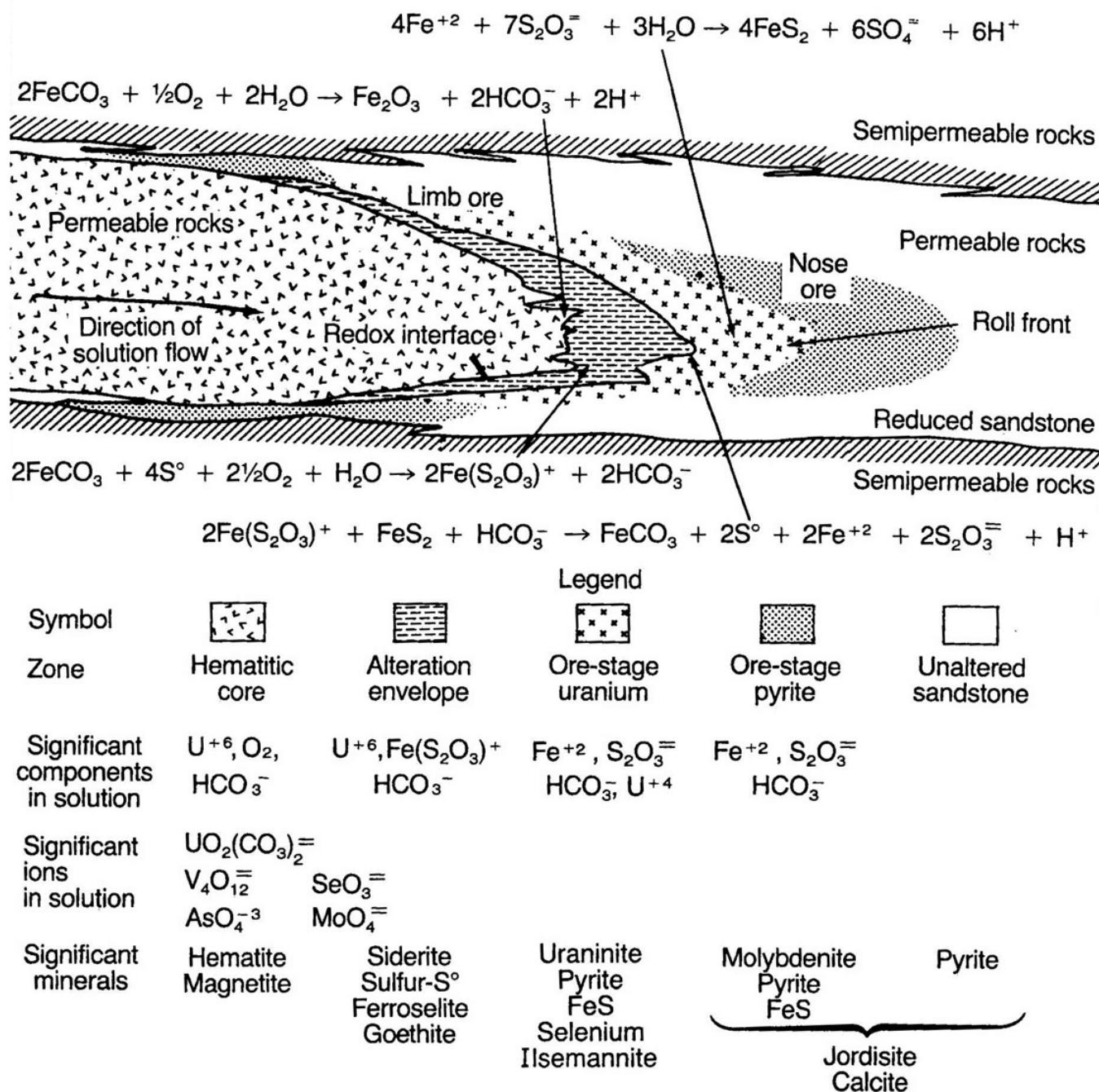


Figure 9-2

**Crescent Resources Corp.****Coronel Oviedo Uranium Project***Paraguay, South America***Chemical Processes During the Formation of Roll-Front Type Uranium Deposit**



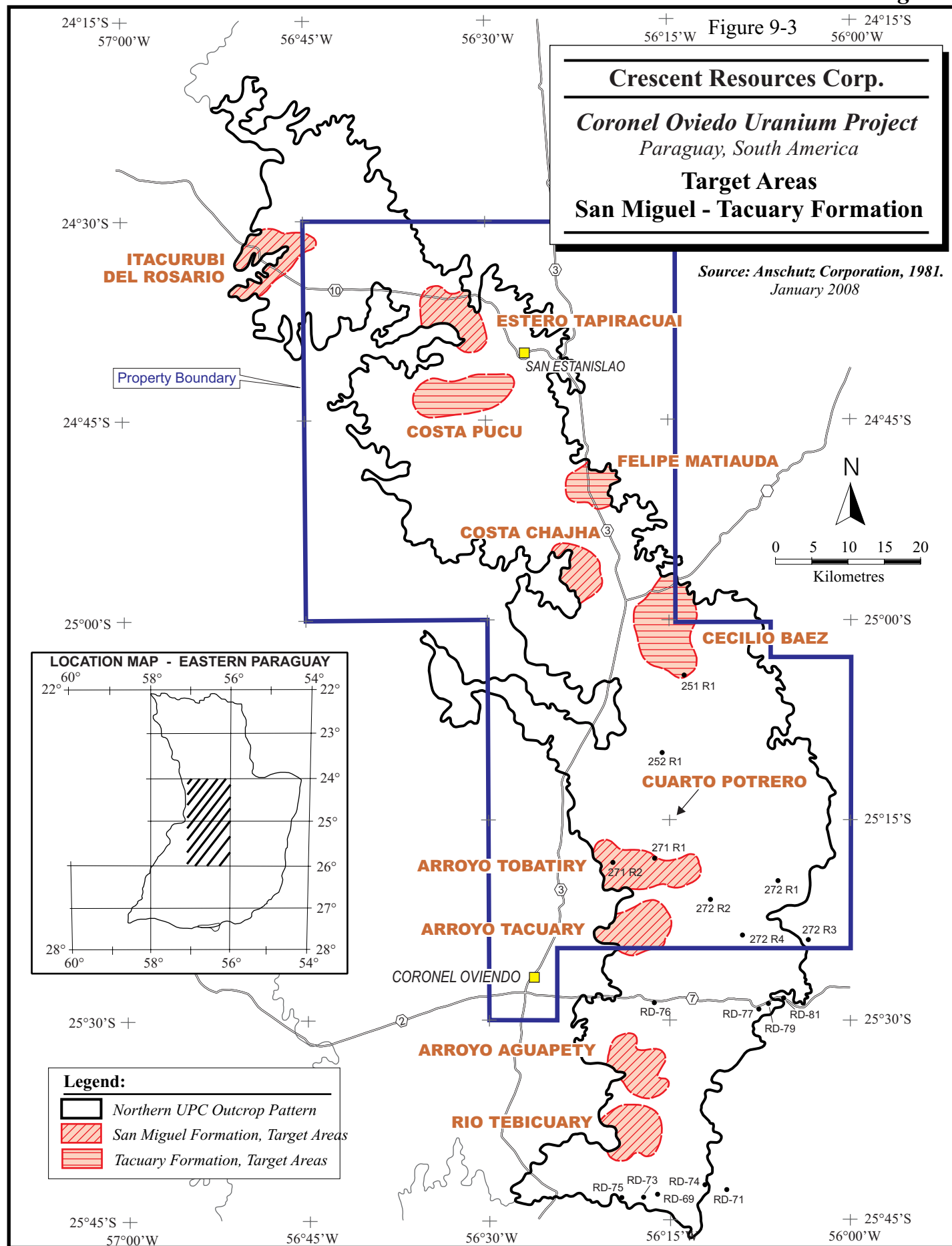
## **TARGET AREAS**

Past exploration by Anschutz has discovered a number of targets with anomalous radioactivity and low grade uranium mineralization (Figure 9-3). These are as follows:

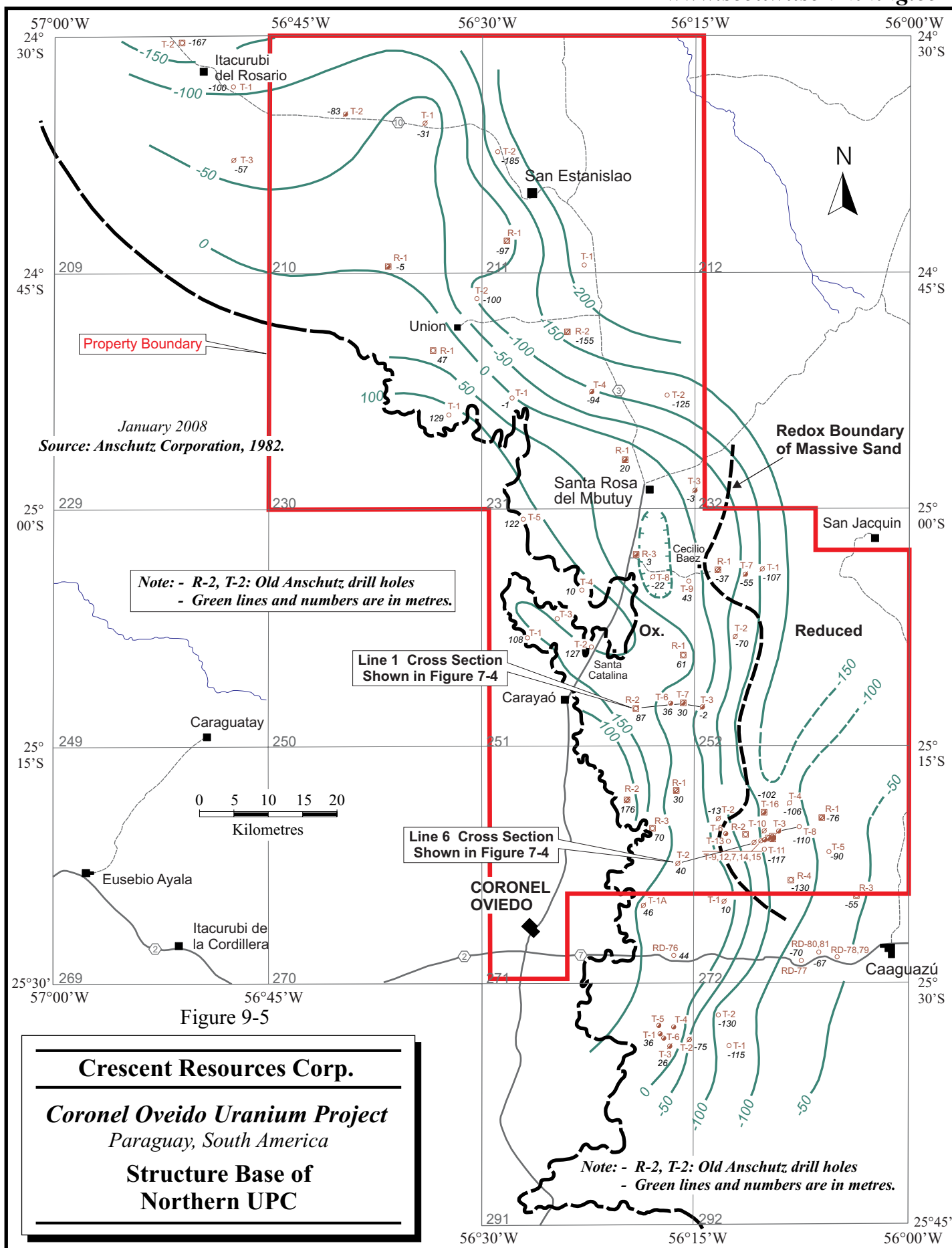
- Tres Corrales (Arroyo Tobatiry and Arroyo Tacuary)
- Arroyo Aguapety
- Santa Elena
- Santa Catalina
- Cuarto Potrero
- Caacupé-Paraguari
- Cecilia Báez
- Costa Chajha
- Felipe Matiauda
- Costa Pucu
- Estero Tapiracuai
- Itacurubi del Rosario

Anschutz selected the above target areas based on the interpretation of drill results, such as an isopach map of the Massive Sand Unit and the base of the NUPC (Figures 9-4 and 9-5).









**TRES CORRALES AREA**

The Tres Corrales target area is located approximately 20 km northeast of Coronel Oviedo, adjacent to the village of Tres Corrales, covering a total area of approximately 25 km<sup>2</sup> in an agricultural region. It includes the Arroyo Tobatiry and Arroyo Taguary targets (Figure 9-3). The paved road (Ruta 2), from Asunción to Pte. Stroesner (via Caacupé and Coronel Oviedo), which becomes Ruta 7, passes through the southern part of the area (Figures 9-4, 9-5 and 9-6). The sedimentary rocks in the area are gently east dipping rocks of Silurian age.

Results of limited drilling in the past by Anschutz indicate that anomalous radioactivity in hematite-rich sandstone ranged from five to six times background response in drill holes RD-115, RD-116 and in 269-R-1. Early results also indicated that:

- The thickness of the glacial sediments is >400 m, and the slope of the unconformity between Silurian rocks and the Precambrian basement rocks is >10°. Some parts of the glacial sediments show radiometric anomalies and some organic and/or pyrite-rich reduction zones (Chen, 1980).
- The lowermost part of the Carly sandstone and the upper part of the Ayala sandstone are rich in hematite. These hematite-rich sandstones occur in equivalent horizons some 50 km west of this area. “From literature study the hematite rich sandstone of the equivalent horizon was also found in southwest Brazil, hundreds of kilometres away from the project area.” (Chen, 1980)
- The airborne and ground radiometric survey data, as well as chemical assay results and geologic features, show that there is an anomalous uranium zone more than 10 km long and several kilometres wide. “The gamma-ray log from borehole data shows only three times background readings (140 cps) at the place where chemical assays show 182 ppm U<sub>3</sub>O<sub>8</sub> and six times background readings (330 cps) at 132 m depth in the hematite rich sandstone.” (Chen, 1980)
- The Vargas Peña sandstone was interpreted to be as much as 90 m thick.
- At least four pairs of oxidation/reduction zones were detected within the drill holes completed, the boundaries of which were sharp.
- The extensive distribution of uranium in the area indicates that significant concentrations of uranium may be present east of Itacurubí, especially at the

boundary between Silurian sandstones and the glacial sediments of the Coronel Oviedo Formation.

Results of 1981 and 1982 drilling also indicated that:

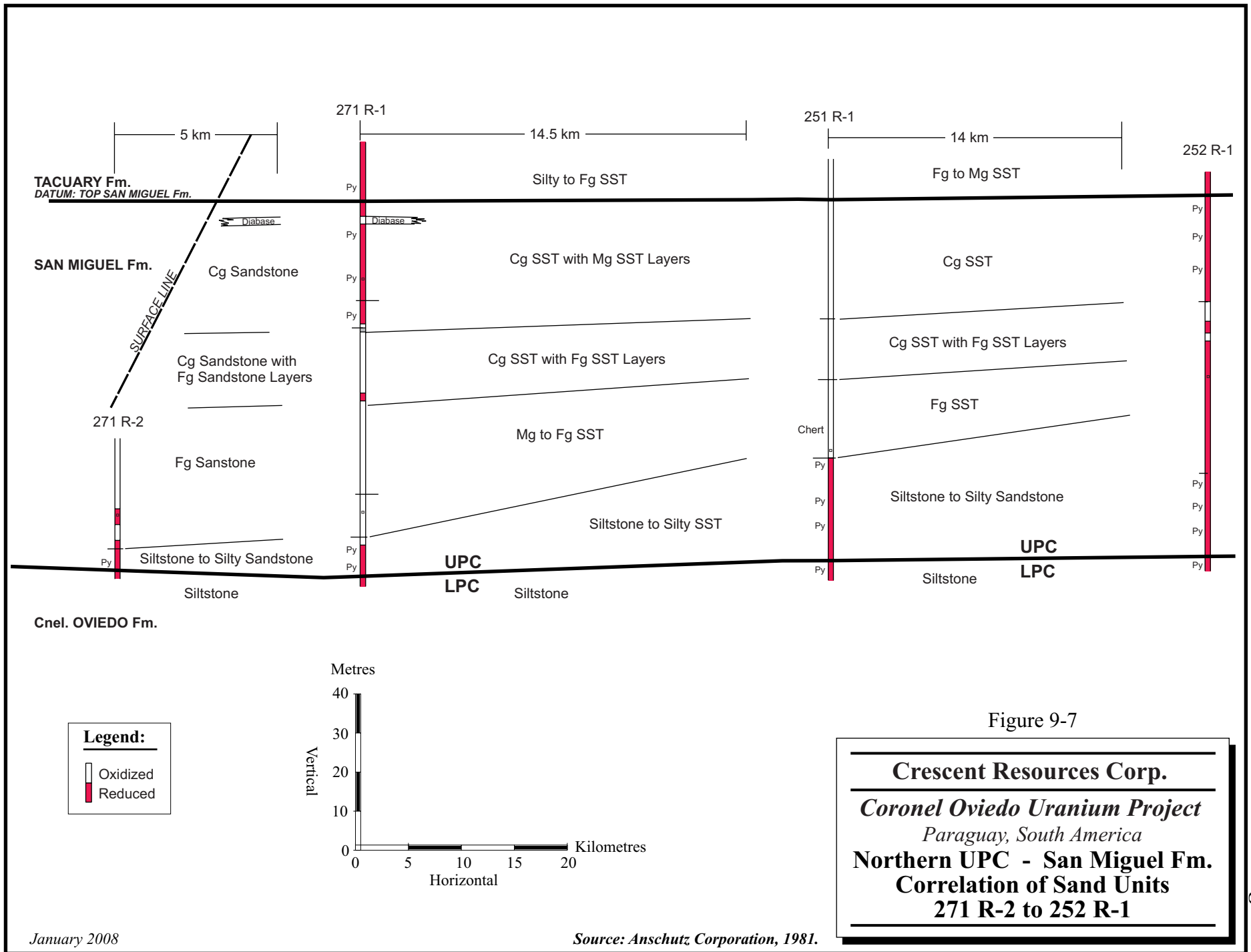
- The potential for uranium mineralization in the Northern UPC is equal to (even exceeding) that of the Southern UPC.
- Of the eight diamond drill holes completed by Anschutz, of which seven were in the Tres Corrales target area during the early 1980s, four holes encountered anomalous radioactivity at depths ranging from 30 m to 150 m. One of these holes (272-T-14) intersected 0.153%  $U_3O_8$  over 1.9 m at 150 m depth, and a 5 m thick radioactive anomaly at 67 m depth. Another hole (251-T-7) intersected 0.063%  $U_3O_8$  over 30 cm (Reese, 1982).
- Of the 26 rotary holes, 21 drilled into the UPC, and of these 21 holes 14 encountered anomalous radioactivity. One of these holes (272-T-3) intersected 0.02%  $U_3O_8$  over 3.9 m at 243 m depth, and 0.03%  $U_3O_8$  over 0.6 m at 247 m depth.

Based on the above results, Anschutz concluded that there are three primary targets within the Tres Corrales-Santa Cecilia target area. These were:

- The area near drill hole 272-T-3, where the thick anomalous zones were encountered in the favourable arkosic sandstone unit. This hole is along Line 6 across the major north-northwest trending lineament, which is shown in Figure 7-3.
- The area near drill hole 251-R-3, which encountered a thick radioactive anomalous near the basal UPC at approximately 70 m depth. This hole is at the west end of Line 3 across the major north-northwest trending lineament, which is shown in Figure 7-3.
- The two oxidation/reduction interfaces in the area on either side of the major north-northwest trending magnetic and topographic lineament (Figure 9-7).



