

# **NI 43-101 Technical Report on Resources Cebolleta Uranium Project Cibola County, New Mexico, USA**

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## **Report Prepared for**



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# 1 Summary (Item 1)

This Technical Report on Mineral Resources for the Cebolleta uranium project was prepared on behalf of Uranium Resources, Incorporated (URI), a US-based uranium development company. URI and its wholly-owned subsidiaries Cibola Resources LLC and Neutron Energy, Inc. (Neutron) have actively studied the Cebolleta project and conducted various engineering, environmental and geological studies of the project since acquisition of the property by Neutron in 2006.

For the purposes of this report Uranium Resources, Inc., Cibola Resources and Neutron Energy are considered to be a single entity, and are referred to in the report as either “URRE” (the Company’s NASDAQ stock symbol) or “the Company”.

This report is based in part upon an extensive collection of historical exploration, engineering, geological and production data that was collected by former operators of currently inactive uranium mines, and undeveloped uranium deposits that are situated within the boundaries of the property currently controlled by URRE. These former uranium mines – St. Anthony and L-Bar (JJ#1) were operated by United Nuclear/UNC Resources (St. Anthony), which is a subsidiary of General Electric, and by Sohio Western Mining (L-Bar), now a subsidiary of the Rio Tinto group of companies. URRE has gamma-ray logs from more than 3,500 drill holes that were completed by these former operators, as well as numerous maps, cross-sections, reports and studies relating to the properties, and this data has served as the basis for this report and URRE’s evaluation of the project’s technical merits. URRE has generated a limited amount of confirmation information to verify historical mineralization, including gamma logs of several probed historical holes, core and gamma logs from water monitor wells, and in-pit channel sampling of exposed uranium mineralization. Geological and engineering studies undertaken by URRE’s technical staff were made available to the authors of this Technical Report, and that information contributed to the overall evaluation of the Cebolleta project.

The current Inferred Mineral Resources for Cebolleta are shown in Table 1, and total 18,980,000 contained pounds  $U_3O_8$ .

## Property Description

The Cebolleta project is situated in the eastern-most portion of Cibola County, New Mexico, United States of America. It is located approximately 45 air miles (72 km) west-northwest of the city of Albuquerque, and approximately 10 miles (16 km) north of the town of Laguna. Three small villages, Bibo, Moquino, and Seboyeta, are located a short distance west and northwest of the project area. Goods and services are available in Albuquerque, as well as at the former uranium-mining town of Grants, which is approximately 29 miles (47 kilometers) west of the project area.

Access to the project is good. A major transcontinental highway (I-40) traverses the region about 12 miles (19 kilometers) south of the project and a well-maintained State of New Mexico paved highway (NM-279) connects I-40 at the village of Laguna with the settlement of Seboyeta, which is located approximately 4 miles (6.4 kilometers) northwest of the project. An all-weather graded gravel road, maintained by the Cibola County government, and several private roads of varying quality cross the project lands and provide access to nearly all parts of the project area. During periods of precipitation access to the immediate project area on the unmaintained private roads may be hindered due to muddy ground conditions, but these events are normally of short duration. Rail service is available from the BNSF Railroad at the towns of Grants and Milan, and scheduled air service is available in Albuquerque.

## Ownership

The lands that comprise the Cebolleta uranium project are owned in fee by La Merced del Pueblo de Cebolleta [the “Cebolleta Land Grant” (CLG)], and are the southeastern portion of a larger land holding. URRE (through its wholly-owned subsidiary Neutron Energy) has leased an area covering approximately 6,700 acres (2,994 hectares) of mineral rights. The majority of the leased mineral rights are covered by the surface estate held by the Cebolleta Land Grant, and surface use and access rights are included as provisions of the lease. The remaining portion of the leased mineral rights is covered by surface rights owned by the Lobo Ranch, and are not leased by URRE. Access to the Lobo Ranch surface for exploration and mining purposes is covered by a provision of the deed and purchase agreement that conveyed these lands to the ranch.

## History

The Laguna mining district, which includes the area of the Cebolleta project, has been of considerable interest to the US uranium mining industry since the early 1950's. The first discovery of uranium mineralization in the Laguna district was made by geologists and engineers of the Anaconda Copper Company in late-1951 (Beck and others, 1980). Anaconda's identification of strong surface uranium mineralization resulted in the discovery of the Jackpile-Paguete uranium mine. Anaconda also undertook a regional exploration drilling program on the nearby Evans Ranch, located northeast of the Jackpile mine, in 1955 and this program continued until 1957. This location is the site of the L-Bar group of deposits (Area I-V deposits as described by URRE) that form part of the Cebolleta project. During this period of exploration more than 350 holes were drilled in the area of the Cebolleta project by Anaconda (Geo-Management, 1972).

Climax Uranium, a subsidiary of American Metals Climax, leased certain properties from the Cebolleta Land Grant and discovered several uranium deposits that subsequently became the St. Anthony group of uranium deposits. Climax operated a small-scale underground mine between 1953 and 1960, when their lease was acquired by United Nuclear Corporation (later to become UNC Resources, now a subsidiary of General Electric). During the period of Climax's operations the company produced nearly 321,000 pounds of  $U_3O_8$ . UNC's mining activities commenced in 1977 and continued through 1980 (McLemore, 2000). Production rates for the last two years of production at St. Anthony (1979 and 1980) were 1.134 million pounds of  $U_3O_8$  from stockpiles at the mine site (Hatchell and Wentz, 1981).

Reserve Oil and Minerals, a publicly-traded resource development company purchased the Evans Ranch (surface and mineral rights) in 1968. Reserve sold an undivided 50 percent interest in the ranch, including the mineral rights, to Sohio (then a subsidiary of the Standard Oil Company of Ohio) in 1969 and formed a joint venture to explore for and develop uranium deposits on the Evans Ranch (Melting, 1980 a, b). Sohio operated the joint venture and discovered extensive uranium mineralization on the property prior to the development of an underground mine and construction of a uranium mill (known as the JJ#1 mine and L-Bar mill). Sohio operated the property between late 1976 and 1981 and produced approximately 1.9 million pounds of  $U_3O_8$  from the JJ#1 mine prior to shut-down (McLemore and Chenoweth, 2003). Sohio acquired Reserve's interests in the property in 1982, and subsequently deeded their property interests in the area to the Cebolleta Land Grant in 1989, fulfilling a portion of their reclamation and restoration obligations.

The Cebolleta project lease from the CLG was acquired by Neutron Energy, and its then-partner Uranium Energy Corporation in 2006 and the companies formed Cibola Resources LLC for the

purposes of advancing the project. Neutron acquired Uranium Energy's membership interest in Cibola Resources in 2011, and Uranium Resources acquired Neutron (and Cibola Resources) in 2012.

## Geology and Mineralization

The project area is situated near the eastern/southeastern end of the Grants mineral belt, on the southern flank of the San Juan Basin. The San Juan Basin is a significant geological and topographic feature that covers much of the northwest portion of the state of New Mexico, and is a major geological and physiographic feature of the Colorado Plateau geologic province. The Grants mineral belt is a west-northwest trending zone of sandstone-hosted uranium deposits that parallels the northeastern edge of the Zuni Uplift, which is the southern boundary of the San Juan Basin. The Grants mineral belt extends from the western edge of the Rio Grande rift, west of Albuquerque, west-north-westerly to the vicinity of the city of Gallup - a distance of more than 100 miles (161 kilometers).

Sandstone-hosted uranium deposits of the Grants mineral belt, which is one of the largest concentrations of sandstone-hosted uranium deposits in the world, are hosted in the Jackpile and Poison Canyon sandstone (informal) units of the Brushy Basin Member, and the Westwater Canyon Member of the Jurassic-aged Morrison Formation. This belt of uranium deposits includes the (from east to west) Laguna, Ambrosia Lake - San Mateo, Smith Lake, Crownpoint, and Church Rock mining districts. Collectively, uranium deposits within the mineral belt have produced nearly 350 million pounds of  $U_3O_8$ , or more than 37 percent of all of the uranium produced in the United States (Wright, 1980, Dahlkamp, 2010).

Uranium deposits at the Cebolleta project are hosted in sandstones that were deposited in a braided stream environment of a broad alluvial fan, and are part of the Jackpile Sandstone (an informal unit of economic usage), which is the host for the prolific Jackpile and Paguate uranium mines that adjoin the south boundary of the Cebolleta uranium project. The uranium deposits at the Cebolleta project, and the adjoining Jackpile and Paguate mines are the only known significant uranium deposits hosted in the Jackpile Sandstone in the Grants mineral belt. The project area contains several significant undeveloped uranium deposits, including, the Area I, II, III, IV, V deposits and deposits associated with the former St. Anthony uranium mines. These uranium deposits were discovered by the former project operators in the 1960's and mid-1970's and portion of the St. Anthony and Area II and V deposits were mined in the 1970's.

URRE has mapped and sampled in detail numerous exposures of the principal mineralized zones in the St. Anthony open pit mines, logged several historical exploration and development drill holes in the project area with gamma-ray logging equipment, and sampled and chemically assayed recently completed groundwater monitoring holes, all of which penetrated the main mineralized horizons of the uranium deposits. The results of this work confirm historical drilling results from these areas.

For the purposes of this report, the uranium deposits are named Area I, II, III, IV, V, and St. Anthony; minimizing the historical references to the L-Bar and Sohio deposits, as they all are currently on URRE controlled lands.

## Exploration Status

URRE has not yet carried out any drilling on the Cebolleta project.

The Company is in possession of an extensive set of drill hole data, primarily geophysical logs (continuous recordings of natural gamma-ray, SP and single point resistivity logs) of essentially all of



the exploration and development drill holes that were completed on the project lands by previous explorers. The Company also has copies of numerous assay certificates that were prepared for the former operators of the project by various commercial and in-house assay laboratories.

Much of the historical drilling data has been reviewed in detail by the Company and the authors of this report, and it appears that this information was collected in a manner, and with methods that were consistent with uranium industry standards at the time the drill holes were completed. It is also the opinion of the authors of this report that the historical exploration data is of a quality to accurately depict the nature and tenor of the uranium deposits at the Cebolleta project, by current industry standards. This information is of sufficient quality and density to provide an accurate depiction of the subsurface geology of the project area.

Geochemical (channel) sampling of open pit mine exposures and re-logging of several unplugged historical drill holes by the Company in 2010 has generally confirmed that the extent and tenor of uranium mineralization as depicted by historical drill hole data. URRE has assayed core from holes drilled in 2010 by United Nuclear for groundwater monitoring purposes, and the results of the chemical assays and geophysical logs are also consistent with historical data from nearby drill holes.

## **Mineral Processing and Metallurgical Test Work**

URRE has not undertaken any metallurgical testing of uranium mineralization at the Cebolleta project.

The Company holds a number of historical technical reports on the metallurgical characteristics of the St. Anthony deposits' mineralization. These documents discuss metallurgical recovery difficulties experienced with mineralization in the upper portion of the mineralized zones and present some potential methods to overcome the apparent recovery difficulties. One independent (third-party) metallurgical laboratory test of St. Anthony mineralization yielded significantly better results. The available data from the former L-Bar mill, which processed mineralized material from the other deposits, is limited, but there are no indications of metallurgical and recovery difficulties associated with that processing operation. The conflicting results from the various sets of metallurgical documents strongly suggests the need for additional metallurgical tests by URRE to better define the recovery characteristics of uranium mineralization at the Cebolleta project and determine the most effective methods for successfully recovering uranium from the Cebolleta deposits.

## **Mineral Resource Estimate**

URRE has generated a limited amount of confirmation information to verify historical mineralization; gamma logs, core assays, and in-pit channel sample assays, and the authors of this technical report deem this level of confirmation information as sufficient to develop mineral resource estimates of an Inferred classification. URRE has plans for an in-fill program of approximately 80 confirmation and exploration drillholes, which are intended to provide a greater confidence in the historical information and thus an opportunity for improvement in the resource classification.

As the Cebolleta uranium project is the site of several formerly operated uranium mines and other undeveloped deposits of uranium mineralization there are several mineral resource estimates that are historical in nature. These resource estimates were prepared by the then-project operators prior to the development of National Instrument 43-101 and are, therefore, not compliant with its provisions. Additionally, the historical resource estimates do not correspond to any known resource code (for instance CIM) in effect at the time of the estimates or currently. Historical resources are cited in the History Section of this report.

Mineral resources were estimated for the Area I, II, III, and V deposits. Area IV is a relatively small area of reported historical resources and only a portion was modeled. The St. Anthony deposits, in and surrounding the St. Anthony open pits, have not been modeled, as the large amount of historical data for St. Anthony has not yet been synthesized into a useable database for resource estimation. The Mineral resources stated were prepared by Frank Daviess, of Golden, Colorado, in accordance with Canadian Securities Administrators (CSA), National Instrument 43-101 (NI 43-101), and resources have been classified according to the "CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines" (November 2010). Accordingly, the resources have been classified as "Inferred".

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves. The quantity and grade of reported Inferred resources in this estimation are uncertain in nature, as there has been insufficient confirmation exploration to define these Inferred resources as an Indicated or Measured mineral resources, and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.

Datamine® Studio, a commercially available geology and mining software package was used for geological domain, block modeling, and grade estimation.

For the purposes of this report, the resources historical reported for Area I, II, III, IV, and V are here presented as mineral resources for Areas I-II-V and Area III, corresponding to the same areas historically reported. Only a portion of Area IV is included with Area I-II-V, as it is a relatively small resource area with insufficient available drillhole data, and the St. Anthony deposits are not yet in a form to allow for current resource estimation. The current Inferred Mineral Resources for Cebolleta are as shown in Table 1 below:

**Table 1: In-situ Inferred Mineral Resources for Cebolleta Project**

Area	Cutoff	U <sub>3</sub> O <sub>8</sub> %	Tons (k)	Tons U <sub>3</sub> O <sub>8</sub> (k)	U <sub>3</sub> O <sub>8</sub> lbs (k)
Area I-II-V	0.08	0.173	4,564	7.874	15,748
Area III	0.08	0.162	998	1.616	3,232

Notes:

1. The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to verify these Inferred resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category;
2. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves;
3. Mineral Resources are reported in accordance with Canadian Securities Administrators (CSA) National Instrument 43-101 (NI 43-101) and have been estimated in conformity with generally accepted Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines;
4. Resources are stated at a 0.08% eU<sub>3</sub>O<sub>8</sub> cut-off grade; sufficient to define potentially underground mineable resources; however mineable underground shapes have not yet been defined;
5. The lower cut-off was ascertained using a uranium price of US\$50.00/lb, at the current Term Price, underground mining costs at US\$60/ton, and milling plus G&A costs at US\$16.50/ton;
6. A tonnage factor of 16.0 cubic ft per ton was used for all tonnage calculations;
7. Mineral resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding;
8. Resources are reported on a 100% basis for URRE controlled lands, as in-situ resources without reference to potential mineability except for the referenced cut-off grade; and
9. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues, although the Company is not aware of any such issues.

Section 14 of this report presents the basis for resource estimation, which can be summarized as applying industry accepted best practices modeling techniques, using standard industry three-dimensional modeling software, to create block models within wireframe-constrained mineralized shapes with an inverse to the distance squared grade estimation method.

There is a small portion of the Area I-II-V deposit, more specifically in Areas II and V, for which some historical underground mining was done by Sohio. URRE attempted to model the mined out areas based on underground workings maps, in comparison with mine/mill production records. The conclusion is that approximately 1.8 to 2.2 million pounds  $U_3O_8$  should be removed from the current resource block model to account for historical mining in Area II and Area V of the current Area I-II-V deposit.

The authors recommend a further evaluation of the location of the underground workings with respect to the current resource block model in order to more accurately access the location, tons, and grade of mined-out material, and its impact on the current mineral resource estimate.

## **Environmental Liabilities and Permitting**

As the project is the site of several former uranium mines, there is significant evidence of mining-related surface disturbances in a part of the project area. Surface disturbances associated with the former Sohio L-Bar mine and mill complex have generally been restored to a standard approved by the Mining and Minerals Division of the New Mexico Environment Department. The extensive surface disturbances associated with the former St. Anthony open pit and underground mines have not been restored, but are subject to a pending reclamation permit filed by UNC Resources (MK006RE) with the Mining and Minerals Division.

Uranium Resources has no responsibility for restoration or reclamation of the former L-Bar and St. Anthony mine operations, and the Company has not undertaken any activities on the property that have resulted in the creation of any other environmental liabilities.

The Company holds a Regular Exploration Permit (CI014ER) that authorizes exploration drilling at identified sites in the Cebolleta project area. URRE (through Neutron Energy) filed a Sampling and Analysis Plan (CI009RN) with the New Mexico Mining and Minerals Division in 2012, as a precursor to a formal mining permit application at some time in the future. This Plan has been reviewed by the Mining and Minerals Division, who have offered comments to the Company.

There are no known environmental restraints that would prevent the Company from implementing the work programs recommended in this report.

Considerable effort has been directed toward the assessment of environmental conditions in the project area, particularly relating to the collection of biological and cultural resource data in areas of proposed drilling. The Company has also prepared and submitted to appropriate regulatory agencies of the State of New Mexico a Sampling and Analysis Plan, as the first step in applying for a mining permit. It is the authors' understanding that comments have been received regarding the draft plan, and it is a recommendation that any revisions and improvements in the draft plan be implemented after the completion of the drilling, resource modeling and metallurgical testing programs.

While there is an ongoing program of groundwater monitoring in the project area by both former owners Sohio and United Nuclear, there is a need, as outlined in the State response to the Company's prior submission of the Sampling and Analysis Plan, for additional water monitoring wells at the project. The Company has plans to convert a number of the proposed and properly located exploration confirmation drill holes to water monitoring wells upon completion of the drilling.

## Conclusions and Recommendations

The Cebolleta Project has current CIM compliant Inferred mineral resources of a combined 18,980,000 pounds of contained  $U_3O_8$  in the four deposits thus far modeled and estimated. The total quantity and grade of the uranium mineralization is sufficient to justify a program and budget to advance the project. The proposed program to advance the Cebolleta project consists of the following:

- Exploration and confirmation drilling;
- Resource re-estimation upon completion of confirmation drilling;
- Initial resource estimation for the St. Anthony deposits;
- Metallurgical test work to examine options for processing the mineralization;
- Geotechnical and hydrogeological studies; and
- A scoping level study to determine conceptual mining and processing options and potential project economics.

### Drilling

While there is historical work that indicates exploration opportunity on the property, URRE does not consider exploration as a high priority activity; other than confirmation drilling to confirm historical information and validate that information for use in updated a current resource estimation for all deposit areas.

There is potential for the discovery of additional uranium mineralization within the lands that comprise the Cebolleta uranium project, this is considered to be a low priority activity of URRE at this time. Additional exploration work is necessary in the area near the former boundary between the St. Anthony and Sohio L-Bar mines prior to determining a resource estimate for the St. Anthony deposits, and there is no guarantee a resource estimate will be realized. This area adjoins the south boundary of the Area II-V deposits, and drilling in this area will be exploration drilling as part of an intended confirmation drilling program. URRE has a permit to drill approximately 80 holes, which are intended to be in-fill confirmation core holes for the following purpose: a) confirmatory gamma-logging to verify existing historical data, b) core samples for chemical assays to compare with gamma  $eU_3O_8\%$  data and to provide disequilibrium information, c) core samples for metallurgical testing, d) core hole logs and samples that can be used for geotechnical studies, and e) holes that perhaps can be converted to water monitor wells for hydrogeological studies.

### Resource Estimation and Updates

Upon completion of the Company's currently proposed and permitted exploration and confirmation drilling program, a re-estimate of mineral resources is recommended for Areas I, II, III, and IV. Mineral resources as currently defined at the Cebolleta project have been classed as "Inferred". Re-modeling the Area I, II, III and V deposits with the addition of the above discussed drilling will have the objective of raising the confidence levels of mineral resource classifications to the "Indicated" category. In addition, the new drilling should be incorporated with digitized historical geological data for St. Anthony, to allow for initial resource estimation by current industry standards of the St. Anthony mineralization.

### Metallurgical Testing

The authors understand that the currently permitted (but not yet implemented) drilling program has as a principal objective the collection of numerous core samples designated for mineralogical studies and metallurgical process testing as well as for confirmation of uranium mineralization in gamma logs.

As the Cebolleta project uranium mineralization is situated above the water table and is associated to some extent with organic carbonaceous material (occasionally described as humate), the project is not considered a candidate for in situ recovery of uranium. There has been some discussion, but no formal studies, regarding the possibility of heap leach processing of the sandstone-hosted uranium mineralization from the project. Given the distance of the project from the only existing uranium processing mill in the US, and the costs and time required to permit and construct an on-site uranium processing plant, an evaluation of the potential for heap-leach recovery of uranium from the Cebolleta uranium deposits should be considered to be a high priority objective of the Company. A metallurgical testing program to address potential for heap leach recovery is recommended.

### **Environmental Permitting**

Considerable effort has been directed toward the assessment of environmental conditions in the project area, particularly relating to the collection of biological and cultural resource data in areas of proposed drilling. The Company has also prepared and submitted to appropriate regulatory agencies of the State of New Mexico a Sampling and Analysis Plan, as the first step in applying for a mining permit. It is the authors' understanding that comments have been received regarding the draft plan, and it is a recommendation that any revisions and improvements in the draft plan be implemented after the completion of the drilling, resource modeling and metallurgical testing programs.

While there is an ongoing program of groundwater monitoring in the project area by both former owners Sohio and United Nuclear, there is a need, as outlined in the State response to the Company's prior submission of the Sampling and Analysis Plan, for additional water monitoring wells at the project. It is recommended that the Company convert a number of the proposed and properly located exploration confirmation drill holes to water monitoring wells upon completion of the drilling.

While advancing the mine permitting initiative is an important task, the details are beyond the scope of this Technical Report on Resources; therefore a general program and budget are recommended for this work.

### **Preliminary Economic Assessment (PEA)**

The culmination of the drilling and resource re-estimates with the results of metallurgical testing will allow for a scoping level study or preliminary economic assessment (PEA) to evaluate the potential project economics.

The recommended Phase I Program and Budget are as follows:

#### **Phase I Program:**

- Drilling of 34 rotary holes for which 16 have a PQ size core hole tail: confirmation gamma logs, metallurgical samples, and geotechnical studies;
- Mineral Resource re-estimates;
- St. Anthony modeling and resource estimation;
- Metallurgical test work;
- Geotechnical studies and hydrogeological studies; and
- PEA Technical Report.

**Phase I Estimated Costs:**

<b>Proposed Program</b>	<b>Estimated Costs (\$)</b>
Drilling/sampling (all-in costs)	1,000,000
Deposit re-modeling/re-estimation	50,000
St. Anthony modeling/resource estimation	150,000
Metallurgical testing	200,000
Geotechnical and/or hydrogeological studies	150,000
PEA Technical Report	200,000
	<b>\$1,700,000</b>

The recommended Phase I program will cost approximately \$1,700,000 and require 6 to 9 months to complete.

**Phase II Program and Estimated Costs:**

Contingent upon the successful completion of Phase I work with positive results, the recommended Phase II program would be to proceed towards a Preliminary Feasibility Study (PFS) at an estimated cost of from \$750,000 to \$1,500,000. A Phase II program will involve detailed studies of metallurgical recoveries, mine planning and mine design, site infrastructure, hydrogeology, environmental/permitting, project capital and operating costs, and detailed project economic analysis. A PFS will require approximately 9 to 12 months to complete.

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## Appendices

Appendix A: Certificates of Authors

## 2 Introduction (Item 2)

### 2.1 Terms of Reference and Purpose of the Report

This Technical Report covering the Cebolleta uranium project was prepared for Uranium Resources, Incorporated (referred to as either “URRE” or “The Company”), a Denver, Colorado-based uranium development company whose securities are publically-traded on the US NASDAQ exchange. The purpose of this report is to set forth, in a comprehensive manner, the technical details of the Cebolleta project, an analysis of the technical aspects and potential merits of the project, and to recommend additional work to further address aspects of the project that require further study.

Sections of the report may reference Neutron Energy, Inc. and Cibola Resources, LLC, which are wholly-owned subsidiaries of the Company.

The Company holds an extensive collection of data derived from exploration and production operations at the Cebolleta project over an extended period of time, including gamma-ray logs from more than 3,500 drill holes completed by prior explorers and mine operators, mine maps and cross sections for the St. Anthony open pit and underground mines and the adjoining former JJ#1 underground mine and the Area I-V uranium deposits. Numerous historical reports of metallurgical tests are included in the Company's files, as well as various geological and mining studies pertaining to the project. Environmental and cultural resource studies prepared for Neutron Energy in support of an application for an exploration drilling permit are available, as are detailed geologic studies (cross-sections, grade-thickness and structural contour maps) and geostatistical resource estimates prepared by the Company's engineering and geological staffs. The combined data set for the Cebolleta project is extensive and presents a comprehensive view of the technical aspects of the project. The data appears to be of quality to accurately portray the technical attributes of the project and is considered to be suitable for technical analysis and resource estimation by current industry standards.

This report was prepared as a National Instrument 43-101 (NI 43-101) Technical Report for URRE by the authors, independent consultants Allan V. Moran and Frank Daviess, who meet the definition of Qualified Persons under NI 43-101.

The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in the consultants' services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by URRE, as URRE sees fit, which would include the filing of this report as a Technical Report with Canadian securities regulatory authorities pursuant to NI 43-101, Standards of Disclosure for Mineral Projects, should URRE (a NASDAQ listed company) have a reason to do so. Except for the purposes intended, any other use of this report by any third party is at that party's sole risk. The responsibility for any disclosure of this report remains with URRE. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

This report provides mineral resource estimates, and a classification of resources in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves: Definitions and Guidelines, November 27, 2010 (CIM).

This report includes technical information, which required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and

consequently introduce a margin of error. Where these occur, the Consultants do not consider them to be material.

## 2.2 Qualifications of Consultants

The Consultants preparing this technical report are specialists in the fields of uranium geology, exploration, and mineral resource estimation.

Neither Consultant involved in the preparation of this report has any beneficial interest in URRE, its subsidiary companies, or the Cebolleta property. The Consultants are not insiders, associates, or affiliates of URRE. The results of this Technical Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between URRE and the Consultants. The Consultants are being paid a fee for their work in accordance with normal professional consulting practice.

The following individuals, by virtue of their education, experience and professional association, are considered Qualified Persons (QP) as defined in the NI 43-101 standard, for this report, and are members in good standing of appropriate professional institutions. The QP's are responsible for specific sections as follows:

- Allan V. Moran. Consultant (Geology) is the QP responsible for all Sections of this report except Section 14 – Mineral Resource Estimate;
- Frank Daviess, Consultant (Geology and Resources) is the QP responsible for Section 14 – Mineral Resource Estimate.

### 2.2.1 Details of Inspection

Consultant Allan V. Moran has visited the property previously, on June 23, 2011, for predecessor owner Neutron Energy, and conducted a site visit to the Cebolleta project for URRE on February 10, 2014. The site inspection included a review of historical drill sites, outcropping geology, the general project access and location, the location of recent water monitor wells, and the location of channel sampled areas of exposed uranium mineralization in the St. Anthony pits (both North and South Pit). He examined the geology character and distribution of uranium mineralization in pit wall exposures of the Jackpile Sandstone.

Consultant Frank Daviess did not conduct a site visit to the Cebolleta project.

Both Consultants visited the offices of URRE on February 25, 2014 to review hard copy data files.

## 2.3 Sources of Information

Sources of information used for this technical report included historical maps and reports, gamma logs, digital files of gamma logs, core logs, a digital geological and assay database prepared by URRE staff from the digitized historical gamma logs, and geological cross sections prepared by Neutron Energy staff in 2010 and 2011 showing mineralization correlations.

URRE has an extensive body of historical technical data relating to the Cebolleta uranium project, including geophysical logs from several thousand exploration and development drill holes, geological cross-sections, mine and drill hole location maps, and numerous technical reports and memoranda prepared by technical staff of the former operators of the Cebolleta project, and their consultants. The Consultants used only a portion of the historical data; all that is relevant to the drilling, geology and mineral resource estimation work undertaken. Much of the additional historical information, particularly

that related to historical mine and mill production, may have relevance to future project assessment and potential development.

Dean T. Wilton, the Chief Geologist for URRE is a contributor to this report. He is an AIPG Certified Professional Geologist (CPG-7659) and a Qualified Person as defined by National Instrument 43-101. He has more than forty years of mineral exploration and production experience, including approximately twenty years of work in the uranium industry. Mr. Wilton has worked extensively on the Cebolleta project, for predecessor Neutron Energy and subsequently with URRE. He provided guidance during the recent site visit, and much discussion on the geology of the uranium deposits for Cebolleta and the general Grants Mineral Belt. He has contributed to the text in many sections of this report; however, the authors take full responsibility for the entire report.

The sources of information include data and reports supplied by URRE personnel as well as documents referenced in Section 27.

### 3 Reliance on Other Experts (Item 3)

This historical data was collected by the geological and engineering staffs of the companies that previously operated exploration, development and mining operations on the lands that comprise the Cebolleta project area. The former operating companies, Sohio Western Mining and UNC Resources/United Nuclear (and their subsidiary, Teton Exploration) each had extensive experience in the exploration for and the development of sandstone-hosted uranium deposits in the western United States. United Nuclear, in particular, had extensive experience exploring for, mining and processing of uranium ores in the Grants mineral belt.

The authors of this report have reviewed significant portions of the historical database relating to the Cebolleta project, and have concluded that the data is in a form and utilized technical methods that were generally utilized by the United States uranium exploration and mining industry at the time the information was collected, and that data is valid today for use in resource estimation.

The extensive Cebolleta project database, as provided by URRE served as the basis for the preparation of geological models of the Area I, II, III and V uranium deposits as well as the mineral resource estimates by the authors those uranium deposits as presented in this Technical Report. As such, there was a considerable degree of reliance placed by the authors of this report on the historical data; however, the authors have reviewed and spot-check verified the raw drillhole log data against the drillhole database for accuracy.

The authors relied upon URRE for the discussion in Section 3 on Mineral Titles and Environmental issues; however, the authors have reviewed an independent Title Opinion report for the property, as referenced in Section 3. The extent of that reliance is the summary of the land title, as provided by URRE, which is presented in Section 3.

The authors relied upon the historical reports for the metallurgical characteristics for the project, as there is no current metallurgical information. That data is summarized in Section 6 - History, with the appropriate historical report references listed in section 27.

The Consultants used their experience to determine if the information from historical reports was suitable for inclusion in this technical report. This report includes technical information, which required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the Consultants do not consider them to be material.

#### 3.1 Effective Date

The effective date of this report is March 24, 2014, the date of completion of the mineral resource estimate presented in Section 14.

#### 3.2 Units of Measure

The imperial system has been used throughout this report. Tons are equivalent to 2000 pounds. All currency is in U.S. dollars (US\$) unless otherwise stated.

Imperial units of measure are used in this report, with their metric equivalents parenthetically referenced. Conversions between imperial and metric units were derived from the Field Geologists' Manual, Third Revised Edition – 1995, published by the Australasian Institute of Mining and Metallurgy. Uranium resources and production are commonly referenced in terms of pounds of  $U_3O_8$  rather than



tons (or tonnes) and this report follows that convention. Uranium grades are expressed as % eU<sub>3</sub>O<sub>8</sub>, which is an “equivalent” grade determined from radiometric assaying, or % cU<sub>3</sub>O<sub>8</sub>, which is an expression of a chemical assay most commonly determined by the fluorimetric analytical method, and used by the former operators of the project.

## **4 Property Description and Location (Item 4)**

### **4.1 Property Location**

The Cebolleta project is situated in west-central New Mexico, east of Mount Taylor and Mesa Chivato, prominent topographic features that dominate the landscape of the region. The project is located in the northeastern corner of Cibola County, approximately 45 miles (72 kilometers) west of the City of Albuquerque.

The lands that comprise the project area cover approximately 6,700 acres (2,711 hectares) of mineral rights and 5,700 acres of surface rights owned in fee by La Merced del Pueblo de Cebolleta (“Cebolleta Land Grant”, or “CLG”), and are leased to Neutron Energy, Inc. (a wholly-owned subsidiary of URRE). The lease was assigned to Cibola Resources LLC, a limited liability company whose sole member is Neutron Energy, Inc.

Lands that comprise the Cebolleta project are part of the formerly extensive Cebolleta Land Grant (CLG) that was decreed by the King of Spain prior to the time that New Mexico became a territory of the United States. The Treaty of Guadalupe Hidalgo, which officially concluded the Mexican-American War, and was ratified by the US Senate, includes a provision that recognizes the existence of the CLG and the ownership rights granted thereunder (Byers, 2006). The legislation that admitted New Mexico as a State into the Union (enacted in 1912) contained further provisions recognizing and honoring the ownership rights of the CLG owners and their heirs. As a result of the federal legislation the lands of the CLG lands are part of the United States, but have never been subjected to land management practices of the United States government, such as the Bureau of Land Management (BLM).

Because the leased properties are parts of a Spanish Land Grant, most of the area (other than the area of the St. Anthony mines) was never “sectionalized” under the United States section, township and range land subdivision system. Several surveys of the boundaries of the lands under lease have been completed, and the boundaries of the leased properties have been verified by the State of New Mexico District Court.

Ownership of the leased properties has been verified in a title opinion issued by the Company's attorneys (Rodey and others, 2007).

### **4.2 Mineral Titles**

URRE holds the rights to explore for and produce uranium at the Cebolleta project by virtue of a mining lease executed between the La Merced del Pueblo de Cebolleta, also known as the CLG. The lease was finalized by Neutron Energy and representatives of the CLG effective March 11, 2007, and was affirmed by the 13th District Court of the State of New Mexico on April 6, 2007. The parties subsequently negotiated an amendment covering certain business terms of the lease, and the amendment has been submitted to the District Court for review.

### 4.3 Nature and Extent of Issuer's Interest

URRE, through its wholly-owned subsidiaries Cibola Resources LLC and Neutron Energy, Inc. holds a 100 percent lease-hold interest in the Cebolleta project, subject to advance royalty and production royalty payments payable to the CLG, as discussed in Section 4.3.3 of this report.

#### 4.3.1 Mineral Rights

URRE holds the right to explore for, develop and mine uranium from lands that comprise the Cebolleta uranium project as provided through a lease between the CLG and Neutron Energy, Inc., which is a wholly-owned subsidiary of URRE. The leased lands are comprised of approximately 6,700 acres (2,711 hectares) of privately-owned (fee or deeded) mineral rights held by CLG, and encompass the lands covering all the mineral resources reported in Section 14 of this report.

#### 4.3.2 Surface Rights

Surface rights at the Cebolleta project are comprised of about 5,700 acres (2,307 hectares) of privately-owned lands that are part of the project through the lease between CLG and the Company. The remaining approximately 1,000 acres (406 hectares) (Milligan, 2007) of surface lands that cover a portion of the eastern part of the leased mineral rights are owned by the Lobo Ranch (Lobo). The deed that conveyed ownership of those surface lands to Lobo's predecessor reserved the right to explore for and develop any mineral resources present to the holders of the mineral estate. Lobo has recognized the pre-existing development rights of the owners of the mineral estate (leased by URRE).

#### 4.3.3 Lease Obligations

The lease with CLG, which has an initial term of ten years, and may be extended by the Company beyond that time period by continued mineral exploration, mine development and mining and/or mineral processing activities on the leased premises. The agreement requires the Company to make annual advance royalty payments of \$500,000.00 to the CLG, pay a sliding scale production royalty (based upon the sales price of  $U_3O_8$ ) on any mineral production from the property, provide employment opportunities and job-skills training for the members of the CLG, and fund annual higher education scholarships for children of the CLG members. URRE makes an annual scholarship fund contribution (\$30,000 annually, escalated by the Higher Education Price Index - College and University Operations) to the Cebolleta Land Grant.

URRE is required to complete an independent "third-party" feasibility study within six years of the effective date of the lease (April 6, 2007), and make a "Recoverable Reserve Payment" of \$1.00 per pound of  $U_3O_8$ , for the "Measured" resource or "Proven" reserve category as determined to be recoverable by the feasibility study. All annual payments made to the CLG prior to the completion of the feasibility are deductible from the "reserve bonus" payment. CLG and the Company have renegotiated this provision of the original lease, allowing URRE to defer the completion of the feasibility study until April 6, 2015, with the provision that completion of the feasibility study may be further extended beyond that date at the discretion of the Company by continued payment of the annual advance royalties and payment of the "reserve bonus" payment. Annual advance royalty payments terminate with the completion of the feasibility study and the associated

A "Short Form Memorandum of Uranium Mining Lease and Agreement" has been filed and recorded with the offices of the County Clerk and Recorder for Cibola County, New Mexico.

## 4.4 Royalties, Agreements and Encumbrances

The lease between the Cebolleta Land Grant and URRE includes a provision for the payment of a “sliding-scale” royalty from production of uranium from the leased properties. The royalty is based upon the actual sales price of uranium concentrates ( $U_3O_8$ ) received by URRE. Production royalty payments can be offset by previously paid advance royalty payments. The sliding scale-production royalty schedule is:

**Table 4.4.1: Royalty Rate Table**

Royalty Rate	Uranium Sales Price (US\$ per pound $U_3O_8$ )
4.50%	\$40.00 or less
5.00%	\$40.01 to \$65.00
5.75%	\$65.01 to \$75.00
6.50%	\$75.01 to \$100.00
7.00%	\$100.01 to \$125.00
7.50%	\$125.01 to \$150.00
8.00%	\$150.01 and above

The annual minimum advance royalty payment prior to production is \$500,000.00. The annual advance minimum royalty payment constitutes the only significant land holding cost for the Cebolleta project.

URRE is additionally obligated to make a “recoverable reserve payment” based upon recoverable reserves defined by a third-party feasibility study, as defined in section 4.3.3. The costs of this payment may be offset by prior annual advance royalties paid to CLG.

A portion of the property leased from the Cebolleta Land Grant is subject to a pre-existing 1/48th (2.08%) royalty on a “Uranium Value”. This third-party royalty is deductible from production royalties payable to the Cebolleta Land Grant, and does not represent a further economic burden to URRE or the project. There are no other royalty obligations placed against the property.

## 4.5 Environmental Liabilities

Drilling will require a water use permit. Drill pads are required to be rehabilitated. There are no further environmental liabilities accruing to URRE that are associated with the properties.

The Cebolleta project is the site of several former open pit and underground uranium mines, and there is considerable evidence of mining-related surface disturbances related to these former operations. None of the historic mining disturbances are the result of activities carried out by the Company, and reclamation of these pre-existing disturbances is not the responsibility of Uranium Resources.

Sohio Western Mining developed and operated an underground mine (JJ#1) and uranium mill (not situated on lands now controlled by URRE) on a portion of the Cebolleta project. Surface disturbances associated with the former mine and mill complex have been restored by the successor company to Sohio, with the formal approval of the Mining and Minerals Division of the New Mexico Environment Department. The area of the former Sohio L-Bar uranium processing mill and tailings storage facility were previously reclaimed, and the site has been deeded to the US Department of Energy for long-term monitoring. Lands that comprise the former mill site are excluded from the Cebolleta project lease.

An area of extensive surface disturbance associated with the former St. Anthony open pit and underground mines have not been restored, but are subject to a pending reclamation permit application filed by UNC Resources (MK006RE) with the New Mexico Mining and Minerals Division.

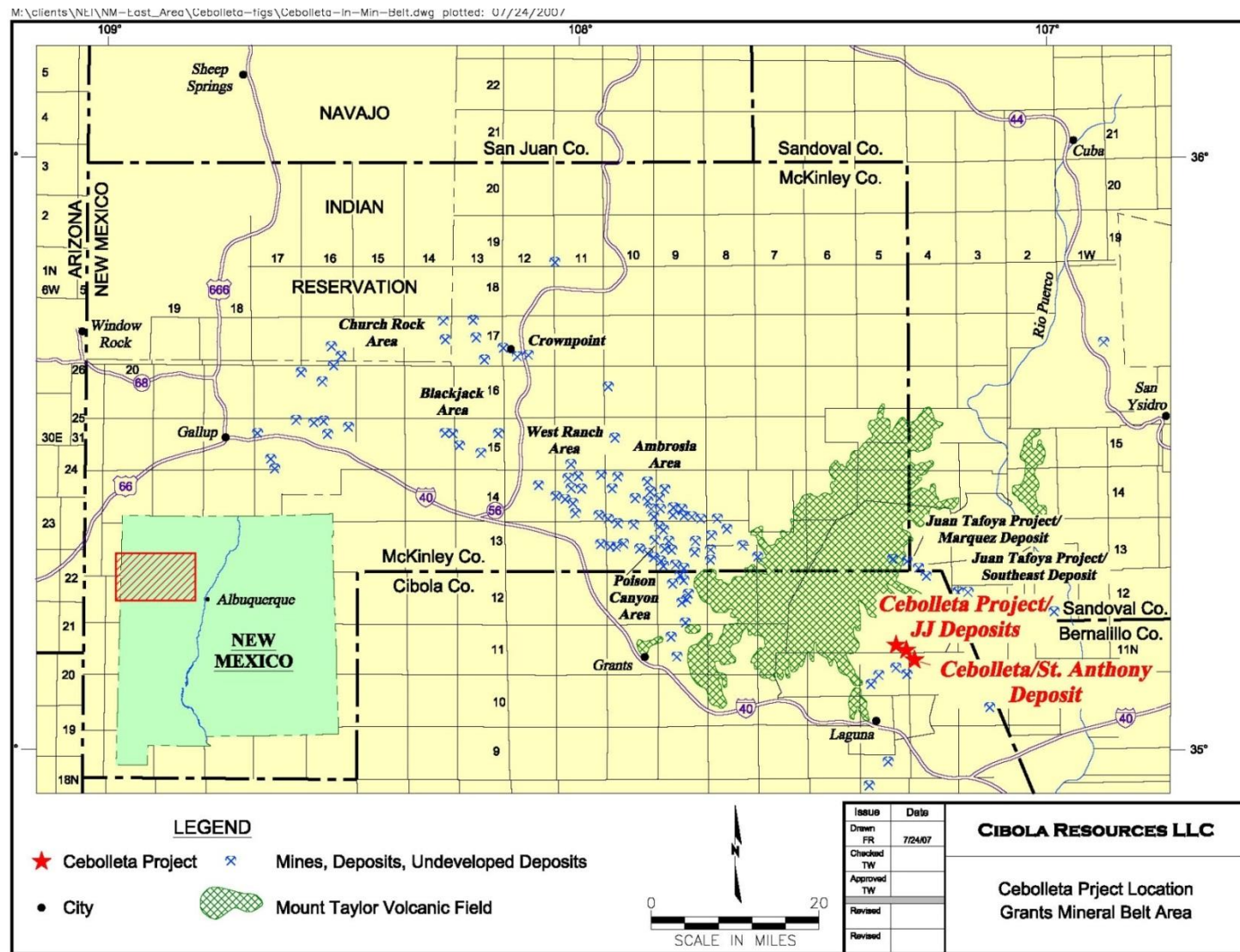
## **4.6 Required Permits and Status**

The Company holds a Regular Exploration Permit (CI014ER), granted by the New Mexico Mining and Minerals Division (MMD) that authorizes exploration drilling at identified sites in the Cebolleta project area. In a letter dated March 05, 2014 the MMD issued a renewal of the Regular Exploration Permit (CI014ER-R3), which allows for a 1-year extension of drilling as previously permitted, until January 18, 2015. The permit allows for 84 drillholes, each six-inches in diameter, and each up to 470 ft in total depth, utilizing no more than 67 drill pads of new surface disturbance.

