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Mesteña Uranium LLC
Alta Mesa and Mesteña Grande Projects
South Texas, U.S.A
NI 43-101 Report

for:

Mesteña Uranium, LLC
Corpus Christi, Texas
U.S.A.

By

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3.0 Summary

Mesteña Uranium LLC (MULLC) engaged M. D. Campbell and Associates, L.P. (C&A) to prepare a Qualifying National Instrument (NI) 43-101 report on MULLC's uranium recovery and exploration program located in south Texas. The report is to be used in a business transaction being considered by MULLC.

By the late 1990s, extensive uranium mineralization had been discovered in roll front deposits in Tertiary sediments typical of previous south Texas uranium projects. MULLC re-confirmed uranium mineralization indicated by historical drilling activities conducted by Chevron, Total, Cogema, and Uranium Resources Inc. in sufficient resources to justify the initiation of a uranium recovery program and associated plant design and permitting activities in the Alta Mesa area. Project development commenced August 2004; plant construction commenced January 2005; commercial operations began on October 28, 2005; first shipment of yellowcake product was delivered in January 2006. The Alta Mesa project has a design annual production capacity of one million pounds of yellowcake (424 tons U). As of 2008, MULLC has produced approximately 2.3 million pounds of yellowcake.

Exploration drilling continued in the Alta Mesa area and as of September 2008, an additional 6.5 million pounds have been identified as indicated resources in the Goliad Formation in the vicinity of the Alta Mesa deposit. In an area designated as Mesteña Grande, northwest of MULLC's Alta Mesa operations, exploration and delineation drilling have identified approximately 10 million pounds of uranium ore as inferred resources in the Oakville Sandstone.

We have concluded that the MULLC uranium recovery operation has been a well managed, economically viable venture with likely prospects for continued success. This assumes that yellowcake prices remain stable or increase over the years and that management continues their present mode of operations.

We also conclude that MULLC's exploration program at both the Alta Mesa operations in Brooks County, Texas, and at the Musteña Grande project in Jim Hogg County, Texas, have been successful in locating potentially economic uranium resources.

To improve the efficiency of the MULLC operations, we recommend the following: 1) conduct detailed geological modeling of the Alta Mesa deposit using information from the experience of past production in the first recent years of production, 2) conduct geological modeling of the mineralization discovered to date in the Mesteña Grande area for purposes of reducing the number of holes required to bracket the ore zone(s), 3) implement comprehensive revision to the software system used to date to improve data accessibility and usability, 4) conduct detailed investigations concerning the injection well systems presently in use for the purpose of increasing efficiency, 5) obtain laboratory analyses of samples to obtain additional information on the density of the ore, 6) institute an improved security program at Alta Mesa plant, and 7) explore present staffing assignments with a view toward providing depth and back-up to the present complement of professional and technical staffing.

4.0 Introduction

MULLC engaged Michael D. Campbell, P.G., P.H., Managing Partner of C&A located in Houston, Texas, as a Qualified Person to prepare a Qualifying National Instrument (NI) 43-101 report for their uranium recovery and exploration programs located in south Texas (see Figure 1). This report is to be used in a business transaction being considered by MULLC.

The C&A evaluation was conducted in four phases: Phase 1) preliminary discussions with staff and management in the corporate office to establish the scope of our investigations (during week of May 12, 2008), Phase 2) discussions with staff at the Alta Mesa plant site regarding resources and permit compliance (during week of May 19, 2008), Phase 3) discussions with exploration and production staff during drilling and plant operations regarding field operational methods – geological and well logging, and resource estimating methods, health-and-safety program, laboratory operations and staff utilization in these activities (during weeks of June 2, June 16, and August 18, 2008), and Phase 4) information assessment and report preparation by C&A (to date).

Figure 1- General Location of MULLC's Alta Mesa Site and Mesteña Grande Area. Access Road from Rachel, Texas to the Alta Mesa Plant Site (see Figure 3 for Local Guidance)

This report is based on C&A's evaluations and subsequent discussions with: 1) the MULLC corporate staff in the Corpus Christi, Texas office, 2) the Alta Mesa operations and plant site in Brooks County, Texas, and 3) the Mesteña Grande operations in Jim Hogg County, Texas, located approximately 35 miles northwest of the Alta Mesa operations (see Figure 1).

This evaluation consisted of an assessment of MULLC's uranium resources, exploration data, and associated data, as required. C&A randomly selected five modules for detailed analysis of the assumptions used in the resource calculations, using ore-grade and ore-thickness values (GTs) calculated from well logs (natural gamma and prompt-fission neutron (PFN)), lateral areas of mineralized zones, and of disequilibrium conditions (DF) within the mineralized zones.

In addition, C&A conducted a field-office evaluation of MULLC's uranium drilling programs, including geological logs, geophysical logs and associated data, maps, aerial photographs, and other survey data, as required. Trips into the field were taken to observe and evaluate MULLC's field operations, including exploration and development drilling operations and associated calculations of uranium resources, laboratory operations, and plant operations. These field trips allowed C&A personnel to evaluate the drilling and development operations in the field and at the plant site, including management activities and health and safety considerations, including an evaluation of the regulatory reports submitted to and received from State, County, or Federal agencies, as available.

4.1 Common Units and Conversion Factors

Within this report common units of measure used and equivalent conversion factors include the following:

1 foot = 0.3048 meter
1 yard = 0.9144 meter
1 mile = 1.61 kilometers
1 acre = 0.4047 hectare
1 pound = 0.454 kilogram
1 short ton = 2,000 pounds

4.2 Definitions of Terms

A number of uranium recovery terms used in this report are defined below:

cU_3O_8: Uranium assay or grade determined from chemical analysis of a sample, also referred to as chemical or natural uranium, recently measured by the Prompt Fission Neutron (PFN) logging tool.

eU_3O_8: An assay or grade of equivalent uranium as determined from a gamma ray log.

Disequilibrium Factor (DEF): This factor is the ratio of cU_3O_8 values or equivalent U_3O_8 values measured by the Prompt Fission Neutron (PFN) Log to eU_3O_8 or Gamma-Log-derived values used to adjust the grade of uranium when determining actual in-place uranium resources where most of the historical exploration data consisted of borehole gamma logs.

GT: A value calculated for a specific downhole interval by multiplying the average mineral grade in $\%U_3O_8$ multiplied by the interval thickness. Also referred to as G*T or GT.

Indicated Resources: Widespread and systematic drilling along an identified mineralized trend, with drill-hole spacing from 100 by 200 feet to 100 by 800 feet.

Inferred Resources: Widespread drilling which may or may not have interested "ore-quality" mineralization identified at the Alta Mesa deposit, but does bracket the known roll-front.

Injection Wells: Those wells through which a solution of water and chemicals are injected into the subterranean strata in which the Leased Substances are located.

ISR: In Situ Recovery, a uranium recovery method where the mineral sought is recovered from the host rock by indirect methods that are generally fluid-based and do not require removal of the rock.

PFN: Prompt Fission Neutron log – The ratio of thermal (output) to epithermal (^{235}U fission product) neutrons is directly proportional to true in-situ uranium grade.

Production Wells: Those wells which produce wellhead solutions as feed to processing plant.

Uranium Mineralization: In this report, uranium mineralization refers to specific areas where anomalous, down-hole natural gamma log or PFN log recorded the presence of radionuclides such as U_3O_8 **or** ^{235}U, respectively.

Monetary Values: Any references to monetary values in this report are in U.S. currency unless otherwise noted.

Wellhead Solutions: Liquid mixture of water and chemicals as defined in the lease as it comes out of the production wells and prior to any processing.

Uranium Oxides: The concentrated uranium oxides, in powder form, as produced by the processing plant, often yellow in color and called yellowcake.

4.3 Sources of Information

The primary sources of information and data utilized in this report are from the geologic files (including seismic surveys, geophysical logs, maps, cross sections, and uranium assay and testing data, and background ground-water surveys) from Chevron, Total, and Cogema reports and from MULLC files.

1988 Total Minerals Corporation Report on Alta Mesa Project, Jan. 6.
1988 McNeill, A.R., Preliminary Evaluation –Alta Mesa Project, Nov. 1, for Total Minerals Corporation.
1988 McNeill, A. R., *et.al*, “Appendix – Maps of the Main Drilled Area – Alta Mesa” December. 2, for Total Minerals Corporation.
1989 Total Minerals Corporation Report by on Alta Mesa Project, March.
1989 Total Minerals Corporation Report, Alta Mesa Project – Update of the 1989 Program” Oct. 24,
1994 Miller, D.R. *et.al*, “Cogema Report on Alta Mesa Project (.03%/.6 GT Reserves) and Project Overview,” April 4, ~60 p.

The author and supporting C&A professional associates conducted inspections of the subject property and met with associated MULLC staff during week of May

12, May 19, June 2, June 16, and of August 18, 2008 that included the review of selected logs and field maps as well as observation of MULLC drilling and geophysical logging operations, drilling sample-handling procedures, ground-water monitoring well activities, and associated permitting activities, health and safety programs, and staff training activities.

5.0 Reliance on Other Experts

The author of this report has relied on the available reports and the associated consultants, the historical technical literature produced in Chevron, Total, and Cogema reports, on MULLC personnel and the data provided by Mr. Paul Goranson, P.E., Vice President; Mr. Peter Luthiger, Operations Manager; Mr. Jack Collins, P.G., Chief Exploration Geologist; and Mr. Adrian Garcia, P.G., Senior Geologist; and on the author's own professional experience in evaluating uranium and other natural resources. Of particular note is that the Qualified Person (the author of this report) was employed by Conoco Uranium and Teton Exploration (United Nuclear Corporation), and consulted for Texas Eastern Nuclear and other uranium companies from the mid-1960s and early 1970s to the early 1980s, and has participated in the recent resurgence of uranium exploration and development and the renewed interest in expanding the use of nuclear power to generate electricity for the U.S. power grid.

Mr. Jeffrey D. King, P.G., of C&A, provided input on regulatory and mining issues. Mr. Ruffin I. Rackley of C&A, and former Vice President of Teton Exploration, Div., United Nuclear Corporation, Casper, Wyoming, provided input to the author on resource evaluation and exploration programs. Mr. Bruce Handley, P.G. provided input on regulatory and permitting issues (see **Section 23. References** for contributions by Campbell, King, Rackley, and Handley).

6.0 Property Description and Location

6.1 General Description

The county is bounded on the north by Duval and Jim Wells counties, on the east by Kleberg and Kenedy counties, on the south by Hidalgo and Starr counties, and on the west by Jim Hogg County, the location of MULLC's present area of exploration called the Mesteña Grande project. The center of the county lies at approximately 27° 03' North Latitude and 98° 14' West Longitude. Falfurrias, Texas, the county's largest town and county seat, is in northeastern Brooks County at the junction of U.S. Highway 281, State Highway 285, and Farm Roads 2191 and 1418. Other communities within Brooks County include: Encino, Flowella, and Rachal, the community located at the interception of US 281 and Ranch Road 755, the road leading to the Alta Mesa operations.

6.2 Property Ownership and Financial Obligations

The Alta Mesa lease consists of a total of 4,575 acres. All other MULLC operations are being conducted by right of two testing permits and from lease options: one covers 195,501.03 acres in Jim Hogg and Brooks Counties (MULLC acreage), the second covers 3,173.13 acres in northern Jim Hogg County (the Eshleman-Vogt "Morgan" tract acreage). Combined, these tracts are the same acreage contained in the permit submitted to the Texas Railroad Commission (RRC). Figure 2 shows the Alta Mesa lease boundaries.

The terms are of the lease involve a 15% production royalty, a series of advance royalties in lieu of production, and a term based on continuing production such that the term of the lease shall be for as long as production of uranium is occurring on the lease (see Sections 4.0, 3.0, and 3.4, respectively, of the subject lease document). Lessee has indemnified Lessor in Section 10.0 of the subject lease to defend and hold the Lessor harmless from and against the standard range of damages and injuries resulting from the operations of the Lessee involved in the subject project. Lessor has warranted and has agreed to defend the title to the Leased properties as expressed in Section 17.0 of the subject lease document.

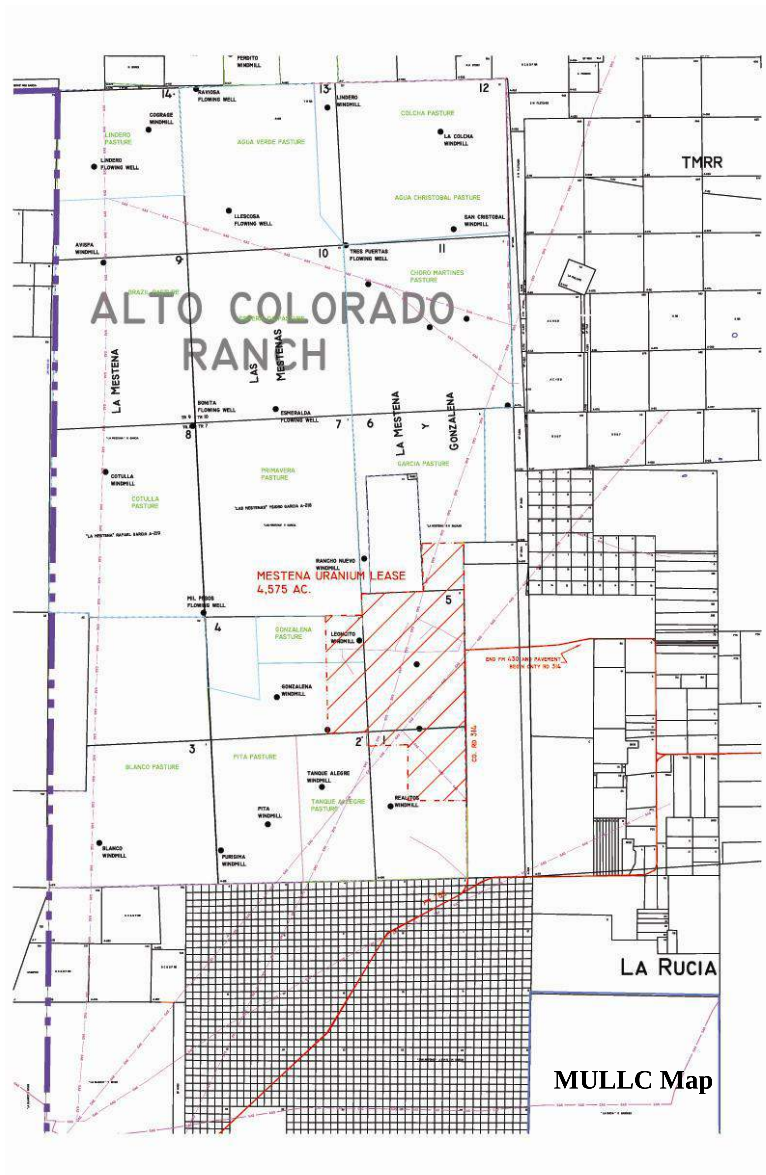


Figure 2 – Alta Mesa Lease

6.3 Permitting

6.3.1 Health and Safety Program

C&A personnel reviewed MULLC's Health and Safety program (HASP) summarized in the *Blue Book*, a document provided for distribution to the drilling and other contractors working on the project, and also observed plant health and safety measures involving personnel radiation exposure monitoring and air-quality monitors located in the drying room of the processing plant. These radiation dosimeters and air-quality monitors are required by permit and appear to be suitable for the purpose intended. The MULLC Health and Safety programs contain the essential elements of a typical HASP, are well-prepared, and contain the appropriate information required to reduce MULLC's workplace liability and to meet permit requirements. A drug-testing program is in effect and has identified a few violations, which we understand were handled appropriately. Regular safety-training sessions are held at the office. The Health and Safety program coverage is consistent with other effective industrial safety programs.

6.3.2 Operations Permitting

We reviewed MULLC's current permits and discussed upcoming permitting issues at Alta Mesa. The permits on file at the subject Alta Mesa field offices were reviewed to ensure that all were current. The only permit found that had expired was the Section 404 USACE Permit for wetlands. The Site received a letter of "no jurisdictional wetlands" on 11/2/1998 which was valid for five years and had therefore expired in 2003. Subsequent to our visit to the Site, management researched the entire permitting file and found the 2003 application and response from the U. S. Corps of Engineers. The plant is currently in compliance but will have to submit another permit renewal application prior to November of 2008.

All other permits reviewed appeared to be in order, including the permits for both Class I non-hazardous disposal wells and the permits for the three existing production areas (PAA-1, PAA-2, and PAA-3). The permit application for Production Area 4 (PAA-4) was submitted in August, 2008.

The current Aquifer Exemption is limited to the Goliad Formation's B and C sands. MULLC management will need to apply for an extension of the exempted aquifer for the deeper sands in the Goliad Formation in the Alta Mesa project area (e.g., D Sand) and in the Mesteña Grande project covering deeper sands that are currently being explored in the Upper and Lower Oakville Formation in Jim Hogg County northwest of the present Alta Mesa operations.

The facility submitted an amendment to the radioactive- material license in November 2007 for the process pad extension to accommodate the new south Plant. The Texas Commission on Environmental Quality (TCEQ) staff has completed its review of this amendment and has forwarded the application for public review and comment.

We noted during our permit review that MULLC is conducting additional sweep operations within PAA-1 to recover a higher percentage of the uranium remaining in situ in other production modules that was not recovered during the primary operations. MULLC will continue this uranium recovery upon approval of the plant expansion amendment described above.

For drilling sites, MULLC has applied to the Texas Railroad Commission for renewal of Permit No. 125A to allow for a larger drilling pad site than the ¼-acre drill site presently authorized in Permit 125-A because the deeper wells typically will require slightly more drill-pad space to allow drilling activities to be conducted in a safe and efficient manner.

The present MULLC licenses and permits include:

1) Texas Commission on Environmental Quality (TCEQ) Radioactive Material License No. L05360,

2) Texas Commission on Environmental Quality (TCEQ), Class III Underground Injection Control Permit No. UR03060. TCEQ replaced TNRCC.

3) Texas Commission on Environmental Quality (TCEQ), Class I Underground Injection Control deep disposal well permit, WDW-365.

4) Texas Commission on Environmental Quality (TCEQ), Class I Underground Injection Control deep disposal well permit, WDW-366.

5) Texas Department of Health (TDH), sealed source radioactive materials license, L05939.

6) Texas Railroad Commission (TRC), exploration permit, 125-A

An Agreed Order of Record:

Regarding penalty of $2,000 to Mesteña Uranium LLC Docket No. 2007-1010-UIC-E on December 20, 2007 assessing $2,000 in administrative penalties with $400 deferred (*Texas Register*, January 18, 2008, Volume 33 Number 3, Pages 449-634).

The Bureau of Radiation Control completed the technical, environmental, and financial review of a new application for a radioactive-material license for in-situ uranium recovery from Musteña Uranium LLC and issued the proposal to issue the license and opportunity for public hearing (Texas Register Aug. 16, 2002). The license was issued on October 7, 2002. (Texas Department of Health, Bureau of Radiation Control, Nov. 21, 2002)

6.3.3 Laboratory Operations

We conducted a visit to the on-site MULLC laboratory facility at the Alta Mesa office. The laboratory technicians provided credible information on the typical operations of the laboratory in meeting permit requirements. The equipment used in the lab appears to be adequate for the needs of the operations and is consistent with labs in similar operations.

6.3.4 Archaeological and Other Environmental Issues

Artifacts found in Brooks County that were dated from the Paleo-Indian period (9,200 B.C. to 6,000 B.C.) suggest that human beings have lived in the Brooks County area for at least 11,000 years. During the historical era, the Indians of the region belonged to the Coahuiltecan linguistic group. No artifacts have been located to date on the subject properties.

There are no tailing ponds or other environmental issues apparent in or around the processing plant. Therefore, we are not aware of any residual environmental issues that could impact the subject operations.

7.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

7.1 Topography, Elevation, and Vegetation

Brooks County comprises 942 square miles of brushy mesquite land. The elevation ranges from 260 to 300 feet above mean sea level. The nearly level to undulating surface is underlain by poorly drained, dark and loamy or sandy soils; isolated dunes are found. In the northeast corner of the county, the soils are light-colored and loamy near the surface and clayey beneath. The vegetation, typical of the South Texas Plains, includes live oaks, mesquite, brush, weeds, cacti, and range grasses.

7.2 Accessibility to Properties

MULLC's Alta Mesa uranium recovery plant is located in southern Brooks County, Texas, on the Rio Grande Plain south of Corpus Christi, Texas. Access to the property is by travelling south on US 281 and then west approximately 13 miles on Ranch Road 755 from Rachel, Texas, then north approximately 3 miles to the Alta Mesa Plant gate (see Figure 3).

Figure 3- Pre-Production Aerial View of Alta Mesa Circa 2005 and Local Access to Alta Mesa Plant (see Figure 1 for General Location)

7.3 Local Resources

Mineral resources include caliche, gypsum, and salt from shallow salt domes, oil, and gas, and, since the 1970s, uranium. Petroleum products (including casinghead gas) are produced predominately from natural gas wells, but crude oil has also been produced in significant volumes.

In the early 1990s, 95% of the land in Brooks County was devoted to farming and ranching; 3% was under cultivation and 2% irrigated. Only 1 to 10% of the land is considered prime farmland. Ground-water resources are abundant but underutilized in the county (see Myers and Dale, 1967). Only a few cattle were observed during C&A's two visits to the field operations around the Alta Mesa and Mesteña Grande areas.

Oil and gas, geothermal energy, and solar energy are available in south Texas. Oil and especially natural gas are available as potential energy sources in the immediate area of the MULLC operations in Brooks and Jim Hogg Counties (see Figure 4).

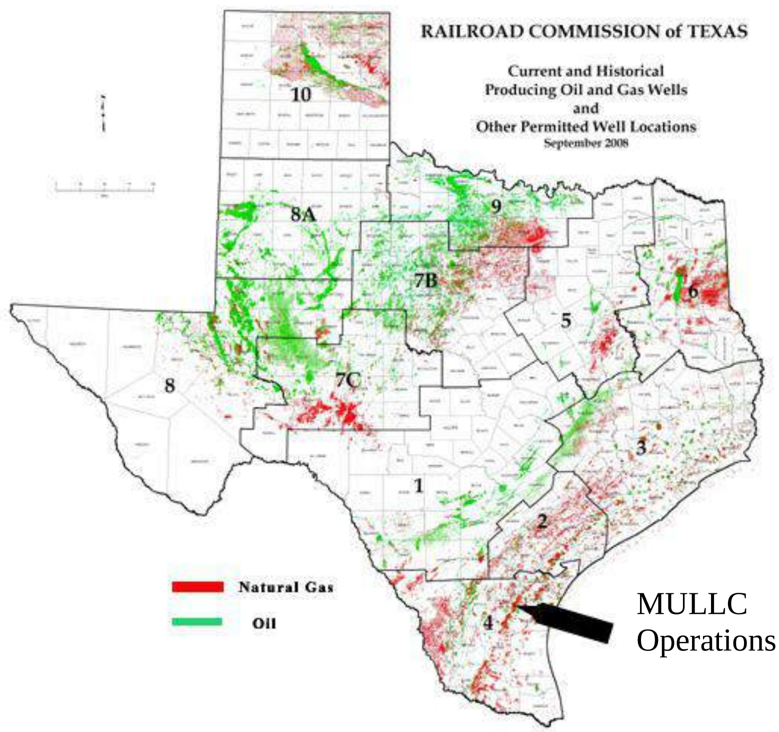


Figure 4 – Oil and Gas Resources in Texas
(see General Location of MULLC operations)

Erdlac (2007) suggests that medium to high temperature levels for geothermal energy are primarily used for electrical power generation. The medium levels of temperature generally use a binary fluid system whereby heat is extracted from ground water through a heat exchanger to vaporize the working fluid that drives an electrical generator.

Figure 5 illustrates the temperature in the ground water at 9,800 feet below ground surface, which would be in the range of 100° C (212° F) to about 125° C (257° F). For additional information on the available geothermal resources, (see Bebout, *et al.*, 1975; Jones, 1977).

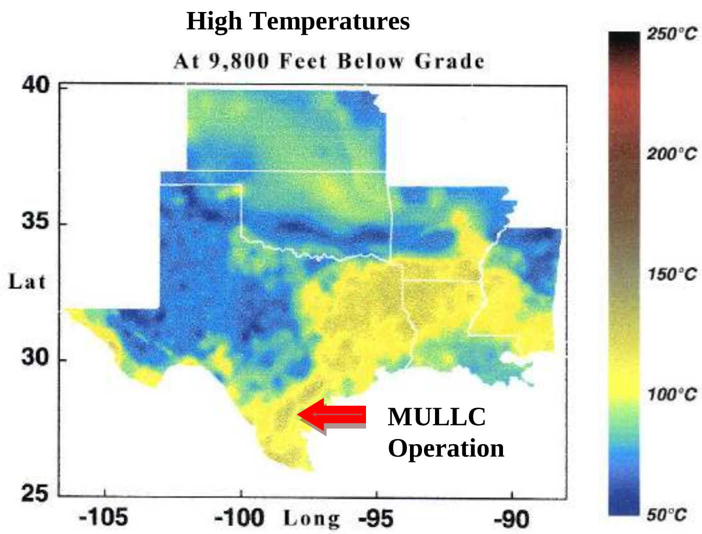


Figure 5 – Geothermal Resources (After Erdlac (2007)

Because solar energy is available in the subject area in sufficient sun-days, economies can be realized with the use of solar panels to offset energy costs and to augment daily office and plant power needs.

**Figure 6 – Solar Energy Availability in South Texas.
(from DOE)**

7.4 Climate and Seasonal Operations

The climate is characterized by hot, dry summers and cool winters. Temperatures in Brooks County range from 44°F to 69°F in January and from to 73°F to 97°F in July. The average annual temperature is 73°F. The average annual rainfall is 25 inches and the growing season averages 310 days, although droughts, some of long duration, have come to the area to dominate the weather. This is punctuated by remnants of tropical storms coming out of the Gulf of Mexico with minor flooding and temporary relief from drought.

7.5 Available Infrastructure

The Alta Mesa site is served by electricity and natural gas. Ground water is available as a source of high-quality water for use in injection and production of the uranium recovery operations.

The nearest town of any size is Falfurrias, Texas, located about 25 miles to the northeast of the Alta Mesa site. An improved roadway provides access and is discussed in **Sections 7.2 Accessibility to Properties** and **7.3 Local Resources**.

8.0 History

8.1 Previous Activities

The Alta Mesa area was first developed as an oilfield in the 1930s and production continues to date, especially natural gas. The Alta Mesa uranium deposit was discovered in the mid-1970s by Chevron, who drilled approximately 360 holes consisting of 335 exploration holes, 17 core holes, and 8 other types of holes/wells. The deposit then went through several owners including Total (Minatome), who drilled about 452 additional exploration holes, 23 core holes, and 104 other types of holes, (frontier drilling, monitoring wells, etc.). Cogema evaluated the historical data in 1994 with a view to acquiring the properties. Later, Uranium Resources Inc. also evaluated the Alta Mesa project. Prior to MULLC’s entry as the first privately held company in the U.S. uranium industry, the land status, drilling locations, and potential “ore” trend were presented in the illustration from a Total 1986 report, shown here as Figure 7.

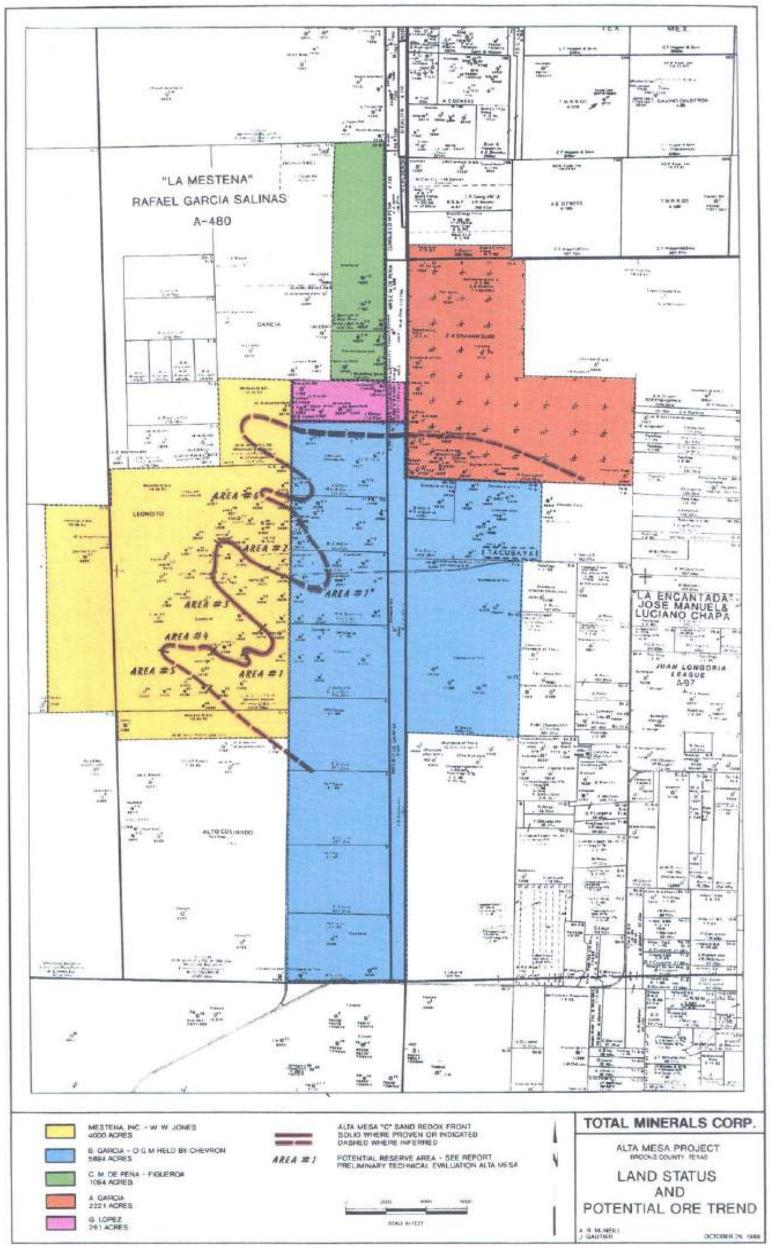


Figure 7 – 1986 Land Status, Drilling Locations, and Potential "Ore" Trend (Total 1986 Report).

During the mid 1990s, MULLC's oil and gas drilling division developed an interest in uranium exploration and development with a view towards developing their capabilities in uranium by hiring key professionals to handle their expansion into uranium exploration and recovery. By April of 2000, permit work was well underway when the Texas Natural Resource Conservation Commission (TNRCC) granted the Permit to Conduct Class III Underground Injection. MULLC completed licensing in 2002 and began building the plant in 2004. The date of first production was in December 2005, so the whole process from the beginning of permitting to initial production required less than five years, assuming that permitting began in 2000. The project is currently operating under its 10th license amendment.

The methods employed by the uranium exploration companies in the early 1980s remain the standard methods to be employed now as the number of uranium exploration programs increase in the U.S. and overseas. All geological mapping and investigations focused on uranium exploration in Texas that were begun in the early 1970s by the Texas Bureau of Economic Geology (BEG), especially publications by Galloway, Fischer, and others, have been completed in the interim. These publications are still available and are useful and applicable today in frontier and development programs.

The differences in the uranium industry today from 20th Century methods are three-fold. The first and probably the most important development is the widespread use of the Prompt Fission Neutron (PFN) logging tool, which replaces (but does not eliminate) much of the coring once required to obtain a physical sample of the uranium ore for laboratory analysis of the chemical content of uranium (referred to as cU_3O_8), as opposed to the radiometric content indicated by the natural gamma log referred to as eU_3O_8. Coring is required to characterize other aspects of the sediments, such as detailed lithology (including any indications of iron/calcium mineralization), porosity, density, and others.

Using the PFN logging tool overcomes the problem of determining ore disequilibrium (and relative age of the mineralization) by measuring the ^{235}U in the formation (or chemical uranium present) and supports more accurate calculations of in-place uranium resources than using cU_3O_8/eU_3O_8 and associated factors of years past.

However, although regular calibration of the PFN tool is required, coring is still necessary for important functions to provide physiochemical information on the mineralization but also to cross-calibrate the PFN results for that extra measure of assurance that the U_3O_8 grades indicated are valid. The use of Department of Energy (DOE) calibration facilities (e.g., George West, Texas) is routinely performed to ensure that reliable data are being obtained with the PFN logging tools. Insuring that the tool is calibrated after 1,000 hours of operation and that the gamma tools are also calibrated at recommended intervals are MULLC management functions.

The second difference is the lack of trained professional geologists and engineers available in the uranium industry today. Only a few professionals who were active prior to 1980 are still available and useful today. Training recent graduates and finding older professionals who have retained their professional standing, libraries, and interest in the field present challenges to the company's ability to employ qualified professional staff, maintain project continuity and secure company information (e.g., frontier exploration leads, proprietary plant engineering, reserve base information), and ensure project profitability, especially for public uranium companies.

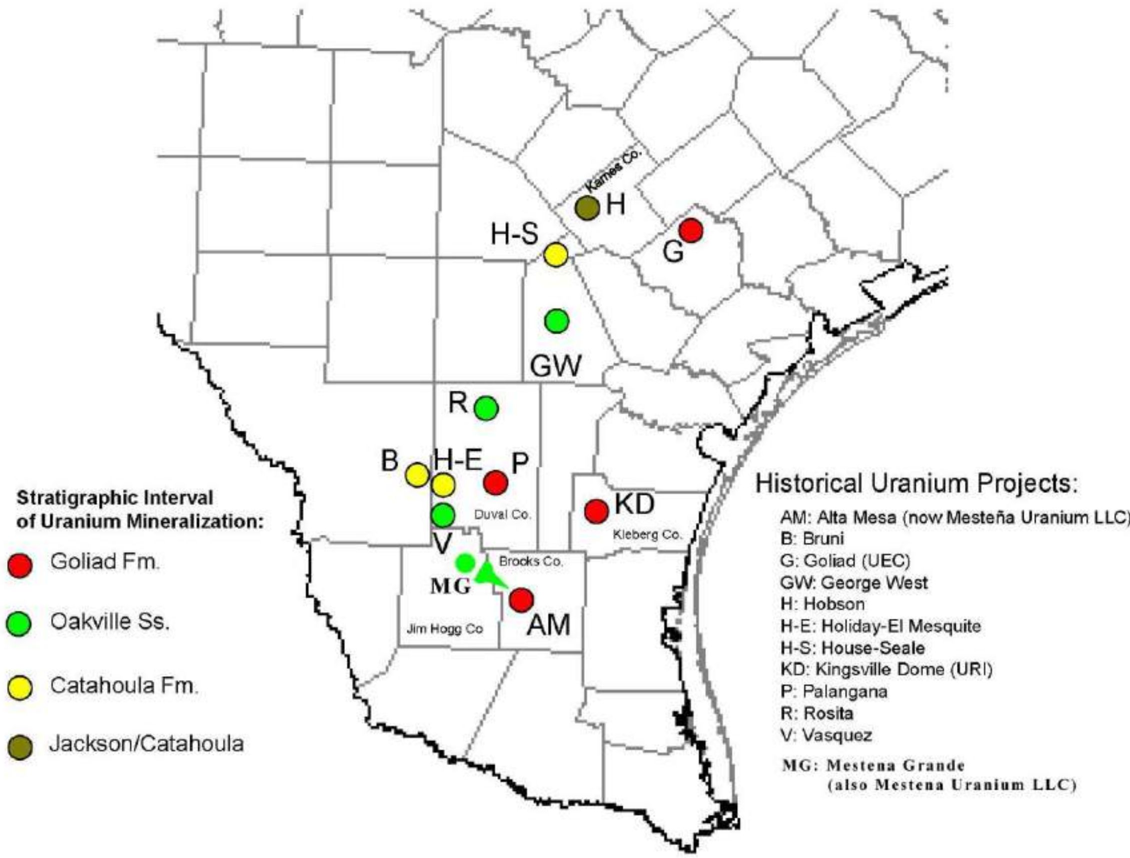
The third difference is the presence of a more comprehensive regulatory landscape than the uranium industry operated under prior to 1980. Now, numerous State and Federal programs regulate the uranium industry, which, depending upon the location of the uranium operations, also must address and support by example community outreach programs.