9-12



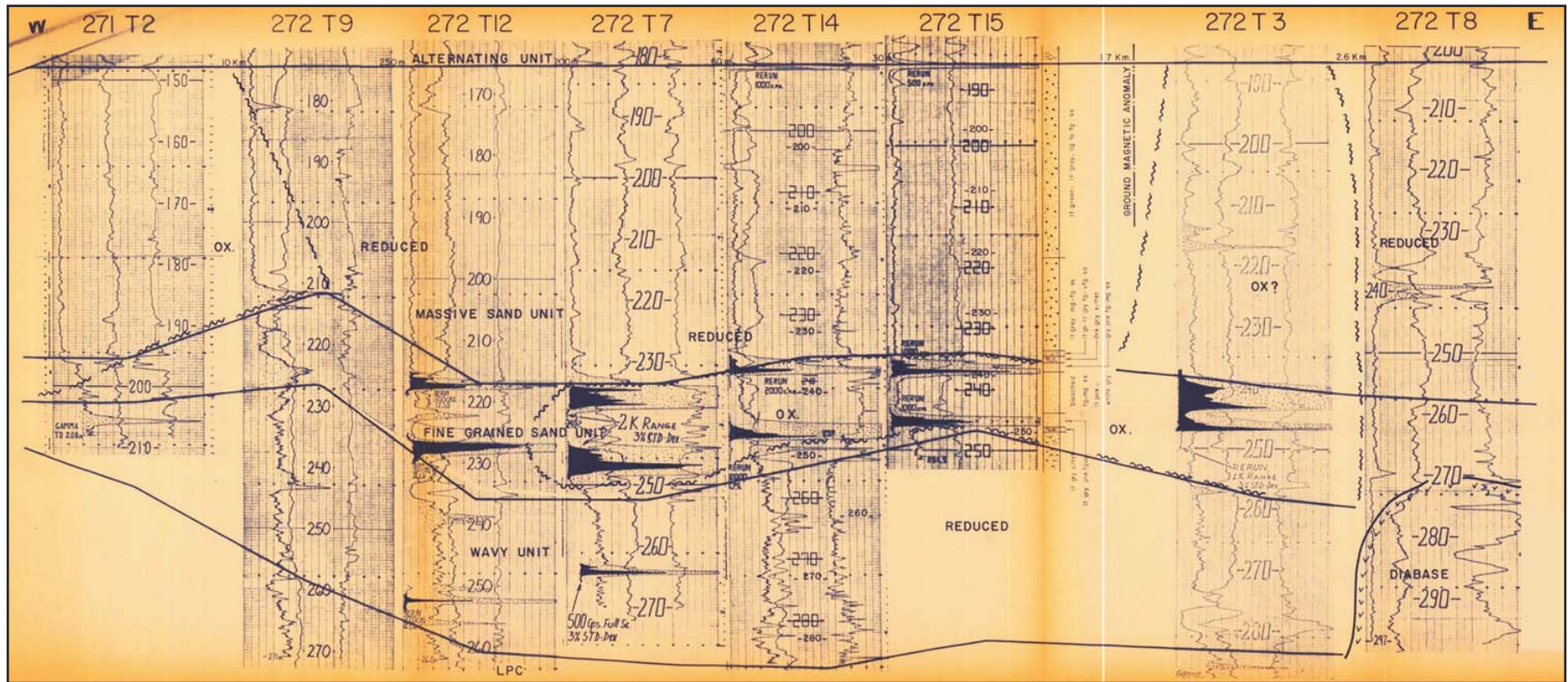
**CUARTO POTRERO**

This area is located approximately 20 km northeast of the town of Coronel Oviedo (Figure 9-3). It is adjacent to the Arroyo Tobatiry target of the San José area (Line 6 in Figure 7-4). Part of this area is included within the Tres Corrales target area. Anschutz completed a number of holes in this area, of which two (drilled in 1982) returned encouraging results, as follows:

- Drill hole 272-T-7 intersected 0.034%  $\text{U}_3\text{O}_8$  over 3.3 m at 237.4 m and 0.040%  $\text{U}_3\text{O}_8$  over 4.2 m at 248.1 m.
- Drill hole 272-T-14 intersected 0.051%  $\text{U}_3\text{O}_8$  over 0.6 m at 236.7 m and 0.153%  $\text{U}_3\text{O}_8$  over 1.9 m at 248.1 m, including higher grade values of 0.302%  $\text{U}_3\text{O}_8$  over 0.7 m at 247.4 m and 0.464%  $\text{U}_3\text{O}_8$  over 0.3 m at 247.4 m. Figure 9-8 shows a stratigraphic cross section across the Cuatro Potrero area.

Drill hole 272-T-16, drilled approximately 3.25 km north-northeast of hole 272-T-7 area, encountered a reduced sand in the zone of mineralization, which indicated a general north-south redox interface in the 272 area (Reese, 1982c).





Showing Redox & Mineralization in Fine Grained Sand

Figure 9-8

**Crescent Resources Corp.**

**Coronel Oviedo Uranium Project**  
Paraguay, South America

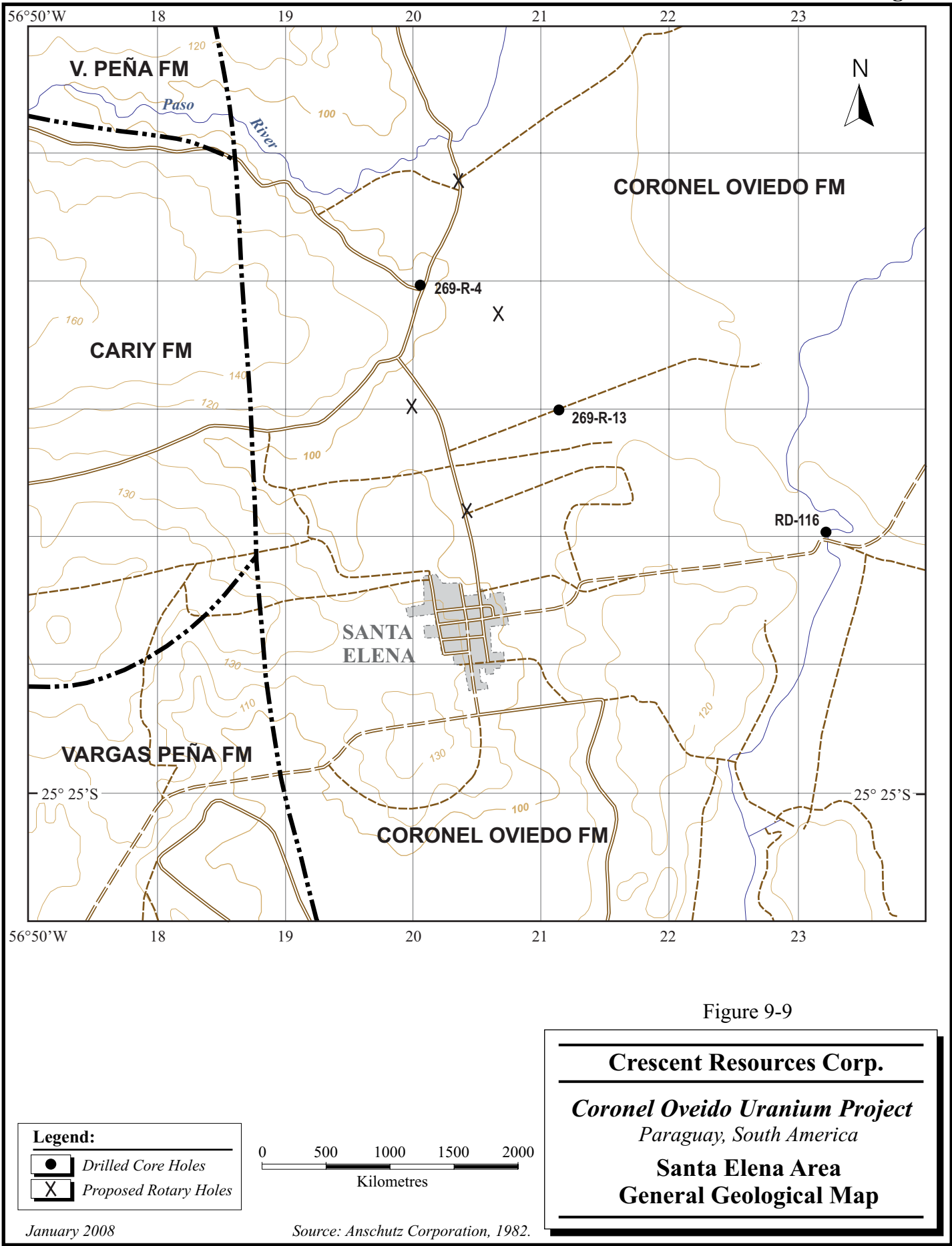
**Stratigraphic Cross Section**  
**Cuarto Potrero Area**

**SANTA ELENA AREA**

The Santa Elena target area coincides with the town of Santa Elena, which is located approximately 35 km east of the town of Coronel Oviedo. The area is underlain by sandstones of the Coronel Oviedo Formation. Anschutz drilled three diamond drill holes (269-R-13, RD-116 and 269-R-4) situated approximately 2 km northeast and 3 km east of Santa Elena, respectively (Figures 9-4 and 9-9). All three holes intersected similar lithologies. From top to bottom these are:

- Thick surface-weathered and oxidized zone up to 30 m thick.
- Massive pebbly to conglomeratic sandstones, intercalated with finer grained and silty beds. The coarser grained unit includes fragments of varying provenance, such as granitic rock, quartzite, sandstone, shale, chert and tuffaceous material. The unit is reduced, with grey to black colour, polymictic and very heterogeneous in size and content. “Sedimentological features are diamictitic and are characteristic of the glacial deposits of the Carboniferous Coronel Oviedo Formation.” (Wiens, 1981)

Hole 269-R-13 contains, in the reduced section, abundant disseminated sulphides (pyrite) and marcasite nodules (0.5 cm), and a moderate amount of carbon flakes, which indicate a favourable environment for uranium mineralization. The key correlation between these holes is the Silurian Vargas Peña shale, which underlies the diamictites (Wiens, 1981). Figure 9-10 shows the Santa Elena target horizon as interpreted by Anschutz.



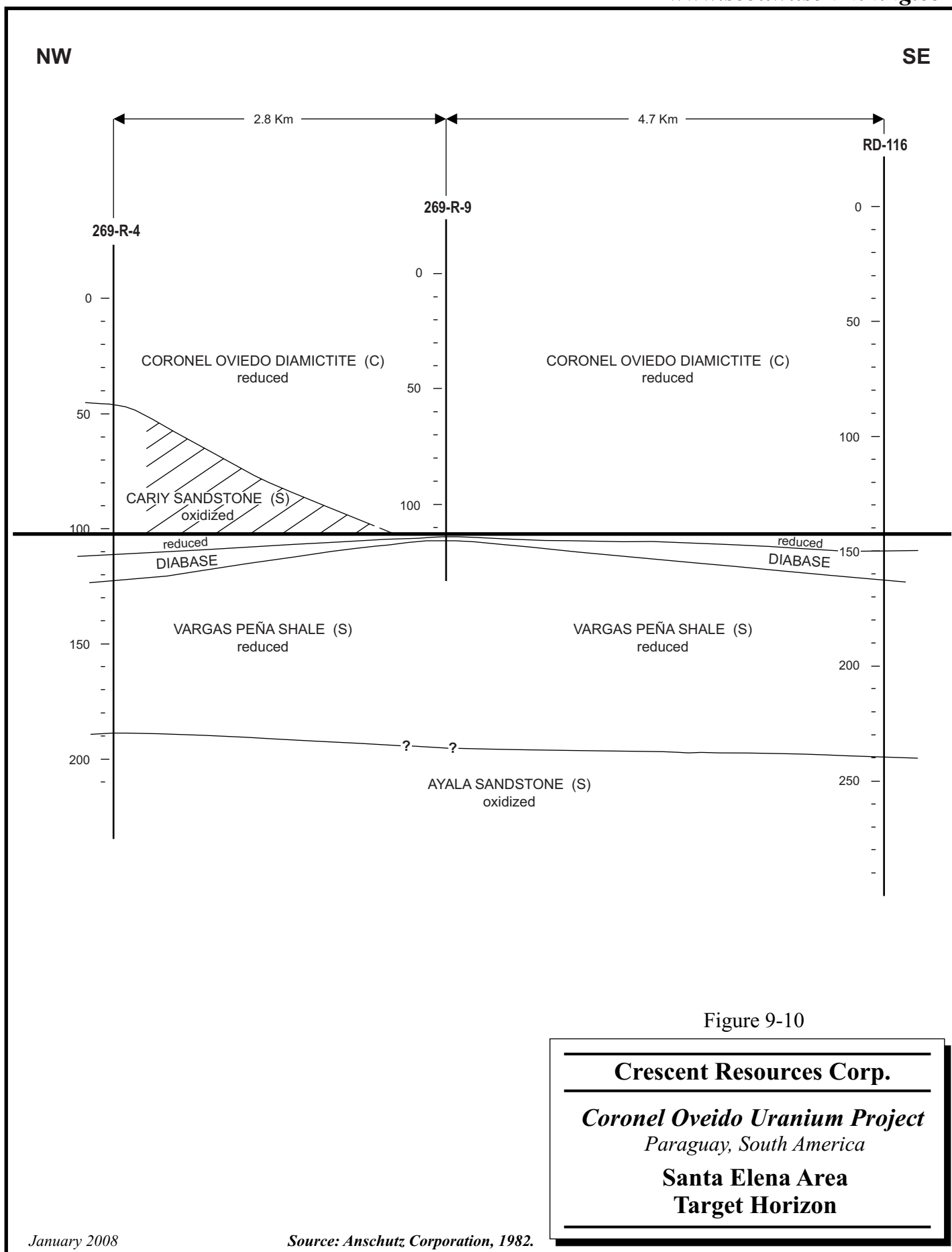


Figure 9-10

**Crescent Resources Corp.*****Coronel Oveido Uranium Project***  
*Paraguay, South America***Santa Elena Area**  
**Target Horizon**

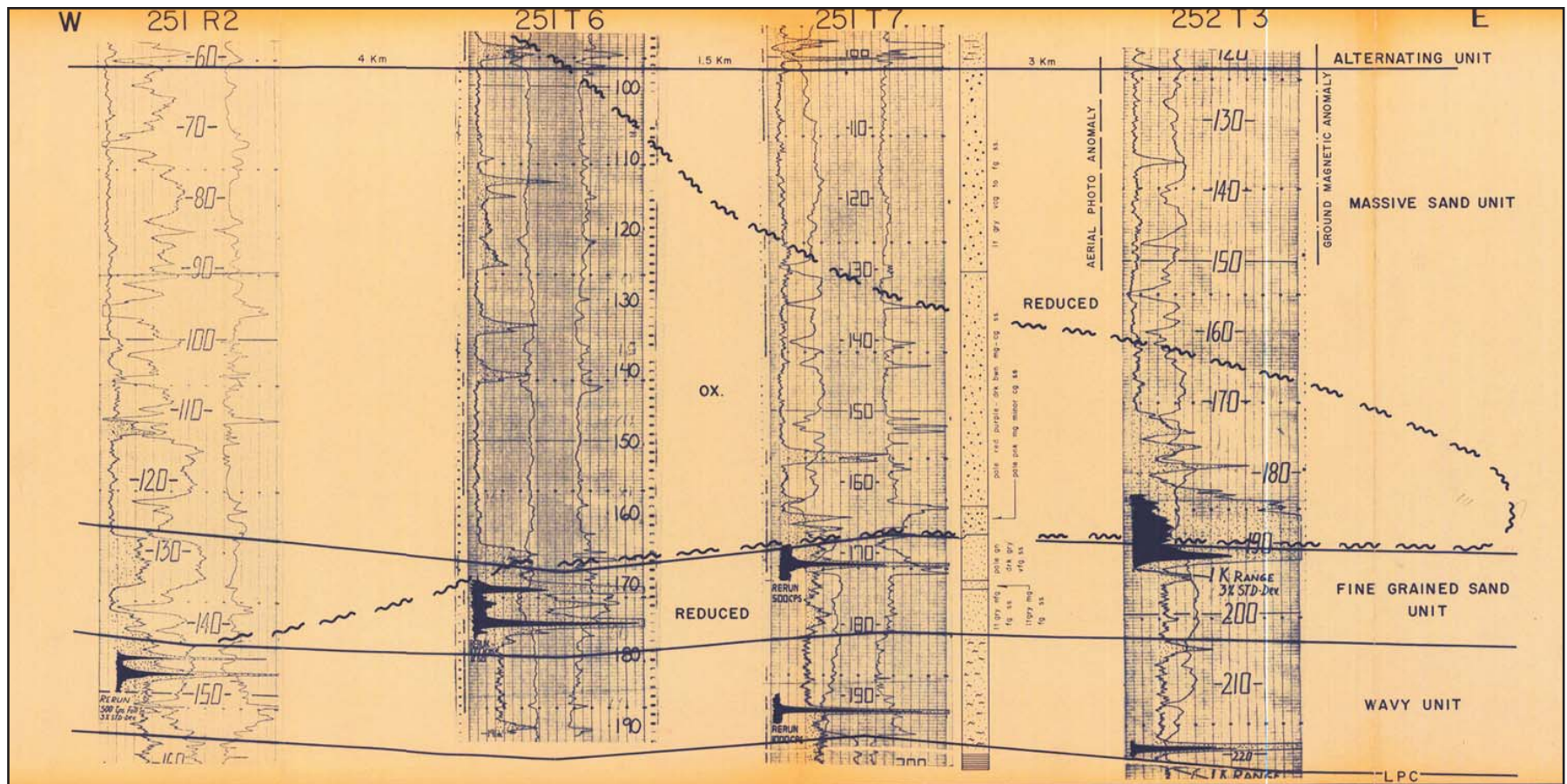
**SANTA CATALINA**

The Santa Catalina target area coincides with the town of Santa Catalina, which is located approximately 40 km northeast of the town of Coronel Oviedo. The area is underlain by sandstones of the Coronel Oviedo Formation. Anschutz drilled four diamond drill holes across this zone. From west to east these were 251-R-2, 251-T-6, 251-T-7 and 252-T-3. All four of these holes intersected significant radiometric anomalies that warrant further drill testing. The stratigraphic cross section of this area indicates that radiometric response in down-hole probes increases to the east (Figure 9-11).

**CAACUPÉ-PARAGUARÍ**

Three reconnaissance diamond drill holes completed in this area in 1981 encountered the Paraguarí basal Silurian conglomerate overlying Precambrian basement rocks. Weakly anomalous radiometric values are in the order of two times background responses.





Showing Redox & Mineralization in Fine Grained Sand

Figure 9-11

**Crescent Resources Corp.**

**Coronel Oviedo Uranium Project**  
Paraguay, South America

**Stratigraphic Cross Section**  
**Santa Catalina Area**

## 10 EXPLORATION

### HISTORICAL EXPLORATION

The following discussion is based on the exploration work by Anschutz during the late 1970s and early 1980s, and not by Crescent. Recently, Crescent has carried out a compilation of all previous exploration data stored at Ministry of Public Works (MOPC) in Asunción.

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 apart, complemented by Track-Etch survey (Rhyu, 1983). 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 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 of drilling.

Exploration work by Anschutz has outlined two large target areas underlain by the UPC, as follows:

- **Primary Target Area:** This contains the San Antonio, San Miguel, Typychaty and Yarati-í targets within the neighbouring Yuty Project area near and around the village of Yuty, approximately 200 km southeast of Asunción.
- **Other Targets of Interest:** These targets include two areas situated northeast and north of the Town of Coronel Oviedo, approximately 150 km east of Asunción.

Results of the regional Track Tech survey also detected north-northwest trending anomalous zone, which coincides with a similarly oriented magnetic and topographic

lineament noted above. This lineament extends from Cuarto Potrero where significant uranium mineralization has been discovered (Rhyu, 1983).

The large target area extending from Tres Corrales to Cecilia Báez covers an area of approximately 100 km<sup>2</sup> northeast and around the town of Coronel Oviedo. Airborne and ground radiometric surveys, hydrogeochemical and lithogeochemical sampling, Track Etch survey and geological mapping have outlined an area with potential for uranium mineralization approximately 10 km long and 2 km wide in the San José area. Reconnaissance and local scale drilling results indicate a pronounced redox interface associated with uranium mineralization.