URRE (through Neutron Energy) filed a Sampling and Analysis Plan (CI009RN) with the New Mexico Mining and Minerals Division in 2012, as a precursor to a formal mining permit application at some time in the future. This sampling and analysis plan was reviewed by the Mining and Minerals Division staff, who provided recommendations to the Company with respect to the proposed action, but these recommendations have not yet been implemented by the Company.

## **4.7 Other Significant Factors and Risks**

There are no known significant land, legal, or operational factors or risks that will prevent URRE from continuing to pursue exploration and evaluation for possible development of the Cebolleta uranium Project.



Source: URRE, 2014

**Figure 4-1: New Mexico Location Map – Cebolleta Uranium Project**

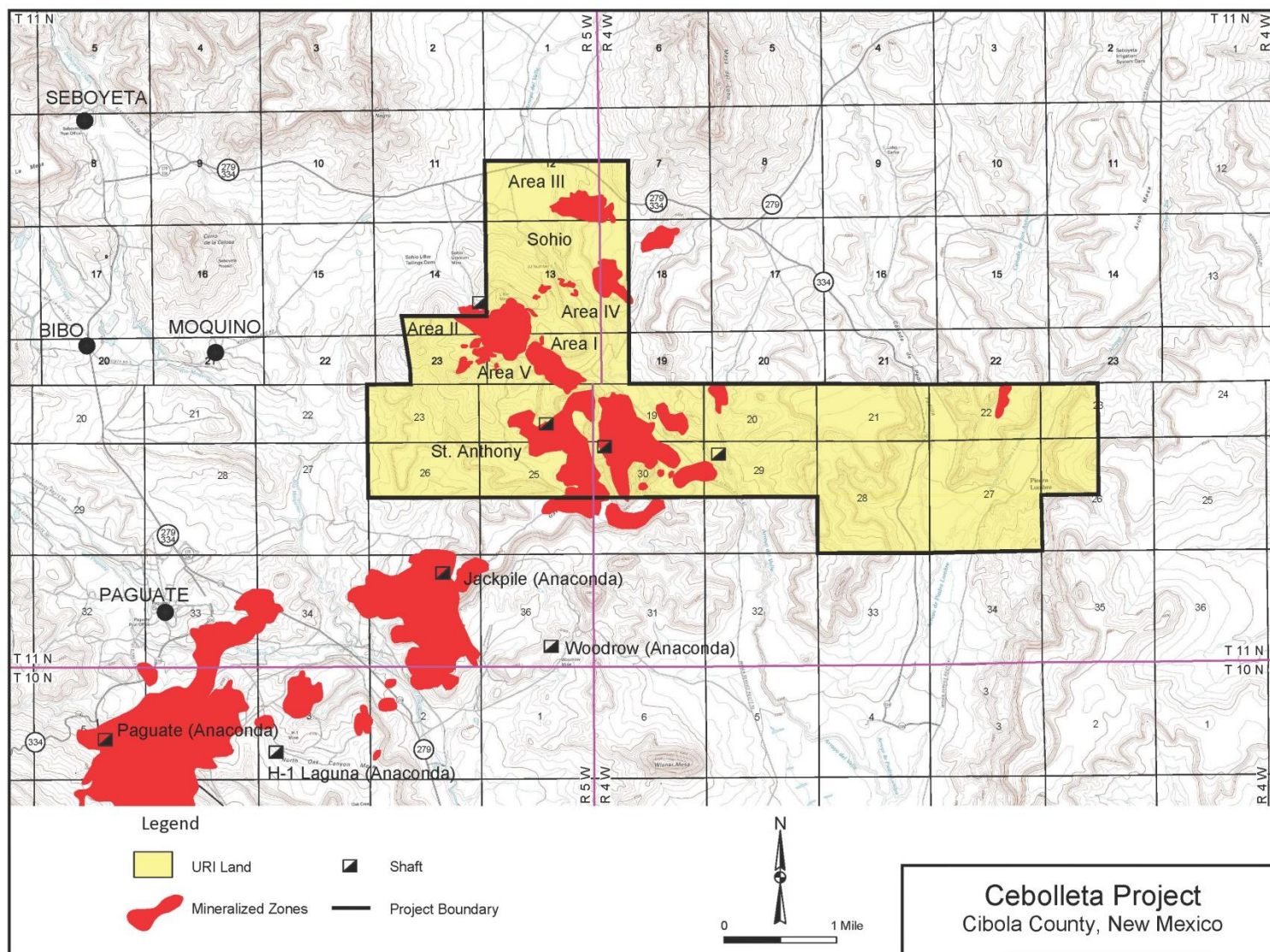




Source: Google Earth, modified 2014

**Figure 4-2: Project Location and Access Map**

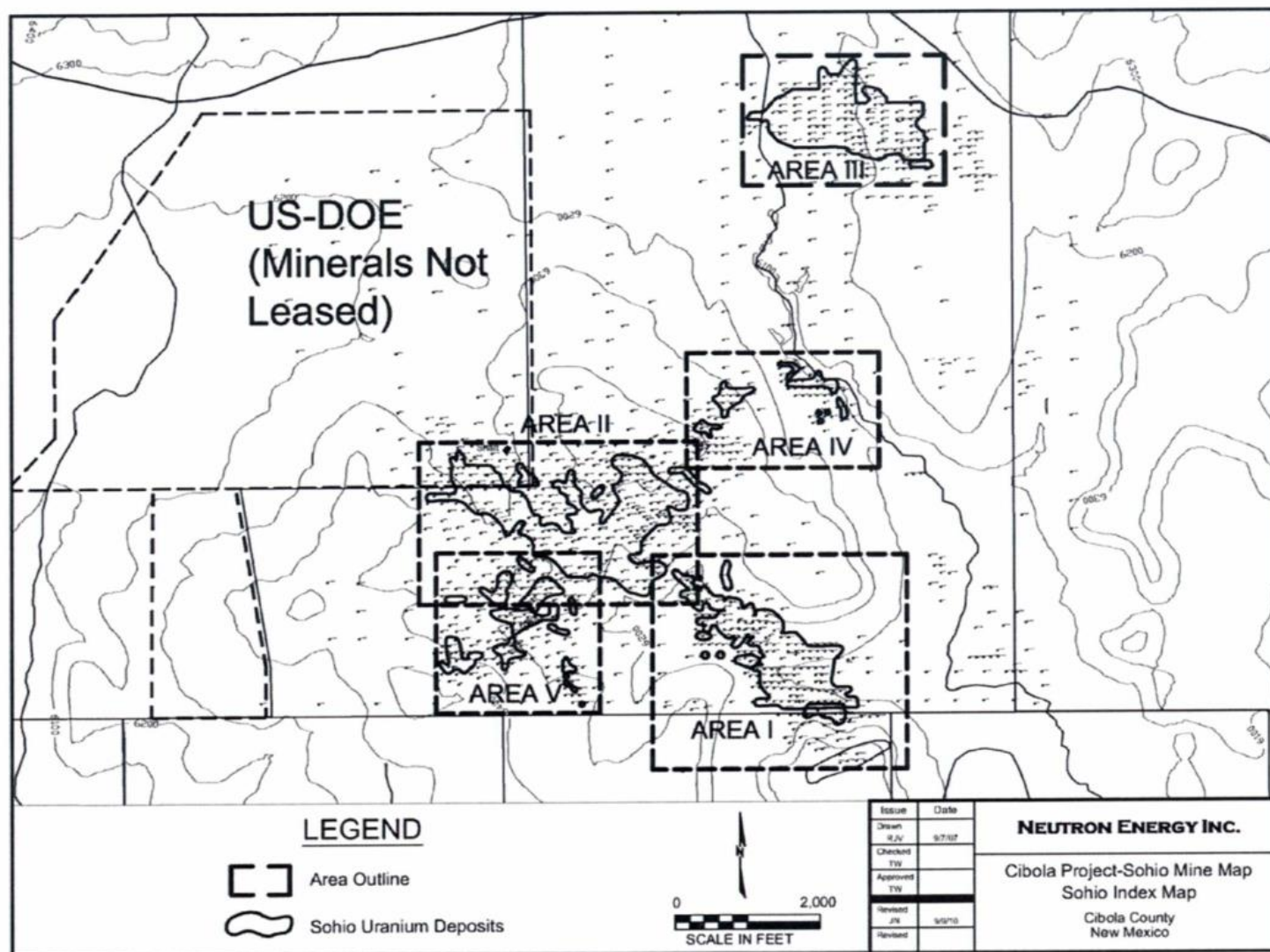




Source: URRE, 2014

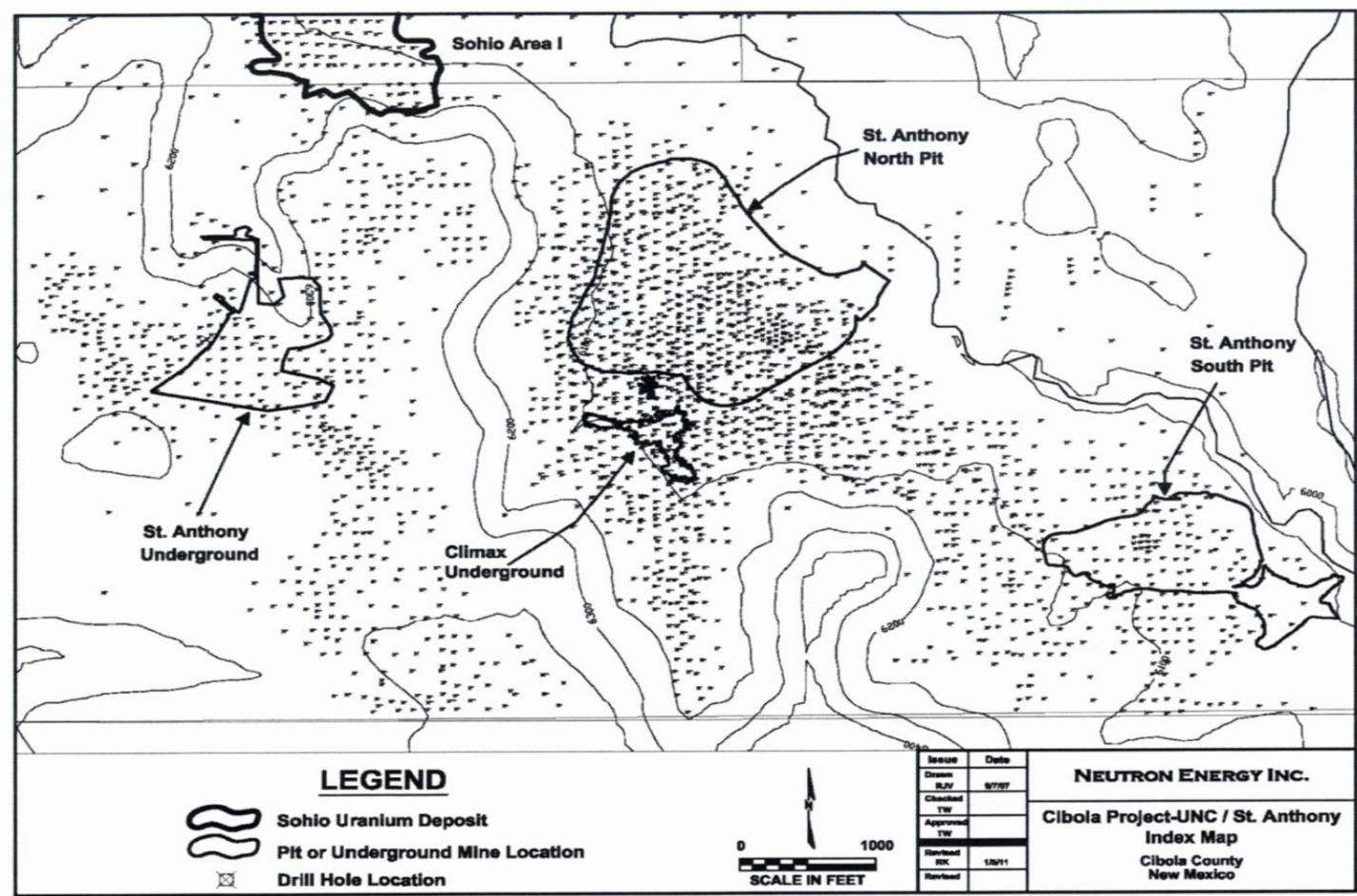
**Figure 4-3: Project Location and Access Map**





Source: Neutron Energy, 2011

**Figure 4-4: Uranium Deposit Location and Drillhole Map – Areas I, II, III, IV, and V**



Source: Neutron Energy, 2011

Figure 4-5: Uranium Deposit Location and Drillhole Map – St. Anthony

## **5 Accessibility, Climate, Local Resources, Infrastructure and Physiography (Item 5)**

### **5.1 Topography, Elevation and Vegetation**

The Cebolleta project area is situated on the southern margin of the San Juan Basin of west-central New Mexico, an area of valleys and “table lands” or mesas that are typical of the southwestern United States. Mesa Chivato, a broad mesa capped by volcanic rocks that flanks the eastern and northern sides of Mount Taylor, adjoins the western and northern sides of a broad valley that the Cebolleta project is situated in. Elevations within the project area range from approximately 5,900 feet to 6,506 feet (1,798 meters to 1,983 meters) above sea level.

The topography of the project area is typical of the mesa-canyon terrain of the southwestern United States, with sharp local variations in elevation, on the order of 100 to 300 feet (31 meters to 91 meters) over short distances. A series of rounded hills, raising 200 to 300 feet (61 to 91 meters) above the surrounding landscape, are present in the central part of the project area. A broad, flat-topped topographic feature, Gavilan Mesa, is an important topographic feature on the southwest side of the project area. Prominent canyons, primarily along Meyer Draw and Arroyo Pedro Padilla, cut the southern part of the project area where the former St. Anthony open pit mines are located. In spite of these variations in topography, access to essentially all of the project area is good.

Sparse mixed grasses, along with isolated stands of mesquite, pinion pine, and oak trees, typical of a semi-arid high desert climate are present mostly along the eastern side of the project area.

### **5.2 Access to the Property**

The project area is located in west-central New Mexico, approximately 45 miles (72.4 kilometers) west-northwest of the city of Albuquerque, and 10 miles (16 kilometers) northeast of the town of Laguna. Access to the project area from Albuquerque is over a paved Interstate highway to the village Laguna (a distance of approximately 45 miles, or 72 kilometers) and a paved two-lane highway (for a distance of 15 miles, or 24 kilometers) to the village of Seboyeta and a further 3 miles (4.8 kilometers) over a well-maintained graded county-owned gravel road. Several unmaintained private roads of varying quality cross the project site and provide access to nearly all parts of the project area. While these tracks and roads serve as access to nearly all areas of the project, they can become impassable during summer season thunderstorms and winter snowstorms.

Rail service is available from the BNSF Railroad at Albuquerque, Grants and Milan, and regularly scheduled air service is available in Albuquerque.

### **5.3 Climate and Length of Operating Season**

The climate at the Cebolleta uranium project is typical of west-central New Mexico, dry and windy. Summers are warm, with temperatures ranging from about 50° F (9.9° C) at night to 80° F (26.6° C) during the day. Winter temperatures range from about 10° F (-12° C) at night to 40° F (4.4° C) during the day. Annual overall precipitation is approximately 11 inches (279 millimeters) of water, mostly from afternoon thunder showers in July and August. The project area receives approximately 12 inches (305 millimeters) of snow annually.

Climatic conditions do not generally inhibit field-related activities in the project area at any time of the year, although wet ground conditions caused by melting snow may prevent access to the project for short periods not extending for more than one week at a time.

## **5.4 Sufficiency of Surface Rights**

The Cebolleta project has sufficient surface rights for the construction of mining-related facilities, including shops, office buildings, warehouses, shafts, hoisting equipment, stockpiles and waste rock storage areas.

A portion of the surface estate within the eastern part of the project area is owned by the Lobo Ranch, and is not controlled by the Company. The deed that conveyed these surface lands to the Lobo Ranch, and certain State laws, reserve the right to develop mineral resources beneath the surface estate it is recommended that the Company initiate negotiations with the surface owner to acquire further access and usage rights to these lands.

## **5.5 Accessibility and Transportation to the Property**

Access to the property is by vehicle on paved roads to within three miles of the property, and then improved gravel/dirt roads. Truck transports can access the project site.

## **5.6 Infrastructure Availability and Sources**

The region of the Cebolleta project has sufficient surface resources to support mining and processing operations, tailings disposal facilities, and mine waste dumps, and there are sources of water, electricity, and fuel in the area. Two high voltage electrical transmission lines cross lands about six miles (9.6 kilometers) north of the project, and an electrical sub-station is located at that site.

There are no buildings or other mining-related surface facilities present in the project area.

There are no significant developed infrastructure facilities for access, power, or water at the project site.

### **5.6.1 Proximity to Population Center**

Albuquerque is the nearest population center of size, with access there to a skilled and un-skilled work force, and goods and services to support potential construction and mining.

### **5.6.2 Power**

Electrical lines extend to the central portion of the project area, and a high-voltage electrical line and sub-station are present approximately 5 miles (8 kilometers) northeast of the project area.

### **5.6.3 Water**

Water for potential mining and processing operations will need to come from groundwater sources in the region. The uranium deposits are above the water table, and work to date by URRE has not addressed to groundwater potential in the Project area.

#### **5.6.4 Mining Personnel**

There are not active mining operations in close proximity. Active surface copper mining operations exist in southern New Mexico, and are one source of potential skilled workers. The nearby states of Arizona and Colorado have active mining operations which could be another source of skilled miners.

#### **5.6.5 Potential Processing/Tailings Storage Areas**

The Cebolleta project is in the exploration stage of development, and it is premature for this technical report on resources to address conceptual locations for potential processing facilities or tailings storage sites.

## **6 History (Item 6)**

### **6.1 Prior Ownership and Ownership Changes**

The Cebolleta project is located in the northern portion of the Laguna mining district, the eastern-most portion of the prolific Grants Mineral Belt, site of the largest concentration of important uranium deposits in the United States.

The lands that comprise the Cebolleta project area were originally part of an expansive grant that was made to certain individuals by the King of Spain when Mexico (and this part of New Mexico) was a Spanish colony. When the territory of New Mexico was acquired by the United States of America under the settlement provisions that terminated the Mexican-American War, all rights and title first conveyed by the creation of the Cebolleta Land Grant were honored by the United States Senate through the ratification of the Treaty of Guadalupe Hidalgo (Byers, 2006). A portion of the Cebolleta Land Grant was severed through legal action in the early 1900's, with a large portion of the property transferred to private ownership not related to the descendants of the original grantees. Portions of the former land grant that were transferred to private ownership became the Evans Ranch (later to be known as the L-Bar and Lobo ranches). Anaconda Copper acquired a lease for a portion of the Evans Ranch in 1955 and conducted an exploration drilling program, comprised of approximately 350 holes, but relinquished the property in 1957.

Climax Uranium, a subsidiary of American Metals Climax (now Freeport McMoRan Copper & Gold) obtained a lease from the Cebolleta Land Grant on a portion of what is now the southern part of the Cebolleta project. Climax explored for and discovered several small uranium deposits, some of which were developed as one open pit and one underground mine between 1953 and 1960. The Climax lease was acquired by United Nuclear Corporation (now a subsidiary of General Electric), who operated the property as their St. Anthony mine until 1980.

Reserve Oil and Minerals, a New Mexico-based mineral resource company, purchased the Evans Ranch, which adjoins the St. Anthony mine area to the north, in 1968. Reserve sold an undivided 50 percent interest in the ranch, including the mineral rights, to Sohio Western (then a subsidiary of the Standard Oil Company of Ohio and now a part of the Rio Tinto group) in 1969 and the two companies formed a joint venture to explore for and mine uranium deposits on the property (Melting, 1980, (a) (b)). Sohio operated the joint venture and discovered extensive uranium mineralization, and subsequently developed an underground mine and uranium mill complex (the Sohio JJ#1 mine and L-Bar mill). In 1982 Sohio acquired Reserve's interests in the property, and after final closure of the Sohio mill and underground mine, deeded a portion of their property interests in the area to the Cebolleta Land Grant in 1989.

### **6.2 Previous Exploration and Development Results**

The first discovery of uranium mineralization in the Laguna mining district (which includes the Cebolleta project) was made by geologists and engineers of the Anaconda Copper Company in late-1951 (Beck and others, 1980), who discovered surface occurrences of uranium mineralization identified during a helicopter-borne radiometric survey. This identification of strong uranium mineralization resulted in the discovery of the Jackpile-Paguate uranium mine, considered to be the largest sandstone-hosted uranium deposit in the United States. Anaconda also undertook an exploration program on the nearby Evans Ranch (site of the present-day Cebolleta project), located northeast of the Jackpile mine, in

1955 and this program continued until 1957. During this period of exploration more than 350 holes were drilled in the area of the Cebolleta project by Anaconda (Geo-Management, 1972).

The first mining at the Cebolleta project was undertaken by the Climax Uranium Company, who developed an underground mine in the St. Anthony area in 1953, and ceased operations in 1960. At a later date United Nuclear Corporation and its subsidiary Teton Exploration Drilling Company carried out an extensive exploration program in the vicinity of the former Climax mine, and discovered significant widespread uranium mineralization. In 1975 United Nuclear developed two small open pits and one underground mine on lands leased from the Cebolleta Land Grant (Baird, Martin and Lowry, 1980). Ore from the St. Anthony mines was processed primarily at United Nuclear's Church Rock mill near Gallup. Mining was suspended at St. Anthony in 1979, and the milling of stockpiled material was completed in 1980.

### 6.3 Historic Mineral Resource and Reserve Estimates

As the Cebolleta project is the site of former open pit and underground uranium mines there are numerous historical mineral resource and "ore reserve" estimates for the Cebolleta project. URRE does not yet consider any of the defined mineral deposits at the Cebolleta project to be economic, and the term "ore" is used only within a historical context, as first designated by the former operators of the project. Mineral resource estimates for the former L-Bar and St. Anthony mines and deposits were prepared by the technical staffs of Sohio Western Mining and United Nuclear Corporation using a range of geometric, rather than geostatistical estimation methods.

United Nuclear prepared a polygonal estimate for the St. Anthony deposits (UNC Mining and Milling, 1980), and updated the mineral inventory on an annual basis to reflect changes due to mining. Historical uranium resources at the St. Anthony mine were estimated by utilizing gamma ray logs from more than 600 hundred drill holes (UNC Resources, 1979). All mineralized intervals were "diluted" with one-half foot (0.15 meters) of barren material at the top and bottom of each mineralized interval. All mineralized zones used in the resource calculations were a minimum of 6 feet (1.828 meters) thick; those mineralized intervals that were less than 6 feet thick were "diluted" to the minimum 6 foot thick interval.

The historical and in-place mineral resources present at the L-Bar (Area I, II, III, IV, V) uranium deposits (which were prepared prior to the adoption of National Instrument 43-101) were derived from several studies undertaken by independent contractors (Geo-Management, 1971 and Robertson & Associates, 1978) and were updated several times by Sohio Western Mining Company personnel (Boyd, 1981; Olsen and Kopp, 1982). The L-Bar (Sohio) resource estimates benefitted from production history from the JJ #1 underground mine and an understanding of the geological controls on uranium mineralization, as well as production history relating to disequilibrium ratios of the formerly mined areas. All mineral resource estimates were based upon surface drilling, at a nominal 100 foot by 100 foot (20.4 meters by 20.4 meters) drill hole spacing (a portion of the Area III deposit was drilled on a 200 foot by 200 foot [60.96 by 60.96 meters] grid), underground long-hole drilling, and underground exposures. None of the resource estimates were adjusted to reflect a disequilibrium factor as various studies (Geo-Management, 1971; Boyd, 1981) indicated that the mineralization at the Cebolleta project is in chemical equilibrium.

The Sohio resource estimates were initially made using both the 'general outline' and 'polygonal methods' (Geo-Management, 1972). The initial estimation was based upon data from more than 996 core and conventional drill holes (Geo-Management, 1972) totaling more than 601,000 feet (183,200

meters) of drilling. From that data set holes that contained a grade-times-thickness (GT) product of 0.50 or greater, with a minimum grade of 0.08% eU<sub>3</sub>O<sub>8</sub> were utilized in the resource estimations. Cutoff grades and thicknesses were applied by Sohio in the 1980's to the mineralized zones as follows for the purpose of calculating updated resources in each of the deposits:

**Table 6.1: Sohio GT Criteria**

<b>Deposit</b>	<b>Thickness (feet)</b>	<b>Cut-Off Grade (% eU<sub>3</sub>O<sub>8</sub>)</b>	<b>GT (Grade X Thickness)</b>
<b>Area I</b>	2	0.05	0.10
<b>Area II</b>	7	0.07	0.49
<b>Area III</b>	2	0.10	0.20
<b>Area IV</b>	6	0.05	0.30
<b>Area V</b>	7	0.07	0.49

Areas I and II, with cut off grades of 0.05% U<sub>3</sub>O<sub>8</sub> over minimum thicknesses of 2 feet, were considered to be open pit development targets by Sohio (Boyd, 1981; Olsen and Kopp, 1982), while the remaining deposits were considered to be underground mining targets only.

All resource grades were calculated from down-hole gamma-ray logging undertaken by the project operators, UNC Resources and Sohio Western Mining Company by independent geophysical contractors (Century Geophysical, Dalton Well Logging, Data-Line and Geoscience Associates). These calculations were checked by an independent firm, David S. Robertson & Associates, who compared their calculations to those initially prepared by the staffs of Geo-Management and Sohio and found differences to be “minor” (Robertson & Associates, 1978).

URRE (Neutron Energy) prepared internal estimates of mineral resources in 2010 (Table 6.2), and while URRE considers the estimate to be valid, the Company has not presented the estimate as NI 43-101 compliant resources in a NI 43-101 technical report. The authors have not reviewed in detail the estimates presented in Table 6.2, as current and compliant resource estimates are presented in Section 14 of this report. The mineral resource estimates presented in this History Section, are presented solely for the purpose of full disclosure of the historical work on the property.

**Table 6.2: Historical Mineral Resources – Areas I, II, III, and V (URRE, 2010)**

<b>Deposit</b>	<b>Short Tons</b>	<b>Grade (% eU<sub>3</sub>O<sub>8</sub>)</b>	<b>Pounds of eU<sub>3</sub>O<sub>8</sub></b>
<b>Area I</b>	1,409,300	0.155	4,368,800
<b>Area II</b>	3,085,300	0.179	11,045,400
<b>Area III</b>	1,477,600	0.171	5,053,500
<b>Area V</b>	709,400	0.214	3,036,400
<b>Total “Inferred” Resources</b>	<b>6,681,600</b>	<b>0.176%</b>	<b>23,504,100</b>



**Table 6.3: Historical Mineral Resources, St. Anthony and Area IV (URRE 2010).**

<b>Deposit</b>	<b>Short Tons</b>	<b>Grade (% eU<sub>3</sub>O<sub>8</sub>)</b>	<b>Pounds of eU<sub>3</sub>O<sub>8</sub></b>
<b>St. Anthony</b>	4,320,000	0.095	8,208,000
<b>Area IV</b>	141,000	0.070	197,000
<b>Total “Historical” Resources</b>	<b>4,461,000</b>	<b>0.094%</b>	<b>8,405,000</b>

Drilling in the area near the former boundary between the St. Anthony and Sohio L-Bar mines was previously assessed by United Nuclear (Sabo, 1979) to have an exploration potential for the discovery of in excess of 600,000 pounds of U<sub>3</sub>O<sub>8</sub> at a grade of 0.15% to 0.16% U<sub>3</sub>O<sub>8</sub>, at relatively shallow depths. This exploration potential is not a resource estimate. URRE is not representing this as a resource estimate for the Cebolleta property.

The above stated historical resources are not reliable or relevant; they are historically reported information only. Key assumptions and estimation parameters used in the above estimates are not fully known to the authors of this report, it is therefore not possible to determine what additional work is required to upgrade or verify the estimate as current mineral resources or mineral reserves. The above tonnage and grade figures are not CIM compliant resources. A qualified person has not done sufficient work to classify the historical estimate as current mineral resources, and URRE is not treating the historical estimate as current mineral resources. The estimate of tons and grade are presented here only as documentation of what was historical reported for the property. The authors and URRE are presenting current CIM compliant mineral resources sufficient for NI 43-101 reporting in Section 14 of this report.

## 6.4 Historic Production

Initial uranium production from the Cebolleta project area was derived from the Climax underground mine, which is situated in the St. Anthony area. This small-scale underground mine was reported to have produced about 321,000 pounds of U<sub>3</sub>O<sub>8</sub> over a period of approximately seven years.

United Nuclear Corporation (UNC), who acquired the St. Anthony lease from Climax Uranium Company operated two open pit mines (North and South) and one underground mine (Willie P) on the leased lands. UNC commenced mining operations in 1975 (Baird and others, 1980) and continued their mining operation through 1979. Material mined from the St. Anthony operation was processed primarily through UNC’s Northeast Church Rock mill, and records indicate that total production attributed to the St. Anthony operation amounted to 1.6 million pounds of U<sub>3</sub>O<sub>8</sub>.

Sohio’s JJ#1 underground mine, which was developed to exploit the Area II and V deposits, delivered 898,600 short tons (815,000 tonnes) of material to the L-Bar mill, grading 0.123% and yielding 2,218,800 pounds of U<sub>3</sub>O<sub>8</sub> (Boyd and others, 1984).

There has been no other uranium production from the Cebolleta project.

## 7 Geological Setting and Mineralization (Item 7)

### 7.1 Regional Geology

The Cebolleta project is located in the Laguna mining district, near the eastern end of the Grants Mineral Belt, on the southern flank of the San Juan Basin.

The Grants Mineral Belt is situated on the northeastern flank of the Laramide-aged Zuni Uplift and the southern edge of the San Juan Basin. The Basin is a significant geological and topographic feature that covers much of the northwest portion of New Mexico, and is an important geological and physiographic feature within the Colorado Plateau geologic province. Within the area of the Grants Mineral Belt, rocks ranging in age from Pennsylvanian through upper Cretaceous are exposed, with surface exposures of the older rocks generally restricted to the area immediately north of the Zuni Uplift. Younger marine Cretaceous rocks cover the northerly portion of the mineral belt and obscure the host rocks for the uranium deposits.

The Mt. Taylor volcanic field, which is comprised of dominantly basalt flows and “plugs”, covers a portion of the eastern segment of the Grants Mineral Belt immediately to the west of the Cebolleta project area. These igneous rocks, which are Pliocene in age, range from basalt and diabase to rhyolite in composition (Moench and Schlee, 1967).

The Grants Mineral Belt is a west-northwest trending zone of sandstone-hosted (and lesser limestone-hosted) uranium deposits that extends from the western edge of the Rio Grande Rift, east of the Pueblo of Laguna and the Cebolleta project, west-northwesterly to the vicinity of the city of Gallup, for a distance of more than 100 miles (161 kilometers). Locally, the belt attains a maximum width of approximately 25 miles (40 kilometers), but is more commonly 6 to 10 miles (9.6 to 16 kilometers) in width. This belt of uranium deposits includes mining districts north of Laguna, Marquez (that portion of the Laguna district that contains uranium deposits only in the Westwater Canyon Member of the Morrison Formation), the Ambrosia Lake-San Mateo area (north of Grants), Smith Lake, Crownpoint, and Church Rock. Collectively, the deposits of the belt have provided more than 340 million pounds of  $U_3O_8$ , ranking as the fourth largest uranium producing region in the world (McLemore and others, 2013), and the world's largest sandstone-hosted uranium district.

Sandstone-hosted uranium deposits of the Grants Mineral Belt are hosted primarily in the Jackpile Sandstone (informal unit of economic usage only), Poison Canyon sandstone (informal unit of economic usage only), and the Westwater Canyon Member of the Jurassic aged Morrison Formation. Limestone-hosted uranium deposits have been discovered in the Todilto Member of the Jurassic aged Wanakah Formation (Armstrong, 1995).

### 7.2 Local and Property Geology

#### Stratigraphy

A thick sequence of sedimentary rocks, ranging in age from Triassic through upper Cretaceous (Baird and others, 1980; Jacobsen, 1980; Moench and Schlee, 1967; Schlee and Moench, 1963) is present within the Cebolleta project area. Of particular importance is the Jurassic-aged Morrison Formation, which is the host unit for nearly all of the significant uranium deposits in the Grants Mineral Belt. The Morrison Formation has been subdivided by various workers into three principal units (in ascending order) in the southern portion of the San Juan Basin: the Recapture unit, the overlying Westwater Canyon Member, and the upper-most Brushy Basin Member. The Morrison Formation is

unconformably overlain by the Cretaceous-aged Dakota Sandstone, which in turn is overlain by the Mancos Shale. For economic purposes two informal units have also been designated: the Poison Canyon Sandstone (appears to be absent at Cebolleta), which is at the top of the Westwater Canyon Member and near the base of the overlying Brushy Basin Member, and the Jackpile Sandstone, which is at the top of the Brushy Basin Member.

Regionally, the Recapture Member of the Morrison Formation, which is the lowermost unit of the Morrison Formation, ranges from 50 to 600 feet (15 to 183 meters) in thickness, and is about 50 feet (15 meters) thick in the project area (Moench and Schlee, 1967). It is comprised of inter-bedded mudstones, siltstone, sandstones, and occasional limestone. Moench and Schlee (1967) report that the unit normally greyish-red on surface exposures, while fresh exposures of the various lithologies are grey (limestone), greyish-green (mudstone), or greyish-yellow (sandstone).

The Westwater Canyon Member ranges from 10 to 90 feet (3 to 27 meters) in thickness in the project area. While the Westwater Canyon conformably overlies the Recapture Member there is evidence, on a local scale, for Westwater Canyon channels having “scoured” into the uppermost parts of the underlying Recapture Member. The Westwater Canyon, which is the principal host for uranium mineralization throughout much of the Grants Mineral Belt, is a greyish-yellow to pale orange sandstone. The sandstones are poorly sorted, range from fine to coarse-grained, and are sub-arkosic to arkosic in composition (Moench and Schlee, 1967). In the Marquez Canyon area, approximately 15 miles (24 kilometers) north of the Cebolleta project area, the Westwater Canyon is comprised of several sandstone lenses that are separated by thin lenses of mudstone and siltstone.

The uppermost unit of the Morrison Formation is the Brushy Basin Member, a thick unit comprised primarily of variegated mudstones and claystones, which ranges in thickness from 220 to 300 feet (67 to 91 meters) in the project area. The mudstone and claystone units are greyish-red, greyish-green to greenish-grey in color and form distinctive rounded outcrops. Several sandstone beds are present within the Brushy Basin throughout the Grants Mineral Belt, and certain of these sandstones have economic significance for hosting uranium deposits.

The Jackpile Sandstone is a local, yet distinct unit that is the uppermost part of the Brushy Basin Member. This unit is the host for the significant uranium deposits at the former Jackpile – Paguete, St. Anthony, and L-Bar mines. The Jackpile Sandstone extends in a north-easterly trending belt that may be as much as 13 miles (21 kilometers) wide and more than 65 miles (105 kilometers) long (Jacobsen, 1980), and can achieve a thickness of 200 feet (61 meters). In the St. Anthony mine complex the Jackpile ranges from 80 to 120 feet (24 to 37 meters) (Baird and others, 1980) in thickness, while at the adjoining L-Bar mine it is from 80 to 100 feet (24 to 30 meters) thick (Jacobsen, 1980).

The Jackpile Sandstone was deposited in a northward-flowing braided stream, and is best characterized as having few persistent shale or mudstone interbeds; instead it is dominated by strongly cross-bedded sands that often display channel scours into the underlying sandstone (sand-on-sand relationship). It is generally fine to medium grained (with local zones of coarse-grained material) and feldspathic in composition. Where exposed in the walls of the two open pits at St. Anthony it is white to light tan or light gray in color, with a very occasional pink cast where local feldspar content is increased. Quartz grains in the sandstone exhibit some “frosting”, likely due to mechanical abrasion, and are regularly “dusted” with very fine kaolinite. No sulfide minerals have been observed.

Carbonaceous material is present in some exposures within the south wall of the St Anthony North open pit, and this material occurs as small, near vertical “rods” and occasional zones of carbonaceous “trash” along bedding planes, especially along bedding planes of trough cross-beds. Strong

concentrations of thinly-bedded carbonaceous material have been observed in the core from one hole that the Company has in its possession. The occurrence of carbonaceous material in this core hole is more representative of organic carbon material reported in the strongly mineralized zones of the former Willie P and JJ #1 underground mines than mineralized exposures anywhere in the St Anthony North or South open pits.

A stratigraphic column is shown in Figure 7.2.1

## **Structure**

Sedimentary rocks in the project area dip very gently to the north and northwest into the San Juan Basin, at less than 2 degrees. Several small scale dip-slip faults, generally down-dropped to the west, have been mapped on the surface several miles north of the project, and two similar structures, down-dropped to the east, have been mapped northeast and southwest of the immediate project area (Schlee and Moench, 1963). No major faulting has been recognized in the project area. Several small-scale high-angle faults were observed in the workings of the former JJ #1 underground mine (Jacobsen, 1980), but these structures do not appear to have disrupted uranium mineralization in the mine, and do not appear to have influenced the localization of mineralization.

A very small fold, or “dome”, was reported to be present in the southern part of the Willie P underground mine. There was an increased concentration of carbonaceous material in the north flank of this small-scale feature with a corresponding increase of uranium mineralization. A second, larger northeasterly trending fold is present in the area of the “Lobo Camp” three miles (4.8 kilometers) northeast of St. Anthony (Schlee and Moench, 1963).

Current resource modeling included modeling of mineralized zones; three zones for Area III, and six primary zones and one sub-zone for Area I-II-IV deposits. No offsets of mineralization were noted in any of the mineralized zones.

## **Ground Water**

Throughout the Grants Mineral Belt sandstones of the Morrison Formation, particularly the Westwater Canyon Member, and the Dakota Sandstone are aquifers. As reported by Hatchell and Wentz (1981) and various reports about the former L-Bar mine, ground water inflows from the Jackpile sandstone range from 25 to 100 gallons per minute (113 to 454 liters). Water wells capable of producing between 25 and 35 gallons per minute (113 and 159 liters) were completed into the Jackpile sandstone at L-Bar, and other wells capable of producing between 35 and 50 gallons per minute (159 and 227 liters) from the Westwater Canyon Member of the Morrison Formation (Geo-Management, 1972) were also drilled in the area. Although pumping data is not available to determine the ability of either aquifer to provide sustained water supplies, considerable water is known to be present in the Dakota and Westwater Canyon at the Company's Juan Tafoya project (located 15 miles (24 km) to the north), and elsewhere in the vicinity of the Cebolleta project.

A hydrogeological study of the project has not been done, but is recommended, to determine local and district scale groundwater characterization and hydrological flows for the purpose of any future development planning.

## 7.3 Mineralization

### 7.3.1 Significant Mineralized Zones

The Cebolleta uranium project contains at least seven distinct sandstone uranium deposits within the Jackpile sandstone unit of the Morrison Formation. These deposits are part of a broad and extensive area of uranium mineralization, which includes the very large Jackpile-Paguate deposit, which was one of the largest concentrations of uranium mineralization in the United States. Several important uranium deposits are located in the Cebolleta project area, including five distinct deposits in the former L-Bar part of the project: Areas I, II, III, IV, and V. Additionally, there are at least three distinct bodies of uranium mineralization in the St. Anthony area. The Area I deposit, located in the southern-most part of the former Sohio mine area extends south of the former property boundary into the St. Anthony area, and additional uranium mineralization is present in the St. Anthony area adjacent to the north side of the St. Anthony North pit and the St. Anthony underground mines (McLemore and Chenoweth, 1991; McLemore, 2000).

The known uranium deposits in the project area share a common set of geological characteristics:

- Essentially all of the potentially economic mineralization is hosted by the Jackpile sandstone, although minor amounts of mineralization hosted in sands of the Brushy Basin Member of the Morrison Formation and the Dakota Sandstone are present in the St. Anthony area;
- Most of the mineralization is hosted in medium to coarse-grained sandstones that exhibit a high degree of large-scale tabular cross-stratification (Baird and others, 1980);
- Near the margins of the deposits the mineralization thins appreciably, although halos of low-grade mineralization surround the deposits;
- Higher grade mineralization usually occurs in the centers of the mineralized zones;
- Strong mineralization appears to be concentrated in the lowermost portions of the Jackpile sandstone, although anomalous concentrations of uranium are present throughout the vertical extent of the unit (Jacobsen, 1980);
- Most of the mineralization appears to be “reduced”, with only isolated small pods, especially in the St. Anthony underground area, of discontinuous mineralization exhibiting oxidation (Baird and others, 1980). Mineralization in the St. Anthony South pit appears to be a “remnant” deposit, that has been partially depleted of uranium, which was redeposited in the nearby (down-dip) North pit;
- Extensive chemical and radiometric analyses on core holes by Sohio demonstrated that the mineralization is generally within equilibrium (Geo-Management, 1972; Olsen and Kopp, 1982). Table 7.2.1 outlines comparative assay results from several core holes in two of the deposits in the Sohio area. Evaluation of data from 47 core holes at the St. Anthony area shows a slight trend of chemical enrichment of uranium, as compared to radiometric assays, as shown in Table 7.2.2;
- Individual deposits do not show an overall preferred orientation or trend, and do not fully reflect the orientation of the main Jackpile sandstone channel trend. Current resource modeling efforts have demonstrated an NNW-SSE trending orientation to the better grade-thickness product (GT) mineralization;
- Nearly all of the deposits show some spatial relationship with carbonaceous material, although the mineralized zones exposed in the highwalls of the two open pits do not exhibit such a relationship; and

- The deposits range in depth from approximately 200 feet (61 meters) in the St. Anthony area, to nearly 700 feet (213 meters) in the vicinity of the Area II and Area III deposits in the central and northern (down-dip) parts of the project area.