8.2 Previous Exploration Results

Exploration interest began to move away from the shallow zones previously discovered in the 1950s and 1960s, such as deposits in the Jackson and Catahoula Formations, to deeper zones in younger sediments, such as the Oakville Sandstone and Goliad

Formation, especially those associated with salt domes and associated faulting. The latter was demonstrated in the occurrence at the Palangana Dome followed by similar discoveries at the Kingsville Dome, Alta Mesa Dome, Goliad Deposit, and others in the Goliad Formation (see Figure 8).

Figure 8 – Historical Uranium Deposits (after Ambrose, 2008)



Before MULLC initiated the Alta Mesa project, the configuration of the known principal zones of the mineralization as of the 1980s after drilling by Total, is clearly indicated in a map prepared by Cogema in 1994 (see Figure 9). Approximately 939 holes were drilled in and around the Alta Mesa project during the 1970s and 1980s.

The reserve studies conducted by Cogema focused on the Middle C Zone and it wasn't until years later that, after additional drilling, other zones, such as Zone A, Zone B, and other intervals within Zone C and D were also found to carry significant uranium mineralization.

Substantial coring also was conducted early on and indicated a range in the disequilibrium factor (DF) to be applied to reserve studies, albeit mostly positive. Using only natural gamma during the early drilling programs by Chevron and Total complicated resource studies resulting in some differences in estimates of in-place resource. MULLC has avoided such issues because they have chosen to use PFN logging results as an integral part of their resource calculations.

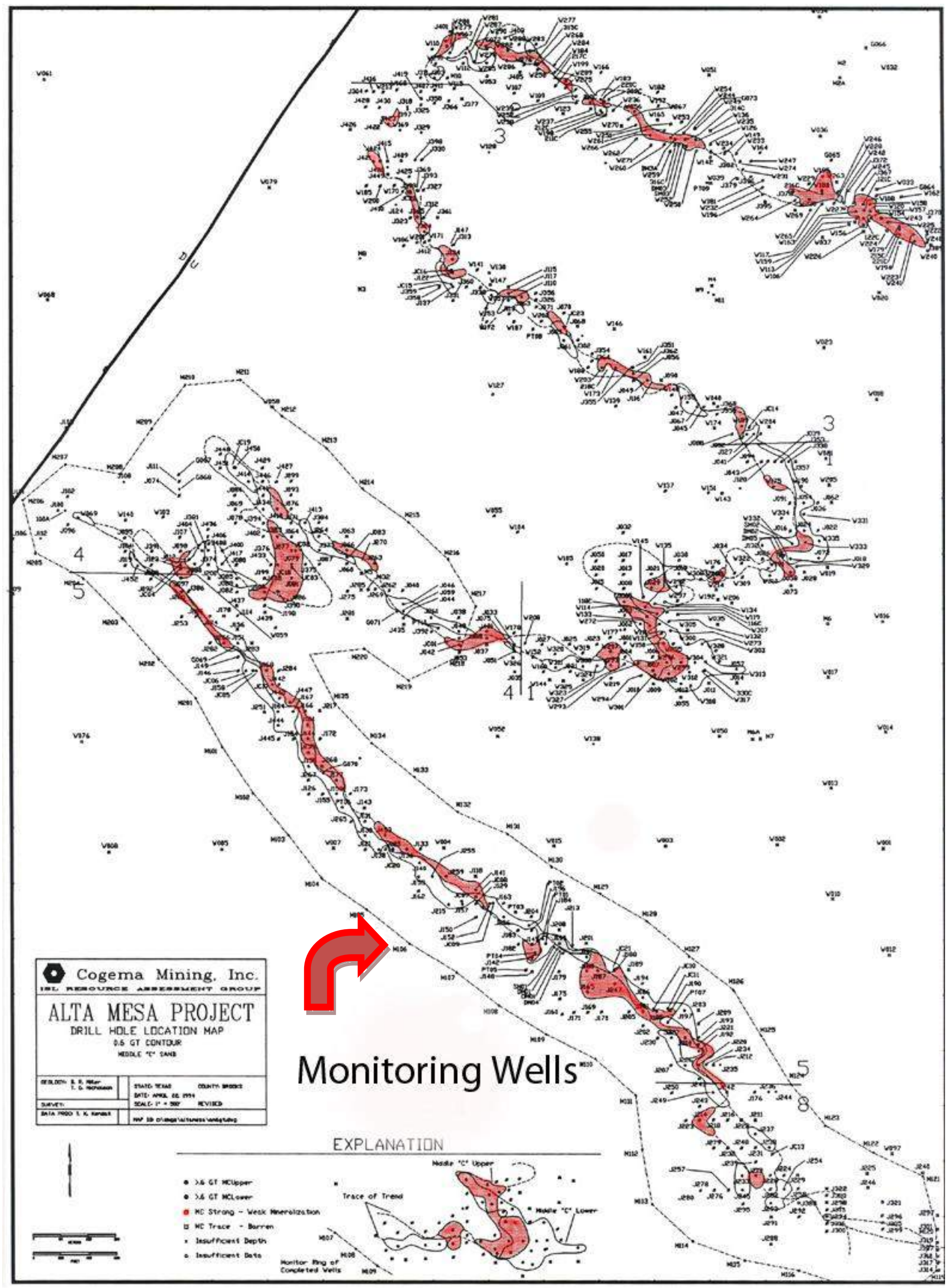


Figure 9 – Principal Zones of Mineralization as of the Mid-1980s at Alta Mesa (after Miller, 1994)

Relatively young mineralization would be expected to carry a positive DF, especially the fault-controlled natural gas (CH_4 and/or H_2S) occurrences now known to occur in the middle intervals of the Goliad Formation. Early encounters of uranium mineralization in the Goliad were downplayed because of “low grades,” but we now know that such occurrences were under-reported by natural gamma logs because the mineralization was so young that it had not had time to develop the radioactive daughter products that impact the natural gamma log. With the development of the PFN log that measures uranium directly, the DF issue will disappear with recent drilling using the PFN logs in place of the natural gamma logs, the latter remaining useful to determine lithology in concert with the resistivity, SP, and density logs. Complex sand-body distribution as a response to rapidly changing depositional environments and faulting also goes unrecognized in the geological samples produced during drilling, logging and coring of the mineralization and further complicates estimates of in-place resources. The method used to calculate resources and the cut-off grades also led to differences in resource estimates.

The above issues are illustrated in Table 1 by comparing the two reserve studies by Total and by Cogema. The former applied a minimum grade of 0.01 % eU_3O_8 and a minimum GT of 0.40 cutoff. Cogema applied a minimum grade of 0.03 % eU_3O_8 and a minimum GT of 0.60 cutoff. The Areas included in Table 2 below are the same areas of MULLC’s PAA-1 and PAA-2, which will be discussed in context later in this report (see **Section 19.0 Mineral Resource and Mineral Reserve Estimates**).

In calculating uranium resources, the trade-off between maximizing ore grade and grade-thickness (GT) and using minimum grade and GT produces higher in-place resource values, while the former leaves resources out of the calculation. In any effort to provide accurate resource estimates, the history of production, as in the case of the Alta Mesa operations, is the ultimate judge of the original resources present. The adage related to estimating reserves of a placer gold mine is that mining a placer deposit is the most accurate way to determine its reserve base, albeit in retrospect.

Table 1 Summary of Historical Reserve Estimates of Alta Mesa Project

TOTAL	Minimum GT	Minimum Grade (% U_3O_8)	Pounds (U_3O_8)	AREA (Sq.Ft)	Pounds (U_3O_8)	Average Grade (% U_3O_8)	Minimum GT (0.60)	COGEMA
Area 1	0.40	0.01	1,770,000	574,852	810,528	0.131	1.198	Area 1
Area 2	0.40	0.01	1,048,000	294,689	435,017	0.130	1.255	Area 2
Area 3	0.40	0.01	1,088,000	222,416	387,469	0.149	1.481	Area 3
Area 4	0.40	0.01	1,714,000	366,605	707,687	0.153	1.641	Area 4
Area 5	0.40	0.01	2,749,000	853,613	1,715,568	0.168	1.708	Area 5
Area 8	0.40	0.01	538,000	110,151	117,341	0.124	0.905	Area 8
DF= + 1.10			8,907,000	2,422,326	4,173,609	0.153	1.465	DF= 1.00

Table 2 Alta Mesa Production
(To March, 2008)

TOTAL	TOTAL Estimates (Pounds)	Alta Mesa Production Unit	In-Place Estimated Pounds	Recovered Pounds	% Recovery	COGEMA Estimates (Pounds)	COGEMA
Area 1							Area 1
Area 2		PAA #2:	2,521,000	Producing	NA	1,633,000	Area 2
Area 3	8,907,000						Area 3
Area 4							Area 4
Area 5		PAA #1:	1,921,000	1,634,000	85.1	2,541,000	Area 5
Area 8							Area 8
Total:	8,907,000		4,442,000			4,174,000	Total

In particular, we are required to evaluate whether the methods employed by MULLC are appropriate. Because the Alta Mesa operations have been in production for almost three years, such a comparison has the benefit of providing insight into historical estimates in light of actual production.

Table 2 presents the early 1990s resource estimates of Total and Cogema based on drilling data from the 1980s and before, and of MULLC production during 2006, 2007, and 2008. Note that the Cogema estimates of Areas 1, 2, and 3 are the same as the area covered by MULLC's PAA #1. Cogema estimated that this area contained approximately 2,540,000 pounds of U_3O_8, while the MULLC production estimate of in-place resources from the same area was 1,921,000 pounds, a difference of about 30% or about 620,000 pounds higher for Cogema's than MULLC's estimates. However, Cogema estimates for the area equivalent to MULLC's PAA#2 are 1,633,000 pounds as opposed to MULLC calculations of 2,521,000 pounds of in-place resources, a difference of about 880,000 pounds U_3O_8.

Although Cogema acknowledged that it did not apply a DF correction to their calculations because they were in-place estimates, Cogema instead restricted Grade and GT stipulations to their calculations. MULLC's actual production revealed that resource estimates at the Alta Mesa project can be variable. However, allowing for the variations, a combined comparison of the resources by Cogema and MULLC's recent estimates shows that they are within an acceptable variation of 10%.

With respect to Total resource estimates, their use of generous Grade and GT stipulations clearly resulted in higher estimates by about 100% above MULLC (and Cogema) estimates of the same areas.

The principal target unit was the Middle C Zone. Figure 10 shows the principal production zone and the bounding clays in the section above and below Middle C Zone. The Middle C Zone was subsequently put into production by MULLC in late 2005.

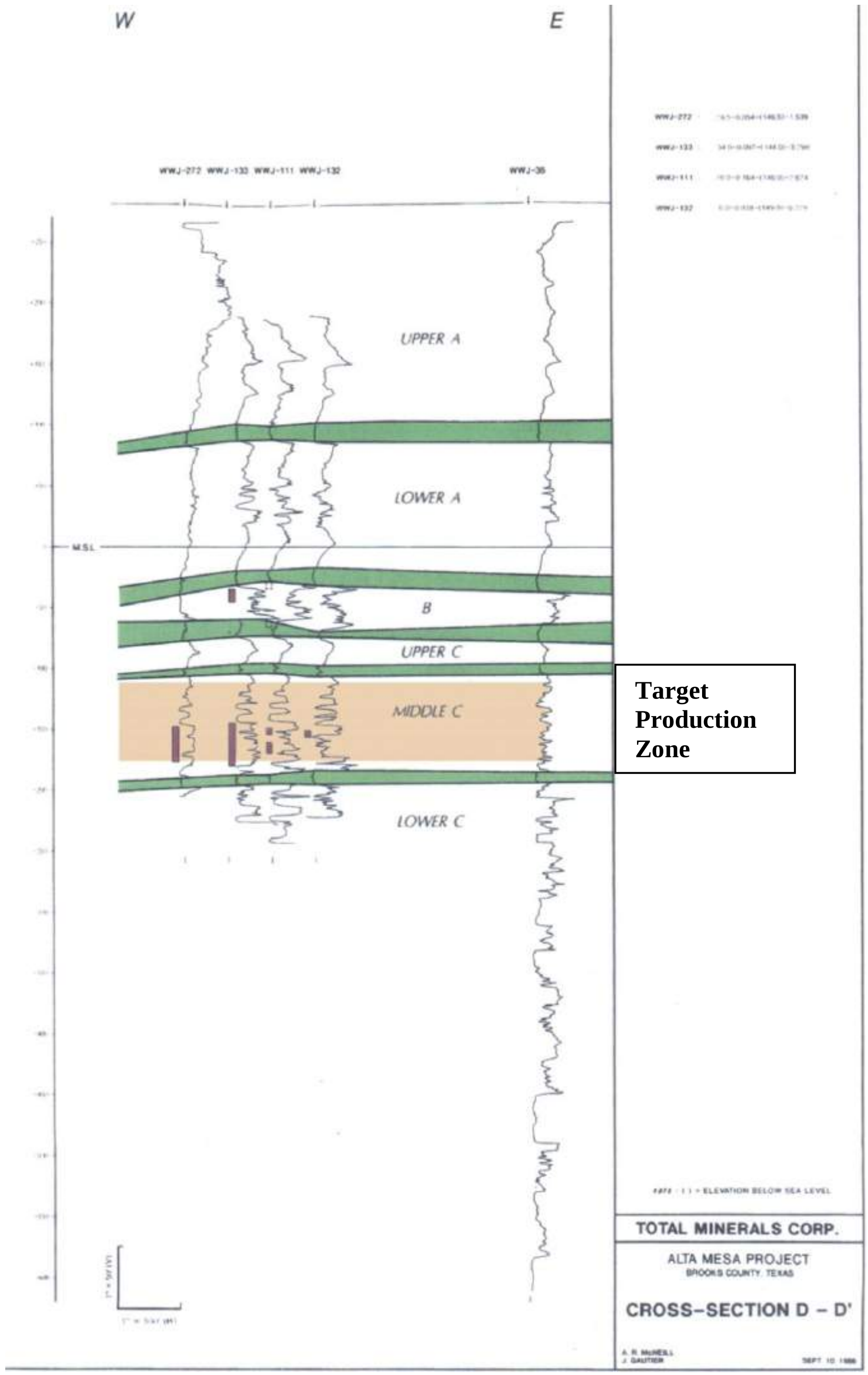


Figure 10 – Principal Zone of Mineralization and Clay Units as of the Mid-1980s at Alta Mesa. (after Miller, 1994)

9.0 Geology

9.1 Regional Geology

The sediments of the Goliad and Oakville Formations that crop out north and west of the properties have been subdivided by many workers in the field, especially with respect to uranium potential (see Eargle and Weeks, 1975, Flawn, 1967, Eargle, *et al.,* 1975, Galloway, 1982, Smith, *et al.,* 1982, and Campbell and Biddle, 1977).

The Alta Mesa deposit occurs above a doubly plunging anticline that trends northeast-southwest. The anticline is located on the downdip side of the Vicksburg fault. Uranium mineralization occurs in the middle Goliad Formation, sediments that were deposited on a plain of low relief during the Pliocene age. The Goliad is underlain by the Fleming Formation of Miocene age and is overlain by Pleistocene sediments of the Lissie Formation (often referred to as the Deweyville Formation, which subcrops below a mantle of Holocene dune sands, clays, and caliche (see Figure 11 for the regional stratigraphic relationships).

9.2 Local Geology

Miller, *et. al*, 1994, describes the Goliad Formation as a unit consisting of up to 700 feet of very fine- to medium-grained sands separated by persistent clay units. As with all other uranium deposits hosted by the Goliad Formation, the primary mineralization occurs in the Middle C Zone where other occurrences have been identified by recent MULLC drilling over the past few years. A distinct change in the style of deposition occurs at above 400 feet above the base of the formation. The middle and lower units have been subdivided into distinct sand packages that range from 20 to 80 feet thick and are separated by thin, relatively continuous clays and mudstones extending over the crest of the anticline present at depth.

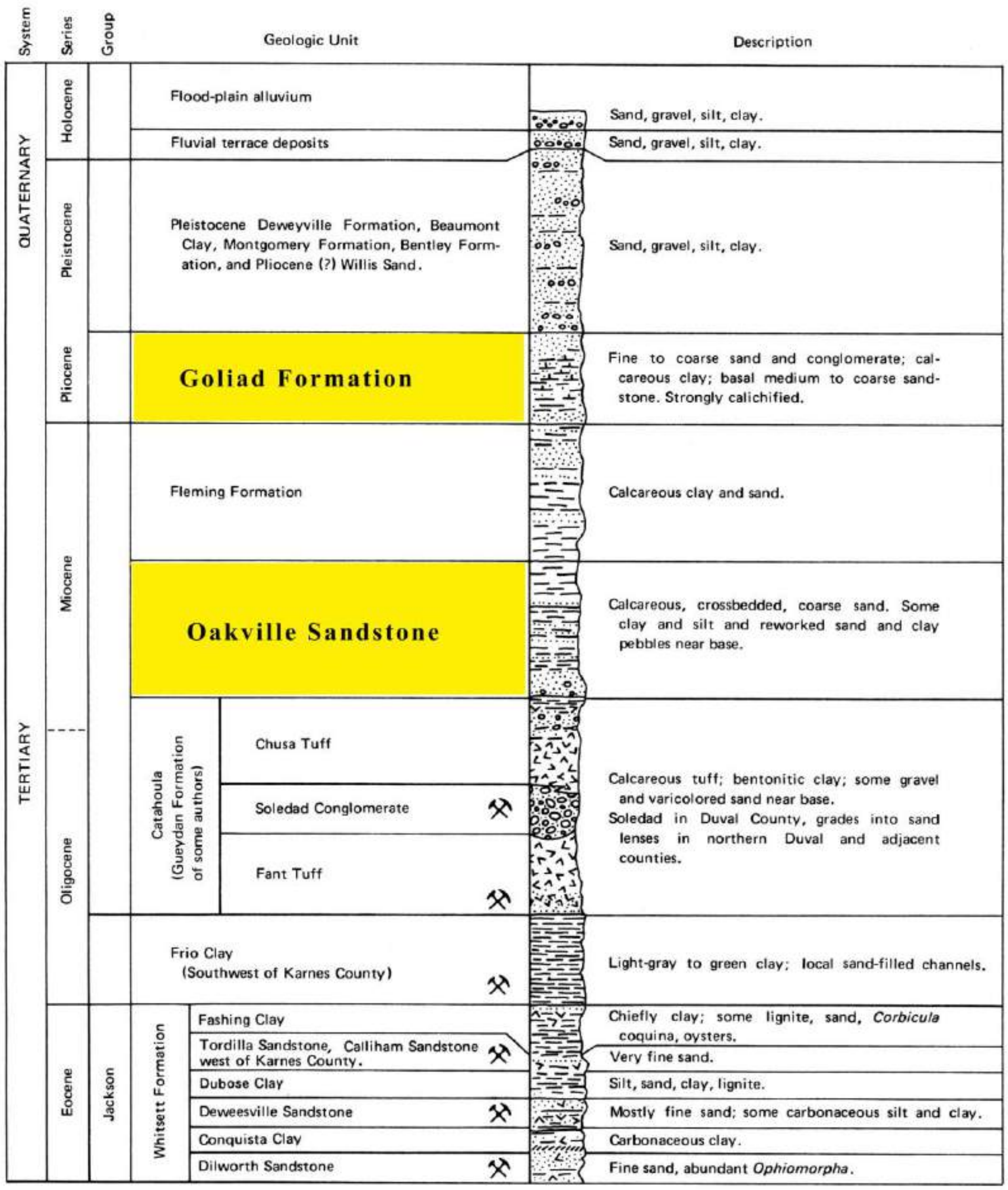


Figure 11 - Stratigraphic Section, South Texas Uranium Province
(After Galloway, *et al.*, 1979)

The local lithology has been characterized by a type log used by MULLC geologists during their preparation of geologic logs (see Figure 12). It also is used to define the zones, including Zone A through Zone D.

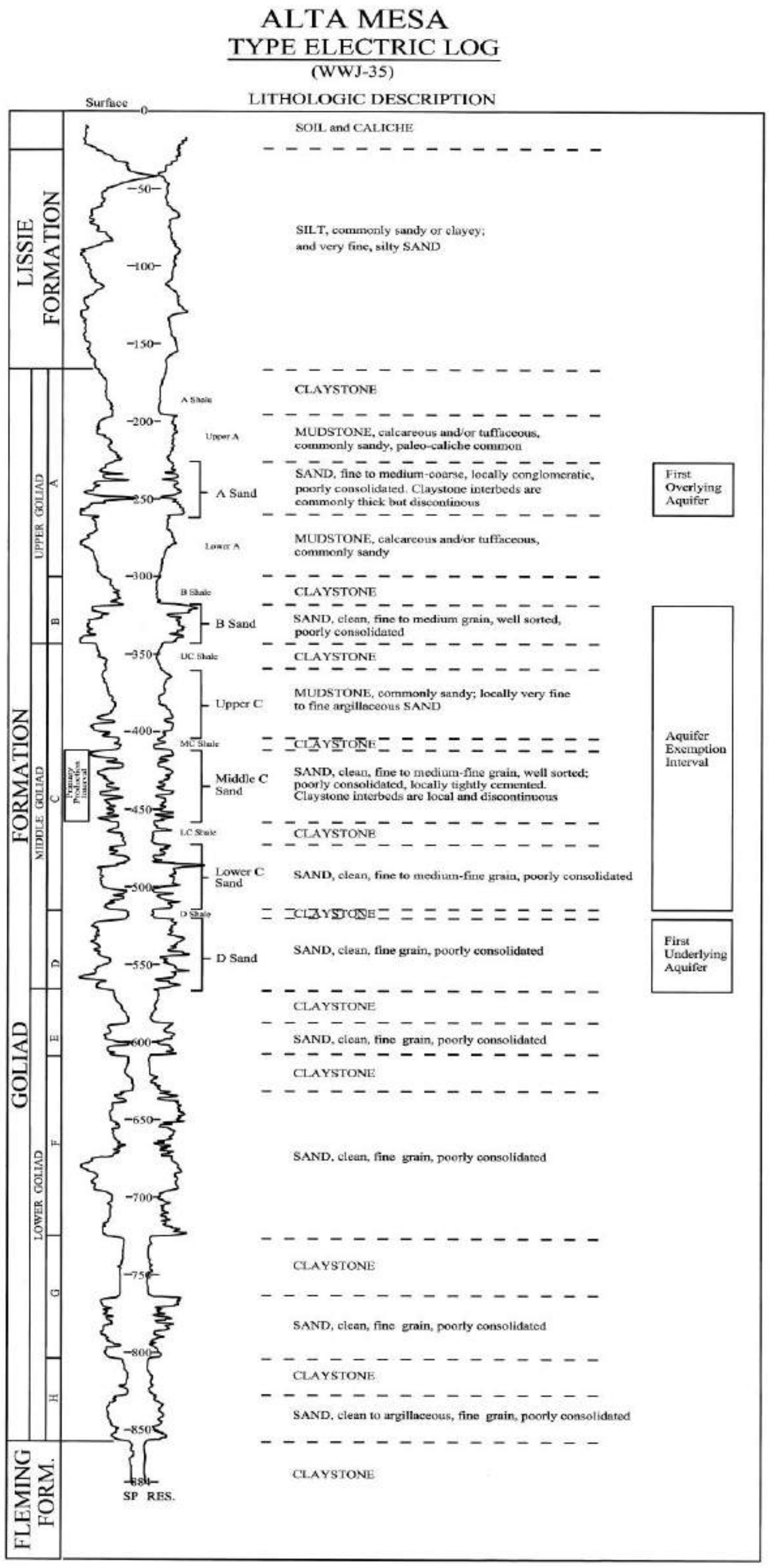


Figure 12 – Alta Mesa Type Electric-Geologic Log
(From MULLC)

Mineralization has also been located on the Mesteña Grande property to the northwest of the Alta Mesa site. That mineralization is in the Oakville Sandstone stratigraphically below the Fleming Formation (see Figure 11).

10.0 Deposit Types

The uranium occurring in the Goliad Formation appears to be of the normal roll-front type, although the roll-front can vary widely laterally and vertically. Figure 13 shows a cross section in the wall of an open pit mine of the 1970s in south Texas of how the mineralization at depths of 400 feet would likely appear.

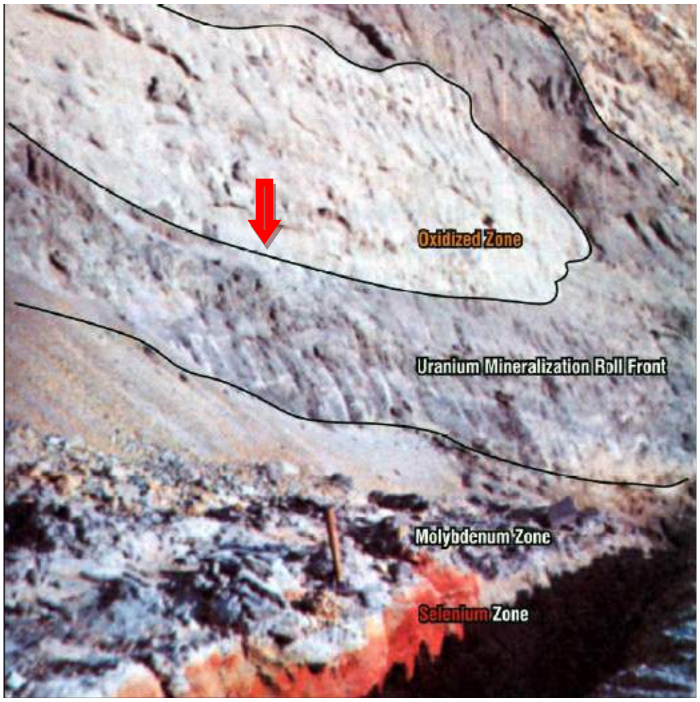


Figure 13 – Typical Uranium Occurrence in Wall of Open Pit in South Texas of 1970s.
(after Dickinson and Duval, 1977)

The oxidation-reduction front (also illustrated by the red arrow in the above figure) that has localized the uranium at the Alta Mesa deposit can be considered to be a typical reduced island system. Weak natural gas migration of methane or hydrogen sulfide along fractures and up dip through permeable sand units has produced a strong secondary reduction zone within a fairly large region of diagenetically oxidized Goliad Formation.

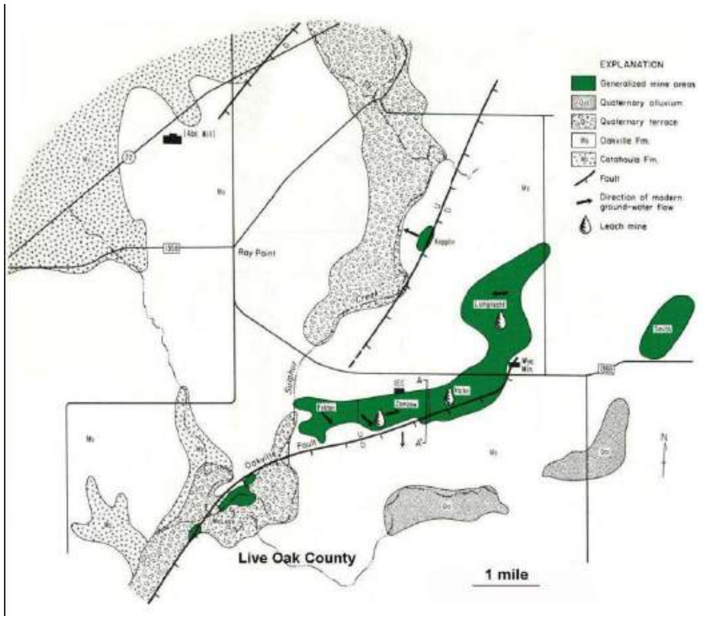


Figure 14 – Fault-Controlled Mineralization in Live Oak County (After Galloway, *et al.,* 1982)

To date, the uranium present in the Oakville Sandstone occurs at the base of the unit just above the Catahoula Formation, as is the case with uranium deposits in Live Oak County, Texas, approximately 100 miles to the north (see Figure 14 and 15). Faulting has been identified and is likely to be widespread in the area of the Mesteña Grande mineralized trend.

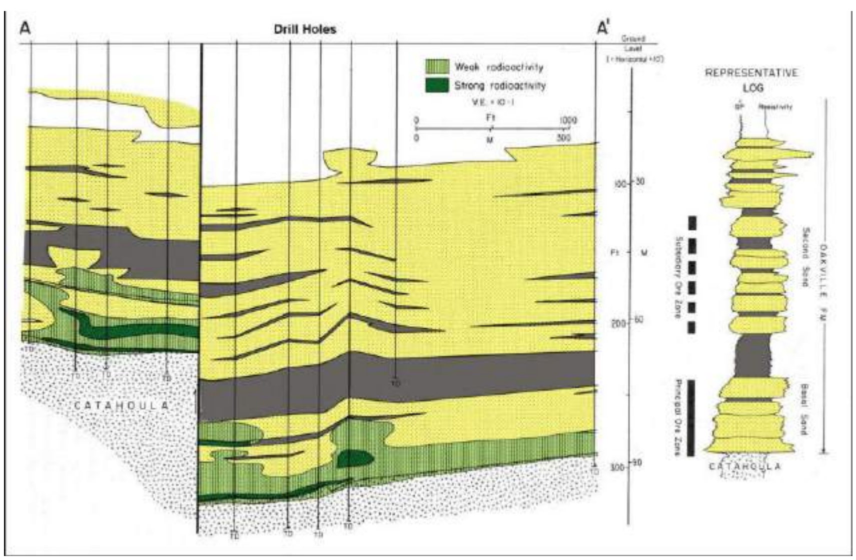


Figure 15 – Mineralization at the Base of the Oakville Sandstone in Live Oak County (After Galloway, *et al.,* 1982)

11.0 Mineralization

The Mesteña Grande mineralizing trend is of particular interest to the MULLC resource base because of Oakville's regional history of uranium production over the years in south Texas. The presence of particularly high-grade mineralization at the base of the Oakville Formation suggests that significant mineralization is likely to be widespread in the immediate area, both in proximity to faults and in areas some distance away from faulting. This trend will require geological assessment of the potential for mineralization away from the primary faults to the west of the Mesteña Grande properties in areas with the potential for classical fault–controlled roll-front deposits. Sand intervals above the basal sand also show some indications of significant mineralization.

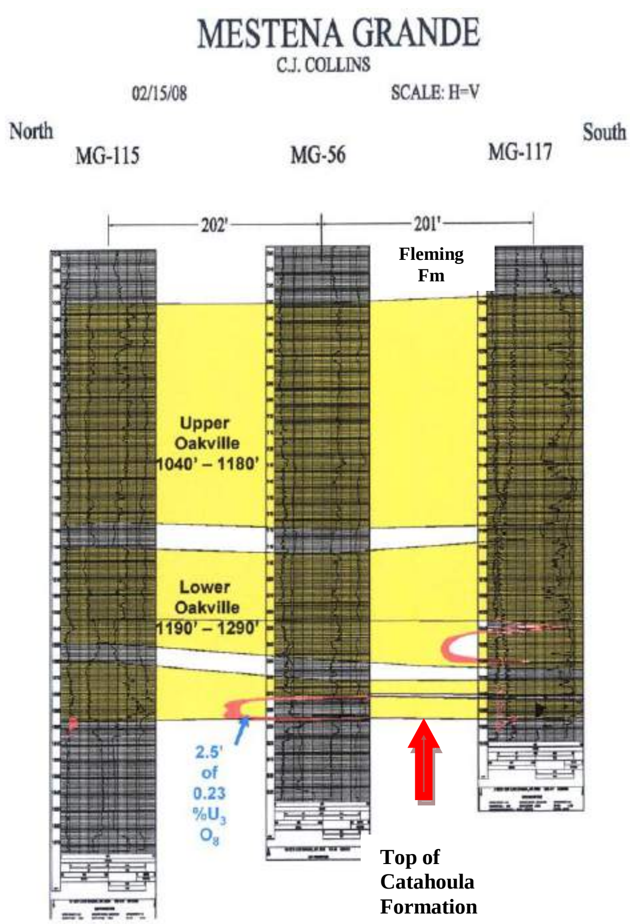


Figure 16 – Example Mineralization in Mesteña Grande Area
(from MULLC)

The positive disequilibrium conditions indicated in Figure 17 suggest that the mineralization is relatively young and that using the PFN tool to evaluate the mineralization during exploration is a worthwhile activity, one that most other uranium companies have not been doing until recently. Directional indicators may be obtained by employing the PFN tool to work out the "relative age" paths to assist in well-site selection. Notice the grouping for Hole MG-123, MG-56, and MG-120 relative to the other hole data shown in Figure 17. Even intra-hole data may show relationships that would assist the well-site geologist in interpreting zone behavior more accurately. For example, Hole MG-120 shows a decrease in "chemical" grade of almost 0.09% U_3O_8 from a depth of 1,299 feet to 1,309 feet below grade suggesting that the shallower mineralization is younger than the deeper mineralization.