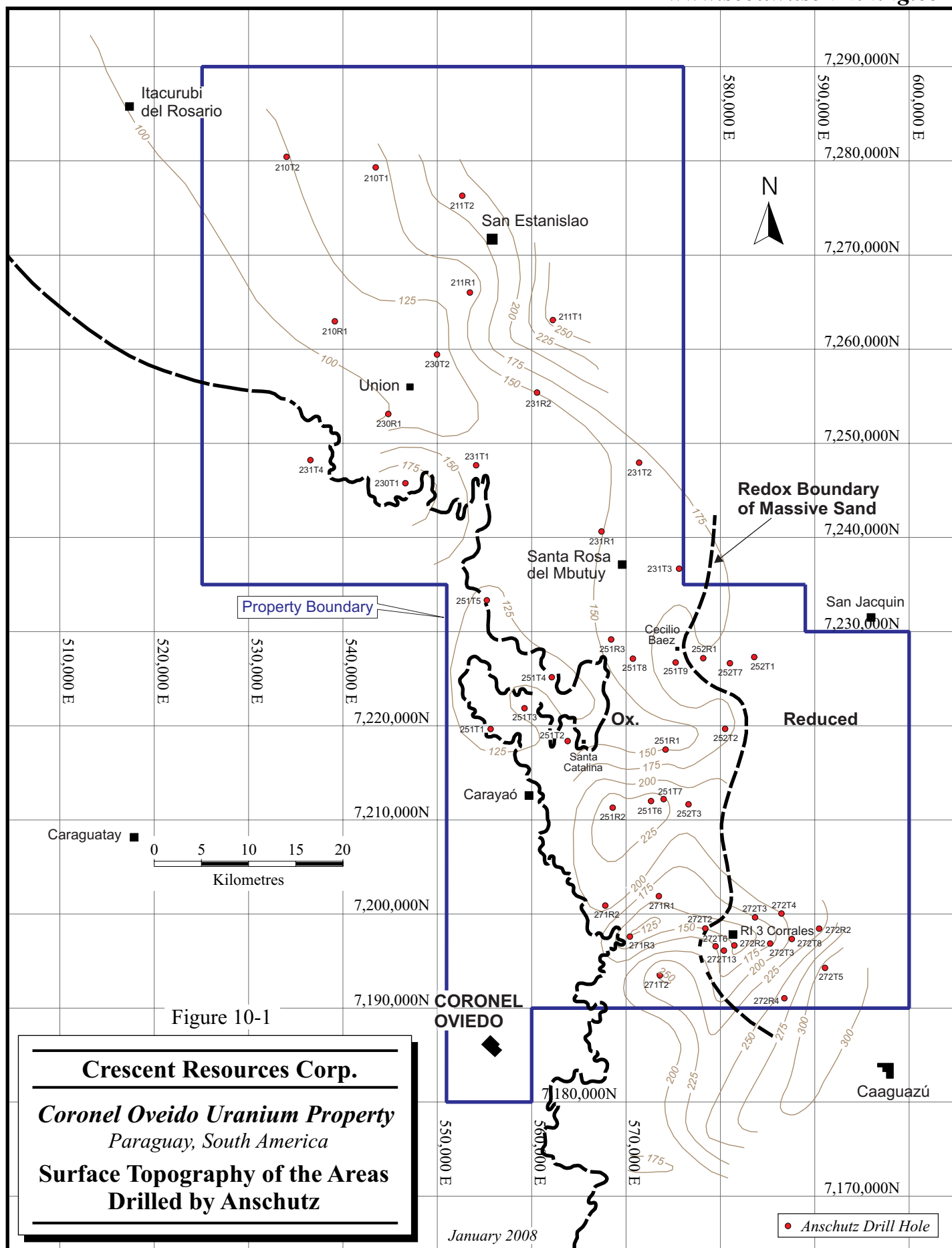
Of the 60 rotary holes completed in 1981 and 1982, 21 drilled into the UPC, and 14 holes encountered anomalous radioactivity in the Independencia Formation. One of these holes (272-T-3) intersected 0.02% U<sub>3</sub>O<sub>8</sub> over 3.9 m at 243 m depth, and 0.03% U<sub>3</sub>O<sub>8</sub> over 0.6 m at 247 m depth. Figures 10-1 to 10-7 show the compilation of drill hole results by Anschutz, including regional cross sections at the Tres Corrales (Figure 10-5), Cecilio Baez (Figure 10-6) and Costa Chajha (Figure 10-7) target areas. These results indicate:

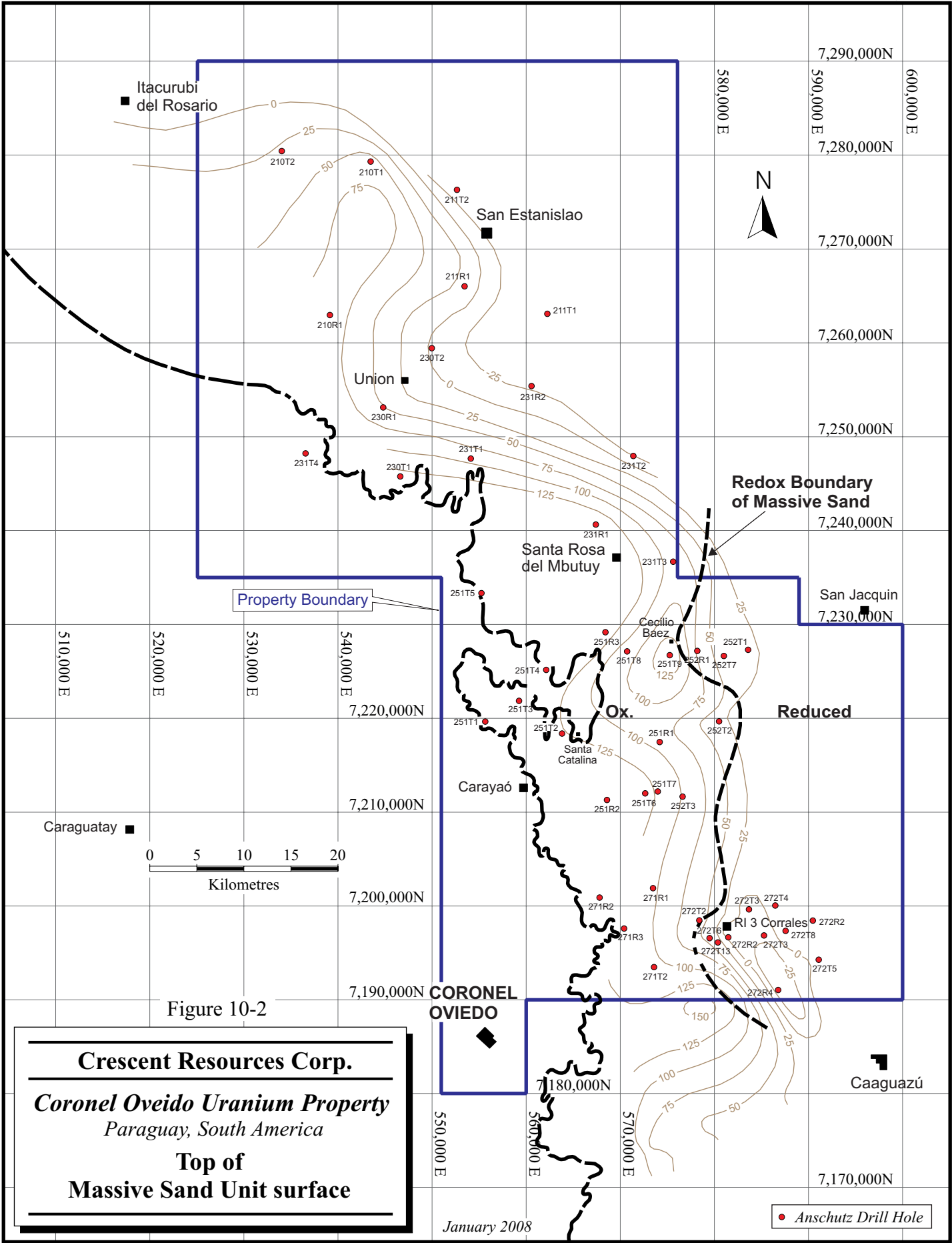
- A gentle slope for the top surface of the Massive Sand Unit, the bottom surface of the Massive Sand Unit of the UPC, and the top surface of the LPC, except for very steep slopes of these surfaces in the area between Hole 272-T-13 and 272-R-2. The eastern flank of the UPC is downthrown relative to the western flank, as shown in the cross sections of Figure 10-5. Scott Wilson RPA is of the opinion that this sharp slope coincides with the approximate location of the north-northwest trending regional fault interpreted by Anschutz.
- A similar structure to the one above between holes 251-T-9 and 251-R-1, as shown in Figure 10-6. This structure may be present but the drill hole spacing is too wide to detect it accurately in this area.

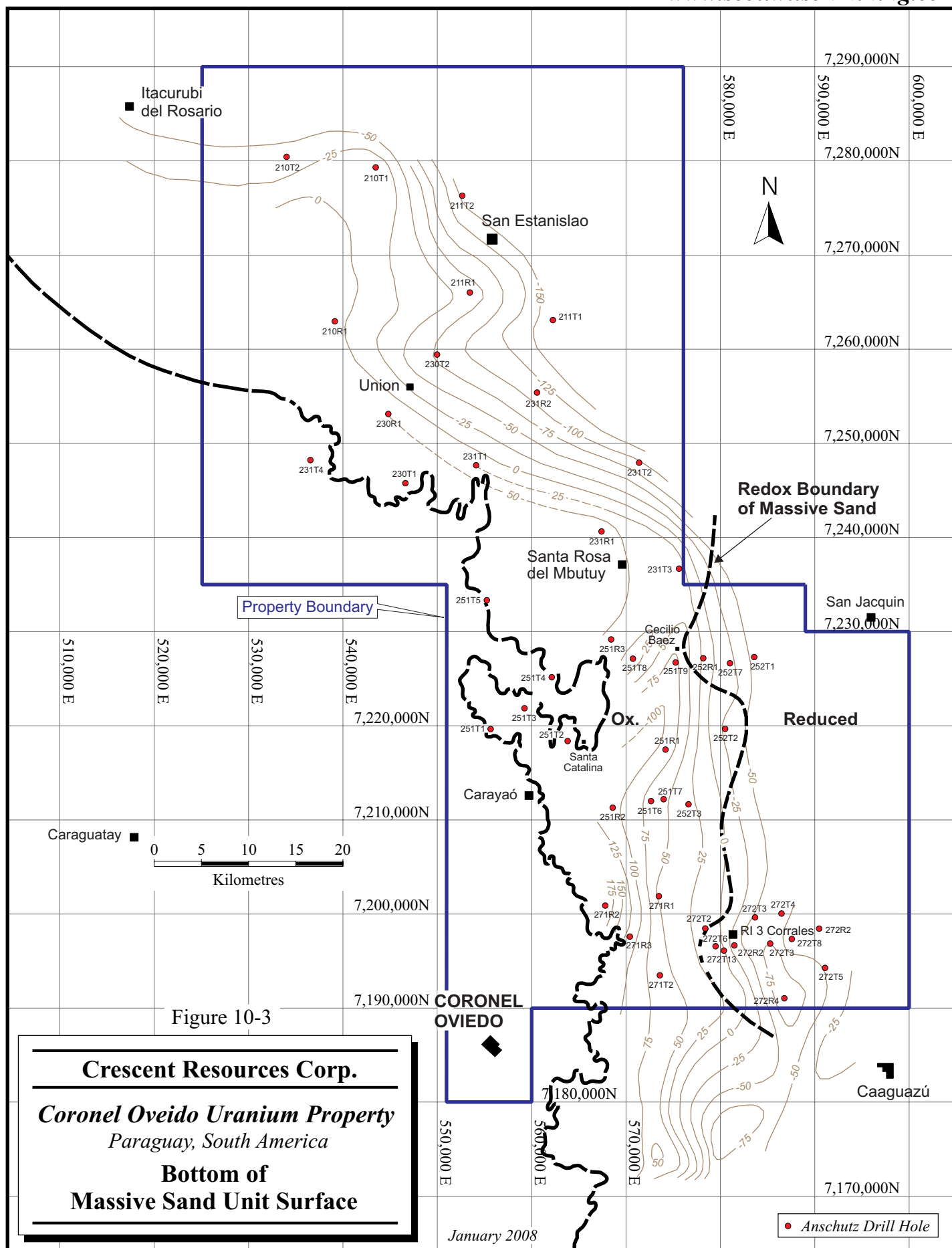
Based on regional exploration results as well as work done on specific target areas of the Northern UPC, Anschutz concluded that:

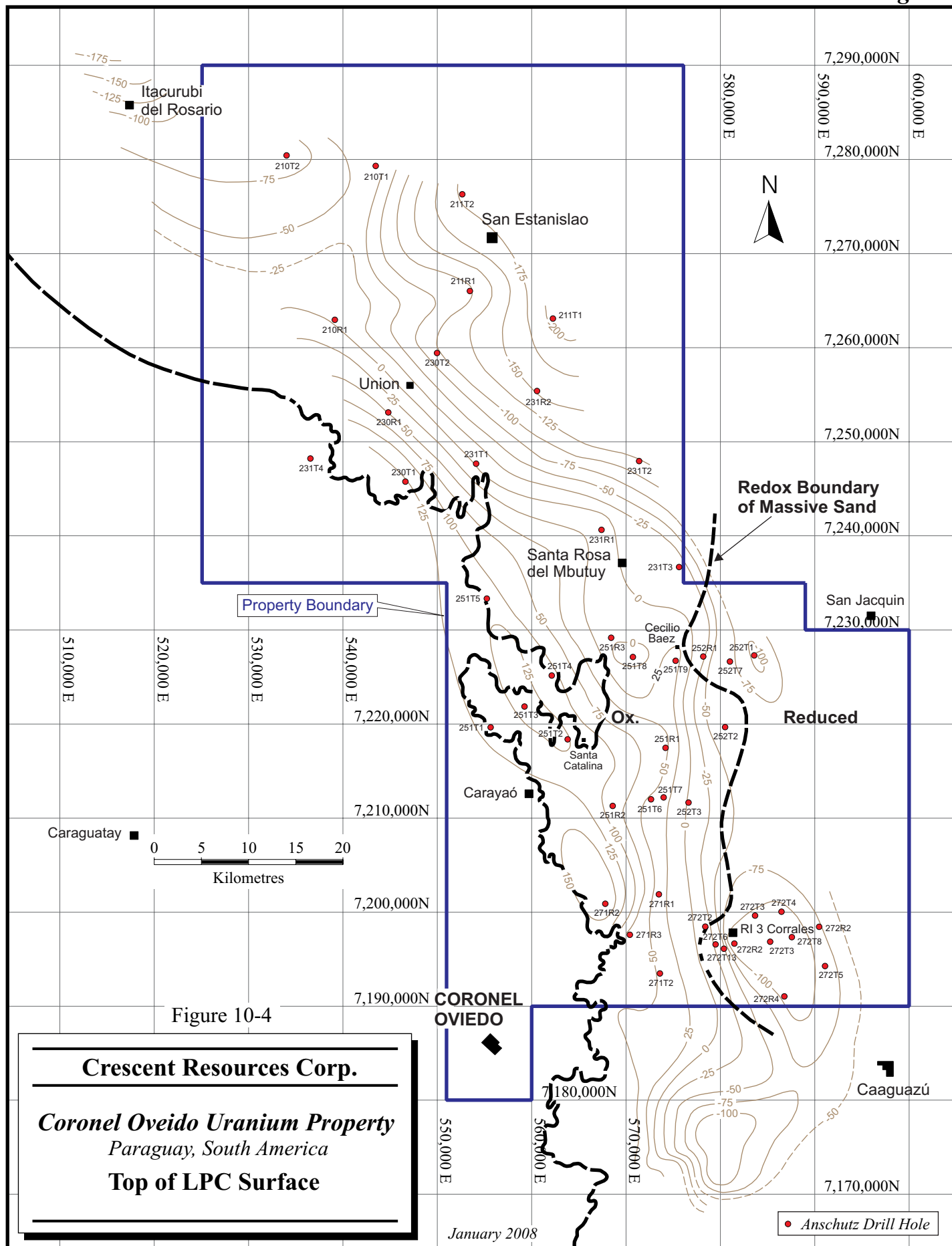


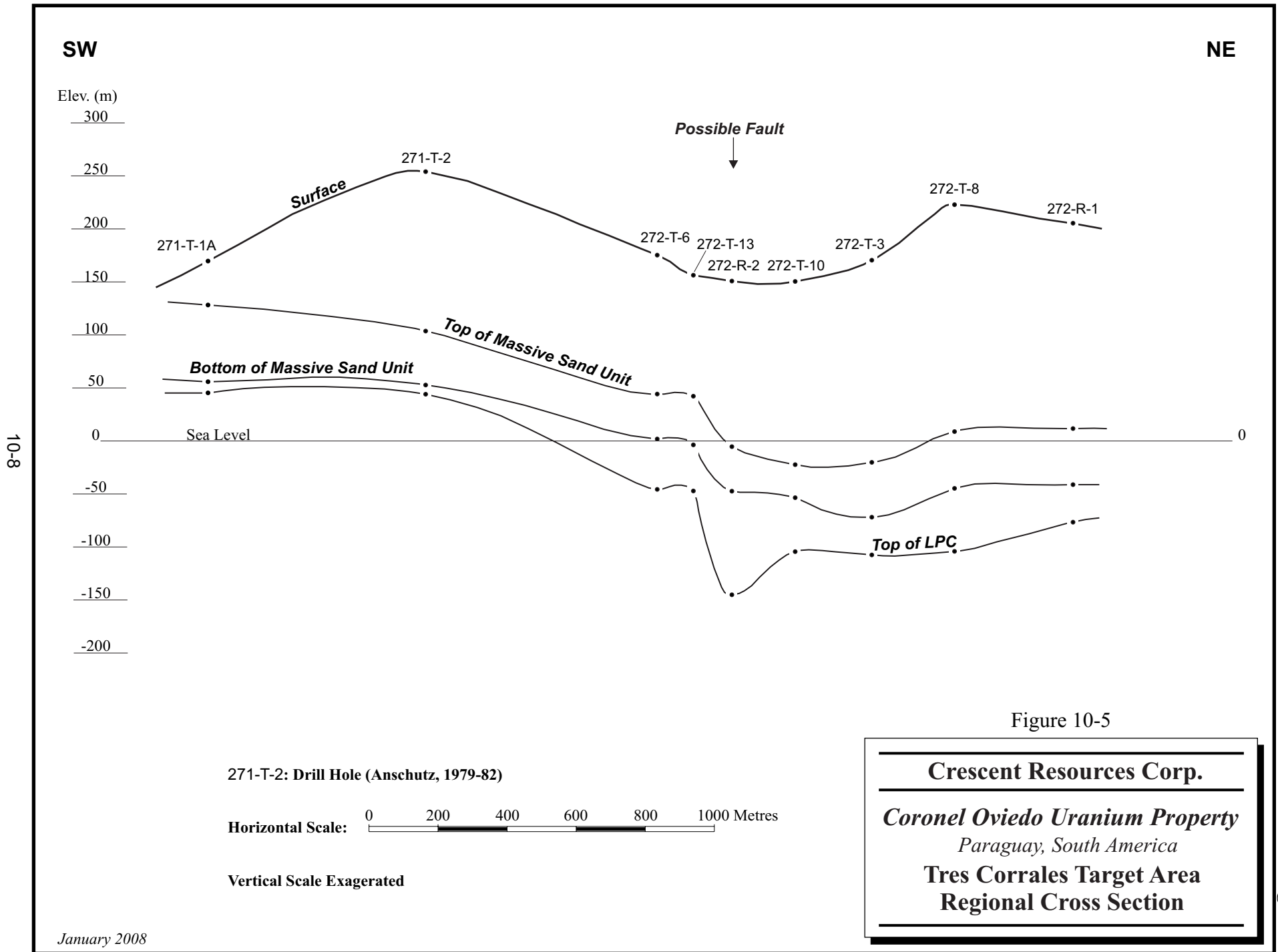
- The Silurian Independencia Formation is the most favourable host for uranium mineralization in Eastern Paraguay.
- Roll front-type uranium mineralization is likely to be present within the Silurian Independencia Formation, because oxidation and reduced zones are readily detected in the sandstones, which are characteristic for roll front-type uranium deposits.