In the L-Bar (northern) area, mineralization occurs in tabular bodies that may be more than 1,000 feet (305 meters) in length, and attain thicknesses of 6 to 12 feet (1.8 to 3.7 meters). The upper and lower boundaries of these mineralized bodies are generally quite abrupt. There is some tendency for individual deposits to develop in clusters. Locally, these clusters may be related to the coalescence of separate channel sandstone bodies. In this instance, mineralization is often thicker and higher grade than adjoining areas. The northern portion of the project includes five distinct zones of mineralization, known as Areas I, II, III, VI, and V. Mining operations undertaken by Sohio Western Mining were limited to the Area II and V deposits (the JJ#1 mine), but based upon historical resources data prepared by Sohio after the closure of the L-Bar mine (Boyd, 1981; Olsen and Kopp, 1982; Boyd and others, 1984) substantial mineralization remains in both deposits. The Area I deposit, located in the southern part of the L-Bar complex (and was never mined) extends south of the former property boundary into the St. Anthony area, and additional uranium mineralization is present in the St. Anthony area adjacent to the St. Anthony open pit and the Willie P. underground mine (McLemore and Chenoweth, 1991; McLemore, 2000).

Following are descriptions of two of the former Sohio (L-Bar) uranium deposits as studied by URRE geologists, the Area I and Area III deposits:

#### **Area I Deposit (part of Area I-II-V):**

Grade, thickness, and GT contour maps have been prepared for all of the mineralized horizons of the Area I deposit. Mineralization in the middle horizon occurs in a broad, southeast-northwest trending body that is 600 to 800 feet (183 to 244 meters) wide and approximately 900 feet (274 meters) long. A composite of mineral intercepts at a 0.5 GT cut-off averages 10.2 feet (3.1 meters) thick with an average grade of 0.12% eU<sub>3</sub>O<sub>8</sub>.

Seventeen east-west and 22 north-south sections were constructed for the Area I deposit. The mineralized zones and lenses appear to be somewhat continuous throughout the deposit. Mineralized drill hole intercepts were assigned to one of four zones – “Upper”, “Middle”, “Lower”, or “Basal” horizon. It has been noted however, that the Area I deposit appears to have more frequent thin, less continuous intercepts than were observed at other deposits in the northern part of the project area. Intercepts on the cross sections also appear to reflect a slight westerly to north-westerly dip on the units. As in the Area III deposit, the better and more laterally continuous mineralized zones occur in the middle and lower portion of the sandstone sequence, corresponding to the “Middle” and “Lower” horizons. Additional mineralization at the base of the Jackpile sandstone and in the underlying upper Brushy Basin Member may correspond to the “Basal” horizon in the Area III deposit.

Mineralization in the “Lower” horizon occurs as a sinuous, lenticular, southeast-northwest trending body that is 150 to 400 feet (46 to 122 meters) wide and approximately 2,400 feet (731 meters) long. A composite of mineral intercepts at a 0.5 GT (grade X thickness) cut-off averages 9.8 feet (2.98 meters) thick with an average grade of 0.153% eU<sub>3</sub>O<sub>8</sub> (again, based upon historical drilling data only).

Mineralization in the “Basal” horizon occurs is several smaller discontinuous, lenticular ore pods. A composite of mineral intercepts at a 0.5 GT cut-off averages 7.0 feet (2.13 meters) thick with an average grade of 0.14% eU<sub>3</sub>O<sub>8</sub>.

All three mineral horizons have mineralized lenses that are open ended and trend beyond the external limits of the drill hole grid. Potential exists to extend these mineral zones into previously untested areas and onto the St. Anthony portion of the project area, where this mineralized zone is present but not drill tested in a comprehensive manner.

Maps depicting Area I are shown in Figures 7.2.3 through 7.2.7

### **Area III Deposit:**

Grade, thickness, and GT contour maps have been prepared for the mineralized horizons of the Area III deposit. Mineralization in the middle horizon occurs in an arcuate, east-west trending, elongate body that is 200 to 500 feet (61 to 152 meters) wide and approximately 2,100 feet (640 meters) long. A composite of mineral intercepts at a 0.5 GT cut-off averages 8.3 feet (2.5 meters) thick with an average grade of 0.183% eU<sub>3</sub>O<sub>8</sub>, based upon historical drilling data. Mineralization in the lower zone occurs as a continuous, lenticular, east-west trending body that is 300 to 500 feet (91 to 152 meters) wide and approximately 2,200 feet (670 meters) long. A composite of mineral intercepts at a 0.5 GT cut-off averages 10.2 feet (3.1 meters) thick with an average grade of 0.172% eU<sub>3</sub>O<sub>8</sub>.

A series of 20 north-south and 11 east-west sections were constructed across the Area III deposit, utilizing the mineral intercept data from the Sohio drill hole maps and individual gamma-ray logs. Mineralization has been observed to be continuous from section to section in tabular or lenticular bodies of a few feet up to tens of feet in thickness. Grades greater than 0.10 % eU<sub>3</sub>O<sub>8</sub> are commonly seen in the sections, with numerous intercepts of 0.20% or better. This mineralization occurs throughout the Jackpile sand unit which is 80 to 100 feet (24 to 30.5 meters) thick in the deposit area. The mineralization was assigned into four horizons as defined and differentiated by the cross section work, and these zones have been designated as “Upper”, “Middle”, “Lower”, and “Basal” horizons. The better and more laterally continuous lenses occur in the middle to lower portion of the sandstone sequence, corresponding to the “Middle” and “Lower” horizons. Mineralization has also been identified in the Brushy Basin Member at and immediately below the base of the Jackpile sandstone unit, in the Basal horizon.

Maps depicting Area III are shown in Figures 7.2.8 to 7.2.13

## **7.3.2 Controls to Mineralization**

Principal controls on uranium mineralization at the Cebolleta project are primary sedimentary structures in the Jackpile Sandstone (Jacobson, 1980; Baird, 1980), and the concentration of carbonaceous material that served as a reductant to precipitate uranium from circulating ground water. The occurrences of carbonaceous material tend to be local rather than wide-spread, as observed in the former L-Bar mine (Jacobson, 1980) and in the pit walls of the two St. Anthony open pits. Jacobson notes that there are no meaningful occurrences of substantial uranium mineralization without carbonaceous material, the same relationships have been noted by UNC (Baird and others, 1980) in the former Willie P underground mine at St. Anthony. Perhaps reflecting the “remnant” nature of at least some of the mineralization in the St. Anthony North and South open pits, URRE’s geologists did not note significant accumulations of carbonaceous material associated with low-grade (0.03% to 0.06% U<sub>3</sub>O<sub>8</sub>) uranium mineralization exposed in the pit high walls.

Baird (1980) notes the distinct association of substantial zones of uranium mineralization with medium to coarse-grained sandstones that exhibit large-scale tabular cross-bedding in the Willie P underground mine. Similar relationships have been noted in the south high wall of the North pit.

While there is a strong northeasterly trend to the thickness contours of the Jackpile sandstone in the Laguna district (which includes all of the Cebolleta project area), there are no meaningful consistent trends to the individual uranium deposits in the Laguna district, although Baird (1980) does state that there is an apparent northwest trend to mineralization in the Cebolleta area. The apparent northwest trend, which was not observed by Sohio geologists (Jacobson, 1980), has been modified to some extent by the erosional retreat of the Jackpile Sandstone outcrop (Baird, 1980), and the subsequent oxidation and redistribution of uranium mineralization.

### 7.3.3 Mineralogy

Uranium minerals at the Cebolleta project are reported to be Coffinite  $[U(SiO_4) \cdot x(OH_{4x})]$ , Uraninite  $[UO_2]$ , organo-uranium complexes, and unidentified oxidized uranium complexes (Robertson & Associates, 1978), although there are no formal studies or reports of the mineralogy of the Cebolleta uranium deposits that were available to the authors of this report.

### 7.3.4 Disequilibrium

The former operators of mines in the Cebolleta project area carried out extensive studies of the equilibrium state of the uranium mineralization at the Sohio L-Bar deposits (Areas I-V) and at the adjoining St. Anthony uranium deposits. URRE geologists reevaluated the historic disequilibrium studies, and the results are presented in Tables 7.3.4.1 and 7.3.4.2. While there is a general trend for the Cebolleta project uranium mineralization to be out of equilibrium in favor of the chemical assays (radiometric assay is generally lower than the chemical assay for a given sample) all mineral resource estimates prepared by the Company utilized the radiometric assay grade. In other words, no disequilibrium factor was applied to any assays.

Sohio staff (Olsen and Kopp, 1982) state “experience has shown that the uranium grades determined radiometrically at the Sohio property corresponded well with grades determined chemically.” This work verified earlier studies by Sohio, based upon 150 core samples (Geo-Management, 1972) that the deposits were generally in radiometric equilibrium. The following table outlines the comparison of chemical and radiometric assays from eight core holes drilled by Sohio in the Area II and Area III deposits generally demonstrating no clear bias toward either the chemical or radiometric grades in the core:



**Table 7.3.4.1: Comparison of chemical versus radiometric assays for selected core holes in the Sohio area.**

Hole No.	From (feet)	To (feet)	Thickness (feet)	Chemical Grade (% $U_3O_8$ )	Radiometric Grade (% e $U_3O_8$ )
<b>Area II</b>					
RLB - 271 C	568.5	573.5	5.0	0.166	0.131
RLB - 279 C	542.0	546.5	4.5	0.191	0.242
RLB - 287 C	552.0	556.0	4.0	0.130	0.144
and	555.5	557.5	2.0	0.080	0.109
and	597.5	614.0	16.5	0.093	0.095
and	615.5	619.0	3.5	0.430	0.388
and	642.5	644.0	1.5	0.340	0.225
RLB – 301 C	560.5	565.5	5.0	0.060	0.060
and	589.0	612.5	23.5	0.265	0.288
RLB – 323 C	546.0	567.5	21.5	0.508	0.486
RLB – 423 C	548.5	560.5	12.0	0.215	0.202
<b>Area III</b>					
RLB – 260 C	390.5	398.5	8.0	0.222	
and	396.0	399.5	3.5	0.116	0.136
and	409.0	410.0	1.0	0.288	0.211
and	421.0	431.5	10.5	0.535	0.625
RLB – 261 C	358.0	363.5	5.5	0.083	0.099
and	410.5	428.0	17.5	0.621	0.631

Data for the St. Anthony is comprised of 1,466 samples collected and analyzed from 47 core holes drilled at various localities within the St. Anthony mine area. The following table (7.3.4.2) outlines samples from core holes drilled by United Nuclear at the St. Anthony mine area. All samples were 1.0 feet in length (0.3048 meters) and were assayed by either the Grants Assay Laboratory or Core Labs. Disequilibrium ratios in excess of 1.0 have higher chemical than radiometric assays, while ratios of less than 1.0 have higher radiometric than chemical assays. Overall, the uranium mineralization, as depicted by this data set, is slightly out of equilibrium in favor of chemical assays.

**Table 7.3.4.2: Disequilibrium data for St. Anthony area core holes.**

Hole Number	Number of Samples per Hole	Avg. Disequilibrium Ratio .05 to .08 Grade Range	Avg. Disequilibrium Ratio .08 to .10 Grade Range	Avg. Disequilibrium Ratio .10 to .20 Grade Range	Avg. Disequilibrium Ratio + .20 Grade Range
19-02/25.75C	36	1.234	1.404	1.324	n/a
19-12/11.5C	27	1.132	0.706	0.620	1.283
19-04/20.75C	4	1.085	n/a	n/a	n/a
19-7.5/17.5C	26	1.133	0.843	n/a	n/a
19-08/12.1C	38	1.016	1.091	1.341	1.109
19-1.5/9.5 C	32	1.081	n/a	1.908	1.243
19-08/22C	38	1.273	n/a	n/a	n/a
19-09.5/16C	37	1.020	1.005	1.192	1.194
19-12.5/08C	14	1.302	n/a	1.321	n/a
19-1013C	12	0.707	n/a	1.373	1.387
19-11/16.8C	13	1.156	1.105	n/a	n/a
30-49.5/28.1C	22	1.012	1.157	1.139	n/a
19-0.0/18.75C	65	0.832	1.424	0.983	n/a
19-0.5/12.6C	24	1.306	1.200	1.085	1.278
19-4.5/14.3C	33	1.124	n/a	1.200	n/a
19-05.25/24.5C	26	1.125	1.007	1.885	1.168
19-0.5/12.6C	51	1.306	1.200	1.085	1.278
19-4.5/14.3C	33	1.124	n/a	1.200	n/a
19-05.25/24.5C	26	1.125	1.007	1.885	1.168
19-13/06.25C	51	0.954	0.979	1.284	n/a
24-01.1/24.9C	17	1.275	1.083	1.167	1.338
24-03/27.5C	10	0.785	n/a	0.946	n/a
24-04/37C	5	n/a	1.181	n/a	n/a
24-05.1/37C	6	1.393	n/a	n/a	n/a
24-05.25/35C	20	1.277	n/a	0.981	n/a
24-06/36.75C	20	0.919	n/a	n/a	n/a
24-06.1/35.9C	33	1.133	0.809	0.972	1.056
24-07.5/35C	28	1.509	n/a	n/a	n/a
24-34.5/43.5C	19	n/a	0.938	1.093	1.223
24-1848C	28	0.905	0.568	n/a	1.068
24-26/46.5C	37	1.200	n/a	1.152	1.114
30-37/49C	10	0.878	0.980	0.742	0.759
30-41/49.5C	16	1.213	1.118	n/a	0.819
30-41/51C	7	0.556	n/a	n/a	n/a
30-43/51C	2	0.949	n/a	0.517	n/a
30-45/10.1C	39	1.114	1.212	1.294	1.402
2/3AE-18C	66	0.692	1.215	0.959	1.224
2/3AE-36C	72	0.511	n/a	1.239	n/a
2/3BE-29C	58	1.180	n/a	0.818	1.626
2/3PE.5-33.5C	46	1.347	1.341	1.007	n/a
2/3TE.5-36C	29	1.223	1.107	1.211	n/a
2/3VE-29C	43	1.465	1.625	n/a	n/a
2/3XE-42C	20	n/a	n/a	1.179	n/a
2/3YE.5-45C	37	1.981	n/a	n/a	n/a
L2-10C	94	1.126	0.500	1.017	n/a
L5-9.5C	85	n/a	n/a	1.010	n/a
L5.5-7C	91	1.027	n/a	n/a	n/a

For the current resource estimation, no disequilibrium factor has been used. It is recommended that confirmation drilling be done as core, and that core be examined to verify the state of equilibrium.

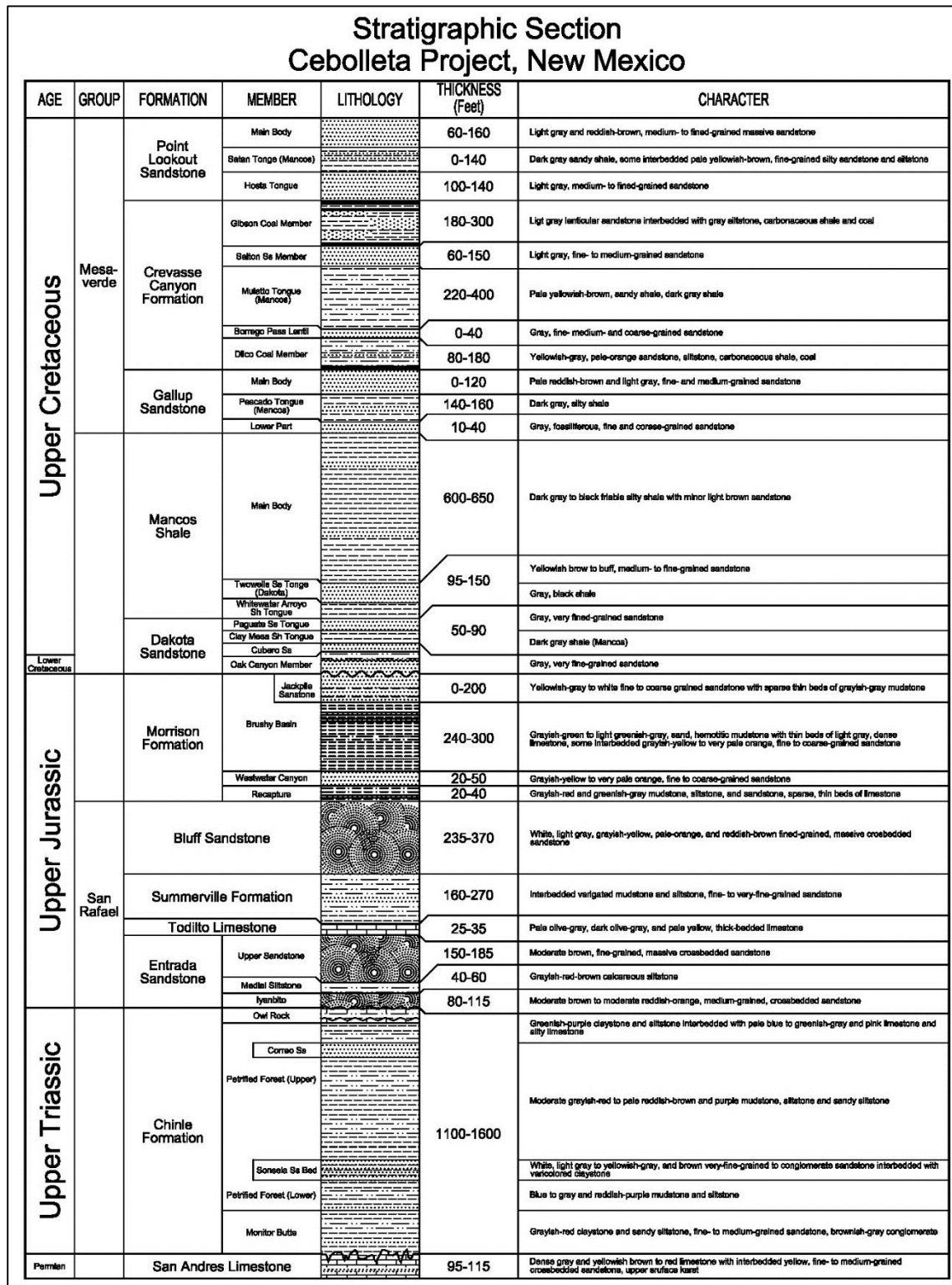
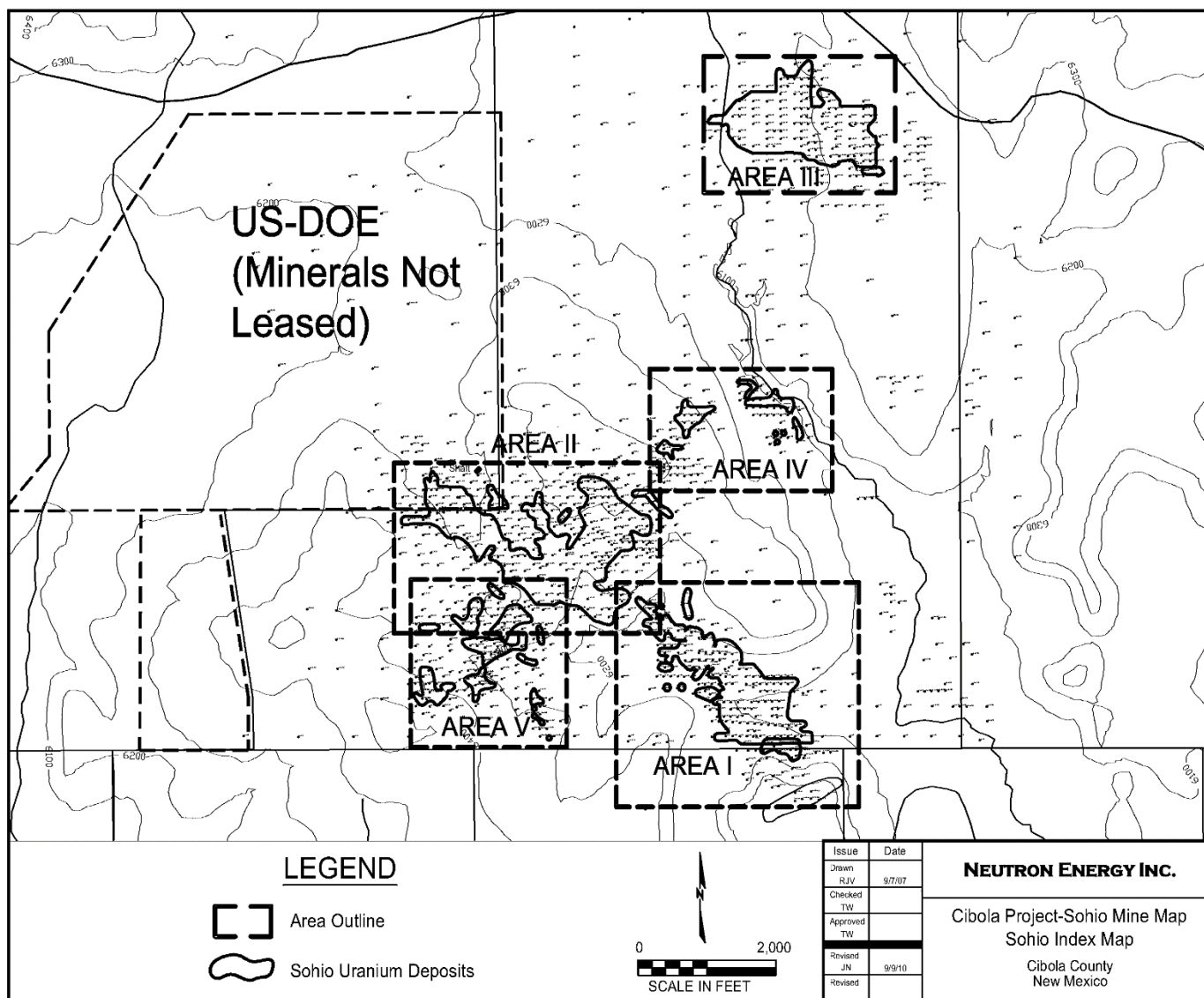


