



# **UPDATED TECHNICAL REPORT BURKE HOLLOW URANIUM PROJECT Bee County, Texas, USA**

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## **NI 43-101 Technical Report**

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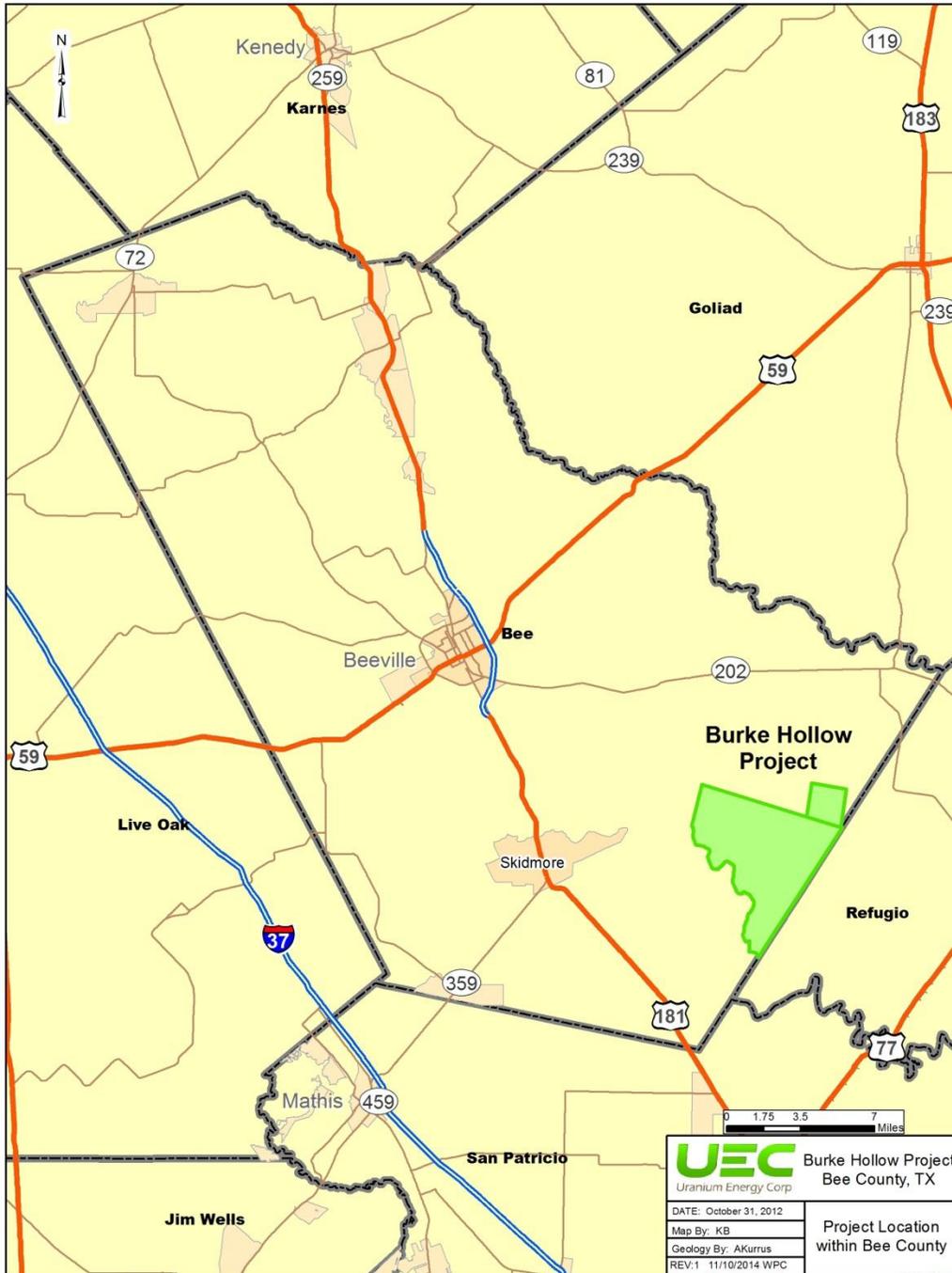
# 1 EXECUTIVE SUMMARY

This Technical Report was prepared for Uranium Energy Corporation (UEC or the Company) in order to present updated results from two exploration and trend delineation drilling campaigns at the company's Burke Hollow Uranium Project in southeastern Bee County, Texas. The primary author of this report was Andrew W. Kurrus III, P. G., with section 14 written by Neal Kunkel, Exploration Geologist. The report was written under the direction of Clyde Yancey, P.G. "a qualified person" as defined by CSA National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) and described in Section 28.

An earlier, independent NI 43-101 Technical Report was released in February 2013, entitled Technical Report on the Burke Hollow Uranium Project, Bee County, USA, under the direction of the primary author Thomas Carothers, P.G., with Section 14 authored by Bruce Davis, FAusIMM, and Robert Sim, PGeo. This report is filed on the SEDAR website and can be viewed or downloaded in its entirety.

This updated report summarizes the geology and uranium resources resulting from UEC's three drilling campaigns at Burke Hollow Project, the first beginning in May, 2012, with the final concluded on September 30, 2014. A total of 526 uranium exploration drill holes, including 30 monitor wells, have been completed to date at Burke Hollow.

The UEC Burke Hollow Project uranium property is located in southeastern Bee County, Texas (Figure 1-1) and consists of two in-situ uranium mining leases that comprise 19,335 net acres (approximately 30.21 sq. miles). A 1,825 acre lease located north of and immediately adjacent to Burke Hollow was added in 2012. Nufuels Corporation (Nufuels), formerly Mobil Uranium, had conducted a limited exploration program in 1982 consisting of 18 holes drilled on or near this property, showing the presence of a reduction-oxidation interface in sands of the lower Goliad Formation. Total Minerals Corp. (Total) conducted a short reconnaissance exploration program over a small portion of the current leased area in 1993. Twelve exploration holes were drilled on the current UEC property, with eleven holes displaying elevated gamma-ray log responses indicating the potential presence of uranium mineralization in sands of the upper Goliad Formation A and B members. UEC acquired these logs and other relevant data in conjunction with the purchase of a large data base in 2011.



**Figure 1-1: Burke Hollow Project Location**

UEC's Burke Hollow Project is located within the Interior Coastal Plains sub-province of the Gulf Coastal Plains physiographic province. The geology is characterized by Tertiary age sedimentary units that dip and thicken toward the Gulf of Mexico. Uranium mineralization in South Texas is hosted by at least seven sandstone members of Tertiary formations ranging in age from Eocene (oldest) to Lower Pliocene (youngest). The presence of a strong reductant, probably methane gas and locally, carbonized wood fragments caused significant areas of reducing conditions in various sand members of the Goliad Formation. Uranium-bearing, oxidizing groundwater which migrated from up-dip formations is believed to be the source of uranium which precipitated along boundaries between oxidized and reduced sands in the Goliad Formation forming the uranium mineralization at Burke Hollow Project.

UEC's 2013 and 2014 exploration drilling campaigns which post-date the initial Technical Report (Carothers et al., 2013) consisted of 228 exploration drill holes and 30 regional baseline monitor wells totaling 117,845 feet of drilling. The average drill depth of the holes was 457'. The 2013 and 2014 drill campaigns, coupled with the initial 2012 drill campaign, resulted in 526 holes being drilled, totalling 246,400 feet of drilling to date.

Two exploration target areas were identified in UEC's 2012 NI 43-101 Technical Report for the Burke Hollow Project (Carothers et al., 2013). These are known as the Southern Target Area, and an Eastern Target Area. Little exploration activity has occurred to date along the southern half of Burke Hollow Project where the Southern Exploration Target area lies; whereas, the Eastern Exploration Target was substantiated by drilling during the 2014 campaign, resulting in the discovery and delineation of the Eastern Lower B1 and B2 trends. Additional exploration and delineation drilling were also concentrated along the previously discovered and reported Graben trends (Carothers et al., 2013).

The results of historic and contemporary borehole gamma-ray, spontaneous potential, and resistance logs, as well as prompt fission neutron (PFN) logs indicate that uranium mineralization occurs in the upper to lower Goliad Formation sand/sandstone units below the water table at depths from approximately 180 to 1100 feet below ground surface (bgs). Evaluation of existing average grade of uranium mineralization and the depth of mineralized zones indicate in situ recovery (ISR) would likely be the most suitable mining method for this project.

Based on the results of the UEC focused exploration drilling and wider spaced exploration drilling at the Burke Hollow project between 2012-2014, an Inferred Mineral Resource of 2,896,961.14 tons grading 0.089%  $\text{pU}_3\text{O}_8$  (Prompt Fission Neutron determination) containing approximately 5.12 million pounds  $\text{U}_3\text{O}_8$  in the combined Graben and Eastern Lower B trends has been estimated at the UEC project (Table 1.1).

Due to the uncertainty that may be attached to this Inferred Mineral Resource, it cannot be assumed that all or any part of this estimated Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. This Inferred Mineral Resource must be excluded from estimates forming the basis of feasibility or other economic studies.

A review of the sample collection and analysis practices used during the various drilling campaigns indicates that this work was conducted using procedures which are accepted within the industry. Review of the historic data and information indicates gamma probe and chemical assay (PFN geophysical logging tool) procedures were carefully calibrated and compared. Correction for differences between equivalent and chemical assay (disequilibrium) was properly applied. Similarities that exist between historic drilling data (location, style and tenor) suggest that there is no reason to question the results from the Total 1993 and Nufuels 1982 drilling programs. It is Clyde Yancey's opinion that the sample database is of sufficient accuracy and precision to generate a mineral resource estimate.

Average bulk density values, based on available data from other UEC operations in the area, were used to estimate resource tonnage.

The resources were classified by their proximity to sample locations and are reported according to the Canadian Institute of Mining, Metallurgy and Petroleum's definition standards on Mineral Resources and Reserves.

The mineral resource estimates shown below were calculated using the GT (Grade x Thickness) contour method. The GT values of the subject sand intervals for each hole were plotted on a drill hole location map and contour lines were drawn. The areas within the GT contour boundaries were used for calculating resource estimates utilizing the following criteria:

The minimum grade cutoff was selected to be 0.02% pU3O8. The mineral resources are reported based on a grade thickness (GT) cutoff of 0.30 and a density factor of 17 cubic feet per ton. The 0.30 GT cutoff was selected for reporting purposes and is presented in Table 1.1, as is summarized across the various trends. As required under NI 43-101, mineral resources must exhibit reasonable prospects for economic viability. These assumptions are derived from operations with similar characteristics, scale and location. Note that the Inferred Mineral Resources stated below are not mineral reserves as they have not demonstrated economic viability.

Table 1-1

Summary of Burke Hollow Inferred Mineral Resources (PFN)*						
Trend	Area (ft <sup>2</sup> )	Average Thickness (Ft)**	Average Grade pU <sub>3</sub> O <sub>8</sub> (%)	Average GT ( 0.02 Cutoff)	Contained pU <sub>3</sub> O <sub>8</sub> (lbs)	Tons
Lower A1(Graben)	1,287,077.0	11.0	0.097	1.079	1,624,844.62	837,548.77
Lower A2 (Graben)	271,257.9	8.8	0.073	0.514	163,129.09	111,732.26
Upper B (Graben)	627,764.6	7.7	0.063	0.489	359,162.96	285,049.97
Lower B1 (Graben)	470,064.2	9.5	0.091	0.885	486,728.00	267,432.97
Lower B2(Graben)	413,643.3	9.5	0.091	0.846	409,432.40	224,962.86
<b>Graben Totals</b>					<b>3,043,297.07</b>	<b>1,726,726.82</b>
Lower B1 (East Side)	1,026,492.6	9.2	0.093	0.863	1,036,459.81	557,236.46
Lower B2 (East Side)	1,082,236.5	9.4	0.085	0.823	1,042,096.37	612,997.86
<b>East Side Totals</b>					<b>2,078,556.18</b>	<b>1,170,234.32</b>
<b>Graben and East Side (Project) Totals</b>					<b>5,121,853.25</b>	<b>2,896,961.14</b>
*All grade values are based on Prompt Fission Neutron ("PFN") logging and denoted by pU <sub>3</sub> O <sub>8</sub>						
**Rounded to nearest tenth of a foot						

There are no known factors relating to environmental, permitting, legal title, taxation, socio-economic, marketing or political issues which could materially affect the mineral resource estimates.

### ***Conclusions***

Based on the recent assembly and verification of data by UEC on the Burke Hollow Project, the following conclusions can be made:

- The level of understanding of the geology is relatively good.
- The practices used during the historic and current exploration drilling programs were conducted in a professional manner and adhered to accepted industry standards.
- There are no evident factors that would lead one to question the integrity of the database.
- A significant uranium deposit has been outlined. Uranium mineralization is concentrated in fluvial Goliad Formation sands along the boundary between oxidizing and reducing groundwater.
- Drilling to date has outlined an Inferred Mineral Resource (at a 0.02% pU<sub>3</sub>O<sub>8</sub> cut-off grade) in the Graben trends of 1,726,726 tons at an weighted average grade of 0.083% pU<sub>3</sub>O<sub>8</sub> containing an estimated 3.04 million pounds of U<sub>3</sub>O<sub>8</sub>, and an estimated 1,170,234 tons of 0.089% pU<sub>3</sub>O<sub>8</sub> containing an estimated 2.08 million pounds of U<sub>3</sub>O<sub>8</sub> within the Eastern Lower B trends.
- The initial Technical Report defined two areas within the Project area as Exploration Targets, with the potential to contain resources ranging between 1.8 million and 7.2 million pounds with grades between 0.03% U<sub>3</sub>O<sub>8</sub> and 0.06% U<sub>3</sub>O<sub>8</sub> across both areas (Carothers et al, 2013). The Eastern Exploration Target was, in part, the focus of the most recent drilling campaign which determined that a mineralized trend was present over approximately 2 miles within the “target area”, now containing an inferred resource of 2.08 million pounds in the Eastern Lower B1 and B2 Trends as shown in the resource table above. The second Exploration Target or Southern area has not yet been investigated and remains a viable target. It must be stressed that an Exploration Target is extremely conceptual in nature; there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the ability to estimate uranium mineral resources.
- Current drilling to date has identified two additional potential areas within the Project boundaries, these being the Lower Goliad target and the Lower B target. Both of these areas have mineralized trends with strong grade to thickness products

warranting additional drilling. The Lower B target extends over 4.3 miles and the Lower Goliad target extent is unknown at this time.

### ***Recommendations***

The following actions are recommended for the Burke Hollow Project:

- Additional drilling to expand confirmation results from drilling in the Inferred resource area, the Exploration Target and potential areas of the deposit. Both PFN logging with supporting chemical assay used for confirmation of grade; includes drilling field crew support, and lease road maintenance. A budget of US \$1,033,200 has been proposed to complete this work (Table 1.2).
- Assays, leach testing to include amenability and bulk density determinations. A budget of US \$8,800 has been proposed to complete this work and is incorporated in the budget presented below (Table 1.2).
- An aquifer pumping test is recommended to satisfy regulatory assessment. A budget of US\$15,000 has been proposed to complete this work (Table 1.3).

Recommended drilling and assaying will aim to further confirm current and historic results and upgrade the classification of resources in some areas. The Prompt Fission Neutron (PFN) logging will continue to be used as the primary indicator of chemical  $U_3O_8$  grade,  $pU_3O_8$ , of mineralized intercepts.

**Table 1-2: Exploration Budget**

<b>Burke Hollow Cost Summary 3 Rigs (120 Holes)</b>	
<b>Cost description</b>	<b>Budget</b>
<b><u>EXPLORATION</u></b>	
Total Est. Rig Cost	\$422,900.00
RRC Hole Charge	\$6,000.00
Surface Damages	\$36,000.00
Est. Cement Cost	\$122,600.00
Est. Chemicals Cost	\$52,200.00
Est. Bit Cost	\$8,500.00
Est. Fuel Cost	\$10,300.00
Est. Labor and Equipment Cost	\$314,300.00
Est. Lodging Cost	\$16,000.00
Est. Roads Maintenance Cost	\$4,000.00
Est. Mechanical Cost	\$10,900.00
Misc. Field	\$2,000.00
Lab Costs (coring)	\$8,800.00
Hourly Staff	\$18,700.00
<b>Total</b>	<b>\$1,033,200.00</b>

**Table 1-3: Environmental Budget**

Item	Cost (USD)
Aquifer Pumping Test	\$15,000.00
Total	\$15,000.00

## 2 INTRODUCTION

The following Technical Report was produced for Uranium Energy Corporation (UEC or the Company) by UEC geologists Andrew Kurrus, Neal Kunkel, Ricky Sturm, Eric Waite, and other employees of UEC with the objective of presenting an updated mineral resource estimate for the Burke Hollow Uranium Project based on drill data collected in two campaigns completed since the initial technical report (Carothers, et al, 2013). Clyde Yancey, P. G., is a “qualified person”, within the meaning of NI 43-101, and is responsible for the supervision of the preparation of this Technical Report which has been prepared in accordance with NI 43-101 and Form 43-101F1.

Clyde Yancey, P.G., visited the site on June 4, 2014, inspected uranium mineralization in drilling cuttings and core samples, reviewed sampling procedures, inspected historical information and visited selected drill sites.

To prepare this Technical Report, the authors relied on geological reports, maps and miscellaneous technical papers listed in the References section of this Technical Report. This report is based on drilling and sampling data completed on October 6, 2014. The resource model, including subsequent validation and review, was completed in October 2014. All currency in this report is expressed in US dollars (US\$) unless otherwise noted.

The effective date for the mineral resource estimate is October 6, 2014.