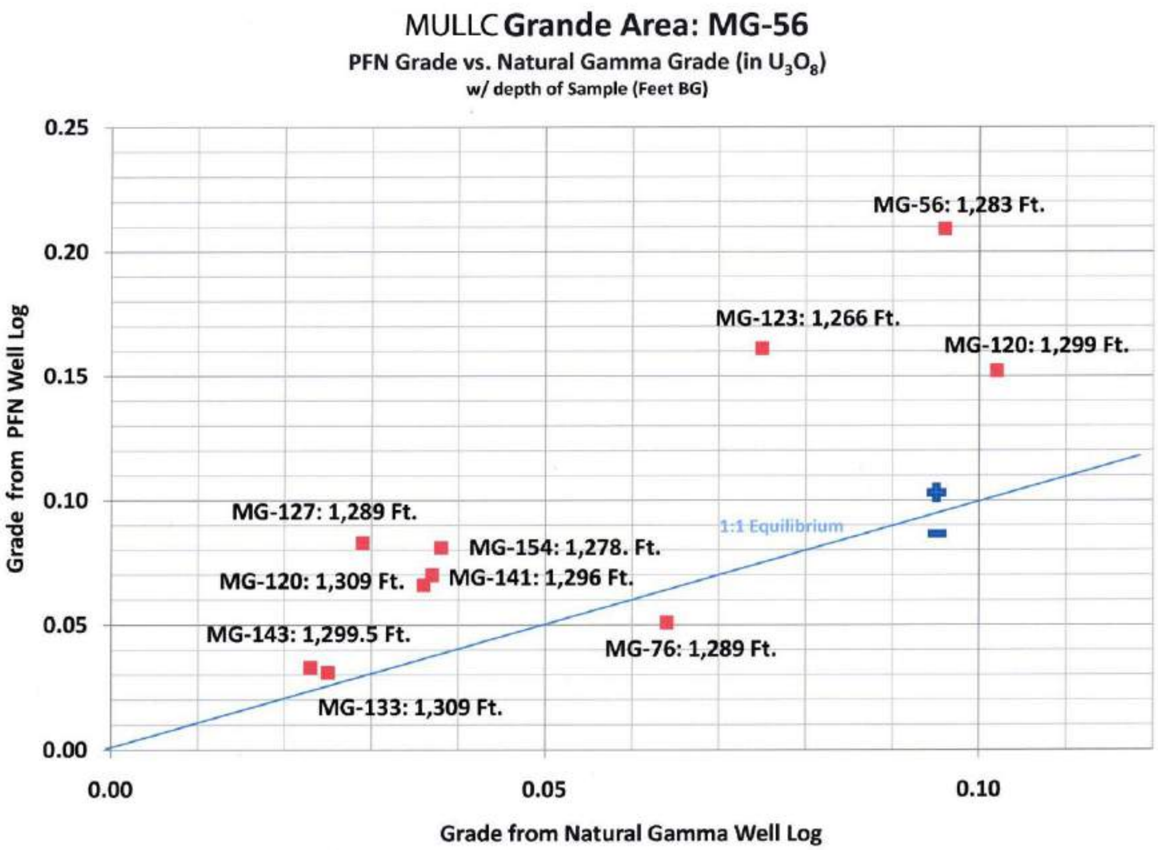


Figure 17 – PFN vs. Natural Gamma Logs

12.0 Exploration

12.1 Previous Surveys and Investigations

Earlier work by Chevron and Total laid the foundation for uranium exploration and development activities in the subject area, focusing on uranium in the Goliad of the Alta Mesa area, and, more recently, in the Oakville Sandstone in the Mesteña Grande area. MULLC has drilled approximately 3,806 exploration and delineation holes in support of production from the Middle C Zone and exploration of Zone A, Zone B, and Zone D sands (see Figure 18, 19 and 20).

Figure 18 – Delineation Drilling in the Alta Mesa Production Area

Figure 19 – Geologic Samples Showing Oxidized and Reduced Zones.

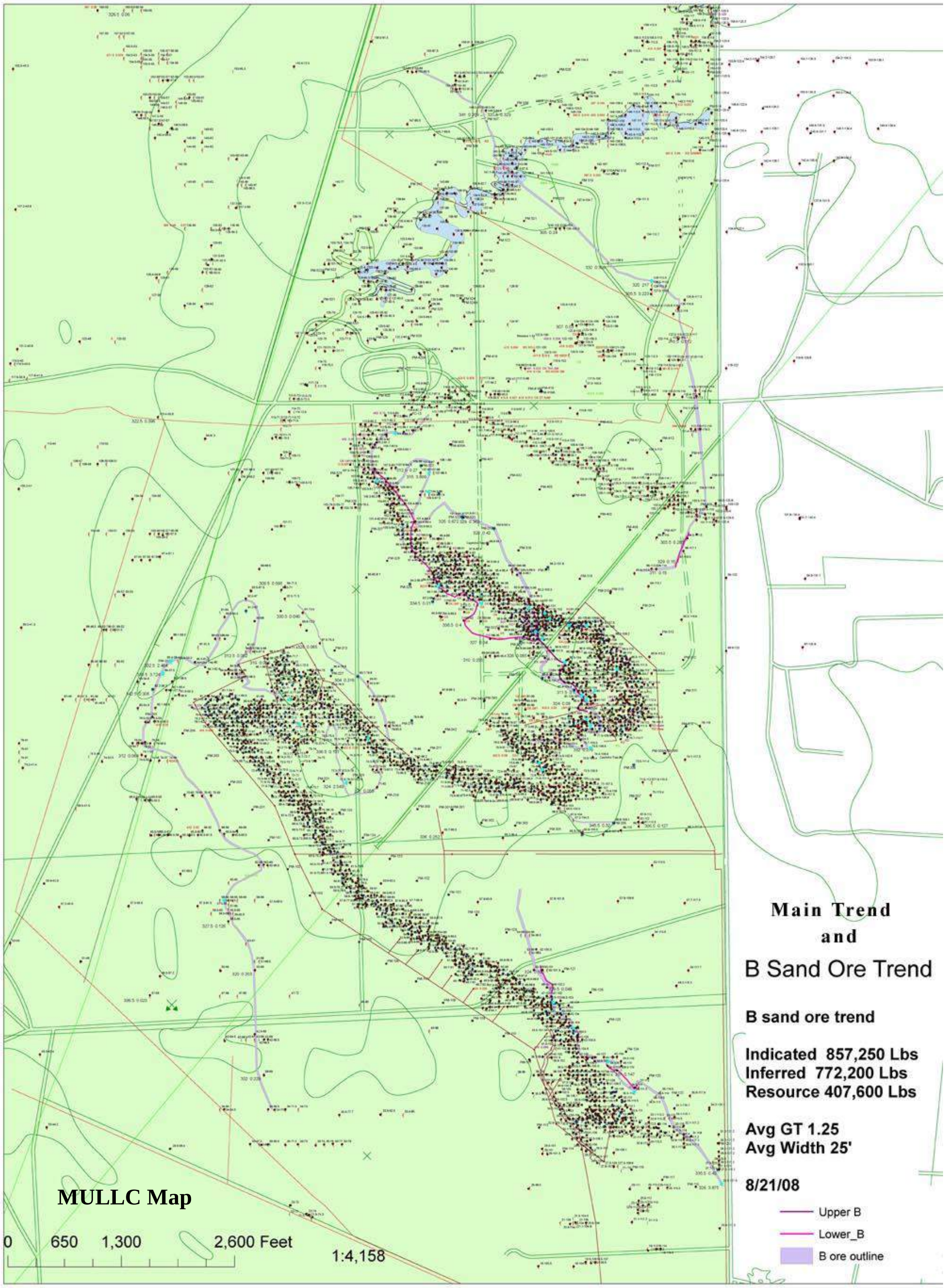


Figure 20 – Main Ore Trend and Zone B Trend Results (Interim Calculations). (from MULLC)

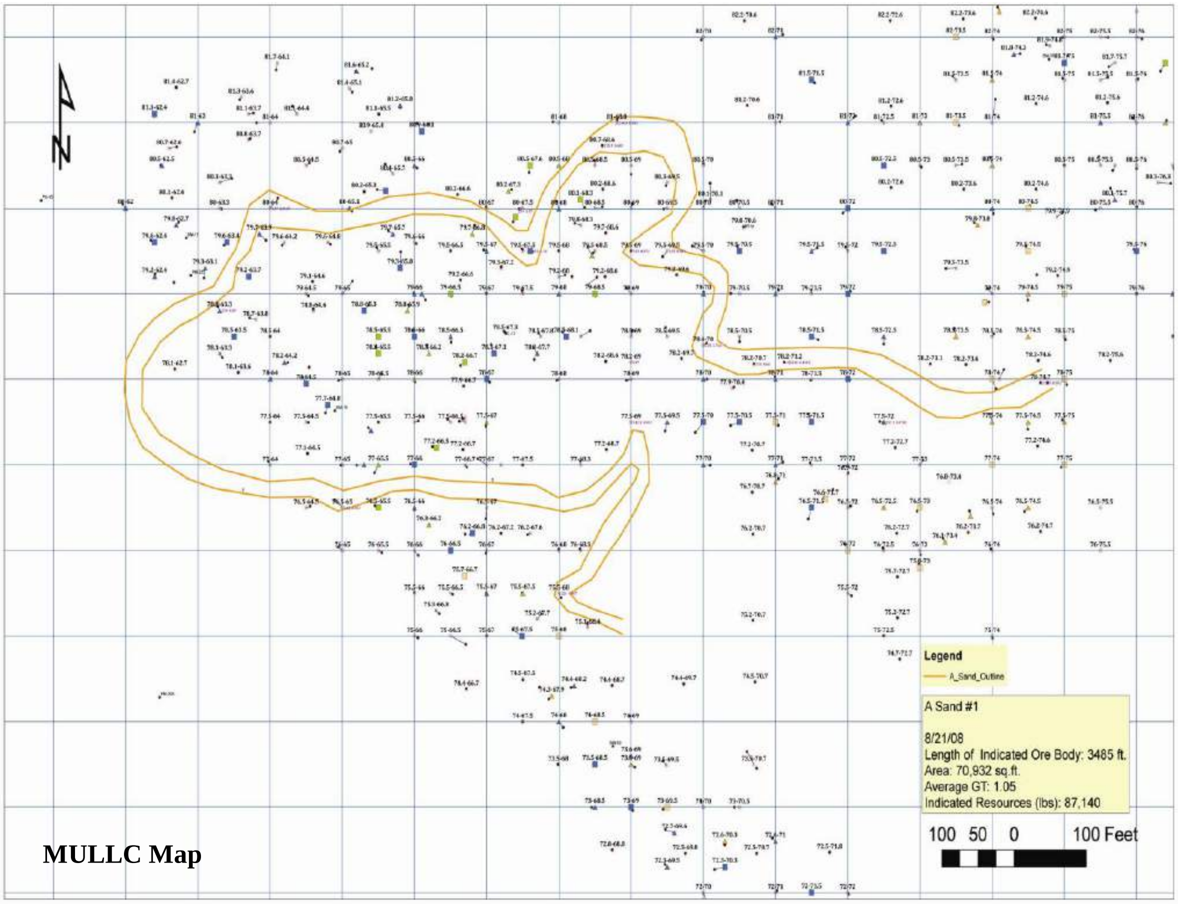


Figure 21 – Drilling on Zone A (w/ Interim Calculations).
(from MULLC)

Zone A, identified in the Type Log in Figure 12, was discovered by MULLC to contain significant uranium resources. The type of mineralization seems to be similar to the Middle Zone C and is likely related to the nearby fault, as is the uranium that occurs within the main production zone of the Middle C Zone. The known lateral distribution of Zone A mineralization identified by MULLC drilling is shown in Figure 21. It occurs within the present production area of the Middle Zone C, as indicated by the large number of hole sites shown in Figure 20 and 21.

Zone D, also indicated in Figure 12, will require additional drilling along a laterally extensive oxidation-reduction front. It has been our collective experience that basal sand units, such the sand of Zone D, are favorable for the accumulation of significant resources. The known occurrences in the basal unit of the Oakville Sandstone provide guidance for the lower Goliad sands in the Alta Mesa area as well.

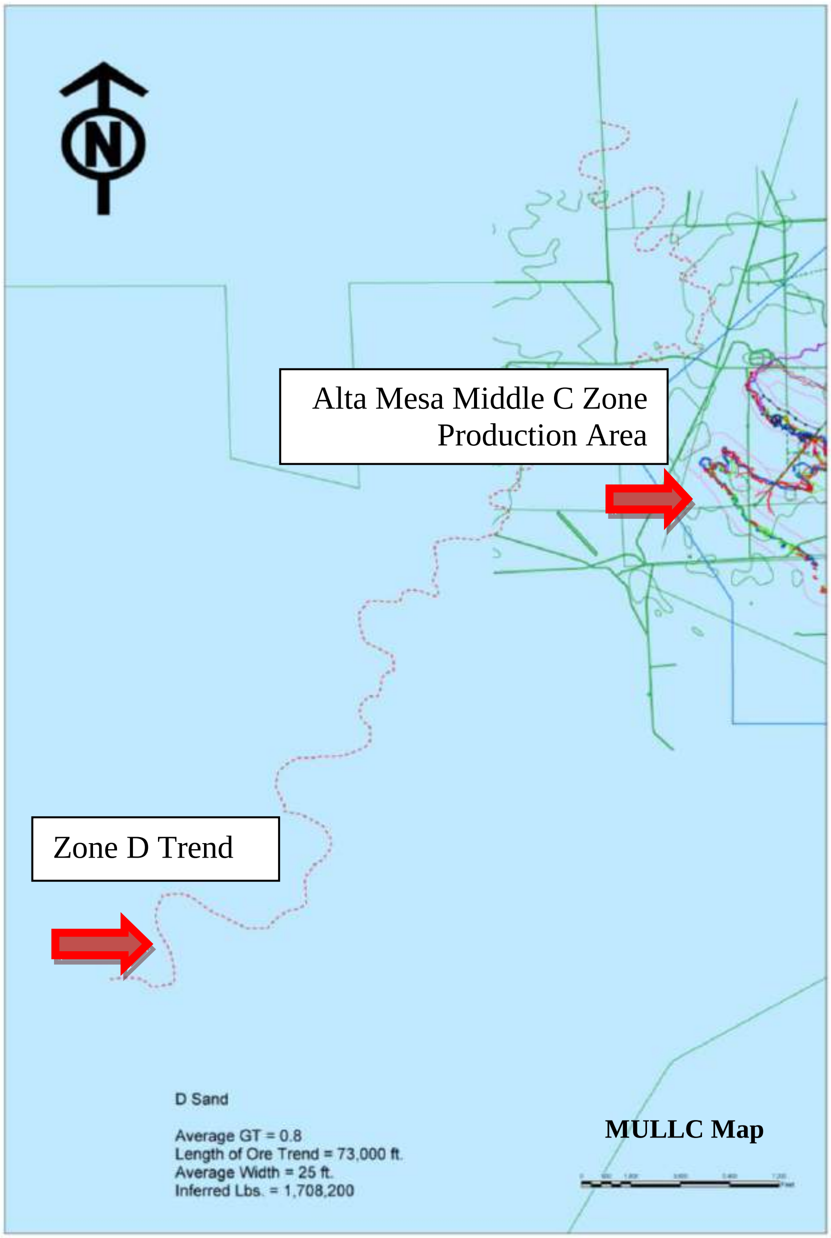


Figure 22 – Trend Drilling on Zone D Sand (w/ Interim Calculations). (from MULLC)

Total Drilling in the area has been summarized in the following:

Table 3 – Total Drilling to Date at MULLC

Company	[1]No. Holes	Ave. Depth(Feet)	Footage
Chevron	360	450	185,000
Total (Minetome)	579	605	350,000
MULLC:			
Alta Mesa Area	3,806	450	1,713,000
Mesteña Grande	207	1,223	253,210
North Mesteña Grande	80	804	64,340
South Mesteña Grande	34	1,187	40,342
Alta Vista	22	1,289	28,350
El Sordo	41	1,020	41,800
Total:	5,129		2,676,042

[1] Note: Includes logged holes, core holes, and monitoring holes.

12.2 Current Concepts

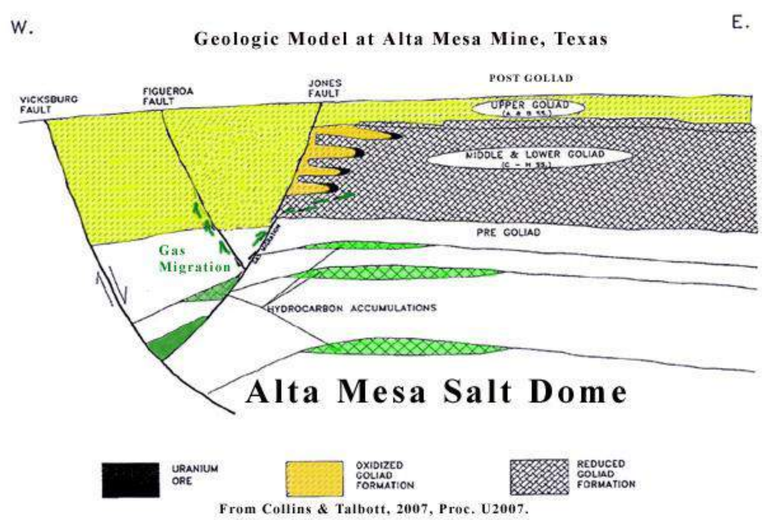


Figure 23 – Generalized Model of the Mineralization in the Alta Mesa Area.

The principal objective in drilling is to locate and follow the oxidation front wherever it leads. Uranium roll-fronts can occur at intervals along the front as illustrated in Figure 9.

In the Alta Mesa area, the role of the salt dome below the area is in the faulting above it. These faults allow natural gas (either CH_4 or H_2S) to travel up the faults to enter permeable zones where these gases serve as reductants to precipitate uranium in solution along favorable sites, as indicated in Figure 9 and similar figures. Figure 23 captures the likely processes (see a paper by MULLC's Chief Geologist: Collins and Talbot, 2007).

Once a mineralized zone has been encountered, the oxidation-reduction front must be delineated by applying the model illustrated below in Figure 24. This model is widely applied in the uranium industry for use in Tertiary sediments to define roll-front uranium mineralization in preparation for in-situ recovery operations.

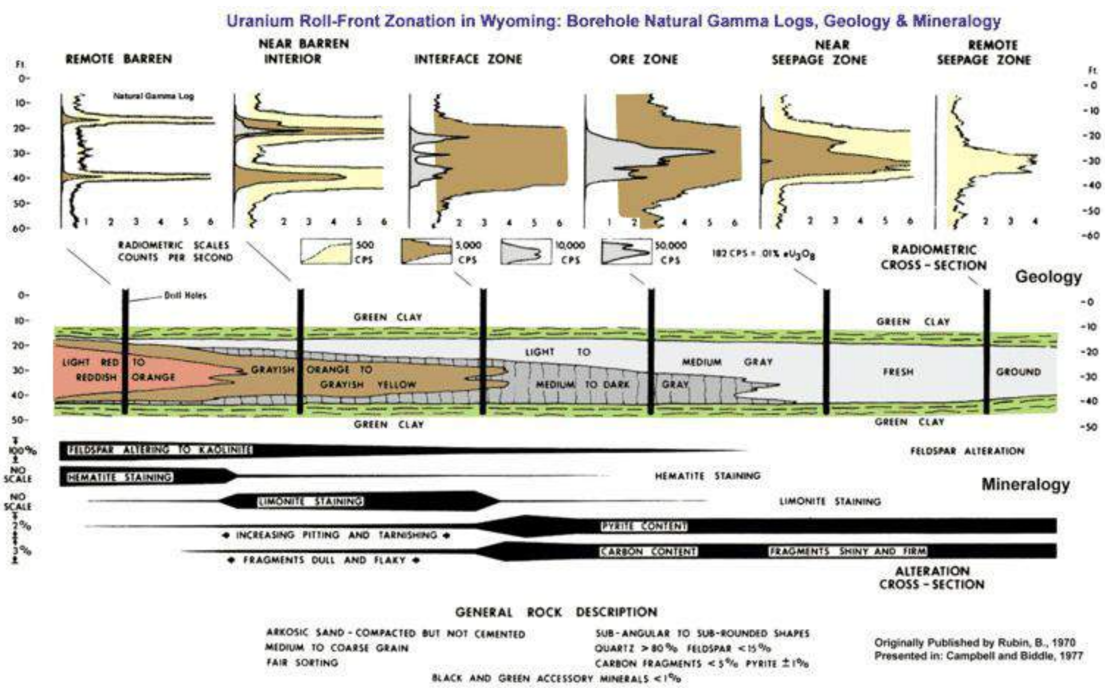


Figure 24- Common Hole-to-Hole Guide to Define Ore Zone

13.0 Previous Drilling Activities

Drilling is typically performed by several drilling contractors all on an hourly rate basis, which typically results in higher costs than on a cost-per-foot basis but should result in improved quality of drilling, of well construction, and of well-development activities.

This is particularly important in preparing for well logging where greater care can reduce the chance of losing an expensive PFN probe downhole.

C&A personnel observed well-logging operations during our visit to the Mesteña Grande and Alta Mesa areas. The well loggers are MULLC personnel and seem to be aware of the importance of being prepared to log the hole as soon as the driller has come out of the hole. The reported incidence of losing tools down hole is low and within normal numbers to be expected. This loss-rate is one of the principal measures of determining the quality of the well-logging operations, aside from maintaining the quality of the logs produced, of course.

Figure 25 – Geophysical Well Logging Activities along the Primary Ore Zone (from MULLC)

In extended discussions with the Principal Logger, we concluded that the operations are well run and that calibration trips to the DOE's calibration facility located in George West, Texas are made at regular intervals. A review of a number of well logs indicates that log mastheads list the appropriate information, including the date of calibration, and that the log characters are within normal scale and "gain." MULLC presently owns and operates four logging trucks, one of which carries the PFN logging tool.

PFN logging is particularly important to MULLC operations because PFN logging is used to calculate the in-place resources present before uranium recovery operations are begun. Using the PFN also saves time when used in the exploration program. Here, the actual ore-grade of the uranium mineralization being evaluated can be established with some certainty. Employing only the natural-gamma log introduces uncertainties regarding nature of the mineralization, especially if young enough not to have developed radioactive degradation products such as ^{226}radium, ^{222}radon, and others.

Because the PFN tool is now used widely by the uranium industry in both production and exploration, PFN calibration assumes major importance. We understand from MULLC personnel that the PFN tools are calibrated after approximately 1,000 hours of operation. The calibration certificates for both the PFN and natural gamma tools were properly maintained.

A review of a number of the PFN logs also indicates that PFN log mastheads contain the appropriate information including the date of calibration, and that the logging data are presented in a clear and understandable format.

14.0 Previous Sampling Method and Approach

With the extensive exploration accomplished over the past three decades by Chevron, Total, and others, combined with that of MULLC since they brought the project into production in late 2005, a strong foundation of information has been established. Drilling and coring data have provided insight into the accuracy of previous resource estimates as compared to recent production by MULLC. Data has also been accumulated on the associated factors that support such estimates, such as DF, weight conversion factors, recent yellowcake production and sales. However, that is not to say that the mineralized zones at Alta Mesa and along the Mesteña Grande exploration trend are fully understood and predictable. Based on the large number of holes drilled and logged to date, it is obvious that the mineralized trends within the Alta Mesa Middle Zone C are reasonably well known. Close-in drill-spacing is used to set up for in-situ uranium recovery and yellowcake production. The local mineralization is part of a complex depositional system and the definition of the zones can be problematic when categorizing them for the purpose of resource estimates. MULLC's estimates of in-place resources have been in good agreement with Cogema estimates from the first two PAAs (see Table 2).

Employing standard methods in use in the uranium industry today, MULLC has drilled Zones A, B, and D in the Goliad Formation in the Alta Mesa area and has recognized important additional resources. Drill spacing is usually on 50-foot centers for delineation purposes and can be wider in exploration for establishing the location of the roll front. All locations are recorded in the field by GPS which in turn are used in map-making for resource calculations.

Drilling during the past few years in the Mesteña Grande area has revealed a mineralized trend at the base of the Oakville Sandstone that has the potential for substantial resources. Resource estimates are discussed in **Section 19.0 Mineral Resource and Mineral Reserve Estimates** of this report.

15.0 Previous Sample Preparation, Analyses, and Security

Based on extensive discussions with professional personnel, physical samples of the mineralization only are taken for geological evaluation of lithology and associated mineral and elemental content. The samples are bagged, numbered with permanent black ink, and sent by FedEx to the geotechnical laboratory for analysis and evaluation. Because the typical mode of uranium exploration now relies on geophysical logging and the use of the PFN tool, extensive coring and analysis to establish cU_3O_8 is no longer widely conducted or necessary.

Required by permit, physical sampling of ground water, any surface water, and air (in and around the plant to monitor for airborne radioactivity) remain important for environmental purposes. Hundreds of monitoring wells have been installed in the Alta Mesa area over the years surrounding the uranium production areas above, below, and in the aquifer containing the uranium at some distance away from the mineralization. Figure 3 shows the Alta Mesa site in its early development stages circa early 2005(?) with the first ring of monitoring wells in the far left area of the photo.

The samples are taken regularly from the monitoring wells according to standard environmental protocol (purging each of the wells to insure that fresh ground water is obtained, not water standing in the well casing), guided by monitoring field parameters (pH, conductivity, and temperature of the water) until they stabilize, indicating that the formation water has reached the well and is being sampled. All environmental samples are packed in ice chests, and wrapped and shipped by FedEx to the laboratory under a chain-of-custody transfer.

MULLC's in-house laboratory conducts some of the analyses required for ground-water monitoring and for monitoring produced fluids, injected fluids, processing fluids, and waste fluids to be disposed of in the MULLC disposal wells (see Figure 29).

16.0 Sample Data Verification

Exploration, processing plant, and environmental samples include random duplicates as an integral test to verify the accuracy of the sample analyses. Also, both PFN and natural gamma logging tools are calibrated according to a specified schedule. Re-logging of selected holes also provide duplicate logs to evaluate the reproducibility of the logging values.

Both offsite contractor laboratories and the MULLC on-site laboratory at the Alta Mesa plant site also require duplicates, field blanks, and other types of samples to verify the accuracy of sample analyses.

17.0 Adjacent Properties

The Alta Mesa mineralized trend passes towards the east into properties not presently controlled by MULLC. The historical map shown in Figure 7 shows the trend heading eastward from MULLC's Alta Mesa property. All other mineralized trends known to occur to date are within lands that are under control by lease or ownership by MULLC.

18.0 Mineral Processing and Metallurgical Testing

MULLC has been producing yellowcake since 2005. The plant is shown in Figure 26 below. The uranium recovery system uses the typical in-situ injection and recovery methods to provide a process feed of uranium in solution to a processing plant, as illustrated in Figure 27. This shows a cross section of the in-situ processes where oxygen-loaded fluids solubilize uranium minerals while passing through the roll front and are recovered by fluid-recovery wells and piped to the processing plant. The uranium-loaded fluids then pass through a series of circuits to adjust the nature of the fluids and over specialized resins that create exchange sites for uranium ions.

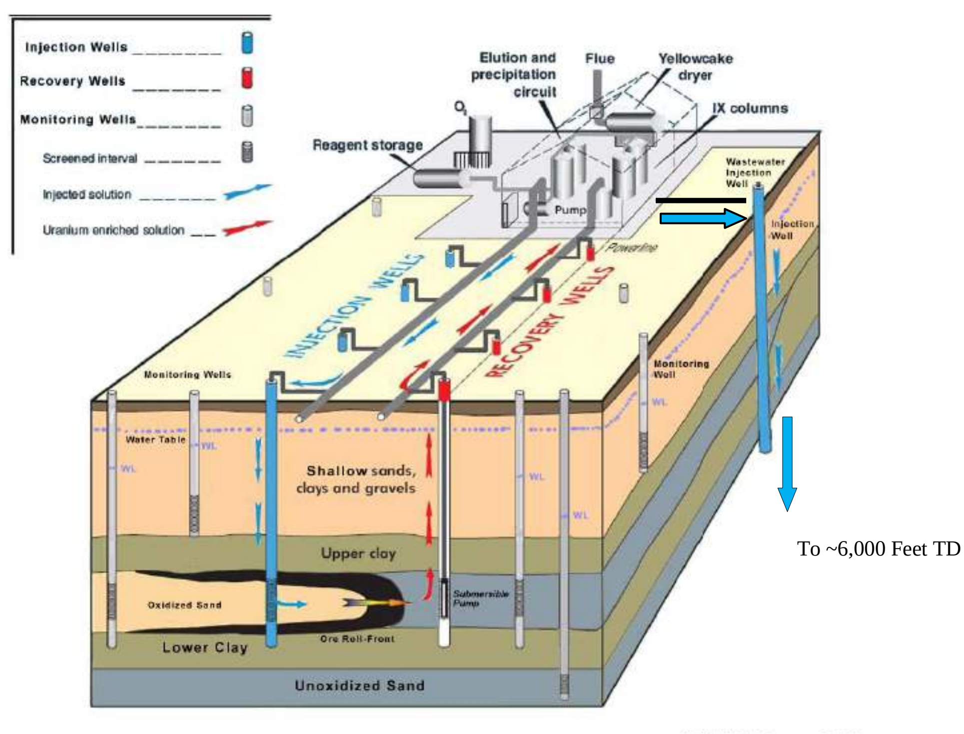
Figure 26 – The MULLC Processing Plant.
(Additional Views of the Plant are Presented in Appendix II)

The uranium-loaded resins are then precipitated to produce a thick slurry. The slurry is then dried to produce yellowcake, the primary product of the processing plant.

The importance of monitoring the ground water in the aquifers above, below, and within the uranium recovery operations is clearly indicated in Figure 27. MULLC has installed all of the typical elements shown in the flow-process schematic in Figure 28, most of which are controlled by modern automated monitoring systems to assist plant operators in maintaining production and control of water movement within the recovery and production areas.

In the design of the process plant, MULLC utilized historical records on pre-production activities conducted by Total and by MULLC on bench-testing uranium ore samples to determine leachability.

Figure 27 –A Typical In-Situ and Processing System for Recovering Uranium

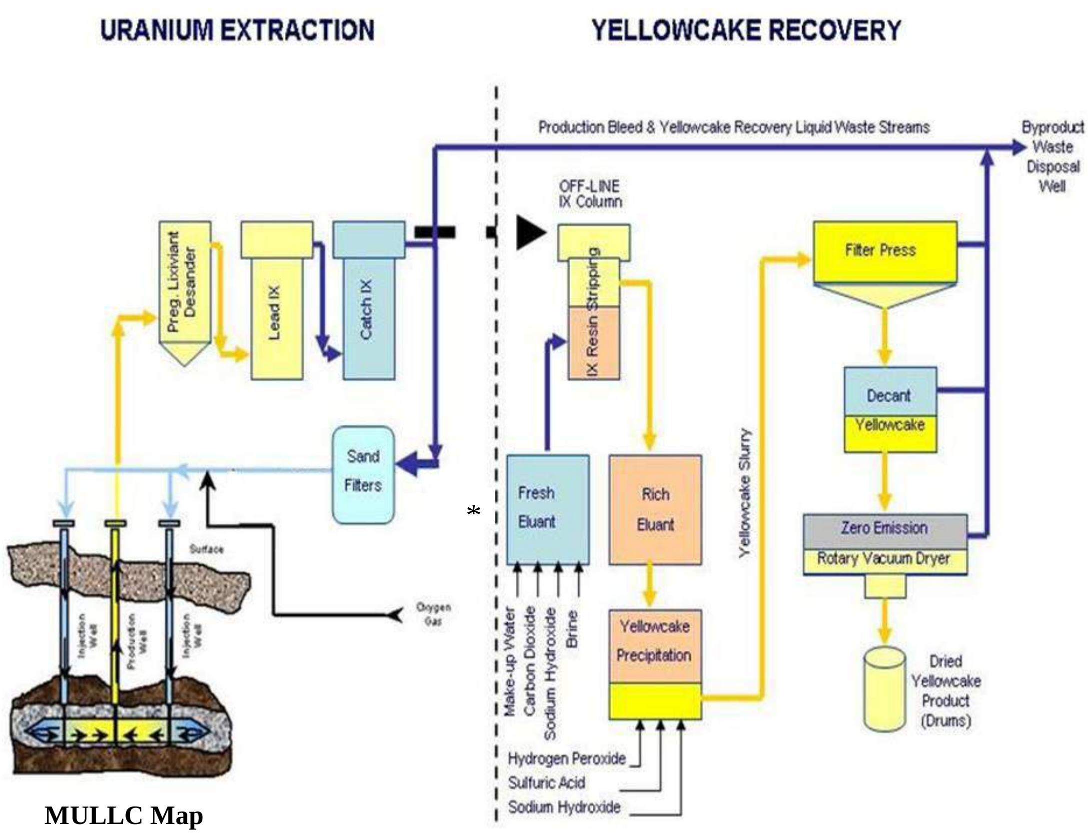


Early results by Total were disappointing, but MULLC determined that the use of oxygen in the appropriate proportions demonstrated recoveries of approximately 80%, which has been subsequently confirmed by production from MULLC's PAA#1.

Modern uranium processing plants no longer employ evaporation pits to dispose of waste fluids. In times past, other industries have found that such ponds naturally leak downward into shallow ground-water resources even with engineered padding that lines the bottom of ponds. To eliminate such concerns, uranium processing plants now conserve the use of water and minimize wastes by using oil-field tested brine injection well technology to inject liquid waste deep underground into permeable formations containing ground water consisting of natural brine. One of MULLC's waste injection wells is shown in Figure 29.

Figure 28

Process-Flow Schematic



MULLC Map

Figure 29 – One of MULLC's Waste Injection Wells.

Yellowcake production continues to date (see Figures 30 and 31 for a view of the final stage of processing, barreling, and vibrating the barrels to eliminate air spaces within the yellowcake). A barrel that is ready for shipment to the customer weighs about 900 pounds. Shipments of yellowcake are made to the customer according to MULLC management decisions, which are based on sales contracts and the sales market of U_3O_8.

Figure 30 – End of Production Line

The price received for yellowcake depends on market conditions. Many older yellowcake-producing facilities have long-term contracts with third-parties such as utilities that have kept prices low relative to the spot market price. After a run-up in spot price beginning in 2006 and reaching a high of almost $140 /pound U_3O_8, the market has absorbed much of the inexpensive uranium in contract and the price has relaxed back into the $40 to $50-range during the last quarter of 2008 (see Figure 32). By early 2009, C&A projects that the price should be rising again as the existing power plants look to set new price commitments for the existing and new reactors planned to go on line before the year 2030.

Figure 31 – Final Product: Yellowcake

The 104 U.S. nuclear power plants will also likely turn to the U.S. producers to fill their needs over the next 10 years. C&A anticipates that the U.S. government may assist American uranium producers with new regulations and yellowcake-buying provisions.

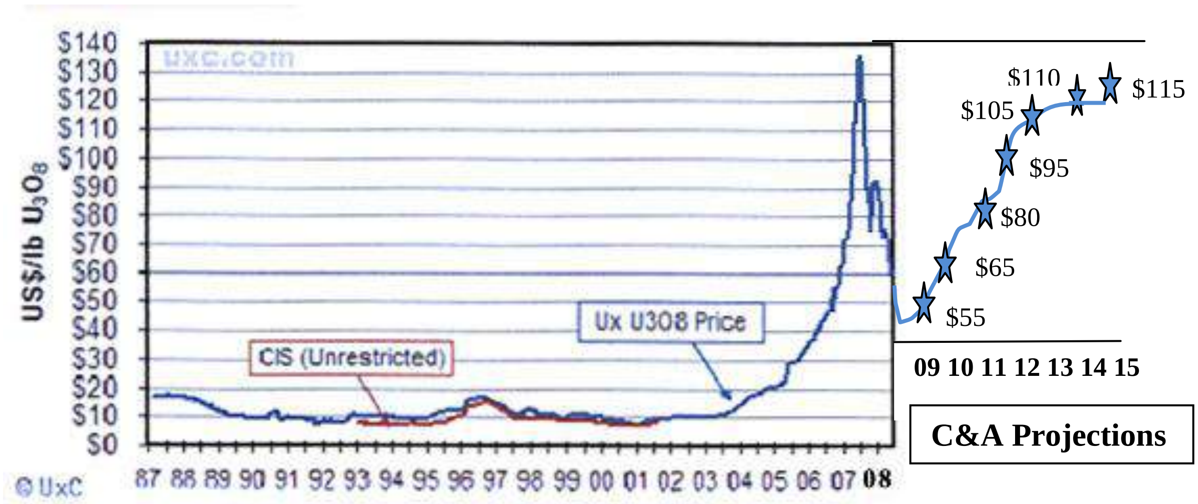


Figure 32 – Historical Spot Price of U_3O_8 (after UXC.com) and Projected Spot Price (Campbell, *et al*., 2007d)

19.0 Mineral Resource and Mineral Reserve Estimates

19.1 Geological Complexities

All uranium resource estimates of south Texas deposits (as well as other deposits occurring in Tertiary fluvial-deltaic sediments of Wyoming and other regions) are based on the accuracy and distribution of the grade-thickness values from well logs of development holes drilled prior to the onset of in situ injection and recovery operations and are used to: a) calculate in-place resources, b) assess production patterns, and c) determine the most efficient construction of injection and recovery wells, i.e., screen length and vertical location within the target mineralized zone.