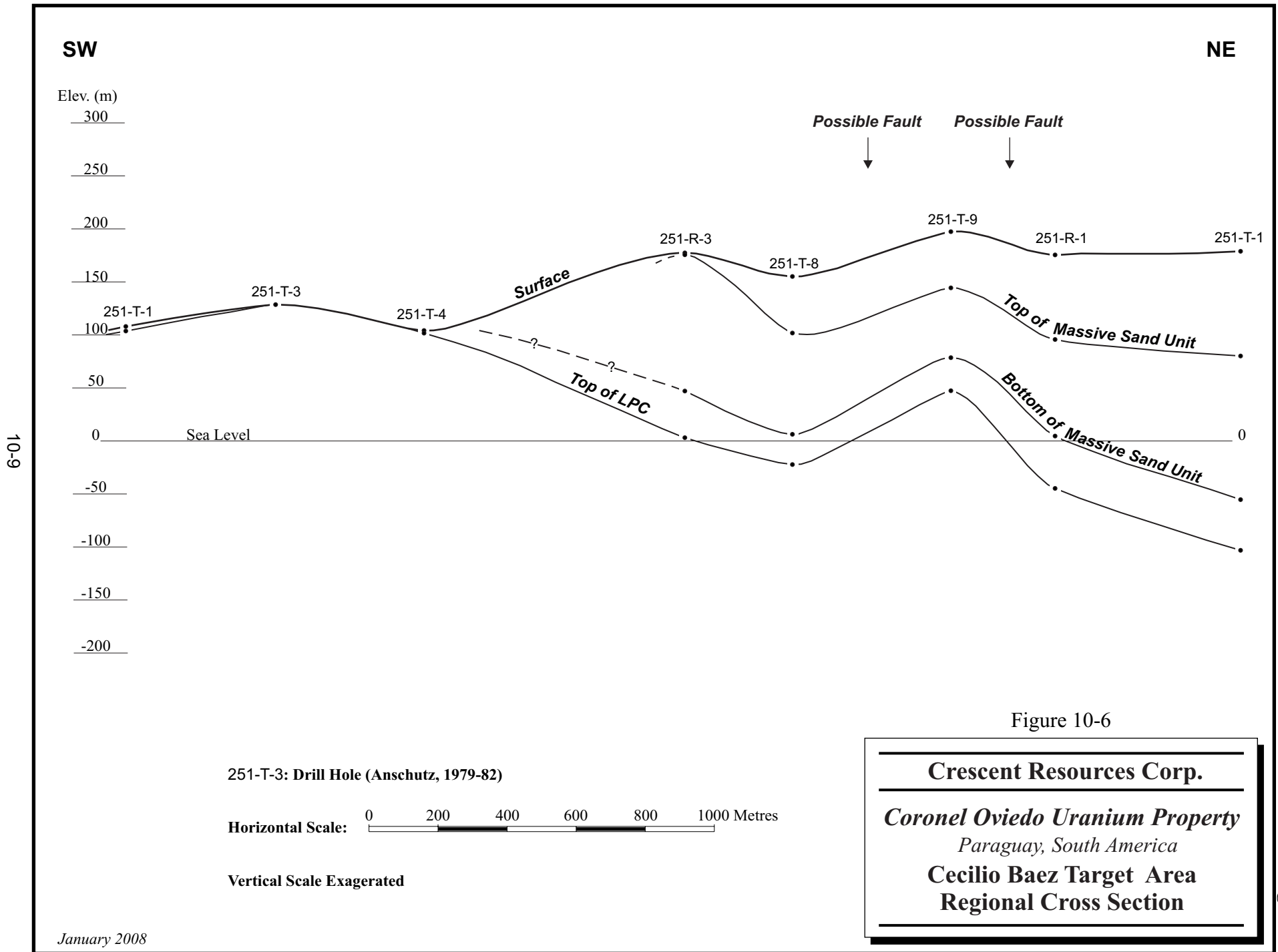


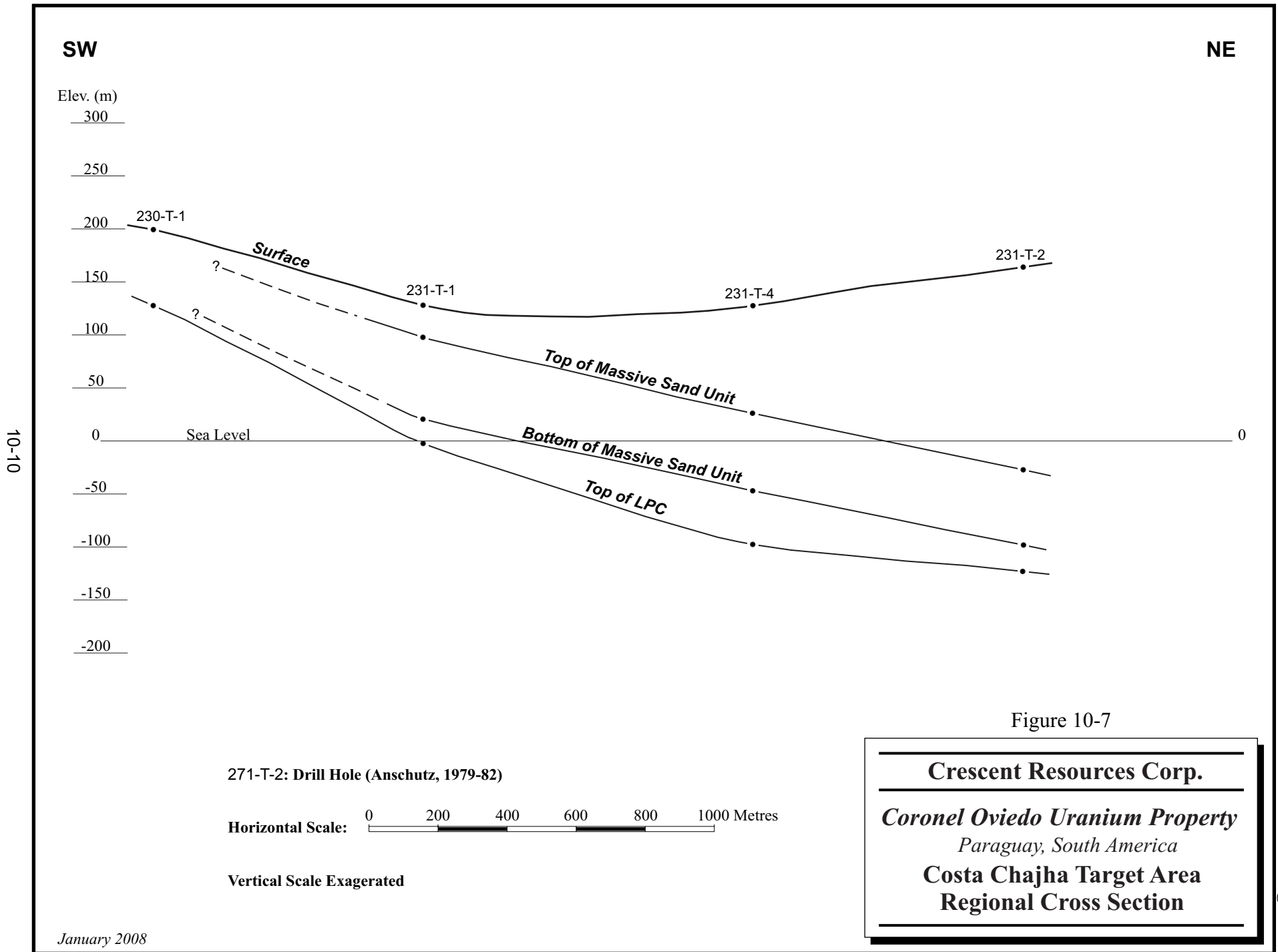














## **RECENT EXPLORATION**

Recently, Crescent has carried out a compilation of the previous Anschutz results and a program of reverse circulation drilling in the Tres Corrales target area. The purpose of this work is to generate sufficient data which would allow an estimate of NI 43-101 compliant mineral resource of the Tres Corrales target area. All drill chips from the Crescent program are stored at the Coronel Oviedo site. Statistics of work and results of drilling are discussed under Section 11, Drilling of this report.

As part of the current exploration program, Crescent retained Mr. Robert A. Lunceford, Consulting Geologist, to carry out a review of past exploration results and provide guidance for the ongoing exploration program, based on e-logs of Anschutz holes. Figures 10-1 to 10-4 show the redox front in the area based on preliminary results of Mr. Lunceford's compilation of the Anschutz data as outlined by Reese (1982).

# 11 DRILLING

## PREVIOUS DRILLING

Approximately 15,775 m of drilling (core as well as rotary) was completed by Anschutz in previous campaigns from 1976 to 1982. Only a small portion of the past drilling, however, was completed in land currently controlled by Crescent. Results are discussed in earlier sections.

Drilling contractors for diamond drilling were Geosol from Belo Horizonte and Bosio & Chase from Asunción, Paraguay. NQ core was retrieved by both companies.

Drilling contractors for rotary drilling were Chesapeake Drilling of Asunción and CPRM (a branch of the Brazilian Geological Survey) from Rio de Janeiro, Brazil. In total, from 1979 to 1982 some 12,715 m of drilling was completed in 60 diamond drill holes. Figure 11-1 shows the locations of the Anschutz drill holes and Table 25-1 (Appendix B) shows the historical drilling by Anschutz within the current boundary of the Coronel Oviedo Property.

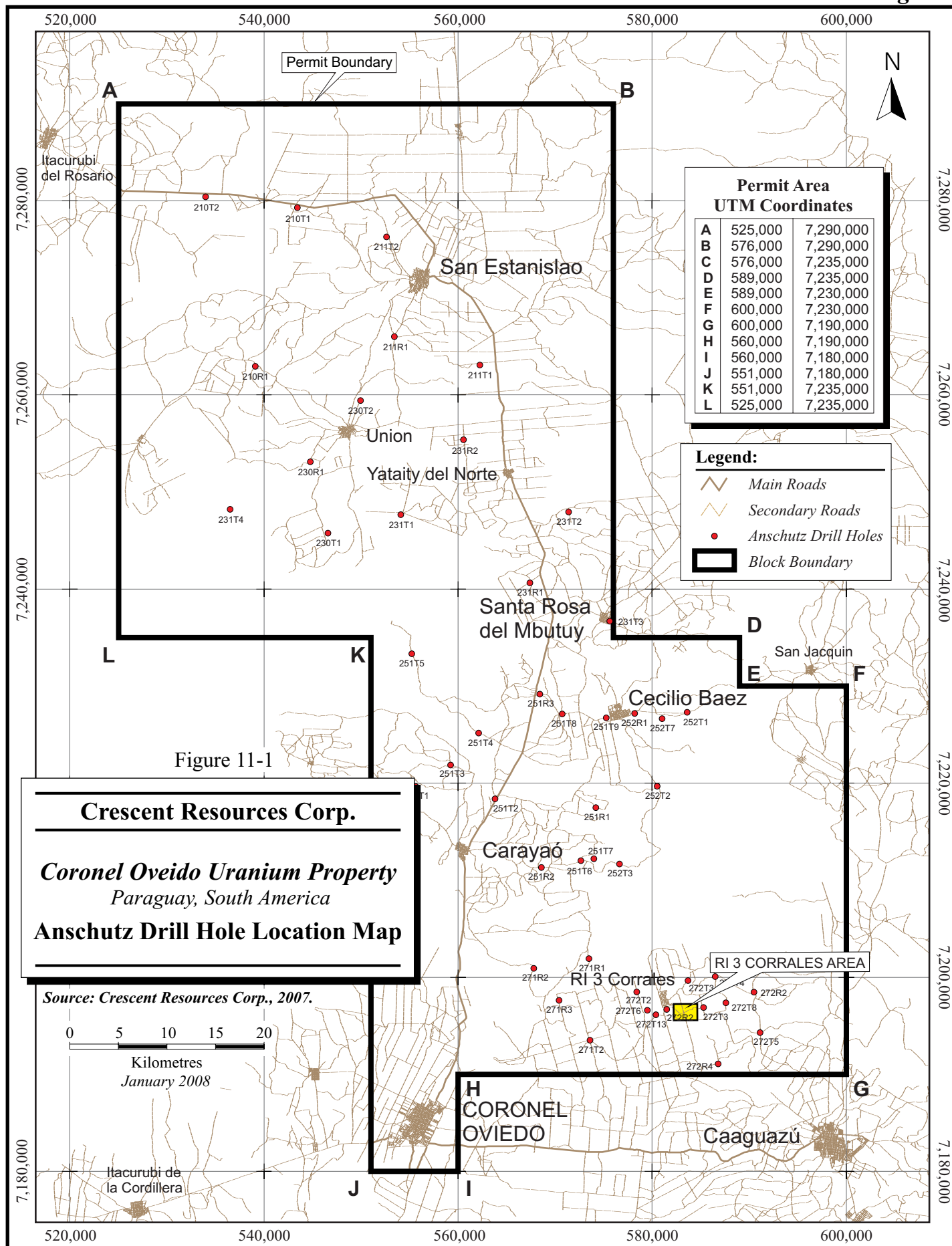
The procedures used during the diamond and rotary drilling programs were drafted by Anschutz technical personnel (Carlson, 1981b) as follows:

- 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. Although detailed information on hole deviations is not available, Scott Wilson RPA understands that hole deviations were minimal since most of the holes were short holes (Crescent, 2007).
- Lithologic logging was done on drill core and rotary holes by company geologists, depicting all down-hole data including gamma, neutron and resistivity

logs, as well as equivalent uranium values. All information was recorded on analog hand written logs. The lithologic logs included marking:

- Lithologic contacts
- Descriptive geology
- Intensity of various alteration types
- Structural features, such as fractured zones

Scott Wilson RPA reviewed a number of drill logs at the MOPC in Asunción. Scott Wilson RPA is of the opinion that the lithologic logging procedures are comparable to industry standards.



## RECENT DRILLING

During the 2007 field season, Crescent completed 7,615 m 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. Although these holes are not considered as “twins” of the Anschutz holes, they are considered to represent the same area of mineralization, in Scott Wilson RPA’s opinion (Figure 11-1).

Drilling contractors were Northwest Atlantic Drilling (Northwest) from Argentina, which is operating in Paraguay through its subsidiary Compañía Paraguaya de Minería (COPAMI), and 9 de Junio from Paraguay. 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. This survey was carried out by Mr. Carlos Figuerero of Seminsa.
- Lithologic logging of drill core and geotechnical observations were provided by Messrs Miguel Cabello, Esteban Sanabria, Albino Roman and Carlos Lopez, all of whom are contract geologists for Seminsa. 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:
  - Lithologic contacts;
  - Descriptive geology;
  - Intensity of various alteration types;
  - Structural features, such as fracture and brecciated zones;
  - 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.
- Downhole radiometric logging was done by Messrs Luis Dominguez (Geologist) and Carlos Sugastti (Technician). A Mount Sopris Instrument Co., Inc. ((MGX II

model and Matrix digital logger S/N 0713) is used for this purpose. Each logging unit is 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. A detailed description of radiometric logging methods is discussed below.

Scott Wilson RPA is of the opinion that drill core logging procedures used by Crescent are in keeping with industry standards. Scott Wilson RPA, however, recommends that down-hole survey also be used to obtain data that would provide geographic coordinates of the mineralized intersections, which would be used to estimate mineral resources. Results of recent drilling are summarized in Table 11-1, and the collar locations of the recent drill holes are shown in Figure 11-1.

In general, results of recent drilling indicate that eight zones of anomalous radioactivity occur within the NUPC of the Coronel Oviedo Property. Only two of them, however, show good continuity along strike. These are as follows:

- Zone 1: 0.30 m to 1 m thick, occurs 137 m to 153 m below the surface. Anomalous radiometric response ranges from 500 cps to 2,600 cps, with background response in the range from 400 cps to 800 cps.
- Zone 2: 0.20 m to 0.50 m thick, occurs 148 m to 158 m below the surface. Anomalous radiometric response ranges from 430 cps to 2,100 cps, with background response in the order of 800 cps.
- Zone 3: 0.30 m to 0.50 m thick, occurs 185 m to 233 m below the surface. Anomalous radiometric response ranges from 540 cps to 2,000 cps, with background response in the order of 800 cps.
- Zone 4: This is the most continuous mineralized layer. It is 0.89 m to 14.0 m thick, and occurs 230 m to 248 m below the surface. Anomalous radiometric response ranges from 650 cps to 22,000 cps, with background response in the order of 800 cps.
- Zone 5: This is the second relatively continuous mineralized layer. It is 0.40 m to 5.0 m thick, and occurs 241 m to 261 m below the surface. Anomalous radiometric response ranges from 410 cps to 8,000 cps, with background response in the order of 800 cps.
- Zone 6: 0.30 m to 3.0 m thick, occurs 250 m to 278 m below the surface. Anomalous radiometric response ranges from 800 cps to 2,400 cps, with background response in the order of 800 cps.
- Zone 7: A discontinuous layer 0.40 m to 3.29 m thick. It occurs 252 m to 273 m below the surface. Anomalous radiometric response ranges from 800 cps to 2,800 cps, with background response in the order of 800 cps.

- Zone 8: A discontinuous layer 0.20 m to 0.30 m thick. It occurs 275 m to 277 m below the surface. Anomalous radiometric response ranges from 1,500 cps to 4,800 cps, with background response in the order of 800 cps.

**TABLE 11-1 2007 DRILLING RESULTS, TRES CORALES TARGET AREA**  
**Crescent Resources Corp. – Coronel Oviedo Uranium Project, Paraguay**

Drill Hole	From (m)	To (m)	Interval (m)	Radiometric response		% eU <sub>3</sub> O <sub>8</sub>
				Anomalous spike (cps)	Remark	
TC 1002	137.00	138.00	1.00	950	Single spike	<0.01
	230.00	244.00	14.00	960	Wide zone	<0.01
	254.50	255.50	1.00	1,000	Background response	<0.01
TC 1003	141.00	142.00	1.00	1,100	Single spike	<0.01
	248.00	248.30	0.30	650	6 x bkgd	<0.01
	261.50	261.70	0.20	410	4 x bkgd	<0.01
TC 1004	152.81	153.41	0.60	500	5 x bkgd	<0.01
	185.53	186.03	0.50	932	10 x bkgd	<0.01
	233.61	234.50	0.89	1,680	Background response	0.020
	242.08	247.08	5.00	4,260	Wide zone	0.051
	271.21	271.71	0.50	1,045	2.5 x bkgd	0.013
TC 1005	135.16	135.36	0.20	423	5 x bkgd	<0.01
	151.91	152.31	0.40	430	5 x bkgd	<0.01
	186.13	186.63	0.50	540	5 x bkgd	<0.01
	234.30	235.90	1.60	3,800	4.5 x bkgd	0.021
TC 1006	146.32	148.82	0.50	2,200	Small spike	0.019
	234.80	235.90	1.10	3,000	4.2 x bkgd	0.022
	241.69	243.49	1.80	2,700	2.2 x bkgd	0.018
	253.20	254.10	0.90	950	3 x bkgd	<0.01
	271.71	272.11	0.40	2,500	3 x bkgd	0.020
	275.30	275.50	0.20	1,700	2.2 x bkgd	0.014
TC 1007	130.07	130.67	0.60	2,000	2.5 x bkgd	0.019
	148.20	148.22	0.20	1,200	Single peak 1.5 x bkgd	0.014
	232.61	235.30	2.70	4,000	Double peak 5 x bkgd	0.026
	241.88	242.38	0.50	1,700	Single peak 2 x bkgd	0.018
	260.54	261.14	0.60	2,400	Single peak 3 x bkgd	0.021
TC 1009	153.41	153.91	0.50	2,100	Small spike 2.6 x bkgd	0.019
	233.71	238.19	4.48	6,900	Double peak 8.6 x bkgd	0.031
	244.68	245.48	0.80	1,400	Small spike 1.8 x bkgd	0.014
TC 1010	237.60	239.79	2.19	4,100	Multiple spikes 5 x bkgd	0.019
	247.07	247.77	0.70	<1,000	Low grade	<0.01
	259.84	260.44	0.60	2,000	Small spike 2.5 x bkgd	0.017
	264.53	265.03	0.50	2,800	Small spike 3.5 x bkgd	0.022
TC 1011	152.81	153.11	0.30	1,100	Single peak 1.5 x bkgd	0.014
	234.30	238.00	3.70	9,000	Multiple peaks 11 x bkgd	0.031
	244.48	245.18	0.70	800	Low grade	<0.01
	261.04	261.44	0.40	800	Low grade	<0.01

Drill Hole	From (m)	To (m)	Interval (m)	Radiometric response		% eU <sub>3</sub> O <sub>8</sub>
				Anomalous spike (cps)	Remark	
TC 1012	135.65	136.05	0.40	1,500	Single peak 2 x bkgd	0.017
	153.01	153.51	0.50	2,100	Single peak 2.5 x bkgd	0.018
	236.80	238.10	1.30	5,000	Double peak 6.2 x bkgd	0.041
	278.19	278.49	0.30	800	Background response	0.018
TC 1013	136.65	137.05	0.40	1,000	Single peak 1.5 x bkgd	0.015
	186.23	186.53	0.30	1,000	Single peak 1.2 x bkgd	0.014
	237.10	242.00	4.92	14,500	Three peaks 18 x bkgd	0.043
	251.46	253.46	2.00	8,000	Single peak 10 x bkgd	0.047
TC 1014	186.23	186.63	0.40	1,400	Small spike 1.8 x bkgd	0.014
	234.50	236.10	1.60	2,500	Double peak 3 x bkgd	0.015
	242.88	245.28	2.40	7,600	Single peak 9.5 x bkgd	0.039
	261.14	261.34	0.20	1,500	Small peak 2 x bkgd	0.017
	272.61	273.01	0.40	800	Background response	0.024
TC 1015	151.91	152.21	0.30	800	Small spike anomaly	0.013
	232.81	233.11	0.30	800	Small spike anomaly	<0.01
	235.80	243.08	7.28	4,200	Multiple peaks 5.2 x bkgd	0.023
	243.58	245.28	1.70	1,700	Single peak 2.1 x bkgd	0.013
	250.26	251.06	0.80	1,700	Single peak 2.1 x bkgd	0.016
TC 1016	186.73	187.13	0.40	1,900	Small spike 2.4 x bkgd	0.017
	237.40	238.39	1.00	3,500	Small spike 4.4 x bkgd	0.026
	247.17	248.27	1.10	1,200	Small spike 1.5 x bkgd	<0.01
	276.90	277.19	0.30	1,500	Small spike 1.9 x bkgd	0.014
TC 1017	235.90	240.29	4.39	5,700	Small spike 7.1 x bkgd	0.023
	249.56	250.16	0.60	2,200	Small spike 2.7 x bkgd	0.017
	251.16	251.56	0.40	800	Background response	<0.01
TC 1018	187.65	187.95	0.30	800	Small spike 1 x bkgd	0.013
	239.79	243.48	3.69	5,000	Double peak 6.3 x bkgd	0.025
	250.16	254.45	4.29	4,500	Asymmetric anomaly 5.6 x bkgd	0.018
TC 1019	276.10	276.40	0.30	4,800	Small spike 6 x bkgd	0.032
	189.87	190.17	0.30	1,900	Small spike 1.9 x bkgd	0.019
	240.04	243.03	2.99	6,500	Multiple peaks 6.5 x bkgd	0.028
	250.81	253.90	3.09	4,500	Multiple peaks 4.5 x bkgd	0.029
TC 1020	254.70	255.10	0.40	1,600	Single peak 2 x bkgd	0.016
	138.05	138.75	0.70	2,600	Single peak 3.2 x bkgd	0.019
	239.59	239.99	0.40	2,000	Single peak 2 x bkgd	0.019
	240.49	242.78	2.29	9,300	Single peak 9.3 x bkgd	0.047
	243.18	243.58	0.40	1,700	Single peak 1.7 x bkgd	0.018
TC 1021	252.66	255.95	3.29	12,000	Single peak 12 x bkgd	0.039
	192.31	192.61	0.30	2,000	Single peak 2.5 x bkgd	0.014
	243.18	247.17	3.99	14,000	Multiple peaks 17.5 x bkgd	0.045
TC 1022	247.57	247.97	0.50	2,000	Single peak 2.5 x bkgd	0.014
	141.74	142.04	0.30	1,400	Single peak 1.7 x bkgd	0.015
	242.18	242.48	0.30	1,200	Single peak 1.5 x bkgd	0.013
	244.38	246.67	2.29	8,000	Multiple peaks 8 x bkgd	0.031
	253.26	256.25	2.99	4,500	Multiple peaks 5.6 x bkgd	0.016
TC 1023	237.20	241.29	4.09	22,000	Multiple peaks 27.5 x bkgd	0.062
	251.16	251.56	0.40	800	Background response	0.013
TC 1025	138.45	138.75	0.30	1,500	Single peak 1.5 x bkgd	0.015
	240.89	241.19	0.30	1,500	Single peak 1.9 x bkgd	0.014



Drill Hole	From (m)	To (m)	Interval (m)	Radiometric response		% eU <sub>3</sub> O <sub>8</sub>
				Anomalous spike (cps)	Remark	
TC 1026	243.48	244.58	1.10	3,400	Single peak 4.2 x bkgd	0.026
	249.66	251.26	1.60	1,800	Single peak 2.2 x bkgd	0.015
	158.40	158.70	0.30	1,600	Single peak 1.6 x bkgd	0.017
	244.28	247.07	2.79	7,500	Multiple peaks 7.5 x bkgd	0.034
	253.36	256.95	3.59	3,300	Multiple peaks 3.3 x bkgd	0.023
TC 1027	268.92	269.41	0.50	1,700	Single peak 1.7 x bkgd	0.017
	229.94	230.83	0.89	2,500	Hole abandoned	0.024
TC 1028	0	120.00			Hole abandoned due to massive cave-ins	