### 2.1 LIST OF ABBREVIATIONS AND ACRONYMS

.txt	text file
°F	degree Fahrenheit
ASCII	American Standard Code for Information Interchange
Bgs	Below Ground Surface
Cm	Centimeter
Cps	counts per second
Dpi	dots per inch
Ft	Foot
ft <sup>2</sup>	square foot
ft <sup>3</sup> /t	cubic foot per short ton
g/l	grams per liter
gpm	Gallons per minute
gpt	grams per tonne

Ha	Hectare
In	Inch
KB	Kilobyte
Kg	Kilogram
Ktons	Kilotons
Lbs	Pounds
MB	Megabyte
	million tons
Mtons	
PFN	prompt fission neutron
Ppm	parts per million
pU <sub>3</sub> O <sub>8</sub>	Uranium grade derived from PFN
QA/QC	quality assurance/quality control
t/m <sup>3</sup>	tonnes per cubic meter
TIFF	tagged image file format
Tpd	tons per day
US\$	US dollar

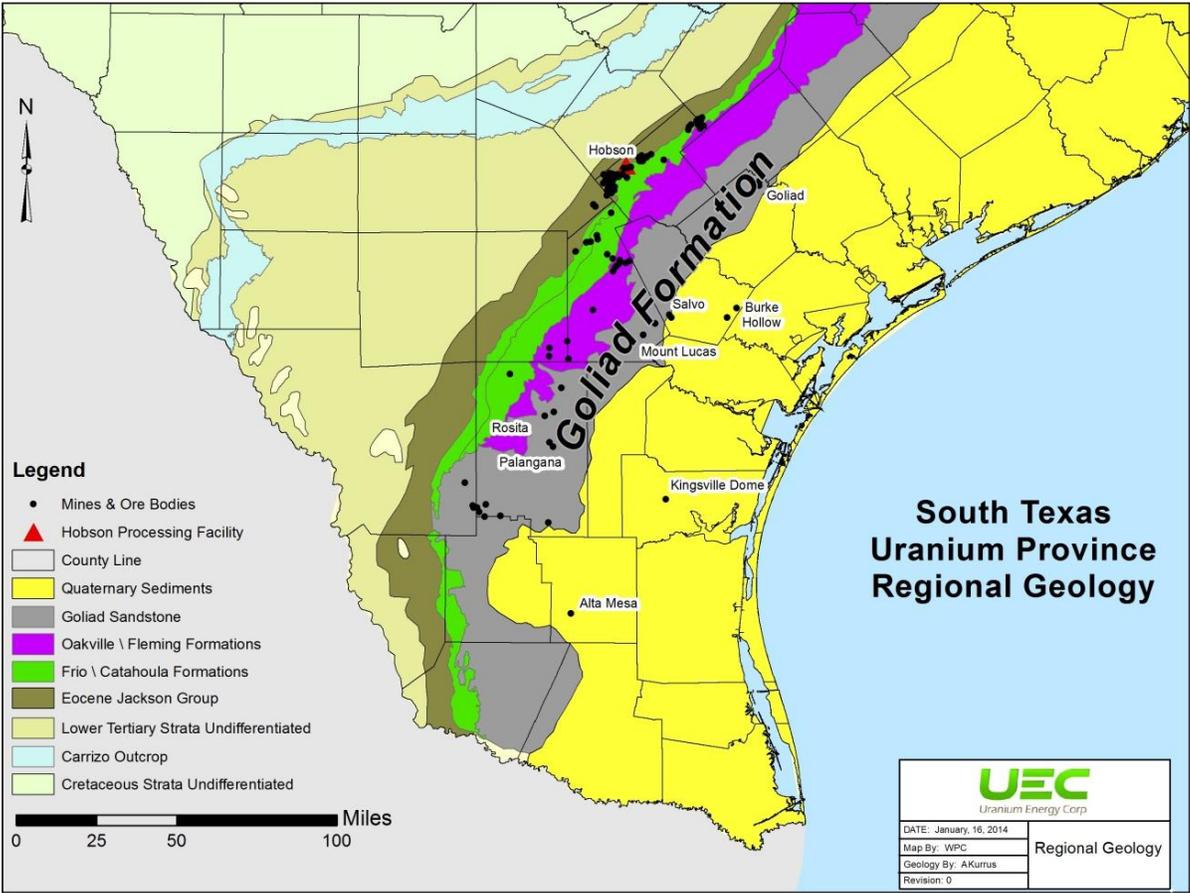
The primary sources of information and data utilized in the preparation of this technical report are extracted from the UEC database of the 2012-14 exploration drilling, geophysical logs, maps, cross sections, reports and personal discussions with UEC exploration staff. Twelve exploration drill holes completed in 1993 by Total and 18 exploration drill holes completed in 1982 by Nufuels were also utilized in the geologic modeling but not included in the resource estimate.

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

For the purpose of Part 4 (Property Description and Location) of this report, the primary author and qualified person relied on the ownership data (mineral, surface and access rights) provided by UEC (Leonard Garcia, Land Manager, 2014). The authors and qualified person believe that this data and information are essentially complete and correct to the best of their knowledge, and that no information has been intentionally withheld that would affect the conclusions made herein. The authors have not researched the property title or mineral rights for the Burke Hollow Project, and express no legal opinion as to the ownership status of the property.

## **4 PROPERTY DESCRIPTION AND LOCATION**

UEC's Burke Hollow Project property is located within the extensive South Texas Uranium Province (Figure 4-1). The Burke Hollow Project now consists of a 19,335 acre lease area, after the addition of the 1,825 acre Welder lease which was taken in December 2012. This lease area would allow the mining of uranium by ISR methods while utilizing the land surface (with variable conditions) as needed, for mining wells and above ground surface facilities for fluid processing and uranium production during the mining and groundwater restoration phases of the project. The UEC Burke Hollow Project area is about 18 miles southeast of the town of Beeville, and is located on the western side of US 77 (Figure 4-2), and is located northeasterly of US 181 which links with US 59 in Beeville. The approximate center of the Burke Hollow Project lease is located at latitude 28.2638 and longitude -97.5176, in decimal degrees. Site drilling roads are entirely composed of caliche and gravel, allowing access for trucks and cars in most weather conditions. Four-wheel drive vehicles may be needed during high rainfall periods.



**Figure 4-1: South Texas Uranium Province**

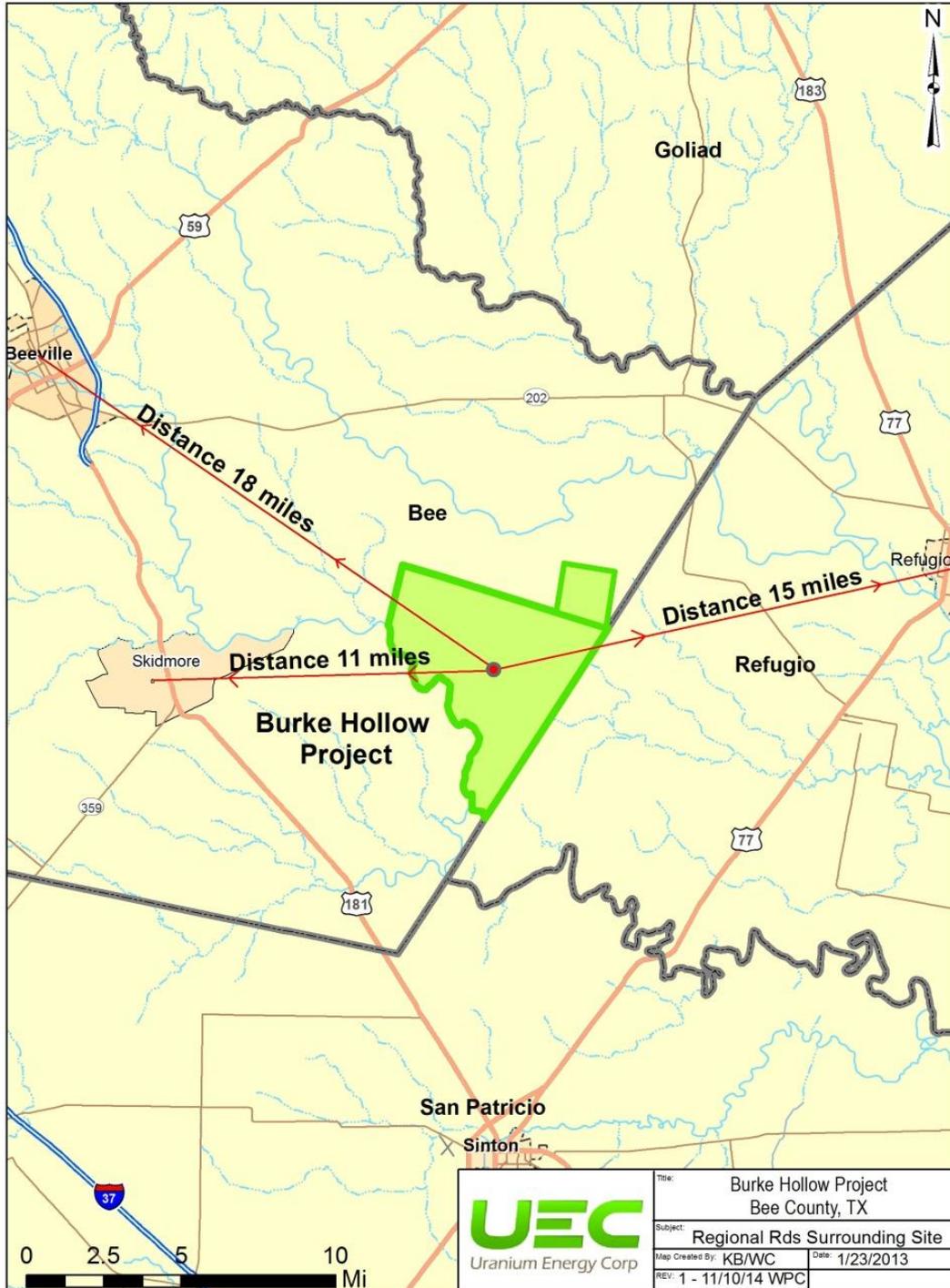


Figure 4-2: Location Map with Regional Roads

Virtually all mining in Texas is on private lands with leases negotiated between mining companies, and each individual landowner/mineral owner. The Burke Hollow Project consists of two leases comprised of 19,335 acres.

A 17,510 acre lease agreement was made with Thomson-Barrow Corporation as mineral owner and Burke Hollow Corporation as surface owner on February 21, 2012 (Figure 4-3). The lease is a paid-up lease for a primary term of five years and allows for an extension term of an additional five years and so long thereafter as uranium or other leased substances are being produced. The lease has various stipulated fees for land surface alterations, such as per well or exploration hole fees (damages). The primary lease stipulation is the royalty payments as a percentage of production. Because the lease is negotiated with a private land and mineral owner and none of the property is located on government land, some of the details of the lease information and terms are considered confidential.

The 1,825 acre Welder lease was taken on December 15, 2012. Terms are similar to Thomson-Barrow Corporation lease. The lease is a paid-up lease for a primary term of five years and allows for an extension term of an additional five years and so long thereafter as uranium or other leased substances are being produced. The lease has various stipulated fees for land surface alterations, such as per well or exploration hole fees (damages), but grants egress for exploration and production activities. The primary lease stipulation is the royalty payments as a percentage of production.

At this time, UEC is not aware of any environment liabilities to which the property is subject.

UEC has completed all the required environmental baseline studies required for the Mine Area, Aquifer Exemption, and Radioactive Material License applications. The studies include cultural resources, archeology, socioeconomic, soil, flora, fauna, and radiological surveys. At this time, UEC is not aware of any environmental liabilities on the property.

To date, all submitted applications for the Burke Hollow Project have moved past the administrative review and are under technical review with the Texas Commission on Environmental Quality (TCEQ). Applications under technical review include the Mine Area, Aquifer Exemption, the Radioactive Material License, and two Class I Waste Disposal Well applications.

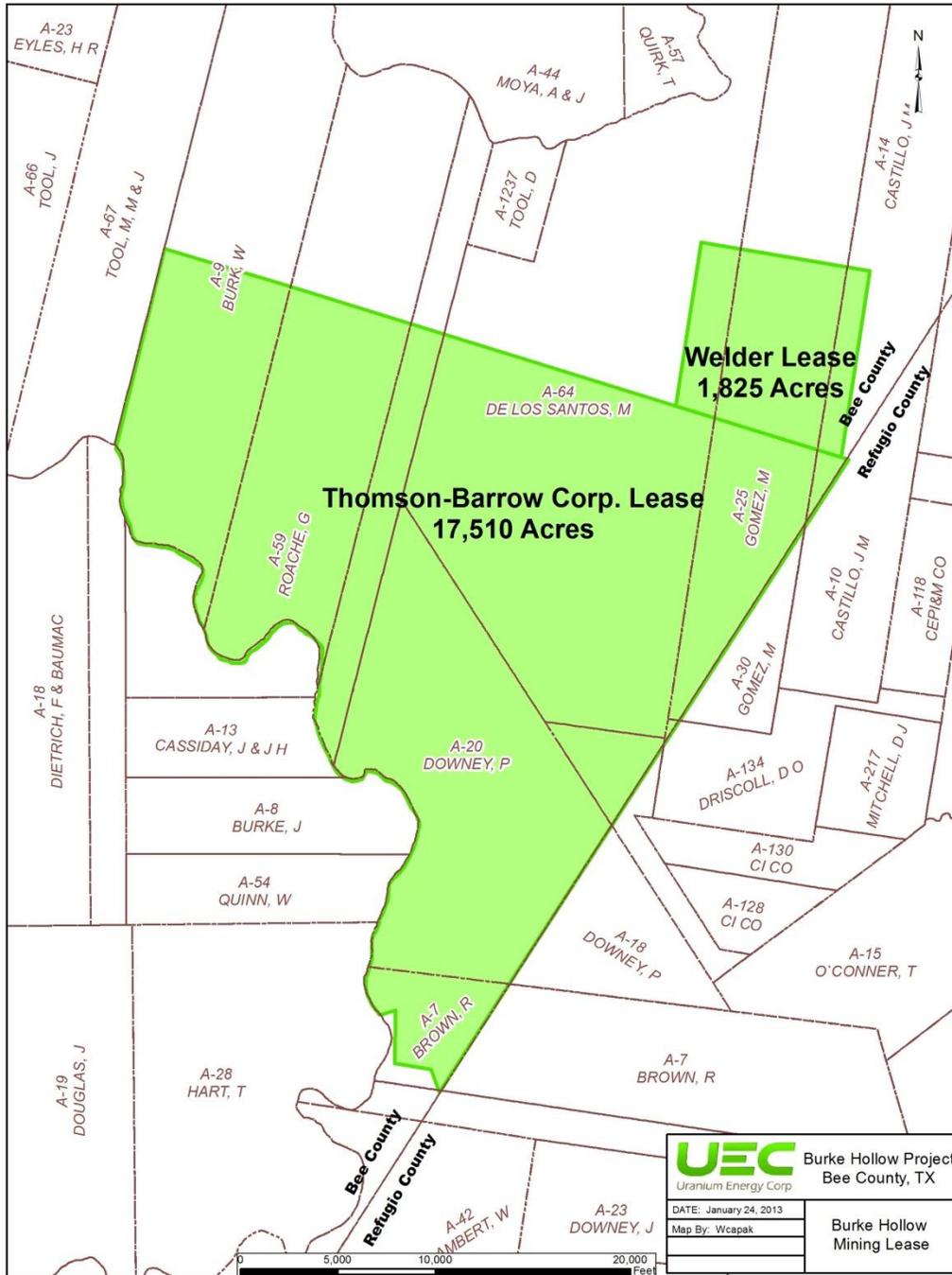


Figure 4-3: Updated Burke Hollow Project Area

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

The Burke Hollow Project area is situated in the interior portion of the Gulf Coastal Plain physiographic province (Texas Bureau of Economic Geology, 1996). The area is characterized by rolling topography with parallel to sub-parallel ridges and valleys. There is a maximum of 47 feet of relief at the site with ground surface elevations ranging from a low of 92 feet to a high of 139 feet above mean sea level. The leased property for the Burke Hollow Project is used mostly for petroleum production, ranching, and game management. Access by vehicular traffic is provided from Hwy. 77 into the property by private gravel roads.

The property is in a rural setting in southeastern Bee County. The nearest population centers are Skidmore, approximately 11 miles west, Refugio about 15 miles east, and Beeville approximately 18 miles northwest. While Skidmore and Refugio are relatively small towns, they provide basic needs for food and lodging and some supplies. Beeville is a much larger city and provides a well-developed infrastructure that has resulted from being a regional center to support oil and gas exploration and production. The Burke Hollow Project site area has good accessibility for light to heavy equipment. There is an excellent network of county, state, and federal highways that serve the region and the moderate topography with dominantly sandy, well-drained soils provide good construction conditions for building gravel site roads necessary for site access. Water supply in the project area is from private water wells, mostly tapping sands of the Goliad Formation. Water needs for potential future mine development would be from the same sources.

Bee County has a climate characterized by long, hot summers and cool to warm winters. Figure 5-1 is a graph showing the average maximum, minimum, and average temperatures and annual precipitation at Skidmore for a 105 year period of record from 1909 to 2014. The moderate temperatures and precipitation result in excellent conditions for developing an ISR mine. The average annual precipitation is about 32 inches with the months from November to March normally the driest and May through October typically having more precipitation due partly to more intense tropical storms. From June through September the normal high temperatures are routinely above 90 degrees Fahrenheit, while the months from December through February are the coolest with average low temperatures below 50 degrees Fahrenheit. Periods of freezing temperatures are generally quite brief and infrequent. Tropical weather from the Gulf of Mexico can occur during the hurricane season and may affect the site area with large rain storms. The infrequent freezing weather and abnormally large rainfalls are the primary conditions that could cause temporary shutdowns at an operating ISR mine. Operations can be conducted year around.