Figure 7.2.1: Stratigraphic Column Ambrosia lake Area

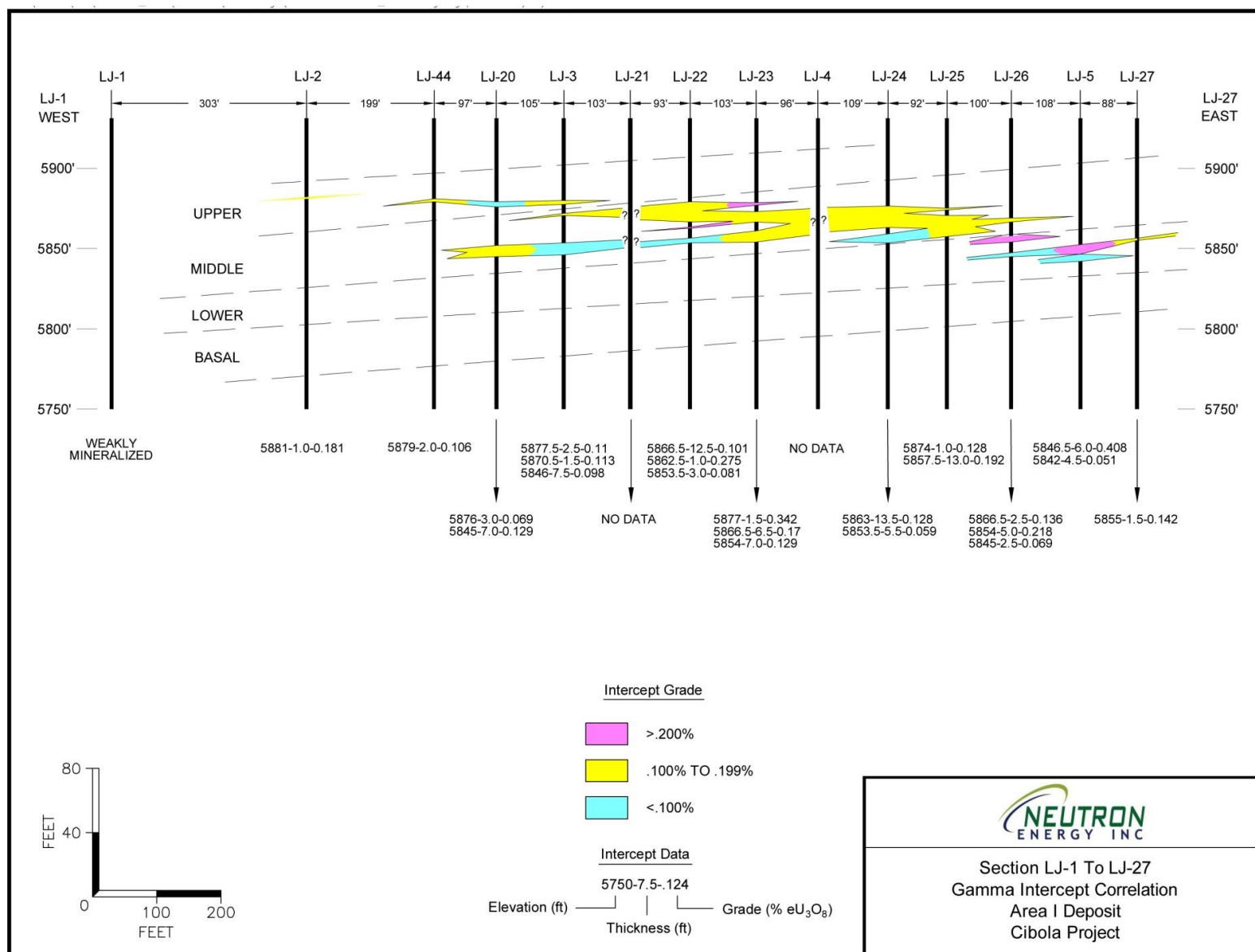


Source: Neutron Energy, 2011

**Figure 7.2.2: Local Deposit Map – Area 1 through Area IV deposits**

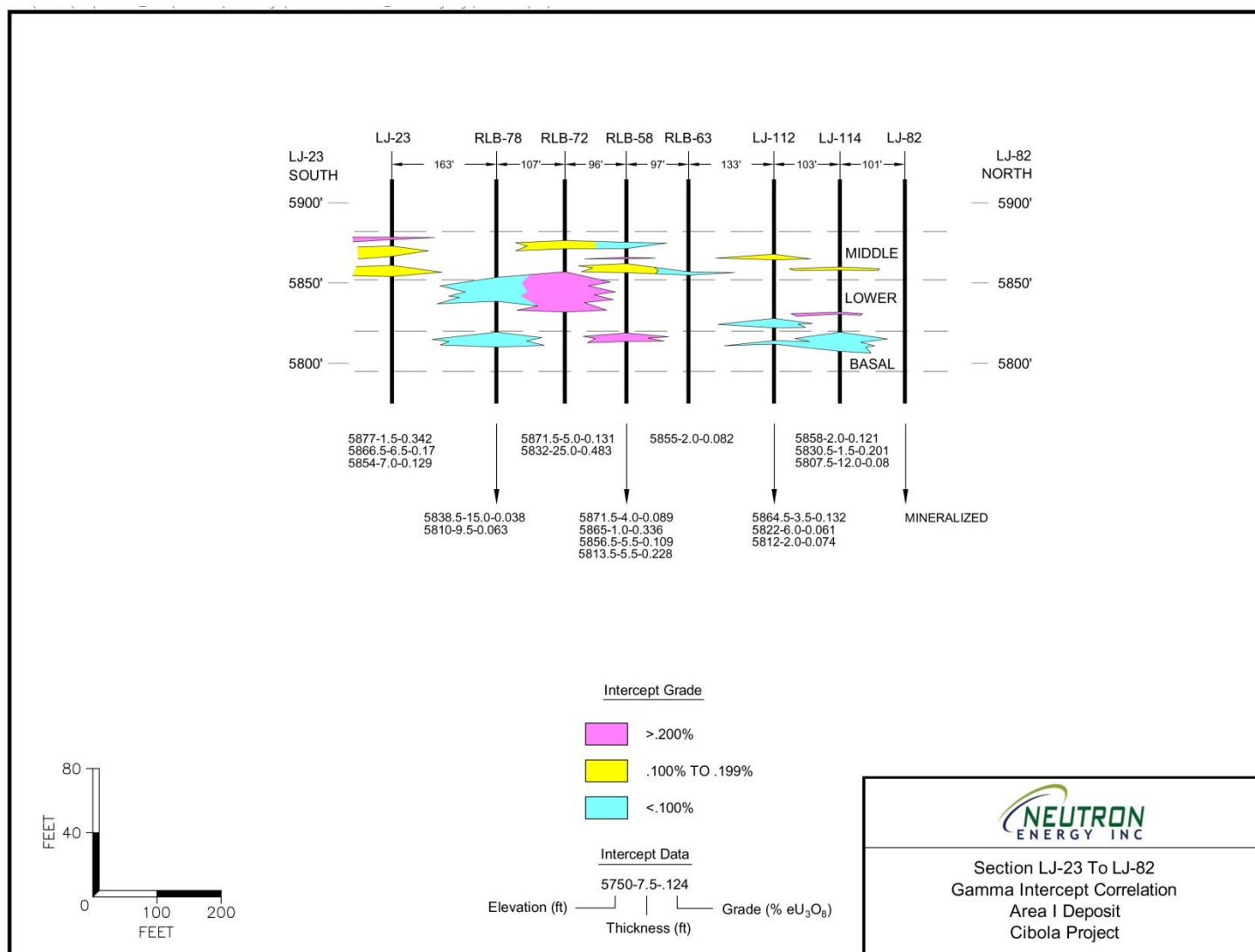


**Figure 7.2.3: Drill Hole Map –Area I deposit, showing location of Cross-Sections**



Source: Neutron Energy, 2011

**Figure 7.2.4: Area I East-West Cross-Section LJ-1 to LJ-27**



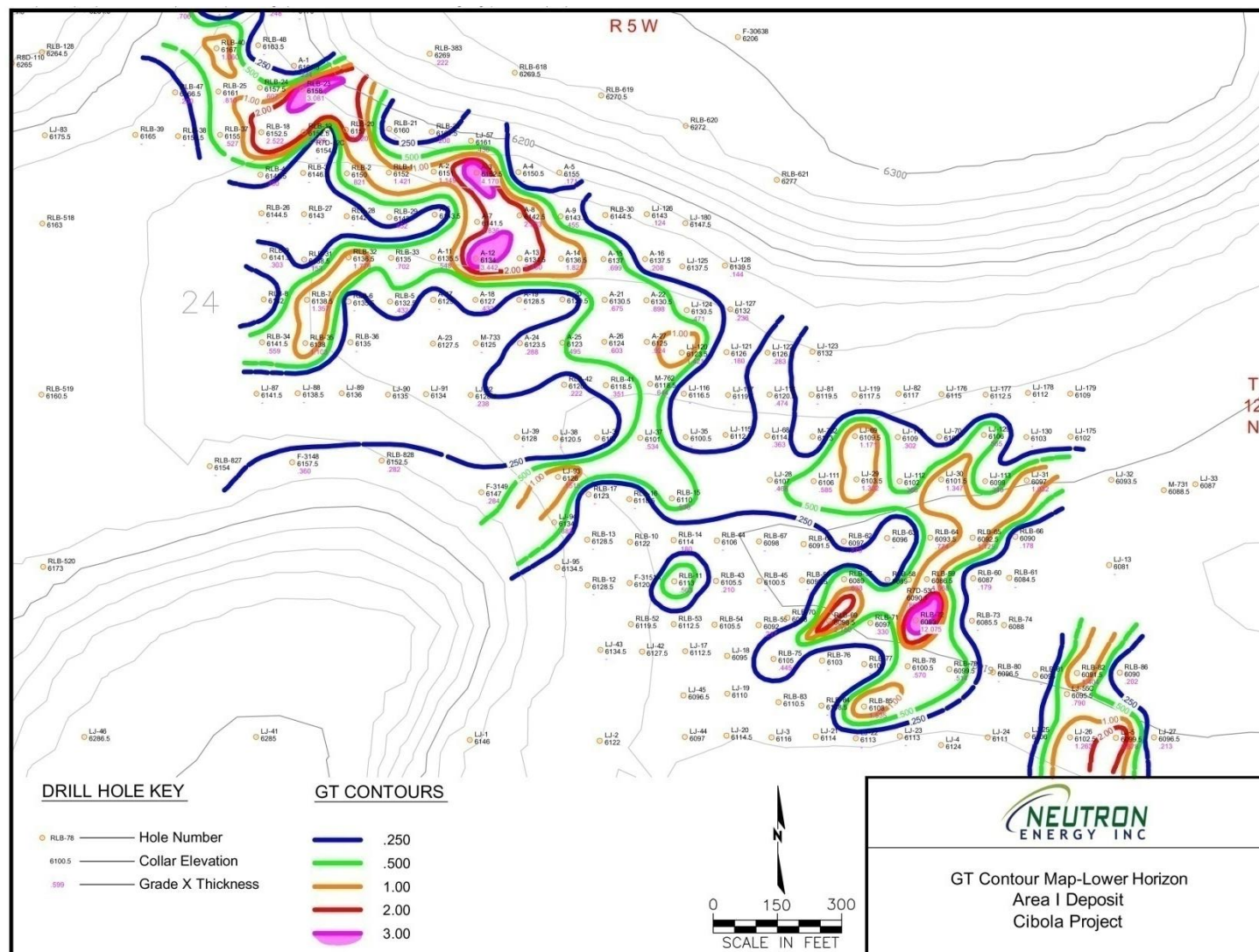
Source: Neutron Energy, 2011

**Figure 7.2.5: Area I North-South Cross-Section LJ-23 to LJ-82**



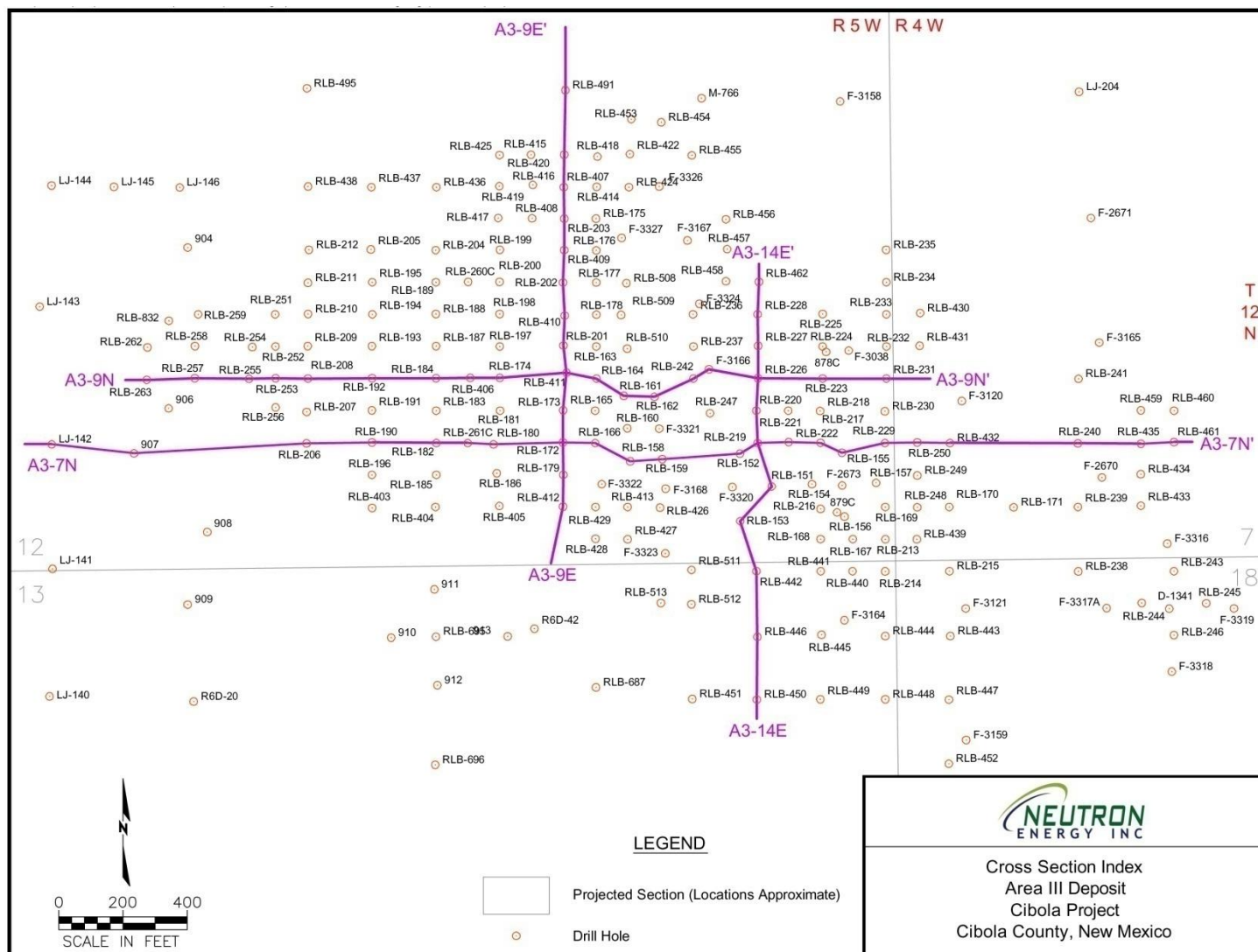






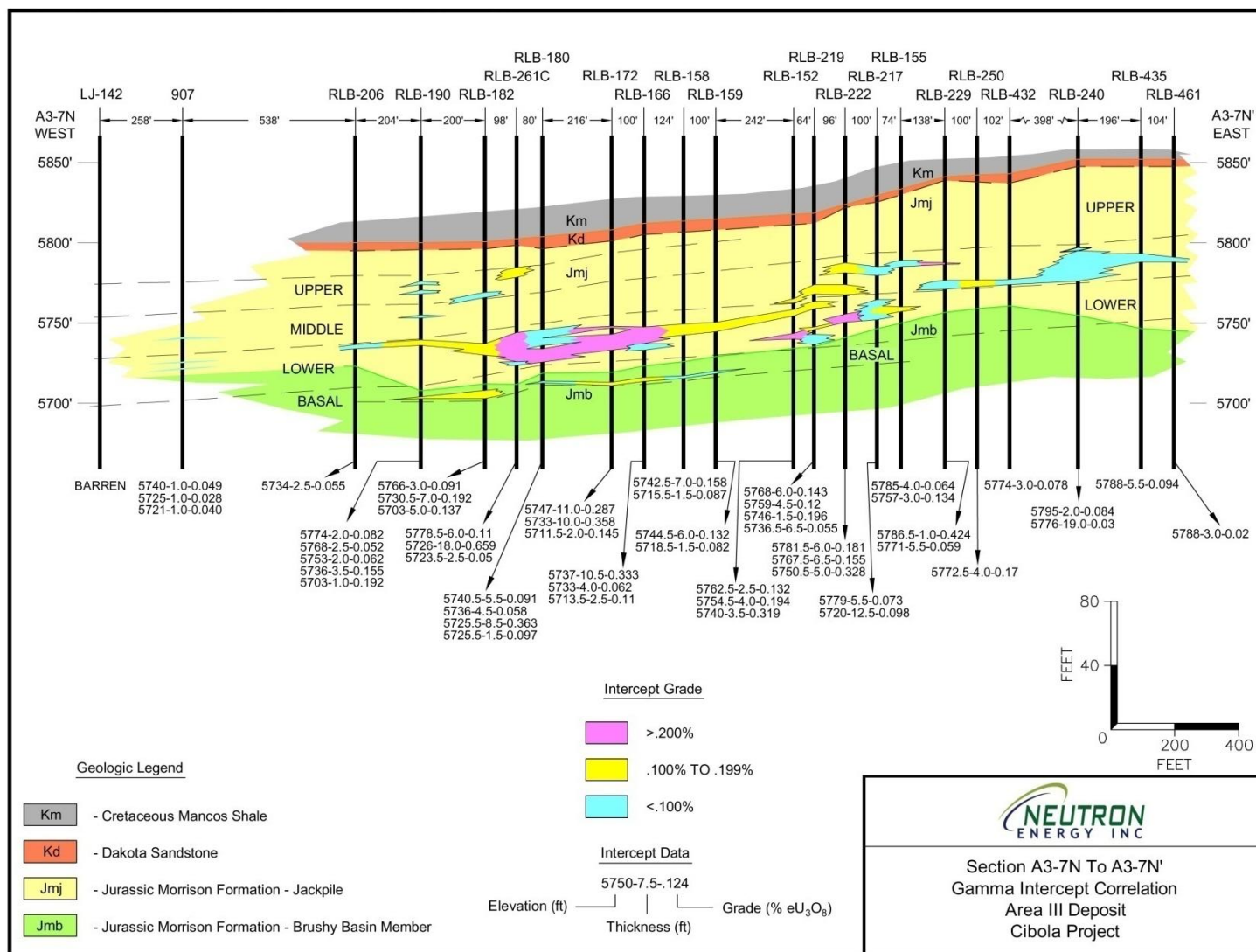
Source: Neutron Energy, 2011

**Figure 7.2.7: Area I GT Contour Map of Lower Mineralized Horizon**



Source: Neutron Energy, 2011

**Figure 7.2.8: Drill Hole Map –Area III deposit, showing location of Cross-Sections**

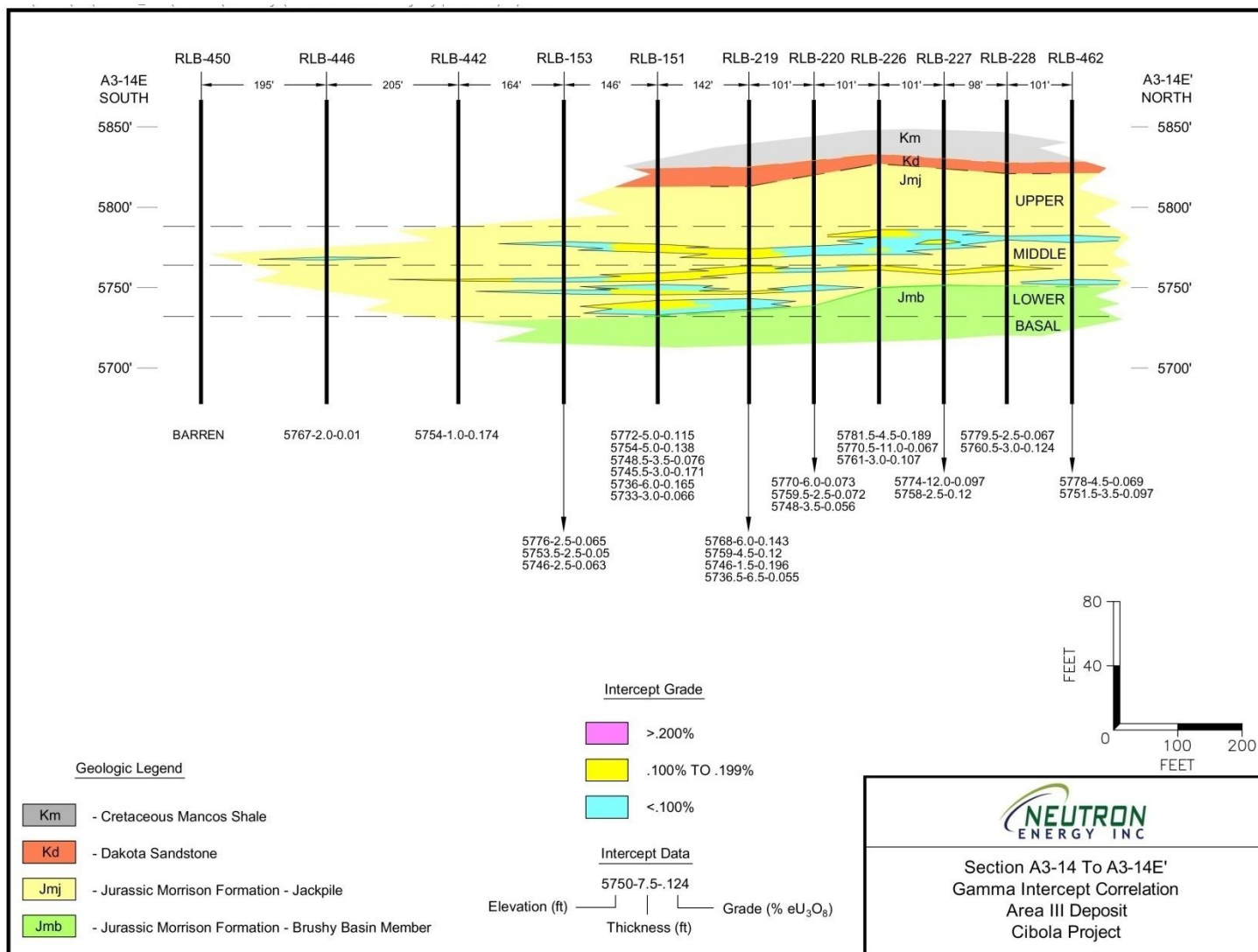


Source: Neutron Energy, 2011

**Figure 7.2.9: Area III Deposit East-West Cross-Section A3-7N to A3-7N'.**

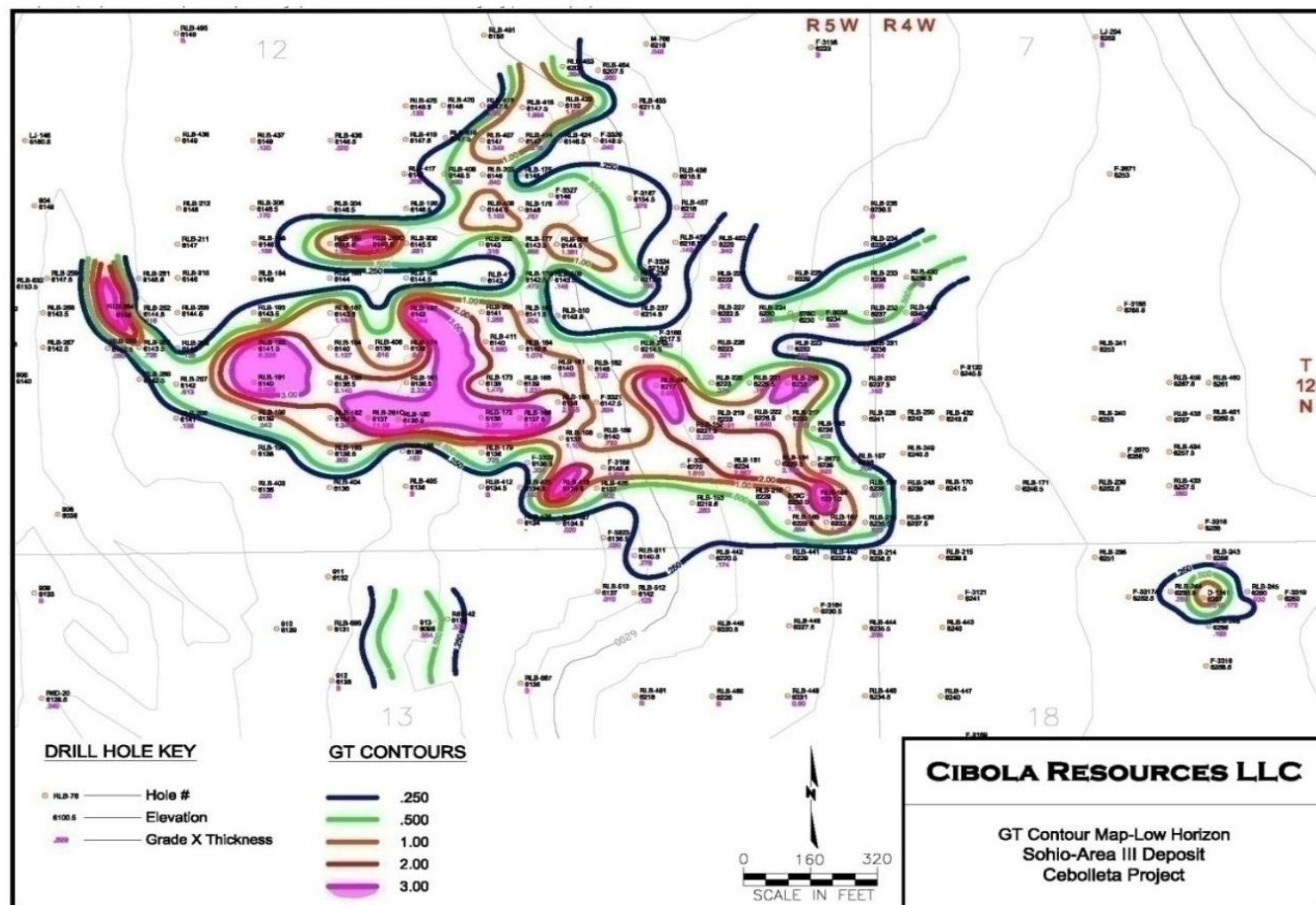






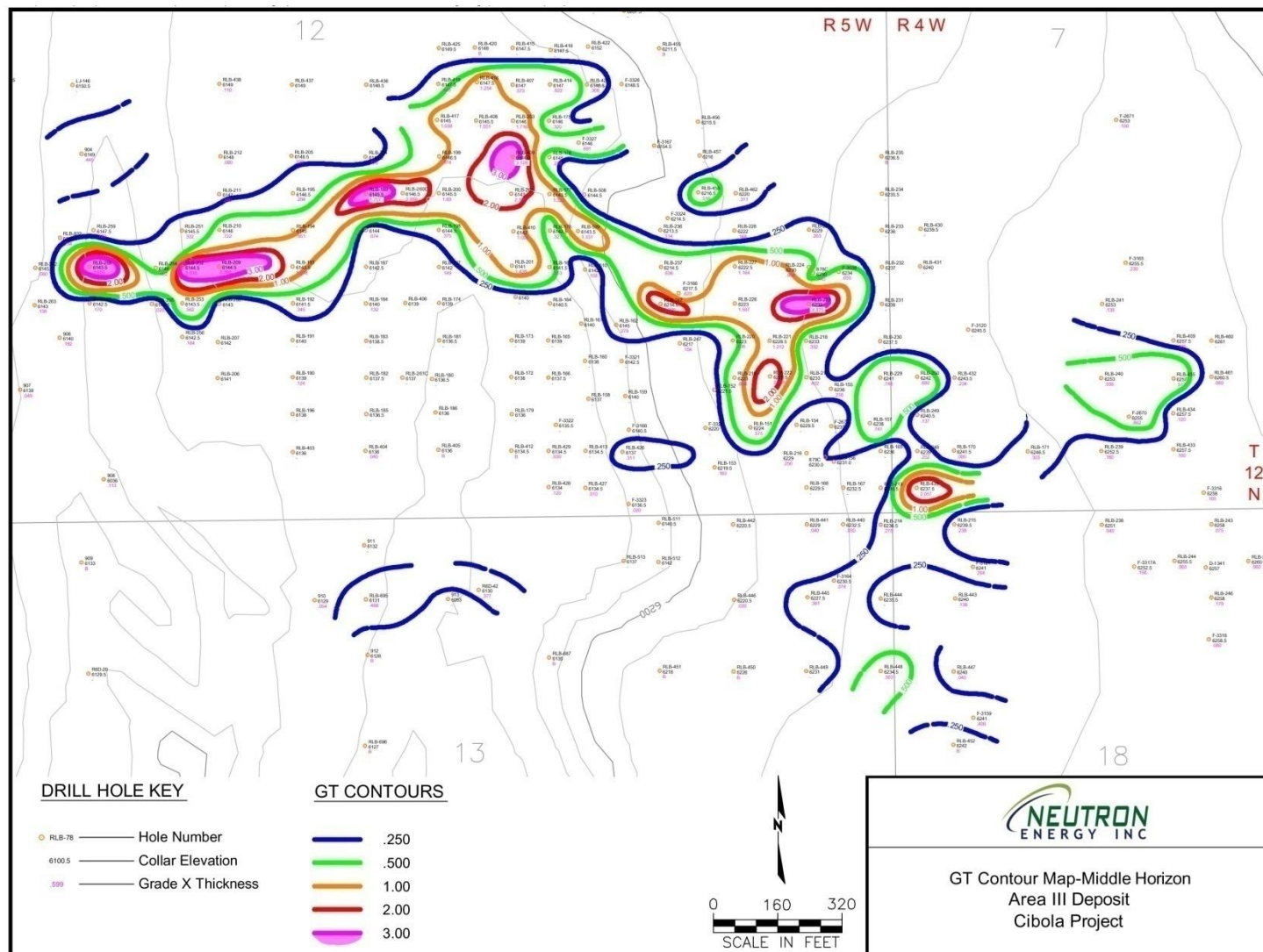
Source: Neutron Energy, 2011

**Figure 7.2.11: Area II Deposit North-South Cross-Section A3-14 to A3-14E'**



Source: Neutron Energy, 2011

**Figure 7.2.12: Area III Deposit GT Contour Map of Lower Horizon Mineralized Zone.**



Source: Neutron Energy, 2011

**Figure 7.2.13: Area III Deposit GT Contour Map of Middle Horizon Mineralized Zone**

## 8 Deposit Type (Item 8)

Nearly all of the uranium mineralization in the Grants Mineral Belt (which includes the Laguna mining district that encompasses the Cebolleta project) occurs as sandstone-hosted deposits hosted in fluvial clastic rocks of the Jurassic-aged Morrison Formation. Two major types of sandstone-hosted deposits have been identified in the area (Kittel, Kelley, and Melancon, 1967; Granger and Santos, 1986):

- “Trend deposits”, which have also been described by various workers in the district as “pre-fault” or “primary” deposits. The “trend” deposits occur as broad, undulatory layers of uranium mineralization controlled primarily by the stratigraphic characteristics of the host sandstones. Mineralization in the trend deposits was localized by humic acids (humates) which acted as the reductants to precipitate uranium from ground water;
- “Redistributed deposits”, which have also been described as “post-fault”, “stack”, or “secondary” deposits, are irregularly shaped zones of mineralization that were controlled by both the stratigraphic characteristics of the host rocks, as well as structural features within the deposits. The redistributed deposits are the product of destruction of trend deposits by oxidation, and have little, if any, humate remaining associated with the mineralization; and

Some geologists who have worked in the Grants Mineral Belt have discussed the presence of “roll fronts” at various locations within the mineral belt (Clark, 1980, McCarn, 1997, McLemore, 2007, Smith and McLemore, 2007), and certain former workers have suggested the presence of roll-front mineralization in the St. Anthony area.

The authors have observed by the shape and configuration of mineralized zones that “trend deposits” are the manifestation in the resources modeled thus far for the Cebolleta project.

Individual uranium deposits range from a few tons to several million tons in size. Many of the deposits “along trend” in the Westwater Canyon Member are roughly tabular, locally irregular in shape, and are elongate in a west-northwest direction, reflecting some of the characteristics of the host channel sandstone units of the Westwater Canyon member of the Morrison Formation. Individual deposits range in size from a few feet in width and length to deposits which may be several tens of feet in thickness, several hundred feet in width, and several thousand feet in length (Fitch, 1980). Redistributed deposits hosted by the Westwater Canyon are often more irregular (in plan view) in shape, and rarely conform to the geometry of the “trend deposits”.

Uranium deposits hosted by the Jackpile Sandstone unit can be quite large, as evidenced by the geometry of the Jackpile and Pagate deposits, which are contiguous to the south boundary of the Cebolleta project. Moench (1963 (b)) described the Jackpile uranium deposits as “composed of one or more semi-tabular layers”. In plan view they range from nearly equant to strongly elongate. Viewed in section, the layers are figuratively suspended within the host sandstone; only locally do they border on prominent mudstone beds, diastems, or formation contacts. The Jackpile deposit, the largest in the district, is several thousand feet long and averages 2,000 feet (609 meters) wide; individual ore layers rarely exceed 15 feet (4.5 meters) in thickness, but several “stacked” layers may aggregate 50 feet in thickness. Work by the staff of URRE on the St. Anthony and Area I through Area V deposits generally confirms these historical observations, although the average width of the mineral deposits in the southern part of the Cebolleta project area rarely exceeds 1,000 feet (305 meters).

The mineralization at the Cebolleta project is classified as tabular sandstone-hosted uranium deposits (Turner-Peterson and Hodges, 1986). The uranium occurrences were formed by the mobilization of



uranium from either granitic rocks of the ancestral Mogollon Highlands, located south of the Cebolleta project area, or from the devitrification of tuffaceous rocks, and tuffaceous material contained in the host sandstones and in the Brushy Basin Member. The uranium was transported from its “source” area to current locations by alkaline ground waters. Uranium minerals were deposited in the host sandstones, where humic acids derived from decayed vegetal material and transported by ground water “scavenged” uranium from the active ground water system (Adams and Saucier, 1981).

At the Area I-II-IV-V deposits, carbonaceous material, which was the reductant for the precipitation of uranium, occurs in two forms, as detritus, and as humate (Jacobsen, 1980). Jacobsen reports that no significant uranium mineralization occurs where carbonaceous material is absent. Certain discussions in published literature (Baird and others, 1980) discuss the presence of carbonaceous material in close association with uranium mineralization at an underground mine at St. Anthony, but field evidence in the North and South open pits does not display a similar relationship, likely reflecting the fact that the South pit deposit is a remnant of a former trend deposit (thereby destroying the carbonaceous material) and the North deposit is a “redistributed-type” of deposit formed by the remobilization of uranium mineralization from the South pit (which is up-gradient of the North deposit). The redistribution or remnant character of the St. Anthony deposits may be a result of their shallow depth below surface.

## 8.1 Mineral Deposits

The Area I-II-V deposit has overall plan dimensions of 6000 ft in a NW-SE long dimension, by 5000 ft in a NE-SW direction; although the overall zone narrows to less than 500 feet at the NW end of the historically defined Area I. The total thickness of mineralization in the Jackpile Sandstone varies from 10 to over 100 ft thick for the combined seven separate zones or mineralized units. Any one unit can be as thin as 1.0 ft to over 30 ft thick.

The Area I-II-V deposit is stratigraphically contiguous and continuous in mineralization with the St. Anthony deposits to the southeast, also on the Cebolleta project lands.

The Area III deposit has overall dimensions of approximately 3000 ft in a NNW-SSE elongation, by 1000 ft across. The total thickness of mineralization in the Jackpile Sandstone varies from 5 ft to over 70 ft thick for the combined three separate zones or mineralized units. Any one unit can be as thin as 1.0 ft to over 20 ft thick.

## 8.2 Geological Model

The geological model is essentially a model of mineralized time-stratigraphic units. The host lithology is a sand-on-sand relationship, which makes it very difficult to identify individual sandstone units, and there are no laterally continuous clay inter-beds that separate sand units, or one channel sand from another. Within the Jackpile Sandstone, as viewed in 3D, there are several individual mineralized zones or tabular horizons, time-stratigraphic units that can be traced hole-to-hole. Viewing the mineralization data in 3D software allowed for correlation of mineralization hole-to-hole. These units represent the time-stratigraphic equivalent of the various fingers of a braided stream channel sand environment. The drill hole intercepts in any one unit are laterally at approximately the same stratigraphic elevation, they can be continuously connected hole-to-hole laterally, until a younger channel scour or an older bank sand separates the grade in one finger to an adjacent finger of the braided stream channel setting.

For the purpose of the current resource estimation, the authors of this report modeled mineralized units in 3D using Leapfrog software. The Areas I-II-IV-V areas were modeled as one area, with

mineralization being continuous from one area to another. Area IV is a small resource area for which some holes are lacking information, so it is included in-part in Area I-II-V without further reference. The Resource model thus includes Areas I, II, and V, and part of IV, and is called the Area I-II-V deposit area. A total of seven units were defined, defined from top down, with units 3.1, 5, and 6 being present only locally. The four units or zones of mineralization defined by URRE geologists, as described in Section 7 for Area I, generally correspond to similar zones defined by the authors for Area I-II-V. Area III (Area III historically) was modeled as a separate area, as the mineralization is indeed isolated. The authors defined three mineralized units, which generally correspond to the zones defined on sections by URRE geologists for Area III.

Modeled mineralized units were then imported into Datamine software for further modification in plan, to limit the edge extent of mineralization and to define areas of waste (or very low grades) or areas of extreme thinning of a mineralized unit. Within the modified mineralized units, a resource block model was constructed, as described in Section 14 – Mineral Resources.

Figures 8.2.1 through 8.2.4 show images in plan and section of the defined mineralized units, numbered as Z1 through Z6 from top to bottom for Area I-II-V..

Figures 8.2.5 through 8.2.7 show images in plan and section of the defined mineralized units for Area III

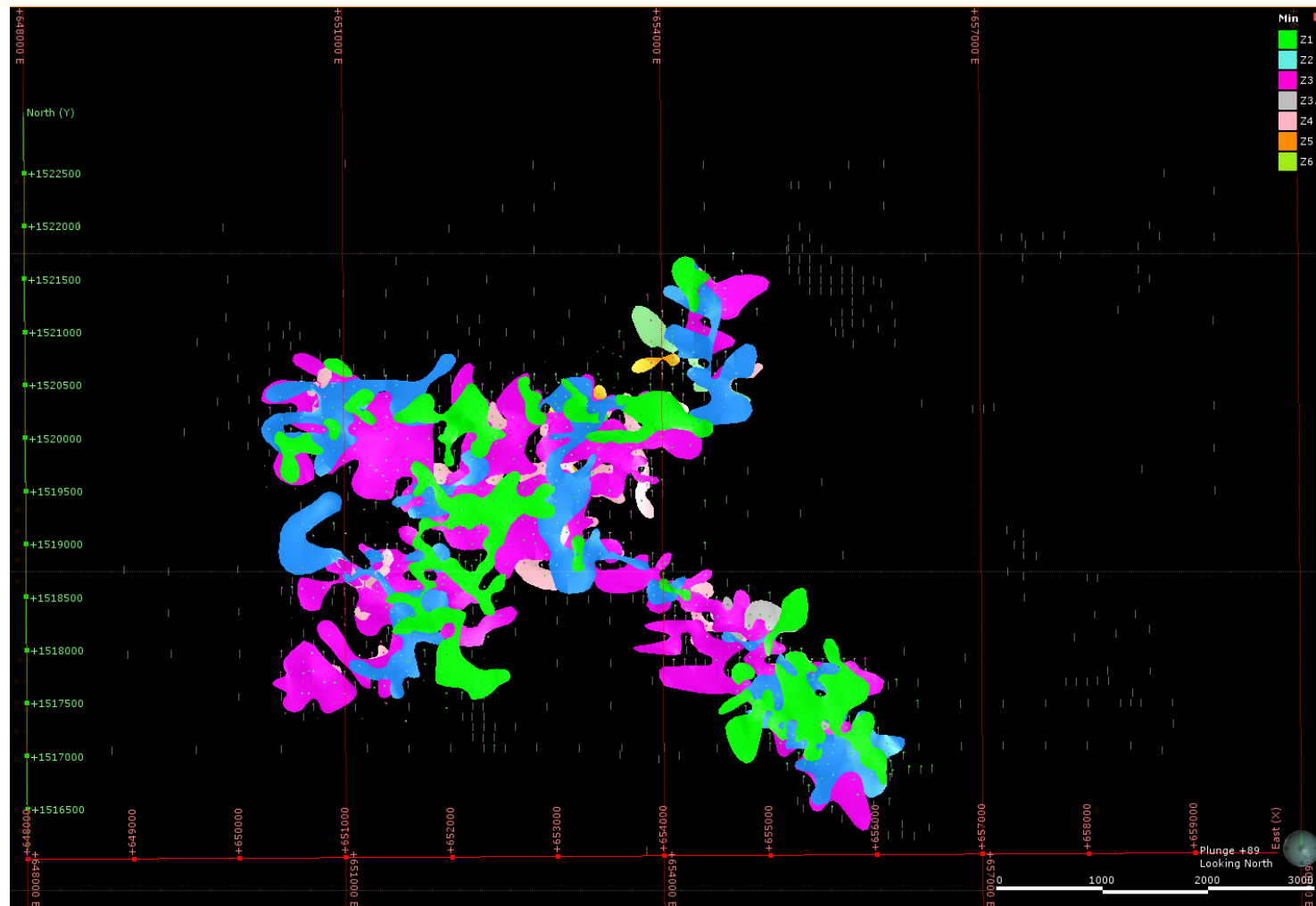


Figure 8.2.1: Plan map of all mineralized units for Area I-II-V

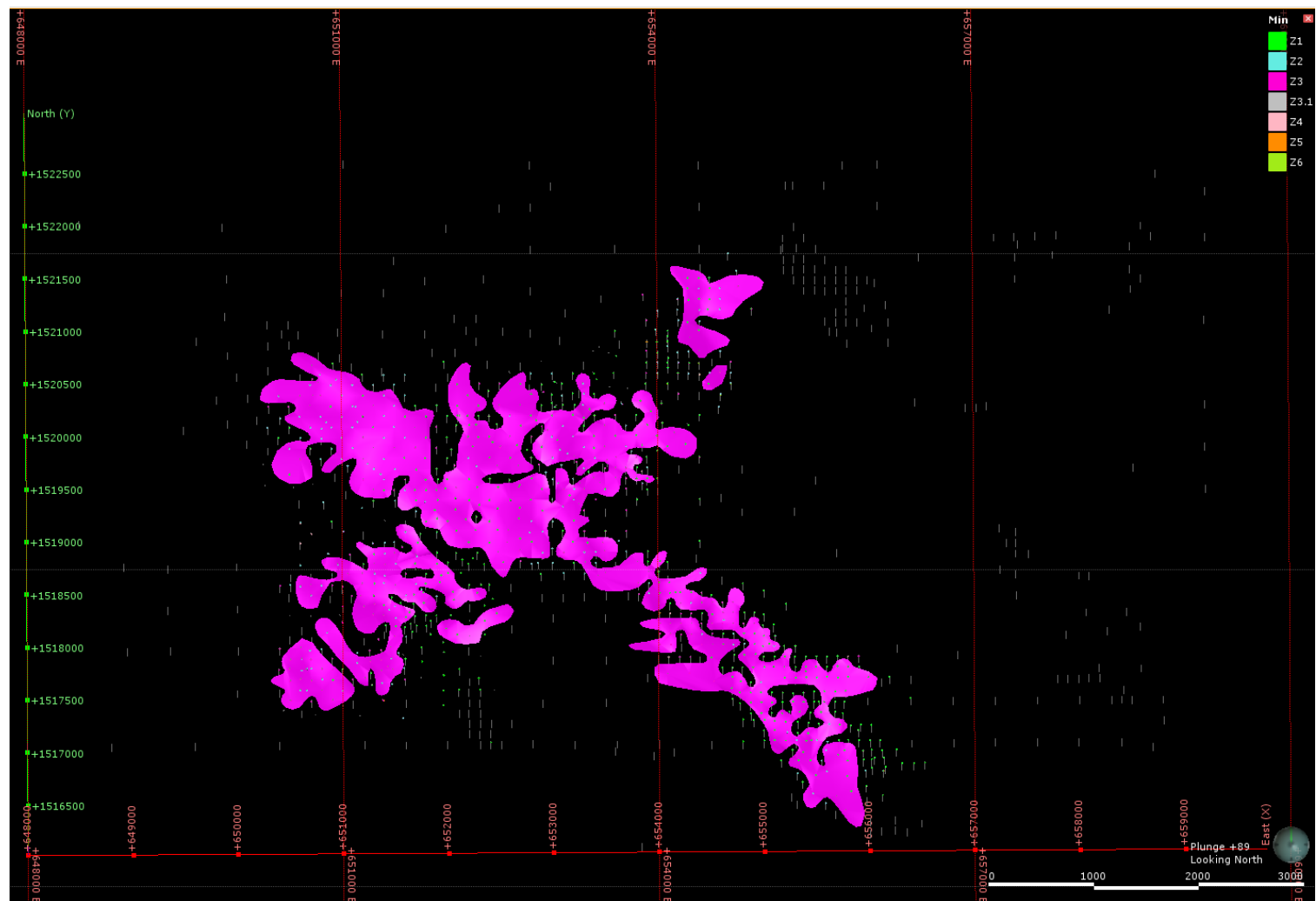


Figure 8.2.2: Plan map of mineralized unit Z3 for Area I-II-V

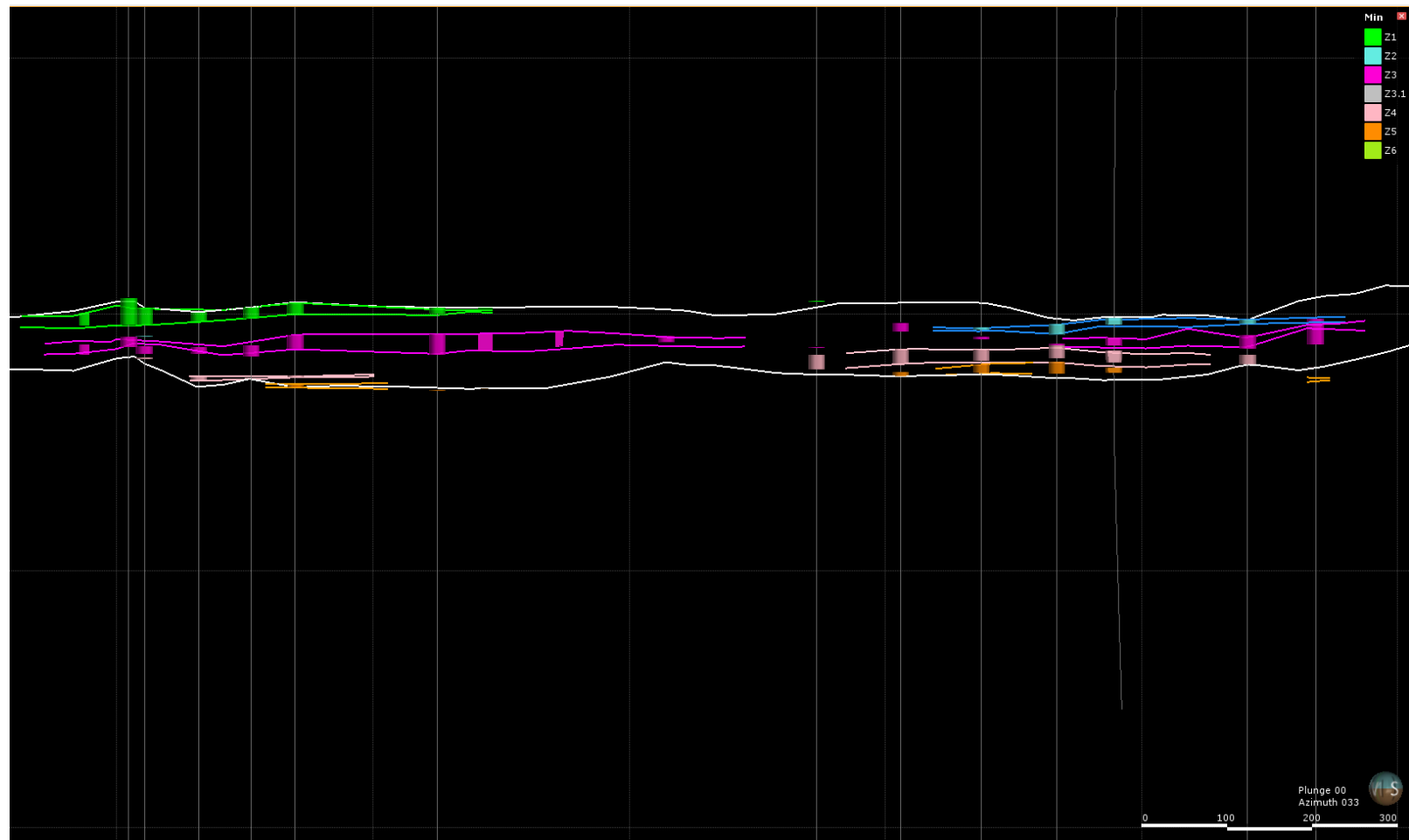


Figure 8.2.3: Cross Section for Area I-II-V, showing lateral continuity of mineralized units, looking N33E

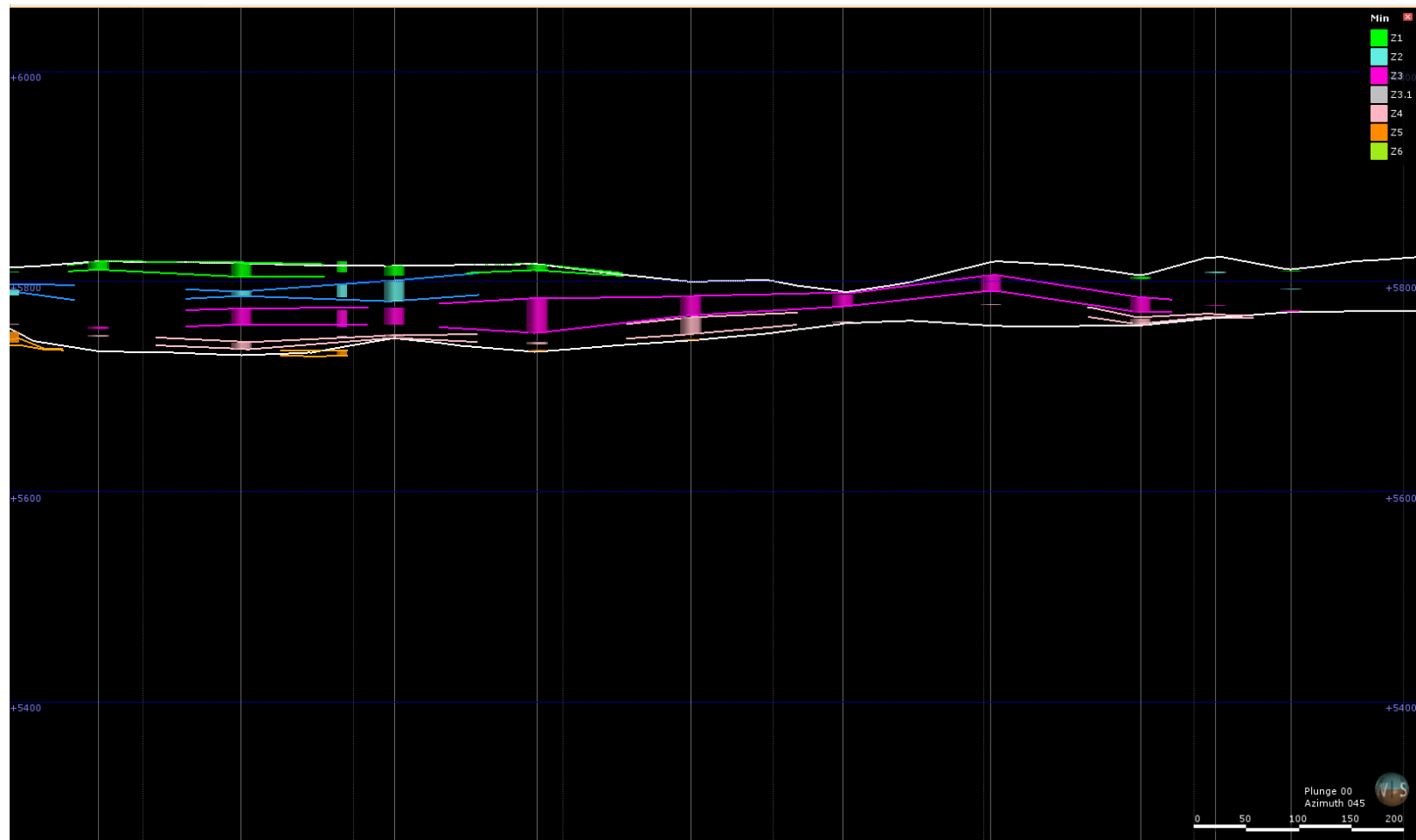


Figure 8.2.4: Cross Section for Area I-II-V, showing lateral continuity of mineralized units, looking N45E

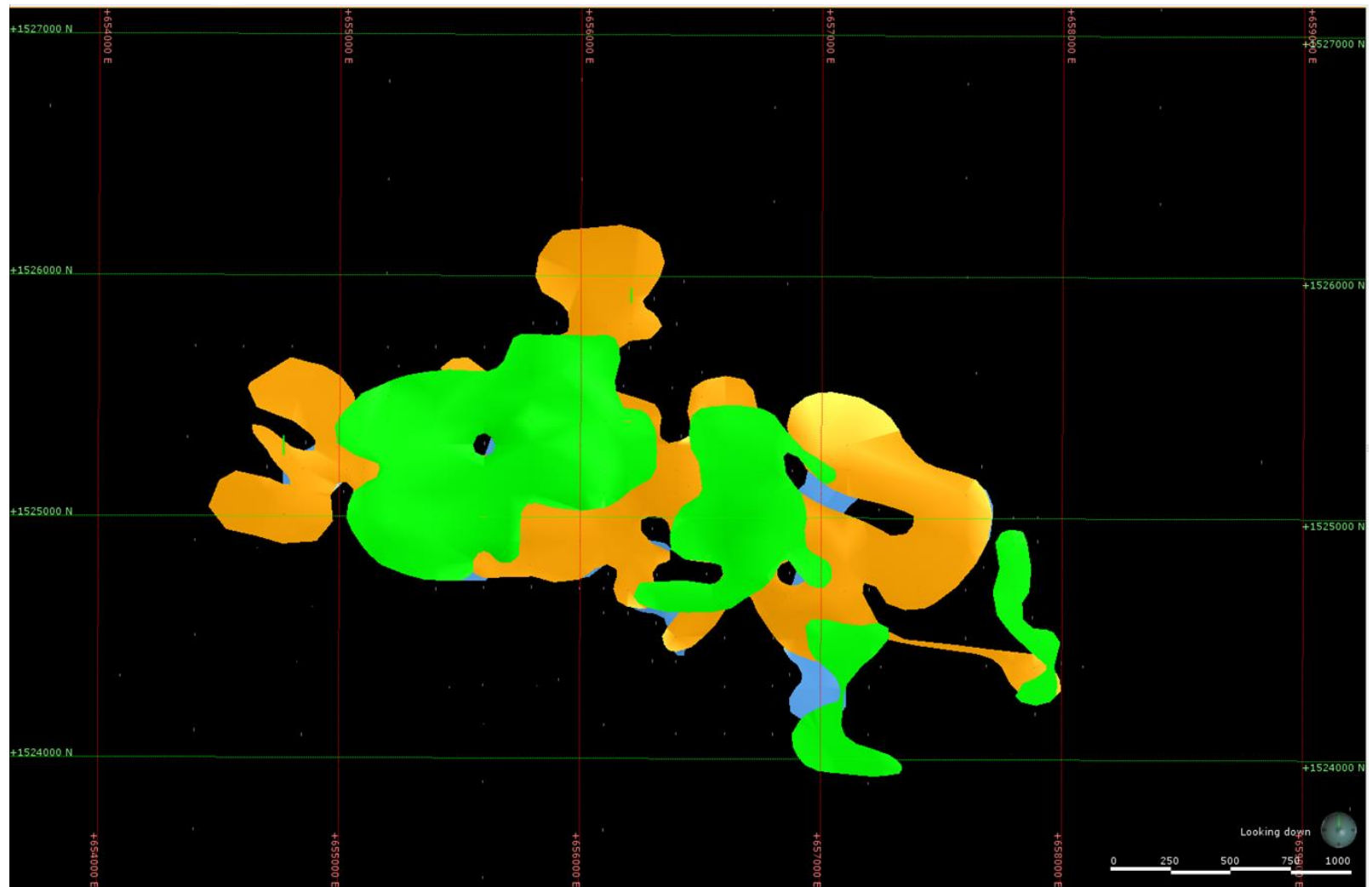


Figure 8.2.5: Plan map of all mineralized units for Area III

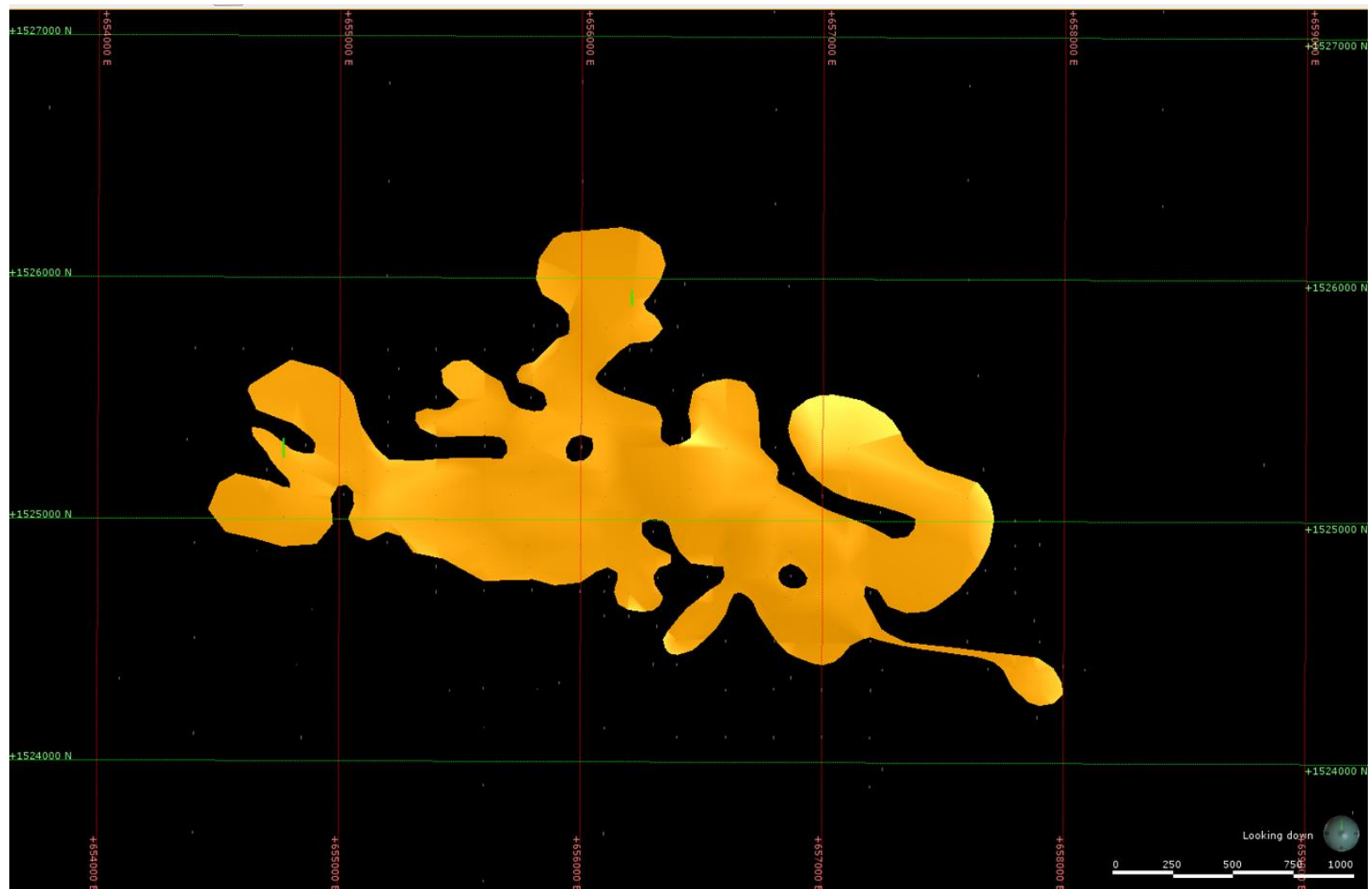


Figure 8.2.6: Plan map of mineralized unit Z2 (middle unit) for Area III



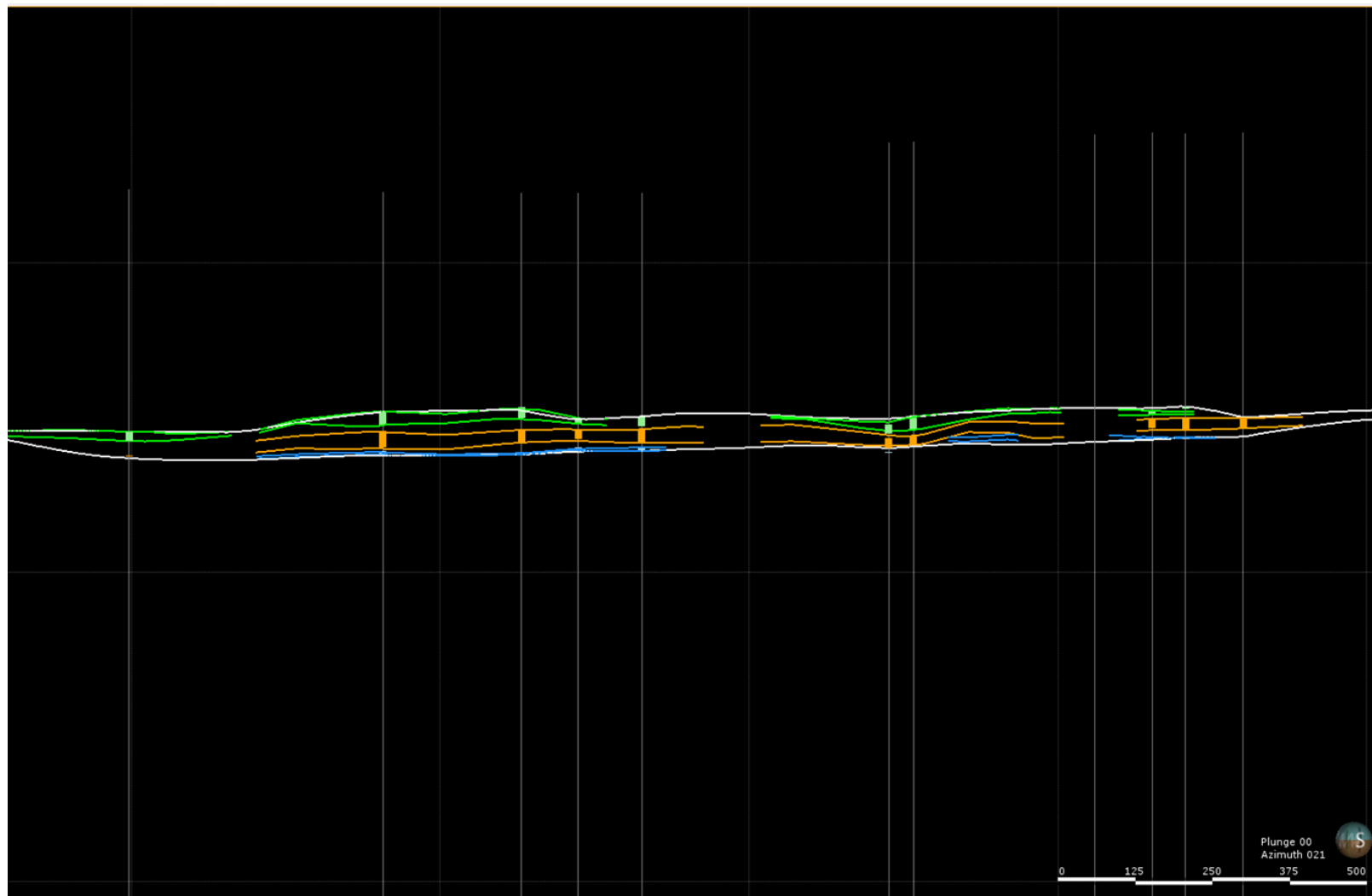


Figure 8.2.7: Cross Section for Area III, showing lateral continuity of mineralized units, looking N20E

## 9 Exploration (Item 9)

The majority of the exploration work that has been completed for the Cebolleta project is historical work completed prior to 1980. URRE and its' wholly owned subsidiary companies have conducted limited exploration on the properties. Historical work is summarized in Section 6 – History, and here in Section 9.1. URRE exploration work has consisted of channel sampling of exposed uranium mineralization in the faces of former pit benches, in the North Pit and South Pit of the S. Anthony open pits, gamma logging of a few open historical drillholes, and gamma core logging from recent water monitor wells, as described in Section 9.2.