Because of depositional changes in the thickness of the particular sand bodies that are carrying the uranium mineralization and because of the changes within the mineralized zone itself as a result of past and ongoing bio-geochemical activities, the configuration of the ore zone can be highly variable.

Where clay-shale zones do not dominate the depositional environment, sands may not have distinct tops and bottoms that will allow the bio-geochemical cells to migrate into sands above and below individual sand bodies that often become mineralized. In MULLC's Alta Mesa deposit, the Middle C sand within the Goliad Formation has been subdivided into the Upper Middle C Zone, Middle Middle C Zone, and Lower Middle C Zone and designated as the principal mineralized zones, even though some significant mineralization has been reported from the drilling that occurs immediately lower and higher than the Middle C Sand. These represent future exploration targets if not made part of the injection/production sweep at the outset.

Overprinting of depositional and post-depositional conditions can also incorporate effects of local growth faulting and the associated introduction of hydrocarbon gases (either the CH_4 chain of natural hydrocarbon gases and/or H_2S). One of the major growth faults is known to occur just to the west of the Alta Mesa deposit and likely has secondary faulting extending vertically above the listric normal fault involving and dislocating the sands and clay-shales and the zones of mineralization. These likely effects will tend to complicate the interpretations of zone correlations both in their vertical relationships and in their geological characteristics in terms of the minerals present, their physical conditions (color, porosity, and permeability), and lateral distribution.

Therefore, at the Alta Mesa deposit, there is a typical, natural variability to be expected within the three-dimensional configuration of the sediments. The mineralized sediments have been overprinted by the activities within the bio-geochemical cells where uranium minerals have been precipitated and continue to be precipitated within the aquifer.

19.2 Methods and Assumptions

The methodologies, assumptions, and calculations employed by MULLC to assess uranium resources at the Alta Mesa operations were discussed with MULLC professional personnel during week of May 12, May 19, June 2, June 16, and the week of August 18, 2008. They have employed the so-called "GT Contour method" to calculate all in-place uranium resources available on the Alta Mesa and Mesteña Grande and other properties. This method is applicable to uranium roll fronts because of the complex configuration of

the mineralization. In other words, because the geological character of the uranium occurrences leads drill-pattern selection, the mineralization reflects the gradation of the ore, especially in terms measured by the grade-thickness of mineralization. The model illustrated in Figure 24 provides guidance along these lines. The method involves contouring different GT values for the area of mineralization, using adopted conventions, i.e., a specified grade cutoff, minimum GT, and density (a weight-conversion) factor.

MULLC has adopted a grade-cutoff of 0.02% cU_3O_8 and a minimum GT of 0.30% cU_3O_8/foot. It should be noted here that the cU_3O_8 is derived from PFN logging. Natural gamma logs have been used by MULLC to guide exploration but all holes exhibiting anomalous natural gamma were immediately relogged with the PFN logger to provide the chemical equivalent denoted here as cU_3O_8. Therefore, the disequilibrium of the uranium has no direct impact on resource estimates.

An important factor employed to convert from volume to weight is obtained from testing core samples for their density. MULLC has adopted a density factor of 17 ft^3/ton on the basis of prior use by Total (in Miller, *et al*., 1994, p.10) and that previous values ranging from 16.5 to 18.0 ft^3/ton have been reported.

19.3 Module Assessments

MULLC professional personnel constructed area modules that encompassed the potential injection and production area of about 600 feet along mineralized zones (see Figure 33). The ore zones were projected to the surface, even if multiple vertical zones are present.

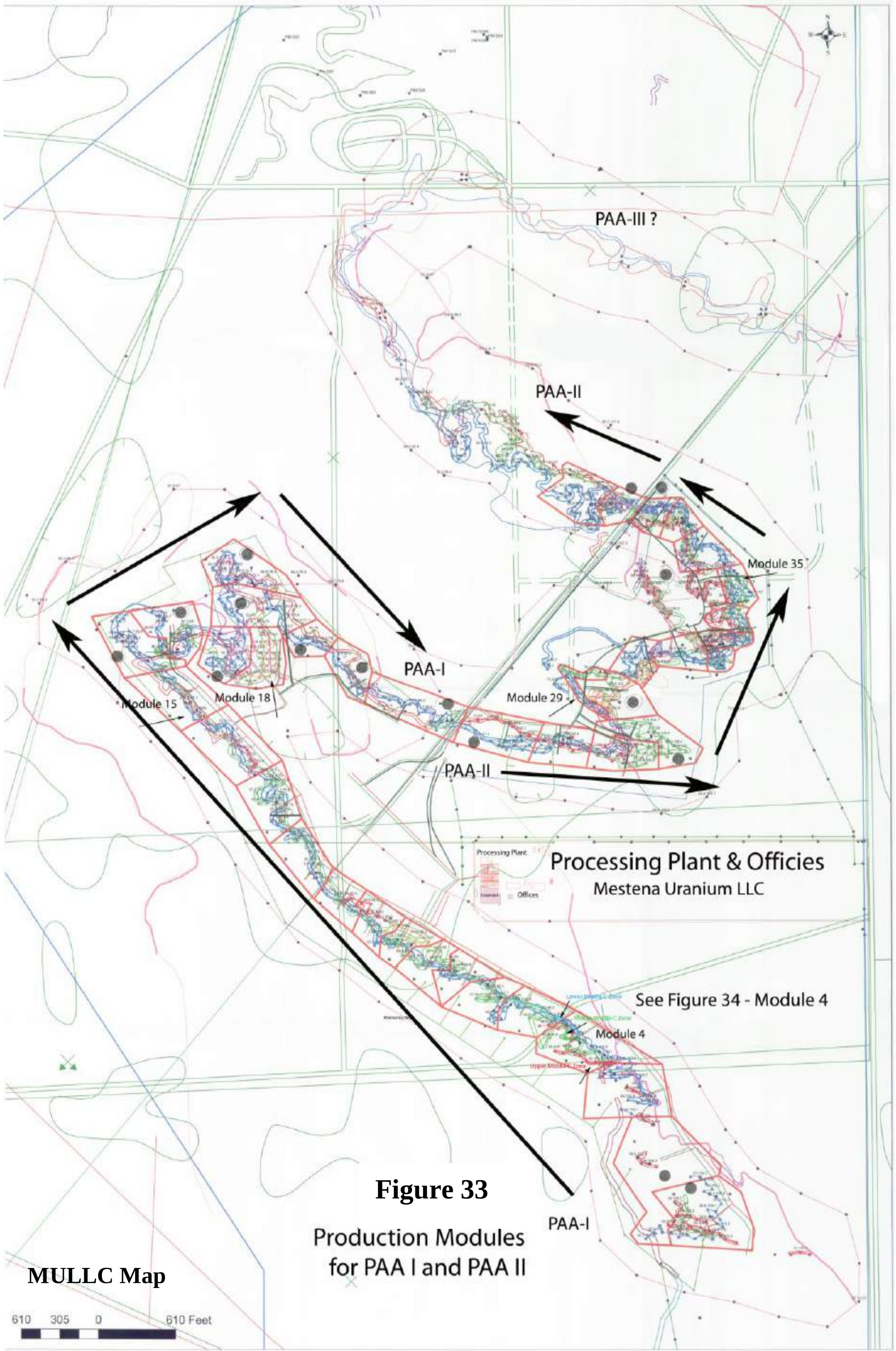


Figure 33

Production Modules
for PAA I and PAA II

The lateral extent of the roll-front is drawn on each of the module maps, which is usually about 50-feet wide. At each hole intercept for each zone, the grade-thickness (GT) is noted. The Production Modules for PAA-I and PAA-II are shown in Figure 33.

For each zone intercept, MULLC personnel used standard software to calculate an area of influence for each contour resulting in a net area calculated for each GT. A convention was adopted within the software for assigning mid-points in GT contouring.

C&A conducted a comparison between MULLC estimates and C&A estimates for randomly selected modules. The areas were selected from the present operations (PAA-I and PAA-II) and included Modules 4, 15, 18, 29, and 35 (see Figure 33 for locations). This consisted of an evaluation of the data supplied by MULLC personnel for three holes from each module representing various GT ranges from different areas within each of the five modules evaluated. These were for holes with high grade-high thickness mineralized zones and holes with low grade-low thickness mineralized zones.

For the purpose of C&A's evaluation of MULLC's estimates, we obtained information on the uranium resources from the MULLC professional staff and received and reviewed the raw data for the 5 modules and from three holes within each module, all selected by C&A. MULLC provided the raw data of their calculations of ore grade and thickness from these hole locations and the associated geophysical logs (PFN logs in addition to natural gamma, SP and resistivity logs).

We reviewed the subject well logs (PFN and other logs) and reviewed the zone thicknesses and grades and GTs for the 15 holes from the five modules as a preliminary review of these data. Figure 34 presents one of those modules as an example of the approach. The three zones examined in Module 4 are shown in their mapped colors. Each colored segment is presented in the following maps as Figure 35 (Upper Middle C Zone), Figure 37 (Middle Middle C Zone), and Figure 39 (Lower Middle C Zone). A well log selected from each zone for supporting the evaluation is presented after each map as a check hole (see Figures 36, 38, 40).

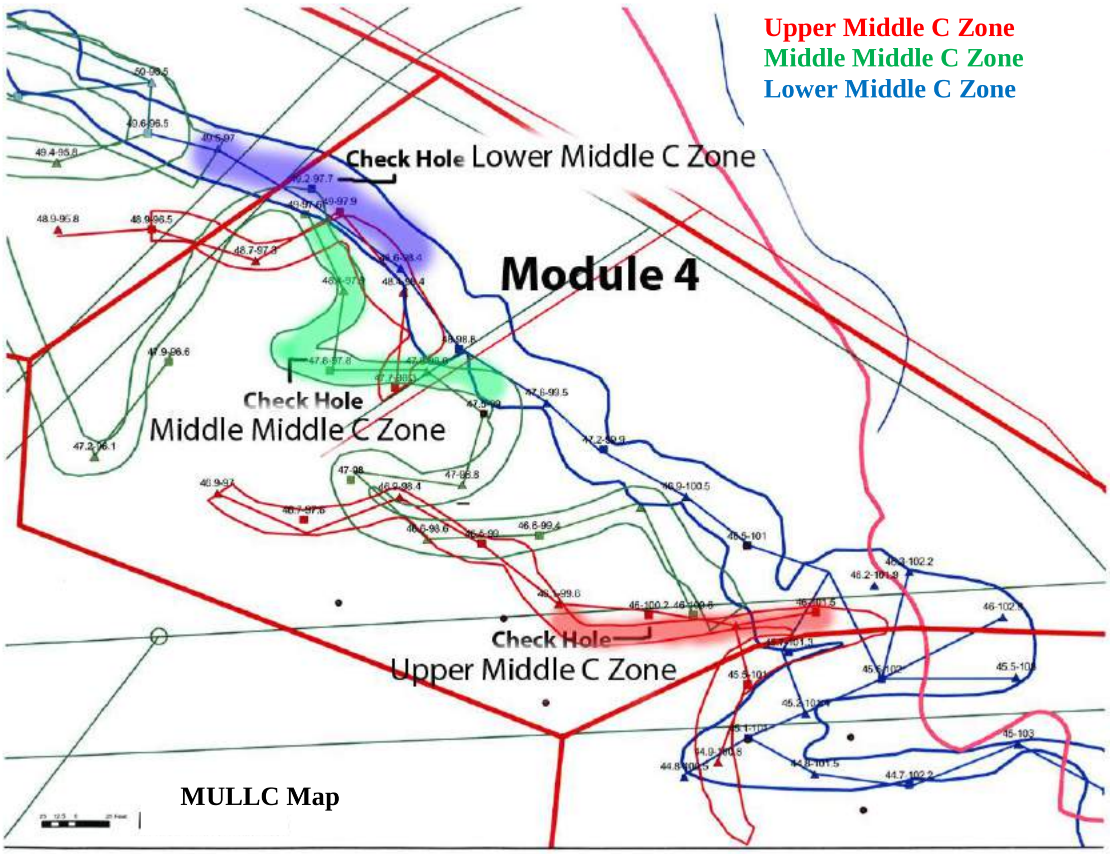
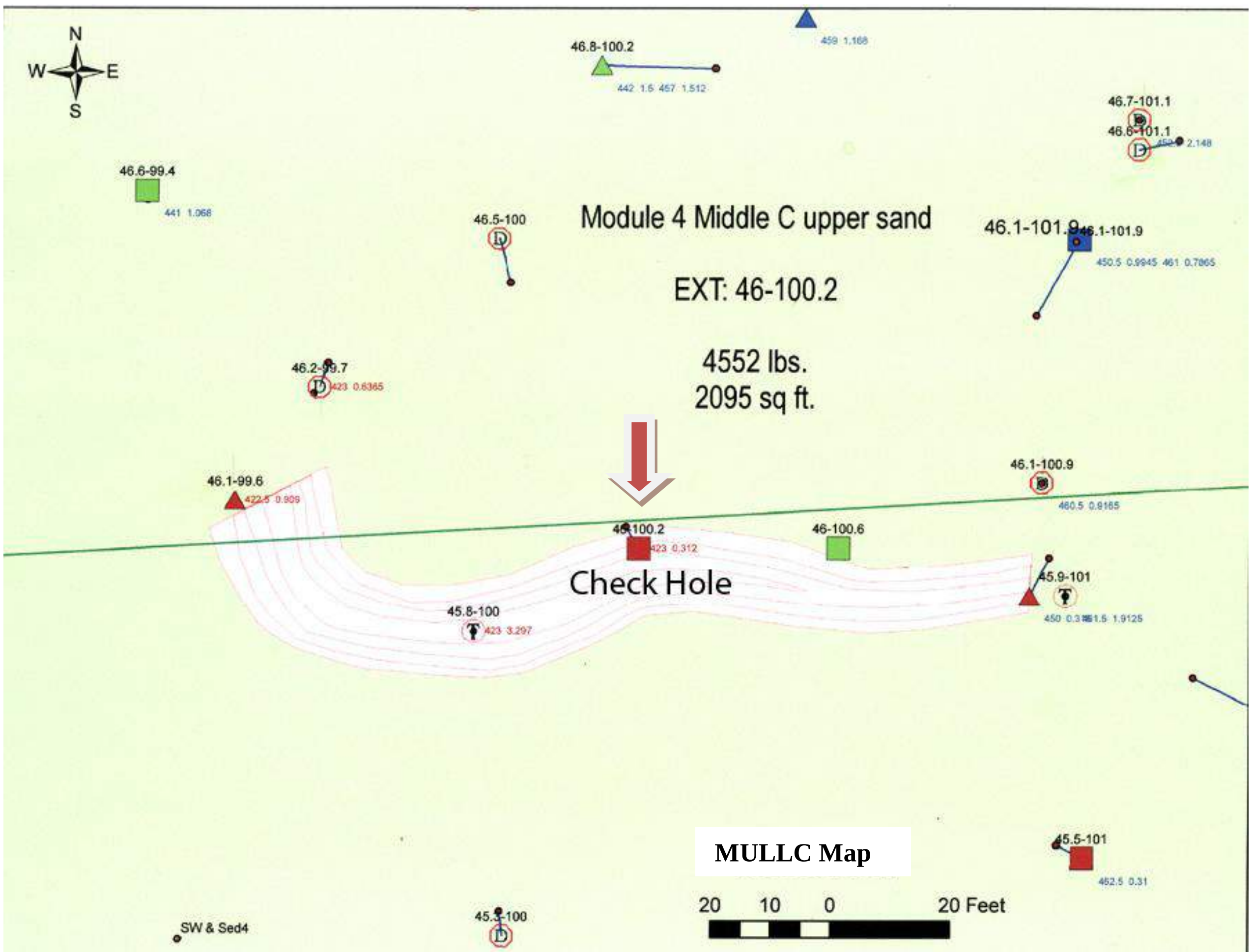


Figure 34 – Module 4 Map

The thickness and grade is documented by the geophysical logs for each "check hole" with a PFN log, which reports actual chemical grade (^{235}U). The other modules were treated in the same manner as in Module 4.



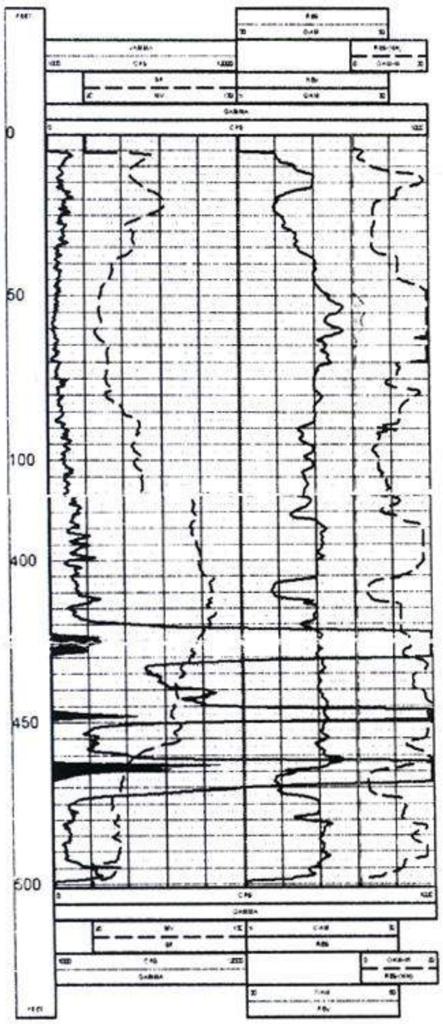
W

Figure 35– Upper Middle C Zone
(See Check Hole in Figure 36)

2 INCH LOG GAMMA SP RES 46-100.2 06/21/05

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 99999	BIT SIZE : 6




```
CENTURY GEOPHYSICAL CORPORATION

*** ORE-GRADE ANALYSIS ***

COMPANY :        MESTENA URANIUM  WELL  :  46-100.2
FIELD   :        ALTA MESA  DATE  : 06/21/05

K-FACTOR In 0.00001 : 0.5820  DEAD TIME: 3.326 USEC

  CUTOFFS SELECTED:
   CO1= 0.010 %
   CO2= 0.020 %
   CO3= 0.050 %

  INTERVAL SELECTED: 4.0 FT


                  *ZONE  1
 DEPTH  TRUE DEPTH  GRADE  CO1      CO2      CO3      INT
 [FT]   [FT]        [%]
421.50  421.5   0.007
422.00  422.0   0.010
422.50  422.5   0.013  *
423.00  423.0   0.015  *
423.50  423.5   0.028  *       *
424.00  424.0   0.061  *       *        *        *
424.50  424.5   0.064  *       *        *        *
425.00  425.0   0.056  *       *        *        *
425.50  425.5   0.062  *       *        *        *
426.00  426.0   0.063  *       *        *        *
426.50  426.5   0.054  *       *        * 3 0F/ 0 060%*
427.00  427.0   0.048  *       *                 *
427.50  427.5   0.046  *       *                 *
428.00  428.0   0.047  *       *                 *
428.50  428.5   0.051  *       *        * 0.5F/ 0.061%
429.00  429.0   0.047  *       * 6.0F/ 0.052%
429.50  429.5   0.017  *
430.00  430.0   0.016  *
430.50  430.5   0.016  * 8.5F/ 0.042%
431.00  431.0   0.010
  BEST  4.0 FOOT INTERVAL  0.057 AVERAGE GRADE,     0.228 GTP


                  *ZONE  2
 DEPTH  TRUE DEPTH  GRADE  CO1      CO2      CO3      INT
 [FT]   [FT]        [%]
445.50  445.5   0.007
446.00  446.0   0.009                            *
446.50  446.5   0.013  *                         *
447.00  447.0   0.026  *       *                 *
447.50  447.5   0.045  *       *                 *
448.00  448.0   0.073  *       *        *        *
448.50  448.5   0.113  *       *        *        *
449.00  449.0   0.085  * 3.0F/ 0.056%* 2.5F/ 0.064%* 1.5F/ 0.084%*
449.50  449.5   0.008                            *
  BEST  4.0 FOOT INTERVAL  0.044 AVERAGE GRADE,     0.176 GTP


                  *ZONE  3
 DEPTH  TRUE DEPTH  GRADE  CO1      CO2      CO3      INT
 [FT]   [FT]        [%]
461.50  461.5   0.005
462.00  462.0   0.010
462.50  462.5   0.023  *       *
463.00  463.0   0.107  *       *        *        *
463.50  463.5   0.208  *       *        *        *
464.00  464.0   0.096  *       *        *        *
464 50  464.5   0.097  *       *        *        *
465.00  465.0   0.131  *       *        *        *
465.50  465.5   0.055  *       *        *        *
466.00  466.0   0.051  *       *        * 3.5F/ 0.107%*
466.50  466.5   0.033  *       *                 *
467.00  467.0   0.034  *       *                 *
467.50  467.5   0.025  *       *
468.00  468.0   0.020  *       * 6.0F/ 0.073%
468.50  468.5   0.016  *
469.00  469.0   0.014  * 7.0F/ 0.065%
469.50  469.5   0.010
  BEST  4.0 FOOT INTERVAL  0.097 AVERAGE GRADE,     0.389 GTP

        ** **

THRESHOLD          :  0.010
WATER DEPTH   (FT):   0.000
WATER FACTOR      :   1.325
CASING DEPTH  (FT):   0.000
CASING FACTOR     :   1.000
WASTE INTERVAL (FT):  1.000

        ** **
```

Figure 36 – Upper Middle C Zone Module 4 Check Hole 46 - 100.2

Grade-Thickness (GT) Calculations

MULLC Well Log

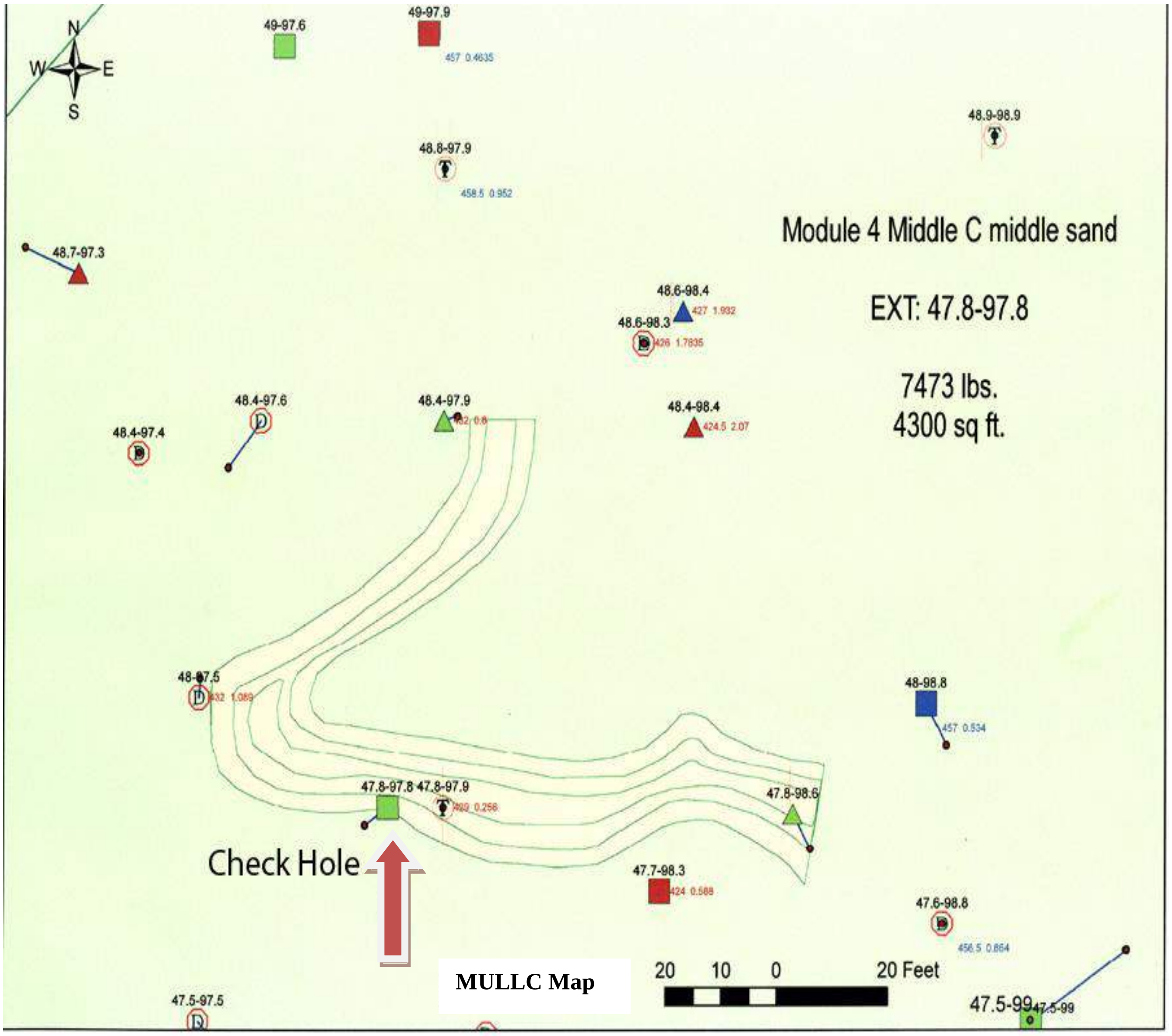
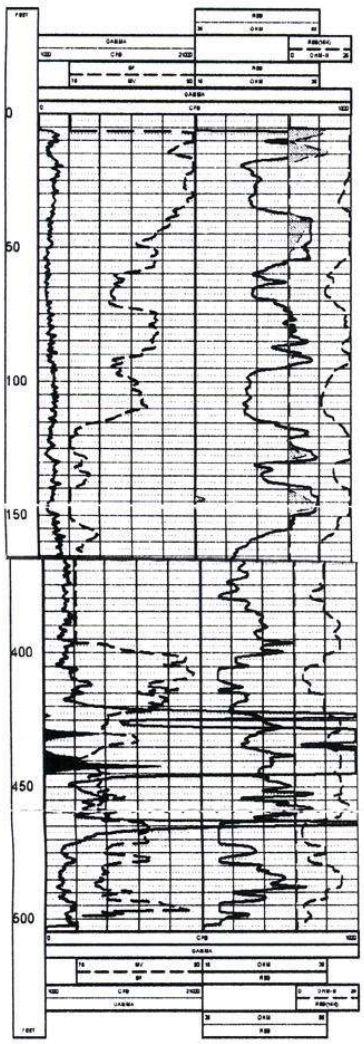


Figure 37– Middle Middle C Zone
(See Check Hole in Figure 38)

2 INCH MINI LOG GAMMA, SP, RES 47.8-97.8 05/25/05

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0.000
NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 2500
MATRIX DELTA T : 54
BIT SIZE : 6[illegible]



* * * ORE-GRADE ANALYSIS * * *

COMPANY : MESTENA URANIUM WELL : 47.8-97.8
FIELD : ALTA MESA DATE : 05/25/05

K-FACTOR in 0.00001 : 0.5337 DEAD TIME: 3.508 USEC

CUTOFFS SELECTED:
CO1= 0.010 %
CO2= 0.020 %
CO3= 0.050 %

INTERVAL SELECTED: 4.0 FT

*ZONE 1 *

DEPTH [FT]	TRUE DEPTH [FT]	GRADE [%]	CO1	CO2	CO3	INT
421.00	421.4	0.005				
421.50	421.9	0.007				
422.00	422.4	0.010	*			
422.50	422.9	0.014	*			
423.00	423.4	0.025	*	*		
423.50	423.9	0.037	*	* 1.0F/ 0.031%		
424.00	424.4	0.013	* 2.5F/ 0.020%			
424.50	424.9	0.007				
425.00	425.4	0.004				
425.50	425.9	0.003				
426.00	426.4	0.001				
426.50	426.9	0.004				
427.00	427.4	0.005				
427.50	427.9	0.007				
428.00	428.4	0.012	*			
428.50	428.9	0.020	*	*		
429.00	429.4	0.035	*	*		
429.50	429.9	0.090	*	*	*	
430.00	430.4	0.145	*	*	*	
430.50	430.9	0.109	*	*	*	
431.00	431.4	0.054	*	*	* 2.0F/ 0.100%	
431.50	431.9	0.033	*	*		
432.00	432.4	0.025	*	* 4.0F/ 0.064%		
432.50	432.9	0.020	*			
433.00	433.4	0.014	*			
433.50	433.9	0.012	*			
434.00	434.4	0.010	*			
434.50	434.9	0.014	*			
435.00	435.4	0.015	*			
435.50	435.9	0.011	*			
436.00	436.4	0.015	*			
436.50	436.9	0.021	*	*		
437.00	437.4	0.031	*	*		
437.50	437.9	0.030	*	*		
438.00	438.4	0.039	*	*		
438.50	438.9	0.076	*	*	*	
439.00	439.4	0.088	*	*	*	*
439.50	439.9	0.069	*	*	*	*
440.00	440.4	0.065	*	*	*	*
440.50	440.9	0.059	*	*	*	*
441.00	441.4	0.063	*	*	*	*
441.50	441.9	0.170	*	*	*	*
442.00	442.4	0.267	*	*	*	*
442.50	442.9	0.243	*	*	*	*
443.00	443.4	0.082	*	*	* 5.0F/ 0.120%*	
443.50	443.9	0.039	*	*		
444.00	444.4	0.037	*	*		
444.50	444.9	0.023	*	* 8.5F/ 0.084%		
445.00	445.4	0.011	* 17.5F/ 0.059%			
445.50	445.9	0.008				

BEST 4.0 FOOT INTERVAL 0.130 AVERAGE GRADE, 0.522 GTP

*ZONE 2 *

DEPTH [FT]	TRUE DEPTH [FT]	GRADE [%]	CO1	CO2	CO3	INT
462.50	462.8	0.003				
463.00	463.3	0.007			*	
463.50	463.8	0.016	*		*	
464.00	464.3	0.021	*	* 0.5F/ 0.021%		*
464.50	464.8	0.014	*		*	
465.00	465.3	0.012	* 2.0F/ 0.016%			*
465.50	465.8	0.008			*	

BEST 3.5 FOOT INTERVAL 0.012 AVERAGE GRADE, 0.042 GTP

** **

THRESHOLD : 0.010
WATER DEPTH (FT): 0.000
WATER FACTOR : 1.325
CASING DEPTH (FT): 0.000
CASING FACTOR : 1.000
WASTE INTERVAL (FT): 0.000

** **

Figure 38 – Middle Middle C Zone
Module 4 Check Hole 47.8 – 97.8

Grade-Thickness (GT) Calculations

MULLC Well Log

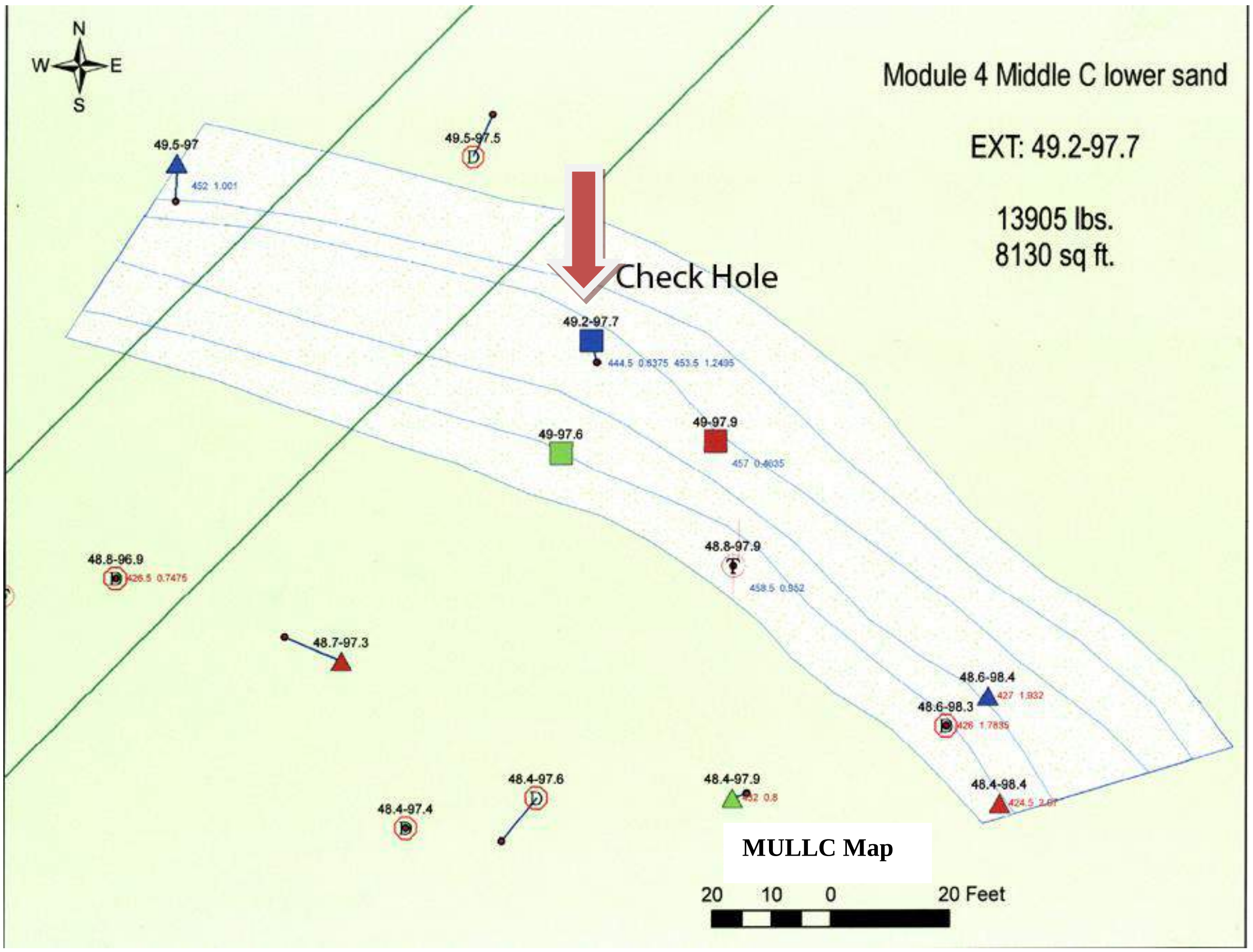
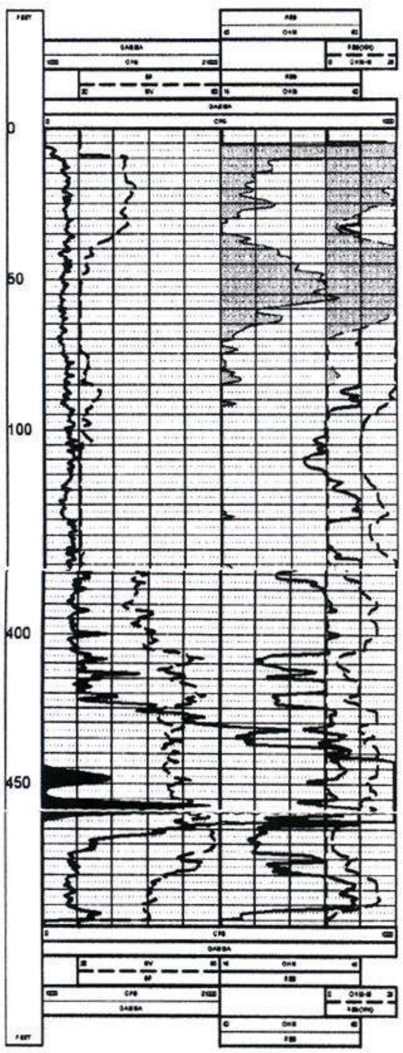


Figure 39– Lower Middle C Zone
(See Check Hole in Figure 40)

2 INCH MINI LOG GAMMA, SP, RES 49.2-97.7 05/23/05

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0.000	ELECT. CUTOFF : 2500	BIT SIZE : 6



CENTURY GEOPHYSICAL CORPORATION

*** ORE-GRADE ANALYSIS ***

COMPANY : MESTENA URANIUM WELL : 49.2-97.7
FIELD : ALTA MESA DATE : 05/23/05

K-FACTOR in 0.00001 : 0.5337 DEAD TIME: 3.508 USEC

CUTOFFS SELECTED:
CO1= 0.010 %
CO2= 0.020 %
CO3= 0.050 %

INTERVAL SELECTED: 4.0 FT

* ZONE 1 *

DEPTH [FT]	TRUE DEPTH [FT]	GRADE [%]	CO1	CO2	CO3	INT
436.50	436.9	0.008				
437.00	437.4	0.009				
437.50	437.9	0.011	*			
438.00	438.4	0.013	*			
438.50	438.9	0.012	*			
439.00	439.4	0.013	*			
439.50	439.9	0.011	*			
440.00	440.4	0.012	*			
440.50	440.9	0.011	*			
441.00	441.4	0.012	*			
441.50	441.9	0.014	*			
442.00	442.4	0.014	*			
442.50	442.9	0.014	*			
443.00	443.4	0.015	*			
443.50	443.9	0.016	*			
444.00	444.4	0.019	*			
444.50	444.9	0.027	*	*		
445.00	445.4	0.037	*	*		
445.50	445.9	0.060	*	*	*	
446.00	446.4	0.085	*	*	*	
446.50	446.9	0.097	*	*	*	
447.00	447.4	0.116	*	*	*	
447.50	447.9	0.129	*	*	*	
448.00	448.4	0.132	*	*	*	
448.50	448.9	0.129	*	*	*	
449.00	449.4	0.125	*	*	*	
449.50	449.9	0.102	*	*	*	
450.00	450.4	0.087	*	*	*	
450.50	450.9	0.065	*	*	* 5.5F/ 0.101%	
451.00	451.4	0.032	*	*		
451.50	451.9	0.024	*	*		
452.00	452.4	0.023	*	*		
452.50	452.9	0.022	*	* 8.5F/ 0.075%		
453.00	453.4	0.018	*			
453.50	453.9	0.021	*	*		
454.00	454.4	0.025	*	*		
454.50	454.9	0.031	*	*		
455.00	455.4	0.049	*	*		
455.50	455.9	0.114	*	*	*	
456.00	456.4	0.175	*	*	*	*
456.50	456.9	0.289	*	*	*	*
457.00	457.4	0.334	*	*	*	*
457.50	457.9	0.268	*	*	*	*
458.00	458.4	0.234	*	*	*	*
458.50	458.9	0.202	*	*	*	*
459.00	459.4	0.223	*	*	*	*
459.50	459.9	0.248	*	*	*	*
460.00	460.4	0.148	*	*	*	*
460.50	460.9	0.057	*	*	* 5.5F/ 0.208%	
461.00	461.4	0.049	*	*		
461.50	461.9	0.040	*	* 8.5F/ 0.147%		
462.00	462.4	0.017	*			
462.50	462.9	0.010	* 25.5F/ 0.079%			
463.00	463.4	0.007				

BEST 4.0 FOOT INTERVAL 0.247 AVERAGE GRADE, 0.986 GTP

** **

THRESHOLD : 0.010
WATER DEPTH (FT): 0.000
WATER FACTOR : 1.325
CASING DEPTH (FT): 0.000
CASING FACTOR : 1.000
WASTE INTERVAL (FT): 0.000

** **

Figure 40 – Lower Middle C Zone Module 4 Check Hole 49.2 – 97.7

Grade-Thickness (GT) Calculations

MULLC Well Log

Our evaluations indicate that where the three mineralized zones can be correlated laterally the data sets are similar and the GT values are within the anticipated range of variability. However, the Middle and Lower C Zones illustrated in Modules 18, 29, and 35 cannot be correlated laterally and the mineralized zones are attributed to the Upper C Zone in some cases and are not recognized in the lower zone as laterally defined.