The necessary surface use agreements for constructing the processing facilities are in-place on selected lease agreements. Sufficient electric power is available in the area, however, new lines may be needed to bring additional service to a plant site and well fields. Within

a 20 mile radius of the planned Burke Hollow facility there is sufficient population to supply the necessary number of suitable mining personnel.

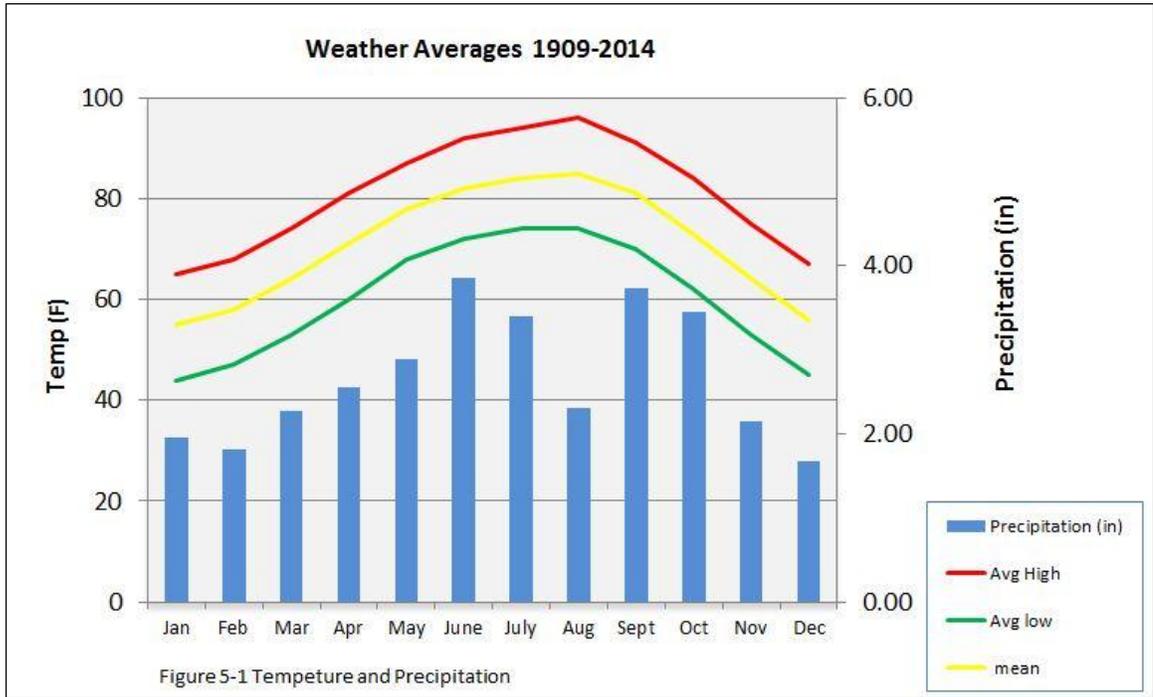


Figure 5-1: Temperature and Precipitation Averages

## **6 HISTORICAL EXPLORATION**

The earliest known uranium exploration in the immediate area of the Project was performed by Nufuels Corporation (Mobil Uranium) in 1982. Nufuels drilled a total of 18 exploration holes on or nearby UEC's 1,825 acre Welder lease. These holes were drilled in conjunction with a larger regional program which was conducted by Nufuels. Each exploration hole was drilled to an average total depth of approximately 1100' in order to test the entire prospective Goliad Formation. UEC acquired copies of the Nufuels logs through its purchase of Total Minerals' data base.

Following Nufuels, in 1993, Total Minerals conducted a short reconnaissance exploration drilling program on the Thomson-Barrow lease. Total drilled a total of 12 holes on permitted acreage that they negotiated for exploration. Eleven of the 12 drill holes intersected anomalous gamma ray log signatures indicative of uranium mineralization.

The historic data package obtained by UEC for portions of the current Burke Hollow Project area provided the above described information. Based on the limited number of drill holes, no meaningful resource or reserve determination was made by Total or Nufuels. The actual drilling and geophysical logging results however, have been determined to be properly conducted according to current industry standards.

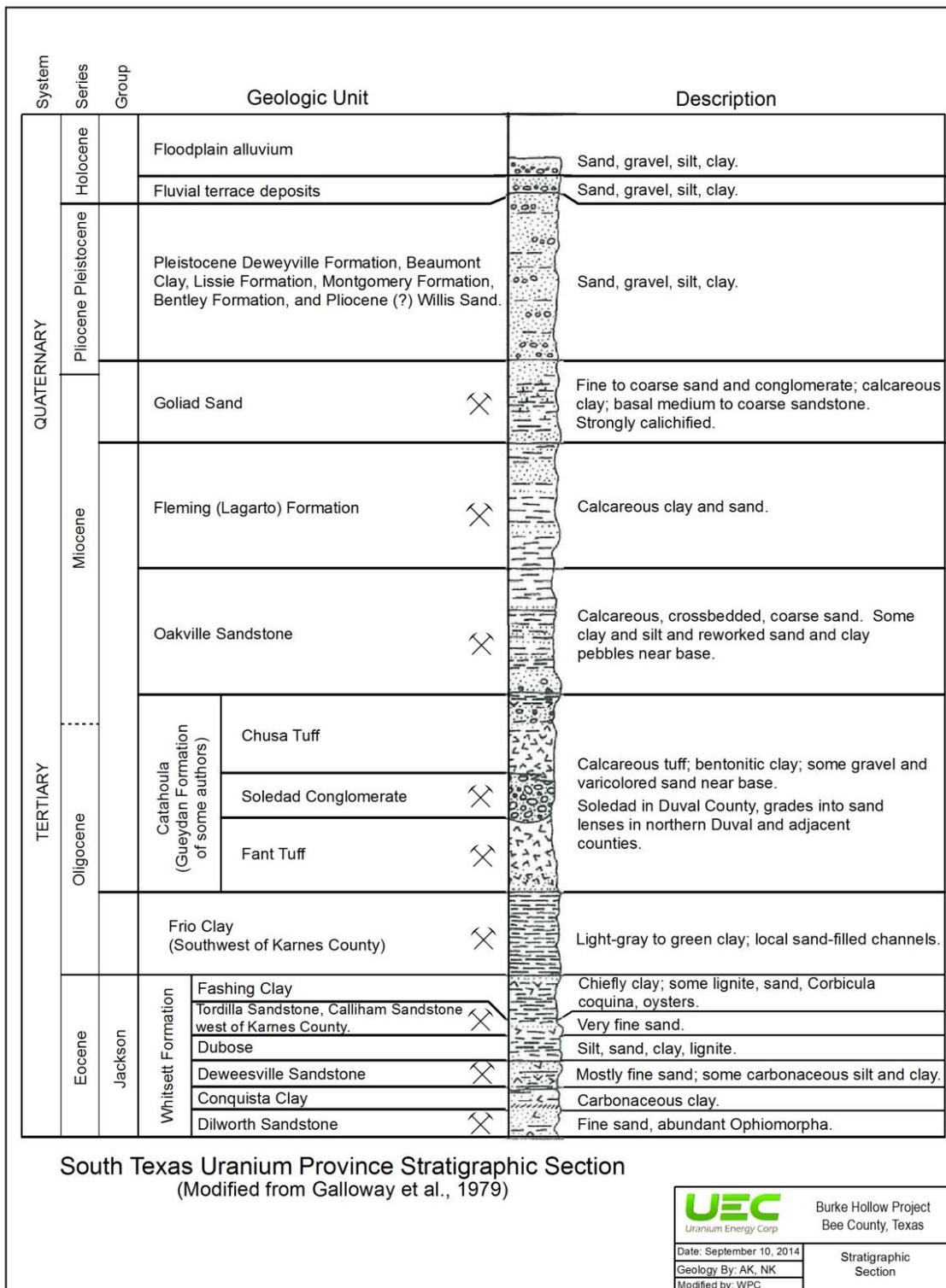
## **7 GEOLOGICAL SETTING AND MINERALIZATION**

### **7.1 REGIONAL GEOLOGY**

UEC's Burke Hollow Project area is situated within the Texas Gulf Coastal Plain physiographic province that is comprised of sedimentary deposits which typically thicken down-dip toward the Gulf of Mexico from western-northwestern source areas. The regional dip rate generally increases towards the coastline in conjunction with an overall increase in the thickness of the sediments.

The uranium-bearing units in the South Texas Uranium Province include most sands and sandstones in Tertiary formations ranging in age from Eocene (oldest) to Lower Pliocene (youngest). An updated South Texas Uranium Province stratigraphic column is shown by Figure 7-1.

The younger, overlying sedimentary units at Burke Hollow include the Lissie, Goliad, Lagarto, and Oakville formations which are dominantly continental clastic deposits; whereas the underlying continental sands of the Catahoula, Frio, and Jackson Formations which produced uranium in the past from deposits located along the western part of the South Texas Uranium Province have transitioned down-dip into marginal marine and near-shore barrier bar facies at the Burke Hollow area. These units lie at depths ranging from 2200' to approximately 6000' in depth at Burke Hollow, and are often productive for both oil and gas.



**Figure 7-1: South Texas Uranium Province Stratigraphic Section**

The Burke Hollow Project area lies approximately 18 miles southeast of Beeville, which is the county seat of Bee County. Burke Hollow Project is located along the relatively under-explored eastern half of the Goliad uranium trend of the South Texas Uranium Province. The Geologic Atlas of Texas, Beeville-Bay City Sheet (Texas Bureau of Economic Geology, Revised 1987), and the Geologic Map of Texas (1992, Texas Bureau of Economic Geology) each indicate that a thin deposit of Pleistocene-aged Lissie Formation overlies the Lower Pliocene to Miocene Goliad Formation at the Burke Hollow Project area. The Lissie Formation unconformably overlies the Goliad, and consists of unconsolidated beds of sand, silt, and clay, along with occasional lenses of gravel. Figure 7-2 illustrates the surface geology at the Burke Hollow Project.

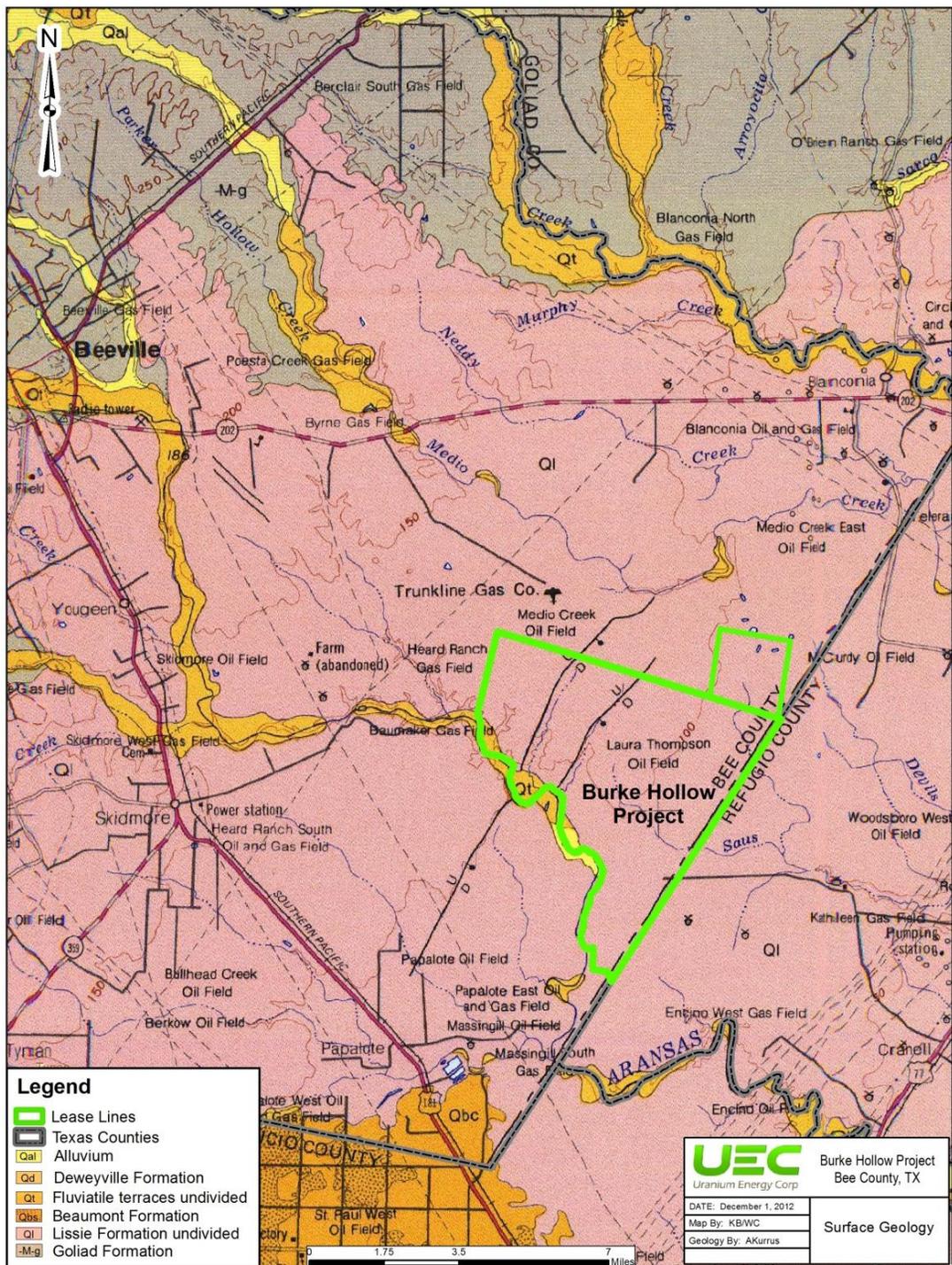


Figure 7-2: General Project Location and Surface Geology of Bee County Region TX

The Goliad Formation was originally classified as Pliocene in age by most sources, but the formation has been reclassified as early Pliocene to middle Miocene after recent research revealed the presence of indigenous Pliocene-aged mega-fossils occurring in upper Goliad sands; whereas, the lower Goliad fluvial sands are correlative with down-dip strata containing benthic foraminifera indicating a Miocene age (Baskin and Hulbert, 2008, GCAGS Transactions, v. 58, p. 93-101). The Geology of Texas map published by The Bureau of Economic Geology (BEG) in 1992 classifies the Goliad as Miocene in age.

Relevant earlier literature indicated the Goliad formation as Pliocene-aged, including the Geologic Atlas of Texas, Beeville-Bay City Sheet (BEG, revised 1987), and The Geology of Texas, Volume I (No. 3232, 1932, Texas BEG). A recent publication entitled Geologic Characterization of and Data Collection in the Corpus Christi Aquifer Storage and Recovery Conservation District and Surrounding Counties (Meyer, John E., Texas Water Development Board, 2012) also shows the Goliad Formation as Lower Pliocene to Miocene in age.

## **7.2 PROJECT GEOLOGY**

The uranium-bearing sands of the Goliad Formation at the project site occur beneath a thin layer of Pleistocene-aged Lissie Formation, consisting of unconsolidated sand, silt, clay, and occasional gravel beds, which overlie the project area with a total thickness of approximately 35 feet on the western side to approximately 70 feet thickness on the downdip eastern side of the project. The Goliad Formation underlies the Lissie, and is present at depths ranging from 35 feet to approximately 1090 feet on the eastern side of the property. UEC has determined that uranium mineralization discovered to date occurs within three of the four sand members of the Goliad, designated as the uppermost Goliad A, Goliad B, and the lowermost Goliad D, at depths generally ranging from 160 feet to 940 feet. To date, several thin gamma-ray shows have been observed in the Goliad C sands.

The Goliad sand is one of the principal water-bearing formations in Bee County capable of yielding moderate to large quantities of fresh to slightly saline water in the south half of the county, which includes the project area (Myers, B.N., et al., 1966).

To date, the hydrogeological characteristics of the Goliad sands at the Burke Hollow Project have not been determined. Required hydrogeological tests which are scheduled for 2015 will determine the hydraulic character of the sands and the confining beds separating the individual sand zones. Information regarding the water-bearing characteristics of the Goliad sands from aquifer tests of a City of Beeville and a City of Refugio supply well (O.C. Dale, et al., 1957) reported an average coefficient of permeability of about 100 gallons per day per square foot. This would be the equivalent coefficient of transmissivity

of approximately 2,500 gallons per day per foot for a 25-foot thick sand. It is likely that the uranium bearing mineralized sand zones at the Burke Hollow Project will have similar hydraulic characteristics (Carothers et al., 2013).

The surficial fault expression at Burke Hollow is also shown by Figure 7-2 and Figure 7-3. There are two northeast-southwest trending faults at the Burke Hollow property that are likely related to the formation of the uranium mineralization. These faults are also shown at a depth of approximately 3,500 feet below ground surface (bgs) based on commercial petroleum industry maps as well as unpublished petroleum company maps, and extend upward into the Goliad and Lissie formations. The northwesterly fault is a typical Gulf Coast normal fault, downthrown toward the coast, while the southeastern fault is an antithetic fault downthrown to the northwest, forming a large graben structure. The presence of these faults is likely related to the increased mineralization at the site. The faulting has probably served as conduits for reducing waters and natural gas to migrate upward from deeper horizons, as well as altering the groundwater flow system in the uranium-bearing sands.