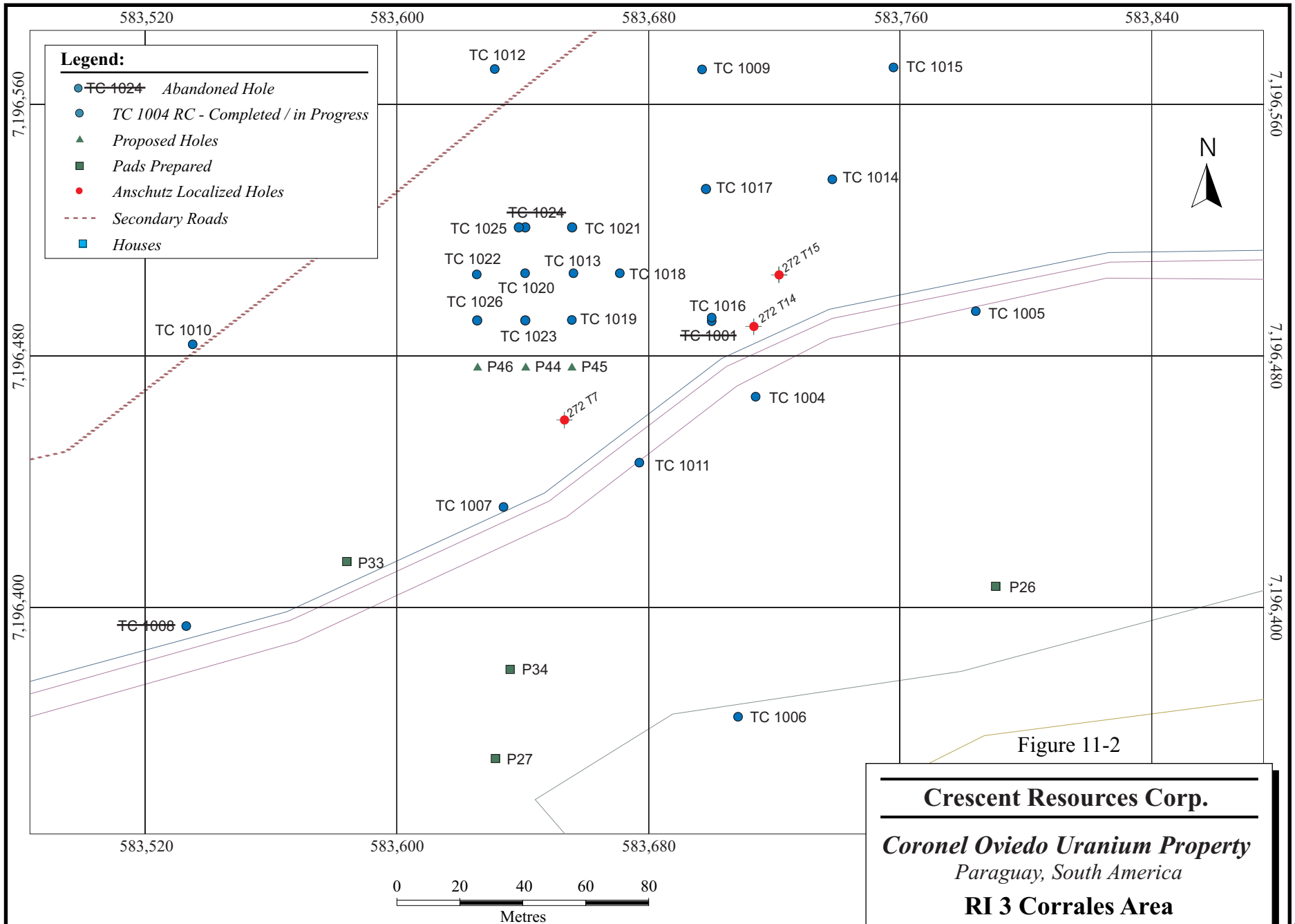
## Notes:

1. Holes logged by radiometric probe within the drill rods.
2. Background response in the range from 800 cps and 1,000 cps.
3. bkgd; background.
4. Down-hole probing done with Mount Sopris instruments: Matrix Portable Digital Logger S/N 0713 with a Poly Gamma Probe, type 2PGA-1000, S/N 3842.

Source: Crescent, 2007.

Table 25-2 (Appendix B) provides a more detailed account of the drilling by Crescent.

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## **12 SAMPLING METHOD AND APPROACH**

### **PREVIOUS WORK**

Detailed information on sampling method and approach during the Anschutz drilling campaigns is not available. Nevertheless, Scott Wilson RPA understands that sampling procedures were comparable to Western industry standards of that time. These included:

- Sampling of the whole core of diamond drill holes, with sample intervals of approximately 30 cm (1 ft.).
- Description of the rotary drill chips at 5 ft. or 10 ft. intervals.
- Calculation of equivalent uranium grades from radiometric (gamma) logs.

### **RECENT WORK**

The methodology of sampling of the RC drill cuttings during the 2007 drilling program by Crescent is as follows:

- Drill cuttings are collected from a hose, except the first two metres of each hole, which is collected by placing splitter pans next to the collar. A five-gallon drum is placed close to the end of the hose to collect the cuttings as they emerge from the hose. Samples are collected at two-metre intervals. One-metre intervals are marked on the drill pipe with chalk by the drillers and the exact length (in metres) is verified several times as the hole is drilled.
- Drill chips are sampled for the portion of the holes from approximately 150 m to 250 m below the surface, because this interval of the sandstone is the general host of the uranium mineralization in the area. For reference purpose, however, a representative chip sample is collected at two-metre intervals down the hole and sorted in plastic chip trays.
- All drill cuttings for each two-metre interval are passed through a three-way stainless steel splitter with fixed one-inch chutes. The splitter consists of three one-way splitters mounted in a steel frame, with two splitters directed to the back and the third directed to the front. All material is collected in large metal pans; only a small fraction is not caught, and this material is not added to the samples. After all material from a two-metre interval is collected, the frame of the splitter assembly is rapped with a rubber mallet to dislodge loose material. The splitter is

kept dry at all times and brushed clean when necessary. If damp or wet cuttings are left in the buckets, these are split by hand. A typical one-metre interval yields 20 kg to 30 kg of dry cuttings. Scott Wilson RPA notes, however, that use of the three-way splitter was abandoned due to the lack of sufficient sample material, and virtually all the samples, wet or dry, were passed through the cyclone. In rare cases only, when no water was added or formational water was not encountered, the three-way splitter was used.

- All or part of the material exiting from the single splitter (25% by volume) is retained for analysis. The cuttings are mixed in the collection pan by running a hand back and forth several times and emptied into several 8 in. by 12 in. heavy plastic polyethylene bags. Excess material from the pan is added to the other pans.
- Depending on sample depth in the hole, material not saved in plastic bags is either:
  - Dumped in piles near the drill hole, or
  - Poured into large rice bags and stored.
- Based on previous drilling, the depth and thickness of the ore zone is known which is from 150 m to 250 m below the surface. Above the mineralized zone, two plastic bags, each containing 1 kg to 1.5 kg of material, are collected. One bag is retained for analysis, and the other is placed in large rice bags for storage and for backup. The rice bags are wired closed and placed in storage.
- If all or part of a one-metre interval is damp from water added to stabilize the hole, the sample buckets are placed next to the appropriate excess material or rice bags at the drill site and left to dry for several days. Clear water is decanted from the buckets and sampled separately every few hours. Intervals that contain buckets of very wet material, with or without a fraction of dry cuttings, are split by dumping all cuttings into a 30 gal. plastic tub. Enough water is added to turn the material into slurry, and the cuttings are thoroughly mixed with a shovel. From this mixture, a single 5-gal. bucket is retained, dried, and split by hand to plastic bags. The remainder of the material from the bucket is discarded or stored in a rice bag, depending on depth.
- Various measurements are obtained on the samples at the drill site, as described below.
  - For each one-metre interval, two cups of cuttings are passed through a 12-mesh spaghetti strainer. The percentage of plus 12-mesh material remaining is estimated by pouring it back into the measuring cup and recording the amount to 10% (by volume).

- A fraction of the plus 12-mesh material is mounted on chipboard for future logging.
- Recovery above the mineralized zone is estimated visually by examining the amount of excess material dumped in piles on the ground.
- Recovery just above the mineralized zone through the bottom of the hole is measured by weighing the rice bags for each sample interval.
- Recovery for intervals containing abundant water can not be measured; rather, the gallons or litres of muddy material are recorded. In general, however, this was difficult to do due to the heavy water flow at depths from 170 m to 240 m.

The above methodology of sampling was followed as much as possible during the recent drilling program. Due to difficulties encountered in drilling, however, only partial samples of the one-metre or two-metre intervals have been collected by the Seminsa crew.

## **RADIOMETRIC LOGGING**

The principles of radioactive disintegration, radiometric logging and calibration methodologies are discussed in Appendix A.

## **13 SAMPLE PREPARATION, ANALYSIS AND APPROACH**

### **PREVIOUS WORK**

Sample preparation, assaying, and quality assurance-quality control (QA/QC) procedures used by Anschutz are not available to Scott Wilson RPA. Scott Wilson RPA understands that the procedures used during the exploration and production phase of the Yuty Project were similar to industry standards at the time (Crescent, 2007).

### **RECENT WORK**

Sampling of drill chips was planned to be done at two-metre intervals. Samples were planned to be sent to ALS Chemex Sample Preparation Laboratory (ALS Chemex), in San Jose Argentina, where sample preparation would be carried out. Thereafter, samples would be sent to Energy Labs in Casper, Wyoming, for uranium assays by the Closed Can method. Details of the Energy Labs analytical method are provided in Appendix C. Due to the difficulties encountered during drilling, and the poor recovery of drill chips, however, samples have not been sent to the lab.

## **14 DATA VERIFICATION**

### **PREVIOUS WORK**

During the early exploration in the area by Anschutz, data verification was done by company geologists. Data on QA/QC procedures, however, are not available. Scott Wilson RPA has not verified the old Anschutz database, because this is being done by Crescent. Scott Wilson RPA understands that the past drill hole data were verified by Anschutz, to the extent as discussed under the previous section of Sampling Method and Approach. In terms of recording field data, Anschutz had established detailed procedures for technical staff (Carlson, 1981a and 1980).

As a check of its calculated equivalent uranium grades, Anschutz sent 29 samples of pulp from core hole 372-T-60 from the neighbouring Yuty Project area, which was assayed at Geosol Laboratories, and to Skyline Laboratories. Scott Wilson RPA understands that results were comparable, but details are not available at this time. Scott Wilson RPA also understands that at least one core sample from drill hole 272-T-14 (245.5 m to 247.7 4 m) was sent to Hazen Research, as further check of the calculated uranium grades. Results for this 1.9 m interval indicate 0.134%  $U_3O_8$  by the Fluorimetric method and 0.112%  $U_3O_8$  by the Closed Can method (Crescent, 2007).

### **RECENT WORK**

During the recent confirmation drilling campaign, data verification and quality control was done by Seminsa and contract personnel. The quality and reliability of the data obtained from the recent drilling program was reviewed and verified by Messrs Robert A. Lunceford, Consulting Geologist, and Carlos Figuerero, Chief Geologist of Seminsa in charge of the drilling program, and under the supervision of Dr. Bernie D. Schmeling. Scott Wilson RPA understands that Messrs Schmeling and Lunceford are Qualified Persons under the definition of National Instrument 43-101.

## **ASSAY QUALITY ASSURANCE AND QUALITY CONTROL**

The QA/QC procedures and assay protocols followed by Anschutz in the past are not available to Scott Wilson RPA. QA/QC procedures used by Crescent for the recent RC drill chip samples at Tres Corrales have been reviewed by Scott Wilson RPA. Even though no sampling has yet been carried out, these procedures are as follows:

- Samples are handled only by Buscore contract geologists. Samples are sent by Mr. Bart Wilson, Partner and Regional Manager for Buscore directly to the ALS Chemex sample preparation laboratory in San Jose, Argentina. The method of delivery is by air freight.
- Drill chips are sampled for the portion of the holes from approximately 150 m to 250 m below the surface, because this interval of the sandstone is the general host of the uranium mineralization in the area. For reference purpose, however, a representative chip sample is collected at 2-m intervals down the hole and sorted in plastic chip trays.
- Drill chips are brought by authorized exploration personnel one or more times per shift from the drill rig directly to a drill logging and sampling area within the Coronel Oviedo Property. Within 48 hours, the material intervals are photographed, logged and sampled, and the samples are shipped directly to the sample preparation laboratory.
- Each sample is assigned a unique sample number that allows it to be traced through the sampling and analytical procedures, for validation against the original sample site. The remaining chips are stored at the Coronel Oviedo site, available for review and resampling, if required.
- Blanks and standards are inserted after every ten (10) samples. Two types of standards are used. These were acquired from the Saskatchewan Research Council (SRC) laboratory, and the blanks are collected from the diabase sill overlying the mineralized units at the neighbouring Yuty Property, with expected nil uranium values.

When samples become available, sample preparation will be carried out at the ALS Chemex sample preparation laboratory in San Jose, Argentina, and assays are carried out at the Energy Labs in Casper, Wyoming (Appendix C). Scott Wilson RPA notes that the procedures used at the ALS Chemex sample preparation laboratory, and at Energy Labs, including the reagents and apparatus used for the assays, are similar to those used at many commercial laboratories in Canada. In particular, they include:



- Crushing the split sample to 10 mesh and grinding it to 150 mesh.
- Cleaning the pulverizer after each sample using cleaner sand to avoid cross contamination of samples.
- Uranium determinations are carried out using the Closed Can method.

## **CHECK ASSAYS**

There are no data indicating that a check assay program was in effect regarding the drilling done by Anschutz from 1979 to 1982 on the Coronel Oviedo Property.

Due to the difficulties encountered during the 2007 confirmation drilling program by Crescent, check assays and QA/QC procedures were not carried out either at the Coronel Oviedo Project site or at ALS Chemex sample preparation laboratory and at Energy Labs.

## **INDEPENDENT SAMPLING BY SCOTT WILSON RPA**

### **2006 INDEPENDENT SAMPLING**

During the first site visit on July 10, 2007, Scott Wilson RPA reviewed the Anschutz exploration results and the methodology of lithologic and radiometric logging of drill holes by Anschutz crews. Scott Wilson RPA is of the opinion that the field practices used by Anschutz crews were in keeping with industry standards.

As a check of previous results, Scott Wilson RPA collected eight independent samples, four from each of diamond drill holes 272-T-14 and 272-T-R2 of the Tres Corrales target area, and sent them to SGS Laboratories, Don Mills, Ontario (SGS), for independent assays. The uranium determinations were done at the Becquerel Laboratories, Hamilton, Ontario, on behalf of SGS, using the Neutron Activation Analysis (NAA) method. Anschutz had not sampled these holes. Results indicate that the uranium grade in these two holes ranges from 0.6 ppm U to 7.4 ppm U, with an average value of 2.63 ppm U (Table 14-1). Details of the sample preparation and analytical methods used at Becquerel laboratories are provided in Appendix C.

**TABLE 14-1 SCOTT WILSON RPA 2007 INDEPENDENT SAMPLING RESULTS****Crescent Resources Corp. – Coronel Oviedo Uranium Project, Paraguay**

Sample No.	From (m)	To (m)	Interval (m)	Radiometric Beta-gamma Equivalent (ppm eU <sub>3</sub> O <sub>8</sub> )	Scott Wilson RPA Chemical assay (ppm U)
71190	146.50	147.00	0.50	15	1.888
71191	147.00	147.50	0.50	15	1.888
71192	147.50	148.00	0.50	15	0.944
71193	148.00	148.50	0.50	15	0.708
71194	193.95	194.50	0.55	<15	2.242
71195	194.50	195.50	0.50	<15	3.658
71196	195.00	195.50	0.50	<15	4.720
71197	195.50	196.00	0.50	<15	8.732
<b>Average</b>					<b>3.103</b>

**Note:**

1. The above values are for a matter of record only. Sampling was done based on previous down-hole probe results. Subsequent review, however, indicates poor correlation between probe results and intersections with anomalous radioactivity.
2. Samples collected from RCD holes 272-T-14 and 272-R-2 of Tres Corrales target area.
3. Samples 71190 to 71193 are from Hole 272-T-14.
4. Samples 71194 to 71197 are from Hole 272-T-R2
5. Samples comprised of light grey to greenish, fine-grained sandstone with interstitial clay with fine disseminated pyrite. Occasional patches (≤2 cm) of orange/brown limonitic material (oxidized pyrite) and green chloritic material.
6. Scott Wilson RPA chemical values are equivalent values in ppm U multiplied by 1.18.
7. ppm eU<sub>3</sub>O<sub>8</sub> are estimates.

As part of our verification of field data, Scott Wilson RPA attempted to verify the locations of past drill holes and surficial features of the Tres Corrales target area, but was unsuccessful due to the lack of hole markings. During the second site visit, Scott Wilson RPA verified the locations of six old holes and one new hole as shown in Table 14-2.

**TABLE 14-2 SCOTT WILSON RPA 2007 CHECK OF DRILL HOLE  
LOCATIONS ALONG NORTH-SOUTH TRAVERSE**  
Crescent Resources Corp. – Coronel Oviedo Uranium Project, Paraguay

Station	DDH No.	UTM Coordinate		Elevation (m)	Remark
1	272-T-12	7196491 N	0583711 E	160	
2	272-T-14	7196489 N	0583712 E	160	
3	272-T-15	7196504 N	0583722 E	150	~10 m away from new hole TC-1004
4	272-T-3	7196847 N	0583525 E	165	
5	272-T-11	7195818 N	0583443 E	162	Hole used as water well by local farmer
6	272-T-10	7197004 N	0583137 E	150	
7	TC-1001C	7196405 N	0582692 E	150	

Note:

1. Universal Transverse Mercator (UTM) coordinates and elevations are obtained by Geographic Positioning System (GPS).
2. Elevation data are approximate figures with a margin of error of  $\pm 8\text{m}$ .

During the second 2007 site visit, Scott Wilson RPA also reviewed the Crescent exploration results and the methodology of lithologic and radiometric logging of drill holes by Seminsa crews. Scott Wilson RPA is of the opinion that the field practices used by Seminsa crews on behalf of Crescent are in keeping with industry standards.

## **15 ADJACENT PROPERTIES**

There are no mineral concessions that are considered as adjacent properties to the Coronel Oviedo Project area. Scott Wilson RPA is not aware of any work being carried out on properties other than those held or optioned by Transandes.

## **16 MINERAL PROCESSING AND METALLURGICAL TESTING**

### **PREVIOUS WORK**

There are no records of past metallurgical records on mineralized material from the Coronel Oviedo Project area.

## **17 MINERAL RESOURCES AND MINERAL RESERVES**

There are no mineral resources or mineral reserves on the Coronel Oviedo Property at this time, because there is insufficient drilling.

## **18 OTHER RELEVANT DATA AND INFORMATION**

The principal commodity for the Coronel Oviedo Uranium Project is uranium. Scott Wilson RPA notes that the market for uranium has improved considerably during the past 30 months, from a low of approximately US\$9/lb  $U_3O_8$  to more than US\$135.00/lb  $U_3O_8$  for the spot price of uranium. Recently, however, the price of uranium has been in the order of US\$90/lb  $U_3O_8$ . Because of this significant increase in the price of uranium, many Canadian junior mining companies have initiated uranium exploration programs in various parts of the World.

Scott Wilson RPA understands that, in its effort to promote and increase foreign investment related to mining projects in the country, the Paraguayan Government has indicated that it will facilitate the approval process, in terms of permits, for Transandes S.A., which is currently the title holder of the Coronel Oviedo Project (Fialayre, 2007).

## 19 INTERPRETATION AND CONCLUSIONS

### EXPLORATION POTENTIAL

In general, the Coronel Oviedo Uranium Project is at an early stage of exploration. The Tres Corrales area, however, has received certain amount of drilling and is at an intermediate stage of exploration. A number of areas of anomalous concentrations in uranium occur in Upper Permian to Carboniferous sedimentary rocks within the project land. Past work was focused on developing roll front-type targets. Preliminary interpretation of drill results in the Tres Corrales area suggests that the basal sandstone unit (Providencia Formation) is the favourable host for uranium mineralization.

There are other areas with potential for uranium mineralization within the portion of the Coronel Oviedo Project area. Scott Wilson RPA notes that these areas warrant further exploration.