### 9.1 Historical Exploration

The Cebolleta project area has been the site of several extensive exploration and development programs carried out by the Anaconda Copper Company, Sohio Western Mining Company and United Nuclear Corporation, resulting in the discovery of several significant sandstone-hosted uranium deposits.

These exploration programs utilized exploration methods and techniques that have been considered to be “standard operating procedures” for the US uranium industry for several decades. The operators of the exploration programs employed “conventional”, or “open-hole” rotary drilling methods to test for flat-lying zones of uranium mineralization in favorable sandstones at depths ranging from less than 200 to more than 800 feet (61 to 244 meters) beneath the surface. Certain of the drill holes were completed as core holes.

All of the drill holes were logged (probed) with surface recording down-hole gamma-ray/S-P/Resistivity geophysical surveying equipment in order to identify zones of uranium mineralization and geological characteristics of the flat-lying sedimentary rocks beneath the surface. “Equivalent” (% eU<sub>3</sub>O<sub>8</sub>, or radiometric assays) uranium grades were calculated from the gamma-ray logs to define the magnitude and extent of uranium mineralization in the target horizons.

### 9.2 URRE Exploration

URRE exploration has consisted of the following:

- Surface examination of the historical drillhole collars, where preserved, and surveying to confirm collar coordinates;
- Sampling of exposed mineralization in the North and South Pits of the former St. Anthony mine, confirming mineralization of interest;
- Developed and permitted a plan to drill approximately 80 confirmation core holes – drilling has not yet been initiated;
- Additionally confirmed mineralization by probing two unidentified open historical holes near the St. Anthony pits, and in core from a water monitor well that intersected uranium mineralization.

#### 9.2.1 Surface Sampling

The Company's technical staff completed a detailed channel sampling program on zones of the main mineralized horizons that are exposed in the North and South open pits at St. Anthony, and sampled

and assayed recently acquired drill core from two water monitoring holes located at St. Anthony. Collectively, these samples are representative of the nature and intensity of the uranium deposits hosted in the Jackpile sandstone at St. Anthony and the adjoining Sohio segments of the Cebolleta project.

Following are the procedures employed in the sampling program:

- Sampling locations were selected during geological mapping and radiometric traverses of the highwalls of the open pits, and compared to the locations of adjacent and contiguous drill hole polygons. High radiometric anomalies (as outlined with a hand-held Delta Epsilon Instrument Co. SC-133 hand-held scintillometer) were marked with orange spray paint on the high walls of the pits;
- Sample intervals were selected based in part upon the radiometric anomalies and in part based upon lithologic changes as observed by the Company's geologists. Individual sample intervals were selected to include an un-mineralized interval above and below (if accessible) the mineralized intervals; varying mineralized lithologies were sampled separately, and no individual sample exceeded 2.5 feet (0.76 meters) in sample length (vertical);
- Channel sample sites were "cleaned" with an electric chipping hammer to remove surface oxidized material from the sample sites;
- Channels were cut in the highwall faces with a hand-held gasoline-powered diamond saw, and these vertical cuts were approximately eight inches (20.32 cm) deep;
- Individual samples were removed from the channels with an electric chipping hammer, and the entirety of the removed material was placed in cloth sample bags. Sample weights ranged from 3 to 49 pounds (1.36 to 22.22 kilograms), and averaged 19.5 pounds (8.86 kilograms) in weight;
- Aluminum sample tags were affixed to steel spikes which were driven into the highwall of the open pit at each sample site;
- Samples were transported by a Company employee to the Elko, Nevada sample preparation facility of American Assay Laboratories;
- After preparation (crushing, grinding, and splitting) the individual samples (84) were analyzed for  $eU_3O_8$ . Samples were analyzed a 2 acid digestion followed by ICP-OES, and all results exceeding 50 parts per million  $eU_3O_8$  were checked by XRF and a sodium peroxide/zirconium fusion ICP-OES. In addition to the 133 samples submitted the laboratory inserted four known "standards" and two "blanks" (nil value); eight samples were selected for re-analysis ("re-runs").

Results of surface channel sampling are presented in Section 12, as the work was intended to confirm historically open-pit mined mineralization.

### 9.2.2 Drilling

URRE has not conducted any exploration or confirmation drilling.

URRE has conducted down-hole gamma logging of two unidentified open holes in the vicinity of the St Anthony open pits, and those holes verify similar gamma signatures to the mineralization noted in historical holes.

URRE has an approved drilling plan, to allow for confirmation drilling of approximately 80 drillholes across the various deposit areas. URRE intends that confirmation drilling will be by core for comparative assays and gamma log verification of historically drilled mineralization.

### 9.3 Exploration Potential

Drilling by Sohio tested not only the Jackpile sandstone within the project area, but many of their holes in the vicinity of the Area I-V uranium deposits penetrated the Westwater Canyon Member of the Morrison Formation as well. These holes failed to define any potential for the discovery of significant uranium mineralization in the Westwater Canyon Member. Reconnaissance-scale exploration drilling by United Nuclear approximately three miles (4.8 kilometers) east of the St. Anthony and Sohio L-Bar mines did encounter Westwater Canyon-hosted uranium mineralization that has not yet been fully tested.

Analysis of data from Sohio's exploration and development drilling programs indicates that company was generally thorough in their drilling programs to define the physical limits of the mineralized zones that comprise the Area I, II, III and V uranium deposits, but their work was incomplete with respect to the Area IV deposit. It appears that there is some potential to increase the resources at Area IV, but not significantly.

Drilling by United Nuclear (including Teton and UNC Resources) in parts of the St. Anthony sector of the Cebolleta project did not completely test the potential for additional resource discoveries. Of particular note is an area that lies beneath a mesa near the southern boundary of URRE's lease. Drill results from holes east and west of the mesa indicate the presence of significant mineralization, but the intervening area was not drilled, due to terrain and access conditions. Other areas between the toe and crest on the east side of Gavilan Mesa similarly hold potential for incremental resource additions. There are indications of uranium mineralization in the southwestern portion of the leased lands, immediately north of the south property boundary, where the crest of the northeast highwall of the former Anaconda Jackpile open pit mine coincides with the Cebolleta Land Grant lease south boundary. Historical drilling by United Nuclear encountered uranium mineralization within the Jackpile sandstone, but it does not appear that this drilling has fully defined the extent of mineralization in this area.

Drilling between the southern boundary of the Area II-V deposit and the northern part of the former St. Anthony deposits is considered to be sparse, and does not appear to have fully defined the extent of the mineralization in this important part of the project. A brief analysis of the resource potential of this area was undertaken by United Nuclear (Sabo, 1979) and indicated the potential for the definition of between 614,000 and 684,000 pounds of  $eU_3O_8$ .

### 9.4 Comment

The exploration work to date by URRE has been largely to confirm surface exposures of mineralization in the former St. Anthony open pits, surveying to define and confirm historical collar coordinates, and the creation of a verifiable digital drillhole database from historical gamma logs with sufficient log information (K- factors) to allow for 0.5 ft down-hole equivalent uranium assays ( $eU_3O_8\%$ ) for the historical holes.

The authors have examined the historical drillhole data (scans of gamma logs), the URRE procedures for creation of the digital database, and the limited confirmation information. The exploration efforts by URRE to date have been appropriate. The authors accept the historical information as current information for use in resource estimation, with the caveat that further confirmation work, as core drilling, is necessary to achieve a reportable resource beyond an Inferred classification.

## 10 Drilling (Item 10)

URRE has not conducted independent confirmation of exploration drilling on the Cebolleta project. This section refers to the extensive amount of historical drilling for which drillhole gamma logs and geological information have allowed URRE to construct a digital drillhole database for use in resource estimation.

### 10.1 Type and Extent

The Cebolleta project has been historically evaluated with a very extensive collection of drill hole data, including 812 conventional rotary and core holes in the former L-Bar deposits area, and a further 2,806 conventional rotary and core holes in the St. Anthony deposits area. Within the 3,618 drill holes there are 17 core holes drilled by Sohio in the L-Bar area, and 113 core holes drilled at St. Anthony.

### 10.2 Procedures

The companies that carried out the exploration and development drilling programs at the Cebolleta project utilized the conventional “open-hole” rotary drilling technique, which was the standard drilling method employed by the US uranium industry at that time.

Core drilling was done with “conventional” rotary drills. Employing this drilling method a hole would be drilled by the conventional rotary drilling method to a “core point”, at which a core barrel (commonly 20 feet in length) would replace the rotary drill bit and core drilling would commence. Core “runs” in excess of 20 feet would require the drill string, including the core barrel to be retrieved from the drill hole and the core removed from the core barrel before additional core drilling could be completed. .

### 10.3 Interpretation

The conventional rotary and core drilling methods employed by Sohio and United Nuclear at the Cebolleta project were standard in the US uranium industry at the time the work was completed, and for many years thereafter. Both methods provided acceptable data for evaluating flat-lying sandstone-hosted uranium deposits, as the rotary drilling method resulted in a drill hole that was suitable for geophysical logging (“probing”) with a gamma-ray probe.

The authors comment that gamma logging of open hole and/or reverse circulation rotary drilling is still acceptable today to explore sandstone uranium deposits; with core holes for confirmation chemical assays and for verification of radiometric equilibrium.

### 10.4 Results

Individual drilling assay results are not presented here, as the entire drillhole database was used for resource estimation, as described in Section 14.

Drillhole location maps showing the mineralized zones or units are depicted in Figures 10.4.1 and 10.4.2. for Areas I-II-IV and Area III, respectively.

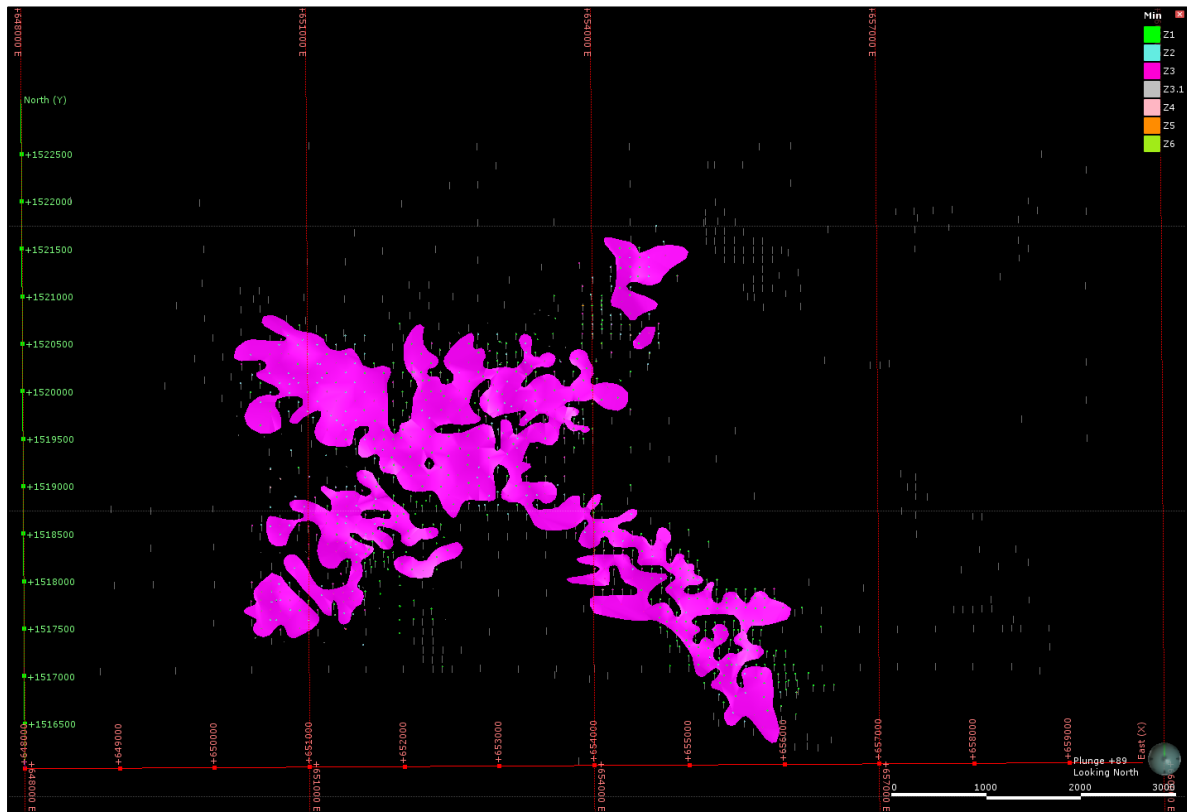


Figure 10.4.1: Drillhole location plan map, showing mineralized shape for Zone 3 (Unit 3) of Area I-II-V.

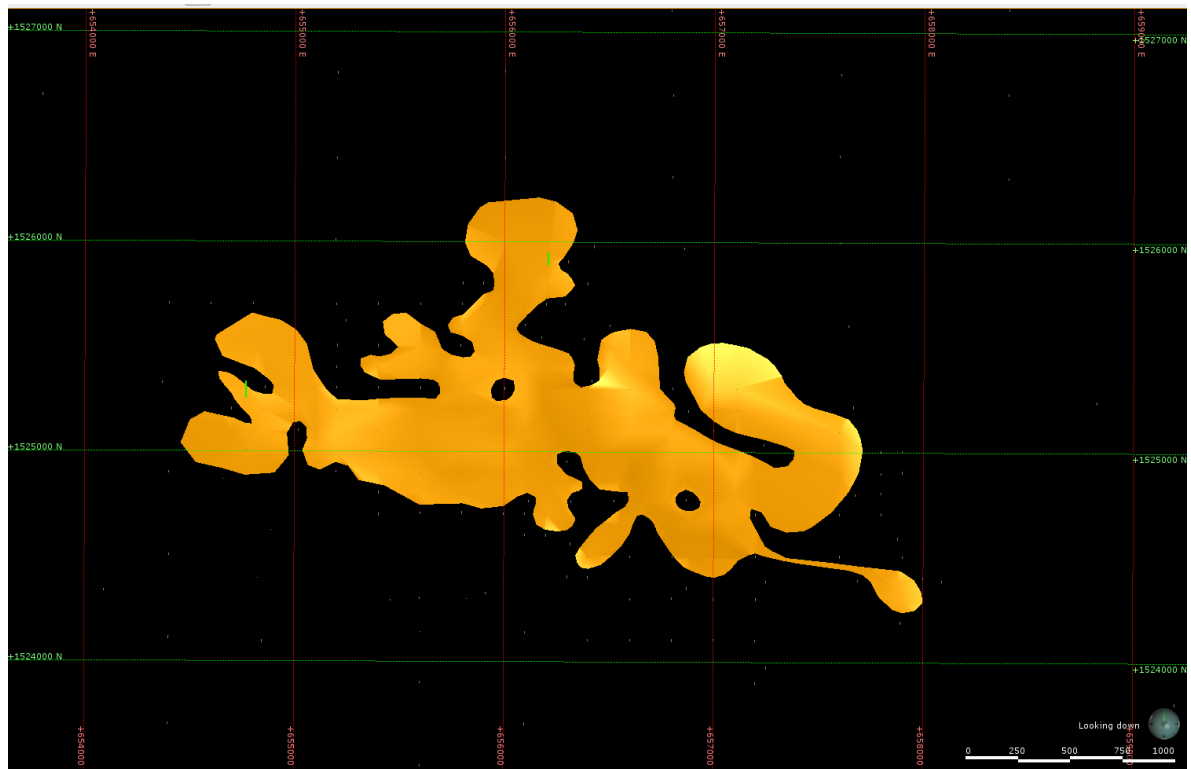


Figure 10.4.2: Drillhole location plan map, showing mineralized shape for Zone 2 (middle unit) of Area III.

## 11 Sample Preparation, Analysis and Security (Item 11)

URRE has not conducted independent confirmation of exploration drilling on the Cebolleta project, and thus has not conducted sample preparation and analysis for drilling data. Section 11.1 refers to the extensive amount of historical drilling for which drillhole gamma logs and geological information have allowed URRE to construct a digital drillhole database for use in resource estimation. Section 11.2 refers to the URRE work in relation to channel sampling in the St Anthony N-Pit and S-Pit as described in Section 9.2.1 – Surface sampling.

### 11.1 Historical Work

All of the exploration and development drill holes at the Cebolleta project were logged (probed) with truck-mounted continuous surface recording natural gamma-ray/S-P/resistivity probe units. This process provided a continuous reading of gamma radioactivity through the entire length of the drill hole. Gamma-ray log values were then used to calculate radiometric assay grades (% e  $U_3O_8$ ) from all of the mineralized holes, utilizing calculation techniques developed by the former U. S. Atomic Energy Commission. The gamma logging services were undertaken by various independent geophysical contractors, including Century Geophysical Corporation, Dalton Well Logging Company, Data-Line, Geoscience Associates, and Wilson's Logging Company (all of whom were experienced independent geophysical logging contractors) on behalf of the former project operators (Sohio, Teton/United Nuclear/UNC). The gamma logging equipment was periodically calibrated at "test pits" of the Department of Energy near Milan, New Mexico and Grand Junction, Colorado in accordance with the standard operating procedures utilized in the industry at the time.

Radiometric assays, calculated from gamma ray logging of the exploration drill holes at all of the deposits in the project area were checked by the then project operators by drilling core holes at selected locations.

URRE does not have any information regarding the preparation of the historical samples for chemical assay or the security of those samples, as this work was carried out prior to the adoption of National Instrument 43-101. The methods of sampling and radiometric logging and assaying of the uranium deposits at the Cebolleta project were standard operating procedures utilized throughout the US uranium industry during the time that the project was active. These techniques remain appropriate methods for exploring for and evaluating sandstone-hosted uranium deposits.

### 11.2 URRE Sampling and Analytical Methods

The Company's samples were analyzed for  $U_3O_8$  using a 2-acid digestion followed by ICP-OES, and all results exceeding 50 parts per million  $U_3O_8$  were checked by XRF and a sodium peroxide/zirconium fusion ICP-OES. In addition to the 133 samples submitted, the laboratory inserted four known "standards" and two "blanks" (nil value); eight samples were selected for re-analysis ("re-runs"). The Company did not submit any standards or blanks with the channel samples.

Radiometric assays (equivalent, or e  $U_3O_8$ ) were calculated from down-hole gamma-ray logs which continually measured the natural gamma-ray radioactivity present in the geological units encountered in the drill holes. Gamma-ray logging has been the principal basis for calculation  $U_3O_8$  mineralization in sandstone-hosted uranium deposits since the mid-1950's, and is based upon the emission of gamma-rays from radioactive isotopes of uranium. The truck-mounted geophysical equipment used to measure the gamma radiation was routinely calibrated from test holes of known thicknesses and

grades of uranium at facilities maintained by the US Atomic Energy Commission (now the US Department of Energy) near Milan, New Mexico and Grand Junction, Colorado.

The Company has not assayed any drill hole cuttings from the project area.

Core from two water monitoring holes MW-7 and MW-8 was sampled and analyzed in the following manner:

- Core sampling intervals were selected based upon radiometric anomalies, as outlined with a hand-held Geometrics spectrometer, and review of the down-hole gamma-ray logs for the holes;
- Intervals to be assayed were “split” in half with a tile saw, and one half of the core was saved for future reference. The other half of the core was sawn in half, and one half of this “split” of the mineralized interval only was bagged and sent to American Assay Laboratories in Reno, Nevada for chemical assay. These samples, after preparation (crushing, grinding, and splitting) were analyzed for  $U_3O_8$ . Samples were analyzed a 2 acid digestion followed by ICP-OES to determine the uranium content;
- A second core split was submitted to Broad Oak Associates (see section 12 of this report) for transmittal to SGS for assaying.

### 11.3 Radiometric Analyses

The basic analysis tool that supports the uranium grade reported in the Cebolleta project is the down-hole gamma log created by the down-hole radiometric probe. That data is gathered as digital data on approximately 1.0 inch intervals as the radiometric probe is inserted or extracted from a drillhole.

The down-hole radiometric probe measures total gamma radiation from all natural sources, including uranium (U), potassium (K) and thorium (Th). In most uranium deposits, K and Th provide a minimal component to the total radioactivity, measured by the instrument as counts per second (CPS). At the Cebolleta project, the uranium content is high enough that the component of natural radiation that is contributed by K from feldspars in sandstone and primary Th-bearing minerals are expected to be negligible. The conversion of CPS to equivalent uranium concentrations is therefore considered a reasonable representation of the in-situ uranium grade in a drillhole. Thus, determined equivalent uranium analyses are typically expressed as ppm  $eU_3O_8$  (“e” for equivalent) and should not be confused with  $U_3O_8$  determination by standard XRF or ICP analytical procedures. Radiometric probing (gamma logs) and the conversion to  $eU_3O_8$  data have been industry-standard practices used for in-situ uranium determinations since the 1960s. The conversion process can involve one or more data corrections; therefore, the process used for the Cebolleta project is described here.

The typical gamma probe is about 2 inches in diameter and about 3 ft in length. The probe has a standard sodium iodide (NaI) crystal that is common to both hand-held and down-hole gamma scintillation counters. The logging system consists of the winch mechanism (which controls the movement of the probe in and out of the hole) and the digital data collection device (which interfaces with a portable computer and collects the radiometric data as CPS at defined intervals in the hole). Historical logs from the 1960’s typically generated only a hard copy analog graphical print-out.

Current instrumentation collects raw data, which is typically plotted by WellCAD software to provide a graphic down-hole plot of CPS, and a digital data file. The CPS radiometric data may need corrections prior to conversion to  $eU_3O_8$  data. Those corrections account for water in the hole (water factor) which depresses the gamma response, the instrumentation lag time in counting (dead time factor), and



corrections for reduced signatures when the readings are taken inside casing (casing factor). The water factor and casing factor account for the reduction in CPS that the probe reads while in water or inside casing, as the probes are typically calibrated for use in air-filled drillholes without casing. Water factor and casing factor corrections are made where necessary, and the correction factors are typically listed in the log header information.

Conversion of CPS to  $\text{eU}_3\text{O}_8\%$  is done by calibration of the probe against a source of known uranium (and thorium) concentration. This was typically done at the former U.S. Atomic Energy facility in Grand Junction, Colorado. The calibration calculation results in a “K-factor” for the probe; the K-factor allows for conversion of CPS to  $\text{eU}_3\text{O}_8$  grade, after corrections. An example of the conversion for thick (+2.0 ft) radiometric sources detected by the gamma probe would be stated as follows:

$$10,000\text{CPS} \times K = 0.612\%\text{eU}_3\text{O}_8$$

As the total CPS at the Cebolleta project is dominantly from uraninite (or similar) uranium mineralization, the conversion K factor is used to estimate uranium grade, as potassium and thorium are not relevant in this geological environment at this level of uranium grades. The calibration constants are only reliably accurate to source widths in excess of about 2.0 ft. When the calibration constant is applied to source widths of less than 2.0 ft, widths of mineralization will be over-stated and radiometric determined grades will be understated, as the measurements are volume sensitive.

The industry standard approach to estimating grade for a graphical plot is shown in Figure 11.3.1, and is referred to as the half-amplitude method.

The half-amplitude method follows the formula:

$$GT = K \times A;$$

where GT is the grade-thickness product,

K is the probe calibration constant, and

A is the area under the curve (cm-CPS units).

The area under the curve is estimated by the summation of the 1.0 in (grade-thickness) intervals between E1 and E2 plus the tail factor adjustment to the CPS reading of E1 and E2, according to the following formula:

$$A = [\sum N + (1.38 \times (E1 + E2))];$$

where A is the area under the curve,

N is the CPS per unit of thickness, here 1.0 in, and

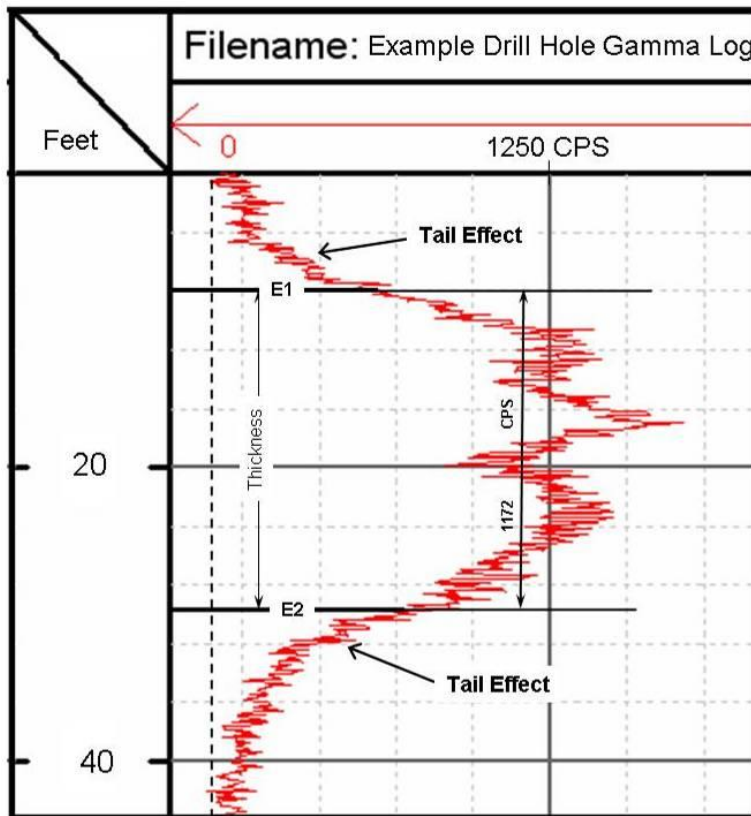
E1 and E2 are the half-amplitude picks on the curve.

This process is used in reverse for known grade (in the designed test pits) to determine the K factor constant.

The procedure used can be a manual calculation off the analog graph, or modern equipment will also provide a digital print out of the converted data; this results in an intercept thickness and  $\text{eU}_3\text{O}_8$  grade. Typically, current digital output equipment will generate aggregate values to 0.5ft down-hole increments.

Historically preserved gamma logs with all the header information, including the K-factor, are essentially an analog equivalent to an assay certificate from an independent analytical lab; as it the case for the majority of the data that supports the Cebolleta project.

**Figure 11.3.1: Example Gamma Log -- Half-Amplitude Method**



Source: A. Moran, 2009

## 11.4 Security Measures

All samples collected by Company personnel were transported from the sample sites to the sample preparation facilities of American Assay Laboratories (for the URRE-collected samples) or SGS (for the Broad Oak samples) by the Company's Chief Geologist.

## 11.5 Results

Results from the Company's sampling program are discussed in Section 12 of this report, as the sampling work was intended as confirmatory work to verify uranium mineralization historically drilled and mined by the previous operators of the project.

## 11.6 Opinion on Adequacy

URRE work to provide QA/QC samples in their surface sampling program demonstrates an adequate approach to sampling and analysis; which should be carried forward with the Company's intended confirmation core drilling.

## 12 Data Verification (Item 12)

Nearly all of the data cited in this report is of an historic nature, and was collected prior to the adoption of National Instrument 43-101. The authors of this report have examined cited data, including some of the approximately 3,600 gamma-ray/S-P/resistivity geophysical logs which serve as the basis for the determination of radiometric assays for the mineralized zones. The Company also holds an extensive body of geochemical, geophysical and geological data that serves as the basis for the cited reports and the historical resource estimates for the various deposits in the project area.

The data set appears to meet the standards employed by the uranium exploration and mining industry in the United States at the time it was collected, and the firms that collected this technical information (Sohio Western, Teton Exploration and United Nuclear/UNC Resources) were highly experienced exploration and uranium production companies with long histories of work in the Grants Mineral Belt, and other uranium mining areas of the western United States. Gamma-ray logging at the Sohio and St. Anthony deposits was done by independent contractors, including Century Geophysical, Dalton Well Logging, Data-Line Logging, and Geoscience Associates, all of whom were competent and well established geophysical logging contractors.

The geological data base for all deposit areas consists of historical drill holes, for which URRE has the back-up information for essentially all the holes drilled by Sohio on the former L-Bar properties (Areas I, II, III, IV, and V), and by UNC the for St. Anthony area. The information includes the gamma logs (sometimes from more than one geophysical logging contractor), geological logs, technical reports and maps that provide drill hole locations, and intercept data from drill holes that was interpreted by the former operators of the project.

### 12.1 URRE Procedures

URRE used the historical hard copy data to create a digital drillhole database for Cebolleta. Historical data relating to the Cebolleta project was scanned by electronic methods into digital images and entered into the Company's database. Historical gamma-ray logs were first scanned, using electronic methods, and the various "curves" (gamma-ray, S-P and Resistivity) were then digitized, utilizing Neuralog commercial software. Data output from the Neuralog software was exported in the form of text and LAS digital files and entered automatically and manually into the project database. Gamma-ray data was plotted in a graphical format in Excel and visually compared against the original gamma-ray logs to check the accuracy of the data entry.

All files entered manually into the project database were entered utilizing the 'double blind entry' method. The individual spreadsheets for each data set were then compared to determine if any entry errors were made. This method was employed for the drill hole collar coordinates, hole 'drift' and deviation surveys, and other data.

Drill hole location data was also checked by plotting the hole locations on new maps and overlaying the recorded data on historic maps to check for any discrepancies.

A review of historical reports relating to the former St. Anthony property noted commentary regarding possible/probable grid and survey errors relating to drill hole collar locations. The Company's staff made several attempts to re-survey drill collar coordinates and elevations using hand-held GPS surveying instruments, but the results were determined not to be sufficiently accurate. A commercial surveying contractor was subsequently employed to re-establish the survey grid, tie survey stations and the grid together, and re-survey all recoverable drill hole locations for the St. Anthony drill holes.

URRE has converted the historical data for use in current resource estimation by a clearly outlined program of database quality control procedures to convert hard copy geophysical logs to a digital database with  $eU_3O_8$  (equivalent, or radiometric) assays on 0.5 foot assay intervals data for all drill holes in the database. The Company developed a comprehensive program of detailed procedures to verify the database is accurate and consistent, including procedures to scan the geophysical logs into a digital format, digitization of the geophysical (gamma-ray, S-P, and resistivity) logs, conversion of the graphical data to 0.5 foot digital data, entry of the data into Excel spreadsheets, verification of the data by double entry, and verification by print-outs and checking against hard copy maps and sections. In the authors' opinion, the process is thorough and has resulted in a verifiable database of historical data that has been input into a modern digital database.

The data conversion, from analog to digital format, has been completed for all of the Sohio drill holes relating to the former L-Bar deposits; Area I, II, III, IV, and V, but the conversion process for the St. Anthony data set has not yet been completed.

During the course of the 2010 field examination of the Cebolleta project by Broad Oak Associates (a Toronto-based independent third-party engineering firm retained to prepare an earlier Technical Report on the project for Cibola Resources) collected several samples of core from a mineralized drill hole that was recently completed (by UNC as a water monitoring well) on the property and other samples from mineralized exposures from the St. Anthony north open pit mine workings. The core samples were analyzed by SGS Canada Inc. Mineral Services, and yielded the following results:

**Table 12.1.1: Chemical Assays for Core Samples**

<b>Sample Number</b>	<b>Sample Weight (kg)</b>	<b>Assay Result (ppm U)</b>	<b>Assay Result (% <math>cU_3O_8</math>)</b>
<b>BOA-1</b>	4.230	877	0.1034
<b>BOA-2</b>	2.016	9,200	1.0849
<b>BOA-3</b>	2.090	545	0.0643
<b>BOA-4</b>	1.556	1,150	0.1356
<b>BOA-5</b>	0.604	3,660	0.4316
<b>BOA-6</b>	0.394	2,803	0.3305
<b>BOA-7</b>	0.316	418	0.0491
<b>BOA-7 (repeat)</b>		425	0.0501

These assay results are consistent with historical drill results from the same part of the project area, and indicate the presence of strong uranium mineralization within host rocks in the former St. Anthony mine.

The Company's technical staff completed a detailed channel sampling program on zones of the main mineralized horizons that are exposed in the North and South open pits at St. Anthony, as described in Section 9.2.1 – Surface Sampling.