Burke Hollow structural cross-sections (Figures 7-4, 7-5, and 7-6) are presented below in the Cross-Section Reference Map, Figure 7-3. Cross-section A – A' (Figure 7 – 4) depicts structure across the project lease boundaries. Uranium mineralization discovered to date at Burke Hollow Project is associated both with the graben structure as well as the large area on the upthrown (eastern) side of the fault. Figure 7-3 illustrates the cross-sections' locations and orientations across the project area.

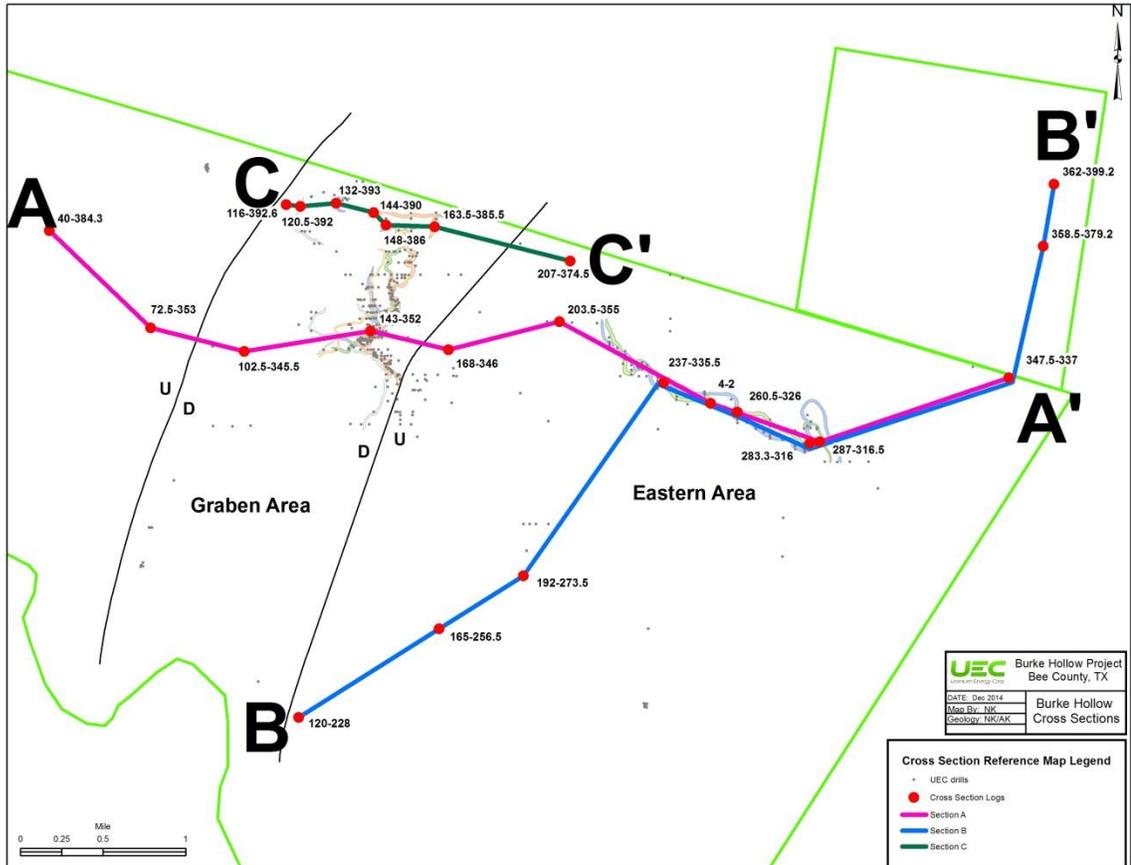


Figure 7-3: Cross Section Reference Map

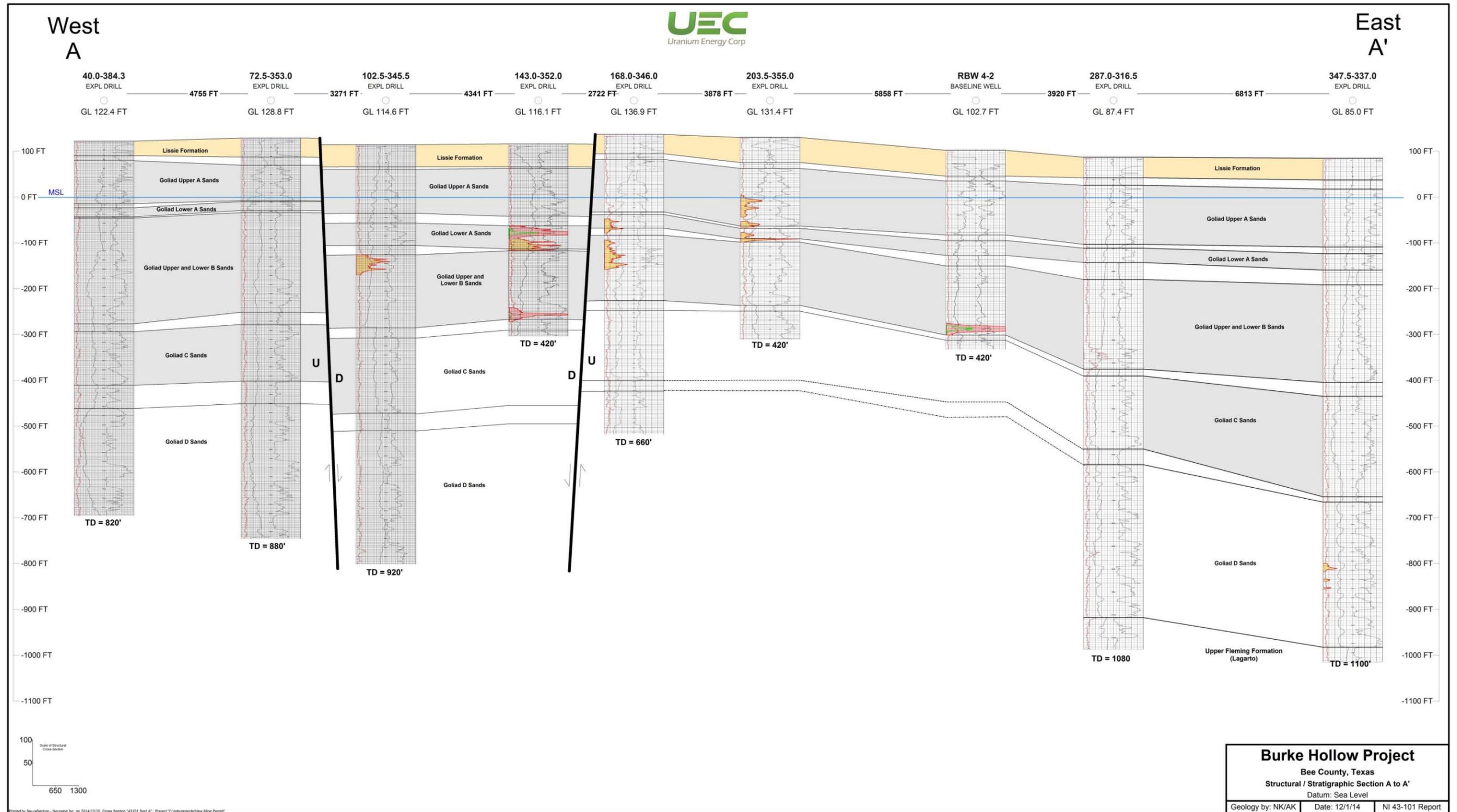


Figure 7-4: Structural / Stratigraphic Cross-Section A-A'

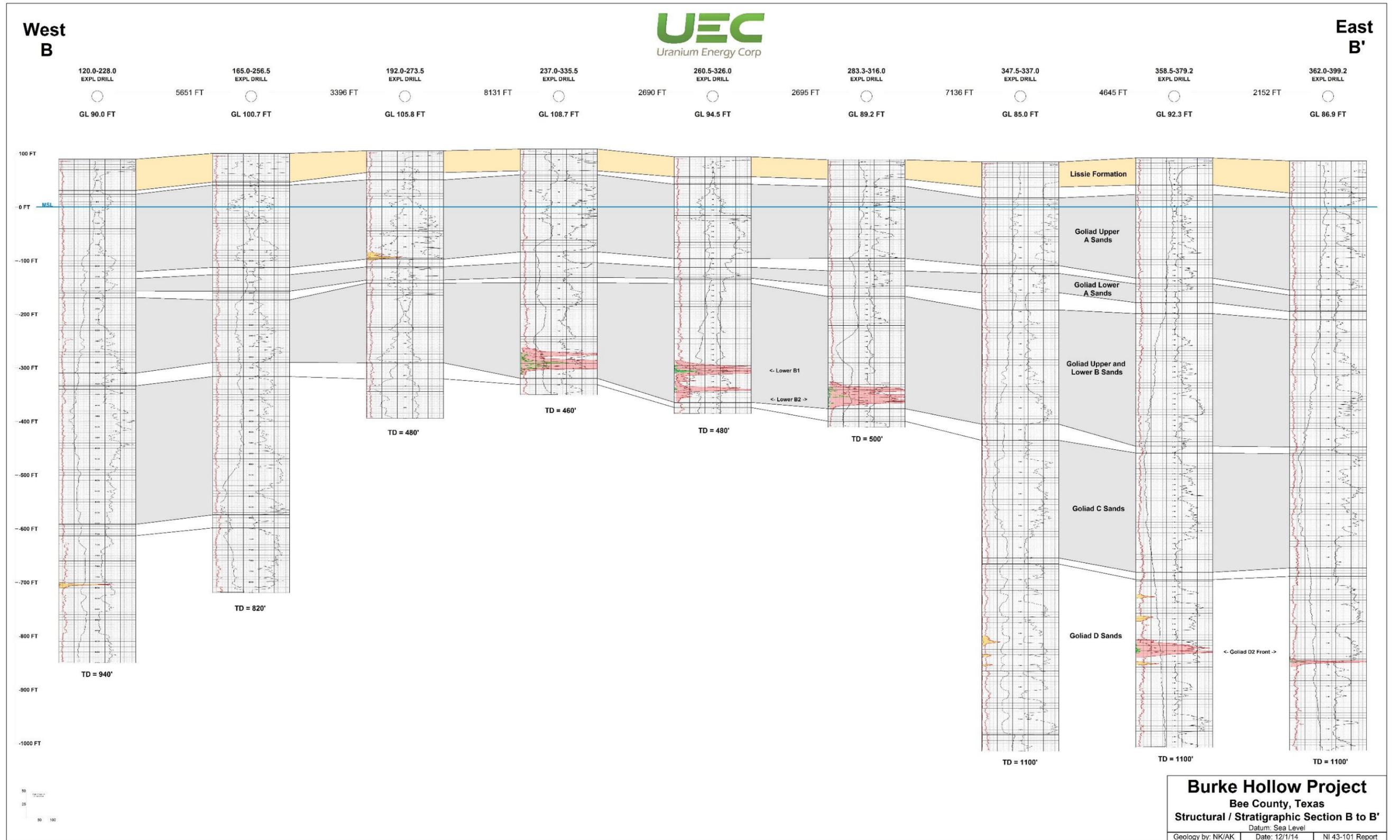


Figure 7-5: Structural / Stratigraphic Cross-Section B-B' Showing Mineralized Zones

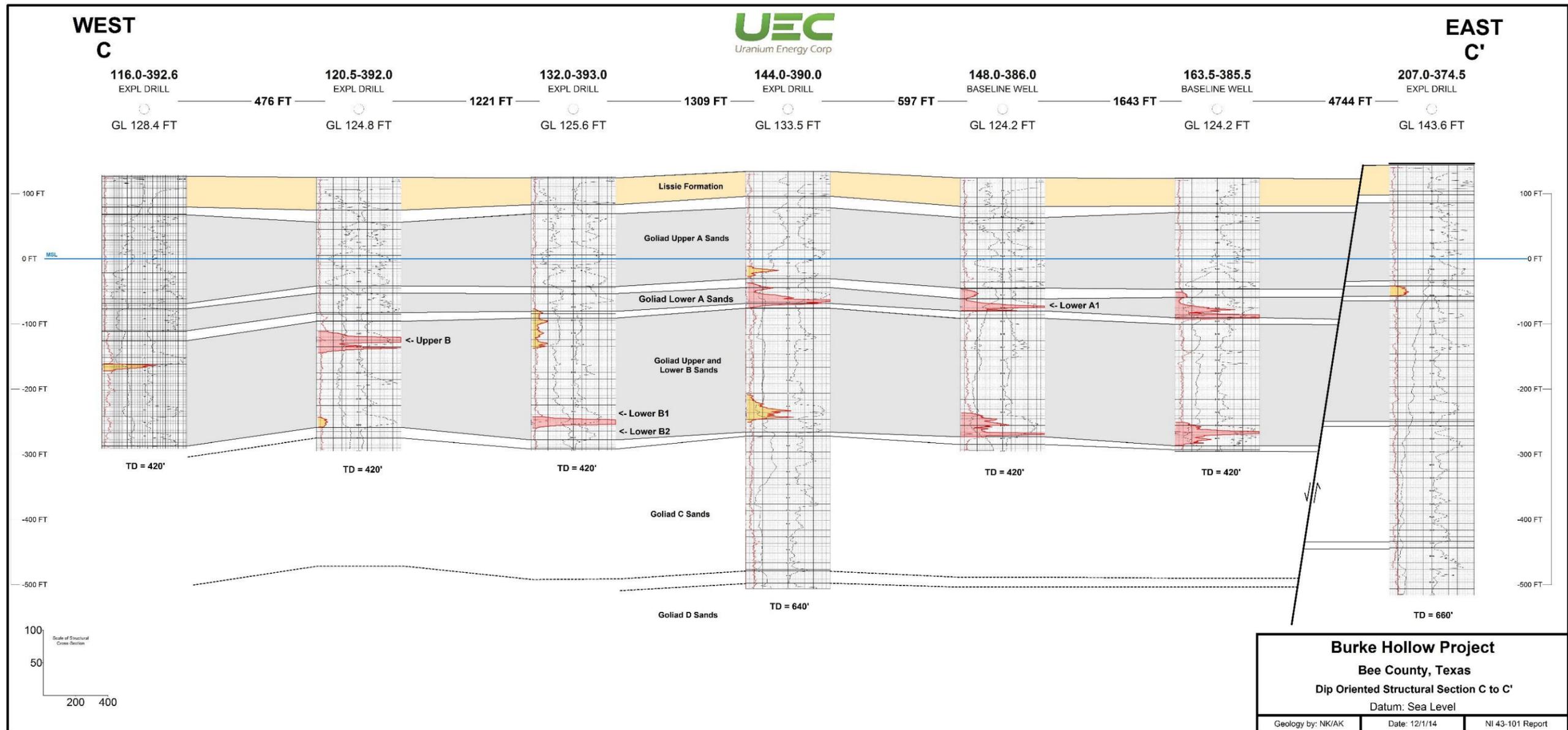


Figure 7-6: Dip Oriented Structural Cross-Section C-C' Showing Mineralized Zones

## 7.3 MINERALIZATION

### *Historical Mining of Goliad Sand Deposits*

Uranium mineralization was first discovered within Goliad sediments in 1956 at Palangana Dome in Duval County. Approximately 340,000 lbs. of  $U_3O_8$  were produced by Union Carbide in the late 1970's through the early 1980's, via ISR methods from Goliad sands which were deposited over the collapsed crest of the domal structure. Renewed exploration activity occurred at Palangana in 2007, when Uranium One, operating as South Texas Mining Venture, began an exploration drilling program targeting Goliad sands deposited around the periphery of the dome. Five separate exploration trends have been discovered here to date. Uranium deposits are hosted by both middle and lower Goliad sand strata located along the flanks of Palangana Dome. UEC is currently mining in production area PAA-3 at Palangana Project, with additional production areas currently being permitted.

Additional Goliad uranium deposits were later discovered on-trend with Palangana Dome in Duval County during the 1970's by several companies, including Union Carbide, Chevron Resources, Mobil and others. One of these Duval County discoveries located near Rosita was ISR-mined by URI in the 1980's and 1990's. A total of 2.7 million lbs. was produced at Rosita Project, which is currently in restoration status.

Uranium was discovered at Alta Mesa Dome in Brooks County by Chevron Resources in 1979. Later in the 1980's, Total leased the property and drilled-out several million additional pounds of uranium resources. The property was ISR mined by Mesteña Uranium beginning in late 2005. Mesteña subsequently discovered additional trends and trend extensions. To date, 4.61 million lbs. have been produced from these deposits.

Exxon discovered Goliad uranium mineralization at Kingsville Dome in Kleberg County in the late 1970's. URI subsequently acquired leases and drilling data from Exxon, and drilled-out several trends. An ISR plant was constructed on-site in 1987, and production began in 1988. To date approximately 3.5 million pounds of  $U_3O_8$  have been produced at Kingsville Dome, which is currently in restoration mode.

Uranium was discovered by ARCO at Mt. Lucas in Live Oak County in the 1970's. Mineralization occurs within several horizons of the lower Goliad and the underlying Lagarto Formation. Approximately 3.2 million pounds of  $U_3O_8$  were produced via ISR by Everest Minerals from the late 1980's through the early 1990's. The Mt. Lucas project has been fully restored by UEC.