We have reviewed the MULLC resource data and can present the current resource estimates derived using the applicable methods and supporting drilling data. This confirms original in-place estimates from MULLC's first production area (Modules 1 through 23 of PAA-I and through Module 35 of PAA-II) either by the production that has been processed in the plant and sold on the market or is in production. Making certain preliminary assumptions, we have confirmed the available reserves for the PAAs and other resources presently under control by MULLC.

Table 4 – Production and Reserves at MULLC's Alta Mesa Project (Middle C Zone Only)

Production Area:	Modules	Reserves	Recovered	Recovery	Production
		(In-Place)	(Pounds)	(Per Cent)	Status
PAA-I	1-23	1,921,000	1,634,337	85.1	**Standby**
PAA-II	24-31	802,000	684,452	85.4	On
PAA-II	32-35	515,000			On
PAA-II	36-39	283,000			On
PAA-II	40-End	922,000			TBA
Total:		2,521,000			
PAA-III	TBA	1,164,000			TBA
PAA-IV	TBA	800,000			TBA
TOTAL:		6,406,000			
Produced:			2,319,000	Est. 85	
To Be Produced:			3,126,000	Est. 85	

MULLC's basis for assessing resources, not including the delineation drilling to establish Indicated Reserves in the Alta Mesa trend with hole-site spacing of less than 100 by 200 feet, is as follows:

Indicated Resources: Widespread and systematic drilling along an identified mineralized trend, with drill-hole spacing ranging from 100 by 200 feet to 100 by 800 feet.

Inferred Resources: Widespread drilling which may or may not have interested "ore-quality" mineralization, but does bracket the known roll-front.

Table 5 – Resources at MULLC's Alta Mesa Project (Zone A, B, Lower C, and D)

Prospects for Development:	Indicated	Inferred	Resources	Total
	(In Place)	(In Place)	(In Place)	(Pounds)
Zone A	237,000	302,000	-	539,000
Zone B	857,000	772,000	408,000	2,037,000
Lower C Zone	1,349,000	285,000	816,000	2,450,000
D Zone	323,000	242,000	632,000	1,197,000
Total:	2,766,000	1,601,000	1,856,000	6,223,000

Table 6 – Resources at Mesteña Grande Project (Zone A, B, Lower C, and D)

Prospects for Development:	Indicated	Inferred	Resources	Total
	(In Place)	(In Place)	(In Place)	(Pounds)
MG-14 Area	-	100,000	-	100,000
MG-15 Area	-	600,000	-	600,000
MG-3 Area	-	800,000	-	800,000
MG-56 Area	360,000	1,440,000	-	1,800,000
MG Area	-	2,500,000	-	2,500,000
SMG Area	-	3,700,000	-	3,700,000
Alta Vista	-	900,000	-	900,000
Total:	360,000	10,040,000		10,400,000

Table 7 - Consolidated MULLC Reserves/Resources

Areas:	Indicated	Inferred	Resources	Total
	(In Place)	(In Place)	(In Place)	(Pounds)
[1]Alta Mesa- C Zone	3,684,000	-	-	3,684,000
[2]Alta Mesa-A, B, C &D	2,766,000	1,601,000	1,856,000	6,223,000
[3] Mesteña Grande	360,000	10,040,000	-	10,400,000
Total:	6,810,000	11,641,000	1,856,000	20,307,000

[1]**Note: Qualifies as Indicated Reserves**
[2]**Note: Qualifies as Indicated Resources (see Definitions Above)**
[3]**Note: Qualifies as Indicated and Inferred Resources (see Definitions Above)**

It should be noted here that the uranium resources discovered to date in the Mesteña Grande area are located at a depth of in excess of 1,000 feet below grade and are considered as Inferred Resources at this time with exceptions in only a few areas.

20.0 Other Relevant Data and Information

20.1 In Situ Production

The Alta Mesa deposit has been produced from 31 production modules at the West Plant, with new operations initiated at the East Plant supplied by Modules 32 to 35, as of the end of May 2008 and others to be initiated in October 2008.

Keeping track of the production is relatively straightforward. However, the duration of production required from a Module is difficult to establish because reduced recoveries may be due to a number of in situ features related to: a) iron, calcium or other mineralization within pore spaces of the zone, b) limited initial volume of soluble uranium available, or c) pump malfunctions, metering misreads, or plant-recovery issues.

The changes in production also become evident when plotting cumulative production recovered for each Module (see Figure 41). Individual stages in production become apparent, with special emphasis given to the production (and recovery) values for the last

10 Modules. These stages are often related to differences in the permeability/porosity of the sediments, or to shifts in mineralogy associated with the uranium minerals, or even to mechanical issues with in situ pumps or screen settings.

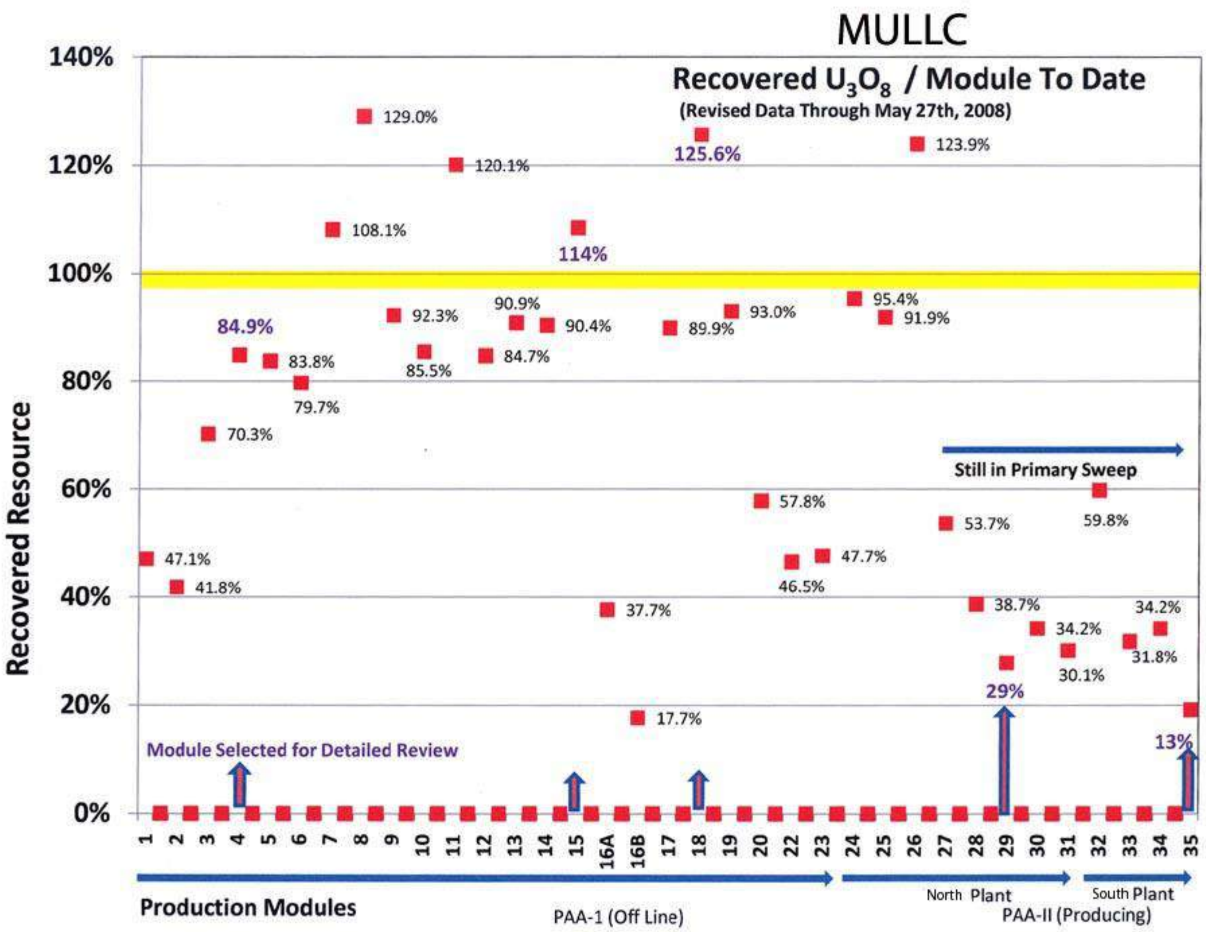


Figure 41 – Module Production Recoveries

Plotting the same data for each Module shows the individual variations in Module recovery (see Figure 42). Recovery issues with Modules 16A and 16B and Modules 20 through 24 also become evident in Figure 42.

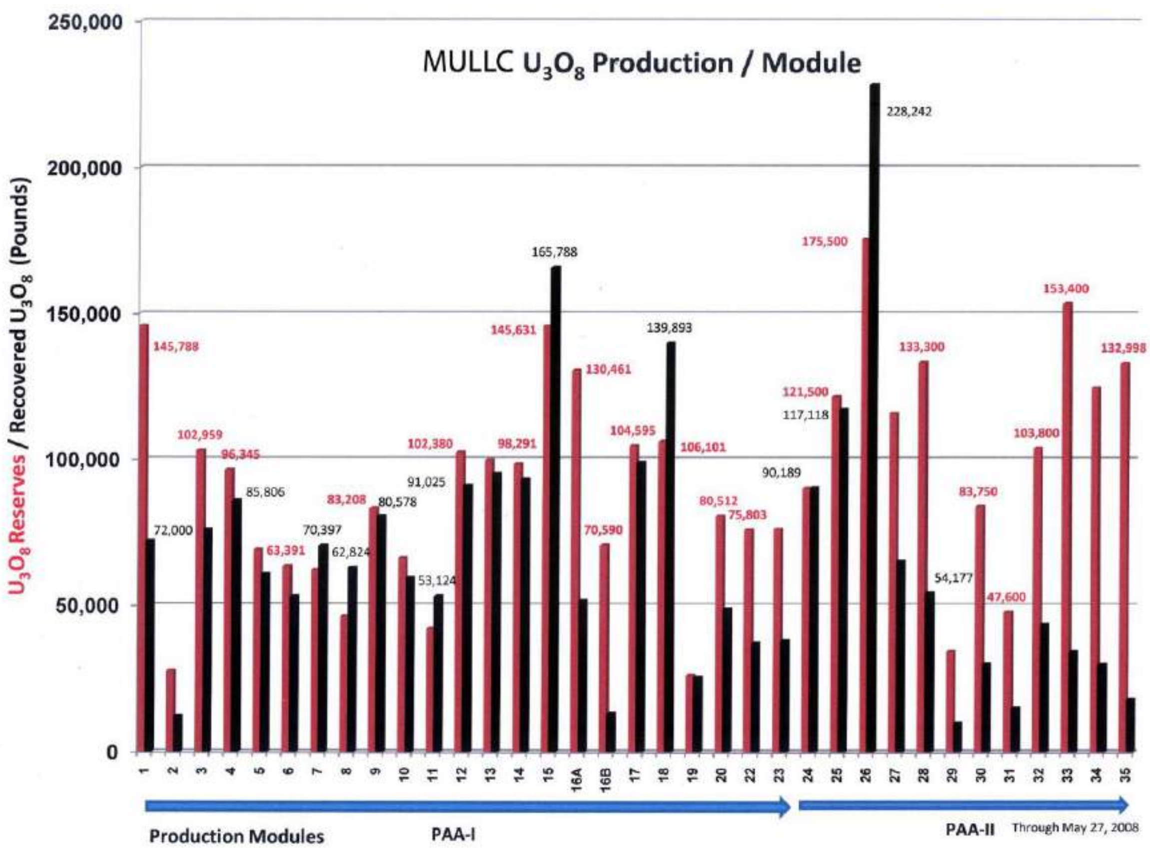
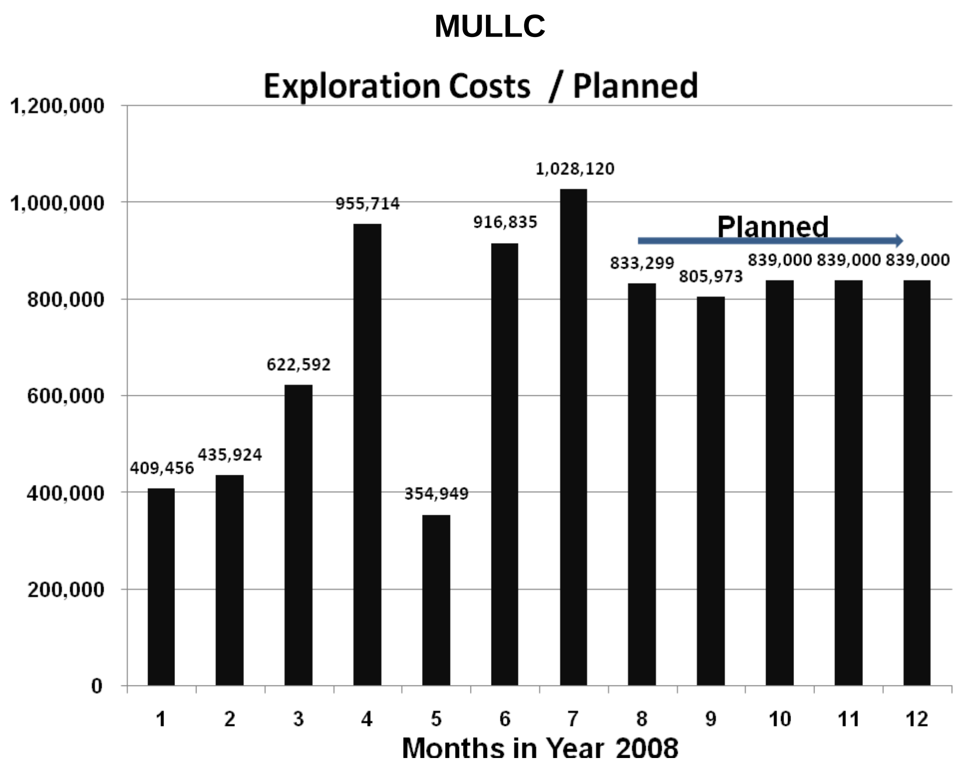


Figure 42 – Reserve / Recovered U_3O_8 / Module Recovery

20.2 Exploration Costs

We have examined the 2008 cash-flow records provided by MULLC management and have determined that they are spending substantial funds on exploration in the area with a high to date for July of just over $1 million, even with two major storms affecting the area (see Figure 43).

Figure 43



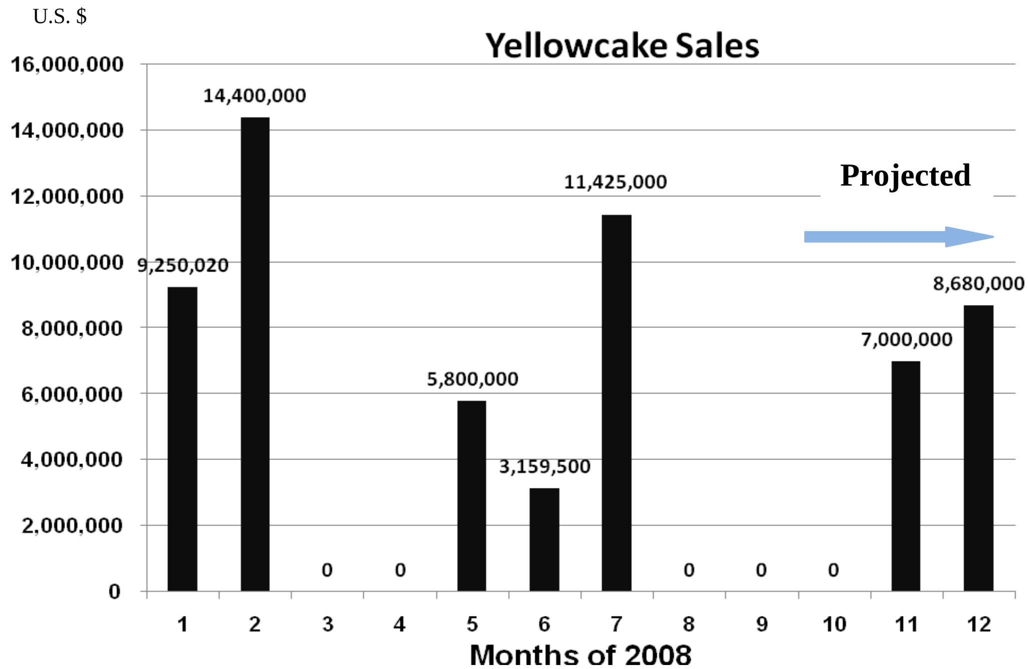
20.3 Yellowcake Sales

As in most uranium recovery operations, yellowcake sales are typically sporadic and depend on a number of factors, such as plant operations, availability of transport for yellowcake, yellowcake sales arrangements, and the price of yellowcake. MULLC sold yellowcake worth approximately $24 million in the first two months of 2008 (see Figure 44).

MULLC yellowcake is shipped in barrels, usually weighing about 900 pounds each, by road to a processing plant located in Illinois. The bright yellow color is indicative of very high quality U_3O_8, with minimal contaminating metals such as molybdenum, selenium, or others that may have been present initially in the ore (see Figure 13).

Figure 44

MULLC



20.4 Preliminary Project Economics

20.4.1 Alta Mesa Project

Making certain assumptions on yellowcake production and sales, on the indicated available uranium resources, and on historical financial information provided by MULLC management regarding the initial Alta Mesa operations (see Table 8), we prepared an economic assessment of the project extending through the year 2015. The results are summarized in Figures 45 with the assumptions and projected costs presented Table 9. Only direct expenses were included in the economic model presented here. These include: royalties, operating costs, exploration and developments costs, insurance costs, ad valorem taxes, administrative costs, and Mesteña Gas G&A reimbursements.

Table 8

MULLC Alta Mesa Project

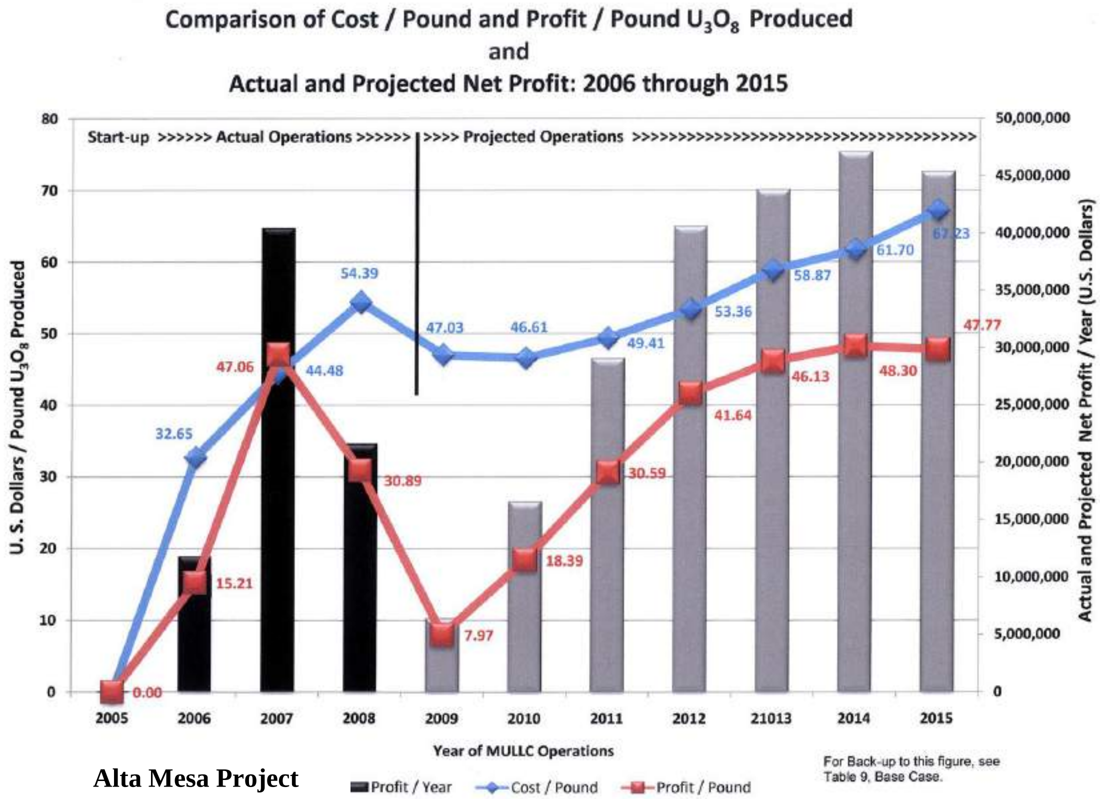
CONSOLIDATED URANIUM OPERATIONS
Statement of Revenue & Expenses
January 2005 Thru December 2007
Unaudited Income Tax Basis

	For the 12 months ending		
Description	Dec 2005	Dec 2006	Dec 2007
Sales Volume:			
Yellowcake - Lb	0.00	780,000.00	860,000.00
Average Price:			
$/Lb	0.00	47.86	91.54
Revenue:			
Yellowcake sales	0.00	37,334,500.00	78,728,380.80
Royalty Expense	0.00	(5,453,353.19)	(11,809,257.12)
Total Revenue from Operations	0.00	31,881,146.81	66,919,123.68
Expenditures:			
Operations Expense	812,433.91	8,422,357.93	12,344,064.26
Total Operating Expense	812,433.91	8,422,357.93	12,344,064.26
Cash Flow From Operations	(812,433.91)	23,458,788.88	54,575,059.42
Depreciation	1,069,087.00	1,752,145.00	2,065,440.00
Depletion	0.00	7,013,852.00	14,722,207.00
Amortization	545,354.00	1,305,209.00	1,117,062.00
Exploration/Development Expense	4,832,299.00	8,017,314.00	10,722,160.00
Insurance	307,424.17	1,126,798.78	1,513,626.97
Ad Valorem Taxes	455.47	127,649.58	163,080.15
General & Administrative Expense	1,255,878.73	1,573,614.04	1,153,648.13
MOL G & A Reimbursement	0.00	600,000.00	546,873.03
Interest and Other Income	(40,680.38)	(201,495.42)	(469,723.57)
Interest and Other Expense	0.00	0.00	4,735.50
Taxable Net Income	(8,782,251.90)	2,143,701.90	23,035,950.21
Nontaxable Rev & Nondeductible Ex	0.00	0.00	(14,287.65)
Statutory Deductions	0.00	7,013,852.00	6,691,598.00
Excess of revenues over expenses	(8,782,251.90)	9,157,553.90	29,713,260.56

Even with substantial escalations of various cost items and with only modest increases in yellowcake price over the period (see Figure 32 and Table 9), the project profitability continues to be robust through Year 2015.

In the Alta Mesa economic assessment, certain cost factors normally related to tax accounting have not been considered in Table 9 (or reflected in Figure 45). These factors involve: depreciation, depletion, amortization, statutory deductions, and corporate federal and state taxes. The principal projected financial indicators are shown along the bottom of Table 9.

Figure 45



Initial investment capitalization has been included to evaluate payout and investment recovery of the on-going Alta Mesa project. Mine life can be reasonably estimated based on the drilling conducted to date in the Alta Mesa area. Although drilling continues in the area as yellowcake production continues, with the total in place resources of approximately 6,400,000 pounds indentified to date (see Table 4), and by applying a historically confirmed field-plant recovery factor of approximately 75% established over the past three years, the available uranium-resource base supports production of approximately 4,800,000 pounds of yellowcake by the end of Year 2011.

TABLE 9

Economic Assessment of the Mesteña Uranium LLC Project Operations: 2005 through 2015 [2]

Alta Mesa Case

16-Nov-08

Revenue and Cost Items	Year of Operations:	2005	2006	2007	2008	2009	2010	2011	2012	21013	2014	2015
		Actual	Actual	Actual	Year-to-Date	Projected >>:>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>
Average and Projected Sales Price / Pound:		0	47.86	91.54	85.28	55.00	65.00	80.00	95.00	105.00	110.00	115.00
I. Revenue: Cumulative Resource Base Produced:			780,000	1,640,000	2,340,207	3,140,207	4,040,207	4,990,207	5,965,207	6,915,207	7,890,207	8,840,207
Yellowcake Pounds Produced:		0	780,000	860,000	700,207	800,000	900,000	950,000	975,000	950,000	975,000	950,000
Yellowcake Sales Realized:	%	0	37,334,500	78,728,381	59,714,520	44,000,000	58,500,000	76,000,000	92,625,000	99,750,000	107,250,000	109,250,000
Less Royalty	0.15	0	(5,600,174)	(11,809,256)	(8,957,177)	(6,599,999)	(8,774,999)	(11,399,999)	(13,893,749)	(14,962,499)	(16,087,499)	(16,387,499)
Total Revenue from Operation (Less Royalty):		0	31,734,326	66,919,125	50,757,343	37,400,001	49,725,001	64,600,001	78,731,251	84,787,501	91,162,501	92,862,501
II. Operating Expense:	**% Escalation/Yr**											
Operations		812,434	8,422,358	12,344,064	14,195,674	16,325,025	16,325,025	16,325,025	16,325,025	16,325,025	16,325,025	16,325,025
Total Operating Costs	0.10 Escalation	812,434	8,422,358	12,344,064	13,578,470	14,936,317	16,429,949	18,072,944	19,880,239	21,868,262	24,055,089	26,460,597
Cash Flow From Operations:		(812,434)	23,311,968	54,575,061	37,178,873	22,463,684	33,295,052	46,527,057	58,851,012	62,919,239	67,107,412	66,401,904
III. Other Income and Deductions:												
Depreciation	Not Applied	1,069,087	1,752,145	2,065,440	2,355,260	2,473,023	2,473,023	2,473,023	2,473,023	2,473,023	2,473,023	2,473,023
Depletion	Not Applied	0	7,013,852	14,722,207	11,166,615	11,445,780	11,445,780	11,445,780	11,445,780	11,445,780	11,445,780	11,445,780
Amortization	Not Applied	545,354	1,305,209	1,117,062	2,257,439	2,370,311	2,370,311	2,370,311	2,370,311	2,370,311	2,370,311	2,370,311
Exploration/Development Costs	0.02 Escalation	4,832,299	8,017,314	10,722,160	10,936,603	11,155,335	11,378,442	11,606,011	11,838,131	12,074,894	12,316,392	12,562,719
Insurance	0.10 Escalation	307,424	1,126,799	1,513,627	1,664,990	1,831,489	2,014,638	2,216,101	2,437,711	2,681,483	2,949,631	3,244,594
Ad Valorem Taxes	0.0020 Escalation	456	127,650	163,080	101,515	74,800	99,450	129,200	157,463	169,575	182,325	185,725
Administrative Costs	0.15 Escalation	1,255,879	1,573,614	1,153,648	1,326,695	1,525,699	1,754,554	2,017,738	2,320,398	2,668,458	3,068,727	3,529,036
MOL G & A Reimbursement	Actual	0	600,000	546,873	1,519,339	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Interest and Other Income	Not Applied	(40,680)	(201,495)	(469,724)	(93,696)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)
Interest and Other Expense	Not Applied	0	0	4,736	0	2,000	2,000	2,000	2,000	2,000	2,000	2,000
IV. Net Taxable Income:	Not Applied	(8,782,253)	1,996,880	23,035,952	5,944,113	(9,714,754)	456,854	12,966,893	24,506,195	27,733,716	30,999,224	29,288,716
Net Cumulative Taxible Income	Not Applied	(8,782,253)	(6,785,373)	16,250,579	22,194,692	12,479,938	12,936,792	25,903,685	50,409,880	78,143,596	109,142,820	138,431,536
Tax Exempt Income	Not Available											
Non-deductible expenses	Not Applied	0	0	(14,388)	7,188	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Statutory deductions	Not Applied	0	7,013,852	6,691,598	11,166,616	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
V. Excess of Revenue Over Expenses:		(8,782,253)	9,010,732	29,713,162	17,117,917	(4,710,754)	5,460,854	17,970,893	29,510,195	32,737,716	36,003,224	34,292,716
	Initial Investment											
VI. Investment, Payout, and Cash Flow:	(40,000,000)	(48,782,253)	(39,771,521)	(10,058,359)	7,059,558	2,348,804	7,809,658	25,780,551	55,290,746	88,028,462	124,031,686	158,324,402

Projected Financial Indicators:	2005	2006	2007	2008	2009	2010	2011	2012	21013	2014	2015
					Projected >>:>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>	>>>>>>>>>>>
Total Revenue per # Yellowcake Sold:	-	47.86	91.54	85.28	55.00	65.00	80.00	95.00	105.00	110.00	115.00
[1] Total Cost per # Yellowcake Sold:	-	32.65	44.48	54.39	47.03	46.61	49.41	53.36	58.87	61.70	67.23
Total Profit per # Yellowcake Sold:	-	15.21	47.06	30.89	7.97	18.39	30.59	41.64	46.13	48.30	47.77
Projected Total Net Profit/Yr. Realized:	-	11,866,591	40,475,673	21,629,731	6,376,360	16,547,968	29,058,007	40,597,309	43,824,830	47,090,338	45,379,830

Notes:

[1] Includes: Royalty Cost, Total Operating Expense, Exploration / Development Costs, Insurance, Ad Valorem Taxes, and Administrative Costs

[2] Based on information supplied by Mesteña management and on C&A projections

Although MULLC production records indicate a recovery of 85%, we have used a conservative recovery factor of 75% in our assessments to include all losses, ranging from resource (or geologic) "losses", development losses, to plant losses. Based on the available knowledge of the resources in the Alta Mesa area on ore grade and GT, combined with the identification of the oxidation-reduction front and fault-related re-reduction overprinting parts of the ore zone caused by either natural gas, hydrogen sulfide, or both, additional drilling will likely increase the present resource base. The re-reduced parts of the main Middle C ore zone apparently do not present significant problems in uranium recovery as reported in other uranium-recovery projects in south Texas. In any event, even allowing for the remaining resources known to date to be converted to "indicated" status for recovery purposes, an increase of appropriately 3,400,000 in-place pounds is anticipated which would result in the recovery of an additional 2,600,000 pounds for production extending into Year 2014.

Furthermore, on the basis that Zones A, B and D have not been fully explored, additional recoverable resources in the Alta Mesa area are likely to be present (see Table 5), which would support yellowcake production through, and likely beyond, Year 2015. We have limited our assessment to the Year 2015 until additional drilling results are available for possible revision of the resource base to support production beyond 2015 in the Alta Mesa area.