Results of the surface channel sampling program are noted in the following Tables 12.1.2 and 12.1.3 below, and confirm the nature and extend of mineralization previously mined in the St. Anthony open pits; mineralization that is an extension of the same Jackpile Sandstone-hosted mineralization present in Areas I, II, III, IV and V, and currently represented by resource estimates for Areas I-II-V and Area

III, presented in Section 14. Figures 12.1.1 and 12.1.2 show the locations of samples stated in Tables 12.1.2 and 12.1.3

**Table 12.1.2: St. Anthony North Pit Channel Sample Assays**

St. Anthony Pit Sampling May 2010								
North Pit								
<u>Sample Number</u>	<u>Date</u>	<u>Location</u>	<u>Coordinates UTM NAD 27</u>	<u>Position</u>	<u>Dry Weight (lbs)</u>	<u>Channel Sample Height (inches)</u>	<u>Map ID</u>	<u>% U<sub>3</sub>O<sub>8</sub></u>
51344	5/5/2010	St. Anthony North Pit South Wall	13 0290056 3893164	Bottom Sample Jmj middle bench	27	14	sa-17c	0.088
51345	5/5/2010	St. Anthony North Pit South Wall	13 0290056 3893164	Middle Sample Jmj middle bench	25	16	sa-17b	0.081
51346	5/5/2010	St. Anthony North Pit South Wall	13 0290056 3893164	Top Sample Jmj middle bench	19	34	sa-17a	0.030
51348	5/5/2010	St. Anthony North Pit North Wall	13 0290054 3893576	Jmj upper bench (one sample)	12	20	sa-18	0.020
51349	5/5/2010	St. Anthony North Pit North Wall	13 0290069 3893576	Bottom Sample Jmj upper bench	21		sa-19b	0.022
51351	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289915 3893459	Top Sample Jmj 7' above pit floor South chann	17	18	sa-20	0.101
51352	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289915 3893459	2nd from Top Sample south channel	16	24	sa-20	0.068
51353	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289915 3893459	3rd from Top Sample south channel	14	18	sa-20	0.094
51354	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289915 3893459	Bottom Sample south channel	18		sa-20	0.057
51355	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289915 3893468	1st spl 2nd channel fr south	49	30	sa-21	0.084
51356	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289915 3893468	2nd from top sample 2nd channel from south	29		sa-21	0.108
51357	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289915 3893468	2nd from south channel #2	15		sa-21	0.102
51358	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289915 3893468	3rd from Top Sample 2nd from south	20		sa-21	0.062
51359	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289917 3893475	Top Sample 3rd channel fr south	27		sa-22	0.095
51360	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289917 3893475	2nd spl from Top 3rd channel fr south	22		sa-22	0.104
51361	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289917 3893475	3rd spl from Top 3rd channel fr south	31		sa-22	0.085
51362	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289917 3893475	4th spl from Top 3rd channel fr south	36		sa-22	0.063
51363	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289917 3893475	5th spl from Top 3rd channel fr south	34		sa-22	0.068
51364	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289912 3893484	Bottom Sample 4th channel fr south	20		sa-23	0.057
51365	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289912 3893484	2nd from Bottom Sample 4th channel fr south	13		sa-23	0.047
51366	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289912 3893484	3rd from Bottom Sample 4th channel fr south	36		sa-23	0.059
51367	5/7/2010	St. Anthony North Pit Northwest Wall	13 0289912 3893484	4th from Bottom Sample 4th channel fr south	28		sa-23	0.065
51368	5/7/2010	St. Anthony North Pit North Wall	13 0290148 3893482	Bottom-most Sample Western-most channel	5		sa-24	0.009
51369	5/7/2010	St. Anthony North Pit North Wall	13 0290148 3893482	2nd from bottom Sample Western-most chann	11		sa-24	0.158
51370	5/7/2010	St. Anthony North Pit North Wall	13 0290148 3893482	Top Sample Western-most channel	10		sa-24	0.005
51371	5/7/2010	St. Anthony North Pit North Wall	13 0290170 3893455	Bottom sample middle channel	28		sa-25	0.009
51372	5/7/2010	St. Anthony North Pit North Wall	13 0290170 3893455	Top sample middle channel	10		sa-25	0.012
51373	5/7/2010	St. Anthony North Pit North Wall	13 0290176 3893451	Bottom sample east channel	28		sa-26	0.007
51374	5/7/2010	St. Anthony North Pit North Wall	13 0290176 3893451	Middle sample east channel	26		sa-26	0.029
51375	5/7/2010	St. Anthony North Pit North Wall	13 0290176 3893451	Top sample east channel	22		sa-26	0.002
51376	5/7/2010	St. Anthony North Pit Under So Ramp	13 0290205 3893165	1st sample from top west channel	8		sa-27	0.407
51377	5/7/2010	St. Anthony North Pit Under So Ramp	13 0290205 3893165	2nd sample from top west channel	10		sa-27	0.131
51378	5/7/2010	St. Anthony North Pit Under So Ramp	13 0290205 3893165	3rd sample from top west channel	10		sa-27	0.042
51379	5/7/2010	St. Anthony North Pit Under So Ramp	13 0290205 3893165	4th sample from top west channel	12		sa-27	0.013
51380	5/7/2010	St. Anthony North Pit Under So Ramp	13 0290205 3893165	Bottom sample west channel	15		sa-27	0.006
51381	5/7/2010	St. Anthony North Pit Under So Ramp	13 0290227 3893181	Top sample central channel	9		sa-28	0.007
51382	5/7/2010	St. Anthony North Pit Under So Ramp	13 0290227 3893181	Middle sample central channel	13		sa-28	0.012
51383	5/7/2010	St. Anthony North Pit Under So Ramp	13 0290227 3893181	Bottom sample central channel	5		sa-28	0.005
51384	5/7/2010	St. Anthony N Pit SE corner under Ram	13 0290347 3893243	Middle sample	11		sa-29	0.143
51385	5/7/2010	St. Anthony N Pit SE corner under Ram	13 0290347 3893243	Top sample	3		sa-29	0.085
51386	5/7/2010	St. Anthony N Pit SE corner under Ram	13 0290347 3893243	Bottom sample	10		sa-29	0.076

**Table 12.1.3: St. Anthony South Pit Channel Sample Assays**

St. Anthony Pit Sampling May 2010								
South Pit								
Sample Number	Date	Location	Coordinates UTM NAD 27	Position	Dry Weight (lbs)	Channel Sample Height (inches)	Map ID	% U <sub>3</sub> O <sub>8</sub>
51301	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892713	Top Sample Jmj middle bench	18		sa-1a	0.002
51302	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892713	Middle Sample Jmj middle bench	22	24	sa-1b	0.002
51303	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892713	Bottom Sample Jmj middle bench	15	18	sa-1c	0.027
51304	5/4/2010	St. Anthony South Pit East Wall	13 0291293 3892643	Bottom Sample Jmj middle bench	18	21	sa-2e	0.017
51305	5/4/2010	St. Anthony South Pit East Wall	13 0291293 3892643	Top Sample Jmj middle bench	14	23	sa-2a	0.023
51306	5/4/2010	St. Anthony South Pit East Wall	13 0291293 3892643	2nd from top Sample Jmj middle bench	24	24	sa-2b	0.002
51307	5/4/2010	St. Anthony South Pit East Wall	13 0291293 3892643	Middle Sample Jmj middle bench	22	24	sa-2c	0.003
51308	5/4/2010	St. Anthony South Pit East Wall	13 0291293 3892643	2nd from bottom Sample Jmj middle bench	15	18	sa-2d	0.025
51309	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892663	Top Sample Jmj lower bench	11	18	sa-3a	0.003
51310	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892663	Middle Sample Jmj lower bench	10	10	sa-3b	0.187
51311	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892663	Bottom Sample Jmj lower bench	12	10	sa-3c	0.004
51312	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892663	Top Sample Jmj lower bench	18	24	sa-3aa	0.005
51313	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892663	2nd from top Sample Jmj lower bench	30	24	sa-3bb	0.002
51314	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892663	2nd from bottom Sample Jmj lower bench	35	24	sa-3cc	0.038
51315	5/4/2010	St. Anthony South Pit East Wall	13 0291286 3892663	Bottom Sample Jmj lower bench	19	24	sa-3dd	0.176
51316	5/4/2010	St. Anthony South Pit East Wall	13 0291285 3892615	Top Sample Jmj lower bench	9	14	sa-4a	0.005
51317	5/4/2010	St. Anthony South Pit East Wall	13 0291285 3892615	2nd from top Sample Jmj lower bench	16	18	sa-4b	0.003
51318	5/4/2010	St. Anthony South Pit East Wall	13 0291285 3892615	Bottom Sample Jmj lower bench	13	20	sa-4d	0.015
51319	5/4/2010	St. Anthony South Pit East Wall	13 0291285 3892615	2nd from bottom Sample Jmj lower bench	15	20	sa-4c	0.013
51320	5/4/2010	St. Anthony South Pit South Wall	13 0291149 3892576	Top Sample Jmj lower bench	20	19	sa-5a	0.011
51321	5/4/2010	St. Anthony South Pit South Wall	13 0291149 3892576	Bottom Sample Jmj lower bench	26	18	sa-5b	0.023
51322	5/4/2010	St. Anthony South Pit South Wall	13 0291147 3892574	Top Sample Jmj lower bench	37	30	sa-6a	0.026
51323	5/4/2010	St. Anthony South Pit South Wall	13 0291174 3892574	Bottom Sample Jmj lower bench	13	14	sa-6b	0.317
51324	5/4/2010	St. Anthony South Pit South Wall	13 0291018 3892603	Top Sample Jmj lower bench	21	44	sa-7a	0.512
51325	5/4/2010	St. Anthony South Pit South Wall	13 0291018 3892603	Bottom Sample Jmj lower bench	10	30	sa-7b	0.016
51326	5/4/2010	St. Anthony South Pit South Wall	13 0290977 3892597	Bottom Sample Jmj lower bench	18	26	sa-8b	0.299
51327	5/4/2010	St. Anthony South Pit South Wall	13 0290977 3892597	Top Sample Jmj lower bench	19	20	sa-8a	0.153
51328	5/4/2010	St. Anthony South Pit South Wall	13 0290978 3892590	Top Sample Jmj lower bench	29	26	sa-9a	0.085
51329	5/4/2010	St. Anthony South Pit South Wall	13 0290978 3892590	Bottom Sample Jmj lower bench	22	19	sa-9b	0.264
51330	5/4/2010	St. Anthony South Pit South Wall	13 0290978 3892594	Bottom Sample Jmj lower bench	23	28	sa-10b	0.263
51331	5/4/2010	St. Anthony South Pit South Wall	13 0290978 3892594	Top Sample Jmj lower bench	17	16	sa-10a	0.037
51332	5/5/2010	St. Anthony South Pit Southwest Wall	13 0290900 3892666	Jmj upper bench (one sample)	9	20	sa-11	0.040
51333	5/5/2010	St. Anthony South Pit Southwest Wall	13 0290890 3892667	Jmj upper bench (one sample)	18	25	sa-12	0.014
51335	5/5/2010	St. Anthony South Pit West Wall	13 0290955 3892696	Top Sample Jmj upper bench	15	15	sa-13a	0.028
51336	5/5/2010	St. Anthony South Pit West Wall	13 0290955 3892696	Middle Sample Jmj upper bench	20	18	sa-13b	0.048
51337	5/5/2010	St. Anthony South Pit West Wall	13 0290955 3892696	Bottom Sample Jmj upper bench	24		sa-13c	0.004
51338	5/5/2010	St. Anthony South Pit West Wall	13 0291000 3892711	Bottom Sample Jmj upper bench	21	20	sa-14b	0.101
51339	5/5/2010	St. Anthony South Pit West Wall	13 0291000 3892711	Top Sample Jmj upper bench	14	18	sa-14a	0.008
51340	5/5/2010	St. Anthony South Pit West Wall	13 0291006 3892716	Top Sample Jmj upper bench	18	21	sa-15a	0.009
51341	5/5/2010	St. Anthony South Pit West Wall	13 0291006 3892716	Middle Sample Jmj upper bench	39	28	sa-15b	0.277
51342	5/5/2010	St. Anthony South Pit West Wall	13 0291006 3892716	Bottom Sample Jmj upper bench	29	20	sa-15c	0.073
51343	5/5/2010	St. Anthony South Pit West Wall	13 0291012 3892714	Jmj upper bench (one sample)	29	24	sa-16	0.411





Figure 12.1.1: St. Anthony North Pit sample locations (URRE, 2014)





Figure 12.1.1: St. Anthony North Pit sample locations (URRE, 2014)

## 12.2 Author's Procedures

The authors' data verification for the project consisted of the following:

- Visual confirmation on the ground of surface drill collars during the site visit;
- Spot check examination of equivalent uranium assays against the digital database;
- 3-D examination of drillhole traces and drillhole assay intervals, and comparison with URRE cross-sections;
- Field inspection of the project site to confirm the geological units in outcrop;
- Field inspection of channel sample sites and confirmation of associated strongly anomalous radioactivity with samples of anomalous uranium content;
- Visual examination of core from water monitor well MW-8;
- Identification of drillhole collars in the field and spot checked for collar coordinates by hand-held GPS instrument;
- Examined the geological and assay database statistically and visually in 3-D software. The hole pattern and drillhole deviations appear normal, and mineralization intercepts can be correlated hole-to-hole; and
- Statistically examined drill holes  $eU_3O_8$  data distributions.

The authors found the data to be a reasonable representation of the uranium mineralization in the Jackpile Sandstone, representing multiple stacked tabular zones of mineralization, as expected for this style of mineralization. The authors did not find any unusual or unexplained data discrepancies.

## 12.3 Limitations

In general terms the database for the Cebolleta project is considered to be robust, with a nearly complete set of geophysical drill hole logs, geological maps and cross-sections, survey data, mine maps and some production reports from the former L-Bar and St. Anthony open pit and underground mines, as well as metallurgical test data and mill production reports.

There is an overall lack of adequate lithologic logs that hinder geological interpretations, and this is considered to be the principal limitation of the data set. Essentially all of the geophysical logs have S-P and resistivity data which can facilitate geological interpretations. The absence of comprehensive and modern metallurgical test data is a limitation that should be addressed by URRE as the Company advances its studies of the project.

The confirmation work of surface sampling in the St. Anthony pits can be considered sufficient confirmation of chemical assays for the St. Anthony deposits; however, while there are historical reports of chemical assay confirmation for the Area I, II, III, IV, and V deposit areas, there is no URRE current chemical assay confirmation for those deposits. The authors accept the historical information as current information for use in resource estimation, with the caveat that further confirmation work, as core drilling, is necessary to achieve a reportable resource beyond an Inferred classification.

## 12.4 Opinion on Data Adequacy

The authors of this report consider the data set pertaining to the Cebolleta project to be suitable for the purposes of developing a geologically constrained mineral resource estimate for the project, and for planning future work, including updating of existing mineral resource estimates.

Upon completion of recommended work programs (see Section 26) the existing technical data combined with additional information from drilling and various metallurgical test programs, engineering studies and mine designs and geological studies should be adequate for completion of a Preliminary Economic Analysis of the project.

## 13 Mineral Processing and Metallurgical Testing (Item 13)

URRE has not carried out any metallurgical test work on the mineral deposits at the Cebolleta project. The Company does hold various metallurgical test reports, prepared by United Nuclear staff, and comprehensive laboratory studies conducted by consultants (Reynolds and others, 1979 a, b) relating to mineralization at the former St. Anthony mine and the adjoining Paguete open pit mine.

Historical memos relating to the metallurgical performances of St. Anthony mineralization in the Northeast Church Rock mill of United Nuclear Corporation point to some recovery difficulties from mineralization in the upper portions of the St. Anthony mineralized zones, but a test on St. Anthony mineralization undertaken by a third-party metallurgical testing laboratory yielded decidedly different results. The apparent difficulties with respect to mill recoveries from the St. Anthony deposits, and the favorable results cited in the third-party laboratory test (discussed below), point to the need for additional metallurgical testing by the Company.

### 13.1 Historical Metallurgical Performance at St. Anthony Mine

There are several reports from United Nuclear staff discussing apparent recovery issues at the former Northeast Church Rock mill with uranium mineralization from the St. Anthony mines.

In a report entitled “Section III Metallurgy” (Robb and Kasza, 1977) the authors state: *“The upper horizons of the ore bodies provide the most problems in amenability, trace metal contamination and emulsion formations. It is common for the ore in these horizons to form a strontium zirconium containing emulsion which causes the ammonium sulfate ((NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>) stripping circuit to become extremely ineffective.”*

*“The emulsion forming properties can be controlled somewhat by closely monitoring leach solution temperature, pH, and exposure to an activated carbon source. When the solution, thus prepared is exposed to the normal sodium (NaCl) stripping agent, the emulsion formation is minimized.”*

*“The use of flocculants to speed settlement of fines, appears to be a necessity. Tests have shown that, while 50% of the fines settle out within 7 minutes, it takes up to one hour for the remaining 50% to settle. This one hour settlement time is almost twice as long as the “typical” Church Rock ore. It appears that a flocculent would be beneficial in treatment of St. Anthony ores.”*

### 13.2 Third-Party Metallurgical Studies of St. Anthony Mineralization

Hazen Research, a Denver, Colorado based metallurgical testing and research firm carried out a metallurgical laboratory test program for amenability of “ore” from the St. Anthony mines on behalf of Bokum Resources, utilizing the flow-sheet design that was to be used by Bokum at their nearby Marquez mill (Reynolds and others, 1979 (a)) [ note: The Marquez mill was located approximately 15 miles (24 km) to the north from the Cebolleta project, was designed as a mill to accept third-party material, was built but never achieved start-up, and was dismantled].

The sample employed in the Hazen laboratory test was comprised of approximately 250 to 270 pounds (113.4 to 122.5 kilograms) of “ore” that had a “head assay” of 0.082% U<sub>3</sub>O<sub>8</sub>. Leach extraction, using the Bokum mill design criteria, ranged from 94 to 96 percent, with chlorate consumption at 5 to 6 pounds per ton. Hazen reported that *“solvent extraction was generally successful with good extraction and stripping behavior. Smaller amounts of crud were observed than in Marquez or Paguete ore.”*

*Molybdenum should not be of any concern. Soluble and colloidal silica compounds are potentially a problem if extraction is upset and the continuous phase becomes aqueous. Very stable, silica promoted emulsions are the result. Silica can be coagulated and removed by addition of Polyox to the clarifier, or possibly the interstage thickener. In conclusion, the ore sample representing toll ore from St. Anthony responded to the Bokum mill design specifications with good extraction, low reagent consumption, and without significant solvent extraction problems” (Reynolds and others, 1979 (a))*

### 13.3 Significant Factors

The authors conclude that historical reports suggest the Cebolleta mineralization is amenable to mill processing and recovery of uranium, at potentially +90% recovery. However, with some historical confusion on the need for special treatment, it is deemed necessary that additional metallurgical testing is warranted to determine the amenability of the mineralization from Cebolleta, and the associated processing costs.

There is no current or planned uranium mills in close proximity to the Cebolleta project that could take Cebolleta mineralization on a toll milling basis; therefore, the authors concur with URRE’s desire to also examine the potential for heap leach recovery of uranium in comparison to mill processing.

### 13.4 Recommendations

URRE plans to conduct core drilling as confirmation of mineralization, and to have core samples for additional metallurgical testing. That metallurgical testing should be done to address the following:

- Amenability to mill recovery of uranium and to address the possible concerns reported historically;
- Column leach tests on appropriately sized material to determine potential heap leach amenability and characterization of the mineralization.

## 14 Mineral Resource Estimate (Item 14)

The Mineral Resources stated in this section for the Cebolleta project deposit were prepared by Frank Daviess, of Golden, Colorado, in accordance with Canadian Securities Administrators (CSA), National Instrument 43-101 (NI 43-101), and resources have been classified according to the Canadian Institute of Mining and Metallurgy (CIM) "CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines" (November 2010). Accordingly, the resources have been classified as "Inferred".

Allan V. Moran, AIPG (CPG) carried out data verification and reviewed QA/QC procedures to support the data incorporated into the resource estimation. Mr. Moran visited the project site on February 10, 2014. Frank Daviess, MAusIMM, SME (registered member) prepared the resource estimate presented in this Section 14 of the report. Mr. Daviess did not visit the Cebolleta project site.

Datamine® Studio, a commercially available geology and mining software package was used for examining geological domains, block modeling, and grade estimation.

The methods used by Frank Daviess to estimate mineral resources are described in the following sections.

Deposit block models were constructed to achieve:

- Three dimensional representations of the distribution of grades appropriate for the deposit type and style of mineralization as well as three dimensional representations of controlling geology and geologic factors affecting recovery; and
- Grade thickness (GT) representations of zones of mineralization or combined zones of mineralization, where the thickness of mineralized and non-mineralized zones can be approximated such that a grade-times-thickness (GT) variable can be computed, allowing the application of cutoffs appropriate for mine planning with the envisioned methods for the deposit type.

These methods are stated as "best practices" by both CIM and JORC reporting codes. The estimated grades for the resultant future mine planning GT models are derived from the initial three dimensional estimations, with grades being subsequently aggregated for a given zone for which a thickness can be determined from the three dimensional geologic modeling.

### 14.1 Drillhole Database and Exploratory Data Analysis

The drillhole database, as discussed in sections 10 through 12 of this report, was used to estimate grades for the two areas selected; identified here as Area I-II-V and Area III. The relevant subsets of the data were extracted and the basic population statistics are displayed on Table 14.1 below. The database appears to be orderly and well-constructed and no significant errors were encountered.

**Table 14.1: Assay Population Statistics**

<b>Assay Population Statistics</b> <b>Grade (% eU<sub>3</sub>O<sub>8</sub>)</b>			
	All	Area I-II-V	Area III
<b>Number Of Values</b>	<b>119,112</b>	<b>104,838</b>	<b>14,328</b>
<b>Maximum Value</b>	<b>2.540</b>	<b>2.260</b>	<b>2.540</b>
<b>Minimum Value</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Mean</b>	<b>0.030</b>	<b>0.029</b>	<b>0.041</b>
<b>Variance</b>	<b>0.0060</b>	<b>0.0056</b>	<b>0.0090</b>
<b>Standard Deviation</b>	<b>0.078</b>	<b>0.075</b>	<b>0.095</b>
<b>Coefficient Of variation</b>	<b>2.59</b>	<b>2.59</b>	<b>2.32</b>

### 14.1.1 Capping

Lognormal cumulative frequency (CF) distribution diagrams were created for each deposit area, as shown on Figures 14.1 and 14.2 below. Using these lognormal probability diagrams as a guide, in conjunction with an examination of the distribution of drillhole data, “thresholds” were selected for each area; and an inflection point was selected to identify assays that are to be considered “outliers” to the general distribution and “capped” or set back to the defined threshold. The threshold selected was 0.95% eU<sub>3</sub>O<sub>8</sub> for both areas. Alternative methods to the capping applied could be developed to mitigate the impact of outliers and allow their inclusion in the assay data population; multiple populations potentially could be defined representing different styles of mineralization. However, given the intent of modeling the primary mineralization as a single population for the deposit, the raw assays were capped or “set back” to the threshold value noted above prior to compositing. Table 14.2 summarizes the statistics for capped assays; as expected there is a reduction of the coefficient of variation (CV) for both grades within all populations.

**Table 14.2: Capped Assay Population Statistics**

<b>Capped Assay Population Statistics</b> <b>Grade (% eU<sub>3</sub>O<sub>8</sub>)</b>			
	All	Area I-II-V	Area III
<b>Number Of Values</b>	<b>119,112</b>	<b>104,838</b>	<b>14,328</b>
<b>Maximum Value</b>	<b>0.950</b>	<b>0.950</b>	<b>0.950</b>
<b>Minimum Value</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Mean</b>	<b>0.030</b>	<b>0.029</b>	<b>0.041</b>
<b>Variance</b>	<b>0.0060</b>	<b>0.0056</b>	<b>0.0076</b>
<b>Standard Deviation</b>	<b>0.073</b>	<b>0.071</b>	<b>0.087</b>
<b>Coefficient Of variation</b>	<b>2.44</b>	<b>2.46</b>	<b>2.12</b>

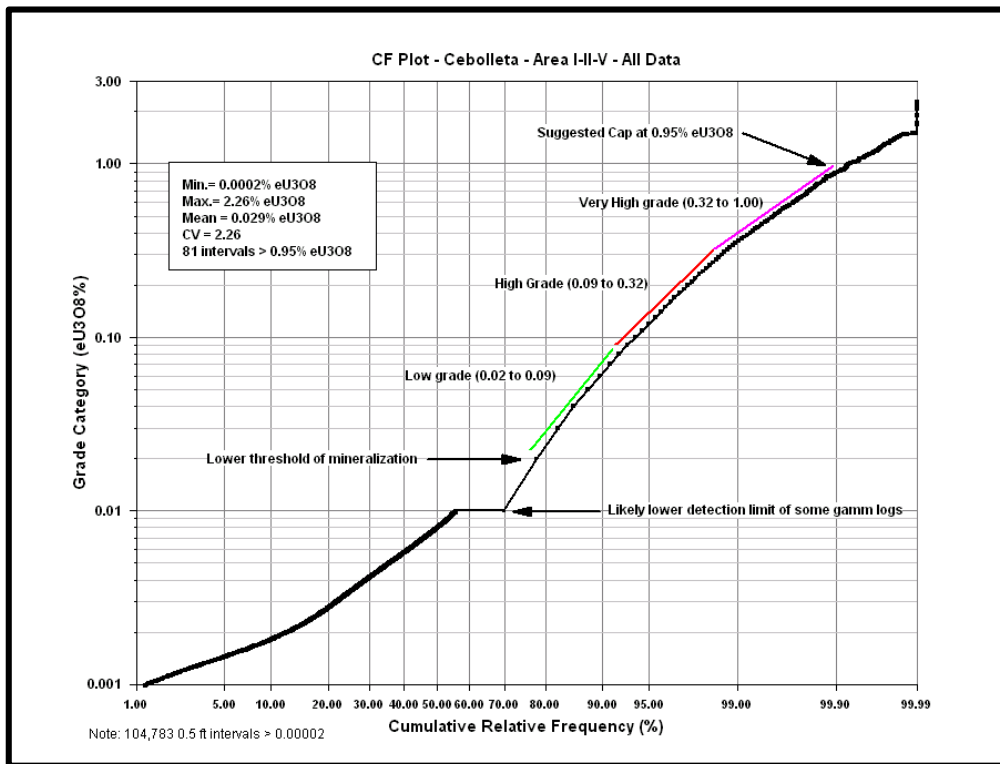


Figure 14.1: Cumulative Frequency Distribution Area I-II-V

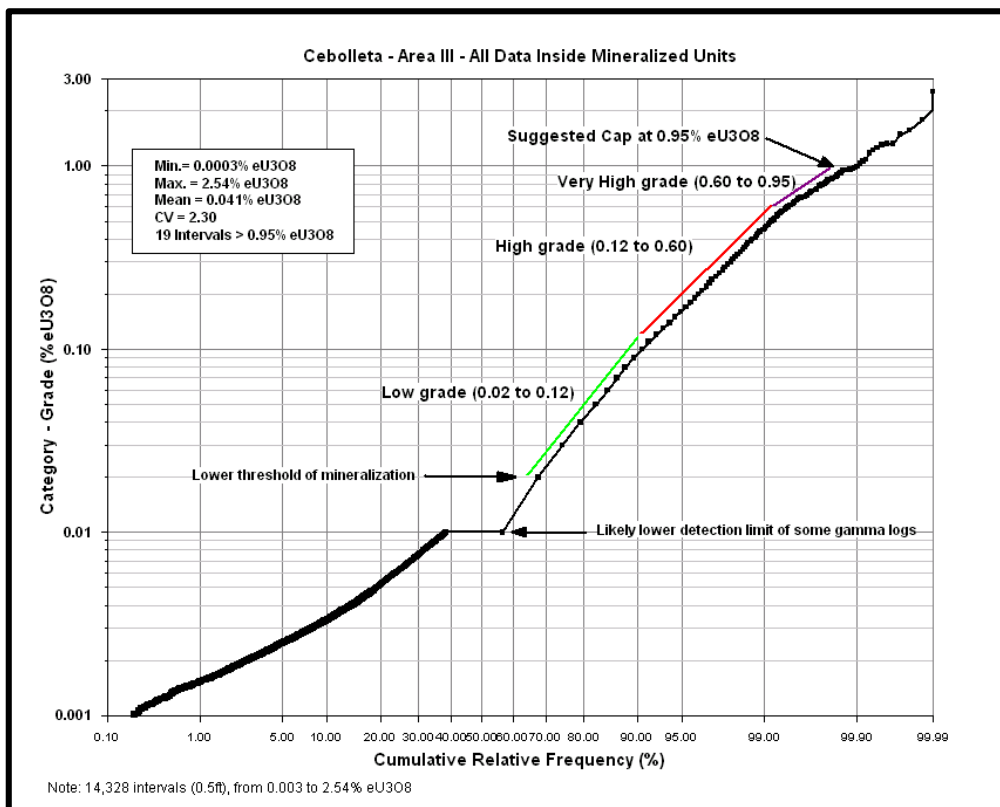


Figure 14.2: Cumulative Frequency Distribution Area III



## 14.2 Drillhole Compositing

Capped  $eU_3O_8$  values for each area were composited into uniform one foot lengths for grade estimation purposes. Values in the drillhole database classified as “missing” or “not sampled” were set to a value of zero prior to composite creation. Basic composite statistical characteristics are summarized in Table 14.3 below. For future modeling the choice of composite length (and block height) should be reconsidered with respect to the probable selectivity dictated by likely mining heights and other factors impacting on selectivity. Table 14.3 summarizes the composite statistics. For all areas, the coefficient of variation is relatively low (less than 2.5).

**Table 14.3: Composite Population Statistics**

<b>Composite Population Statistics</b>			
<b>Grade (% <math>eU_3O_8</math>)</b>			
	<b>All</b>	<b>Area I-II-V</b>	<b>Area III</b>
<b>Number Of Values</b>	<b>59,852</b>	<b>52,645</b>	<b>7,207</b>
<b>Maximum Value</b>	<b>0.950</b>	<b>0.950</b>	<b>0.950</b>
<b>Minimum Value</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Mean</b>	<b>0.030</b>	<b>0.029</b>	<b>0.040</b>
<b>Variance</b>	<b>0.0050</b>	<b>0.0048</b>	<b>0.0072</b>
<b>Standard Deviation</b>	<b>0.071</b>	<b>0.069</b>	<b>0.085</b>
<b>Coefficient Of variation</b>	<b>2.38</b>	<b>2.42</b>	<b>2.12</b>

## 14.3 Geological Modeling

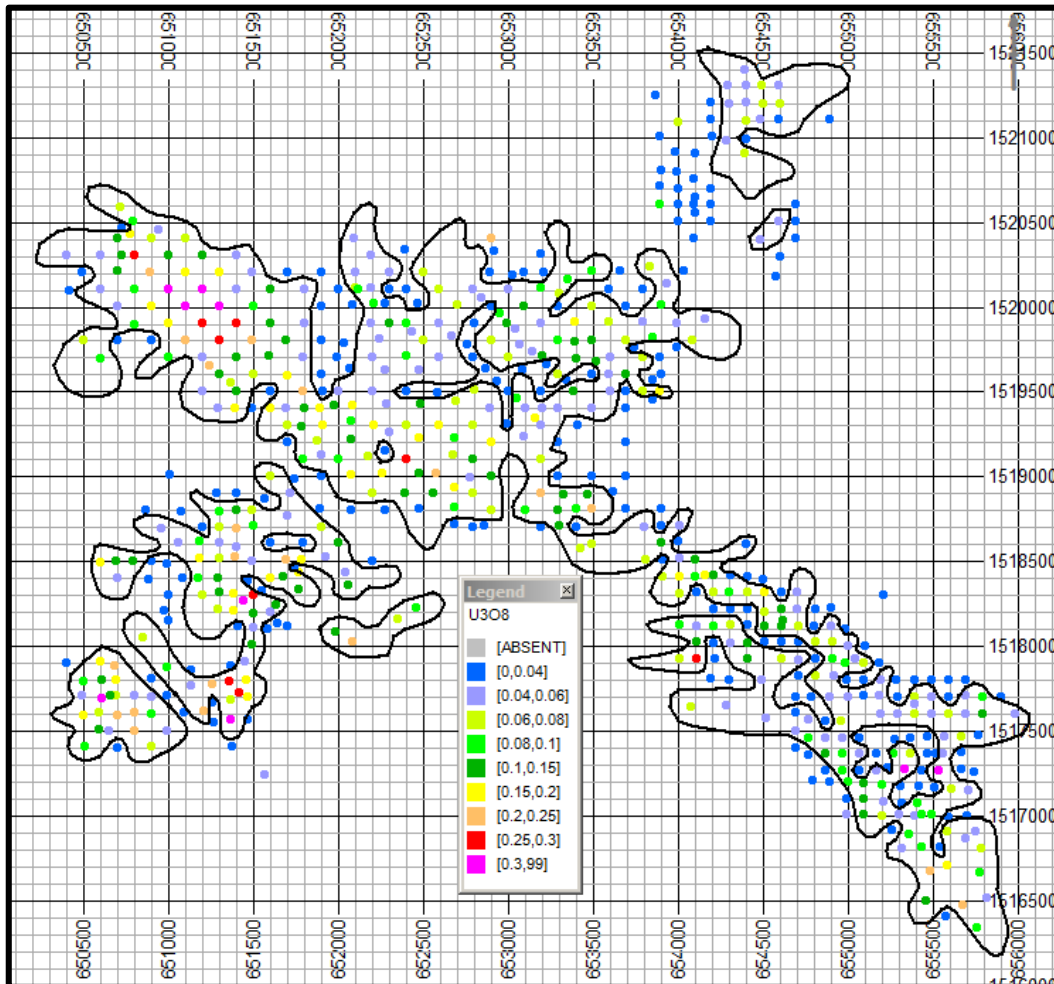
As discussed in Sections 8 and 9 of this report, most of the mineralization is hosted in medium to coarse-grained sandstones which thins appreciably near the margins of the deposits, and higher grade mineralization usually occurs in the centers of the mineralized zones. The upper and lower boundaries of these mineralized bodies are generally quite abrupt. The deposits are described as “composed of one or more semi-tabular layers”. Viewed in section, the layers are figuratively suspended within the host sandstone; there are several individual mineralized zones or tabular horizons that can be traced hole-to-hole. Viewing the mineralization data in 3D software allowed for correlation of mineralization hole-to-hole and the mineralization was modeled in 3D using Leapfrog® software. The Areas I-II-IV-V areas were modeled as one area, with mineralization continuous from one area to another. The Resource model thus includes Areas I, II, and V, and part of IV, and is called the Area I-II-V deposit area. A total of seven zones of mineralization were defined from top down, with zones 3.1, 5, and 6 being present only locally. The four units or zones of mineralization defined by URRE geologists, as described in Section 7 for Area I, generally correspond to similar zones defined by the authors for Area I-II-V. Area III was modeled as a separate area, as the mineralization is indeed isolated. The authors defined three zones of mineralization for Area III, which generally correspond to the zones defined on sections by URRE geologists.

The Leapfrog® wireframes are three dimensional contours of the grade of a given unit with accuracy primarily at the top and bottom of the shapes. The contours do not project beyond the limits of drillhole information and in many cases were intentionally constructed across very low grade, or barren, internal zones (possibly scours) to simplify correlation both within and between cross sections of interpretation.

The zones of mineralization serve as constraining envelopes for the assignment of grade with clear deterministic upper and lower limits. The lateral extent of a given zone is developed by stratigraphic

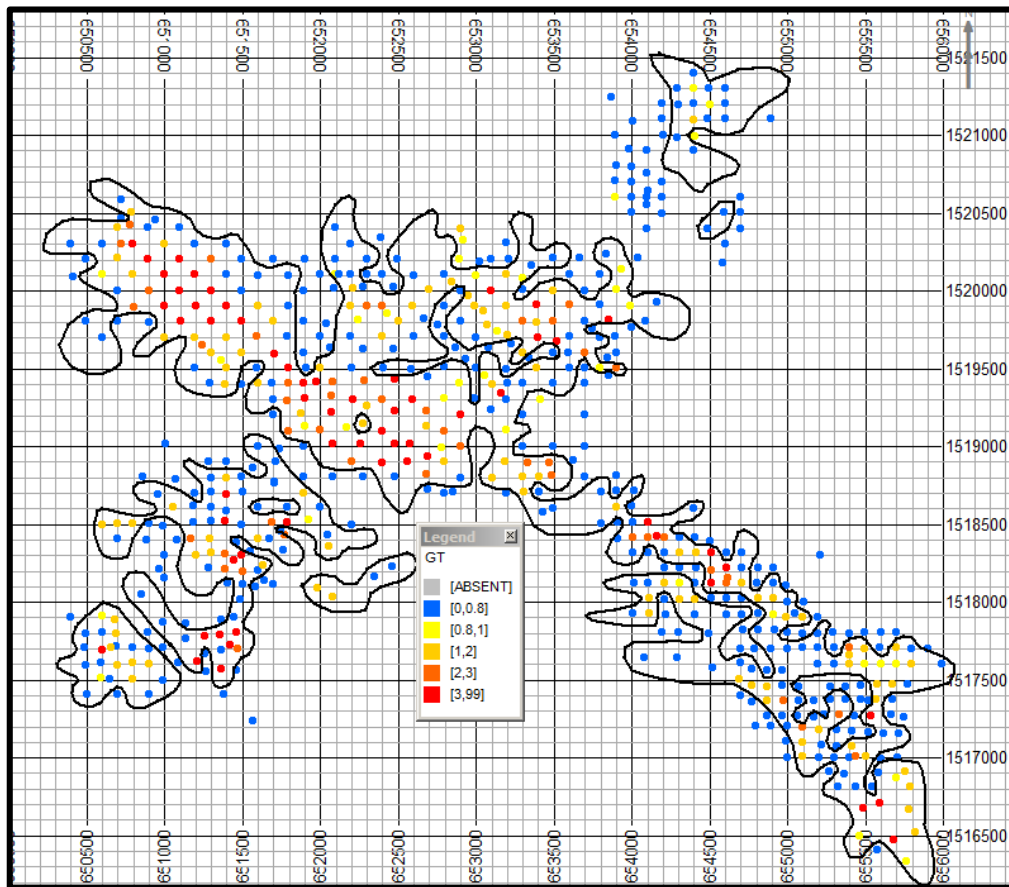
correlation within and between cross sections; the “signature” (pattern of grade) and location of intercepts provide guides and the whole process is facilitated by minimal vertical variation.

The Leapfrog® wireframes, which are “snapped” to the tops and bottom of the stratigraphically correlated unit in each drillhole, were imported into Datamine® Studio and used to both select and assign a unique stratigraphic zone designator to the relevant drillhole intercept. Grades are then composited for each zone and the average can be displayed in plan view (Figure 14.3 for the primary stratigraphic unit 3 in Area I-II-V).



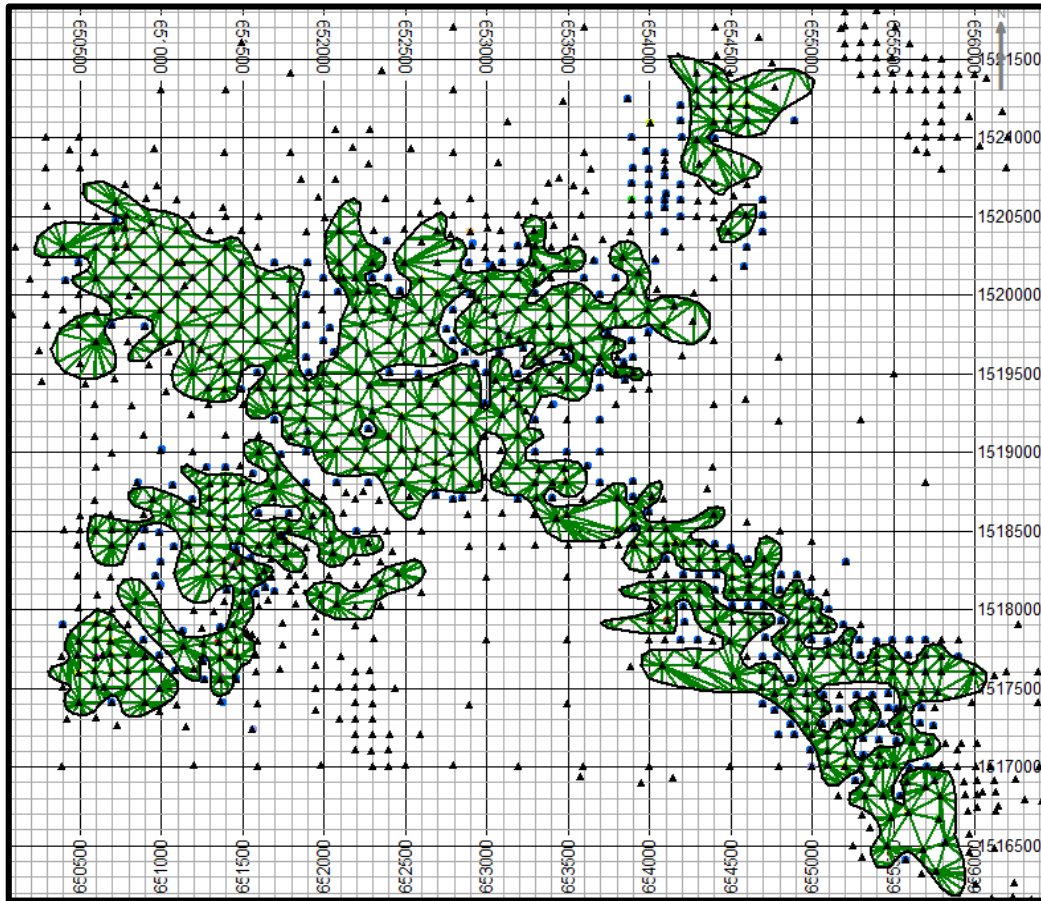
**Figure 14.3: Area I-II-V, Zone 3 grade composites with mineralization limit**

Plan views of thickness and grade thickness product (GT) (Figure 14.4) are also constructed for each zone. Using these displays, the limits of mineralization with consideration to thickness, are delineated in plan. For this procedure a cutoff of 0.04% eU<sub>3</sub>O<sub>8</sub>, was used to demark mineralized versus non mineralized material within the lateral extents of the stratigraphic zones (units). A grade-thickness product cutoff of 0.08% (two feet of .04% eU<sub>3</sub>O<sub>8</sub>) was also used as a guide for delineation. The 0.04% threshold was selected as it is below any potential economic limit but above the lower detection limits of the tools used (.01% for some of the data).



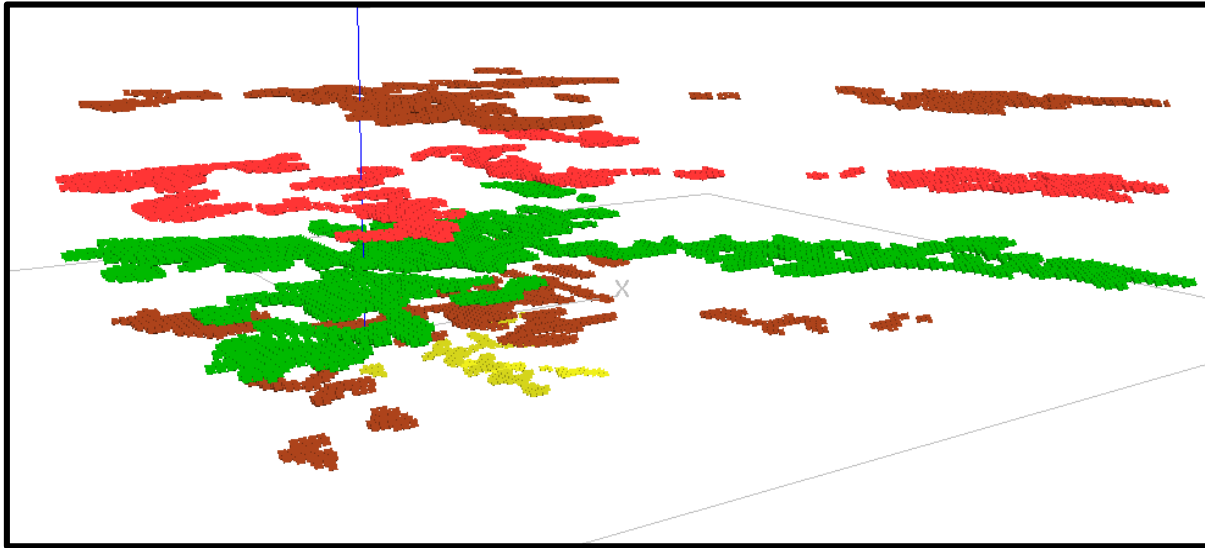
**Figure 14.4: Area I-II-V, Zone 3 grade-thickness composites with mineralization limit**

Digital terrain models (DTM surfaces) are constructed for each stratigraphic unit top and bottom as displayed on Figure 14.5. The mineralization limit was used as a control for creation of the DTM.



**Figure 14.5: Zone 3 Digital Terrain Model, Surface Top**

The geological modeling process is initially cross sectional with a deterministic delineation of the elevations of stratigraphically controlled zones in each drillhole and an interpretation of correlations on and between sections. The subsequent plan view analysis provides a basis for both extending the surfaces beyond drillhole intercepts at the margins of zones and the delineation of low grade or barren material interior to the overall zone (such as possibly scours) that are clearly of a different character from the majority of the mineralization. These low grade values (and associated volumes of material) are segregated from the estimation database and geologic model. The process is fully three dimensional as are resultant surfaces and block models, as shown on the “exploded” view of Figure 14.6 where artificial elevations have been assigned to zones for visualization purposes.



**Figure 14.6: Area I-II-V Stratigraphic Zones, exploded view**

Each composite within the digital terrain model zone surfaces is assigned the relevant stratigraphic zone designator and only these composites are used for grade estimation. In general, the resultant composite database populations are relatively well behaved in that the coefficients of variation are relatively low for uranium deposits. This implies that non-linear estimation methods are not required for grade assignment, and that linear estimation methods (ordinary kriging or inverse distance squared) are appropriate and adequate (Table 14.4).