These current and former Goliad ISR mines are located south-southwesterly of the Burke Hollow Project, ranging in distance from approximately 30 miles to Mt Lucas, to nearly 110 miles to the Alta Mesa Project in Brooks County. To the knowledge of the authors,

these ISR projects that were mining the Goliad Formation sand units have been very successful with the following common attributes: excellent leaching rates, favorable hydraulic conductivity of host sands, laterally continuous confining zones, uranium-bearing sands typically displaying positive disequilibrium factors (DEF) above 1.0, and mining recoveries estimated to range from 65 to 90 percent.

### ***Local Mineralization***

The Burke Hollow Project uranium-bearing sands discovered to date occur as multiple roll-front type deposits in Goliad A, B, and D sands. Groundwater flowing from west/northwest to east/southeast within the Goliad sands likely contained low to anomalous concentrations of dissolved uranium resulting from oxidizing conditions and the relatively short distance from the recharge area. Examination of drill cuttings from exploration holes drilled on the western side of Burke Hollow reveal that oxidized Goliad sands, mudstones, and clays are generally present in this area. The geochemical conditions in the sands along the Graben area of the UEC property changed from oxidizing to reducing due to an influx of reductant. Both dissolved methane gas in groundwater as well as gaseous-phase methane are believed to have migrated up the fault planes bounding the large graben structure, inducing reducing conditions in the area with consequent precipitation and concentration of uranium mineralization. Production records and petroleum well logs indicate that significant commercial deposits of gas are present in multiple sands of the underlying Frio, Jackson, Vicksburg Formations, and also is present in shallower sands belonging to the Catahoula and Oakville Formations. Natural gas has been produced in Miocene (Oakville) sands as shallow as 1300' in depth at Burke Hollow.

Specific mineral identification of uranium-bearing minerals has not been determined at the Burke Hollow Project. The very fine uranium minerals found coating quartz grains and within the interstices in most south Texas sand and sandstone roll-front deposits has generally been found to be dominantly uraninite and, to a lesser extent, coffinite (Carothers, et al., 2013). Detailed petrographic examination of disseminated, amorphous uranium mineralization within sands/sandstones is generally not suitable for identification of the specific uranium minerals. Laboratory equipment such as x-ray diffraction units may be used to identify the minerals, however the specific mineral species typically found in reduced sands are generally similar in south Texas ISR projects and leaching characteristics are also similar. Based on the experience of the ISR mines throughout south Texas, the use of gamma-ray and PFN logging, each with calibrated logging probes has become the standard method to determine the thickness and estimated grade of uranium bearing minerals.

At the Burke Hollow Project the Goliad Formation is located near the surface underlying the Lissie, and extends to depths exceeding 960 feet on the eastern side of the project. Uranium mineralization discovered to date occurs in at least five sand/sandstone units

belonging to the Goliad A, B, and D sands which are all below the saturated zone. These are the Goliad Lower A1, Lower A2, Upper B, Lower B1, Lower B2, and D2 sands. The sands are fluvial in origin, and thicken and thin across the project site. Each zone is hydrologically separated by clay or silty clay beds. The uranium mineralization discovered to date range from several feet to over 30 feet in thickness.

## 8 DEPOSIT TYPES

The uranium deposits which have been discovered and partially delineated to date at Burke Hollow are similar in many characteristics to several other Goliad deposits in South Texas, in particular the deposits which formed around large closed geologic structures such as Alta Mesa, Mt. Lucas, and Kingsville Dome. Uranium mineralization typically occurs within fluvial channels and associated splay sands as roll front deposits that generally display a “C” or cutoff “C” shape.

The mineralization found within the graben structure at Burke Hollow consists of roll fronts which occur along an extended oxidation–reduction boundary, although re-reduction of some segments of the deposits has obscured the oxidized aspect of the oxidation/reduction interface.

The recent Burke Hollow Eastern Lower B discovery consists of two closely related, sub-parallel trends which are associated with a large anticlinal structure. The roll fronts are deposited around the periphery of the structure, and display typical oxidation/reduction boundaries. This depositional setting is similar to Alta Mesa and Kingsville Dome, where natural gas deposits are located in subjacent formations.

Burke Hollow uranium deposits were formed atop and peripheral to a large positive faulted anticlinal feature. These deposits consist of multiple mineralized sand horizons which are separated vertically by confining beds of silt, mudstone, and clay. Concentration of uranium in various Goliad Formation deposits probably resulted from erosion and migration of uranium from devitrified volcanic tuff, or ash beds, within the updip Frio, Catahoula, and Oakville formations. Leaching of uranium from these source beds and possibly from erosion of earlier-formed uranium deposits probably occurred near the outcrop areas, where oxidizing groundwater mobilized uranium from the ash-rich sediments. Subsequent down-gradient migration of the solubilized uranium within oxygenated groundwater continued until uranium minerals were deposited in roll front bodies above and around the flanks of structures where reducing conditions are present.

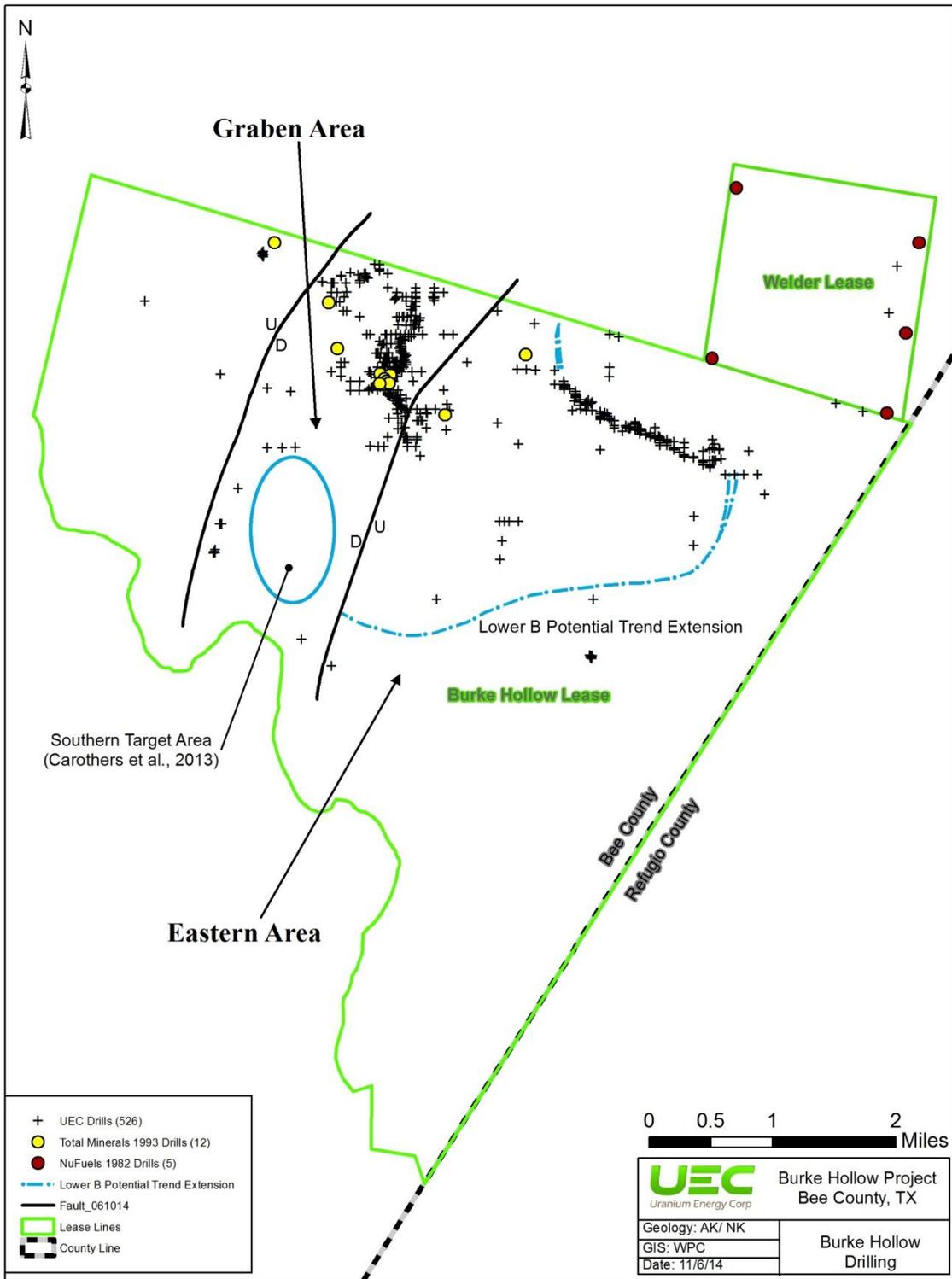
## 9 EXPLORATION

A review of the available records and historical exploration data for UEC's recently acquired Welder Lease at Burke Hollow Project reveals that five exploration holes were completed by Nufuels on the lease in 1982 (Figure 9.1), and an additional thirteen exploration holes were drilled nearby the area. These eighteen holes each penetrated the entire Goliad Formation in order to test and log all prospective sands. Oxidation/reduction interfaces exhibiting low-grade gamma anomalies were intercepted in several of these exploration holes, and oxidized tails were also logged in many of the exploration holes.

UEC acquired Total's South Texas exploration program database which includes historic drill information. Records indicate that twelve exploration holes which were drilled at Burke Hollow in 1993 by Total (Figure 9.1). Nine exploration holes were drilled within the graben area, eight of which logged moderate to strong  $eU_3O_8$  gamma-ray intercepts occurring at depths ranging from 180' to nearly 400' in Goliad Lower A, Upper B, and Lower B sands. Drill-hole spacing ranged from 100' to 1000' between holes.

No other known previous exploration activity occurred on or nearby the Burke Hollow leases according to scout maps and available records. UEC began its initial Burke Hollow exploration activity in June, 2012, when 268 exploration drill holes were completed, with the majority of drilling concentrated in the Graben area. In 2013, UEC installed 30 regional baseline monitor wells located in five discrete well clusters across the entire Burke Hollow lease property. Weak to strong gamma-ray shows were encountered in several of the monitor wells located in the previously unexplored Eastern area of the project

Renewed exploration activity began on October 30, 2013, resulting in a total of 228 additional exploration and delineation holes which were completed through October 6, 2014. Over half of these holes targeted Goliad A, B, and Goliad D sands located on the Burke Hollow Eastern Area (Figure 9-1) which was previously identified and reported by Carothers, Davis and Sim as an Eastern Exploration Target (Carothers et al., 2013).



**Figure 9-1: Burke Hollow Drilling**

## **9.1 SOUTHERN EXPLORATION TARGET**

The Southern Exploration Target (Figure 9-1) is located within the large area located south of the known Graben trends, and was originally identified in UEC's NI 43-101 report of 2013 (Carothers et al., 2013). Limited exploration drilling has been conducted in this area to date; thus, the Southern Exploration Target remains under-drilled and under-explored. Three exploration holes drilled in 2012 displayed anomalous gamma-ray shows in the Middle B sand located between 300' to 335' in depth. Another exploration hole exhibited an additional show in the Goliad D sand at a depth of 785'. The structural conditions at the Southern Exploration Target area are similar to the area to the north within the graben where mineralized trends have been discovered to date. It must be stressed that a Southern Exploration Target is extremely conceptual in nature; there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the ability to estimate uranium mineral resources.

## **9.2 LOWER B POTENTIAL TREND EXTENSION**

The Lower B Eastern trends were discovered in 2013, identified as the Eastern Exploration Target (Carothers et al., 2013), and were subsequently explored and delineated during the year-long 2014 drilling campaign. The two closely-related, sub-parallel trends run in an easterly direction for almost two miles. Based on oxidation/ reduction conditions as noted from exploration drilling both in 2014 and earlier grid drilling in 2012, the trends are shown to be prospective and to follow the outline of a large anticlinal structure for an estimated distance of approximately four miles. Figure 9.2 is a structural contour map showing the Lower B sand and the Lower B1 and B2 trends and indicates potential extensions of these mineral trends.

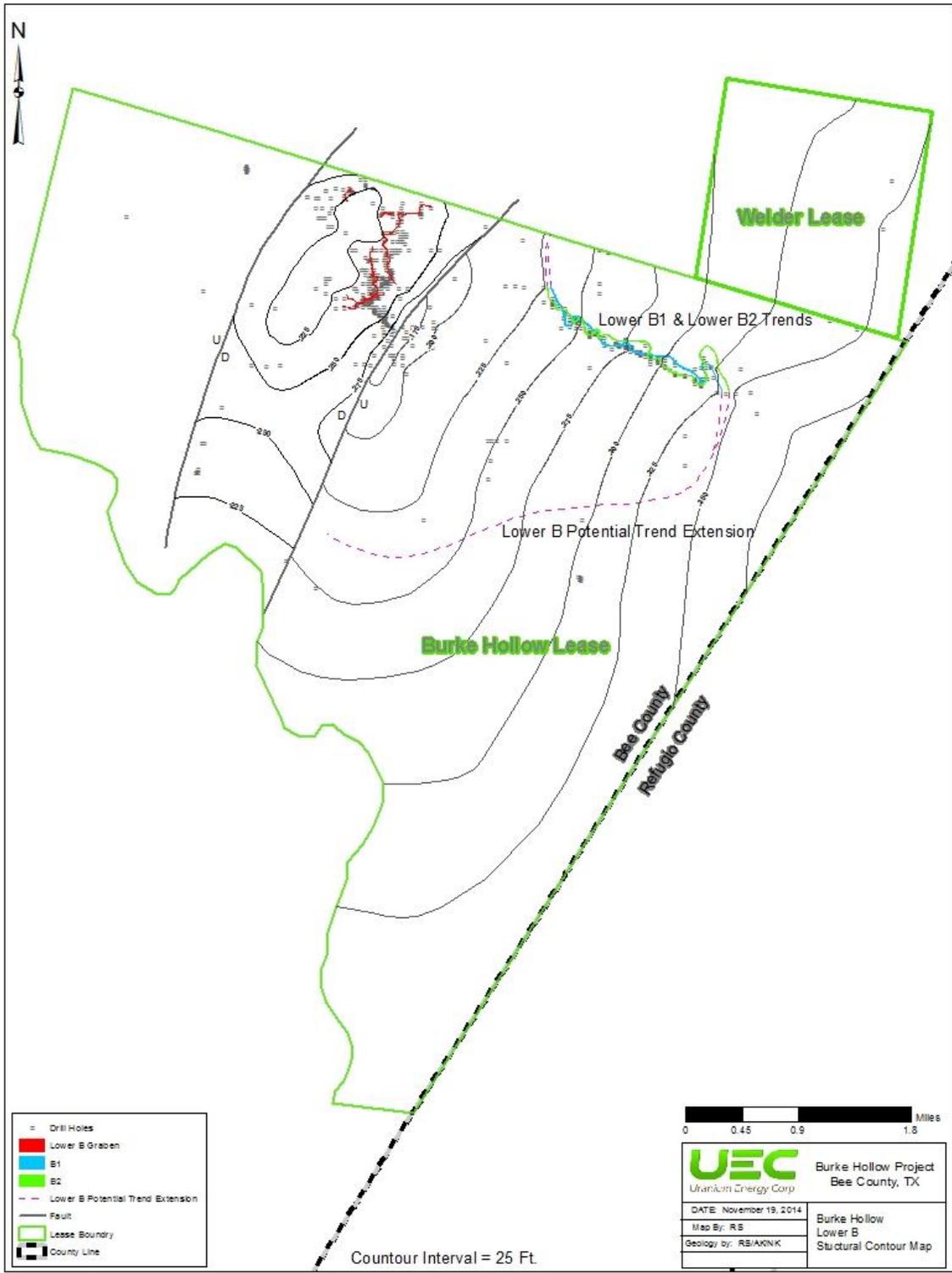


Figure 9.2: Structure Contour Map, Lower B Sand

### 9.3 GOLIAD D SAND POTENTIAL

Nufuels drilled eighteen exploration holes on or near the Welder lease in 1982. Several of these exploration holes showed anomalous gamma-ray activity associated with Goliad D sand oxidation/reduction interface boundaries. Low grade oxidized gamma-ray shows were seen in several exploration holes drilled on Burke Hollow lease in 2012 and 2014. Additional exploration drilling is indicated in order to further delineate these trends. Table 9.1 summarizes the results of two 2014 Burke Hollow exploration drill holes.

**Table 9.1: Lower Goliad Drilling Intercepts, D Sand**

Lower Goliad Drilling Intercepts (Goliad D Sands)											
DRILLS		GAMMA (0.01 % eU308 cutoff)					PFN (0.01 % pU <sub>3</sub> O <sub>8</sub> cutoff)				SAND
HOLE	DRILL DATE	TD	TOP (G)	THICKNESS (G)	GRADE (G)	GT (G)	TOP (P)	THICKNESS (P)	GRADE (P)	GT (PFN)	HORIZON
W_358.5-379.2	8/5/2014	1100	914.0	3.5	0.031	0.042	914.0	9.0	0.022	0.198	Goliad D2
W_362.0-399.2	8/11/2014	1100	933.5	2.5	0.030	0.076	933.0	3.0	0.076	0.227	Goliad D2

No historic uranium mining is known to have occurred on the Burke Hollow Project lease property, and only Texas State permitted uranium exploration drilling has taken place. Prior to any mining activity at the Burke Hollow Project, UEC would be required to obtain a Radioactive Materials License (RML), a large area Underground Injection Control (UIC) Mine permit, and a Production Area Authorization (PAA) permit for each well field developed for mining within the Mine Permit area. In addition, a waste disposal well would, if needed, require a separate UIC Permit. These permits would be issued by Texas regulatory agencies.