### CONCLUSIONS

Based on our review of technical reports on past exploration and publications, Scott Wilson RPA concludes that:

- The Coronel Oviedo Project area is underlain by Upper Permian to Carboniferous (UPC) continental, deltaic and marine sandstones of the Paraná basin, which hosts the Figueira uranium deposit in Brazil and includes a number of uranium occurrences in eastern Paraguay.
- Twelve areas of uranium anomalies, with uranium content in the samples ranging from 0.033% eU<sub>3</sub>O<sub>8</sub> to 0.153% eU<sub>3</sub>O<sub>8</sub> (equivalent U<sub>3</sub>O<sub>8</sub>) are associated with units of subhorizontal sandstones. The anomalous zones range from 30 cm to 5 m intersections of the sandstones situated from 30 m to 250 m below the surface.
- Of the eight diamond drill holes completed by Anschutz, of which seven were in the Tres Corrales target area during the early 1980s, four holes encountered anomalous radioactivity at depths ranging from 30 m to 150 m. One of these holes (272-T-14) intersected 0.153% U<sub>3</sub>O<sub>8</sub> over 1.9 m at 150 m depth, and a 5 m



- thick radioactive anomaly at 67 m depth. Another hole (251-T-7) intersected 0.063%  $U_3O_8$  over 30 cm.
- Twenty-one of the 26 rotary holes were drilled by Anschutz into the UPC sandstones, and of these 21 holes 14 encountered anomalous radioactivity. One of these holes (272-T-3) intersected 0.02%  $U_3O_8$  over 3.9 m at 243 m depth, and 0.03%  $U_3O_8$  over 0.6 m at 247 m depth.
  - Of the 28 recent drill holes completed by Crescent in the Tres Corrales target area, eleven intersected significant uranium mineralization of  $\geq 0.03\%$   $eU_3O_8$  over intervals ranging from 0.3 m to 5.58 m. The average thickness of these intercepts was 3.06 m with an average grade of 0.041%  $eU_3O_8$ , and an equivalent grade x thickness (eGT) value of 0.129.
  - Past and recent exploration has established some favourable criteria suggesting the possibility of sizeable uranium accumulations within the Coronel Oviedo Property. These criteria are:
    - Radiometric anomalies detected from airborne radiometric surveys.
    - Occurrence of wide areas of Permo-Carboniferous sandstones.
    - Major north-northwest trending regional structure.
  - The style of uranium mineralization is that of sandstone-hosted uranium mineralization. Sandstone-type deposits are characteristically sedimentary formations of clastic-detrital origin containing reducing environments. These deposits are usually tabular in shape and may occur in continental sandstones, deltaic or shallow marine environments.
  - Exploration data suggest that the likely environments of uranium mineralization are a coastal plain depositional system and a deltaic environment with fine-grained sands containing some organic material, which could serve as reductant for the precipitation of uranium.
  - In general, the drill core samples collected by Scott Wilson RPA contain low grade uranium mineralization. These values range from 0.6 ppm U to 7.4 ppm U. The drill core, however, was not assayed by Anschutz, and it is uncertain as to whether the sampled interval coincides directly with zones of mineralization identified from downhole logging.
  - In general, the exploration work and lithologic and radiometric logging procedures by Crescent are in keeping with industry standards.
  - There is good potential for the discovery of additional uranium mineralization within the Coronel Oviedo mineral licence and further work is warranted.

## 20 RECOMMENDATIONS

Scott Wilson RPA recommends that Crescent continue with the reverse circulation drilling at Tres Corrales, as well as the regional exploration program. The objective of this work is to discover uranium mineralization similar to known sandstone-hosted uranium deposits. The recommended work would consist of:

- A program of core drilling, which would allow estimation of mineral resources.
- Continuation of the regional exploration program, involving additional drilling, to assess the exploration potential for uranium mineralization within the vast Coronel Oviedo mineral concession in southeastern Paraguay.
- Metallurgical testing to assess the recovery of uranium in the sandstones by in-situ leaching or by underground mining methods.

Crescent has prepared a preliminary budget for 2008 in the order of US\$3.6 million (Table 20-1). This includes 20,000 m of rotary and diamond core drilling in Tres Corrales area followed by the preparation of a mineral resource estimate. Scott Wilson RPA concurs with this program and budget.

**TABLE 20-1 RECOMMENDED EXPLORATION PROGRAM AND BUDGET FOR 2008**

**Crescent Resources Corp. – Coronel Oviedo Uranium Project, Paraguay**

Item	Amount (\$)	Remarks
Rotary drilling: 20,000 m@\$100/m	2,000,000	Tres Corrales – Santa Catalina areas 50 m x 50 m.
Core drilling: 5,000 m@\$150/m	750,000	
Leach testing	100,000	On core drilling samples.
Travel and related	50,000	
Consultants, supervision and G & A	100,000	NI 43-101 resource estimate
Subtotal, direct costs	3,000,000	
Contingencies @ 10%	300,000	
Paraguay IVA tax @10%	300,000	
<b>Total</b>	<b>3,600,000</b>	

## 21 REFERENCES

- Anonymous, 1979?, Northern UPC, Regional Geology: Anschutz Corporation Internal Report.
- Anschutz Corporation, 1981, Annual Summary of Exploration Operations in Paraguay, Volume I: Internal Company Report for Korea Electric Company and Taiwan Power Company (Joint Venture Partners), Asunción, Paraguay, November 1981.
- Bagda, A., 1982, TAC Paraguay Monthly Technical Report to J. Reese: Anschutz Corporation Internal Report, June 26, 1982.
- Barretto, P.M.C., 2006?, Sedimentary and Tectonic Environments for Uranium Mineralization on the Paraná Basin, Brazil: Brazilian Nuclear Energy Commission, Rio de Janeiro, Brazil, 2006?
- Benítez, P.E., 2007, Approval of Resolution 382: Ministerio de Obras Públicas y Comunicaciones (MOPC): Government of Paraguay, November 17, 2007.
- Blair, F.H. and Benítez, J.C., 2006, Uranium Exploration Results Obtained from the Upper Permo-Carboniferous Continental Sandstone Units From 1976 Through 1982 During the Coronel Oviedo Project: Information Assembled During the Review of the Anschutz Corporation Uranium Exploration Files Found in the Archives of the Ministerio de Obras Publicas y Comunicaciones, Republic of Paraguay, South America, Asunción, Paraguay, August 15, 2006.
- Blair, F.H., 1982, Annual Summary of Exploration Operations in Paraguay Submitted to Korea Electric Company and Taiwan Power Company Volume I: Anschutz Corporation Internal Report, Asunción, Paraguay, November 1982.
- Chen, C.H., 1980, San Jose: Anschutz Corporation Internal Report, October 1980.
- Carlson, L.A., 1981a, Proposed Formation Names: Departmental Correspondence to TAC Geological Staff, Anschutz Internal Correspondence, February 24, 1981.
- Carlson, L.A., 1981b, Drill Hole Maps: Anschutz Internal Correspondence, January 31, 1981.
- Carlson, L.A., 1980, Revisions of 1:1,000,000 Geologic Map: Anschutz Internal Correspondence, October 23, 1980.
- Crescent Resources Inc., 2007, Miscellaneous Technical Data.

- deVoto, R.H., 1978, Uranium in Phanerozoic Sandstone and Volcanic Rocks, in Uranium Deposits, Their Mineralogy and Origin, M.M. Kimberly (ed): Short Course Handbook Volume 3 by Mineralogical Association of Canada, University of Toronto Press, October, 1978.
- Dalidowicz, F., 1979, Report on the Magnetic Survey, Potrero Ita Area, Appendix C-5-a: Report for Anschutz Corp., Asunción, Paraguay, October 1979.
- Druecker, M.D., 1981, Monthly Technical Report (Minerals) – October 1981: Departmental Correspondence to F.H. Blair, Anschutz Corporation, November 2 1981.
- Duarte, P.V., 2007, Copy of Resolution 848/06: Ministerio de Obras Públicas y Comunicaciones, Asunción.
- Dunlop, R.J., 1979, Annual Summary of Exploration Operation in Paraguay: Anschutz Corporation Internal Report Vols. II and III for Korea Electric Company and Taiwan Power Company (Joint Venture Partners), Asunción, Paraguay, October 1979, 75 pp.
- Figueredo, C., 2006, Application for Registration of Prospecting Permit on Behalf of Transandes Paraguay S.A. to Ministry of Environment (SEAM), May 11, 2006.
- Fialayre, H.P., 2007, Personal Communication.
- Grote, R.E., 1979, Detailed Exploration Drilling Potrero Ita (Volume III-C-5): Anschutz Corp., Asunción, Paraguay, November 1979.
- Guilbert, J.M. and Park Jr., C.F., 1986, Western States Uranium Deposits, *in* The Geology of Ore Deposits: W.H. Freeman and Company, New York, 1986.
- Hsu, Fu-Tsu, 1980, Coronel Oviedo – Caaguazú Area (Northern Upper Permo-Carboniferous): Anschutz Corporation Internal Report, October 1980.
- Hsu, Fu-Tsu, 1981, Northern UPC, Regional Geology: Anschutz Corporation Internal Report, 1982.
- Hsu, Fu-Tsu(?), 1981?, NUPC Drill Hole Summary and Correlation: Anschutz Corporation Internal Report, 1981?.
- Hsu, Fu-Tsu, 1982a, TAC Paraguay Monthly Technical Report to J. Reese: Anschutz Corporation Internal Report, March 24, 1982
- Hsu, Fu-Tsu, 1982b, TAC Paraguay Monthly Technical Report to J. Reese: Anschutz Corporation Internal Report, June 26, 1982.

Hsu, Fu-Tsu, 1982c, TAC Paraguay Monthly Technical Report to J. Reese: Anschutz Corporation Internal Report, November 26, 1982.

Litz, J.E., 1982, In-Situ Leaching Study: Internal Report by Hazen Research, Inc. to Mr. A. Mussard of Nuclear Assurance Corporation, Grand Junction, Colorado, December 18, 1981.

Lunceford, R.A., 2007, Oviedo Project – Summary of Anschutz Corporation Exploration Data and Suggested Controls of Mineralization: Crescent Resources Corp. Internal Memorandum to M. Hopley, October 16, 2007.

Martínez, A.T.V., 2007, Copy of Resolution 357: Ministerio de Obras Públicas y Comunicaciones, Asunción.

Naturavita, 2006, Animales Silvestres del Paraguay No. 1: Publication of the Government of Paraguay.

Oh, In-Sup, 1979, Stratigraphy in Northern Area of Villarica: Departmental Correspondence to J.S. Pearson, Anschutz Corporation, January 19, 1979.

Oh, In-Sup, 1978a, Report on the Geology and Radiometrics of Topographic Sheet Nos. 291, 292: Anschutz Internal Report, 1978.

Oh, In-Sup, 1978b, Field Trip Report: Departmental Correspondence to J. Pearson, Anschutz Corporation, July 17, 1978.

Oh, In-Sup, 1978c, Report on the Geology and Radiometrics of the Topographic Sheet Nos. 291, 292: Anschutz Corporation Internal Report, August 31, 1978.

Pearson, J.S., 1981, Possible Basal UPC Exploration Guide: Anschutz Corporation Internal Correspondence to L.A. Carlson, January 31, 1981.

Plouffe, R., Schmeling, B. and Reinders, P., 1983, Radiometric Downhole Logging and Evaluation of eU<sub>3</sub>O<sub>8</sub>: Uranerz Exploration and Mining Limited, Exploration Development Services Group, Project 71-51 Key Lake Special Report (Revised), Saskatoon, December 30, 1983.

Reese, J., 1982a, Summary of 1982 Drilling (NUPC): Anschutz Corporation Internal Report, 1982.

Reese, J., 1982b, Preliminary Drill Hole Locations: Departmental Correspondence to F.H. Blair, Anschutz Corporation, May 5, 1982.

Reese, J., 1982c, Summary of 1982 Drilling (NUPC): Anschutz Corporation Internal Report, 1982.

Rhyu, H.S., 1982, TAC Paraguay Monthly Technical Report to J. Reese: Anschutz Corporation Internal Report, June 26, 1982

Rhyu, H.S., 1983, Results of 1982 Drilling: Departmental Correspondence to T.J. Reese, Anschutz Corporation, June 22, 1983.

Schmeling, B., 2007, Down Hole Logging and Radiometric Data Interpretation, A Technical Manual, March 2007.

Schmeling, B., 1982, Disequilibrium Study at Greater Ruth Area, Wyoming: Uranerz USA, Inc., Central Powder River Basin Project – 7311, Denver, April 1982.

Semin S.A., 2007a, Option Agreement Between Crescent Resources Corp. and Coronel Oviedo Mining Company S.A., April 16, 2007.

Semin S.A., 2007b, Operating Agreement Among Crescent Resources Corp., Coronel Oviedo Mining Company S.A., and Semin S.A., April 16, 2007.

SouthTravels, 2006, Weather and Climate in Paraguay: The Internet, 2006.

Wiens, F., 1981, Santa Elena Area, Core Drilling Survey: Anschutz Corporation Internal Report, 1981.

## 22 SIGNATURE PAGE

This report titled “Technical Report on the Coronel Oviedo Uranium Project, Paraguay” and dated January 25, 2008, was prepared and signed by the author:

**(Signed & Sealed)**

Dated at Toronto, Ontario  
January 25, 2008

Hrayr Agnerian, M.Sc.(Applied), P.Geo.  
Associate Consulting Geologist  
Scott Wilson Roscoe Postle Associates Inc.

## 23 CERTIFICATE OF QUALIFICATIONS

### HRAYR AGNERIAN

I, Hrayr Agnerian, M. Sci. (Applied), P. Geo., as an author of this report entitled "Technical Report on the Coronel Oviedo Uranium Project, Paraguay", prepared for Crescent Corp., and dated January 25, 2008, do hereby certify that:

1. I am an Associate Consulting Geologist with Scott Wilson Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of the American University of Beirut, Lebanon in 1966 with a Bachelor of Science degree in Geology, of the International Centre for Aerial Surveys and Earth Sciences, Delft, the Netherlands, in 1967 with a diploma in Mineral Exploration, and of McGill University, Montréal, Québec, Canada, in 1972 with a Masters of Science degree in Geological Engineering.
3. I am registered as a Professional Geoscientist in the Provinces of Ontario (Reg.# 0757) and Saskatchewan (Reg.# 4305), and as a Professional Geologist in the Province of Québec (Reg.# 302). I have worked as a geologist for a total of 36 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a consultant on more than seventy-five mining operations and exploration projects around the world for due diligence and regulatory requirements. A number of these projects include uranium projects in Canada, Kazakhstan, Mongolia, Paraguay and Peru.
  - District Geologist with a major Canadian mining company, responsible for project management and monitoring of several uranium and rare earth projects in the Athabasca Basin
  - Project/Exploration Geologist for several Canadian exploration companies.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI43-101.
5. I visited the Project site on August 23, 2006, July 10, 2007 and again on October 13, 2007.
6. I am responsible for overall preparation of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.4 of National Instrument 43-101.



8. I have had prior involvement with the property that is the subject of the Technical Report, and have prepared a previous Technical Report on the same property.
9. I have read National Instrument 43-101F1, and the Technical Report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.
10. To the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated 25<sup>th</sup> day of January 2008

**(Signed & Sealed)**

Hrayr Agnerian, M.Sc.(Applied), P.Geo  
Associate Consulting Geologist  
Scott Wilson Roscoe Postle Associates Inc.

## **24 APPENDIX A**

### **RADIOMETRIC LOGGING**

## **INTRODUCTION**

Radiometric logging is commonly used in uranium exploration, and is accepted as a reliable tool in the evaluation of uranium deposits. The following is a discussion on the different methods of radiometric logging of drill holes, including calibration of logging instruments, and is taken from a report by Plouffe et al (1982) and from Schmeling (1982).

Natural radioactivity occurs in a wide variety of geological environments. It consists primarily of the radioactive decay of uranium, thorium and potassium. The concentrations of these elements may range from weak disseminations in soils and rocks, such as in black shales, to high grade concentrations, such as in unconformity related mineralization or in pegmatitic veins.

Radiometric logging results are qualitative by nature; they exhibit the relative amount of radioactivity in the drill hole that is being probed. They may, however, be calibrated to provide an acceptable results in terms of the uranium content in the rocks. At all times, the radioactive response is an expression of the equilibrium state of the contained uranium and its daughter products, which are also radioactive.

Radiometric logging techniques of drill holes are of two types; passive and active. Passive techniques measure natural radiation with detectors, such as gross-gamma-ray counters or gamma-ray spectral analyzers. The active techniques use a radioactive source and measure the net effect on the radiation of the surrounding rocks. The radiation which reaches the detector(s) can be expressed in different parameters, such as density, porosity, moisture content etc. The effective radius of investigation for these techniques is inversely proportional to the square (or even cubed) distance of the source of radiation. The radiation is mostly attenuated by the density of surrounding rock, and other material, such as water and rods, between the source and the detector. Therefore, approximately 95% of the gamma rays come from within a 30 cm radius of the detector. This indicates that the volume of material being investigated by down-hole radiometric logging to be an order of magnitude greater than the core sample. This also indicates that the radiometric

data are much more representative of the material which is being drilled, especially in porous or friable rock with poor core recovery.

## **BASIC PRINCIPLES OF RADIOACTIVITY**

### ***DISINTEGRATION AND RADIOACTIVITY***

Radioactivity is the process whereby some elements with high atomic numbers, which are unstable, emit alpha ( $\alpha$ ) and beta ( $\beta$ ) particles from their nuclei, and electromagnetic energy as a natural process of disintegration. Alpha particles are positively charged helium particles and beta particles are negatively charged electrons. This disintegration can be accompanied by the release of electromagnetic energy in the form of gamma rays ( $\gamma$ ) which, unlike alpha or beta particles, does not have mass nor is it charged positively or negatively. The gamma rays are comprised of bundles or photons of electromagnetic energy, and are one of the most penetrating types of radiation. That is why during field logging and measurements of natural radioactivity, detection of gamma rays is the most commonly used method.

During disintegration, the original radioactive element forms a new isotope (daughter product) which may or may not be stable, as shown in the radioactive decay series of Figure 24-1. The radioactivity is natural when disintegration occurs spontaneously, or it is induced when it results from the bombardment of an existing nuclide. The rate of disintegration is characteristic and unique for each radioactive nuclide. Although disintegration is independent and random, a constant percentage of the atoms will disintegrate over time. This relationship is expressed as an exponential function as:

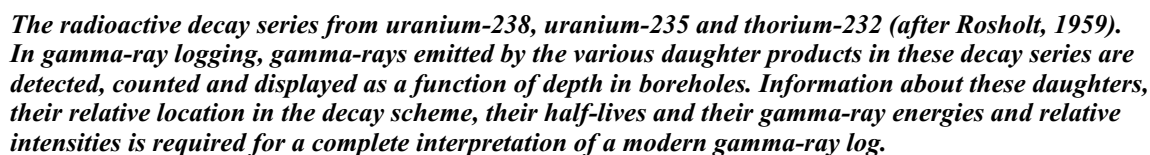
$$N_t = N_0 e^{-\lambda t}$$

Where  $N_0$  is the number of radioactive atoms of one nuclide at time zero,  $N_t$  is the number of atoms at time ( $t$ ) and  $\lambda$  is the decay constant, which is unique for each radioactive nuclide and is directly proportional to the radioactive intensity of that particular nuclide.

The time required for the disintegration of one half of the atoms (half-life) is expressed as:

$$T_{1/2} = \ln(2) / \lambda$$

Where  $\lambda$  is the decay constant and  $\ln(2)$  is the natural logarithm of 2. Since the half-life is a function of the decay constant ( $\lambda$ ), it is a unique property of each radioactive element. This property is unaffected by physical or chemical changes during geological processes.



***Coronel Oviedo Uranium Project***  
*Paraguay, South America*  
**Radioactive Decay Series**

January 2008

**RADIOACTIVE EQUILIBRIUM**

Heavy, long-lived radioactive elements, such as  $U^{238}$  decay naturally, producing a series of daughter products, and end up as a stable element, such as lead ( $Pb^{206}$ ) as shown in Figure 1. Since the members of the decay series are different chemical elements, they may be selectively separated from the original element (parent isotope) by geochemical processes. Radioactive equilibrium is attained when all the daughter products disintegrate at the same rate as they are produced by the parent isotopes and all nuclides remain together. In nature, however, this almost never occurs, as explained below.

Since long-lived nuclides disintegrate at a slower rate than short-lived ones, it is necessary to have more of the slower disintegrating daughters in order to have equilibrium. An ideal state of equilibrium, however, is never attained because the parent isotopes are subject to decay without replacement. But if the decay constant of the parent is small (the half-life is large) a state of relative or “secular” equilibrium may be attained. Since most detection methods do not measure the parent material, the amount (or quantity) of the parent material is inferred by measuring the radiation from the daughter products. It is important to determine the state of “secular” equilibrium when one estimates the amount of uranium from gamma ray logs. The main sources of the gamma energy from the  $U^{238}$  decay series are the daughter products  $Pb^{214}$  and  $Bi^{214}$ .

Radioactive disequilibrium happens if one or more of the daughter products, or the parent isotope, is completely or partially absent. The various disequilibrium states may be caused by the following:

- Radon; the gaseous member of the uranium series, is easily separated from the rest of the elements in the decay series. Since some of the elements which emit radioactivity are produced after the occurrence of radon, a disequilibrium results which will negatively bias the inferred quantity of the parent  $U^{238}$ .
- Recent deposition of parent material either by initial deposition or by remobilization, i.e. little or no daughter products. This will also cause an underestimation of the quantity of the parent material.

- Estimation of parent material based on measurements on remobilized daughter products, with little or no parent material present. This will result in an overestimation of the parent material.

It is important to note that sometimes disequilibrium may be masked by higher emissions of gamma rays from the daughter products of the Thorium series, especially  $\text{Th}^{208}$ .

When there is disequilibrium in the uranium series, and when the absent nuclides are short-lived, approximately 350,000 years are required for the uranium series to regain equilibrium. Normally, if the series is disturbed at the beginning of the chain, then it can take up to 2.5 million years to regain equilibrium. To calculate the time required to regain equilibrium, one considers the longest half-life of the daughters which have been mobilized and multiply it by 10. For example, if radon is lost, the time to regain equilibrium is 3.8 days x 10, or approximately one month. For the long lived  $\text{U}^{234}$ , with a half-life of  $2.5 \times 10^5$ , the time to regain equilibrium is  $2.5 \times 10^5 \times 10$ , or 2.5 million years.