**Table 14.4: Zonal Composites Population Statistics**

<b>Zonal Composites Population Statistics</b>			
<b>Grade (% eU<sub>3</sub>O<sub>8</sub>)</b>			
	All	Area I-II-V	Area III
<b>Number Of Values</b>	<b>15,151</b>	<b>11,798</b>	<b>3,353</b>
<b>Maximum Value</b>	<b>0.950</b>	<b>0.950</b>	<b>0.950</b>
<b>Minimum Value</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Mean</b>	<b>0.097</b>	<b>0.103</b>	<b>0.076</b>
<b>Variance</b>	<b>0.0160</b>	<b>0.0160</b>	<b>0.0129</b>
<b>Standard Deviation</b>	<b>0.127</b>	<b>0.129</b>	<b>0.114</b>
<b>Coefficient Of variation</b>	<b>1.31</b>	<b>1.26</b>	<b>1.49</b>

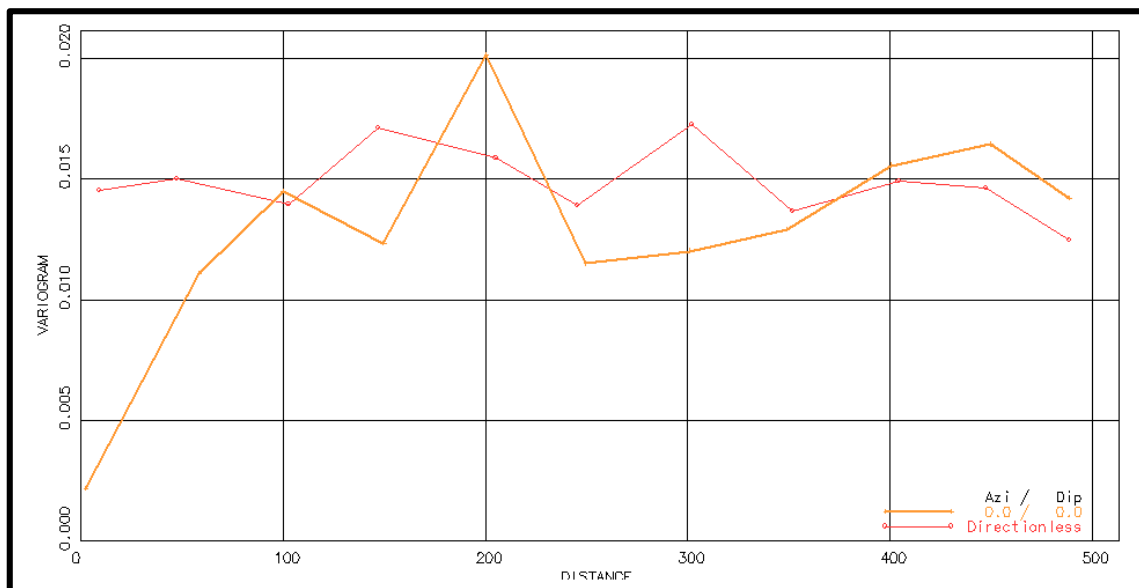
## 14.4 Variogram Analysis and Modeling

The majority of the drilling at Cebolleta was carried out with a very regular 100 ft. grid, which historically has been determined to be adequate to efficiently delineate the geometry and extent of the zones of mineralization. Extremely few drillhole intercepts exist that are less than 100 ft. apart horizontally and it is the horizontal continuity that requires determination. Preliminary variograms, indicator variograms and correlograms with the composited and un-composited data for both deposits were constructed. Given the lack of close horizontally spaced values, behavior at the origin (nugget, initial structure sill) could only be interpreted from down-hole variograms. In particular, no preferential orientations (anisotropies) of mineralization could be observed.

On Figure 14.7 below are an isotropic (all directions) variogram (red) and a horizontal variogram (orange) where the search is limited to a horizontal slice. Only stratigraphically zoned one-ft. composites are selected for the variography which used a fifty foot lag. While the horizontal variogram lacks sufficient data close to the origin for the interpretation of a clear structure, it does appear better behaved than the isotropic, and it can be interpreted to demonstrate continuity in excess of 100 ft. The down-hole variogram (Figure 14.8, with 2 ft. lags) displays a short range that is probably reflective of the average thickness of the stratigraphic zones. Given the data insufficiencies at the origin, the development of ordinary kriging parameters was not attempted.

From general geologic inspection it appears that broad orientation trends do exist. The dynamic anisotropy option in Datamine Studio3® allows the anisotropy rotation angles for defining the search volume to be defined individually for each cell in the mineralization block models. It is recommended, using at least a broad geological assessment, to derive an interpretation of anisotropy to represent preferential orientations of the continuity of mineralization for future models.

It is understood that URRE intends to conduct exploration and confirmation drilling, as core drilling, for the Cebolleta project area. That drilling will have multiple purposes including the in-fill confirmation drilling to confirm the various mineralized zones and deposits by gamma logs, and chemical assays of core. The authors suggest targeted 5-spot drilling (drill holes placed between 4 other holes) to most efficiently test for similar zones and tenor of mineralization. The additional closely spaced horizontally (less than 100 ft.) grade information will be very useful for future variography and the geostatistical assessment of continuity.



**Figure 14.7: Isotropic (red) and Horizontal (orange) Variograms**

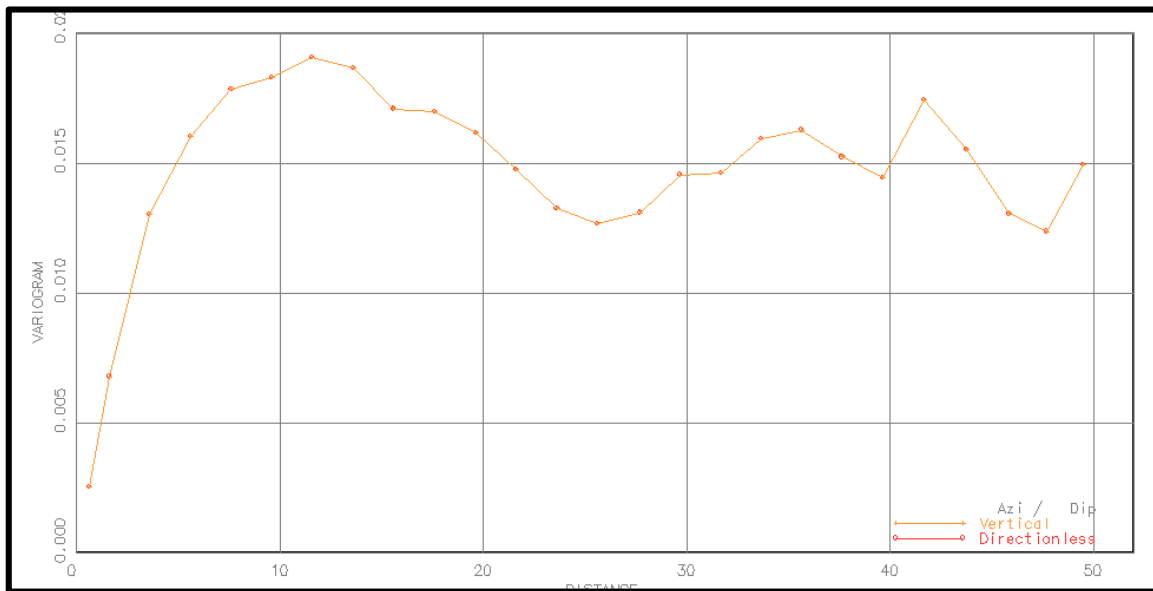


Figure 14.8: Down-Hole Variogram

## 14.5 Block Model

Block models with the spatial characteristics outlined on Table 14.5 were constructed using Datamine Studio3® for the Area I-II-V and Area III deposits, respectively, via intersection with the stratigraphic zone digital terrain models (DTM) described above. Uniform fifty foot square in plan and two foot vertical blocks were created within the surfaces and are considered to be adequate to represent the volumes delineated within the one hundred foot drilling grid. The two foot vertical block extent was also considered appropriate for estimation with one foot composited values allowing delineation of mineralized versus non mineralized layers. The choice of composite length and block height should possibly be modified for future models with consideration of mining selectivity/recovery factors.

Table 14.5: Block Model Origins &amp; Extents

Area I-II-V				
Direction	Minimum(ft.)	Maximum(ft.)	50x50x2 Blocks	
Easting	650,200	656,300	122	Columns
Northing	1,516,100	1,521,650	111	Rows
Elevation	5,596	5,956	149	Levels
Area III				
Direction	Minimum(ft.)	Maximum(ft.)	50x50x2 Blocks	
Easting	654,500	658,000	70	Columns
Northing	1,523,900	1,526,300	48	Rows
Elevation	5,698	5,956	51	Levels

## 14.6 Density

A global default density of 0.0625 tons/cubic foot corresponding to a tonnage factor of 16 cubic feet/ton was applied to all blocks in both models. It is recommended that a further analysis of the density of the mineralized units be carried out. The globally defined density is possibly conservative and while

probably appropriate for some of the sand units may be low for material with intermixed clays. The tonnage factor of 16 was used historically for resource estimation and mine planning.

## 14.7 Estimation Method

### 14.7.1 Grade Estimation

Block grades of  $eU_3O_8$  were estimated using an isotropic (in plan) search orientation with a highly constrained vertical search and an inverse-distance power of two as outlined on Table 14.6 below. As noted above, with the data insufficiencies at the origin, the development of ordinary kriging parameters was not attempted and kriging was not applied. With the proposed in-fill drilling it is expected that parameters could be defined and it is suggested that ordinary kriging be utilized. One of the advantages of kriging is that there is a declustering effect (weighting of grades for grade assignment with irregular spaced sampling), which is not relevant for Cebolleta because the mineralization is very uniformly sampled.

To preserve local grade variation, and to fill the volume of the mineralized stratigraphic zones, a search neighborhood strategy with three search ellipse (SVOL) volumes was used. Only blocks not estimated with the first set of parameters were estimated with a subsequent expanded search.

The initial 100 foot plan view search was selected to ensure that composites from more than one drillhole were utilized for estimation (with the 100 foot drilling grid). With a minimum requirement of 3 composites and a maximum of 2 from any given drillhole, the first and second pass grade estimation search volumes (SVOL 1 and 2) requires data from at least 2 drillholes; this requirement is relaxed to 1 drillhole for the third search volumes.

**Table 14.6: Search Neighborhood**

<b>Search Neighborhood Strategy <math>eU_3O_8</math></b>						
<b>SVOL</b>	<b>Search Distance (feet)</b>				<b>Minimum Number</b>	<b>Maximum From</b>
	<b>Search Orientation</b>	<b>X</b>	<b>Y</b>	<b>Z</b>	<b>Of Composites</b>	<b>One Drillhole</b>
1	Isotropic	100	100	2	3	2
2	Isotropic	150	150	3	3	2
3	Isotropic	400	400	8	2	2

Displayed on Figures 14.9 and 14.10 are the averaged estimated zone block grades for zone 3 of Area I-II-V and zone 2 of Area III deposits, respectively.



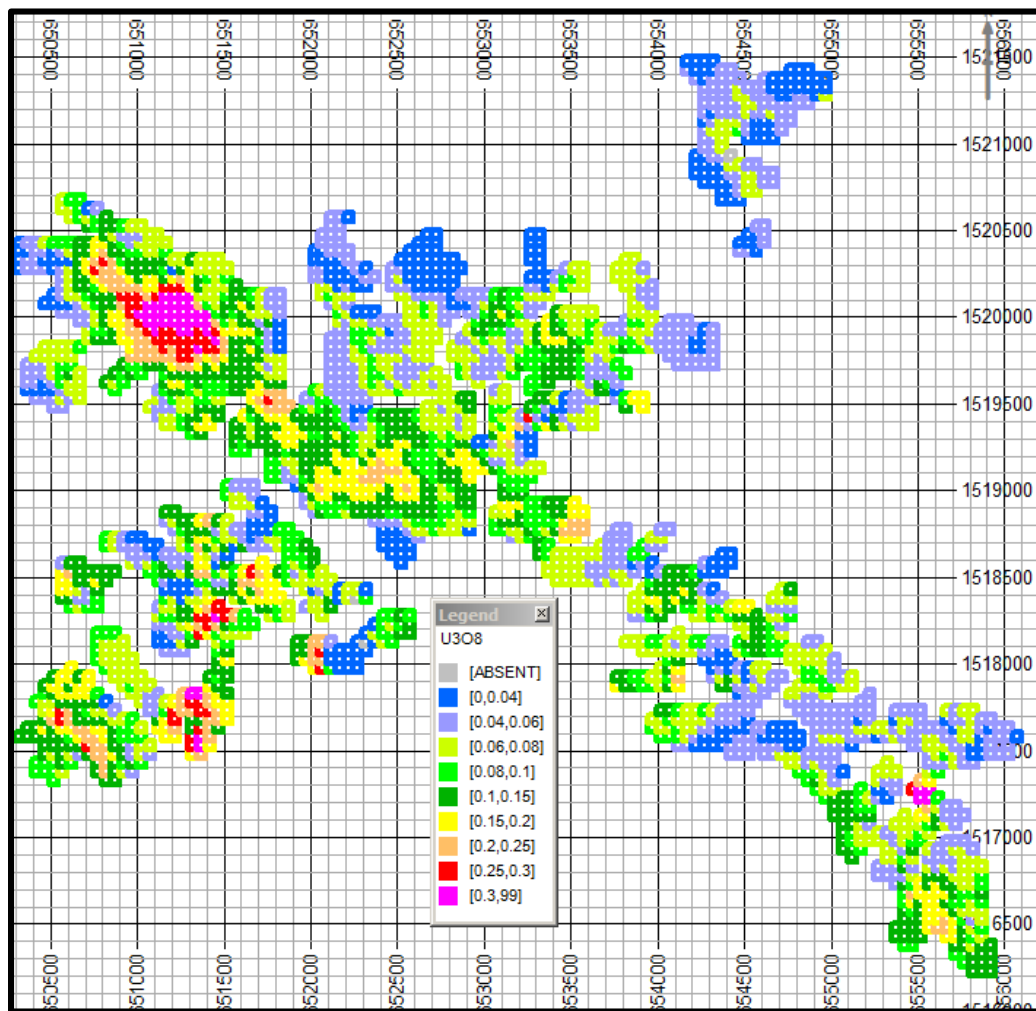


Figure 14.9: Area I-II-V Zone 3

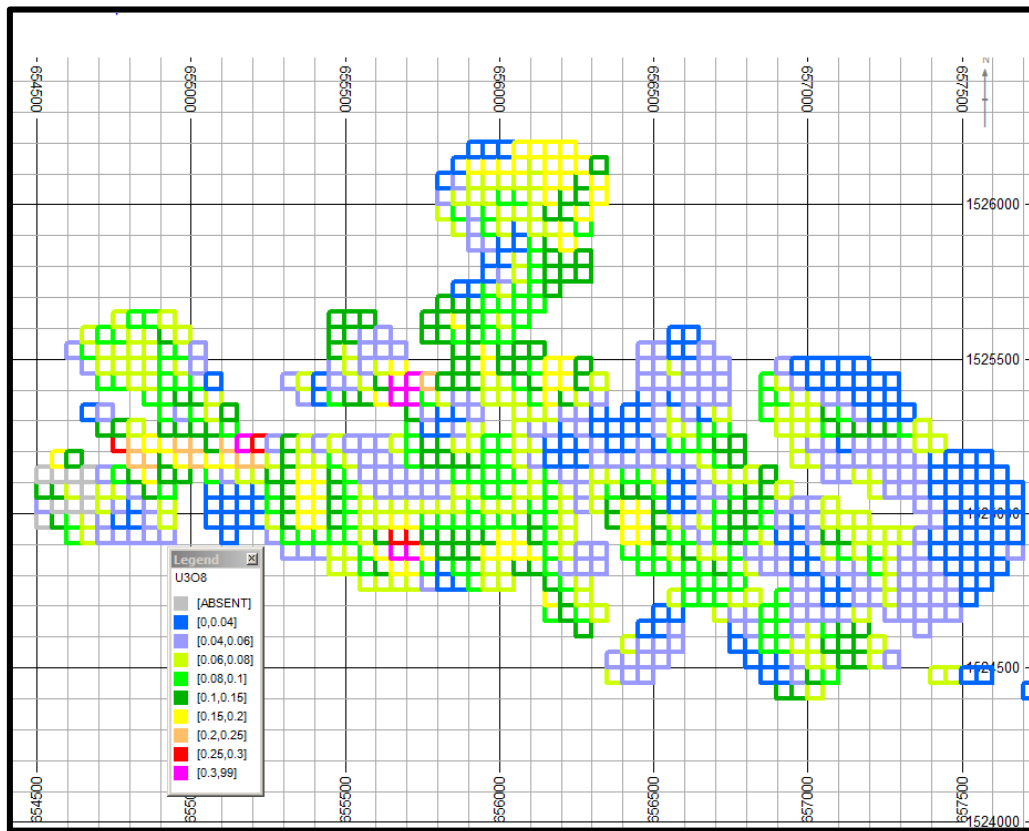


Figure 14.10: Area III Zone 2

### 14.7.2 Grade Thickness (GT) Block Modeling

Given the requirement for underground mine planning to assess not only the grade of estimated blocks but the distribution of the thickness and grade-thickness product of the mineralized zones, the initial 50 ft. X 50 ft. X 2 ft. block model was regularized into essentially zonal “seam” models. The intervening thickness of non-mineralized material can be modeled and used as a criteria for the aggregation of zones into potentially mineable units.

The grade of a given 50 ft. X 50 ft. zone block is the average grade of the estimated uniform 2 ft. high blocks from the initial grade model. While vertical variation for a position within the zone is lost, the representation remains three dimensional. Zone thickness is derived from the wireframe zone model as displayed on Figure 14.11, and the grade-thickness product can be computed as displayed on Figure 14.12 for Area I-II-V and 14.13 for Area III, respectively.

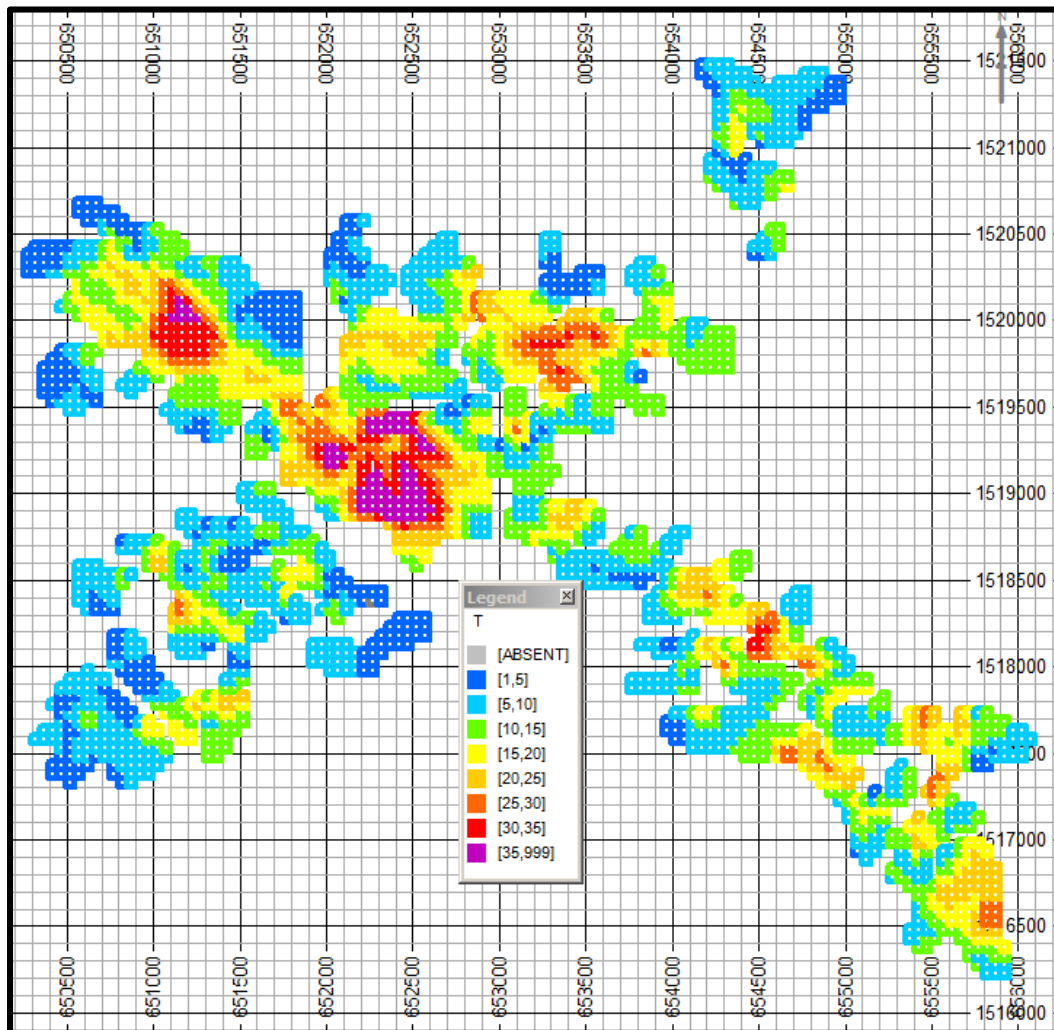
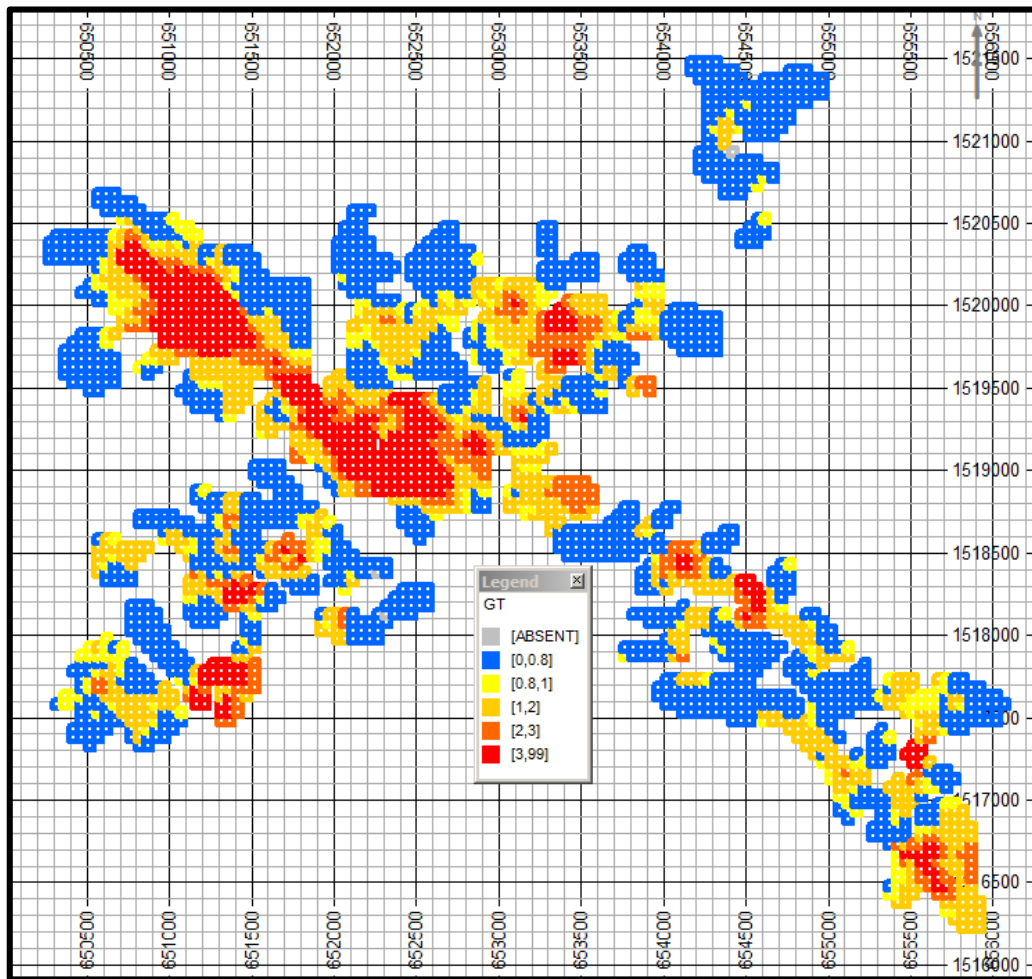
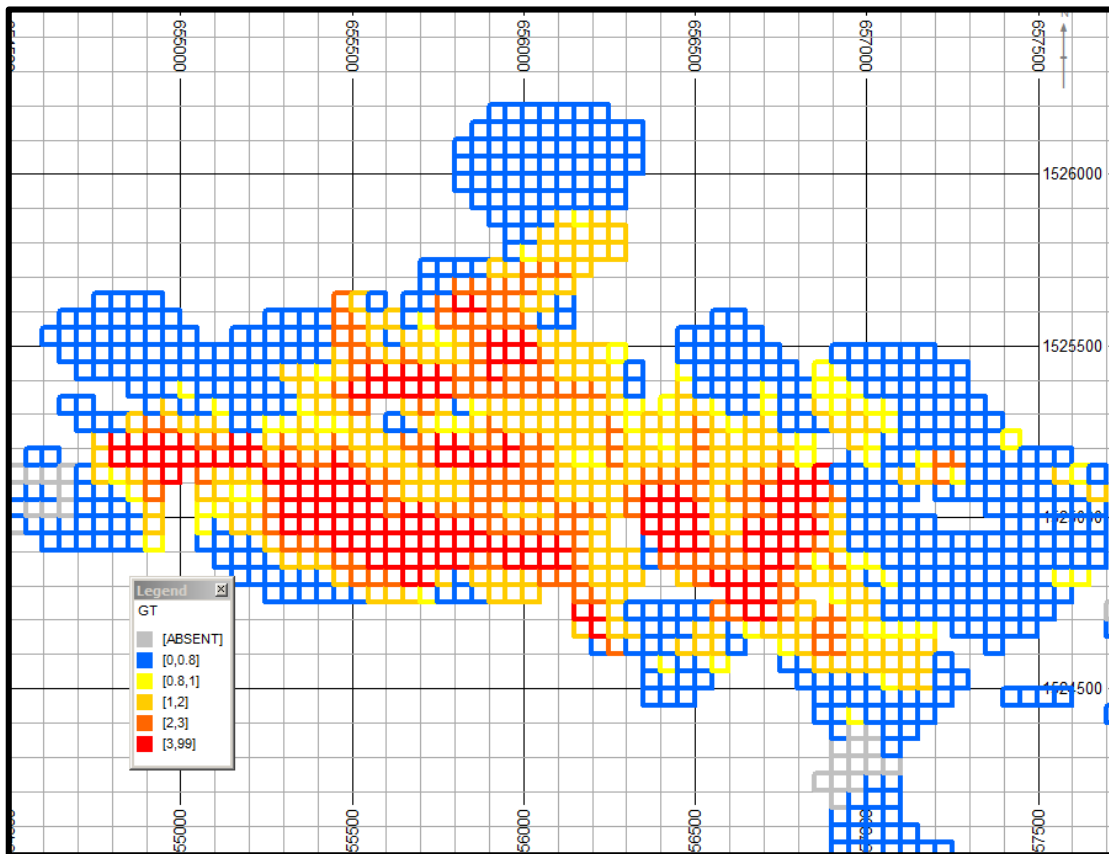


Figure 14.11: Area I-II-V Thickness Zone 3



**Figure 14.12: Area I-II-V GT Zone 3**



**Figure 14.13 Area III GT Zone 2**

The methodology allows individual zone grade-thickness product (as well as average grade and thickness) to be displayed as above. One major advantage of a grade thickness (GT) representation is that these variables (GT & T) are additive. The combined model representation of the six stratigraphic zones of Area I-II-V is achieved by accumulating (adding) each zones grade thickness product and each zones thickness for each 50 ft. X 50 ft. plan view position as displayed on Figures 14.14 and 14.15 below. With accumulated grade-thickness and thickness, grade is back calculated as displayed on 14.16. For this representation, all zones are accumulated, but for other representations individual zones could be selected or rejected on the basis of any modeled criteria such as elevation, minimum thickness or average grade. The selection can also be made such that only the individual 2 ft. blocks meeting cutoff criteria are included which implies a 2 ft. mining selectivity. All of the variables are available as cutoff criteria for resource tabulation; for example, a restriction to only areas in plan exceeding thickness (or GT) criteria, with only zones exceeding different GT criteria and including only estimated blocks (with differential mining heights) above a minimum grade criteria.

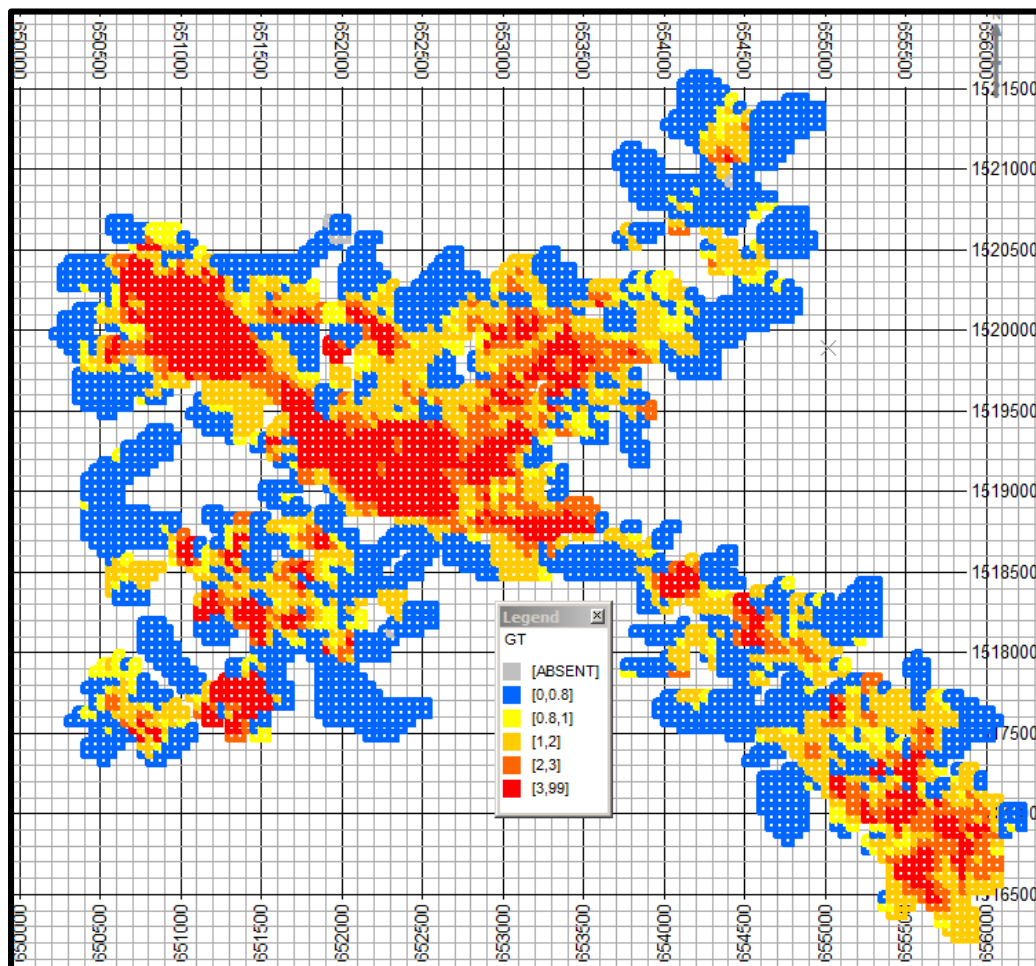


Figure 14.14: Area I-II-V Accumulated Grade Thickness All Zones

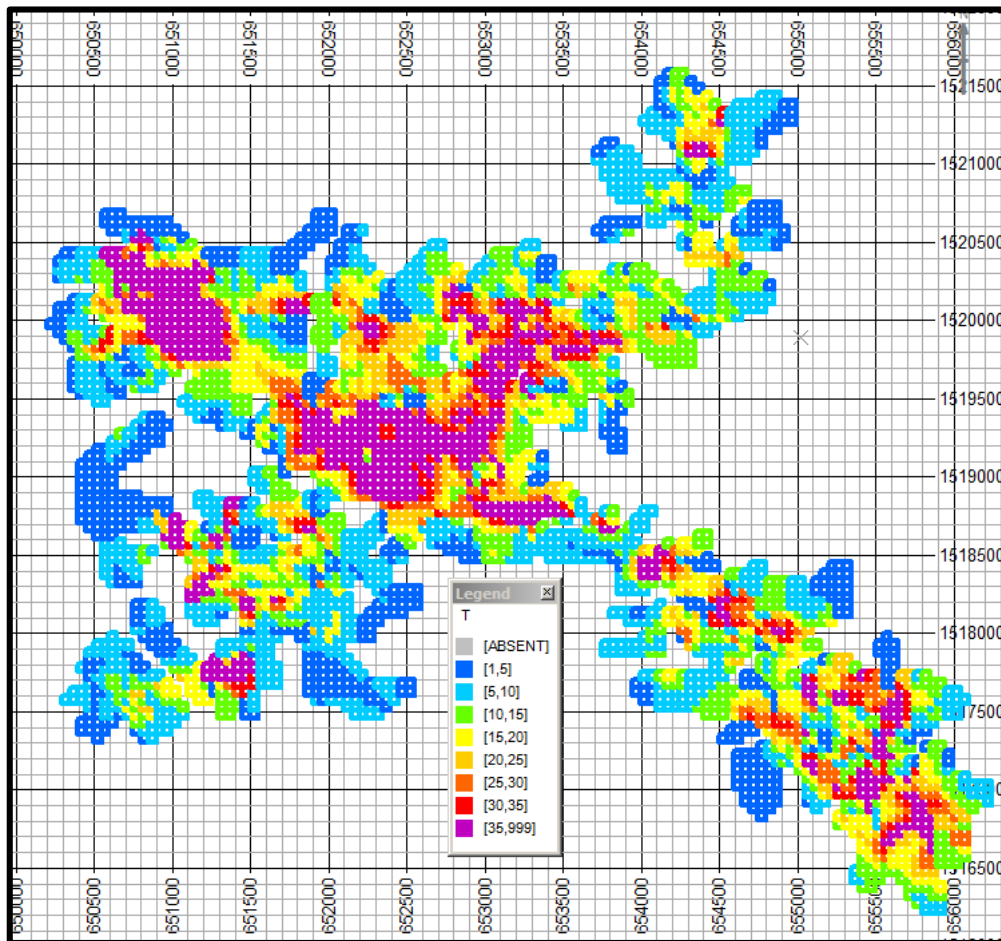
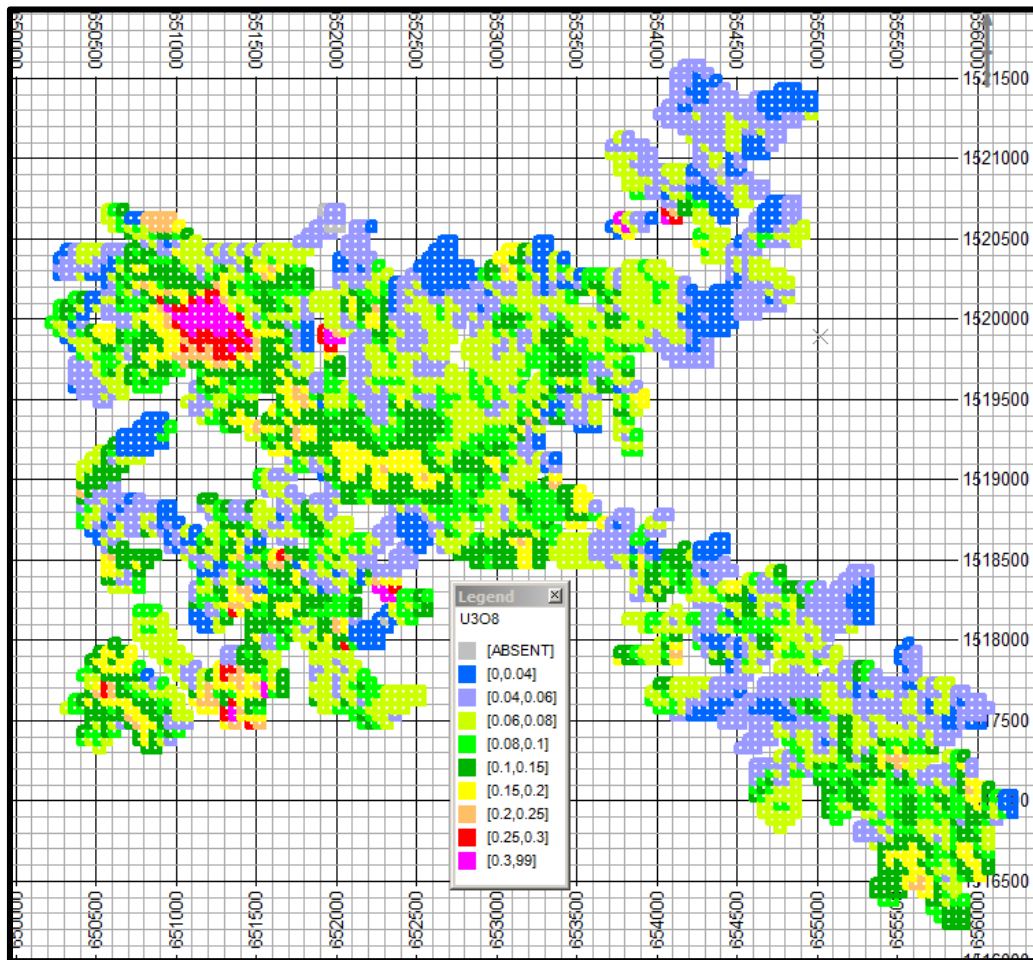


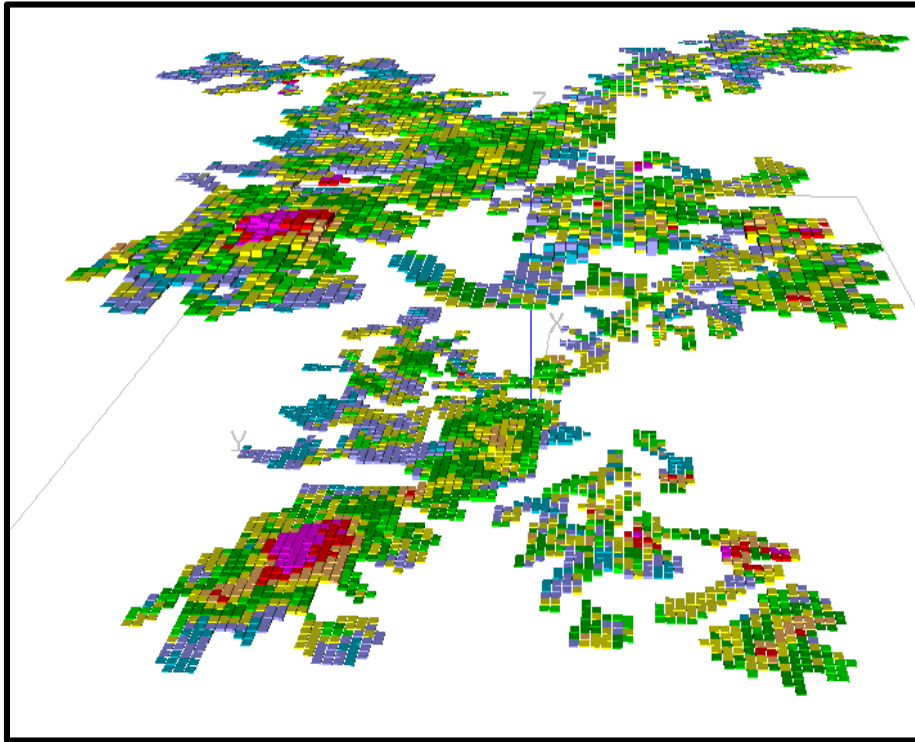
Figure 14.15: Area I-II-V Accumulated Thickness All Zones



**Figure 14.16: Area I-II-V Accumulated Grade All Zones**

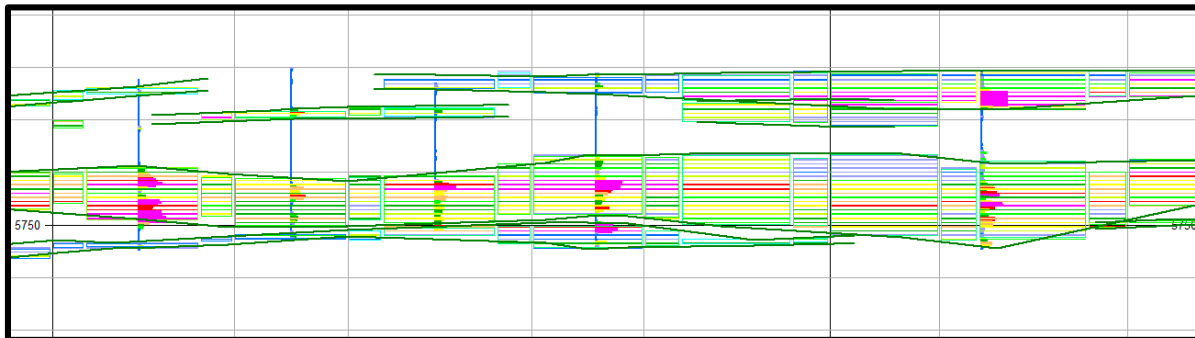
Figure 14.17 below is included here to emphasize that the final model can be displayed as either a full three dimensional or as a two dimensional representation. Elevations are assigned to “explode” the view, the top surface two dimensional model is the accumulated GT for the six surfaces below.





**Figure 14.17: Area I-II-V GT Expanded View All Zones**

The model cross section (14.18 below) is intended to emphasize that grades were estimated into the 50 ft. X 50 ft. X 2 ft. model matrix and all resources are tabulated with these blocks, which have subsequently been assigned the relevant zones GT and T criteria for selection with cutoffs for those criteria from the GT modeling.



**Figure 14.18 Representative Cross Section with 2' Blocks & Drillhole Composites %eU<sub>3</sub>O<sub>8</sub>**

## 14.8 Model Validation

Model validation consisted of a visual comparison of estimated blocks and composites, a statistical comparison of estimated blocks and composites used for estimation, and a comparative estimation with an alternative estimator.

### 14.8.1 Visual Comparison

The estimated values of resource model blocks satisfactorily visually compare with composited values, as can be seen on Figures 14.19 through 14.20 below.