## 10 DRILLING

Exploration drilling at the Burke Hollow Project is conducted by truck-mounted 1500' depth capacity rigs drilling vertical holes measuring 5-5/8 inches in diameter. Beginning in December, 2013 the majority of exploration and delineation holes were drilled with larger 6-1/8 inch diameter drill bits. The larger hole diameter facilitates logging operations which require two logging runs to accommodate both gamma-ray ( $eU_3O_8$ ) and subsequent PFN ( $pU_3O_8$ ) logging. Upon reaching total depth, the drilling mud is conditioned to specification, and then circulated from the bottom to remove cuttings from the hole in preparation for logging with calibrated tools that record resistance, spontaneous potential, and gamma-ray. An additional logging run utilizing a PFN logging tool may be specified by the field geologist.

Gamma-ray and PFN probes from each logging truck are required to maintain calibration by regular cross-checking the probes at a U.S. Department of Energy test pit located near George West, Texas. The pit is set up for logging units to calibrate the probes with a known radioactive source. This procedure has been successfully used by the uranium exploration and mining companies for many decades. The available data indicate that the logging provided by UEC's probe trucks at the Burke Hollow Project have maintained industry standard calibration procedures for their probes. This is discussed in more detail in section 11.

Based upon review of the drilling records in the Corpus Christi office, as well as on-site observation of drilling on the property, drilling was conducted utilizing water-based mud in rotary drilling with truck-mounted rigs. Cuttings are routinely taken at 5-foot intervals and placed in consecutive rows consisting of twenty samples per 100' of drilling, which are laid on the ground for a geologist to review for lithology and alteration. A photograph is made of each drill holes' cuttings for further review when needed. The drill holes are completed at various depths depending on location within the property, and which individual sand unit or units may have been targeted for evaluation in the vicinity of that hole location.

Most exploration drill hole locations are planned in the Corpus Christi office. Planned locations are exported from GIS files into a Trimble Geo XH 6000 using Trimble TerraSync software. Upon the geologists arrival in the field area, planned locations are navigated to, staked, and the exact position is then recorded by the GPS. Accuracy of the drill hole location is correctly adjusted through post-processing of the collected field data via Trimble®, TerraSync™, and GPS Pathfinder® Software. Once post-processing is completed, the corrected data are then exported into a data base file. The corrected coordinates are then used for drill hole collar information and are reported in all company and State documents.

**Appendix A** presents combined results of PFN logging of 112 drill holes at the Burke Hollow Project which have met or exceeded a Grade x Thickness (GT) criterion of 0.3, based on a 0.02% grade ( $\text{pU}_3\text{O}_8$ ) cutoff.

# 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

## 11.1 CORING

UEC conducted an initial coring program in December, 2012 consisting of two core holes, in both the Goliad Lower A sand and the Goliad Lower B sand in the Graben area of Burke Hollow. Core analysis was provided by Energy Labs of Casper, Wyoming (NELAP accreditation), with results of the core analyses previously presented in UEC's earlier technical report for Burke Hollow (Carothers et al., 2013).

No coring has occurred to date at the Burke Hollow Eastern Lower B trend area, which was discovered in 2013. In conjunction with planned Lower B trend extension and delineation drilling, core holes are budgeted and will be scheduled in the upcoming 2015 drilling campaign.

## 11.2 LOGGING PRACTICES

### *Gamma-ray Logs*

The equivalent mineralized intercepts calculated by UEC were derived from gamma-ray logs run as part of an electric log suite on each of the exploration drill holes. In addition to gamma-ray, the electric log suite includes self-potential and single point resistance, along with vertical deviation survey. The self-potential and resistance curves are primarily used to identify lithological boundaries and to correlate sand units and mineralized zones between drill holes. The equivalent  $U_3O_8$  values from the gamma-ray curves are calculated by converting counts per second (CPS) to grade ( $eU_3O_8$ ) for each one-half foot interval above a specific cutoff grade as requested by UEC. This method is essentially the standard method as developed by the U.S. Atomic Energy Commission (AEC), Scott, 1963. The majority of the geophysical electric logs run at Burke Hollow were by UEC logging operators in company-owned logging units which were designed and produced by GeoInstruments of Nacogdoches, Texas. As discussed in the following paragraph, geophysical logging during the 2012 drilling at Burke Hollow was by company-owned logging units, with additional logging services contracted through GeoScience Associates Australia, (GAA).

### *Prompt Fission Neutron (PFN) Logs*

A prompt fission neutron instrument (PFN) was developed in the late 1980's by Mobil researchers and is described in an article by Givens and Stromswold (1989). This instrument improved both efficiency as well as accuracy of the chemical assays for uranium by a downhole tool that resulted in faster logging runs and minimal variance due to hole diameter and thin bed stratigraphic effects. This tool is considered the state of the art

instrument for direct in-place determination of actual uranium grade. UEC has been operating calibrated PFN logging tools in conjunction with UEC logging units since 2008 in South Texas. A contract logging company Geoscience Associates of Australia (GAA) was also utilized for early PFN logging at Burke Hollow.

The resulting PFN-produced logging data are similar to standard gamma–electric logging units but have increased capability of on-site determination of the actual  $U_3O_8$  grade of the mineralized intercepts in multiple drill holes without the need for core sampling and laboratory assays. Additionally, since the PFN tool also has a gamma detector, a direct determination of the disequilibrium factor (DEF) can be made at the bore hole. PFN technology provides a direct measure of actual  $U_3O_8$  and is superior to core and assay, as it provides a larger sample and is less expensive (R. Penny, et al., 2012).

To date, UEC has drilled 526 holes, including 30 baseline monitor wells, at Burke Hollow Project. Gamma-ray and PFN logging has primarily been provided by UEC logging units with supplemental contract logging for confirmation of PFN log results done by GAA in 2012.

Out of the 268 exploration holes drilled in 2012, UEC ran company-owned PFN tools on 112 holes, and GAA ran their PFN tool on 21 holes. Eleven exploration holes were probed by both PFN logging units in order to directly compare the results. A comparison of the logs' average disequilibrium factors produced by each logging unit for the 11 holes showed excellent correlation, with overall average DEF values of 2.08 and 2.07 for the UEC and GAA probes, respectively (Carothers et al., 2013).

### **11.3 PROBE CALIBRATION**

Geophysical logging units that operate at the Burke Hollow Project require periodic calibration with known standards. UEC's gamma and PFN probes are routinely calibrated by running each probe in the US test pit at George West, Texas. This test pit has been utilized by most South Texas uranium operators as well as contract loggers since the late 1960's. Each test run generates calibration files for the operator to review and make necessary tool adjustments. Calibration runs typically are made on a one or two month interval, and files with the test pit run results are maintained by the operator.

In June 2014, qualified person Clyde Yancey observed ongoing exploration and delineation drilling, sampling and logging activity, as well as numerous locations of exploration holes drilled during the 2013 and 2014 drilling campaigns. Gamma-ray and PFN logging activity was observed in the field, in addition to calibration data checked at the Corpus Christi exploration office. In the opinion of the Qualified Person, all drilling, sample collection and logging practices, including probe calibration, was performed in a manner consistent with industry standards.

## 12 DATA VERIFICATION

Previous exploration activity occurred within the Burke Hollow Project area by Nufuels in 1982. Five out of the eighteen exploration holes were drilled on acreage now comprising UEC's Welder lease. While little surface evidence exists today of these five drill holes, the general locations can be approximated from the surface locations shown on historic drill location maps. UEC field personnel have field-checked and verified several areas where limited surface disturbance indicated previous drilling activity, both along lease lines and at intersections of leases. These five approximated locations were geo-referenced, and the data incorporated into the UEC database. The primary author and qualified person agree that UEC's staff properly field checked and validated the approximate mapped locations of these five exploration holes.

In 1993, Total minerals drilled, logged, and plugged twelve exploration holes on the Thomson-Barrow property at Burke Hollow within the current UEC lease block. The exact locations of these holes could not be determined in the field after approximately 30 years of ongoing cattle operations in combination with extensive root plowing of the pastures approximately every five years. The general locations were determined from Total's records by Mr. Carothers and UEC field personnel during his site visit in December, 2012 (Carothers, et al., 2013). The approximate locations were accepted into the UEC database, but not utilized in the estimated resource calculation.

In June, 2014, qualified person Clyde Yancey observed ongoing exploration and delineation drilling and logging activity, as well as numerous locations of exploration holes drilled during the 2013 and 2014 drilling campaigns. Gamma-ray and PFN logging activity was observed in the field, in addition to data checked at the Corpus Christi exploration office. Recent logging data were also reviewed and correlated with other logs and data from the UEC database, derived from previous Burke Hollow exploration activity.

Dark gray to black sands indicative of typical south Texas Goliad deposit uranium-bearing minerals were observed and examined by the qualified person in June 2014. These examined sands were sampled at five foot intervals from drill cuttings recovered from several exploration holes along the Eastern Lower B trends, and also examined were Lower A sands from exploration holes drilled along the Graben trend. A lithology report describing drill cuttings is routinely prepared by field geologists for each exploration or delineation drill hole at Burke Hollow Project. Observations and inspections made by the qualified person during the recent site visit in 2014 convinced the qualified person that the data collected to characterize uranium mineralization on the property is adequate for resource estimation.

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

From the exploration efforts to date on the Burke Hollow Project, no significant processing and testing has been conducted. There is an extensive history of ISR mining of the Goliad sands in south Texas and the basic processing methodology and metallurgical testing will be conducted on the Burke Hollow Project in the future.

## **14 MINERAL RESOURCE ESTIMATE**

### **14.1 INTRODUCTION**

The mineral resource estimate presented herein, was prepared by Andrew Kurrus, VP of Resource Development and Neal Kunkel, Exploration Geologist, Uranium Energy Corp, and was reviewed and verified by Clyde L. Yancey, VP of Exploration, Uranium Energy Corp, who is a Qualified Person as defined by Canadian Securities Administrators' National Instrument 43-101. Mr. Yancey is employed full time by UEC and therefore is not an independent geologist. Under NI 43-101 rules, Standards of Disclosure for Mineral Projects, a non-independent geologist may update a resource and author a technical report if less than 100% increase in total resources is reported over the most recently filed technical report (Carothers et al., 2013) for that property.

The resource estimate was generated using drill hole sample results and the interpretation of a geologic model that relates to the spatial distribution of U<sub>3</sub>O<sub>8</sub> within the project boundaries. Interpolation characteristics were defined based on the geology and drill hole spacing. The resources were classified according to their proximity to the sample locations and are reported, as required by NI 43-101, according to the CIM Definition Standard for Mineral Resources and Mineral Reserves (CIM, 2010). The effective date of the resource estimate is October 6, 2014.

### **14.2 GEOLOGIC MODEL**

Uranium Mineralization has been found in three of the four main sand units that divide the Goliad Formation. The two upper units, the Goliad B Sands and overlying Goliad A Sands host the mineralization that has contributed to the resource numbers in this and previous reports. It must be noted that the Goliad D sand mineralization is a recent discovery that does not have sufficient drilling data for an inferred resource number and will not be reported at this time.

The Goliad A Sand is mineralized in the Lower A1 and A2 sands. The top of the Lower A1 trend within the graben can be as shallow as 176 ft bgs and dips to a depth of 200 ft bgs within the anticlinal structure found in the graben. The Lower A2 is a thinner, basal sand of the Goliad A Sand and is found at a depth of approximately 195 ft bgs where it is mineralized and occurs updip of the Lower A1 trend.

Mineralization has been identified in the upper and lower sands of the Goliad B Sand unit. The top of the Upper B trend occurs at approximately 220 ft bgs, to 240 ft bgs, as it dips slightly within the structure of the graben. The Lower B1 and B2 mineralized subroll trends within the graben occur at a depth of approximately 346 ft bgs in the Lower B1 trend and

continue to the base of the Lower B2 trend to 385 ft bgs in most areas within the graben. Lower B1 and B2 subroll trends also occur east of the graben in an upthrown block (Eastern Area). The Goliad sands thicken and dip more steeply to the east in this area as compared to the graben. The top of the Lower B1 trend ranges from roughly 365 ft bgs down to 401 ft, bgs and the Lower B2 ranges from 378 ft bgs to 437 ft bgs.

### **14.3 AVAILABLE DATA**

The data set available for resource calculations was developed in an Excel© spreadsheet which was kept in a format representative of the intercepts table included in **Appendix A**. Hole identification, collar data, thickness and average grades were recorded. PFN grades greater than or equal to 0.02 % pU<sub>308</sub> were interpreted and summarized for each zone encountered. This data set represents assay data from 112 of 526 UEC exploration drill holes that defined the GT contours utilized in this resource estimation.

### **14.4 BULK DENSITY DATA**

There are no bulk density sample data available. Due to a lack of density analysis to date, a tonnage factor of 1.17 lbs/ft<sup>3</sup> was used. This tonnage factor is consistent with the factor applied in other South Texas roll-front deposits.

### **14.5 RESOURCE CLASSIFICATION**

Mineral resources for the Burke Hollow Project were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2010). The classification parameters are defined relative to the distance between sample data and are intended to encompass zones of reasonably continuous mineralization.

Grade x thickness (GT) contours were reviewed, together with evidence gained from the visual interpretation of the drilling results, to understand the classification criteria for the mineral resources at Burke Hollow.

At this stage, the Burke Hollow mineral resource is classified as an Inferred Resource. Resources in the Inferred category include contoured data, GT's, with an average maximum distance of 500' between drill holes. Additional closely-spaced drilling will be required to advance the resource into the Measured/Indicated category.

Due to the uncertainty that may be attached to this Inferred Mineral Resource, it cannot be assumed that all or any part of this estimated Inferred Mineral Resource will be upgraded

to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. This Inferred Mineral Resource must be excluded from estimates forming the basis of feasibility or other economic studies

## 14.6 ASSUMPTIONS, METHODS, AND MINERAL RESOURCES

Various economic and mining parameters enter into the final cutoff grade or grade thickness (GT) selection to calculate the in-place mineral resources. A 0.3 GT cutoff parameter was utilized in determining the reported resources in this report, using a minimum grade of 0.02% pU<sub>3</sub>O<sub>8</sub>. The 0.30 GT was used to present an appropriate value relative to current ISR operations and is recommended for reporting purposes.

Mineral resources at Burke Hollow were estimated by contouring the area of the trends within the Goliad sands using a 0.3 GT perimeter line that was based on a 0.02 % pU<sub>3</sub>O<sub>8</sub> cutoff. The intercepts were identified from assay data derived from the PFN tool. The PFN data were correlated to the gamma ray curve on the initial open-hole log to ensure accuracy. Multiple intercepts within the same roll front cell were combined to determine an overall grade-thickness for that unit. Drill Holes that defined the 0.3 GT contoured area and their PFN assay values make up the dataset that was used to calculate the inferred resource estimate at Burke Hollow. The contained lbs of uranium calculated for each Goliad Trend was derived from the formula below:

$$\text{Contained Lbs pU}_3\text{O}_8 = (\text{Area-ft}^2) * (\text{Average GT}) * (1.17 \text{ lbs/ ft}^3\text{-Tonnage factor})$$

$$\text{Tonnage factor} = (2,000 \text{ lbs} / 17 \text{ ft}^3) * (1/100)$$

To further explain, the area in square feet was taken from contoured outlines mapped on a 0.3 GT cutoff and the average grade-thickness was calculated from the intercepts that defined the outlined area (Table 14.1). The tonnage factor (1.17 lbs/ ft<sup>3</sup>) is the accepted density of unconsolidated sands in the Goliad Formation of South Texas. Disequilibrium factor calculations were not included in the estimate due to the application of PFN data present for the majority of drill holes across the entire project.

The uppermost mineral trend at the Burke Hollow Project is the lower member of the Goliad A Sand (Figure 14-1). The largest mineralized trend in the Lower A Sand discovered to date is hosted within the graben area of the Burke Hollow Project (Figure 14-1). The Goliad Lower A Sand has been further subdivided into the A1 and A2 based on the presence of two uranium roll fronts. The Lower A1 trend was calculated to have an area of 1,287,077 ft<sup>2</sup> and exhibits a rounded average thickness of 11.0' with an average grade of 0.097, based on a 0.02% pU<sub>3</sub>O<sub>8</sub> cutoff. This equates to an average GT of 1.079. The Lower A2 trend is present within the basal unit of the Lower A sand, which is often mineralized two to six hundred feet west and updip of the Lower A1 trend. The Lower A2

is a smaller trend in the Lower A Sand with an area of 271,258 ft<sup>2</sup> with a rounded average thickness of 8.8' and an average grade of 0.073 resulting in a 0.514 average GT.