20.4.2 Mesteña Grande Project

Indicated and inferred resources presently suggested in the Mesteña Grande area are approximately 10,400,000 in place pounds of uranium located at depths in excess of 1,000 feet below grade. A preliminary economic assessment involving the development of these deep resources involves constructing a remote resin plant and transporting the resin to the existing plant at Alta Mesa for final processing into yellowcake; however, should substantial additional resources be confirmed over the next five years, a new processing plant would be considered for construction in the Mesteña Grande area southeast of Hebronville, Texas which is approximately 45 miles northwest of the existing Alta Mesa plant site.

Assuming that Mesteña management elects to build a remote resin plant, initial construction would begin before Year 2016 with initial production at the Mesteña Grande project scheduled for Year 2017 through 2026. In our assessment, we have determined that the principal economic factors are: 1) yellowcake prices, and 2) operating and exploration and development expenses, since the latter would be more than twice that experienced at the Alta Mesa project because of the economic impact of drilling and development of the deep mineralization.

The preliminary economic model incorporates many of the cost elements of the Alta Mesa project (summarized in Table 9 and Figure 45) in the Mesteña Grande assessment illustrated in Figure 46 with alterations indicated in the lines marked #1 through #4 (along the left margin of Table 10, and defined in the Notes at the bottom of the Table 10.

With a total resource of approximately 10,400,000 pounds of in place uranium ore known in an area where the trends are open within a large area of a lease controlled by MULLC, the recoverable resource of approximately 7,800,000 pounds would support production for about 8 years (through 2024), with the likelihood of substantial additional resources to be discovered in the Mesteña Grande area to extend to least 2026 and likely beyond. As in our assessment of the Alta Mesa project, we have limited our assessment of Mesteña Grande project to a production of 10 years (through Year 2026) until additional drilling results are available for possible revision of the resource base for production beyond Year 2024 in the Mesteña Grande area.

TABLE 10

MESTEÑA GRANDE CASE — **Economic Assessment of the Mesteña Uranium LLC Project Operations: 2016 through 2026** [2]

16-Nov-08

Changes	Revenue and Cost Items	Year of Operations:	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
			Projected >	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>
	Average and Projected Sales Price / Pound:		0	116.67	119.77	121.39	125.00	121.11	115.79	112.82	115.79	112.82	117.89
	I. Revenue:	Cumulative Resource Base Produced:		600,000	1,460,000	2,160,207	2,960,207	3,860,207	4,810,207	5,785,207	6,735,207	7,710,207	8,660,207
	Yellowcake Pounds Produced:		0	600,000	860,000	700,207	800,000	900,000	950,000	975,000	950,000	975,000	950,000
#1	Yellowcake Sales Realized:	%	0	70,000,000	103,000,000	85,000,000	100,000,000	109,000,000	110,000,000	110,000,000	110,000,000	110,000,000	112,000,000
	Less Royalty	0.15	0	(10,499,999)	(15,449,999)	(12,749,999)	(14,999,999)	(16,349,999)	(16,499,999)	(16,499,999)	(16,499,999)	(16,499,999)	(16,799,999)
	Total Revenue from Operation (Less Royalty):		0	59,500,001	87,550,001	72,250,001	85,000,001	92,650,001	93,500,001	93,500,001	93,500,001	93,500,001	95,200,001
	II. Operating Expense:	**% Escalation/Yr**											
	Operations		812,434	8,422,358	12,344,064	14,195,674	16,325,025	16,325,025	16,325,025	16,325,025	16,325,025	16,325,025	16,325,025
#2	Total Operating Costs	0.10 Escalation	1,812,434	1,500,000	18,000,000	19,800,000	21,780,000	23,958,000	26,353,800	28,989,180	31,888,098	35,076,908	38,584,599
	Cash Flow From Operations:		(812,434)	58,000,001	69,550,001	52,450,001	63,220,001	68,692,001	67,146,201	64,510,821	61,611,903	58,423,093	56,615,402
	III. Other Income and Deductions:												
	Depreciation	Not Applied	1,069,087	1,752,145	2,065,440	2,355,260	2,473,023	2,473,023	2,473,023	2,473,023	2,473,023	2,473,023	2,473,023
	Depletion	Not Applied	0	7,013,852	14,722,207	11,166,615	11,445,780	11,445,780	11,445,780	11,445,780	11,445,780	11,445,780	11,445,780
	Amortization	Not Applied	545,354	1,305,209	1,117,062	2,257,439	2,370,311	2,370,311	2,370,311	2,370,311	2,370,311	2,370,311	2,370,311
#3	Exploration/Development Costs	0.02 Escalation	9,600,000	16,000,000	20,722,160	21,136,603	21,559,335	21,990,522	22,430,332	22,878,939	23,336,518	23,803,248	24,279,313
	Insurance	0.10 Escalation	307,424	1,126,799	1,513,627	1,664,990	1,831,489	2,014,638	2,216,101	2,437,711	2,681,483	2,949,631	3,244,594
	Ad Valorem Taxes	0.0020 Escalation	456	127,650	163,080	144,500	170,000	185,300	187,000	187,000	187,000	187,000	190,400
	Administrative Costs	0.15 Escalation	1,255,879	1,573,614	1,153,648	1,326,695	1,525,699	1,754,554	2,017,738	2,320,398	2,668,458	3,068,727	3,529,036
	MOL G & A Reimbursement	Actual	0	600,000	546,873	1,519,339	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
	Interest and Other Income	Not Applied	(40,680)	(201,495)	(469,724)	(93,696)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)
	Interest and Other Expense	Not Applied	0	0	4,736	0	2,000	2,000	2,000	2,000	2,000	2,000	2,000
	IV. Net Taxable Income:	Not Applied	(13,549,954)	28,702,227	28,010,892	10,972,256	20,542,364	25,155,873	22,703,916	19,095,658	15,147,331	10,823,374	7,780,946
	Net Cumulative Taxible Income	Not Applied	(13,549,954)	15,152,273	43,163,165	54,135,421	74,677,784	99,833,658	122,537,573	141,633,232	156,780,562	167,603,936	175,384,882
	Tax Exempt Income	Not Available											
	Non-deductible expenses	Not Applied	0	0	(14,388)	7,188	4,000	4,000	4,000	4,000	4,000	4,000	4,000
	Statutory deductions	Not Applied	0	7,013,852	6,691,598	11,166,616	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
	V. Excess of Revenue Over Expenses:		(13,549,954)	35,716,079	34,688,102	22,146,060	25,546,364	30,159,873	27,707,916	24,099,658	20,151,331	15,827,374	12,784,946
		Initial Investment											
#4	**VI. Investment, Payout, and Cash Flow:**	(10,000,000)	(23,549,954)	12,166,125	46,854,227	69,000,287	94,546,650	124,706,524	152,414,439	176,514,098	196,665,428	212,492,802	225,277,748

Projected Financial Indicators:	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
	Projected	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>	>>>>>>>>>>
Total Revenue per # Yellowcake Sold:	-	116.67	119.77	121.39	125.00	121.11	115.79	112.82	115.79	112.82	117.89
[1] Total Cost per # Yellowcake Sold:	-	52.38	66.92	83.32	79.21	75.28	74.95	76.73	82.91	85.22	92.77
Total Profit per # Yellowcake Sold:	-	64.29	52.85	38.07	45.79	45.83	40.84	36.09	32.88	27.60	25.13
Projected Total Net Profit/Yr. Realized:	-	38,571,938	45,450,613	26,657,874	36,633,478	41,246,987	38,795,030	35,186,772	31,238,445	26,914,488	23,872,060

Notes:

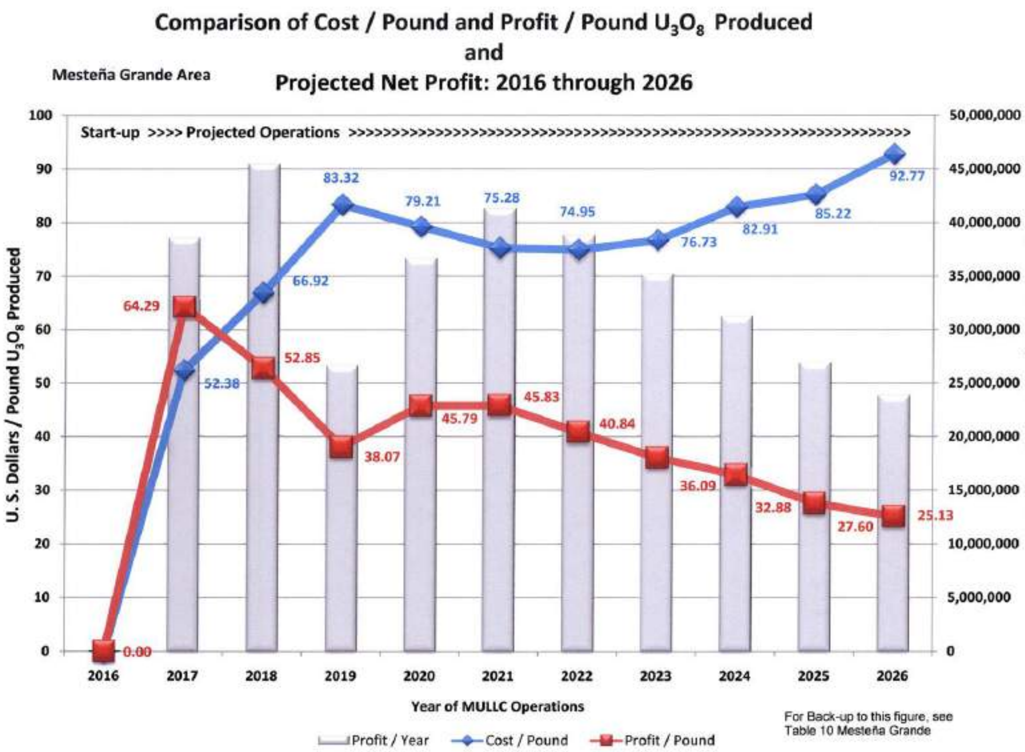
[1] Includes: Royalty Cost, Total Operating Expense, Exploration / Development Costs, Insurance, Ad Valorem Taxes, and Administrative Costs

[2] Based on information supplied by Mesteña management and on C&A projections

# Indicates line changes to accommodate price elevations (#1), increased operating costs as a result of location distant from plant (#2), increased costs by 2X of exploration & development costs (#3), change in investment to allow resin production and transport to plant for final processing of resin into yellowcake (#4).

We are projecting that a price bubble is likely to develop during the Years 2019 through 2022 as reactor construction expands, which is likely to result in a projected high of $125 in Year 2020 settling back in a range $113 in Year 2023 to about $118/pound as of Year 2026.

Figure 46



although less than that of the Alta Mesa project (see Table 11 and Figure 47, reinforced by Table 10 and Figure 46).

By adding the typical tax considerations to the sensitivity analyses, the "Excess of Revenue over Expenses" line item (shown on line item V in Table 11) remains negative at yellowcake prices at $70/pound (see Figure 48).

TABLE 11 – Sensitivity Analyses

Sensitivity Analyses: Mesteña Grande Project - For Present Only

Changes	Revenue and Cost Items		Variable :	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
#1	Projected Sales Price $/Pound:		XXXXX If:	50.00	60.00	70.00	80.00	90.00	100.00
	I. Revenue:								
	Yellowcake Pounds Produced:			860,000	860,000	860,000	860,000	860,000	860,000
	Yellowcake Sales Realized ($):	%		43,000,000	51,600,000	60,200,000	68,800,000	77,400,000	86,000,000
	Less Royalty	0.15		(6,449,999)	(7,739,999)	(9,029,999)	(10,319,999)	(11,609,999)	(12,899,999)
	Total Revenue from Operation (Less Royalty):			36,550,001	43,860,001	51,170,001	58,480,001	65,790,001	73,100,001
	II. Operating Expense:		**% Escalation/Yr**						
	Operations			12,344,064	12,344,064	12,344,064	12,344,064	12,344,064	12,344,064
#2	Total Operating Costs	None	Escalation	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
	Cash Flow From Operations:			18,550,001	25,860,001	33,170,001	40,480,001	47,790,001	55,100,001
	III. Other Deductions (and Income):								
	Depreciation		Not Applied[3]	2,065,440	2,065,440	2,065,440	2,065,440	2,065,440	2,065,440
	Depletion		Not Applied	14,722,207	14,722,207	14,722,207	14,722,207	14,722,207	14,722,207
	Amortization		Not Applied	1,117,062	1,117,062	1,117,062	1,117,062	1,117,062	1,117,062
#3	Exploration/Development Costs	None	Escalation	20,722,160	20,722,160	20,722,160	20,722,160	20,722,160	20,722,160
	Insurance	None	Escalation	1,513,627	1,513,627	1,513,627	1,513,627	1,513,627	1,513,627
	Ad Valorem Taxes	0.0020	Escalation	86,000	103,200	120,400	137,600	154,800	172,000
	Administrative Costs	None	Escalation	1,153,648	1,153,648	1,153,648	1,153,648	1,153,648	1,153,648
	MOL G & A Reimbursement		Actual	546,873	546,873	546,873	546,873	546,873	546,873
	Interest and Other Income		Not Applied	(469,724)	(469,724)	(469,724)	(469,724)	(469,724)	(469,724)
	Interest and Other Expense		Not Applied	4,736	4,736	4,736	4,736	4,736	4,736
	IV. Net Taxable Income[4]:		Not Applied	(22,912,028)	(15,619,228)	(8,326,428)	(1,033,628)	6,259,172	13,551,972
	Tax Exempt Income		Not Available						
	Non-deductible expenses		Not Applied	(14,388)	(14,388)	(14,388)	(14,388)	(14,388)	(14,388)
	Statutory deductions		Not Applied	6,691,598	6,691,598	6,691,598	6,691,598	6,691,598	6,691,598
	V. Excess of Revenue Over Expenses[4]:		XXXXX If:	(16,234,818)	(8,942,018)	(1,649,218)	5,643,582	12,936,382	20,229,182

Projected Financial Indicators:		Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Total Revenue per # Yellowcake Sold/Case/YR:		50.00	60.00	70.00	80.00	90.00	100.00
[1]Total Cost per # Yellowcake Sold/Case/YR:		56.36	57.88	59.40	60.92	62.44	63.96
Total Profit per # Yellowcake Sold/Case/YR:	XXXXX If:	(6.36)	2.12	10.60	19.08	27.56	36.04
Projected Total Net Profit/Case/YR Realized:		(5,472,307)	1,820,493	9,113,293	16,406,093	23,698,893	30,991,693

Notes:

[1] Includes: Royalty Cost, Total Operating Expense, Exploration / Development Costs, Insurance, Ad Valorem Taxes, Administrative Costs, and MOL G&A Reimbursments

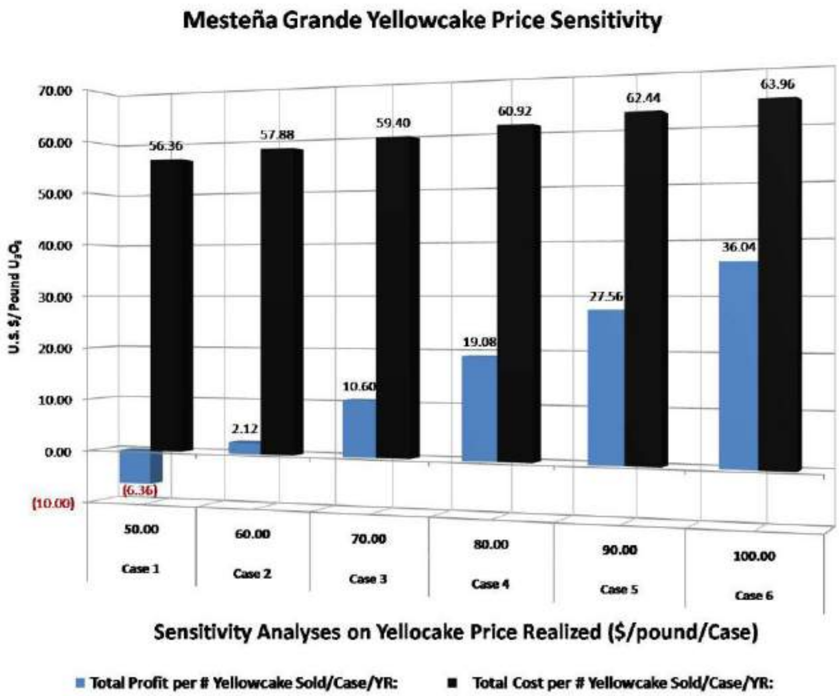
[2] Based on information supplied by Mesteña management and on C&A projections

# Indicates line changes from Alta Mesa Case to accommodate: 1) price elevations, 2) increased operating costs as a result of location distant from plant, and 3) increased costs by 2X of exploration & development costs for depths,

[3] These deductions and income not applied to **Projected Financial Indicators**, which only involve direct costs. See Notes [1 and 4]

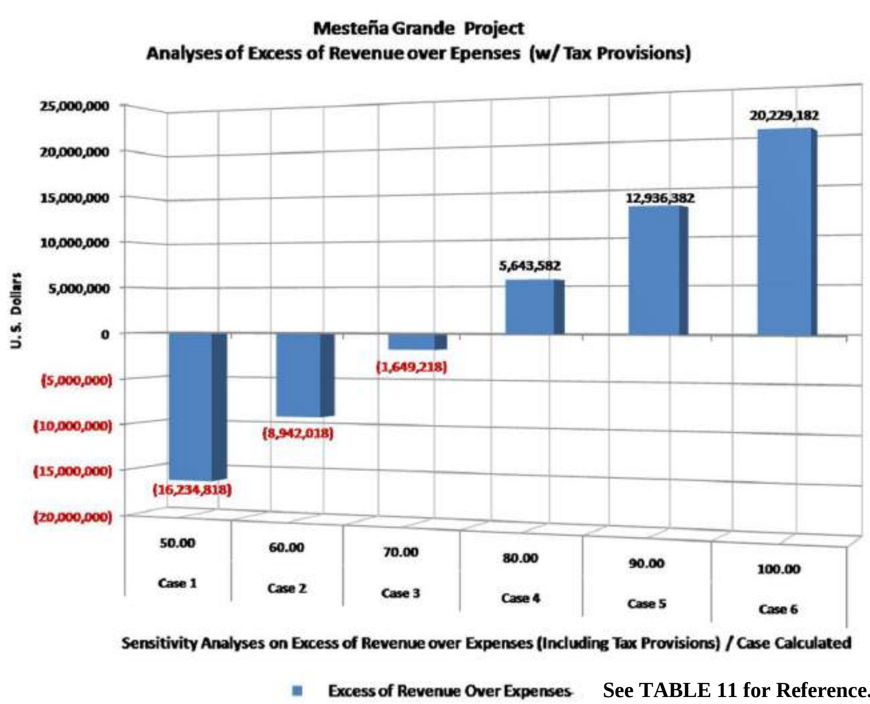
[4] Includes tax-related factors: depreciation, depletion, amortization, and statutory deductions.

Figure 47 – Price Sensitivity



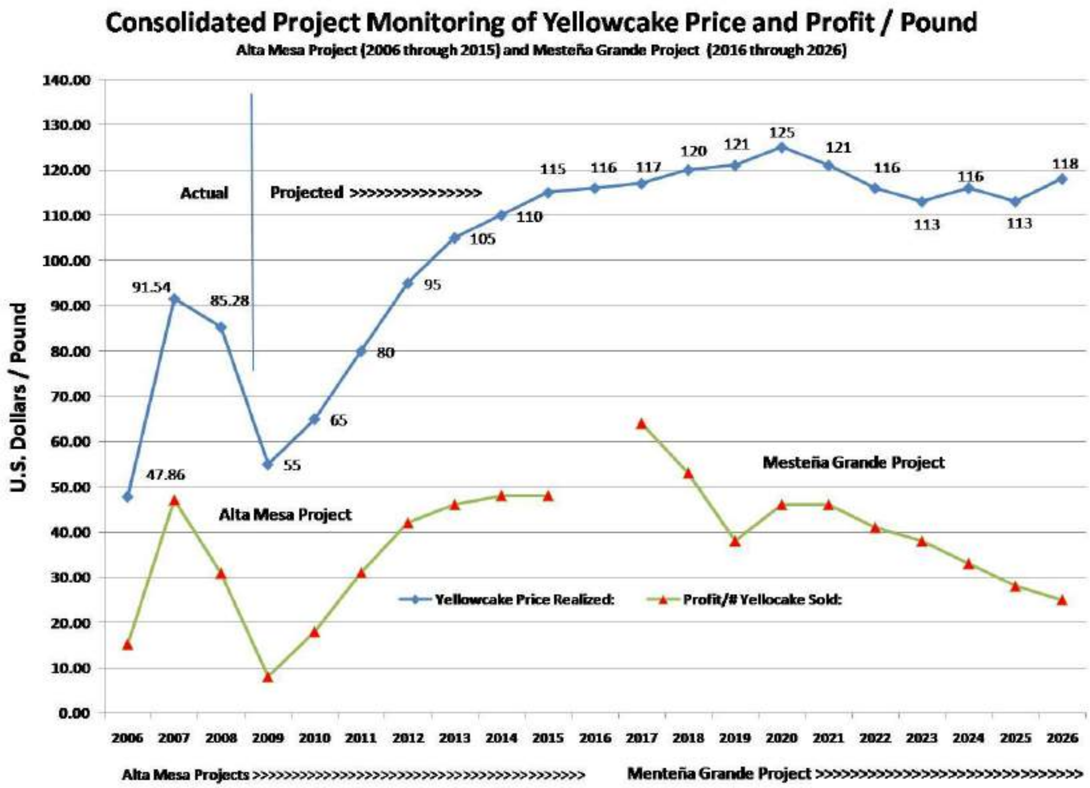
See TABLE 11 for Reference.

Figure 48 – Revenue over Expenses Sensitivity



See TABLE 11 for Reference.

Figure 49



A summary of the yellowcake price projected in the assessments for the Alta Mesa project and the Mesteña Grande project, along with the resulting profit / pound modeled is illustrated in Figure 49.

20.4.3 Potential Risk Factors

With ongoing, profitable operations such as the Alta Mesa project, certain potential initial risk factors have been removed because yellowcake production has been demonstrated by MULLC management over the past three years. However, other potential risk factors remain that are inherent is such operations that could affect the profitability and financial stability of the MULLC operations. These factors are summarized here:

1) Yellowcake price does not increase as projected herein.

2) Nuclear power plant construction slows or is halted.

3) Development problems develop with the ore present in the Mesteña Grande area.

4) A materials shortage develops that would delay construction of the new plant or compromise the operation of the present plant operations.

5) Substantial cost inflations occur.

6) A major regulatory issue develops relating to an accident, leak, or spill at the existing plant.

21.0 Interpretations and Conclusions

Geologic models have not been described to date for the Alta Mesa mineralization occurring in the Goliad Formation or in the Oakville Formation in the Mesteña Grande project area. The general impression expressed by MULLC geologists is that methane rising along growth faults provides the source that causes the re-reduction (strong color changes) reported in the samples at the interface between the re-reduction with oxidation features and the unoxidized sediment, in favorable zones of permeability, forming uranium mineralization in apparent roll-front configurations. This alone does not promote effective well-site selection. A more definitive characterization or model of the mineralization is needed at both the Alta Mesa site and at Mesteña Grande to the northwest. Detailed characterization of all the relevant geological features available in the samples would provide MULLC with a basis for optimizing well-site selection.

The investigations would be on selected holes on samples taken from near the surface to total depth, focusing on mineralogy, grain size, sorting, etc., and in context with the mineralized zones and in non-mineralized zones. The examinations would be undertaken in a laboratory environment using microscopes, microprobes, XRD analyses (to identify clay mineralogy, calcite, siderite, and other minerals), sieves, acids, and other such equipment and supplies. This could be accomplished at MULLC's offices at Alt Mesa or elsewhere by consultants or by MULLC geological personnel.

The objectives of the recommended research would be to develop models of the mineralization that would help staff geologists to select well sites more effectively than in the past. Another objective would be to allow the well-site geologist to examine only examine certain critical zones, thereby reducing the number of samples to be taken by the driller's helper and allowing the driller to increase his penetration rate and spend less time per hole, therefore reducing the overall cost of the drilling.

Models to aid exploration and development drilling range from regional to trend analyses of deposits in South Texas by Campbell and Biddle (1977) and by Dickinson and Duval (1977), respectively, to regional and trend analyses of deposits in Wyoming by Rackley (1975), and by Rubin (1970), respectively.

The publication by Campbell and Biddle (1977) discusses the lithologic characteristics and processes likely involved in the uranium mineralization in south Texas and in parts of Texas and neighboring states to the east. The publication by Dickinson and Duval (1977) examines a number of deposits in south Texas. These papers represent good summaries of the time on south Texas uranium mineralization and remain applicable today.

The paper by Rubin (1970) is an example of a model that was very useful in developing the Morton Ranch deposit in Wyoming. It provides guidance to the well-site geologist to check and record a series of important lithologic features. Rubin's paper formalized the model applied successfully in most of Wyoming by the uranium exploration companies in the 1970s and should be useful today as a guide in the development of modern geological models applicable to MULLC's ore bodies.

Rackley's published model of Wyoming uranium mineralization employs a more regional approach (1975). Although there are number of geological differences between the Tertiary sediments of Wyoming and south Texas, they both have economic uranium deposits that occur in fluvial sediments and both are considered to have roll-front configurations. Although the role natural gas plays as a reductant in place of carbonaceous material has been proposed, the similarities in the mineralization are far greater than the differences. Therefore, Rackley's regional approach to uranium exploration still has merit today. For exploration beyond the mineralization known to date on the Mesteña Grande properties, an exploration model developed using Rackley's approach specifically for south Texas would be worthwhile.

C&A has concluded that the Alta Mesa Project is characterized by conscientious attention to permitting but MULLC management can make permit compliance more effective with only a few changes. These changes include a permit-provision tracking spreadsheet or similar arrangement and improved interaction with field crews to communicate permit requirements. When compared to the other major uranium producer in the State, MULLC has the benefit of its remote location. The State and Federal regulatory agencies can then focus on the technical details involving permit compliance, which can be maintained by MULLC management.

C&A has concluded that the MULLC projects underway in Brooks and Jim Hogg Counties are state-of-the-art operations, and a preliminary assessment suggests that the project is financially successful and should remain so through 2015. Production from the Mesteña Grande area is likely to support production through Year 2026. The projected mine life is approximately 17 years (from 2009 through 2026). To the credit of the senior management of the operations, we cannot identify any serious failings in the exploration and development at the Alta Mesa operations or in the Mesteña Grande exploration project presently underway. However, we have concluded that there are a few issues that need to be addressed that affect both short-term operations with immediate impact and intermediate-term activities that would serve to extend the operational life of the activities in the Alta Mesa area.

22.0 Recommendations

We recommend that a few operational issues should be considered for implementation by MULLC management:

Short-Term Issues:

A. For the protection of the company's best interests in the Alta Mesa operations, there is an urgent need to develop an aggressive personnel recruitment program.

B. The need exists to standardize the software and data handling methods between the Mesteña Grande information and the main data handling and mapping operations at Alta Mesa. This would result in being able to readily generate forward expectations of production and cash flow as the drilling (and logging) results are assimilated into the accounting system. Developing better geological and hydrogeological models of the conditions as the data become available are important to the assimilation. This should be supported by MULLC management.

C. There is a need to monitor the economic feasibility of the deep resources discovered on the Mesteña Grande properties. Fortunately, MULLC already has available the requisite cost data from its Alta Mesa operations. The results of our analysis suggests that MULLC should continue to plan the development of this resource in concert with stable and rising yellowcake prices to a level that would justify the development of such "deep" resources while monitoring the risk factors mentioned above.

D. MULLC should collect available core samples obtained from the ore zone and from those zones that may be developed in the future and subject a representative number of samples for density analyses by a qualified laboratory. This is to confirm whether the ongoing use of a density factor of 17 ft^3/ton is justified in MULLC reserve / resource estimates.

Intermediate-Term Issues:

Once the geological models have been developed for the mineralization identified to date, the next step in improving in-situ recovery operations would be to conduct hydrogeological modeling of the injection and pumping activities to optimize well-field placement. Other uranium companies have found that this activity provides beneficial information for optimizing recovery and subsequent restoration activities.

Operational Issues:

A. Because of the isolated nature of the Alta Mesa operations and the plant's proximity to Mexico, we have concluded that there is a need to provide additional security with a formal security force located on the plant site, with strategically placed remote cameras at gate entrances and peripheral areas monitored 24/7.

B. An extensive monitoring program of the injection wells presently in operation at the Alta Mesa plant would pre-empt future operational problems. We recommend that an outside senior consultant be engaged to assess the conditions and to make recommendations to identify potential operational problems, if any.

We have estimated the cost to MULLC of the above recommendations and have presented the estimates in Table 12, below:

TABLE 12
Estimated Costs to Implement Recommendations

Recommendations:	***Estimated Cost (US$)***
1. Geological Modeling for Alta Mesa Deposit and Mesteña Grande Deposit	$100,000
2. Economic Analysis of Deep Resources	75,000
3. Density Investigations	150,000
4. Regional Exploration Program, including Software Revisions	200,000
5. Security Upgrade	250,000
6. Injection Well Investigations & Testing	$120,000
7. Staff Expansions & Benefits	450,000
	$1,345,000
Contingencies @ 10%	134,500
Estimated Total:	$1,479,500

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24.0 Certificate of Qualified Person

Michael D. Campbell, P.G., P.H.
Senior Geologist and Senior Hydrogeologist

I, Michael D. Campbell, do hereby certify that:

1. I am an Independent Consulting Geologist and Managing Partner in the firm of M. D. Campbell and Associates, L.P., residing at 1810 Elmen Street, Houston, Texas 77019.

2. I graduated with a Bachelor of Arts in Geology in 1966 from The Ohio State University in Columbus, Ohio, and a Master of Arts in Geology from Rice University in Houston, Texas, in 1976 and have practiced my profession continuously since 1966.

3. I have worked as a geologist and hydrogeologist for my full working career. I worked for Continental Oil Company (Australia), Sydney, Australia, as Staff Geologist/ Hydrogeologist, Minerals and Mining Division from 1966 to 1969. I was responsible for conducting, coordinating, and implementing prospect evaluations, mapping and sampling programs, well-site operations, and ground-water supply investigations in various parts of Australia, Micronesia (Caroline Islands) and the South Pacific (Coral Sea) for exploration on: phosphate (NW Queensland, west of Mt. Isa, and Northern Territory, phosphate discovery was made in Alroy Station area), potash (Carnarvon Basin), sulfur, coal, base metals, and uranium. Joint-venture programs with Japanese and Korean companies required extensive travel between Australia and Japan and Southeast Asia. I also investigated uranium prospects on the Nullibar Plains of South Australia, in northern Queensland and in the Northern Territory. After completing the assignment, Conoco transferred me back to the U.S. to work on Conoco's uranium projects in Wyoming. In 1970, I joined Teton Exploration, Div. United Nuclear Corporation in Casper, Wyoming and served as District Geologist for uranium exploration. From 1972 to the present I

have worked for various engineering and environmental companies involved in natural resource development and mining and on managing and executing environmental projects for industry. I am a licensed Professional Geologist in Texas, Washington (and Professional Hydrogeologist), Alaska, Mississippi, and Wyoming, and I hold national certification by American Institute of Professional Geologists and American Institute of Hydrology. I am a member of the Society of Mining Engineers of AIME (1975-Present), National Ground Water Association (AGWSE), and other professional societies. I have produced numerous publications many on uranium and other natural resources, and was elected a Fellow in the Geological Society of America (see following CVs for additional details, see Appendix I).

4. I have read the definition of "qualified person" as defined in NI 43-101, and I certify that by reason of my education, affiliation with a range of professional organizations (Foreign associations in Appendix A), and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

5. I made a personal inspection of the MULLC's Alta Mesa properties in Brooks County, Texas the Mesteña Grande project in Jim Hogg County during the week of May 12, May 19, June 2, June 16, and the week of August 18, 2008.

6. I have not had any prior involvement with the MULLC Project that is the subject of this technical report and I am independent of Mesteña Uranium LLC and its subsidiaries.

7. I have read the Instrument (NI 43-101) and Form 43-101 and this technical report has been prepared in compliance with this Instrument and Form 22-2.

8. As of the date of this certificate, to the best of my knowledge, information and understanding, this technical report contains all the scientific and technical

information that is required to be disclosed to make the technical report not misleading.

9. I consent to the filing of this technical report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or on their websites accessible by the public of the technical report.

Signed in Houston, Texas this 19th day of November, 2008.

Sincerely,

M. D. Campbell and Associates, L.P.

DRAFT

Michael D. Campbell, P.G., P.H.
Managing Partner

25.0 Appendices

26.0 Illustrations

Appendix I

Curriculum Vitae

for:

Michael D. Campbell, P.G., P.H.

Curriculum Vitae

Michael D. Campbell, P.G., P.H.,
Managing Partner
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Online: Summary & CV (Here)

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Education

1976, M.A., in Geology, Rice University under an *Eleanor and Mills Bennett Fellowship in Hydrology* for Research and Seminars in Hydrogeology and Associated Disciplines. 31 Graduate Hours Toward Ph.D., Houston, TX, Thesis: *Paleoenvironmental and Diagenetic Implications of Selected Siderite Zones and Associated Sediments in the Upper Atoka Formation, Arkoma Basin, Oklahoma-Arkansas*, 124 p. (Continuing Research)

1966, B.A., in Geology, The Ohio State University with Courses and Research in Hydrology, Hydrogeology and Associated Environmental Programs. German Secondary Field of Specialty, Columbus, OH. Began college in 1960 in southern California (at San Bernardino Valley College), taking undergraduate courses including: geology, chemistry, engineering drawing, etc. Transferred to OSU in 1962.

Professional Memberships / Affiliations

Association of Ground Water Scientists and Engineers (AGWSE)
American Association of Petroleum Geologists
(Div. of Environmental Geosciences & Energy Minerals – Founding Member, 1977)
American Society of Testing Materials (ASTM)
Society of Economic Geologists (SEG)
Society of Mining, Metallurgy, and Exploration (AIME)
Geological Society of America (GSA-Fellow)
Association of Geoscientists for International Development (AGID)

Houston Geological Society (HGS)
Association of Environmental & Engineering Geologists (AEEG)
International Association Hydrogeologists (AIH)
American Institute of Professional Geologists (AIPG)
International Society of Environmental Forensics (ISEF)

Texas Association Professional Geoscientists (TAPG)

Professional Certification / Registration

Professional Geologist (AIPG-#3330)
Professional Hydrogeologist (AIH-#480) (Recertification-2004)
Professional Geologist (Wyoming-#546)
Professional Geologist (Mississippi-#347)
Professional Hydrogeologist (Washington-#866)
Professional Geologist (Washington-#866)
Professional Geoscientist (Texas-#53)
Professional Geologist (Alaska-#606)

Professional Honors, Awards and Committees

Who's Who in the Southwest (First Listed: 18th Edition – 1982, etc.)
Who's Who in America (First Listed: 49th Edition – 1995, through 58th Edition for 2004)
Who's Who in Technology (1982, etc.)
American Men & Women of Science Listing (here) (1st Listed: 14th Ed. -1979, etc.)
Men of Achievement (International) (First Listed: 10th Edition – 1984)
American Institute of Professional Geologists (1975, etc.)
American Institute of Hydrology (1984, etc.)
Ohioana Book Award in Science (1975)
Citation by Law Engineering as Corporate Hydrogeologist (1990)
Citation by Class of the Institute of Environmental Technology (1992 & 1994)
Public Service Award – Outstanding Contributions, Texas Section, AIPG (1998)
Chairman, Environmental & Mining Sessions, AIPG Annual Mtg, Houston, Tx, Oct., 1997
Chairman, Internet Committee, Texas Section, AIPG (1998-Present)
Chairman, Internet Resources Committee, Texas Section, AEG (2003-Present)
Shlemon Mentor Hall of Fame in Applied Geoscience, GSA Mtg., Texas A&M U., March 16, 2004. Poster at GSA Mtg., Denver
Fellow, Geological Society of America, April, 2004 (Press Release on Induction)
Distinguished Alumni Hall of Fame
Mann Mentor in Hydrogeology, GSA South-Central Section Mtg., Trinity U., April 1, 2005
Chairman, Uranium Committee, EMD, AAPG (2004-Present) –Public Web Page.