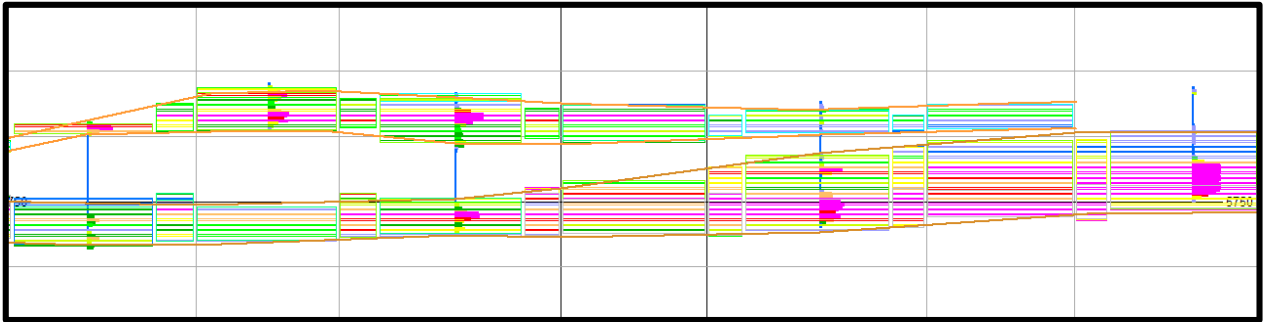


Figure 14.19 Representative Cross Section with 2' Blocks & Drillhole Composites %eU<sub>3</sub>O<sub>8</sub>

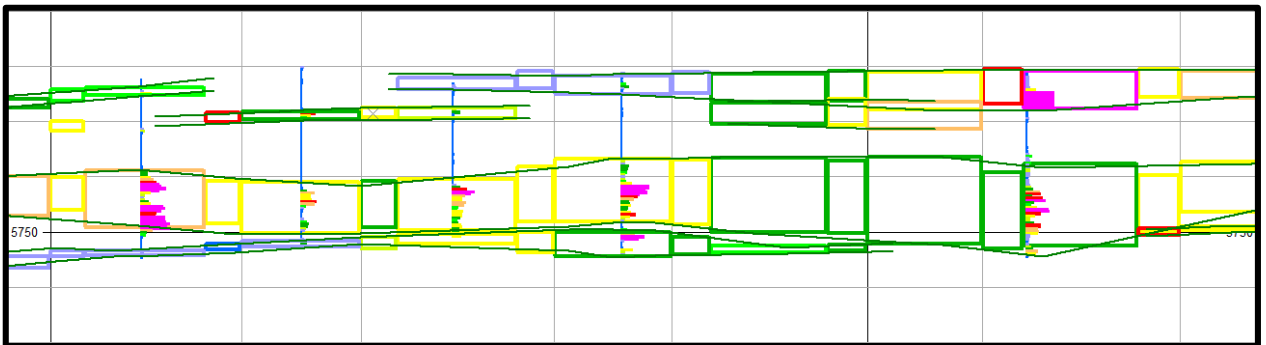


Figure 14.20 Representative Cross Section with Zone Averaged 2' blocks & Drillhole composites %eU<sub>3</sub>O<sub>8</sub>

### 14.8.2 Comparative Statistics

On Table 14.7 are comparative statistics for the grades of model blocks (at a zero cut-off within the stratigraphic zones) and the composited assay values within the relevant zone digital terrain shapes for each area.

Table 14.7: Composite/Block Model Comparative Statistics

Composite/Model Statistics				
%eU <sub>3</sub> O <sub>8</sub>				
	Blocks	Composites	Blocks	Composites
	Area I-II-V	Area I-II-V	Area III	Area III
Maximum Value	0.948	0.950	0.728	0.950
Minimum Value	0.000	0.000	0.000	0.000
Mean	0.099	0.103	0.075	0.076
Variance	0.0093	0.0160	0.0063	0.0129
Standard Deviation	0.096	0.129	0.079	0.114
Coefficient Of variation	0.97	1.26	1.05	1.49

The average estimated grades of the resource model blocks are marginally lower than the average grades of the composited values used for the estimation for each of the areas. The coefficient of variation, already relatively low for the composites, is lower for each of the modeled areas. In general the model is a “smoothed” representation of the composited data and is adequate for global resource estimation.

### 14.8.3 Alternative Estimators

For comparative purposes, the resource block model was assigned grades using a nearest neighbor alternative methodology to the inverse to the distance squared ( $ID^2$ ) method that is reported for the resource. Table 14.8 shows the grade tonnage distributions for blocks estimated with nearest neighbor (NN). For all cases, the choice of estimators does not have a major impact on the global resource tonnages or grade (See Table 14.11 for comparison). As expected nearest neighbor (NN) estimation results in the higher estimated grade and lower estimated tons as there is little smoothing with this method; total contained differences are minimal.

**Table 14.8: Nearest Neighbor Grade Tonnage Distribution**

Nearest Neighbor Grade Tonnage Distributions						
	All Areas		Area I-II-V		Area III	
Cutoff	%eU <sub>3</sub> O <sub>8</sub>	Tons (k)	%eU <sub>3</sub> O <sub>8</sub>	Tons (k)	%eU <sub>3</sub> O <sub>8</sub>	Tons (k)
0.00	0.097	13320	0.103	10180	0.078	3141
0.015	0.102	12,579	0.107	9,739	0.085	2,840
0.02	0.106	12092	0.110	9487	0.092	2605
0.025	0.112	11230	0.115	8972	0.103	2258
0.03	0.121	10268	0.123	8254	0.112	2014
0.035	0.130	9323	0.132	7517	0.122	1807
0.04	0.137	8,641	0.139	6,998	0.130	1,643
0.045	0.145	7978	0.147	6453	0.137	1525
0.05	0.153	7399	0.155	5990	0.145	1409
0.055	0.162	6819	0.164	5545	0.155	1274
0.06	0.170	6340	0.172	5169	0.164	1171
0.065	0.179	5,876	0.180	4,806	0.174	1,069
0.07	0.187	5469	0.189	4465	0.181	1004
0.075	0.195	5136	0.196	4201	0.189	935
0.08	0.202	4840	0.203	3961	0.196	878
0.085	0.216	4352	0.217	3566	0.210	785
0.09	0.219	4,234	0.220	3,485	0.216	749
0.095	0.227	3988	0.228	3282	0.223	706
0.1	0.233	3820	0.234	3150	0.230	670

## 14.9 Resource Classification

At Cebolleta, the drillhole database is essentially historical and requires confirmation and for that reason all of the resources estimated are classified as Inferred. The adequacy of the drilling density was tested during model construction by the assignment of confidence to model block positions based on the search distances, number of composites, and number of drillholes used. In general such a numerical classification indicates that approximately 60-70% of the estimated blocks could be converted to an “Indicated” status subsequent to database confirmation.

For many resource models, the block-by-block resource classifications should be smoothed into geologically sensible and coherent zones that reflect a realistic level of geological and grade estimation confidence taking into account the amount, distribution, and quality of data. A common way of implementing this “smoothing” process is to create resource classifications based on block estimation attributes and the broader geological and data considerations, and then to adjust the classifications of all blocks. This process includes geological rather than purely mathematical input and is seen as an integral part of the resource classification process.

With an underground scenario as envisioned for Cebolleta, “potential mineability” should at least be generally addressed by requiring resource areas with a higher classification than Inferred to be spatially located and of a sufficient extent to be included in a mine planning exercise, where a conversion to “reserves” could conceivably occur.

## 14.10 Mineral Resource Statement

Mineral Resources are stated in Table 14.10 below, based on 0.08% eU<sub>3</sub>O<sub>8</sub> cut-off grade. The Mineral Resource cut-off grade (CoG) used for reporting is calculated using the inputs stated in Table 14.9, which results in a potential economic CoG of 0.086%. The Mineral Resources are here reported at a CoG of 0.080%, which is just below the potential economic cut-off, and is similar to historically used values; therefore, appropriate for comparisons. The U<sub>3</sub>O<sub>8</sub> price used in the CoG calculation is based on the current Term Price of \$50/lb U<sub>3</sub>O<sub>8</sub>, a price currently in use by URRE.

**Table 14.9: Cut-Off Grade Calculation**

Parameter	Amount	Unit
Mining cost	60.00	\$/t
Process cost	15.00	\$/t
Admin cost	1.50	\$/t
<b>Total cost</b>	<b>76.50</b>	<b>\$/t</b>
U <sub>3</sub> O <sub>8</sub> price	50.00	\$/lb
Mill recovery	90%	
Smelter Pay For	100%	
Freight	1.0%	
Royalty	0%	
<b>Net value</b>	<b>44.55</b>	<b>\$/lb</b>
CoG	1.717	lb/t
	0.0859	% U <sub>3</sub> O <sub>8</sub>

**Table 14.10: In-situ Inferred Mineral Resources for The Cebolleta Project**

Area	Cutoff	eU <sub>3</sub> O <sub>8</sub> %	Tons (k)	Tons U <sub>3</sub> O <sub>8</sub> (k)	U <sub>3</sub> O <sub>8</sub> lbs (k)
Area I-II-V	0.08	0.173	4,564	7.874	15,748
Area III	0.08	0.162	998	1.616	3,232

Notes:

1. The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to verify these Inferred resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category;
2. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves;
3. Mineral Resources are reported in accordance with Canadian Securities Administrators (CSA) National Instrument 43-101 (NI 43-101) and have been estimated in conformity with generally accepted Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines;
4. Resources are stated at a 0.08% eU<sub>3</sub>O<sub>8</sub> cut-off grade; sufficient to define potentially underground mineable resources; however mineable underground shapes have not yet been defined;
5. The lower cut-off was ascertained using a uranium price of US\$50.00/lb, The current Term Price, underground mining costs at US\$60/ton, and milling plus G&A costs at US\$16.50/ton;
6. A tonnage factor of 16.0 cubic ft per ton was used for all tonnage calculations;
7. Mineral resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding;
8. Resources are reported on a 100% basis for URRE controlled lands, as in-situ resources without reference to potential mineability except for the referenced cut-off grade; and
9. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues, although the Company is not aware of any such issues.

## 14.11 Mineral Resource Sensitivity

It is the opinion of the Authors that these preliminary resource estimates provide a reasonably accurate assessment of total or global in-situ Inferred uranium resources. Table 14.11 summarizes the resource grade tonnage distribution at various cutoffs for the total project while Tables 14.12 and 14.13 are for Area I-II-V and Area III, respectively.

### Historical Mined Production in the Resource Model areas:

An internal URRE memo dated December 09, 2010 (Sohio workings\_Block Model Comparison), indicates the following mined production from the former Sohio Mine:

	Tons Milled	Average Grade	Pounds U <sub>3</sub> O <sub>8</sub> Milled
<b>Sohio Mine</b>	<b>898,629</b>	<b>0.123%</b>	<b>2,218,836</b>

The breakdown by Historical Area designation is as follows:

	Tons	Grade	Pounds
Area 2	841,460	0.123%	2,062,981
Area 5	57,169	0.136%	155,855
Mill Total	898,629	0.123%	2,218,836

An internal URRE block model estimate shows the following comparison for Area II and V:

	Tons Ore	Average Grade	Pounds U <sub>3</sub> O <sub>8</sub> Milled
Mill Total	898,629	0.123%	2,218,836
Block Model Total	647,781	0.163%	1,835,630
<b>Difference</b>	<b>250,848</b>	<b>0.076%</b>	<b>383,206</b>

The difference in URRE block model estimate of tons mined and the tons milled may be accounted for in dilution, or inaccuracy in the underground mined volumes and grade estimated by URRE, due to a lack of complete underground workings maps.

The conclusion is that approximately 1.8 to 2.2 million pounds  $U_3O_8$  should be removed from the current resource block model to account for historical mining in Area II and Area V, the current Area I-II-V deposit.

The authors recommend a further evaluation of the location of the underground workings with respect to the current resource block model in order to more accurately access the location, tons, and grade of mined-out material, and its impact on the current mineral resource estimate.

**Table 14.11: Cebolleta Resource Grade tonnage Distribution, All Areas**

<b>Cebolleta Project Combined Grade-Tonnage Distribution</b>				
<b>Inferred</b>				
<b>Cutoff</b>	<b>%eU<sub>3</sub>O<sub>8</sub></b>	<b>Tons (k)</b>	<b>Tons eU<sub>3</sub>O<sub>8</sub> (k)</b>	<b>lbs eU<sub>3</sub>O<sub>8</sub> (k)</b>
0.01	0.095	14,107	13.384	26,768
0.015	0.097	13,758	13.339	26,679
0.02	0.100	13,303	13.259	26,518
0.025	0.103	12,749	13.134	26,268
0.03	0.107	12,109	12.958	25,916
0.035	0.112	11,385	12.723	25,445
0.04	0.117	10,648	12.446	24,893
0.045	0.123	9,880	12.120	24,239
0.05	0.129	9,118	11.759	23,517
0.055	0.135	8,413	11.388	22,777
0.06	0.142	7,764	11.015	22,031
0.065	0.149	7,110	10.607	21,214
0.07	0.156	6,536	10.219	20,438
0.075	0.164	6,017	9.843	19,686
0.08	0.171	5,562	9.490	18,981
0.085	0.178	5,144	9.146	18,292
0.09	0.185	4,762	8.811	17,623
0.095	0.192	4,417	8.493	16,986
0.1	0.199	4,112	8.195	16,391

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**Table 14.12: Cebolleta Resource Grade Tonnage Distribution, Area I-II-V**

<b>Cebolleta Area I-II-V Grade-Tonnage Distribution</b>				
<b>Inferred</b>				
<b>Cutoff</b>	<b>%eU<sub>3</sub>O<sub>8</sub></b>	<b>Tons (k)</b>	<b>Tons eU<sub>3</sub>O<sub>8</sub> (k)</b>	<b>lbs eU<sub>3</sub>O<sub>8</sub> (k)</b>
0.01	0.101	10,765	10.826	21,651
0.015	0.102	10,556	10.799	21,598
0.02	0.104	10,316	10.757	21,514
0.025	0.107	10,003	10.686	21,372
0.03	0.110	9,597	10.574	21,148
0.035	0.114	9,113	10.417	20,834
0.04	0.119	8,572	10.214	20,427
0.045	0.125	7,988	9.966	19,931
0.05	0.131	7,408	9.691	19,381
0.055	0.137	6,853	9.399	18,799
0.06	0.144	6,339	9.103	18,207
0.065	0.151	5,820	8.779	17,558
0.07	0.158	5,345	8.459	16,917
0.075	0.166	4,927	8.155	16,311
0.08	0.173	4,564	7.874	15,748
0.085	0.180	4,215	7.586	15,172
0.09	0.187	3,902	7.313	14,626
0.095	0.195	3,616	7.048	14,097
0.1	0.202	3,373	6.811	13,622



**Table 14.11: Cebolleta Resource Grade Tonnage Distribution, Area III**

<b>Cebolleta Area III Grade-Tonnage Distribution</b>				
<b>Inferred</b>				
<b>Cutoff</b>	<b>%eU<sub>3</sub>O<sub>8</sub></b>	<b>Tons (k)</b>	<b>Tons eU<sub>3</sub>O<sub>8</sub> (k)</b>	<b>lbs eU<sub>3</sub>O<sub>8</sub> (k)</b>
0.01	0.077	3,342	2.558	5,116
0.015	0.079	3,203	2.540	5,081
0.02	0.084	2,987	2.502	5,004
0.025	0.089	2,746	2.448	4,896
0.03	0.095	2,512	2.384	4,768
0.035	0.101	2,272	2.306	4,612
0.04	0.108	2,077	2.233	4,465
0.045	0.114	1,892	2.154	4,308
0.05	0.121	1,711	2.068	4,136
0.055	0.128	1,559	1.989	3,978
0.06	0.134	1,425	1.912	3,824
0.065	0.142	1,290	1.828	3,655
0.07	0.148	1,191	1.760	3,521
0.075	0.155	1,090	1.688	3,375
0.08	0.162	998	1.616	3,232
0.085	0.168	930	1.560	3,120
0.09	0.174	859	1.499	2,997
0.095	0.180	801	1.444	2,889
0.1	0.187	739	1.384	2,769

Figures 14.21 and 14.22 are grade tonnage distribution diagrams for Area I-II-V and Area III respectively.

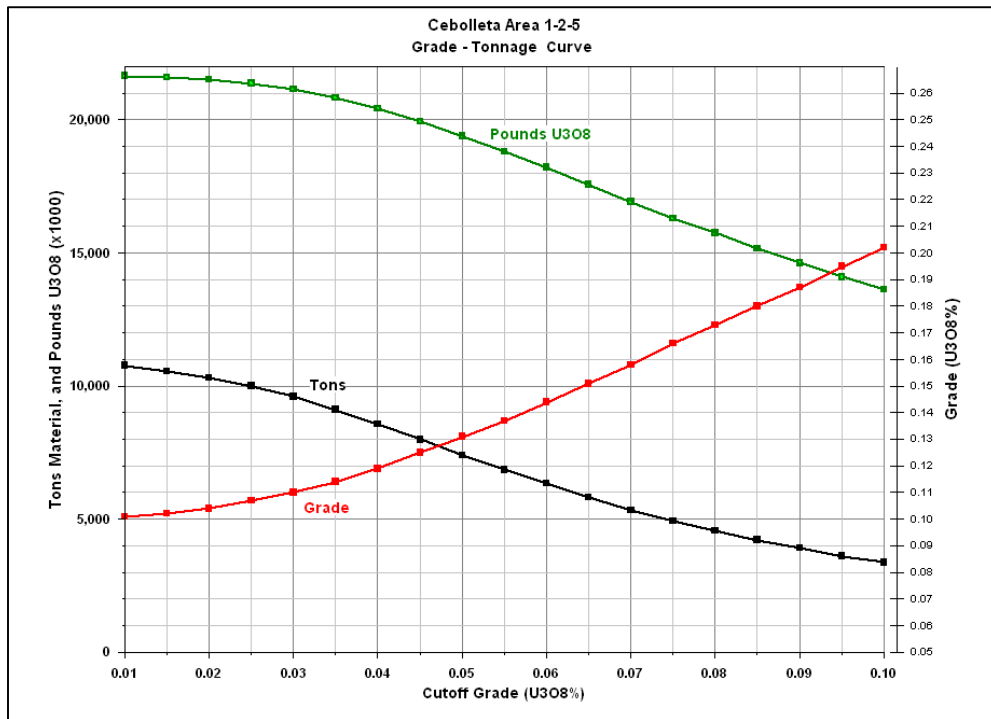


Figure 14.21: Grade Tonnage distribution Area I-II-V

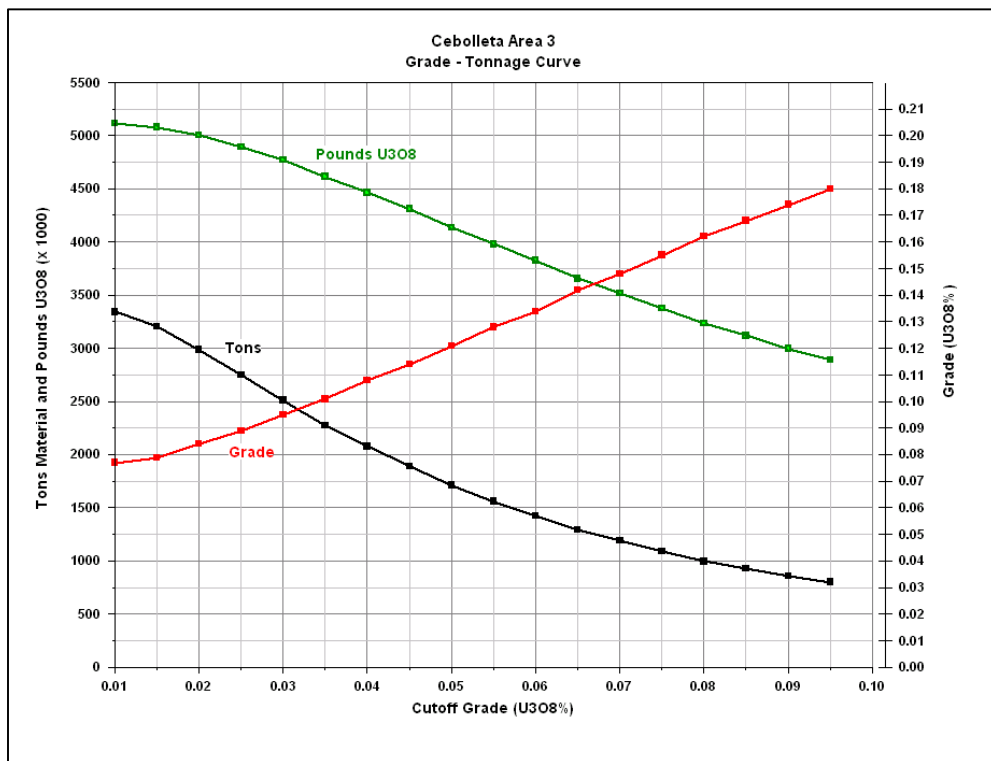


Figure 14.22: Grade Tonnage distribution Area III

## 14.12 Relevant Factors

The most important relevant factor affecting the mineral resource estimate is the lack of current drilling to confirm and validate the historical data that is the basis for the  $eU_3O_8$  drillhole database. As stated in Section 14.9 – Resource Classification, the factors used to determine classification can be expected to materially affect, in a positive way, the current classification of 100% Inferred, upon verification of the database with confirmatory drilling in all deposit areas.

## **15 Mineral Reserve Estimate (Item 15)**

There are no mineral reserves established for the Cebolleta uranium deposits. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves;

## **16 Mining Methods (Item 16)**

The Cebolleta project is still in the exploration stage; therefore, specific mining methods have not yet been defined. URRE, at this point in time, anticipates that future mining will be by underground methods, and has defined Mineral Resources accordingly at an appropriate cutoff grade.

Potentially underground mineable mineralized shapes have not been defined, and thus potential underground mining methods are yet to be determined.

## **17 Recovery Methods (Item 17)**

The Cebolleta project is still in the advanced stage of exploration; therefore, specific mineral processing and recovery methods have not yet been defined.

At this stage of the project, preliminary metallurgical testing (See Section 13) suggests that conventional milling processes can recovery +90% of the uranium at Cebolleta; however, additional metallurgical testing is required to define a specific recovery method and a detailed process flow sheet.

## **18 Project Infrastructure (Item 18)**

The Cebolleta project is still in the exploration stage; therefore, projected infrastructure needs have not yet been defined. Access and general project infrastructure are discussed in Section 4.

## **19 Market Studies and Contracts (Item 19)**

Not applicable for this exploration stage project

## **20 Environmental Studies, Permitting and Social or Community Impact (Item 20)**

Not applicable for this exploration stage project.

URRE has drilling permits in hand to conduct confirmation and exploration drilling at Cebolleta. Additional environmental studies or permits are not required to conduct exploration drilling or other studies required to advance the Cebolleta project to the next stage, which is to determine the potential for economic development.

## **21 Capital and Operating Costs (Item 21)**

Not applicable for this exploration stage project.

## **22 Economic Analysis (Item 22)**

Not applicable for this exploration stage project.

## 23 Adjacent Properties (Item 23)

The adjacent property to the southwest is the former Jackpile uranium mine, which is discussed elsewhere in this report in the History Section. Similarly, the adjacent lands to the west of Cebolleta are the former Sohio L-Bar properties, the JJ-#1 underground mine and mill/tailings complex that has been reclaimed; also discussed in the History section.

Other properties immediately adjacent to the Cebolleta project have no immediate impact on the project. Those lands, to the north and east, may have exploration potential, but they are not of current interest to URRE.

## **24 Other Relevant Data and Information (Item 24)**

URRE has a nearby property, the Juan Tafoya property, which is not immediately adjacent to Cebolleta, and for which uranium mineralization and uranium resource potential exists. The Juan Tafoya project may have possible future synergies with Cebolleta, due to the 15 mile (24km) distance by good roads; however, URRE is not considering Juan Tafoya as currently relevant to any possible future development at Cebolleta.

## 25 Interpretation and Conclusions (Item 25)

The Cebolleta project consist of two areas of mineralization, Area I-II-IV and Area III, for which in situ uranium resource are presented in this report, and one area of former open pit mining at St. Anthony, for which current and compliant mineral resources have not yet been estimated.

The Cebolleta mineralization is sandstone hosted uranium of the “trend type” deposits found elsewhere in the Grants Mineral Belt, and hosted here in the Jackpile Sandstone member of the Jurassic Morrison formation. The deposits consist of multiple relatively thin (1-20 ft. thick) tabular zones of mineralization stacked vertically, and covering several hundred to 1000 ft. in plan extent, over 20 to 100 ft. vertically.

The resource estimates presented in this report are based on historical drilling for which sufficient information is available that allowed URRE to prepare digital drillhole databases of e  $U_3O_8\%$  data for the project, as the basis for mineral resource estimation.

The authors of this report have reviewed the basic geological and equivalent assay information that supports the database.

The confirmation work of surface sampling in the St. Anthony pits can be considered sufficient confirmation of chemical assays for the St. Anthony deposits; however, while there are historical reports of chemical assay confirmation for the Area I, II, III, IV, and V deposit areas, there is no URRE current chemical assay confirmation for those deposits. The authors accept the historical information as current information for use in resource estimation, with the caveat that further confirmation work as core drilling, is necessary to achieve a reportable resource beyond the current Inferred classification.

### 25.1 Results

The results of the current work to estimate mineral resources for Areas I-II-V and Area II of the Cebolleta project are presented in table 25.1.1 below, and total to 18,980,000 pounds of contained  $U_3O_8$ , at grades in excess of 0.16%  $U_3O_8$ ; are of sufficient interest to justify further work on the property. A Preliminary Economic Assessment (PEA) will be required to determine what portion of the total insitu mineral resources may potentially be mineable, and at what costs

**Table 25.1.1: Mineral Resources, Areas I-II-V and Area III, Cebolleta Project**

Area	Cutoff	e $U_3O_8\%$	Tons (k)	Tons $U_3O_8$ (k)	$U_3O_8$ lbs (k)
Area I-II-V	0.08	0.173	4,564	7.874	15,748
Area III	0.08	0.162	998	1.616	3,232

### 25.2 Significant Risks and Uncertainties

As with most projects at this stage of exploration and resource definition, there are risks and uncertainties associate with further pursuits of the project as outlined below.

#### 25.2.1 Exploration

URRE intends to conduct exploration and confirmation drilling, as core drilling, for the Cebolleta project area. That drilling will have multiple purposes:

- In-fill confirmation drilling to confirm the various mineralized zones and deposits by a) gamma logs, and b) chemical assays of core;
- Core samples will also provide samples for further metallurgical testing; and

- Selected core holes may be converted to water monitor wells to better establish the hydrogeological characteristics of the project area

There are risks associated with in-fill drilling for confirmation purposes. The authors suggest targeted 5-spot drilling, as drill holes placed between 4 other holes to best test for similar zones and tenor of mineralization. There is no guarantee that the 5-spot drilling will encounter mineralization similar to surrounding holes, which may result in the need for additional drillholes

### **25.2.2 Mineral Resource Estimate**

The current mineral resource estimates are based on the authors' hole-to-hole correlations of mineralization, which are based loosely on geology, as the lithologies are sand-on-sand and so lithological correlations hole-to-hole were not made for this level of resource modeling. This approach may result in some mis-correlations of zones. Future more in-depth resource estimation should endeavor to include drillhole lithological information to incorporate in the geological model.

### **25.2.3 Metallurgy and Processing**

Additional metallurgical testing is desirable to a) determine if historical reports of potentially milling issues do indeed exist, and b) if there is an optionally potential for heap leach processing of Cebolleta mineralization.

### **25.2.4 Foreseeable Impacts of Risks**

The impacts of exploration in-fill confirmation drilling are deemed minimal in terms of possible changes to the global quantum of mineral resources; however, the impact, if the drilling is confirmatory, can be significant with respect to the classification of mineral resources. The authors are of the opinion that the existing drilling pattern density is sufficient to allow for a significant portion of the current Inferred mineral resources to be classified as Indicated, once confirmation chemical assays are in hand for Area I-II-V and Area III.

The impacts of further metallurgical testing are a moderate risk factor for the project with respect to the potential for heap leach recovery of uranium, as the potential for heap leaching Cebolleta mineralization is currently unknown. Further metallurgical testing will likely have a lesser risk associated with the potential for mill processing of Cebolleta mineralization, as milling was conducted successfully by Sohio and Anaconda on the adjoining properties.



## 26 Recommendations (Item 26)

The following recommendations are those of the authors of this report, and may or may not coincide with the current plans of URRE.

The Cebolleta Project has current CIM compliant Inferred mineral resources of a combined 18,980,000 pounds of contained  $U_3O_8$  in the four deposits thus far modeled and estimated. The total quantity and grade of the uranium mineralization is sufficient to justify a program and budget to advance the project. The proposed program to advance the Cebolleta project consists of the following:

- Exploration and confirmation drilling;
- Resource re-estimation after completion of confirmation drilling;
- Initial resource estimation for the St. Anthony deposits;
- Metallurgical test work to examine options for processing the mineralization;
- Geotechnical and hydrogeological studies; and
- A scoping level study to determine conceptual mining and processing options and potential project economics.

### Exploration Drilling

While there is potential for the discovery of additional uranium mineralization within the lands that comprise the Cebolleta uranium project, exploration is considered to be a low priority activity of URRE at this time. Additional exploration work is necessary in the area near the former boundary between the St. Anthony and Sohio L-Bar mines prior to determining a resource estimate for the St. Anthony deposits, and there is no guarantee a resource estimate will be realized. This area adjoins the south boundary of the Area II-V deposits, and drilling in this area will be exploration drilling as part of an intended confirmation drilling program.

### Confirmation Drilling

URRE has a drilling program permit -for approximately 80 holes, which are intended to be in-fill confirmation core holes for the following purposes: a) confirmatory gamma-logging to verify existing historical data, b) core samples for chemical assays to compare with gamma  $eU_3O_8\%$  data and to provide disequilibrium information, c) core samples for metallurgical testing, d) core hole logs and samples that can be used for geotechnical studies, and e) holes that perhaps can be converted to water monitor wells for hydrogeological studies.

### Resource Estimation and Updates

Upon completion the Company's currently proposed and permitted exploration and confirmation drilling program, a re-estimate of mineral resources is recommended for Areas I, II, III, and IV. Mineral resources as currently defined at the Cebolleta project have been classed as "Inferred". A re-model of the Area I, II, III and V deposits, with the addition of the above discussed drilling, will have the objective of raising the confidence levels of a significant proportion of the mineral resource to the "Indicated" classifications "category". In addition, the new drilling should be incorporated with digitized historical geological data for St. Anthony, to allow for initial resource estimation by current industry standards of the St. Anthony mineralization.

The proposed confirmation drilling should be done as 5-spot in-fill drilling, targeted to specific areas and mineralized zones for each deposit area, based on information from the geological/block models.

### **Metallurgical Testing**

As the Cebolleta project uranium mineralization is situated above the water table and is associated to some extent with organic carbonaceous material (occasionally described as humate), the project is not considered a candidate for in situ recovery of uranium. There has been some discussion, but no formal studies, regarding the possibility of heap leach processing of the sandstone-hosted uranium mineralization from the project. Given the distance of the project from the only existing uranium processing mill in the US, and the costs and time required to permit and construct an on-site uranium processing plant, an evaluation of the potential for heap-leach recovery of uranium from the Cebolleta uranium deposits should be considered to be a high priority objective of the Company. A metallurgical testing program to address potential for heap leach recovery is recommended.

### **Environmental Permitting**

Considerable effort has been directed toward the assessment of environmental conditions in the project area, particularly relating to the collection of biological and cultural resource data in areas of proposed drilling. The Company has also prepared and submitted to appropriate regulatory agencies of the State of New Mexico a Sampling and Analysis Plan, as the first step in applying for a mining permit. It is the authors' understanding that comments have been received regarding the draft plan, and it is a recommendation that any revisions and improvements in the draft plan be implemented after the completion of the drilling, resource modeling and metallurgical testing programs.

While there is an ongoing program of groundwater monitoring in the project area by both former owners Sohio and United Nuclear, there is a need, as outlined in the State response to the Company's prior submission of the Sampling and Analysis Plan, for additional water monitoring wells at the project. It is recommended that the Company convert a number of the proposed and properly located exploration confirmation drill holes to water monitoring wells upon completion of the drilling.

While advancing the mine permitting initiative is an important task, the details are beyond the scope of this Technical Report on Resources; therefore a general program and budget are recommended for this work.

### **Preliminary Economic Assessment (PEA)**

The culmination of the drilling and resource re-estimates with the results of metallurgical testing will allow for a scoping level study or preliminary economic assessment (PEA) to evaluate the potential project economics.

## **26.1 Recommended Work Programs and Costs**

The recommended Phase I Program and Budget are as follows. The recommended Phase I program will cost approximately \$1,700,000 and require 6 to 9 months to complete:

### **Phase I Program:**

- Drilling of 34 rotary holes for which 16 have a PQ size core hole "tails": confirmation gamma logs, confirmation chemical assays, metallurgical samples, and geotechnical studies;
- Mineral Resource re-estimates;
- St. Anthony modeling and resource estimation;

- Metallurgical test work; and
- Geotechnical studies and hydrogeological studies; and
- PEA Technical Report.

**Phase I Estimated Costs:**

<b>Proposed Program</b>	<b>Estimated Costs (\$)</b>
Drilling/sampling (all-in costs)	1,000,000
Deposit re-modeling/re-estimation	50,000
St. Anthony modeling/resource estimation	150,000
Metallurgical testing	200,000
Geotechnical and/or hydrogeological studies	150,000
PEA Technical Report	200,000
	<b>\$1,700,000</b>

**Phase II Program and Estimated Costs:**

Contingent upon the successful completion of Phase I work with positive results, the recommended Phase II program would be to proceed towards a Preliminary Feasibility Study (PFS) at an estimated cost of from \$750,000 to \$1,500,000. A Phase II program will involve detailed studies of metallurgical recoveries, mine planning and mine design, site infrastructure, hydrogeology, environmental/permitting, project capital and operating costs, and detailed project economic analysis. A PFS will require approximately 9 to 12 months to complete.

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## 28 Glossary

### 28.1 Mineral Resources

The mineral resources and mineral reserves have been classified according to the “CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines” (November 27, 2010). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, the Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth’s crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.

An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

A ‘Measured Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough to confirm both geological and grade continuity.

### 28.2 Mineral Reserves

A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

A ‘Probable Mineral Reserve’ is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

A 'Proven Mineral Reserve' is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

## 28.3 Definition of Terms

The following general mining terms may be used in this report.

**Table 26.3.1: Definition of Terms**

Term	Definition
Assay	The chemical analysis of mineral samples to determine the metal content.
Capital Expenditure	All other expenditures not classified as operating costs.
Composite	Combining more than one sample result to give an average result over a larger distance.
Concentrate	A metal-rich product resulting from a mineral enrichment process such as gravity concentration or flotation, in which most of the desired mineral has been separated from the waste material in the ore.
Crushing	Initial process of reducing ore particle size to render it more amenable for further processing.
Cut-off Grade (CoG)	The grade of mineralized rock, which determines as to whether or not it is economic to recover its gold content by further concentration.
Dilution	Waste, which is unavoidably mined with ore.
Dip	Angle of inclination of a geological feature/rock from the horizontal.
Fault	The surface of a fracture along which movement has occurred.
Footwall	The underlying side of an ore body or stope.
Gamma log	a down-hole graphical/digital log of gamma- radioactivity, an indirect measurement for the determination of uranium concentrations
Gangue	Non-valuable components of the ore.
Grade	The measure of concentration of gold within mineralized rock.
Hanging wall	The overlying side of an ore body or slope.
Haulage	A horizontal underground excavation which is used to transport mined ore.
Igneous	Primary crystalline rock formed by the solidification of magma.
Kriging	An interpolation method of assigning values from samples to blocks that minimizes the estimation error.
Level	Horizontal tunnel the primary purpose is the transportation of personnel and materials.
Lithological	Geological description pertaining to different rock types.
LoM Plans	Life-of-Mine plans.
Milling	A general term used to describe the process in which the ore is crushed and ground and subjected to physical or chemical treatment to extract the valuable metals to a concentrate or finished product.
Mineral/Mining Lease	A lease area for which mineral rights are held.
Mining Assets	The Material Properties and Significant Exploration Properties.
Mineral Resource	See Mineral Resource, Section 28.1
Ore Reserve	See Mineral Reserve, Section 28.2.
Pillar	Rock left behind to help support the excavations in an underground mine.
RoM	Run-of-Mine.
Sedimentary	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
Shaft	An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste.
Sill	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness.
Smelting	A high temperature pyrometallurgical operation conducted in a furnace, in which the valuable metal is collected to a molten matte or doré phase and separated from the gangue components that accumulate in a less dense molten slag phase.
Stope	Underground void created by mining.
Stratigraphy	The study of stratified rocks in terms of time and space.

Term	Definition
Strike	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
Sulfide	A sulfur bearing mineral.
Tailings	Finely ground waste rock from which valuable minerals or metals have been extracted.
Total Expenditure	All expenditures including those of an operating and capital nature.
Variogram	A statistical representation of the characteristics (usually grade).

## 28.4 Abbreviations

The following abbreviations may be used in this report.

**Table 26.4.1: Abbreviations**

Abbreviation	Unit or Term
AA	atomic absorption
°C	degrees Centigrade
CoG	cut-off grade
cfm	cubic feet per minute
ConfC	confidence code
CRec	core recovery
CTW	calculated true width
°	degree (degrees)
dia.	diameter
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
eU <sub>3</sub> O <sub>8</sub>	equivalent U <sub>3</sub> O <sub>8</sub> % analyses, as determined from gamma logs
ft	foot (feet)
ft <sup>2</sup>	square foot (feet)
ft <sup>3</sup>	cubic foot (feet)
g	gram
gal	gallon
gpm	gallons per minute
HTW	horizontal true width
ICP	induced couple plasma
ID2	inverse-distance squared
ID3	inverse-distance cubed
k	thousands (x 1,000)
lb	pound
Mt	million tons
MTW	measured true width
m.y.	million years
NI 43-101	Canadian National Instrument 43-101
OSC	Ontario Securities Commission
%	percent
PEA	Preliminary Economic Assessment
PLS	Pregnant Leach Solution
PFS	Preliminary Feasibility Study
ppb	parts per billion
ppm	parts per million
QA/QC	Quality Assurance/Quality Control
RC	rotary circulation drilling
RoM	Run-of-Mine
RQD	Rock Quality Description
SEC	U.S. Securities & Exchange Commission
sec	second
SG	specific gravity
st	short ton (2,000 pounds)
ton	short ton (2,000 pounds)

Abbreviation	Unit or Term
TSF	tailings storage facility
TSP	total suspended particulates
U	element uranium
U <sub>3</sub> O <sub>8</sub>	Formula for uranium oxide; the common way of reporting uranium concentrations by chemical analyses
µm	micron or microns
XRD	x-ray diffraction
y	year

## **Appendix A: Certificates of Authors**

## **Allan V. Moran**

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### **CERTIFICATE of AUTHOR**

- I, Allan V. Moran, a Registered Geologist and a Certified Professional Geologist, do hereby certify that:
- I am currently employed as an independent consulting geologist to the mining and mineral exploration industry, with an office address of 62463 E. Northwood Rd., Tucson, Arizona, USA, 85739.
- I graduated with a Bachelors of Science Degree in Geological Engineering from the Colorado School of Mines, Golden, Colorado, USA; May 1970.
- I am a Registered Geologist in the State of Oregon, USA, # G-313, and have been since 1978. I am a Certified Professional Geologist through membership in the American Institute of Professional Geologists, CPG - 09565, and have been since 1995.
- I have been employed as a geologist in the mining and mineral exploration business, continuously, for the past 43 years, since my graduation from university.
- I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101. The Technical Report is based upon my personal review of the information provided by the issuer. My relevant experience for the purpose of the Technical Report is:
  - Vice President and U.S. Exploration Manager for Independence Mining Company, Reno, Nevada, 1990-1993
  - Manager, Exploration North America for Cameco Gold Inc., 1988-2002
  - Exploration Geologist for Freeport McMoRan Gold, 1980-1988
  - Uranium exploration experience from 1975 to 1980 with Kerr McGee Resources, and Freeport Exploration
  - Experience in the above positions working with and reviewing resource estimation methodologies, in concert with resource estimation geologist and engineers.
  - As a consultant, I completed several NI 43-101 Technical reports, 2003-2013 relating to uranium deposits.
- I am responsible for the content, compilation, and editing of all sections of the technical report titled “NI 43-101 Technical Report on Resources, Cebolleta Uranium Project, Cibola County, Newmexico, USA”, and dated April 2, 2014 (the “Technical Report”) relating to URRE’s Cebolleta Uranium Project. I have personally visited the Project in the field on February 10, 2014.

- I have had prior involvement with the property that is the subject of the Technical Report, when it was owned by Neutron Energy, which is now part of URRE.
- I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, for which the omission to disclose would make the Technical Report misleading.
- I am independent of the issuer applying all of the tests in Item 1.5 of National Instrument 43-101.
- I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, of the Technical Report
- 
- Dated in Tucson, Arizona, April 2, 2014.

This signature was scanned for the exclusive use in this document, with the author's approval; any other use is not authorized

Allan V. Moran

(Signed)



(Sealed)



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**CERTIFICATE of AUTHOR**

- I, Frank A Daviess do hereby certify that:
- I am currently employed as an independent consulting geologist to the mining and mineral exploration industry, with an office address 1549 Genesee Vista Rd, Golden, CO, 80401
- I graduated from the University Of Colorado, Boulder, Colorado, USA with a B.A. in Geology in 1971 and a M.A. in Natural Resource Economics and Statistics in 1975
- I am a Member of the Australasian Institute of Mining and Metallurgy (Registration No. 226303).
- I am a Registered Member of the Society for Mining, Metallurgy and Exploration, Inc. (Registration No. 0742250).
- I have been employed as a geologist in the mining and mineral exploration business, continuously, for the past 31 years, since my graduation from university.
- I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with professional associations (as defined in NI 43-101) and past relevant work experience I fulfill all the requirements to be a “qualified person” for the purposes of NI 43-101. I have authored sections of the Technical Report. The Technical Report is based upon my personal review of the information provided by the issuer. My relevant experience for the purpose of input to the Technical Report is:
  - Specialization in the estimation, assessment and evaluation of mineral resources including uranium since 1975.
  - Specialization in uranium resource estimation experience as an Ore Reserve Analyst, US Department of Energy, Resource Division, Grand Junction, CO, 1975-1978
- I am responsible for the Mineral Resource section (Section 14) of the technical report titled “Updated NI 43-101 Technical Report on Resources, Cebolleta Uranium Project, Cibola County, Arizona, USA”, and dated April 2, 2014 (the “Technical Report”) relating to URRE’s Cebolleta Uranium Project. I have personally not visited the project site in the field.
- I have had prior involvement with the property that is the subject of the Technical Report, when it was owned by Neutron Energy, which is now part of URRE.
- As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
- I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, for which the omission to disclose would make the Technical Report misleading.
- I am independent of the issuer applying all of the tests in Item 1.5 of National Instrument 43-101.

- I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, of the Technical Report.

Frank A. Daviess

Dated in Denver, Colorado, April 2, 2014

Signature of Co-Author

Frank Daviess

Resource Geologist

("Signed")