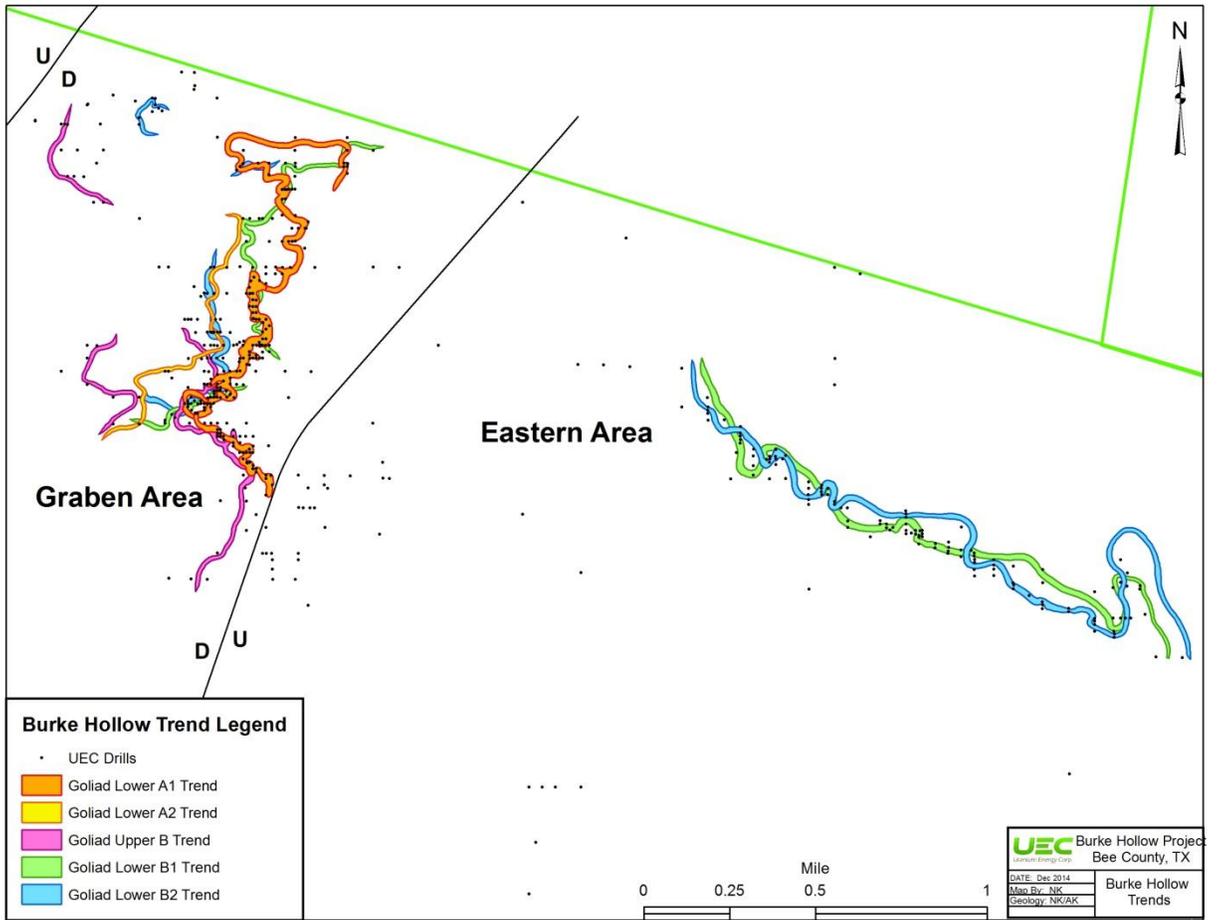
Underlying the Goliad A Sand is the Upper Goliad B Sand (Figure 14-1). This Upper B trend is mineralized in many areas of the graben and is a viable target for further exploration particularly in the Southern Target Area (Figure 9-1). The combined areas for these trends is 627,765 ft<sup>2</sup>, with a rounded average thickness of 7.7' and an average grade of 0.063% based upon a 0.02% pU<sub>3</sub>O<sub>8</sub> grade cutoff. The average GT for the Upper B is a 0.489.

Located near the base of the Goliad B Sand are the Lower B1 and B2 trends. To date, these trends are unique from the other trends because the Lower B is mineralized in both the graben and also in the upthrown eastern area across the antithetic fault (Figure 14-1). The Lower B trends were calculated as two separate mineralized trends as demonstrated by the mineralization in the two different areas.

The Lower B1 and B2 in the graben consist of an upper and lower subroll in the Lower B Sands. The Lower B1 deposit has an area of 470,064 ft<sup>2</sup>, an average thickness of 9.5' with an average grade of 0.091% pU<sub>3</sub>O<sub>8</sub>. Similarly, the Lower B2 has an area of 413,643 ft<sup>2</sup>, a rounded average thickness of 9.5' with an average grade of 0.091% pU<sub>3</sub>O<sub>8</sub>. Limited exploration to date of the Lower B2 mineralization in the northwest part of the graben supports further exploratory drilling. The average GT of the Lower B1 is 0.885 and the Lower B2 exhibit a 0.846 average GT, all based upon a 0.02 % pU<sub>3</sub>O<sub>8</sub> grade cutoff. The Lower B1 and B2 trends in the area east of the graben (Eastern Area) are two sub-rolls within the Goliad Lower B Sands (Figure 14-1).

UEC's 2013 and 2014 exploration and delineation drilling to date has identified these sub-parallel, west-east running trends being at least twice the length of their equivalent trends within the graben. The Lower B1 inferred area is 1,026,493 ft<sup>2</sup>, a rounded average thickness of 9.2' with an average grade of 0.093% pU<sub>3</sub>O<sub>8</sub>. This trend averaged a 0.863 GT. The Lower B2 inferred area is 1,082,237 ft<sup>2</sup>, with a rounded average thickness of 9.4' and an average grade of 0.085% pU<sub>3</sub>O<sub>8</sub>. This was calculated as a 0.823 average GT. Calculations were based upon a 0.02 % pU<sub>3</sub>O<sub>8</sub> grade cutoff. The Eastern Lower B trends are open ended, and limited drilling to date has indicated the continuity of these trends in a southward and eastward direction.

As required under NI 43-101, mineral resources must exhibit reasonable prospects for economic viability. These assumptions are derived from operations with similar characteristics, scale and location. Note that the Inferred Mineral Resources stated below are not mineral reserves as they have not demonstrated economic viability. There are no known factors relating to environmental, permitting, legal title, taxation, socio-economic, marketing or political issues which could materially affect the mineral resource estimates.



**Figure 14-1: GT Contours of Inferred Resources, Burke Hollow Project Trends Map**

Table 14-1: A Summary of Burke Hollow Inferred Resources

Summary of Burke Hollow Inferred Mineral Resources (PFN)*						
Trend	Area (ft <sup>2</sup> )	Average Thickness (Ft)**	Average Grade pU <sub>3</sub> O <sub>8</sub> (%)	Average GT ( 0.02 Cutoff)	Contained pU <sub>3</sub> O <sub>8</sub> (lbs)	Tons
Lower A1(Graben)	1,287,077.0	11.0	0.097	1.079	1,624,844.62	837,548.77
Lower A2 (Graben)	271,257.9	8.8	0.073	0.514	163,129.09	111,732.26
Upper B (Graben)	627,764.6	7.7	0.063	0.489	359,162.96	285,049.97
Lower B1 (Graben)	470,064.2	9.5	0.091	0.885	486,728.00	267,432.97
Lower B2(Graben)	413,643.3	9.5	0.091	0.846	409,432.40	224,962.86
<b>Graben Totals</b>					<b>3,043,297.07</b>	<b>1,726,726.82</b>
Lower B1 (East Side)	1,026,492.6	9.2	0.093	0.863	1,036,459.81	557,236.46
Lower B2 (East Side)	1,082,236.5	9.4	0.085	0.823	1,042,096.37	612,997.86
<b>East Side Totals</b>					<b>2,078,556.18</b>	<b>1,170,234.32</b>
<b>Graben and East Side (Project) Totals</b>					<b>5,121,853.25</b>	<b>2,896,961.14</b>
*All grade values are based on Prompt Fission Neutron ("PFN") logging and denoted by pU <sub>3</sub> O <sub>8</sub>						
**Rounded to nearest tenth of a foot						

## **15 MINERAL RESERVE ESTIMATE**

This section is not applicable.

## **16 MINING METHODS**

This section is not applicable.

## **17 RECOVERY METHODS**

This section is not applicable.

## **18 PROJECT INFRASTRUCTURE**

This section is not applicable.

## **19 MARKET STUDIES AND CONTRACTS**

This section is not applicable.

## **20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT**

UEC has completed all the required environmental baseline studies required for the Mine Area, Aquifer Exemption, and Radioactive Material License applications. The studies include cultural resources, archeology, socioeconomic, soil, flora, fauna, and radiological surveys. At this time, UEC is not aware of any environmental liabilities on the property.

To date, all submitted applications for the Burke Hollow Project have moved past the administrative review and are under technical review with the Texas Commission on Environmental Quality (TCEQ). Applications under technical review include the Mine Area, Aquifer Exemption, the Radioactive Material License, and two Class I Waste Disposal Well applications.

## **21 CAPITAL AND OPERATING COSTS**

This section is not applicable.

## **22 ECONOMIC ANALYSIS**

This section is not applicable.

## **23 ADJACENT PROPERTIES**

The Burke Hollow Project is located in southeastern Bee County. To the best of the authors' knowledge, there have been no uranium mining activities on properties immediately adjacent to the UEC Burke Hollow Project area. There has been no adjacent property information utilized in the mineral resource estimate (Section 14). A review of uranium scout maps dating from the 1960's through the mid 1980's reveals that no uranium exploration activity occurred in the vicinity of the Burke Hollow Project, other than the Nufuels exploration in 1982 and Total exploration at Burke Hollow in 1993. A review of current Texas Railroad Commission permit records shows no other active permits in this area of Bee County or in adjacent Refugio County.

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

This section is not applicable.

## 25 INTERPRETATION AND CONCLUSIONS

The authors have reviewed the project's historic data reported in 2012 in conjunction with 268 exploration holes drilled by UEC (Carothers, et al., 2013), and recently acquired 1982 Nufuels data including gamma-ray logs, geologic cross sections, and maps which pertain to the Welder lease. In 2013 and 2014, UEC conducted additional exploration and delineation drilling consisting of 258 holes, including the installation of 30 regional baseline wells at the project, as reported herein.

It is the authors' and qualified person's opinions that the data density and reliability are credible and that the maps and other interpretive data created by UEC were developed in a competent, knowledgeable, and accurate manner consistent with industry standards. It is also concluded that the expanded property has good potential to drill trend extensions and potential areas. The next objective for the Burke Hollow Project is to attain a density of drill holes that would confirm a NI 43-101 defined Indicated/Measured mineral resource. Additional drilling within the Exploration Targets and potential areas should also be considered to confirm the existence of mineralization in these areas.

Based on the generation, assembly and verification of all data by UEC from the Burke Hollow Project, the following conclusions can be made:

- The increased level of understanding of the geology at Burke Hollow Project is relatively good.
- The practices used during UEC exploration and delineation drilling campaigns have been conducted in a professional manner and adhered to accepted industry standards.
- There are no known factors that would lead one to question the integrity of the database.
- There are no unusual risks associated with the resource estimates.
- A significant uranium deposit has been discovered, with additional exploration and delineation potential indicated. Mineralization is hosted in fluvial sand facies fixed by the presence of several well-defined oxidation – reduction boundaries located within the two separate fault blocks at the project.
- Drilling to date has outlined an Inferred Mineral Resource (at a 0.02% pU<sub>3</sub>O<sub>8</sub> cut-off grade) of 2,896,961 tons at 0.089% pU<sub>3</sub>O<sub>8</sub> grade which contains an estimated 5.12 MMlbs of U<sub>3</sub>O<sub>8</sub>. An Inferred mineral resource does not have the confidence level to be included with higher classifications of mineral resource and should not form the basis for economic development.

## 26 RECOMMENDATIONS

The following actions are recommended for the Burke Hollow Project:

- Additional drilling to expand confirmation results from drilling in the Inferred Resource area, the Exploration Target and potential areas of the deposit. Both PFN logging with supporting chemical assay used for confirmation of grade; includes drilling field crew support, and lease road maintenance. A budget of US \$1,033,200 has been proposed to complete this work (Table 26.1).
- Assays, leach testing to include amenability and bulk density determinations. A budget of US \$8,800 has been proposed to complete this work and is incorporated in the budget presented below (Table 26.1).
- An aquifer pumping test is planned to satisfy regulatory assessment (Table 26.2). A budget of US \$15,000 has been proposed to complete this work.

The recommended drilling and assaying will further confirm historic results and upgrade the classification of resources in some areas. The PFN logging will also be used to confirm historic results.

**Table 26.1: Exploration Budget**

<b>Burke Hollow Cost Summary 3 Rigs (120 Holes)</b>	
<b>Cost description</b>	<b>Budget</b>
<b><u>EXPLORATION</u></b>	
Total Est. Rig Cost	\$422,900.00
RRC Hole Charge	\$6,000.00
Surface Damages	\$36,000.00
Est. Cement Cost	\$122,600.00
Est. Chemicals Cost	\$52,200.00
Est. Bit Cost	\$8,500.00
Est. Fuel Cost	\$10,300.00
Est. Labor and Equipment Cost	\$314,300.00
Est. Lodging Cost	\$16,000.00
Est. Roads Maintenance Cost	\$4,000.00
Est. Mechanical Cost	\$10,900.00
Misc. Field	\$2,000.00
Lab Costs (coring)	\$8,800.00
Hourly Staff	\$18,700.00
<b>Total</b>	<b>\$1,033,200.00</b>

**Table 26-2: Environmental Budget**

Item	Cost (USD)
Aquifer Pumping Test	\$15,000.00
Total	\$15,000.00

## 27 REFERENCES

Barnes, V. E., Beeville-Bay City Sheet: The University of Texas at Austin, Bureau of Economic Geology, Geologic Atlas of Texas, Revised 1987.

Baskin, Jon A., and Hulbert, Richard C. Jr., 2008, Revised Biostratigraphy of the middle Miocene to earliest Pliocene Goliad Formation of South Texas: Gulf Coast Association of Geological Societies Transactions, v. 58, p. 93-101.

Campbell, Michael D., King, Jeffery D., Wise, Henry M., Rackley, Ruffin I., and Handley, Bruce N., 2008, The Nature and Extent of Uranium Reserves and Resources and their Environmental Development in the U.S. and Overseas: A Report by the Uranium Committee of the Energy Metals Division, AAPF, p. 17.

Carothers, Thomas A., Davis, Bruce, and Sim, Robert, 2013, Technical Report for the Burke Hollow Uranium Project, Bee County, Texas USA. NI 43-101 Technical Report.

CIM. (November 2010). *CIM Definition Standards - For Mineral Resources and Mineral Reserves*. Retrieved from [http://web.cim.org/UserFiles/File/CIM\\_DEFINITION\\_STANDARDS\\_Nov\\_2010.pdf](http://web.cim.org/UserFiles/File/CIM_DEFINITION_STANDARDS_Nov_2010.pdf).

Dale, O, Moulder, E., Arnow, T. 1957. Groundwater Resources of Goliad County, Texas. TBWE, Bulletin 5711.

Galloway, W. E., Finley, R. J., and Henry, C. D., 1979, South Texas Uranium Province: Geologic Perspective: The University of Texas, Bureau of Economic Geology Guidebook 18, 81p.

Givens, W.W., and Stromswold, D.C., 1989, *Prompt Fission Neutron Logging for Uranium*: Nuclear Geophysics, Vol. 3, No. 4, pp. 299-307, Int. J. Radiation., Appl. Instrum., Part E.

Meyer, John E., P.G., Geologic Characterization of and Data Collection in the Corpus Christi Aquifer Storage and Recovery Conservation District and Surrounding Counties, *Open File Report 12-01*, September, 2012, Texas Water Development Board.

Myers, B. N., and Dale, O. C., 1966; Ground-Water Resources of Bee County, Texas, Texas Water Development Board Report 17, p. 101.

Penny, R, Ames, C. Quinn, D., Ross, A., 2012, *Determining uranium concentration in boreholes using wireline logging techniques: comparison of gamma logging with prompt*

*fission neutron technology (PFN)*. Applied Earth Science (Trans. Inst. Min. Metall. B) Vol. 121 No 2.

Scott, James H. (1962), "The GAMLOG Computer Program", Report RME-143, U.S. Atomic Energy Commission, Grand Junction, CO, p 43.

Sellards, E.H., Adkins, W.S., W.S., Plummer, F.B., 1932, Bulletin 3232, *The Geology of Texas, Volume 1, Stratigraphy*: The University of Texas at Austin, Bureau of Economic Geology, 1007p., reprinted 1990.

Weather.com, *Monthly Averages for Skidmore, Texas*. November 6, 2014:  
<[http://www.weather.com/outlook/homeandgarden/garden/weather/tenday/78389?lswe=78389&"%20from=%22locator%22&lswa=GardeningForecast](http://www.weather.com/outlook/homeandgarden/garden/weather/tenday/78389?lswe=78389&)>

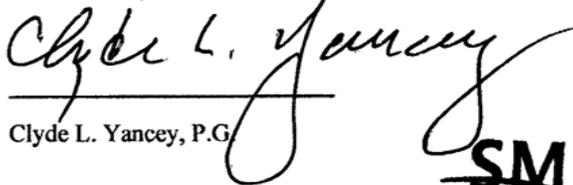
## 28 CERTIFICATE OF QUALIFIED PERSONS

### CERTIFICATE of AUTHOR

I, Clyde L. Yancey, P.G. do hereby certify that:

1. I am the Vice President of Exploration for Uranium Energy Corp. ("UEC"), located at 500 North Shoreline, Suite 800, Corpus Christi, TX, U.S.A., 78401.
2. I graduated with a Bachelor of Arts degree in Geology in 1975 from Trinity University and a Master of Science degree in Geology in 1978 from South Dakota School of Mines and Technology.
3. I am a Registered Member of The Society for Mining, Metallurgy, and Exploration, Inc. No. 3580620RM. I am a licensed Professional Geoscientist in the State of Texas, No. 129, and a licensed Professional Geologist in the State of Wyoming, No. 401.
4. I have practiced my profession as a geologist for my full working career (36 years), and have worked at two operating in-situ uranium mining operations in Texas, three uranium exploration companies in Texas, multiple geological consulting firms, and have been involved in numerous mineral resource and reserve estimations, as well as in-situ mine design, planning, and production, and potential uranium property evaluations in Texas, Wyoming, Arizona, New Mexico, Canada and South America.
5. I have read the definition of "qualified person" as defined in National Instrument 43-101 ("NI 43-101"), and I certify that by reason of my education, affiliation with a professional organization (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am responsible for the technical report titled: "Updated Technical Report for the Burke Hollow Uranium Project, Bee County, Texas" dated **December 29, 2014**, with an effective date of October 6, 2014. I personally visited the site on June 4, 2014. I have had no prior involvement with the property.
7. As the Vice President of Exploration of UEC, I am not "independent" of UEC as such term is defined in NI 43-101.
8. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. As of October 6, 2014, the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to make the Technical Report not misleading.
10. 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 by the public, of the Technical Report.