Continuing Professional Education / Training

Mr. Campbell has attended, presented papers, or served as session chairman in the following technical conferences. He has also maintained the appropriate certifications in health and safety training.

Career Summary

Mr. Campbell is well-known nationally and internationally for his work as a technical leader, program manager, consultant and lecturer in hydrogeology, mining, and associated environmental and geotechnical fields. He has gained a wide range of interdisciplinary experience in business and technical management in the environmental (regulatory, geological and hydrogeological), mining, and financial fields spanning more than 40 years.

Mr. Campbell has published widely, most notably: *Water Well Technology* (McGraw-Hill) and *Rural Water Systems Planning and Engineering Guide* (Commission on Rural Water). In the mid to late 1970's, he served on the Editorial Board of the journal: *Ground Water* for eight years and served as cofounder and first Director of Research of the NWWA Research Facility at Rice University. In the late 1970's, he also produced *Geology [and Environmental Considerations] of Alternate Energy Resources* (Houston Geological Society) and many other publications and consulting reports over the years on a variety of applied hydrogeologic, geologic, and injection well and hazardous waste subjects. He maintains an extensive library of more than 300,000 citations on environmental and mining topics covering the U.S. and overseas.

Mr. Campbell interrupted his graduate studies after the master's degree (Ph.D. work at Rice University in 1976) to join a major engineering and environmental consulting company as Director, Alternate Energy, Mining and Environmental Programs. During this period, he also served as an invited technical expert and lecturer for UNESCO-sponsored water-supply projects conducted in many parts of the world. Mr. Campbell provided management consulting for a mining project (with revenues/expenses of more than $8 million/year) and as a principal consultant for exploration, mining, processing/refining and environmental activities. Over the past 15 years, Mr. Campbell has provided senior technical guidance, review, training, litigation support and consultation on numerous hydrogeological, water supply, and hazardous waste projects involved in both RCRA and CERCLA programs for major law firms and consulting engineering and environmental companies as well as industry.

Chronological Professional Experience

1993-PRESENT M. D. Campbell and Associates, L.P., Senior Consulting Hydrogeologist and Principal-in-Charge, Houston, Texas. Mr. Campbell and a small support staff serve industry by providing technical consulting on RCRA, CERCLA and related waste management involving a range of contaminants such as BTEX, solvents, brine, etc., risk assessment projects, and water-supply projects in Texas, the US and overseas. Mr. Campbell provides project/document review, and technical and QA/QC training for industry, consulting companies and law firms for RCRA, Superfund, and mining-related projects. He designs, lectures, and produces formal technical short courses and semester-long courses on environmental science, engineering and technology, and has served on the Editorial Board of the *Journal of Applied Ground-Water Protection*, sponsored by the Ground-Water Protection Council, and continues to serve as Special Editor for the journal: *Ground Water*. Mr. Campbell also served on the Editorial Board of the *International Journal of Environmental Forensics*, for the term 2000 to 2003.

During the summer of 1992, Mr. Campbell developed, managed and served as Principal Instructor for a 220-Hr Evening Semester Course: *Introduction to Environmental Technology*, held on the campus of North Harris Community College for the purpose of cross-training petroleum geologists, engineers, chemists, and others as a prelude to entering or advancing in the environmental field. Mr. Campbell lectured on RCRA and CERCLA and on hydrogeology and project management, and selected and managed all guest lecturers from industry, government and local universities. The course was later hosted by the Houston Engineering and Scientific Society (HESS) and recently by The Institute of Environmental Technology. Almost 400 men and women have graduated from the program to date.

He presently serves as: Principal of M. D. Campbell and Associates, L.P., Principal Hydrogeologist of Environmental Litigation Associates, and Principal Instructor for the Institute of Environmental Technology, all located in Houston, Texas.

1991-1993 DuPont Environmental Remediation Services, Houston, Texas – Regional Technical Manager and Chief Hydrogeologist. The firm is a wholly-owned subsidiary of E. I. DuPont de Nemours. Mr. Campbell managed the activities of the Technical Group covering DuPont plants and other plants over a seven-state area. He managed five operating departments: Geology, Environmental Specialties, Deepwell, Conceptual Engineering, and Engineering/Construction, involving approximately 60 technical personnel. He provided technical and administrative leadership, staff recruitment, training, quality control/assurance, risk assessment on various DuPont projects and represented DuPont on technical committees in Superfund projects in the US.

1991 ENSR Consulting and Engineering, Houston, Texas – Regional Director of Geosciences and Chief Hydrogeologist. The firm is a leading environmental services firm specializing in RCRA and CERCLA projects for industry. Mr. Campbell provided senior technical review, managerial direction, guidance, and leadership to the hydrogeologic and geologic staff throughout the company's 22 offices in the US. He also provided and managed regular technical training sessions and performed quality control, assurance functions and litigation support for hydrogeologic projects (i.e., RCRA, CERCLA: Superfund and UST, and landfill investigations). He also initiated, guided and supported marketing efforts in environmental projects.

1988-1990 Law Engineering, Inc., Houston, Texas – Senior Hydrogeologist and Corporate Hydrogeological Consultant. Firm is a large employee-owned geotechnical and environmental engineering company founded in the early 1940's. Mr. Campbell provided senior technical direction, guidance, leadership and motivation to the hydrogeologic staff for the company's 52 offices in the US and overseas on hazardous waste projects including UST, landfill, water supply, dewatering, and RCRA (Part B Permits) and CERCLA (Property Environmental Assessments: Stage I and II projects, and Superfund investigations and representations), including litigation support and expert witness testimony. He was responsible for initiating, guiding and supporting marketing efforts in environmental and relevant geotechnical projects.

Mr. Campbell also provided training sessions and managed technology development programs via in-house research groups throughout the company. He served on Senior Review Boards and performed annual quality control audits for the company.

Mr. Campbell was cited by Law Engineering's corporate management as the Corporate Consultant in Hydrogeology (Chief Hydrogeologist) for his outstanding contributions to the company (1990).

1983-1988 Campbell, Foss & Buchanan, Inc., Houston, Texas – President and Senior Partner. Firm engaged in domestic and international environmental and natural resource management projects involving geological, hydrogeological and engineering programs: environmental investigations and characterizations (Part B Permitting, and Property Transfer Assessments), mine dewatering, project management (RCRA Investigations), natural resource assessment, reserve analysis and acquisitions for industry, mining (Alaska and Utah), financial, and banking communities. Precious metal discovery credited in Nevada. Provided consulting services on an $8-million/year precious metal mining and cyanide heap-leaching project from discovery through development operations and environmental liaison with state and federal regulatory agencies. As part of these services, Mr. Campbell provided guidance and consultation in the daily review and monitoring of the financial and operational activities of the 50-person mining company. In addition, he also served numerous other companies and consulting groups in senior review functions on hazardous waste and RCRA refinery and plant investigations during the period.

1976-1983 Keplinger and Associates, Inc., Houston, Texas – Director, Alternate Energy, Minerals and Environmental Division. Formed group and defined marketing objectives in 1976. Responsible for and managed all non-oil & gas projects: alternate energy (coal/lignite, geothermal energy, uranium), minerals (precious and base metals and industrial commodities-phosphate, potash, sand & gravel, and related environmental projects involving property transfer assessments (Pre-CERCLA activities) for joint-venture negotiations, corporate mergers, and buyouts, financial and litigation preparations, hazardous waste investigations (RCRA Part A and Part B Permitting), geotechnical projects (dewatering), and water resource investigations. He also served on the expert's committee of the United Nations' ground water exploration and development program from 1978 to 1983. Mr. Campbell managed a staff of seven geologists, engineers and specialty consultants. He also presented seminars on a range of subjects involving environmental, hydrogeological, and water-supply issues.

1971-1976 NWWA Research Facility, Columbus, Ohio and Houston, Texas – Director of Research. Co-founded in 1971 and served as first Director of Research. Mr. Campbell conceived, formulated, supervised and conducted investigations on: water well technology, ground-water contamination and investigation practices and procedures, well construction standards, injection well systems' operation & maintenance, rural water systems' planning and engineering. Mr. Campbell was responsible for the early research programs funded by the U.S. Office of Water Resources Research (**here**), and in the development of EPA's early protocol development and characterization of ground-water contamination and remediation practices (Early RCRA and CERCLA).

The NWWA Research Facility and the staff of six were moved to Rice University, Department of Geology and Geophysics, in 1973 and continued through 1976. He also was an invited lecturer for graduate-level seminar courses on hydrogeology and economic geology for two years. Conducted graduate research on paleo-environmental and diagenetic processes under fluvial-deltaic conditions. This project is continuing as new information becomes available.

1969-1971 Teton Exploration, Div., United Nuclear Corporation, Casper, Wyoming – District Geologist/ Hydrogeologist, Eastern US and Canada, Mr. Campbell was responsible for mineral prospect generation (with emphasis on uranium and other strata-bound mineralization) and for field reconnaissance, mapping, sampling, drilling site operations, recommendations for land acquisition and project budgeting and execution. He also conducted research on the hydrochemistry of the Morton Ranch uranium geochemical cell and nature of mine dewatering and water-supply development in and around the deposit, including the nature of abandoned drill holes plugged with bentonite muds. He advanced the development of hydrochemistry and geochemistry as an aid to frontier uranium exploration and for developing models of mineralization in frontier exploration areas.

1966-1969 Continental Oil Company (Australia), Sydney, Australia – Staff Geologist/ Hydrogeologist, Minerals and Mining Division. Mr. Campbell was responsible for conducting, coordinating, and implementing prospect evaluations, mapping and sampling programs, well-site operations, and ground-water supply programs in various parts of Australia, Micronesia (Caroline Islands) and the South Pacific (Coral Sea) for: phosphate, potash, sulfur, coal, base metals, and uranium. Phosphate discovery credited. Also investigated a new uranium district on the Nullibar Plains of South Australia (see publications list). Joint-venture programs with Japanese and Korean companies required extensive travel between Australia and Japan and Southeast Asia.

Fields of Activities, Major Reports, Publications and Presentations

1. **Hydrogeological and Environmental Projects**
2. **Geothermal Exploration and Development Projects**
3. **Coal / Lignite Exploration and Development Projects**
4. **Mineral Exploration and Development Projects**
5. **International Projects**
6. **Miscellaneous Projects**
7. **Publications / Papers in Preparation**

Hydrogeological / Environmental Investigations

In the early 1960's, Mr. Campbell was selected as Undergraduate Research Assistant in the Department of Geology, The Ohio State University and subsequently worked on one of the first long-term, systematic ground-water contamination investigations involving oil-field pollution by open brine disposal pits in Ohio and on early modeling of the associated groundwater flow behavior under Dr. Wayne A. Pettyjohn and others.

In 1966, Mr. Campbell joined Continental Oil Company (CONOCO), Minerals & Mining Group in Sydney, Australia working on mineral exploration, mining and associated ground-water supply projects. He was a Visiting Lecturer, University of Queensland, lecturing on the principles of hydrogeology. After returning to the US, in the early 1970's, Mr. Campbell organized the National Water Well Association's Research Facility becoming its first Director of Research in Ohio and then at Rice University, Houston. Over the period of 1971 to 1976, Mr. Campbell provided technical seminars on hydrogeology for numerous universities and for the US E.P.A. He also served as Technical Consultant to the *Water Well Journal* and as Abstract Editor for the journal: *Ground Water*. During the period, Mr. Campbell managed numerous Association and EPA projects and programs dealing with hydrogeology and shallow drilling, shallow well design, construction, operation and maintenance, injection well, technical education and industrial contamination assessment, providing the early guidance to EPA personnel on ground-water sampling, monitoring well construction protocols and hazardous-waste spill response strategy for subsequent RCRA and CERCLA activities.

In 1975, he received The Ohioana Book Award in Science for the text: *Water Well Technology* (McGraw-Hill). Mr. Campbell was appointed as United Nations Technical Expert to review overseas ground-water programs for the period: 1976 to 1981. While at Rice University, he also conducted graduate fellowship research on a variety of subjects and taught courses in hydrogeology and economic geology. Mr. Campbell and his team provided substantial input for the EPA-sponsored *National Ground Water Information Center Data Base* presently operated by the NWWA. He served as an Editor or as a member of the Editorial Board of the journal: *Ground Water* from 1964 to 1978. During the period, he conducted numerous consulting geotechnical investigations and served as an invited technical expert and lecturer for the United Nations and UNESCO sponsored projects on world-wide ground-water exploration and development in igneous and metamorphic rocks in: Sweden, Italy (Sardinia), India, and Tanzania. Among the hydrogeological consulting projects conducted during the early 1980's, Mr. Campbell completed a series of investigations for a major geotechnical consulting firm on gasoline leaks in and around service stations in Texas. With Campbell, Foss and Buchanan, Inc. (CF&B), he initiated an evaluation of vadose flow of cyanide solutions of a heap-leach precious metals mining project (see abstract). A long-term monitoring program was established for evaluating flow and hydrochemical behavior, and for providing data for optimizing process control, and for regulatory monitoring purposes. C,F&B conducted numerous projects in the US and overseas. During the period, Mr. Campbell also provided senior technical review and consultation for hydrogeological and hazardous waste projects associated with lignite mining (mine dewatering) and chemical plants performed by other geotechnical consulting groups in the south-central and northern United States.

While with Law Engineering, Inc., he was promoted to the company's highest technical position in the discipline as Corporate Hydrogeological Consultant, the first such designation in the company's 42-year history. He provided direction and technical support to Law Engineering's 52 offices through the US and overseas. Mr. Campbell served in a similar capacity with ENSR Consulting and Engineering, and in industry, with DuPont Environmental. Presently, he provides consultation on waste management, characterization, remediation, water supply projects, technical training, litigation support and expert witness testimony on hydrogeology, the National Contingency Plan, and related subjects (see Mr. Campbell's litigation summary).

Hydrogeological / Environmental Publications
Major Reports, Publications and Presentations
[For Publications in Preparation (Here)]

Campbell, M. D., *et al., 2008,* "Nuclear Fuel Exploration, In Situ Recovery, and Environmental Issues in context with the National Energy Needs through Year 2040," *Proc. Texas Commission of Environmental Quality Conference and Trade Fair*, Session: "Underground Injection Control," Invited Paper, Austin, Texas, April 30, 2008

Campbell, M. D., *et al*., 2008 "The Nature and Extent of Uranium Reserves and Resources and Their Environmental Development in the U.S. and Overseas," AAPG – Energy Minerals Division Conference, April 23, 2008, Session: "Uranium Geology and Associated Ground Water Issues", San Antonio, Texas

Campbell, M. D., *et al.,* 2007, "Uranium In-Situ Leach Development and Associated Environmental Issues," Proc. Gulf Coast Geological Societies Conference, Fall, Corpus Christi, Texas, 17 p.

Campbell, M. D., *et al*., 2007, *Nuclear Power – Winds of Change*, Energy Minerals Division, AAPG, Uranium Committee 2007 Report, March 31, (PDF: here). On-Line Version (here).

Campbell, M. D. and M. David Campbell, 2005, "Uranium Industry Re-Development and Expansion in the Early 21st Century: Supplying Fuel for the Expansion of Nuclear Power in the U.S., The Environment vs. The Paradigm," Rocky Mountain Natural Gas Strategy Conference & Investment Forum, Session 1: Energy Supply – Quantities and Qualities, Presented by Colorado Oil & Gas Association, August 1, Denver, Colorado, 44 p.

Bost, R. C., M. D. Campbell, M. David Campbell, T. R. Eckols and Andrew L. Fono , 2005, "Flawed Geoscience in Forensic Environmental Investigations: Part II: How Daubert Affects the

Scope and Bases for Expert Opinions" NGWA Environmental Law & Ground Water Conference, Baltimore, MD., July 21-22, (Conference Program).

Bost, R. C., M. D. Campbell, M. David Campbell, T. R. Eckols, and Andrew L. Fono, 2005, "Flawed Geoscience in Forensic Environmental Investigations: Part III: How Daubert Is a Surrogate for Ethical Questions Regarding Expert Opinions" NGWA Environmental Law & Ground Water Conference, Baltimore, MD., July 21-22, (Conference Program).

Campbell, M. D., *et al*., 2005, *Recent Uranium Industry Developments, Exploration, Mining and Environmental Programs in the U.S. and Overseas*, Energy Minerals Division, AAPG, Uranium Committee 2005 Report, March 25.

Campbell, M. D., and M. David Campbell, 2004, "Crisis Management: Ground-Water Supplies in the 21st Century," *EnviroTechnology*, Vol. 1, Summer, pp 78-81. (As Published) (As Submitted).

Campbell, M. D., 2004, *Professional Memorial: Ted H. Foss, Ph.D., P.G.*, Geological Society of America Memorials, Vol. 33, April, pp. 17-22

Campbell, M. D., R. C. Bost, and M. David Campbell, *2004, "Flawed Geoscience in Forensic Environmental Investigations: The Effect of Daubert Challenges on Improving Investigations"* NGWA Environmental Law & Ground Water Conference, Chicago, IL, May 5-6,

Campbell, M. D., M. David Campbell, and M. Saribudak, 2004, *"Growth Faulting, Associated Geologic Hazards, Economic & Regulatory Impact, and Methods of Investigation for the Houston, Texas Area,"* South-Central Meeting, Geological Society of America and Texas Section of the Association of Engineering Geologists Growth Fault Symposium, Texas A&M University, College Station, TX, March 16, 83 p.

Campbell, M. D., 2004, "Environmental Geoscience and Litigation: Dos and Don'ts, Now or Later," Featured Speaker, Houston Geological Society Environmental and Engineering Geology Dinner Meeting, February 10. Announcement URL: http://www.hgs.org/en/cev/?99

Campbell, M. D., 2000, "Federal and State Regulations and Field Implementation in Hazardous and Solid Waste Investigations and Management," An Invited Lecture for the University of Texas School of Public Health, August 29th and September 19th, Presentation Sponsored by the Institute of Environmental Technology, Houston, Texas.

Campbell, M. D., 1999, "The Role of Environmental Technology in Developing, Maintaining, and Protecting Ground-Water Supplies in the 21st Century," in *The U.S. Water Report*, Saringa Group, Inc., San Francisco, CA, pp. 264-271.

Campbell, M. D., 1998, "Federal and State Regulations and Field Implementation in Hazardous and Solid Waste Investigations and Management," Invited Lectures for the University of Texas

School of Public Health, September 15th and October 27th, Presentation Sponsored by the Institute of Environmental Technology, Houston, Texas.

Campbell, M. D., 1998, “Ground-Water Supply Systems: Hydrogeology and the Delivery of a Municipal Water Supply,” *Seminar on New Municipal Ground-Water Supply Issues, Houston, Texas*, April 16, Sponsored by the Institute of Environmental Technology, the Environmental Litigation Associates, and Gardere Wynne Sewell & Riggs, L.L.P., Attorneys, Houston, Texas.

Campbell, M. D., 1996 (5,4,3 &2), “Environmental Awareness and Its Development: An Emphasis on the Oil & Gas Industry,” *Proc. Introduction to Environmental Technology*, Spring Semesters, Institute of Environmental Technology and Houston Engineering & Scientific Society, 28 p.

Campbell, M. D., 1996 (5,4,3 & 2), “Resource Conservation and Recovery Act (RCRA) and Applications,” *Proc. Introduction to Environmental Technology*, Spring Semesters, Institute of Environmental Technology and Houston Engineering and Scientific Society, 88 p.

Campbell, M. D., 1996 (5,4,3 & 2), “Applied Hydrogeology: Ground-Water Flow,” *Proc. Introduction to Environmental Technology*, Spring Semesters, Institute of Environmental Technology and Houston Engineering and Scientific Society, 54 p.

Campbell, M. D., 1996 (5,4,3 & 2), “Applied Hydrogeology: Typical LNAPL & DNAPL Behavior in the Subsurface,” *Proc. Introduction to Environmental Technology*, Spring Semesters, Institute of Environmental Technology and Houston Engineering and Scientific Society, 77 p.

Campbell, M. D., 1996 (5,4,3 & 2), “Ground-Water Modeling: Practices & Pitfalls,” *Proc. Introduction to Environmental Technology*, Spring Semesters, Institute of Environmental Technology and Houston Engineering and Scientific Society, 97 p.

Campbell. M. D., 1995, “The State of the Environmental Industry,” An Invited Presentation, Society of Texas Environmental Professionals, Held at Houston Engineering and Scientific Soc., August 3, 2-Hour Presentation.

Alyanak, N., J. T. Grace, and M. D. Campbell, 1995, “A Cost-Effective Statistical Screening Method to Detect Oilfield Brine Contamination,” *Proc. SPE/EPA Exploration & Production Environmental Conference*, Houston, TX, March 27-29, pp. 631-640.

Alyanak, N., and M. D. Campbell, 1995 (4 & 3), “Statistics in Environmental Investigations,” *Proc Introduction to Environmental Technology*, Fall and Spring Semesters, Institute of Environmental Technology and Houston Engineering and Scientific Society, 45 p.

Campbell, M. D., 1995, “On the Spelling of the Term: Ground Water,” *Bull. Houston Geological Society*, Vol.37, No.6, February, pp. 23-24.

Campbell, M. D. and K. H. Forster, 1995, Hydrogeology and Mining, a Study Guide for Workshop presented at *The National Mining Conference*, Knoxville, Tennessee, May 11, 137p.

Campbell, M. D., 1994, "Estimating Hydraulic Conductivity For Evaluating Contaminant Transport," An Invited Presentation, Houston Geological Society, Environmental / Engineering Monthly Meeting Abstract: HGS Bull., Vol. 36, No. 6., p 19.

Campbell, M. D. and K. H. Forster, 1994, Mining Hydrogeology, a study guide for a mini-course presented at the *National Symposium on Mining, Hydrology, Sedimentology and Reclamation*, Reno, Nevada, December 5-9, 137p.

Campbell, M. D. and K. H. Forster, 1994, Basic Mining Hydrogeology, a study guide for a mini-course presented at the N*ational Symposium on Mining, Hydrology, Sedimentology and Reclamation*, Springfield, Ill., December 7-11, 96p.

Forster, K. H. and M. D. Campbell, 1994, "Hydrogeologic Investigations for Designing a Dewatering and Depressurizing System in a Gulf Coast Lignite Mine," *Kentucky Coal Mining Symposium*, Bowling Green, 10p.

Campbell, M. D. and James T. Grace, 1993/94, "Phase I and Phase II Investigations of Potential Brine Contamination Sources, West Texas," Campbell and Associates Report (Private Distribution), Phase I: 28 p., Phase II: 385 p.

Campbell, M. D., 1993, "Guidance on the Selection, Design and Testing of Vapor Extraction Systems," Campbell and Associates Report (Private Distribution), October, 6 p.

Campbell, M. D., 1993, "Management of Environmental Project Teams: Line vs. Matrix Approaches," An Invited Presentation, Houston Geological Society, Environmental/Geotechnical Monthly Meeting, *Abstract: HGS Bull*., Vol. 35, No. 11, p. 28.

Swartz, T. E., K. Mentesoglu, M. D. Campbell, and O. Akkol, 1991, "Turkey: Ground-Water Issues in a Country with a Developing Economy" in *Proc. Fifth National Outdoor Action Conference on Aquifer Restoration, Ground Water Monitoring, and Geophysical Methods*, AGWSE Conference, May 13-16, 1991, Las Vegas, Nevada, pp 165-174.

Campbell, M. D., Starrett, M. S., Fowler, J. D., and Klein, J, 1990, "Slug Tests and Hydraulic Conductivity" in *Proc. Petroleum Hydrocarbons and Organic Chemicals in Ground Water :and Restoration*, API/NWWA Conference, October 31 – November 2, 1990, Houston, Texas, pp 85-99.

Campbell, M. D., *et al*., 1990, "Hydrogeologic Principles and Contaminant Transport in Landfill Applications," An Invited Presentation, Law Engineering Technical Workshop, Greenville, S.C., June 1.

Campbell, M. D., 1989, "Hydrogeology and Water Wells," *Annual. Mtg. Texas Water Board Directors*, One Hour Presentation, Dallas, for Law Engineering, Houston.

Larsson, I., M. D. Campbell, *et al.*, 1984, UNESCO Guidance Document: *Ground Water in Hard Rocks (Igneous and Metamorphic Rocks),* United Nations (UNESCO) and the Swedish International Development Authority (SIDA), 450 p., (Editions in English, French, Spanish & Russian).

Campbell, M. D., 1981, "Fundamentals of Water Well Technology, Well Operations and Maintenance in Igneous and Metamorphic Rocks, in *Proceedings Interregional on Ground Water in Hard Rocks*, Nov-Dec, 1979, Coimbatore, India, pp. 116-145.

Campbell, M. D., 1981, "Economic Considerations on Ground Water Exploration and Development in Igneous and Metamorphic Rocks," in *Proceedings Interregional on Ground Water in Hard Rocks*, Nov-Dec, 1979, Coimbatore, India, pp. 105-115.

Campbell, M. D., *et al.*, 1979, *A Review of the United Nations Ground Water Exploration and Development Programme in Developing Countries, 1962-1977*, United Nations, Natural Resources, Water Series No. 7, ST/ESA/90, New York, 84 p.

Colburn, C. E., Abrams, E. F., Campbell, M. D., et al., 1979, EPA Guidance Document: Protection of Ground Water Resources from the Effects of Accidental Spills of Hydrocarbons and Other Hazardous Substances," *U. S. Environmental Protection Agency, Office of Drinking Water*, EPA-570/9-79-017, July, 77p.

Campbell, M. D., 1977, "Water Well Technology for Ground Water Development and Production in Igneous and Metamorphic Rocks," *Proc. United Nations International Seminar on Ground Water in Hard Rocks, Stockholm-Sardinia,* September 22-October 7, 61 p.

Campbell, M. D., 1977, (ed), *Geology [and Environmental Considerations] of Alternate Energy Resources, Uranium, Lignite, and Geothermal Energy in the South Central States*, Houston Geological Society, 364 p.

Campbell, M. D. and K. T. Biddle, 1977, "Frontier Areas and Exploration Techniques – Frontier Uranium Exploration in the South-Central United States," *in Geology of Alternate Energy Resources*, Chapter 1, Published by the Houston Geological Society, pp. 3-44. (PDF)

Warner, D. L. (and M. D. Campbell), 1977, EPA Guidance Document: *An Introduction to the Technology of Subsurface Wastewater Injection*: Chapter 6 (Pre-Injection Wastewater Treatment and Surface Facility Design), pp. 188-233; Chapter 7 (Injection Well Design and Construction) , 234-282; Chapter 8 (Start-up Operations), 283-292, and Chapter 10 (Injection Well Abandonment), 320-328. U. S. Environmental Protection Agency, EPA-600/2-77-240, Robert S. Kerr Environmental Research Laboratory, Ada, OK.

Campbell, M. D., 1976, Guest Editorial: "Thomas P. Ahrens – Father of Water Well Technology," *Ground Water*, Vol. 14, No. 6, pp. 365-366.

Campbell, M. D., and S. N. Goldstein, 1975, "Engineering Economics of Rural Systems. "Part1 – "Elements of System Design". Part 2 – "Application of Economic Criteria to the Evaluation of Project Feasibility, A Case Study," in *Proceedings of Rural Environmental Engineering Conference on Water Pollution Control Technology in Low-Density Areas*, September 26-28, 1973, University of Vermont, Warren, Vermont, pp. 145-180.

Campbell, M. D., and J. H. Lehr, 1975, "Engineering Economics of Rural Systems: A New US Approach," *Journal American Water Works Association*, Vol. 67, No. 5, pp. 225-231.

Campbell, M. D., *et al.*, 1975, EPA Guidance Document: *Manual of Recommended Water Well Construction Standards*, US EPA Contract 68-01-92, Office of Research and Development, 177 p. (NWWA Research Facility at Rice University and NWWA Water Well Standard Committee)

Campbell, M. D., and J. H. Lehr, 1975, "Well Cementing," *Water Well Journal*, Vol. 29, No. 7, pp. 39-42.

Campbell, M. D., and R. H. Schwartzer, 1975, "Critical Energy Resource Areas: Subsurface Information from Ground Water Exploration and Other Shallow Exploration Activities," *Proc. Symposium on Subsurface Geo-Science Records and Materials, sponsored by the Federal Energy Administration*, Dallas, Texas, April 10.

Campbell, M. D., and G. R. Gray, 1975, "Mobility of Well-Drilling Additives in the Ground-Water System," in *Proceedings Conference on Environmental Aspects of Chemical Use in Well Drilling Operations*, Houston, May, 1975, pp. 261-288.

Campbell, M. D., 1974, "Rural Water Systems Automation and Telemetry: An Economic Advantage," *Rural Water News*, No. 12, NDWP Technical Note 2, 3 p.

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Campbell, M. D., 1972, "Water Well Construction Technology. Part 1 – Introduction," *Water Well Journal*, Vol. 26, No. 3, p.42-45.

Campbell, M. D., 1971, "Notes on Science: Progress Through Research," *Water Well Journal*, Vol. 25, No. 11, p. 48-49.

Campbell, M. D., 1971, "Notes on Science: Terradynamics," *Water Well Journal*, Vol. 25, No. 10, p. 42-44.

Campbell, M. D., and S. H. Ross, 1971, "Geophysics and Ground Water: Part II: Applied Use of Geophysics," *Water Well Journal*, Vol. 25, No. 8, pp. 35-50, 13 figs., 3 tabs., 23 refs.

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Selected Project Experience

Leaking Underground Storage Tank Investigations – Numerous Clients Throughout U.S. – Mr. Campbell and his team have provided senior review and consultation for technical staff on more than 300 investigations ranging from site characterization through remedial design to construction, operation and maintenance of remediation systems. Type of remediation approach varied from pump-and-treat to vapor extraction to in situ bioremediation systems, depending upon subsurface conditions. Litigation support.

Environmental Assessments – Numerous Clients throughout US – Mr. Campbell and his team have provided technical direction and consultation on more than 300 environmental assessments for real estate transactions, corporate mergers or buyouts, and bank foreclosures, many of which involved evaluations of potential brine contamination of oil and gas production facilities and properties.. Approximately 20% of the properties investigated required follow-up investigations involving drilling. Of those, approximately 5% required some type of remedial activities which ultimately led to the design, construction, operation and maintenance of remediation systems. Litigation support.

Superfund Representation and Technical Support – Numerous Clients Throughout US – Mr. Campbell has served on Technical Committees for various Superfund projects representing DuPont, and as senior technical support for a number of environmental consulting companies. Litigation support.

RCRA Technical Support – Numerous Clients Throughout US – Mr. Campbell provides senior technical support on hydrogeologic and contaminant transport investigations for site characterization and remedial design and operation and maintenance. Litigation support.

Confidential Mfg. Client – A manufacturer of stainless steel casing engaged Mr. Campbell to conduct preliminary investigations and to review available information on the likely cause(s) of casing failures in two large-diameter, high-capacity water wells during completion activities of wells located in an agricultural district of the western U.S.

Confidential Consulting Client – A major consulting firm engaged Mr. Campbell to provide support to the firm's senior personnel and associated staff on a major defending case involving creosote, metals and associated DNAPL constituents present on an industrial property in the southern U.S. Mr. Campbell reviewed and advised the Principal on opposing expert witness positions and opinions. He also supported hydrogeological investigations on ground-water flow and associated natural attenuation of DNAPL constituents.

Confidential Client – A rancher in north-east Texas reported his private water well system began pumping "bad water" in an area with a producing gas well nearby. Mr. Campbell and his team were engaged to investigate the likely source(s) of the contamination. A hydrogeologic investigation was conducted.

Confidential Consulting Client – A major consulting firm engaged Mr. Campbell to conduct hydrogeological investigations on ground-water flow of DNAPL constituents below a refinery located in the mid-west of the U.S. Principal parameters, such as subsurface lithologic relationships, hydraulic conductivity, hydraulic gradient, and others were assessed and modeled.

Confidential Client – The unexplained deaths of a number of calves led a rancher in the mid-continent to initiate investigations downstream from a commercial disposal well facility used by the oil & gas industry in the region for possible causes of the deaths. Mr. Campbell and his team were engaged to conduct Phase I and II investigations involving monitoring well installation, stream sampling, and hydrogeologic analysis of the area. Hydrogeologic investigations were conducted.

Confidential Mfg. Client – Lead has appeared in anomalous concentrations in drinking water from a domestic rural water system. Mr. Campbell and his team were engaged to sample and evaluate likely source(s) of the lead and possible cause(s) of learning disabilities reported in the youngest child of the rural family.

Confidential Oil & Gas Property Owner Client – Mr. Campbell and his team were engaged to conduct a Preliminary Environmental Site Assessment on a historic oil-and-gas producing property to assess present conditions after decades of boom-and-bust operations on a multi-well oil field operated since the 1930s. Nearby landfill operations, a golf course, and past and present oil and gas production practices were reviewed in some detail for possible impact on the property's surface and shallow ground water below.

Confidential Real Estate Client – A large real estate company engaged an environmental consulting firm to conduct Phase I and Phase II Environmental Site Assessments for a large multi-property shopping center transaction. Initial findings by the consultant led the real-estate company to close on the deal. Subsequent investigations by a second consultant found DNAPL associated with dry-cleaners located on the properties. Mr. Campbell and his team were engaged to evaluate the initial consultant's activities in light of the consultant's experience, staff capability, field procedures and related ASTM guidelines and industry standard of care.

Confidential Commercial Client – A pathogenic variant of *E. coli*, O157:H7, has appeared as the likely source of illness in a rural family. Mr. Campbell and his team were engaged to assess the likely source(s) of the pathogenic bacteria. The area is characterized by numerous, closely spaced, small farms, with cattle, sheep, wildlife, septic tank systems, and a stream, all in the immediate vicinity of a water well used as a source of drinking water. Investigations have been completed.

Confidential Industrial Client – A service station proprietor was accused by the land owner of contaminating soil and ground water with BTEX and MTBE. Mr. Campbell and his team were engaged to review the available sampling and hydrogeologic data and determined that the owner's consultant was less than forthcoming concerning the data used to characterize the ground-water conditions and the configuration of the plume of contamination.

Confidential Client – A major sand and gravel company's consultant drilled on portions of a potential lessor's land without permission on the basis that "the company was doing the land owner a favor." The company sued the land owner for breach of contract (i.e., alleged failure to honor their rights to conduct mining operations on the subject land). Mr. Campbell was engaged to review the issues of the case and found that the company overstepped the agreement and violated the landowner's rights to limit ingress according to standard industry practice.