#### **DETECTORS FOR GAMMA RADIATION**

All radiometric measuring systems convert the gamma-ray energy into an electrical signal. The most commonly used types of detectors are Geiger-Mueller counters and scintillation counters, or scintillometers. The efficiency of the detector depends on the energy of the incident radiation, the crystal used to detect radiation, and the detector's dimensions. The efficiency is defined as the ratio of the number of pulses produced by a source to the number of pulses recorder by the detector.

#### **GEIGER-MUELLER COUNTER**

The basic principle of the Geiger-Mueller counter is the ionization of the gases in the detector tube caused by the influx of the gamma rays. This ionization completes a circuit between the two charged poles inside the tube, producing a pulse. The number of these pulses is counted over unit time, e.g. counts per second or cps. The maximum count rate is limited by the recovery time of the detector, i.e. the time required for the gases in the tube to de-ionize, which limits the maximum uranium grade measured by the detector.



Because of these limitations the efficiency of this type of detector is relatively low (<1%) for low grade mineralization, but increases with higher gamma ray energies (Figure 24-2). Furthermore, the Geiger-Mueller counter cannot distinguish between the different energy levels produced by the decay of uranium and thorium.

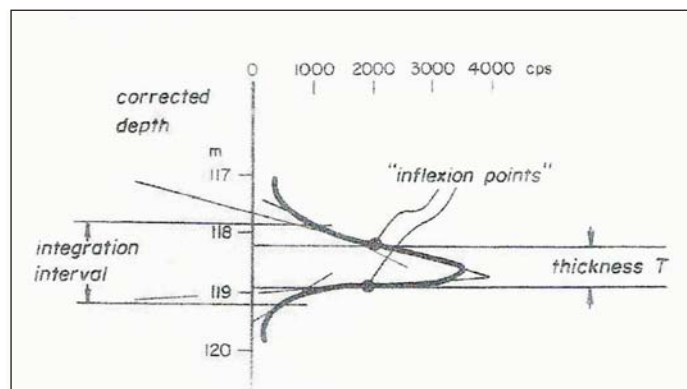
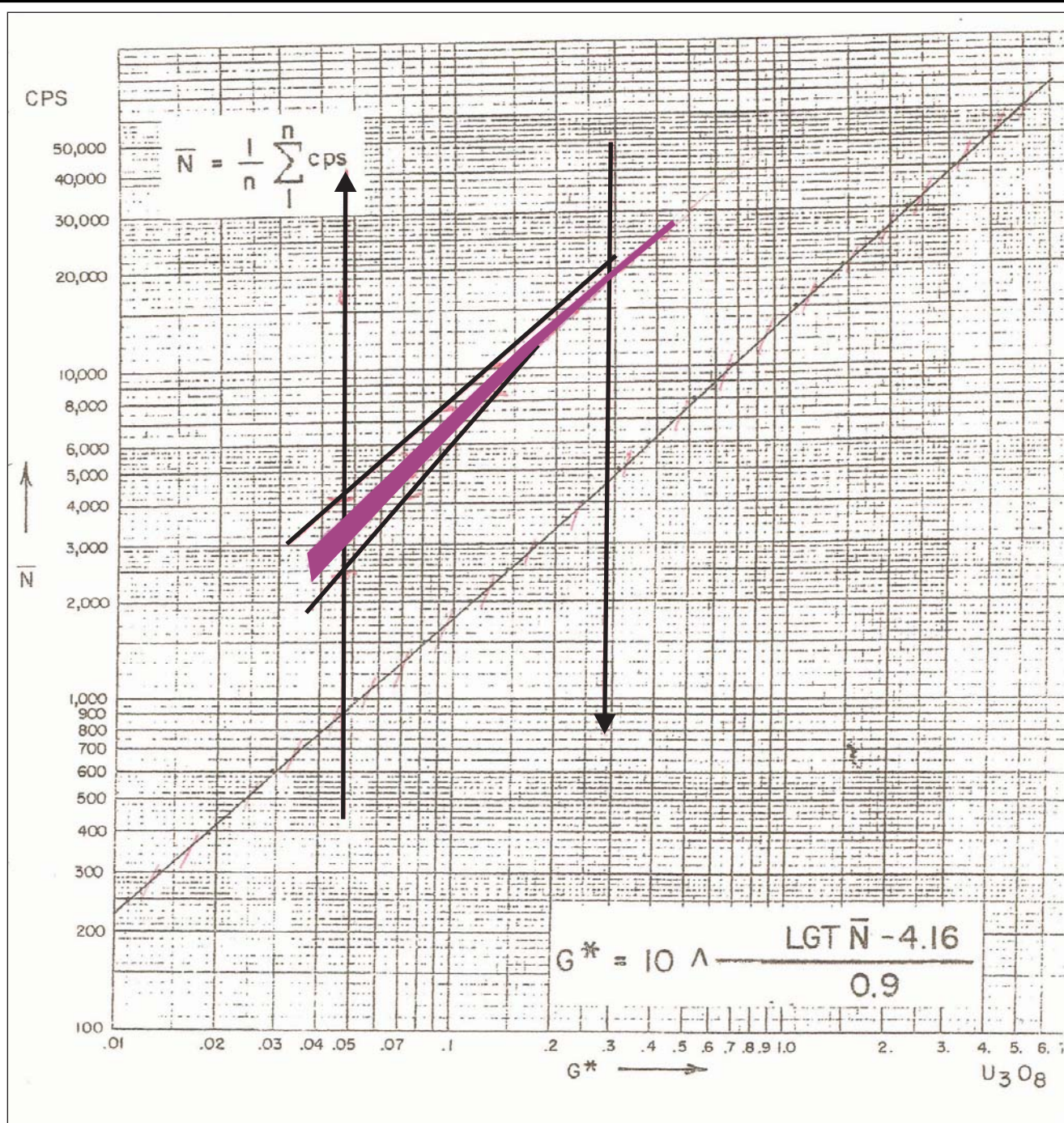


Figure 24-2

**Crescent Resources Corp.**
**Coronel Oviedo Uranium Project**
*Paraguay, South America*
**Efficiency Curves of  
Gamma Detections**

January 2008

Source: B. Schameling, 2007.

**SCINTILLOMETER AND SPECTROMETER**

Scintillometers and spectrometers use certain crystals (thallium activated NaI) to record radioactivity. In these types of crystals the ionizing radiation produces a ray of light or scintillation (fluorescence). The scintillation is registered by the photosensitive cathode of an attached photomultiplier tube, which emits electrons. These electrons are directed through a series of electrodes to amplify the signal. This signal is proportional to the intensity of the scintillation, which in turn is proportional to the energy released by the source material. For common use, as in total count measurements, the scintillometers integrates all pulses above a certain energy level.

A spectrometer uses a frequency distribution of the various energy levels of the source by analyzing the different energy levels. It does not measure the true spectrum of radiation, but it indicates the pulse distribution of the energies, calibrated in terms of gamma ray energies.

**PASSIVE RADIOMETRIC DOWNHOLE LOGGING****GROSS-GAMMA LOGGING**

Scintillation and Geiger-Mueller counters are the most widely applied logging tools in the routine search and evaluation of radioactive minerals. Both types of detectors measure the whole intensity range (gross-gamma) of the total natural gamma radiation, emitted by the uranium and thorium decay series and potassium 40 ( $K^{40}$ ). Accurate gross-gamma readings rely on the sensitivity of the detector, which is dependent on detector dead time, geometry and size, and logging speed. If there are two or more random pulses spaced close together in time, and the resolving (dead time) of the detector is slow, then only one pulse may be measured. Since dead time is a non-linear function and depends on the intensity level of the radiation measured, a correction to the data must be made if quantitative results are needed. The dead time is specific to each detector and is normally very small or negligible for scintillometers, but may reach 100 microseconds or more for some Geiger-Mueller counters.

In some logging systems, the dead time is automatically corrected with modifications to the internal electronics. The recorded readings of the systems, which are not dead time corrected, are normally adjusted by using the formula:

$$N = n / (1 - nt)$$

Where

N is the corrected or true count rate

n is the apparent count rate recorded

t is detector dead time in seconds

The sensitivity of each detector determines the precision of the results over the entire range of natural gamma radiation intensities between normal background and high grade concentrations. Therefore, prior to logging care must be taken in choosing the type of detector with the most sensitive response in each intensity range. The sensitivity of the scintillation counter depends on the size and geometry of the crystal, as noted above. To detect low grade uranium mineralization, the detector should have a large size crystal, whereas, for high grade uranium concentrations the crystal should be small, but thick enough to generate scintillations of lower energy gamma rays. Of course, the size of the crystal inside the logging probe is limited to the diameter of the probe, which in turn is dependent on the diameter of the hole.

The use of Geiger-Mueller counters is limited in detecting radioactivity in high grade uranium deposits mainly because of the decreasing precision caused by their large resolving time. For scintillometers used in high grade deposits, electronic and/or shielding filters – commonly made of sleeves of lead, cadmium, copper and/or brass – are used to detect a linear response over a wide range of intensities. Shielding, on the other hand, does not solve the non-linear response of Geiger-Mueller counters.

The logging speed in analog equipment (as opposed to digital) affects the sensitivity of the system and is dependent on the thickness and intensity of a radioactive layer.

Therefore, the logging speed in drill holes with rapid changes of intensities and thin interlayered units should be adjusted to the resolving time and the sensitivity of the entire logging system.

When logging high grade uranium deposits with associated heavy elements, scintillometers and Geiger-Mueller counters are affected by the self-shielding of the same elements ( $Z$  effect or  $Z_{\text{eff}}$ ). This is the absorption caused by the photo-electric effect. A correction for this relative decrease in the readings can be made by the proper calibration of the equipment using high grade standards of known concentration and high specific gravity. A similar correction also can be made by measuring the low and high energy gamma rays, as the uranium in the high grade sample will release relatively more low-energy rays and shield the higher energy gamma rays.

Finally, thermal protection for the scintillometers is required in abnormally hot or cold conditions, because the crystals in the scintillometers may become unreliable. Geiger-Mueller counters are less affected by hot or cold temperatures.

#### ***CALIBRATION OF GROSS-GAMMA LOGGING EQUIPMENT***

To convert radiometric logging measurements into accurate quantitative data, it is necessary to calibrate the recording system and to carry out a technical check of the logging system and operational tests. The technical check is done to ensure the proper operation of the mechanical and electronic functions of the logging system. Regular recording of these checks provides data on the status of the equipment and any changes in the stability of the equipment. A logging system should be designed to operate with the same precision under all kinds of conditions. It follows that operational tests and calibrations should be done under normal (laboratory) and field conditions. There are two types of calibrations methods which can be used. These are:

- The most common method is to dig a test pit or a big hole, with pre-determined parameters, simulating the drill holes in a mineralized area. In these holes, the grade of the mineralization, grade x thickness value, density, hole size and hole conditions are known and, therefore, correction factors for non-standard

conditions can be derived. Usually, to cover a range of grade concentrations, a number of test holes are logged. This provides the relationship between instrument readings and equivalent grade concentrations to be established. It is important to note that correction factors derived by logging inside specially designed holes are based on “ideal” conditions, simulating the environment and style of mineralization of the area which is being investigated. Also, correction factors are best suited for logging equipment used for uranium deposits with generally homogeneous grade concentrations, i.e. usually low grade uranium deposits.

- The other, less frequently employed uses cored drill holes (model holes) with parameters carefully established by analyzing the core samples for their mineral content, density, and the chemical assay grade. Since the specific drill hole conditions (size, casing and hole filling) are known, these undisturbed holes are used as “calibration source”. The direct, statistical comparison of the chemically analyzed grade and the radiometric log readings over identical intersections, can lead to correction factors applicable to similar drill holes.

In either of the two calibration methods the correction factors are dependent on:

- The radius of the effective volume surrounding the detector, which in turn depends on the primary energy of the radiation emitted within the sample volume.
- The density of the rock surrounding the probe, which affects the linear absorption of radiation.
- The mineral constituents (of the mineralized layer) including the self-shielding effect of any material.
- The proper design of the probe. This includes the thickness and geometry of the probe shell and crystal, and the signal-to-noise ratio of the unit.

Since the detectable response of radiation depends on the geometry of the source generating the radiation, a conversion of the equipment readings into units of elemental concentrations is dependent on adequate geometrical conditions during both calibration and field operations.

The logging data are recorded in physically compatible units, such as counts per seconds (cps). Other units used in the industry are Roentgens per time unit (Rems), Curies, units of power as multiples of background (API units) adopted by the American Petroleum Institute in the oil industry, may cause confusion and should be avoided.

Recently, to other units, Sievert and Bequerel, are also used in the industry. Regardless of the element or the detector, 1 cps = 1 Bequerel and 1 Curie =  $3.7 \times 10^{10}$  Bequerels.

The final objective of any calibration is to gain confidence and accuracy in equivalent grade concentrations (eU, eU<sub>3</sub>O<sub>8</sub>) regardless of which measuring system or detector type is used, and which drill hole or environmental conditions are encountered. Frequent checks of the entire logging assembly should be done to ensure the operational stability of the equipment and the reliability of the calibration procedures. In drilling campaigns, where a sufficient number of core samples are present with both assay and gross-gamma data, the direct correlation of the assay and gross-gamma data may be used to monitor the quality of the calibration.

#### **INTERPRETATION OF GROSS-GAMMA DATA**

To determine the eU<sub>3</sub>O<sub>8</sub> of any uranium concentration by using gross-gamma data, a conversion from instrument readings to equivalent grade is calculated using the appropriate correction factors. The basic (empirically confirmed) equation used for this is:

$$GT = KA$$

Where,

G is the average equivalent uranium grade expressed as eU<sub>3</sub>O<sub>8</sub> over thickness T.

T is the thickness of mineralization intersected.

A is the numerical expression, proportional to the integrated count rate of gamma log over the thickness T.

K is the complex factor or proportionality for that particular detector assembly and specific to drill hole conditions.

The definitions of these parameters are generalized and are dependent on the following:

- The thickness (T) is usually measured from logging curve as the interval length between the midpoints of the anomaly flanks. The recorded signal, however, is a function of the **effective zone of influence** around the detector. This means that as the detector approaches the zone with anomalous radioactivity, it begins to

respond before it reaches the zone as well as after it leaves the zone, thus recording an apparent thickness of radioactive zone. The higher the grade of uranium mineralization, the larger the difference between the apparent thickness and true thickness of the mineralized zone. There may also be a difference between the apparent and true thickness when the logging path is inclined, i.e. not orthogonal, with respect to the orientation of the mineralized layer.

- The integrated count rate (A) is usually the sum of equally spaced readings divided by the number of readings taken over the thickness (T). Since A represents an average count over the interval T, it is expressed as N.
- The factor (K) depends on the particular instrument and the correction factors for hole conditions; it must be determined for each instrument and for each series of holes where geologic conditions may differ. Also, since K is dependent on the intersected radioactive intensity, it must be determined for various ore grades.

The accuracy of the grade of mineralization relies heavily on the quality of the correction factors that are employed and the homogeneity of the area of interest. Therefore, calibration and/or correction factors may have to be developed for each area significant geological changes occur which will affect the radiometric response, e.g. changes in equilibrium states, thorium levels, density and grade relationships, and distribution of uranium grades and the host rock (consolidated vs. inhomogeneous loose material) will require different calibration factors.

#### **GAMMA-RAY SPECTROMETER LOGGING**

The gamma-ray spectrometer logging is a discriminating measurement of different energy levels of natural gamma radiations. Uranium, thorium and potassium components form the spectrum of natural radiation and can be determined separately because of their characteristic gamma-ray energies. Therefore, in some uranium deposits where the value of gross-gamma logging is limited due to radiometric disequilibrium and for variable thorium concentrations, spectrometer logging techniques may be more useful.

It is preferable to use spectrometer logging techniques in early stages of uranium exploration as it can be used to support the properties of different lithological units, identify different uranium and/or thorium halos, and correlations of these haloes.



**ACTIVE RADIOMETRIC DOWNHOLE LOGGING**

Active logging systems utilize sources to induce nuclear effects in the surrounding rock. The source radiation is then measured to see the effects of the surrounding rock that it has caused. Some systems measure the secondary radiations emitted from the surrounding rock immediately after excitation by the primary source radiation.

**NATURAL SELECTIVE GAMMA LOGGING**

This method is similar to the gamma-ray spectral logging except that an artificial gamma source is used. By measuring the influence of the photoelectric effect on the radiation, which is dominant at the low energy level of the natural gamma ray spectrum, and which characteristically, occurs in most uranium mineralized rocks, the real uranium concentration can be determined. This measurement is independent of equilibrium conditions and changes in the density of the rocks. The shortcoming of this system, however, is that it is difficult to obtain a minimum accuracy as the stability of such a system is hard to maintain in routine field conditions.

**GAMMA-GAMMA LOGGING**

Gamma-gamma logging is the measurement of the in-situ density of the rock surrounding a drill hole. It is obtained by detecting gamma-rays emitted from a radioactive source after they have undergone scattering in the material between the source and the detector. Usually, the source and one or two detectors, which are shielded from direct radiation from the source, are mounted in the same probe. The basic principle of this method is that the denser the surrounding material the more gamma radiation will be absorbed in the material. Since the amount of detectable radiation is a function of the electron density of the material, it can deviate from the actual density of some rock types, especially with elements of high atomic numbers ( $Z_{\text{eff}}$ ). In such cases, it is necessary to make corrections based on calibrations.

The gamma-gamma logging technique can be utilised successfully in liquid or in air, water or mud-filled holes, and inside most casings and drill rods. The limiting factor is the combined thickness of the casing and drill rods, and their equivalent atomic number.

**NEUTRON LOGGING**

There are several neutron logging techniques used in the industry, and all of them measure the response of rock properties affected by the emission (bombardment) of neutrons. The basic principle of neutron logging is that the neutrons which are emitted by a source are slowed down and scattered by collision with atomic nuclei. The maximum loss of energy occurs in a collision when the target nucleus has a mass similar to that of the emitted neutron.

Hydrogen atoms have the greatest effects in slowing down the neutrons to produce thermal energies. The target nucleus then emits gamma radiation proportional to the hydrogen content of the rock. Since the detector responds to the hydrogen content in the rock, which is usually the water in the pores in the rock, the neutron logging technique is often referred to as “porosity log”. In neutron logging the probe should not be used through plastic pipes, because the pipes are constructed by hydrocarbons and may cause erroneous results.

**PULSED NEUTRON LOGGING FOR URANIUM ASSAYING**

This method uses a neutron generator as the source. The neutrons induce fission with  $U^{235}$  atoms present in the host rock. The  $U^{235}$  atoms emit delayed neutrons in a very short time before reactivating the neutron generator. This “bombard-wait-count” cycle is repeated a sufficient number of times to accumulate a statistically acceptable number of delayed neutron counts.

If uranium is present in the host rock, the “decay” time of the delayed neutrons is proportional to the uranium content and is independent of disequilibrium problems or rapid changes of density. This method can therefore be used for direct determination of the in-situ content of the uranium in the rock. In general, however, it is expensive to use this method, because it is time-consuming and the diameter of the probe is usually too large (about 15 cm) for common drill holes, which are much smaller in diameter (6 cm to 8 cm) in routine uranium exploration. Recently, this method is used for routine uranium determination in drill cores at some commercial laboratories.

**SUMMARY OF RADIOMETRIC LOGGING METHODS**

Radiometric logging is a supplementary part of most drilling programs in uranium exploration where natural radiation can assist in the definition of certain elements. In uranium exploration programs various radiometric logging techniques have proven to be reliable methods for the determination of the uranium content. The more common methods employed in the industry, however, are the natural gamma or gross-gamma methods. These methods are routinely used to obtain lithological, stratigraphic and structural information. With reliable calibration methods, gross-gamma logging data provide quantitative values of grade contents ( $eU_3O_8$ ) for the purpose of resource estimation and mine planning.

Radiometric logging systems used in uranium exploration range from simple portable units limited to gross-gamma measurements to highly sophisticated mobile systems capable of simultaneous analog and digital recording of multiple types of logs. For the evaluation of logging data, such as conversion of cps values into  $eU_3O_8$  values in mineral exploration, data processing methods and various computer programs have been developed to assist in resource and reserve estimation.