Dated this day of **December 29, 2014**

  
Clyde L. Yancey, P.G.

**SME**  
Society for  
Mining, Metallurgy  
& Exploration  
Clyde L. Yancey  
SME Registered Member No. 3580620  
Signature   
Date Signed 12-29-14  
Expiration date 12-31-15

## APPENDIX A – INTERCEPT DATA

DRILL DATA			GAMMA				PFN				SAND
HOLE	DRILL DATE	TD	TOP(G)	THICK. (G)	GRADE (G)	GT (G)	TOP (P)	THICK. (P)	GRADE (P)	GT (PFN)	HORIZON
BH_132.0-346.0	6/15/2012	420	195.5	4.5	0.036	0.161	195	4.5	0.102	0.458	Lower A2
BH_132.0-393.0	7/23/2012	420	373	3.5	0.034	0.121	370	9.5	0.051	0.484	Lower B2
BH_134.0-396.0	7/3/2012	420	368	2.5	0.031	0.078	363.5	7	0.043	0.301	Lower B2
BH_136.0-346.0	6/13/2012	420	349.5	1	0.021	0.021	346	5.5	0.070	0.387	Lower B1
BH_137.5-346.8	4/16/2014	400	220.5	6.5	0.046	0.299	220	8	0.053	0.427	Upper B
BH_140.0-349.0	4/17/2014	400	358	7.5	0.047	0.353	358	8.5	0.092	0.785	Lower B2
BH_140.5-349.5	5/5/2014	420	365.5	8.5	0.071	0.606	367	6	0.115	0.688	Lower B2
BH_141.0-347.5	8/22/2012	420	180	2.5	0.025	0.062	176	7.5	0.057	0.431	Lower A1
BH_141.0-349.0	4/22/2014	400	352.5	8	0.03	0.241	349	11.5	0.071	0.819	Lower B1
BH_141.5-349.5	4/7/2014	420	351	16.5	0.078	1.29	349	16	0.189	3.024	Lower B1,2
BH_142.5-349.0	8/7/2012	420	353	7	0.028	0.194	353	9	0.076	0.680	Lower B2
BH_142.5-349.0	8/7/2012	420	377	4.5	0.049	0.221	375	8.5	0.049	0.421	Lower B1
BH_142.5-352.0	6/5/2012	420	197.5	1.5	0.031	0.047	186.5	12.5	0.047	0.583	Lower A1
BH_143.0-349.0	9/4/2012	420	357	3.5	0.024	0.085	182	4.5	0.085	0.382	Lower A1
BH_143.0-349.0	9/4/2012	420	369.5	2.5	0.022	0.055	352	20.5	0.053	1.088	Lower B1,2
BH_143.0-350.0	5/30/2012	400	185	1.5	0.023	0.034	184	3	0.099	0.298	Lower A1
BH_143.0-350.0	5/30/2012	400	359.5	8.5	0.03	0.252	359	10	0.086	0.859	Lower B1
BH_143.0-360.0	6/6/2012	400	372.5	2	0.032	0.064	370	5	0.068	0.338	Lower B2
BH_143.5-350.5	4/8/2014	420	361.5	12	0.048	0.573	362.5	7.5	0.079	0.592	Lower B2
BH_143.5-351.0	7/3/2012	420	373	3	0.032	0.096	372.5	3	0.105	0.315	Lower B1
BH_144.0-344.5	7/9/2014	260	198.5	6	0.023	0.14	199	10	0.037	0.374	Lower A1
BH_144.0-345.0	7/21/2014	300	195	5	0.055	0.273	195	6	0.162	0.975	Lower A1
BH_144.0-350.0	5/24/2012	520	186.5	1.5	0.023	0.035	181.5	7	0.062	0.434	Lower A1
BH_144.0-351.0	6/26/2012	420	187	6.5	0.027	0.175	187	13	0.058	0.747	Lower A1
BH_144.0-351.5	4/25/2014	400	188	2	0.023	0.047	197	4	0.136	0.543	Lower A1
BH_144.0-351.5	4/25/2014	400	366.5	6.5	0.036	0.024	366.5	7	0.065	0.457	Lower B2
BH_144.0-356.0	7/9/2012	420	381.5	3.5	0.052	0.183	381.5	3	0.145	0.435	Lower B2
BH_144.0-360.0	7/10/2012	420	371	3.5	0.034	0.118	371	4.5	0.147	0.663	Lower B2
BH_144.5-344.0	7/24/2012	420	195	4	0.045	0.178	194.5	4.5	0.157	0.704	Lower A1
BH_144.5-350.0	7/8/2014	420	184.5	10.5	0.042	0.439	181	16	0.103	1.650	Lower A1
BH_144.5-351.0	8/22/2012	420	364	14	0.04	0.557	362.5	15.5	0.084	1.305	Lower B2
BH_144.5-351.5	4/9/2014	420	198	4	0.08	0.111	196	5.5	0.065	0.360	Lower A1
BH_145.0-352.5	7/26/2012	420	193	9	0.029	0.261	193.5	8.5	0.080	0.683	Lower A1

BH_145.0-358.0	7/19/2012	420	199.5	2.5	0.026	0.065	195	13	0.044	0.569	Lower A2
BH_145.5-350.0	8/28/2014	420	194	2	0.029	0.057	190.5	5.5	0.061	0.335	Lower A1
BH_146.0-353.0	9/18/2014	420	365.5	9.5	0.027	0.258	366	9.5	0.047	0.449	Lower B2
BH_146.5-344.0	9/20/2012	340	220.5	5.5	0.061	0.334	216	8	0.091	0.727	Upper B
BH_146.5-345.0	9/26/2012	420	221	4	0.028	0.112	218	7	0.045	0.313	Upper B
BH_146.5-350.0	9/8/2014	420	185.5	6	0.036	0.213	183	9	0.068	0.609	Lower A1
BH_147.0-354.0	7/12/2012	620	191	4	0.036	0.144	190.5	6.5	0.072	0.471	Lower A1
BH_147.5-354.0	8/21/2012	420	189	5	0.049	0.246	187	7.5	0.101	0.755	Lower A1
BH_147.5-355.5	7/14/2014	420	199.5	1.5	0.022	0.034	197	5	0.100	0.330	Lower A1
BH_148.0-340.5	10/10/2012	340	191	13.5	0.036	0.487	188.5	15	0.045	0.679	Lower A1
BH_148.0-356.0	8/21/2014	300	195.5	6.5	0.039	0.256	186	15.5	0.057	0.882	Lower A1
BH_148.5-340.0	9/7/2012	340	189	11	0.063	0.697	181	24	0.146	3.499	Lower A1
BH_148.5-341.5	8/6/2012	320	186	8	0.029	0.232	186	11	0.046	0.506	Lower A1
BH_148.6-339.9	11/4/2013	230	188	12	0.079	0.946	186	12.5	0.091	1.139	Lower A1
BH_149.0-340.0	8/30/2012	380	189.5	8	0.049	0.395	183	21.5	0.080	1.721	Lower A1
BH_149.0-341.5	10/15/2012	420	186.5	16	0.029	0.464	186	15.5	0.042	0.630	Lower A1
BH_149.0-356.5	8/25/2014	420	189.5	9	0.032	0.286	188.5	9.5	0.049	0.464	Lower A1
BH_149.0-364.0	9/12/2012	400	201	3.5	0.026	0.092	197	6.5	0.202	1.300	Lower A1
BH_149.0-366.0	8/29/2012	420	200.5	7	0.126	0.882	189	15.5	0.232	3.600	Lower A1
BH_149.1-366.0	9/18/2014	240	192.5	14	0.127	1.782	190.5	15	0.133	1.990	Lower A1
BH_149.5-339.5	1/30/2014	260	189	8.5	0.039	0.327	188.5	8.5	0.055	0.471	Lower A1
BH_149.5-362.0	8/22/2012	420	188	17.5	0.038	0.665	185	20	0.216	4.300	Lower A1
BH_149.5-363.0	7/3/2014	420	192	13	0.056	0.731	193	12	0.162	1.942	Lower A1
BH_149.5-363.0	7/3/2014	420	368	4	0.033	0.133	367.5	4	0.129	0.516	Lower B1
BH_149.5-364.0	8/21/2012	420	198.5	4.5	0.027	0.123	193.5	9.5	0.057	0.541	Lower A1
BH_149.5-364.0	8/21/2012	420	371.5	4	0.043	0.171	370.5	5	0.149	0.747	Lower B1
BH_149.5-365.0	7/8/2014	420	196	11.5	0.044	0.504	195	10.5	0.086	0.908	Lower A1
BH_149.5-366.0	8/24/2012	420	201	5.5	0.058	0.319	192	15	0.078	1.164	Lower A1
BH_149.5-367.0	8/19/2014	420	200	3	0.039	0.118	197.5	6.5	0.076	0.494	Lower A1
BH_149.5-370.0	8/16/2012	640	374.5	3	0.026	0.078	373.5	5	0.072	0.359	Lower B1
BH_150.0-339.0	7/25/2012	300	189	5	0.029	0.144	186.5	10.5	0.072	0.753	Lower A1
BH_150.0-362.0	8/8/2012	420	188.5	18.5	0.044	0.817	187	21	0.120	2.517	Lower A1
BH_150.0-363.0	7/17/2014	420	187	12.5	0.031	0.386	190	13.5	0.049	0.662	Lower A1
BH_150.0-364.0	8/31/2012	420	194	2.5	0.027	0.068	191.5	14	0.044	0.619	Lower A1
BH_150.0-365.0	9/10/2014	420	196	12.5	0.07	0.869	198	11.5	0.121	1.388	Lower A1
BH_150.3-368.5	9/14/2012	400	199.5	0.5	0.02	0.01	189	18.5	0.060	1.113	Lower A1
BH_150.3-368.5	9/14/2012	400	371	4.5	0.025	0.114	364.5	20	0.119	2.383	Lower B1
BH_150.5-358.0	9/11/2012	420	192.5	6	0.041	0.244	190	9	0.373	3.360	Lower A1

BH_150.5-358.5	8/21/2014	420	193	6.5	0.082	0.53	191.5	8.5	0.191	1.621	Lower A1
BH_150.5-362.0	8/13/2012	420	188	11	0.035	0.386	186.5	17	0.067	1.144	Lower A1
BH_151.0-358.0	8/6/2012	420	192	5.5	0.029	0.159	189.5	8	0.053	0.424	Lower A1
BH_151.0-359.0	7/2/2014	420	191.5	8.5	0.052	0.442	192	6.5	0.098	0.634	Lower A1
BH_151.0-360.0	8/23/2012	420	372	2.5	0.024	0.061	370	8	0.044	0.349	Lower B1
BH_151.5-337.5	9/20/2012	340	193.5	5.5	0.026	0.144	191	9	0.134	1.202	Lower A1
BH_151.5-338.0	2/4/2014	260	193.5	6.5	0.034	0.224	191.5	7	0.057	0.396	Lower A1
BH_151.5-358.0	8/30/2012	420	189	3.5	0.029	0.101	188	9.5	0.067	0.636	Lower A1
BH_151.5-358.0	8/30/2012	420	374	5.5	0.025	0.135	372	7	0.073	0.510	Lower B1
BH_151.5-359.0	6/11/2014	420	194	5	0.064	0.321	201	7.5	0.113	0.851	Lower A1
BH_151.5-360.5	9/10/2012	420	196.5	8	0.056	0.44	196	9	0.087	0.781	Lower A1
BH_151.5-362.0	7/15/2014	420	190	10	0.039	0.387	190.5	11.5	0.054	0.617	Lower A1
BH_152.0-361.0	9/14/2012	340	202	2	0.022	0.043	190	15	0.124	1.863	Lower A1
BH_152.3-338.0	8/27/2012	420	199	3.5	0.024	0.085	195	10.5	0.045	0.477	Lower A1
BH_154.5-382.0	9/24/2012	400	195.5	5	0.027	0.134	192.5	8	0.065	0.516	Lower A1
BH_154.5-382.0	9/24/2012	400	384	6	0.03	0.183	379	15	0.068	1.014	Lower B1
BH_164.0-388.0	9/25/2012	420	208	10.5	0.037	0.389	205.5	12	0.092	1.099	Lower A1
BH_224.5-343.0	4/15/2014	500	367	7.5	0.058	0.437	365.5	9	0.103	0.931	Lower B1
BH_224.5-343.5	4/1/2014	500	366	18.5	0.037	0.692	364.5	12.5	0.043	0.541	Lower B1
BH_226.5-338.0	7/16/2014	460	369.5	10.5	0.057	0.603	366	15	0.104	1.560	Lower B1
BH_228.5-340.5	7/21/2014	460	374.5	10.5	0.014	0.148	379	11.5	0.037	0.426	Lower B1
BH_229.0-340.0	5/5/2014	460	378.5	17.5	0.032	0.56	378	19	0.074	1.406	Lower B2
BH_229.0-340.5	4/14/2014	500	377	4	0.034	0.134	376	8.5	0.068	0.577	Lower B1
BH_229.0-340.5	4/14/2014	500	389	9.5	0.026	0.249	385	13.5	0.042	0.567	Lower B2
BH_230.0-340.5	6/10/2014	460	386.5	9	0.03	0.266	388.5	6	0.067	0.404	Lower B2
BH_230.0-341.0	6/16/2014	480	384.5	7.5	0.023	0.172	383.5	12	0.064	0.768	Lower B2
BH_230.0-342.0	7/17/2014	480	375	17	0.031	0.524	374.5	9.5	0.063	0.598	Lower B1,2
BH_231.5-341.0	7/14/2014	460	372.5	7	0.025	0.176	371.5	10.5	0.095	1.000	Lower B1
BH_231.5-341.0	7/14/2014	460	391	6	0.032	0.192	382.5	11.5	0.040	0.460	Lower B2
BH_237.0-335.0	3/18/2014	660	397	5	0.035	0.175	396.5	6.5	0.067	0.433	Lower B2
BH_237.0-335.5	4/23/2014	460	381.5	3	0.028	0.083	381	8	0.055	0.445	Lower B1
BH_237.0-335.5	4/23/2014	460	394	16.5	0.043	0.709	394	18	0.189	3.417	Lower B2
BH_237.0-336.0	5/8/2014	460	387	6	0.049	0.292	387.5	6	0.183	1.097	Lower B1
BH_237.0-336.0	5/8/2014	460	402	5.5	0.037	0.202	402.5	4.5	0.092	0.412	Lower B2
BH_239.0-333.5	2/20/2014	560	401	6	0.041	0.243	400.5	5.5	0.069	0.378	Lower B2
BH_239.0-334.0	2/27/2014	440	391.5	8.5	0.062	0.531	391.5	6.5	0.109	0.710	Lower B1
BH_241.0-331.0	9/15/2014	480	399.5	3.5	0.023	0.08	400	5.5	0.088	0.482	Lower B1
BH_247.0-330.0	4/9/2014	480	394	4	0.025	0.099	391.5	8	0.045	0.364	Lower B1

BH_248.0-330.0	3/7/2014	460	392	10	0.049	0.486	390	11	0.172	1.895	Lower B1
BH_254.5-327.0	3/18/2014	500	398.5	6	0.028	0.166	396.5	10	0.065	0.648	Lower B1
BH_254.5-327.5	2/18/2014	460	393	7	0.048	0.333	392	8	0.097	0.773	Lower B1
BH_256.5-326.3	2/17/2014	460	393.5	6.5	0.04	0.257	393	7.5	0.086	0.646	Lower B1
BH_256.5-327.0	2/6/2014	560	400.5	5	0.046	0.229	401	4	0.080	0.319	Lower B1
BH_260.0-326.5	9/2/2014	480	395	7	0.045	0.315	388.5	12.5	0.074	0.925	Lower B1
BH_260.5-325.5	2/28/2014	460	403	3	0.022	0.066	398	7.5	0.048	0.361	Lower B1
BH_260.5-326.0	9/15/2014	480	397	7.5	0.044	0.333	396	7	0.142	0.997	Lower B1
BH_266.5-320.5	9/3/2014	480	421	4.5	0.025	0.114	420	8	0.085	0.683	Lower B2
BH_266.5-321.0	6/2/2014	500	422	10.5	0.034	0.361	420.5	8.5	0.110	0.935	Lower B2
BH_269.0-319.5	9/18/2014	480	427	5	0.029	0.147	427	5.5	0.094	0.519	Lower B2
BH_271.0-318.5	4/22/2014	460	424.5	5.5	0.046	0.251	423.5	5.5	0.094	0.517	Lower B2
BH_283.3-316.0	9/25/2014	500	439.5	5	0.031	0.155	437.5	7	0.121	0.849	Lower B2
RBW1-1	12/12/2012	220	187.5	18.5	0.044	0.813	185.5	20	0.150	3.009	Lower A1
RBW1-2	12/19/2012	410	366	8.5	0.039	0.332	365	13.5	0.104	1.400	Lower B2
RBW4-2	3/4/2013	435	384.5	11.5	0.044	0.502	383.5	14.5	0.195	2.825	Lower B1