## **25 APPENDIX B**

### **LIST OF SIGNIFICANT URANIUM MINERALIZATION IN DRILL HOLES TO 1982 BY ANSCHUTZ, TRES CORRALES AREA**

**TABLE 25-1 ANSCHUTZ DRILLING RESULTS**  
**Crescent Resources Corp. – Coronel Oviedo Uranium Project, Paraguay**

Drill hole	Coordinates		Mineralization interval (m)			% eU <sub>3</sub> O <sub>8</sub>	Remark
	North	East	From	to	Thickness		
210R1	7,263,183	539,106	30.7	31.0	0.3	0.028	
210T1	7,279,583	543,506	165.9	166.6	0.7		max. 115 cps
210T2	7,280,783	534,106					Barren
211R1	7,266,183	553,406	201.5	202.5	1.0		max. 90cps
211T1	7,263,183	562,206					Barren
211T2	7,276,483	552,656					Barren
230R1	7,253,283	544,706					Barren
230T1	7,245,883	546,506					Barren
230T2	7,259,583	549,906					Barren
231R1	7,240,683	567,306	18	18.6	0.6		max. 64 cps
			118.2	118.5	0.3		max. 105 cps
			129.4	129.8	0.4	0.02	
			134.5	134.9	0.4		max. 132 cps
231R2	7,255,483	560,506	194.0	195.5	1.5		max. 166 cps
			280.0	283.5	3.5		max. 193 cps
			294.0	295.0	1.0		max. 134 cps
			305.5	306.5	1.0		max. 176 cps
			308.0	308.5	0.5		max. 190 cps
231T1	7,247,783	554,006					Barren
231T2	7,247,983	571,306					Barren
231T3	7,236,683	575,506	126.6	126.9	0.3	0.023	
			154.5	154.8	0.3	0.054	
231T4	7,248,383	536,506	217.6	217.9	0.3	0.03	
				82.0			190 cps
251R1	7,217,483	574,106					Barren
251R2	7,211,283	568,506	147.0	147.3	0.3	0.0141	
				19.4			48 cps
				25.5			60 cps
			112.0	113.5	1.5		max. 63 cps
				145.0			230 cps
251R3	7,229,183	568,306	61.6	66.0	4.4		max. 94 cps
			155.5	155.8	0.3	0.033	
251T1	7,219,583	555,506					Barren
251T2	7,218,383	563,706					Barren
251T3	7,221,883	559,106					Barren
251T4	7,225,183	562,006					Barren
251T5	7,233,383	555,106					Barren
251T6	7,211,983	572,556	175.4	175.8	0.4	0.0547	
			170.7	171.1	0.4	0.0398	
			50.4	50.8	0.4		max. 270 cps

Drill hole	Coordinates		Mineralization interval (m)			% eU <sub>3</sub> O <sub>8</sub>	Remark
	North	East	From	to	Thickness		
251T7	7,212,183	573,906	51.7	52.0	0.3	0.0327	
			171.6	171.9	0.3	0.027	
			192.2	192.5	0.3	0.0625	
251T8	7,227,133	570,606					Barren
251T9	7,226,733	575,156					Barren
252R1	7,227,183	578,106		62.5			150cps
				64.0			90cps
				70.0			100cps
252T1	7,227,283	583,506	115.0	115.9	0.9		100 cps
			150.0	152.0	2.0		120 cps
252T2	7,219,683	580,406		79.5			110cps
				156.5			110cps
				159.5			140cps
				181.0			130cps
				212.0			180cps
252T3	7,211,633	576,556	186.3	189.8	3.5	0.0138	
			191.5	192.3	0.8	0.034	
			218.9	219.4	0.5	0.0323	
252T7	7,226,633	580,906	198.8	199.4	0.6	0.021	
			174.6	174.9	0.3	0.022	
271R1	7,201,883	573,406	115.0	115.5	0.5		max. 1140 cps
			120.0	120.5	0.5		max. 300 cps
271R2	7,200,883	567,706	28.5	29.0	0.5		max. 800 cps
			31.5	32.0	0.5		max. 600 cps
			41.0	41.5	0.5		max. 250 cps
271R3	7,197,583	570,306					Barren
271T1	7188583.1	569606.4		64.0			150 cps
				76.0			180 cps
				113.5			45 cps
				125.0			45 cps
271T2	7,193,483	573,506	204.4	205.2	0.8		max. 200 cps
272R1	7,196,683	581,406	191	192	1		150-165cps
			215.5	216	0.5		max. 100cps
				270			920cps
				283.5			520cps
272R2	7,196,701	581,329	166.5	167.0	0.5		max. 80 cps
			198.5	199.0	0.5		max. 118 cps
272R3	7,189,383	594,506					Barren
272R4	7,191,065	586,763					Barren
272T1	7,188,983	578,906		179.5			38cps
				191.5			70cps
				203.5			60cps
272T2	7,198,483	578,306		62.0			180cps
				151.0			100cps
				163.0			120cps
				217.0			80cps
272T3	7,196,848	585,254	239.6	243.5	3.9	0.017	

Drill hole	Coordinates		Mineralization interval (m)			% eU <sub>3</sub> O <sub>8</sub>	Remark
	North	East	From	to	Thickness		
			246.4	247	0.6	0.03	
272T4	7,200,192	586,415	295.5	295.7	0.2	0.0142	
			296.5	296.8	0.3	0.0133	
272T5	7,194,283	591,006					Barren
272T6	7,196,583	579,406	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	
272T7	7,196,460	583,653	234.3	234.7	0.4	0.0588	
			235.2	237.0	1.8	0.0375	
			244.2	247.5	3.3	0.041	
272T8	7,196,749	587,584	239.0	241.0	2.0		50 to 165 cps
272T9	7,196,235	583,060					125-500cps in same horizons
							as hole 272 T7
272T10	7,197,006	583,136	129.9	130.1	0.2	0.021	
272T11	7,195,820	583,446	262.5	262.8	0.3	0.0316	
272T12	7,196,341	583,358	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	
272T13	7,196,133	580,306					Barren
272T14	7,196,489	583,713	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	
272T15	7,196,506	583,721	186.3	186.7	0.4	0.029	
			236.8	237.3	0.5	0.044	
			244.5	246.0	1.5	0.023	
272T16	7,199,616	583,800	160.3	161.5	1.2	0.034	
			240.9	241.5	0.6	0.017	
			243.8	244.3	0.5	0.016	
189R1	7292100	512300					Barren
209T1	7284000	521100					Barren
209T2	7289000	515100					Barren
209T3	7275900	521300	132	134	2		max. 114cps
			179.5	181	1.5		max. 195cps
RD76	7182200	573000					Barren
RD77	7181400	588300					Barren
RD78/79	7181900	591800	164.0	165.0	1.0		max. 100cps
RD80/81	7182200	589800					Barren
291T1	7173400	571500	157.9	158.1	0.2	0.112	
291T2	7172700	575250					Barren
291T3	7172150	572400	130.1	130.4	0.3	0.0315	
291T4	7174450	573100	155.5	155.7	0.2	0.066	
291T5	7174600	571350	110.6	110.9	0.3	0.024	

Drill hole	Coordinates		Mineralization interval (m)			% eU <sub>3</sub> O <sub>8</sub>	Remark
	North	East	From	to	Thickness		
			111.9	112.2	0.3	0.079	
<b>291T6</b>	7172900	575150	125.1	125.3	0.2	0.032	
			130.6	130.8	0.2	0.035	
<b>292T1</b>	7172300	579350	67.3	67.8	0.5	0.0139	
<b>292T2</b>	7176400	579150					Barren

Source: Crescent, 2007.



**LIST OF SIGNIFICANT URANIUM MINERALIZATION IN  
DRILL HOLES IN 2007, TRES CORRALES AREA**

**TABLE 25-2 2007 DRILLING RESULTS BY CRESCENT**  
**Crescent Resources Corp. – Coronel Oviedo Uranium Project, Paraguay**

Hole ID	zone	Mineralization interval (m)			Rad. (cps)	Grade (%eU <sub>3</sub> O <sub>8</sub> )	Remarks
		From	to	Thickness			
TC-1002	1	137.00	138.00	1.00		<0.01	anomalous spike, 950 cps,
	2	230.00	244.00	14.00		<0.01	wide anom zone, max spike 960 cps
	3	254.50	255.50	1.00		<0.01	anomalous spike, ca 1000 cps
TC-1003	1	141.00	142.00	1.00		<0.01	anomalous spike, 1100 cps,
	2	248.00		0.30		<0.01	anomalous spike, 650 cps, ca 6 x bkgnd
	3	261.50		0.20		<0.01	anomalous spike, 410 cps, ca 4 x bkgnd
TC-1004	1	152.81	153.41	0.60	300	<0.01	anomalous spike, 498 av cps, ca 5 x bkgnd
	2	185.53	186.03	0.50	400	<0.01	anom spike, 932 av cps, ca 10 x bkgnd
	3	233.61	234.50	0.90	400	0.020	low grade anomalous spike, 1681 av cps
	4	242.08	247.08	5.00	400	0.051	wide medium grade anom, 4259 av cps
	5	271.21	271.71	0.50	400	0.013	small low grade anomaly, 1045 av cps
TC-1005	1	135.16	135.36	0.20	300	<0.01	anomalous spike, 423 av cps, ca 5 x bkgnd
	2	151.91	152.31	0.40	300	<0.01	anom spike, 431 av cps, ca 5 x bkgnd
	3	186.13	186.63	0.50	400	<00.01	anom spike, 539 av cps, ca 8 x bkgnd
	4	234.30	235.90	1.60	800	0.021	small medium grade anom, max 3800 cps
TC-1006	1	148.32	148.82	0.50	800	0.019	very small spike type anom, ca 2200 cps
	2	234.80	235.90	1.10	800	0.022	small anom in higher bkgnd, ca 3000 cps
	3	241.69	243.49	1.80	800	0.018	spike type anom in higher bkgnd, 2700 cps
	4	253.20	254.10	0.90	300	<00.01	small anomaly up to 950 cps, ca 6 x bkgnd
	5	271.71	272.11	0.40	800	0.020	small spike anomaly up to ca 2500 cps
	6	275.30	275.50	0.20	800	0.014	small spike anomaly up to ca 1700 cps
TC-1007	1	130.07	130.67	0.60	800	0.019	spike type anomaly, ca 2000 cps
	2	148.20	148.22	0.20	800	0.014	small low grade spike anom., 1200 cps
	3	232.61	235.30	2.70	800	0.026	double peak anom., max 4000 cps
	4	241.88	242.38	0.50	800	0.018	low grade spike anom., ca 1700 cps
	5	260.54	261.14	0.60	800	0.021	spike type anomaly, ca 2400 cps
TC-1009	1	153.41	153.91	0.50	800	0.019	small spike, ca 2100 cps
	2	233.71	238.19	4.48	800	0.031	two peak single anomaly, max 6900 cps
	3	244.68	245.48	0.80	800	0.014	small low grade anom., ca 1400 cps
TC-1010	1	237.60	239.79	2.19	800	0.019	multiple spikes in hi bkgnd., up to 4100 cps
	2	247.07	247.77	0.70		<0.01	distinct low grade anom., av. < 1000 cps
	3	259.84	260.44	0.60	800	0.017	small spike anomaly, ca 2000 cps
	4	264.53	265.03	0.50	800	0.022	small spike anomaly, ca 2800 cps

Hole ID	zone	Mineralization interval (m)			Rad. (cps)	Grade (%eU <sub>3</sub> O <sub>8</sub> )	Remarks
		From	to	Thickness			
TC-1011	1	152.81	153.11	0.30	800	<b>0.014</b>	single spike low grade anomaly, 1100 cps
	2	234.30	238.00	3.70	800	<b>0.031</b>	multiple peak anomaly, up to 9000 cps
	3	244.48	245.18	0.70	800	<b>&lt;0.01</b>	distinct low grade anomaly
	4	261.04	261.00	0.44	800	<b>&lt;0.01</b>	distinct low grade anomaly
TC-1012	1	135.65	136.05	0.40	800	<b>0.017</b>	small spike anomaly ca 1500 cps
	2	153.01	153.51	0.50	800	<b>0.018</b>	small spike anomaly ca 2100 cps
	3	236.80	238.10	1.30	800	<b>0.041</b>	medium grade two peaks anom., 5000 cps
	4	278.19	278.49	0.30	800	<b>0.018</b>	<i>! z.3 + z.4 only used in sum. Calculation !</i>
TC-1013	1	136.65	137.05	0.40	800	<b>0.015</b>	distinct single peak anom., ca 1000 cps
	2	186.23	186.53	0.30	800	<b>0.014</b>	distinct low grade peak, ca 1000 cps
	3	237.10	242.00	4.90	800	<b>0.043</b>	zone with 3 single peaks up to 14500 cps
	4	251.46	253.46	2.00	800	<b>0.047</b>	single peak med. grade anom., ca 8000 cps
TC-1014	1	186.23	186.63	0.40	800	<b>0.014</b>	small low grade spike anom., ca 1400 cps
	2	234.50	236.10	1.60	800	<b>0.015</b>	small twin spike anomaly ca 2500 cps
	3	242.88	245.28	2.40	800	<b>0.039</b>	distinct medium grd. anom., up to 7600 cps
	4	261.14	261.34	0.20	800	<b>0.017</b>	very small low grade spike, ca 1500 cps
	5	272.61	273.01	0.40	800	<b>0.024</b>	<i>! z.2 + z.3 used only sum. calculation !</i>
TC-1015	1	151.91	152.21	0.30	800	<b>0.013</b>	small spike anomaly
	2	232.81	233.11	0.30	800	<b>&lt;0.01</b>	small very low grade anomaly
	3	235.80	243.08	7.28	800	<b>0.023</b>	wide multi peak anomaly, 1peak 4200 cps
	4	243.58	245.28	1.70	800	<b>0.013</b>	single peak anomaly ca 1700 cps
	5	250.26	251.06	0.80	800	<b>0.017</b>	distink small anomaly ca 1700 cps
TC-1016	1	186.73	187.12	0.40	800	<b>0.017</b>	small spike type anomaly ca 1900 cps
	2	237.40	238.39	1.00	800	<b>0.026</b>	small spike type anomaly ca 3500 cps
	3	247.17	248.27	1.10	800	<b>&lt;0.01</b>	small spike type anomaly ca 1200 cps
	4	276.90	277.19	0.30	800	<b>0.014</b>	very small spike anomaly ca 1500 cps
TC-1017	1	235.90	240.29	4.39	800	<b>0.023</b>	multi spike type anom., max 5700 cps
	2	249.56	250.16	0.60	800	<b>0.017</b>	small low grade spike, 2200 cps
	3	251.16	251.56	0.40	800	<b>&lt;0.01</b>	distink low grade spike
TC-1018	1	187.62	187.95	0.30	800	<b>0.013</b>	small low grade spike
	2	239.79	243.48	3.69	800	<b>0.025</b>	double peak anomaly up to 5000 cps
	3	250.16	254.45	4.29	800	<b>0.018</b>	asymetric anomaly up to 4500 cps
	4	276.10	276.40	0.30	800	<b>0.032</b>	very small spike type anomaly ca 4800 cps
TC-1019	1	189.87	190.17	0.30	1,000	<b>0.019</b>	spike type anomaly, max 1900 cps
	2	240.04	243.03	2.99	1,000	<b>0.028</b>	distinct multiple peaks ca 6500 cps
	3	250.81	253.90	3.09	1,000	<b>0.029</b>	multi peaks anomaly, max ca 4500 cps
	4	254.70	255.10	0.40	800	<b>0.016</b>	spike type anomaly, ca 1600 cps
TC-1020	1	138.05	138.75	0.70	800	<b>0.019</b>	spike type anomaly, max ca 2600 cps

Hole ID	zone	Mineralization interval (m)			Rad. (cps)	Grade (%eU <sub>3</sub> O <sub>8</sub> )	Remarks
		From	to	Thickness			
	2	239.59	239.99	0.40	1000	<b>0.019</b>	spike type anomaly, max ca 2000 cps
	3	240.49	242.78	2.29	1,000	<b>0.047</b>	distinct anomaly, max ca 9300 cps
	4	243.18	243.58	0.40	1,000	<b>0.018</b>	spike type anomaly, max ca 1700 cps
	5	252.66	255.95	3.29	1,000	<b>0.039</b>	distinct anomaly, max ca 12000 cps
TC-1021	1	192.31	192.61	0.30	800	<b>0.014</b>	small spike anomaly ca 2000 cps
	2	243.18	247.17	3.99	800	<b>0.044</b>	multi peaks anomaly, max ca 14000 cps
	3	247.57	247.97	0.40	800	<b>0.014</b>	small spike anomaly ca 2000 cps
TC-1022	1	141.74	142.04	0.30	800	<b>0.015</b>	single spike anomaly, ca. 1400 cps
	2	242.18	242.48	0.30	800	<b>0.013</b>	spike type anom., next to z3, ca 1200 cps
	3	244.38	246.67	2.29	800	<b>0.031</b>	distinct anomaly, multi spikes, ca 8000 cps
	4	253.26	256.25	2.99	800	<b>0.016</b>	distinct anomaly, multi spikes, ca 4500 cps

Source: Crescent, 2007;

## **26 APPENDIX C**

### **PROCEDURES FOR DETERMINATION OF URANIUM CONTENT AT SGS/BECQUEREL LABORATORIES BY THE NEUTRON ACTIVATION METHOD**

**ANALYTICAL METHOD, SGS/BEQUERAL LABORATORIES**

Instrumental neutron activation analysis (NAA) is especially powerful in its sensitivity and throughput and in its capacity to accurately determine many elements on a single sample. NAA does not require chemical treatments of samples with their attendant possibilities of losses and contamination and incomplete dissolution.

For explorations samples, our neutron activation analysis method involves the transfer of 2-15 grams of sample to tarred, plastic, watertight vials. Each vial is uniquely identified with a bar code and a flux monitor affixed to the base. These vials are stacked into one-foot long bundles for irradiation. The bundles contain randomly selected duplicate samples at the base of the bundle and standards inserted at random positions in the bundle.

All bundles are treated in a similar manner. They are submitted for exposure to a flux of neutrons at a nuclear reactor. We currently irradiate our samples at the McMaster Nuclear Reactor which has flux of  $8 \times 10^{12}$  neutrons/cm<sup>2</sup>/sec. These bundles are inserted into the core of a nuclear reactor for twenty minutes. In the RIFLS reactor sites, the bundles are rotated during irradiation so that there is no horizontal flux variation. (The vertical flux variation is monitored with the individual flux monitors.) This irradiation causes many of the elements in the sample to become radioactive and begin to emit radiation in the form of penetrating gamma rays whose energies (or wavelengths) are characteristic of particular elements.

After a decay period of six days, the irradiated samples are loaded onto the counting system. The sample is placed close to a gamma-ray spectrometer with a high resolution, coaxial germanium detector. Gamma rays radiate continuously and the interaction of these with the detector lead to discrete voltage pulses proportional in height to the incident gamma-ray energies. Our specially developed multichannel analyzer sorts out the voltage pulses from the detector according to their size and digitally constructs a spectrum of gamma-ray energies versus intensities. The counting time is twenty to thirty minutes per sample. After additional decay of at least ten days, the samples are

recounted for one hour. By comparing spectral peak positions and areas with library standards, the elements comprising the samples are qualitatively and quantitatively identified. The results of the analysis are computed and data reports are generated.

Becquerel Laboratories has developed special procedures for neutron activation analysis that contribute significantly to the higher quality of our results relative to other commercial laboratories.

One important aspect of this is the individual neutron flux monitoring of each sample. (This acts as an internal standard on each sample by monitoring the vertical neutron flux variation in the reactor.) In addition, a randomly positioned standard is inserted into the bundles.

**PROCEDURES FOR SAMPLE PREPARATION AT ALS  
CHEMEX LABORATORIES, SAN JUAN, ARGENTINA**



## PROCEDURES FOR DETERMINATION OF URANIUM CONTENT AT ENERGY LABS BY THE CLOSED CAN METHOD, CASPER, WYOMING

### ANALYSIS OF DIAMOND DRILL CORE

#### SAMPLE PREPARATION

The sample preparation procedures are, as follows:

- At the direction of the client, the drill core is split in one/half-foot sections and selected intervals to be analyzed for Closed Can gamma (CC) and chemical uranium (CU) analyses. Both CC gamma and CU analysis splits require drying of the samples at approximately 105°C for more than 16 hours in a convection oven followed by grinding via a plate pulverizer to -100 mesh.
- Approximately 200 g of ground core is required for the CC gamma analysis and this mass is placed in a 3 in. diameter x 1 in. tall soils tin, which is then sealed with electrical tape.
- A minimum 15 day ingrowth interval is employed to establish secular equilibrium between  $^{226}\text{Ra}$  and  $^{214}\text{Bi}$ , which is the gamma emitting daughter of interest. As radon emanation studies have repeatedly demonstrated that a maximum of only 30% of  $^{222}\text{Rn}$  can be removed from a soils matrix using somewhat extreme techniques, the 15-day period ensures at least a 98% complete ingrowth of  $^{214}\text{Bi}$ . “Closed Can” uranium analysis works on the premise that, in a particular ore body, the activities of  $^{238}\text{U}$  and  $^{226}\text{Ra}$  will be in secular equilibrium being that the half-life of uranium is much greater than that of  $^{226}\text{Ra}$ . Once the can is sealed with the mineralized material, conditions are ideal for attaining secular equilibrium between  $^{226}\text{Ra}$ ,  $^{222}\text{Rn}$ , and  $^{214}\text{Bi}$ , which is quantified using a 2-in. NaI detector at the  $^{214}\text{Bi}$  609 Kev energy region. Since  $^{238}\text{U}$  is the only possible source of  $^{226}\text{Ra}$ , the specific activity of  $^{238}\text{U}$  is applied to the tested activity of  $^{226}\text{Ra}$  to determine the total uranium content. The efficiency of the counting system is determined using certified  $^{226}\text{Ra}$  standards in the same geometry and density as the canned core samples. The official method identification, which will be used in data reporting, is EPA-901.1.

#### CHEMICAL ANALYSIS

Chemical analysis is conducted on a strong mineral acid digest of the dried and ground core.

- Following drying and grinding and blending the core samples, a 1-gram subsample is taken and delivered to a digestion vessel.
- Fifty percent nitric acid is added to the vessel (50 ml centrifuge tube), the vessel is loosely sealed and heated in a water bath at 95°C for more than 16 hours.

- Following the heating period, the volume is adjusted to a known level, typically 50 ml.
- Uranium analysis (and other metals) is performed on the solution by Inductively Coupled Argon Plasma (ICP) emission spectroscopy against certified commercial standards (EPA-6010).