Confidential Industrial Client – Mr. Campbell and his team were engaged to conduct confidential industrial mineral resource evaluations in the eastern U.S. The project involved land-record ownership assessment and field reconnaissance, geologic sampling, analyses, and report preparation with recommendations for future direction of the project.

Confidential MUD Client – The failure of a high-capacity water well owned by municipal utility district prompted management to turn to their insurance company for funds to replace the well, according to the terms of the policy. Mr. Campbell and his team conducted a preliminary investigation and found evidence to suggest that regional soft-sediment faulting and lateral movement caused the well structure to fail. As a result of more than 25 years of vertical stress caused by land subsidence associated with ground-water production and subsequent lateral movement in the area, the well screen ruptured and catastrophic failure of the well resulted.

Confidential Industrial Client – A major chemical plant is suing its previous consultant for exacerbating DNAPL contamination below its production facility during and after an ill-conceived monitoring well drilling program. Mr. Campbell and his team were engaged to review the relevant information and to determine if the consultant's activities were likely responsible for the DNAPL contaminating the deep aquifers. Mr. Campbell found that the consultant and their contractors were culpable and should be held responsible for contributing funds for assisting in the clean-up of the deep aquifers below the plant.

Confidential Industrial Client – The National Contingency Plan (NCP) of the 1970s was invoked in an attempt to force an industrial company to join a group of PRPs to clean up a Midwest dump. Mr. Campbell was engaged to evaluate claims made by ex-EPA consultants for the plaintiffs that the NCP carried weight when applied to inland contamination in the mid-1970s. Mr. Campbell found that the NCP had no impact on parties involved in ground-water contamination occurring some distance away from the waters of the United States because the NCP had not been equipped yet with the necessary capabilities to implement such intentions and associated provisions.

Confidential MUD Operator Client – A municipal water supply operator was sued by the community it served for allowing benzene to be distributed in the water supply. Mr. Campbell and his team were engaged to investigate the possible source of the benzene and determined that 1) testing was not required by the operator, and hence did not know of the presence of benzene, and 2) the source of the benzene was likely the gas-producing formation below the drinking-water aquifer breached by over drilling into the confining unit separating the aquifer from the gas-producing sand below.

Alcoa Aluminum, Inc. – RCRA Part B Permit Application. Provided senior review and analysis of ground-water investigations of subsurface conditions around plant site. Hydrogeologic evaluations involving contaminant transport modeling and long-term monitoring.

Merchants Trucking, Inc. – Cavalcade Superfund Site Investigations. Provided analysis of remediation project proposed by PRP on contamination by BTEX and Coal Tar substances. Investigation involved evaluation of selected technology and estimated capital and O&M costs.

State of Georgia – Landfill Lawsuit. Provided expert witness testimony on litigation involving landfill location in central Georgia with emphasis on present hydrogeologic conditions.

Compaq Computer, Inc. – Geotechnical & Dewatering Investigations. Provided senior review and consultation on ground-water investigations at new plant site in Houston.

Norse Windfall Mines, Inc. – Management and Environmental Investigations. Provided senior review and consultation over a three-year period on water supply development and environmental monitoring of ground-water conditions in area of mill and precious metal processing plant for a mine in central Nevada. Managed start-up operations and cash flow, and instituted daily monitoring program of data collection and analysis of heap leach (pregnant liquor) process hydrochemical data. Conducted analyses of flow behavior in heap-leach operations. Represented company and negotiated with state and federal regulatory agencies. Generated company's personnel and corporate policy manual, including health and safety provisions.

Municipal Landfill Investigations. – Provided senior review and consultation on proposed landfill construction projects involving sitting investigations and hydrogeologic characterizations.

Dolet Hills Mining Co., Mansfield, LA – Dewatering/Depressurizing Project. Provided senior consultation and direction on mine dewatering/depressurizing program, involving aquifer testing and analysis, dewatering well system design and construction, flow-net construction and updating as overburden was removed and mining advanced. Installed dewatering/depressurizing well system and monitored and adjusted system operations.

General Electric – Ground-Water Assessment – Provided senior hydrogeological direction and support for PCE and BETX leaks in plants located in North and South Carolina. Designed assessment plans and designed and implemented remediation systems consisting of pump-and-treat, stripping tower, carbon canisters and recirculation circuit.

Confidential Insurance Company – Ground-Water Assessments of Contaminants Resulting from Manufactured Gas Facilities. Provided direction and consultation to nationwide investigations on reliability and appropriateness of proposed/operating remediation systems and associated site characterizations of LNAPL and DNAPL contaminant plumes and product (and dissolved plume) migration in the subsurface.

United Nations Educational, Scientific and Cultural Organization (UNESCO) – Ground-Water Characterization, Exploration and Development in Igneous and Metamorphic Terrains of the World, **Special Project 33**. Selected as member of a seven-member international team of specialists on ground-water exploration and development throughout the sphere of influence of UNESCO projects. Conducted extended lectures/seminars and investigations on ground-water development and ground water technology in Sweden, Italy, India, and Tanzania.

United Nations Development Program (UNDP) – Senior Review and Analysis of U.N. Ground-Water Exploration and Development Program in Developing Countries, 1962 through 1977. Conducted multi-year evaluation of UN-sponsored ground-water programs throughout the world via project report analyses and UN personnel interviews.

U.S. Environmental Protection Agency (USEPA) – Nationwide Investigations on Rapid Response to Protect Ground-Water Resources from the Effects of Accidental Spills of Hydrocarbons and Other Hazardous Substances. Selected as Special Consultant to Versar, Inc. and a member of 10-member team of specialists to evaluate and recommend activities to minimize ground-water contamination resulting from accidental spills of contaminants. Mr. Campbell was primarily involved in the detailed evaluation of spills nationwide, the development of non-contamination criteria involved in the hydrogeologic framework, and in the preparation of the EPA guidance document and its final editing.

U.S. Commission on Rural Water (USCRW) – Investigations on Engineering and Economics of Rural Water Systems. Served as Research Director to evaluate and recommend rural water well system design and associated O&M programs within context of low-income environment of the rural communities.

U.S. Environmental Protection Agency (USEPA) – Nationwide Investigations on Water Well Construction Standards. Served as Principal Investigator of 15-member team of specialists on water well design and construction. Produced manual published by EPA on the subject.

R. J. Reynolds Tobacco Company, North Carolina – Geophysical and Geological Exploration for Development of High Capacity Ground-Water Supply. Conducted and supervised geophysical and geological investigations in igneous and metamorphic rocks of North Carolina for the purpose of providing a ground-water supply in excess of 500 gpm for industrial use.

U.S. Environmental Protection Agency (USEPA) – Investigation on the Mobility of Well-Drilling Additives in the Ground-Water System. Conducted investigations of commercially-available drilling fluids and assessed flow behavior in the ground-water reservoir and potential environmental impact on the hydrochemistry of aquifer systems.

U.S. Office of Water Resources Research (USOWRR) – Investigations on State-of-the-Science and Art of Water Well Technology. Conducted multi-year investigations of all aspects of shallow well technology and related environmental impact, and identified future research needs for EPA-sponsored investigations at the Kerr Ground-Water Research Center, Ada, Oklahoma and EPA Laboratory in Cincinnati, Ohio.

The Ohio State University, Water Resources Division – Investigations on Ground-Water Contamination and Plume Development by Open Brine Disposal Pits, Morrow County, Ohio. Served as undergraduate research assistant to Dr. Jay H. Lehr and Dr. Wayne A. Pettyjohn on investigations including ground-water sampling, data analysis, and laboratory model construction and simulation of field conditions. Conducted contaminant transport and hydrochemical analysis of brine contaminant plume and associated modeling.

Various Clients – Geothermal Energy Investigations. Conducted numerous investigations on the hydrogeologic, structural and geophysical conditions of a number of liquid-dominated and vapor-dominated geothermal reservoirs in Nevada, California, and Texas to determine potential economic value of selected properties. Recommended further exploration and development in Dixie Valley. A significant geothermal reservoir was subsequently discovered and proved to be suitable for commercial development. Power plant became operational in 1987 and is producing electricity for the Nevada-California power grid.

International Paper – Lignite Exploration and Development Program, South Central US. Conducted /supervised shallow drilling, geophysical, and geologic logging, reserve calculations and quality assessments of IP properties throughout south central U.S.

Various Clients – Coal and Lignite Development Feasibility Investigations, Texas, Louisiana, Alabama, Mississippi, Washington, Pennsylvania, Australia, and Colombia. Conducted exploration programs for numerous clients to evaluate and estimate reserve base available, preliminary mining feasibility and property value.

Continental Oil Company (CONOCO) – Mining Development Projects in Australia and Southeast Asia. Conducted and managed field exploration programs, geologic mapping, drilling operations, and water-supply investigations (well drilling, aquifer testing, and pipeline transport engineering) for projects involving industrial energy, precious minerals and base metals (discovery credited) and associated mining projects.

United Nuclear Corporation (UNC) – Geologic and Hydrogeologic Investigations, Western US. Conducted investigations in numerous states to screen geologic environments for favorable conditions for the occurrence of uranium and other strata-bound minerals. As a principal part of such investigations, numerous hydrochemical facies of favorable geologic intervals were evaluated to further screen prospective environments. Also, Mr. Campbell conducted water supply investigations (drilling, sampling, and aquifer testing) at UNC's northwest New Mexico and central Wyoming mining operations.

Geologic and Hydrogeologic Investigations – Numerous Clients. Conducted and supervised preliminary mining feasibility studies, mineral property evaluations and environmental assessments for numerous clients in the US, including Alaska, and South America, Central America, Africa, India, and other countries.

City of Houston – Well Field Investigations – Provided analysis of probable causes for unanticipated well/pump failures in city's system. Conducted metallurgical and hydrochemical analyses of failed pump components and well conditions prior to pump failures. Recommended improving operation and maintenance procedures and establishing new ground-water sampling and well performance protocol.

Management of Geothermal Exploration and Development Projects

In 1976, Mr. Campbell conducted extensive investigations on the potential geothermal value of selected properties in Dixie Valley, Nevada for a series of clients. Based on the available geological, geophysical, and hydrogeological data, Mr. Campbell recommended further investigations and a preliminary drilling and hot-spring sampling program. Results indicated favorable conditions existed in the subsurface complex of Basin-and-Range geologic structures. Additional federal lands were acquired by the client in Dixie Valley and other geothermal companies became interested in the area. Deep exploratory drilling began and significant discoveries of high temperature, liquid-dominated geothermal energy reservoirs were identified. Economic analyses were conducted on behalf of the client to establish land values for possible buyout or merger with other geothermal companies. The client subsequently sold its interests. Dixie Valley geothermally generated power plants went on stream in 1987 and is producing electricity for the Nevada-California power grid on a regular basis.

Mr. Campbell conducted a series of additional geologic, hydrogeologic and economic investigations for a number of geothermal companies in the western US. He continues to monitor industry activities.

Applicable Geothermal Publications / Major Reports

Campbell, M. D., 1983, "Report of Investigations on Selected Geothermal Properties and Their Potential Productivity, Western United States," a Keplinger Consulting Report (private distribution), 32 p., June.

Campbell, M. D., 1983, "Dixie Valley, Nevada: A Promising Geothermal Area Under Development By Industry," *Proc. 18th Inter. Society Conversion Engineering Conference*, Orlando, Florida, August 21-26, Session 79, 6 p.

Campbell, M. D. and C. C. Wielchowsky, 1982, "A Review of the Dixie Valley, Nevada, Liquid-Dominated Geothermal Resource and the Relationship of Selected Geologic Characteristics to Potential Geothermal Production," *Proc. Am. Chemical Eng. Institute, Ann. Mtg*. (1982), 43 p., 6 figs., 5 tabs., refs.

Campbell, M. D., 1979, "Geopressured Geothermal Energy Potential of the Hidalgo Fairway, Texas," *Proc. Seminar on Geothermal Energy*, Brownsville, Texas, October 4, sponsored by the Brownsville Navigation District, 15 p., October.

Campbell, M. D., and C. C. Wielchowsky, 1978, "Interim Evaluation and Exploration and Development Status, Geothermal Potential and Associated Economics of Dixie Valley, Nevada," a Keplinger Consulting Report (private distribution), 110 p., September.

Campbell, M. D., and C. C. Wielchowsky, 1977, "Phase II Preliminary Evaluation of Dixie Valley, Nevada: Geothermal Potential and Associated Economics," a Keplinger Consulting Report (private distribution), 44 p., September.

Campbell, M. D., 1977, *Geology [and Environmental Impact] of Alternate Energy Resources, Uranium, Lignite, and Geothermal Energy in the South Central States*, Houston Geological Society, 364 p.

Campbell, M. D., 1977, "A Review of the Mineral Potential (Uranium, Fluorspar, Mercury, Geothermal Energy, Coal and Other Minerals) of Certain Land Holdings in the Big Bend, Texas Area," a Keplinger Consulting Report (private distribution), 20 p., May.

Campbell, M. D., 1977, "A Preliminary Evaluation of the Hughes Geothermal Properties in Churchill County, Nevada," A Keplinger Consulting Report (private distribution), 62 p., April.

Management of Coal / Lignite Exploration and Development Projects

In the mid-1970's, Mr. Campbell initiated and managed the lignite exploration activities for General Crude Oil Company (Div. International Paper, Inc.) in Arkansas, Texas, Mississippi and Alabama. Subsequent consulting assignments on coal and lignite in the 1970's and 1980's involved: exploration programs, preliminary mining feasibility studies, detailed reserve analyses, property evaluations, and mining operations assessment and evaluation.

Applicable Coal-Lignite Publications / Major Reports

Campbell, M. D., 1983, "Preliminary Evaluation of Coal Reserves, Cambria County, Pennsylvania," a Campbell, Foss and Buchanan Consulting Report (private distribution), 10 p., December.

Campbell, M. D., C. C. Colburn, and D. J. Lynch, 1979, "An Evaluation of Coal Resources and Mining Economics, Wayne County, Utah," a Keplinger Consulting Report (private distribution), 295 p., March.

Campbell, M. D., and J. P. Garten, 1977, "Evaluation of a 340 Acre Surface Coal Mining Prospect, Sand Mountain, DeKalb County, Alabama," a Keplinger Consulting Report (private distribution), 31 p., June.

Campbell, M. D., 1977, *Geology [and Environmental Impact] of Alternate Energy Resources, Uranium, Lignite, and Geothermal Energy in the South Central States*, Houston Geological Society, 364 p.

Campbell, M. D., 1977, "A Review of the Mineral Potential (Uranium, Fluorspar, Mercury, Geothermal Energy, Coal and Other Minerals) of Certain Land Holdings in the Big Bend, Texas Area," a Keplinger Consulting Report (private distribution), 20 p., May.

Campbell, M. D., 1976, "Alternate Energy and Mineral Development: General Outlook and Comparative Economics," *Proc. 1976 Keplinger Energy Seminar*, University Club, New York City, November 23, 30 p.

Management of Mineral Exploration Programs

During the mid-to-late 1960's, Mr. Campbell worked for a major American oil and minerals company (Conoco) in Australia and Southeast Asia, successfully conducting/managing field exploration programs, drilling operations, and water-supply investigations for development projects involving industrial and energy minerals, and precious and base metals (discovery credited). In the early 1970's, after returning to the U.S., he served three years as Regional Geologist with a major uranium exploration and mining company in Wyoming (United Nuclear). While there, he conducted research on hydrochemistry associated with roll-front uranium occurrences and successfully applied the results to the company's field program nationwide.

Mr. Campbell subsequently conducted various exploration programs as a consultant in the U.S. for companies such as Texas Eastern Nuclear, General Crude Oil Company and others during the mid-1970's on targets ranging from uranium, rare earth minerals, sulfur, and industrial minerals to base metals and precious metals.

In 1983, Mr. Campbell and two associates formed a consulting firm and conducted many domestic and international geologic, mining, economic, and hydrogeologic investigations including mineral property valuations and exploration programs (discovery credited), mine operational and financial management projects, mineral reserve analyses, preliminary feasibility studies, environmental investigations of various types, and other geotechnical investigations.

Applicable Minerals Publications / Major Reports / Presentations

Campbell, M. D., *et al.*, 2007, "Uranium In-Situ Leach Development and Associated Environmental Issues," Proc. Gulf Coast Geological Societies Conference, Fall, Corpus Christi, Texas, 17 p.

Campbell, M. D., 2007, "Pressure on the Electrical Grid and 3rd Quarter, 2006 Uranium Concentrate Production", in Unconventional Energy Resources and Geospatial Information: 2006 Review by the American Assoc. Petroleum Geologists, Energy Minerals Division, *Natural Resources Research*, Vol. 16., No. 3, September.

Campbell, M. D. and M. David Campbell, 2005, "Uranium Industry Re-Development and Expansion in the Early 21st Century: Supplying Fuel for the Expansion of Nuclear Power in the U.S., The Environment vs. The Paradigm," Rocky Mountain Natural Gas Strategy Conference & Investment Forum, Session 1, Presented by Colorado Oil & Gas Association, August 1-3, Denver, Colorado, 44 p.

Campbell, M. D., et al., 2005, Recent Uranium Industry Developments, Exploration, Mining and Environmental Programs in the U.S. and Overseas, Energy Minerals Division, AAPG, Uranium Committee 2005 Report, March 25.

Campbell, M. D., 2004, Professional Memorial: Ted H. Foss, Ph.D., P.G., Geological Society of America Memorials, Vol. 33, April, pp. 17-22.

Campbell, M. D., 2004, Preliminary Examination of Mineralogical Samples from Rwanda, April 24, 32 p. (Confidential Client from Rwanda).

Campbell, M. D. and K. H. Forster, 1996, Hydrogeology and Mining, a Study Guide for Workshop presented at The National Mining Conference, Knoxville, Tennessee, May 11, 137p.

Campbell, M. D. and K. H. Forster, 1995, Mining Hydrogeology, a study guide for a mini-course presented at the National Symposium on Mining, Hydrology, Sedimentology and Reclamation, Reno, Nevada, December 5-9, 137p.

Campbell, M. D. and K. H. Forster, 1995, Basic Mining Hydrogeology, a study guide for a mini-course presented at the National Symposium on Mining, Hydrology, Sedimentology and Reclamation, Springfield, Ill., December 7-11, 96p.

Forster, K. H. and M. D. Campbell, 1994, "Hydrogeologic Investigations for Designing a Dewatering and Depressurizing System in a Gulf Coast Lignite Mine," Kentucky Coal Mining Symposium, Bowling Green, 10p.

Campbell, M. D. and S. R. Dinkowitz, 1987, "Preliminary Conclusions on the Geology, Mineralogy and Structural Controls of Mineralization at the Lookout Mt. and Hamburg Mines," A Field Trip Lecture at the Norse Windfall Mines, Inc., Eureka, April 11, 1987, *Post-Meeting Field Trip*, *The Symposium on Bulk Minable Precious Metal Deposits of the Western United States*, Sponsor Geological Society of Nevada, 35 p.

Campbell, M. D. and T. H. Foss, 1987, "The Re-Discovery of Precious Metals in the Eureka Mining District, Nevada," *Proc. The Symposium on Bulk Minable Precious Metal Deposits of the Western United States,* April 6-8, 1987, Geological Society of Nevada, 15p.

Campbell, M. D., T. H. Foss and K. J. Buchanan, 1986, "Report of Investigations on the Preliminary Feasibility of Development of the Eureka Precious Metals Project, Nevada," a Campbell, Foss & Buchanan, Inc. Consulting Report (private distribution), 123 p.

Campbell, M. D., and T. H., 1984, "Report of Investigations on the Geology, Geochemistry and Geophysics of the Eureka Precious Metal Properties, Nevada," a Campbell, Foss and Buchanan Consulting Report (private distribution), approx. 300 p., August.

Campbell, M. D. and T. H. Foss, 1984, "Preliminary Evaluation of Selected Precious Metal Properties in North Carolina," a Campbell, Foss and Buchanan Consulting Report (private distribution), 15 p., July.

Campbell, M. D., 1984, "Preliminary Evaluation of the Minera Guayape, S.A. Precious Metal Project, Honduras, a Campbell, Foss and Buchanan Consulting Report (private distribution), 10 p., May.

Campbell, M. D., 1984, "Preliminary Evaluation of the Agua Fria Precious Metal Project, Honduras," a Campbell, Foss and Buchanan Consulting Report (private distribution), 10 p., May.

Campbell, M. D., 1982, "Report of Investigations on Precious Metal Properties, Rainbow Valley Area, Maricopa County, Arizona," a Keplinger Consulting Report (private distribution), 105 p.

Campbell, M. D., and L. Clark, 1981, "Preliminary Economic Analysis of the Mining Restrictions and Land Takes from the Hartman Farm by the City of Columbus, Ohio, Division of Water," for the BancOhio National Bank, Trustee for the Hartman Trust, by Keplinger and Associates, Inc., Houston, May 15, 15 p.

Campbell, M. D., 1980, "Preliminary Investigations on the Uranium and Other Mineral Potential of Sudan," a United Resources International Consulting Report (private distribution), 19 p. (April).

Campbell, M. D., and D. J. Lynch, 1980, "Preliminary Mining Engineering Evaluation and Economic Analysis of the Sand and Gravel Resources on Selected Properties Near Columbus, Ohio," for the BancOhio National Bank, Trustee for the Hartman Trust, a Keplinger Consulting Report, January 1, 85 p.

Campbell, M. D., and K. T. Biddle, 1978, "Preliminary Evaluation of Quaternary Carbonate Deposit for Use as Raw Material in Domestic Cement Production," a Keplinger Consulting Report (private distribution), 27 p., July.

Campbell, M. D., 1978, "An Evaluation of Certain Tin and Uranium Interests: Prospect Evaluation and Associated Economics," a Keplinger Consulting Report (private distribution), 35 p., June.

Campbell, M. D., 1977, *Geology [and Environmental Impact] of Alternate Energy Resources, Uranium, Lignite, and Geothermal Energy in the South Central States*, Houston Geological Society, 364 p. For Text Summary, click (here).

Campbell, M. D. and K. T. Biddle, 1977, "Frontier Uranium Exploration in the South-Central U.S., Chapter 1: Frontier Areas and Exploration Techniques" in *Geology of Alternate Energy Resources in the South-Central United States*, (M. D. Campbell (ed)), Houston Geological Society, pp. 3-44.

Campbell, M. D., and C. C. Wielchowsky, 1977, "Phase II Geological and Mineral Reconnaissance of the Eastern Front of the Stillwater Range from I.X.L. to Cottonwood Canyons: Dixie Valley Area, Churchill County, Nevada," a Keplinger Consulting Report (private distribution), 65 p., October.

Campbell, M. D., 1977, "A Review of the Mineral Potential (Uranium, Fluorspar, Mercury, Geothermal Energy, Coal and Other Minerals) of Certain Land Holdings in the Big Bend, Texas Area," a Keplinger Consulting Report (private distribution), 20 p., May.

Campbell, M. D., 1977, "Preliminary Evaluation of Uranium Ore reserves in the Uravan Mineral Belt and Vicinity," a Keplinger Consulting Report (private distribution), 62 p., April.

Campbell, M. D., 1976, "Mineral Exploration and Development Program in the Republic of Niger, Africa," a Keplinger Consulting Report (private distribution) 22 p., November.

Campbell, M. D., 1974, *Uranium Potential of the United States: Stage I, Frontier Exploration*, United Resources Consulting Report for Pioneer Nuclear, Inc. and Texas Eastern Nuclear, Inc. (copyrighted), 218 p, 21 plates, 46 figs., 7 tabs., 389 refs. (Houston).

Campbell, M. D., 1974, "Potassium-Uranium Systematics: Geologic Implications of Moon-Earth-Meteorite Origins," *Rice University Department of Geology Special Paper*, 74 p.

Campbell, M. D., 1971, "A Preliminary Evaluation for Uranium of the Green River Utah Project," Consulting Report: United Resources (private distribution), 44 p., 20 figs., 10 refs. (unpubl.)

Campbell, M. D., 1970, "Preliminary Recommendation Report on the Uranium and Other Mineral Potential of Pennsylvania," Pa. Report No. 2, Stage II Evaluation, United Nuclear Corporation, 80 p., 19 figs, 3 plates, 2 tabs., 37 refs. (unpubl.).

Campbell, M. D., 1970, "Final Reconnaissance Report on the Uranium Potential of Ohio," Ohio Report No. 2, United Nuclear Corporation, 42 p., 8 figs., 7 tabs., 1 plate (unpubl.)

Campbell, M. D., 1969, "An Evaluation for Uranium of the Pidinga Lakes Area, South Australia," Consulting Report of Minoil, 65 p., 8 refs. (unpubl.)

Campbell, M. D., 1969, "Final Report on Undilla Basin Phosphate, Queensland, Australia, "Continental Oil Company of Australia, Minerals Exploration, 65 p., 1 fig., 5 tabs. 4 plates, 3 appen. (unpubl.) see: PDF

Campbell, M. D., 1969, "Analysis of Transportation, Water Resources, Multiple Product Recovery and Mining in Australia," Interim Phosphate Report No. 2, Australian Phosphate Project," Continental Oil Company of Australia, Mineral Exploration Division, 25 p., 15 figs., (unpubl.)

Pendry, G. (with assistance provided by Campbell, M. D.), 1969, "Report of Potash Potential, Carnarvon Basin, Western Australia," Continental Oil Company of Australia, Minerals Exploration Division, Sydney, 15 p., 6 figs., 3 tabs. (unpubl.)

Campbell, M. D., 1969, "Report on Preliminary Beneficiation Results: Undilla Basin, Queensland, Australia," Continental Oil Company of Australia, Minerals Exploration Division, 15 p., 6 figs., 3 tabs., (unpubl.) see CONOCO activities on Australia and Final Report (Here).

Campbell, M. D., 1968, "Discovery of New Phosphate Deposits: Interim Phosphate Report No. 1: Northern Territory, Australia," Continental Oil Company of Australia, Minerals Exploration Division, 22 p., 3 tabs., 3 plates (unpubl.).

Mine Management

During the mid-1980's, Mr. Campbell provided technical, operational, financial and environmental management consulting for a heap-leach precious metal mine in Nevada. He served as part of a three-man matrix consulting management team that provided management consulting for operations and management of a multiple mine-central mill project with 35 employees and for the prime mining, crushing, hauling and agglomerating contractor with more than 30 employees.

Mr. Campbell's activities included:

1) management consulting for the start-up mine operations,

2) consulting on operational financial and accounting ($8 million cash flow/year),

3) consulting on company operating and hazardous material safety and bullion security policy development via personnel manual,

4) joint-venture representation with major mining companies,

5) development of economic modeling programs for detailed financial analyses of month-to-month economic conditions,

6) day-to-day monitoring of operational processes and hydrochemical data,

7) consulting on exploration programs and of land-acquisition projects,

8) conducted analyses of unsaturated flow in the heap-leach operations, and monitored solution chemistry, and

9) initiated ground-water monitoring programs and provided guidance in negotiations with BLM and EPA.

Applicable Mine Management Publications / Major Reports

Campbell, M. D. and J. D. King, 1988, Norse Windfall Mines, Inc. Personnel and Corporate Policy Manual, August, Eureka, Nevada, 30p.

Campbell, M. D., T. H. Foss and K. J. Buchanan, 1986, "Report of Investigations on the Preliminary Feasibility of Development of the Eureka Precious Metals Project, Nevada," a Campbell, Foss & Buchanan, Inc. Consulting Report (private distribution), 123p. (See **Summary Report**).

International Projects

Mr. Campbell spent his early professional years on projects in Australia, South East Asia and Micronesia, making trips to Japan, Hong Kong and Singapore as joint-venture project negotiation needs required. He has returned on occasions to present invited hydrogeological and water supply papers. Mr. Campbell has initiated or been associated with projects on mineral exploration, mining, and water supply and hydrogeological topics in the following countries:

Australia, Canada, Chile, France, Honduras, Jordan, Italy (Sardinia), Liberia, Mexico, Niger, **Sri Lanka**, Sweden, South Africa, **Sudan**, and Tanzania.

Applicable International Publications / Major Reports

Campbell, M. D., and M. David Campbell, 2004, "Crisis Management: Ground-Water Supplies in the 21st Century," in *EnviroTechnology (Chinese)*, Vol. 1, Summer, pp 78-81.

Swartz, T. E., K. Mentesoglu, M. D. Campbell, and O. Akkol, 1991, "Turkey: Ground-Water Issues in a Country with a Developing Economy" in *Proc. Fifth National Outdoor Action Conference on Aquifer Restoration, Ground Water Monitoring, and Geophysical Methods, AGWSE Conference*, May 13-16, 1991, Las Vegas, Nevada, pp 165-174.

Larsson, I., M. D. Campbell, et al., 1984, ***Ground Water in Hard Rocks*** *(Igneous and Metamorphic Rocks*), United Nations (UNESCO) and the Swedish International Development Authority (SIDA), 450 p.

Campbell, M. D., 1984, "Preliminary Evaluation of the Minera Guayape, S.A. Precious Metal project, Honduras, a Campbell, Foss and Buchanan Consulting Report (private distribution), 10 p., May

Campbell, M. D., 1984, "Preliminary Evaluation of the Aqua Fria Precious Metal Project, Honduras," a Campbell, Foss and Buchanan Consulting Report (private distribution), 10 p., May.

Campbell, M. D., 1981, "Fundamentals of Water Well Technology, Well Maintenance and Well Economics as Applied to Ground Water Development in Igneous and Metamorphic Rocks," in *Proceedings UNESCO African Regional Seminar on Ground Water in Hard Rocks*, Arusha, Tanzania, Sept. 14-Oct. 2.

Campbell, M. D., 1980, "Preliminary Investigations on the Uranium and Other Mineral Potential of Sudan," a United Resources International Consulting Report (private distribution), 19 p. (April).

Campbell, M. D., 1979, "Economic Considerations on Ground Water Exploration and Development in Igneous and Metamorphic Rocks," *Proc. Inter-Regional Seminar on Ground Water in Hard Rocks, Coimbatore, India*, November 22-December 20, 1979, UNESCO/SIDA/CGWB/TNAU, 14 p.

Campbell, M. D., 1979, "Practical Geological Guides for Drilling and Test Pumping in Igneous and Metamorphic Rocks," *in Proc. Inter-Regional Seminar on Ground Water in Hard Rocks, Coimbatore, India*, November 22-December 20, 1979, UNESCO/SIDA/CGWB/TNAU, 24 p.

Campbell, M. D., 1979, "Preliminary Evaluation of Selected Oil Shale Resources in Jordan, "a Keplinger Consulting Report for the World Bank, 10 p., November.

Campbell, M. D., et al., 1979, *A Review of the United Nations Ground-Water Exploration and Development Programme in Developing Countries, 1962-1977*, United Nations, Natural Resources, Water Series No. 7, ST/ESA/90, New York, 84 p.

Campbell, M. D., 1977, "Water Well Technology for Ground-Water Development and Production in Igneous and Metamorphic Rocks," *Proc. United Nations International Seminar on Ground Water in Hard Rocks, Stockholm-Sardinia*, September 22-October 7, 61 p.

Campbell, M. D., 1976, "Mineral Exploration and Development Program in the Republic of Niger, Africa," a Keplinger Consulting Report (private distribution) 22 p., November.

Campbell, M. D., 1969, "An Evaluation for Uranium of the Pidinga Lakes Area, South Australia," Consulting Report of Minoil, 65 p., 8 refs. (unpubl.)

Campbell, M. D., 1969, "Final Report on Undilla Basin Phosphate, Queensland, Australia," Continental Oil Company of Australia, Minerals Exploration, 65 p., 1 fig., 5 tabs., 4 plates, 3 appen. (unpubl.). Available from Queensland Database.

Campbell, M. D., 1969, "Analysis of Transportation, Water Resources, Multiple Product Recovery and Mining in Australia," Interim Phosphate Report No. 2, Australian Phosphate Project, Continental Oil Company of Australia, Mineral Exploration Division, 25 p., 15 figs. (unpubl.)

Campbell, M. D., 1969, "Report of Potash Potential, Carnarvon Basin, Western Australia," Continental Oil Company of Australia, Minerals Exploration Division, 15 p., 6 figs., 3 tabs. (unpubl.)

Campbell, M. D., 1969, "Report on Preliminary Beneficiation Results: Undilla Basin, Queensland, Australia," Continental Oil Company of Australia, Minerals Exploration Division, 15 p., 6 figs., 3 tabs., (unpubl.).

Campbell, M. D., 1968, "Discovery of New Phosphate Deposits: Interim Phosphate Report No. 1: Northern Territory, Australia," Continental Oil Company of Australia, Minerals Exploration Division, 22 p., 3 tabs., 3 plates (unpubl.).

Other Subsurface Investigations

Mr. Campbell also has conducted a number of other scientific, geologic, hydrogeologic and geotechnical investigations involving: growth fault investigations, remote subsurface data acquisition technology development, technology transfer, human toxicology, moon-earth-meteorite potassium-uranium systematics, paleoenvironmental and diagenetic processes in the subsurface, injection well design and operation, oil shale, sand and gravel reserve assessment and preliminary development feasibility, geologic assessment of cavern integrity and injection operations at Strategic Petroleum Reserve Sites in Texas, and subsurface structural traps for oil and gas. Mr. Campbell has a strong interest in the industrialization of space.

Applicable Publications / Major Reports / Presentations

Campbell, M. D., et al., 1998, "Additional Investigations on the Upper Cretaceous Ferron Sandstone", Wayne County, Utah, Interim Report.

Campbell, M. D., Alexander, T. A., and M. David Campbell, 1990, "Siderite Occurrences in the Atoka Formation, Oklahoma and Arkansas, and their Hydrochemical, Diagenetic and Paleomagnetic Implications, *Geological Society Section Mtg*, Oklahoma State University, Stillwater, March 5-6 (Abstract).

Campbell, M. D. and R. N. Arrington, 1983, "Preliminary Geological Evaluation of Oil and Gas Potential of San Pete County, Utah," a Campbell, Foss and Buchanan Consulting Report (private distribution), 40 p., December.

Campbell, M. D. and R. N. Arrington, 1983, "Preliminary Geological Appraisal of Selected Properties in Kansas and Alaska for Oil and Gas Potential," a Campbell, Foss and Buchanan Consulting Report (private distribution), 15 p., December.

Campbell, M. D., and L. Clark, 1981, "Preliminary Economic Analysis of the Mining Restrictions and Land Takes from the Hartman Farm by the City of Columbus, Ohio, Division of Water," for the BancOhio National Bank, Trustee for the Hartman Trust, by Keplinger and Associates, Inc., Houston, May 15, 15 p.

Campbell, M. D., and K. Wilbanks, 1980, "Preliminary Investigations on Oil Shale and Asphalt-Impregnated Rocks of Potential Economic Significance in Selected States of the Mid-Continent Region, United States," a Keplinger Consulting Report (private distribution), 49 p., December.

Campbell, M. D., and S. Poythress, 1980, Report of Investigations on Cavern No. 3, Bryan Mound Strategic Petroleum Reserve, Freeport, Texas, a Keplinger Consulting report of DUCI and U.S. Department of Energy, New Orleans, 92 p., Appendices I-IX, August.

Campbell, M. D., and D. J. Lynch, 1980, "Preliminary Mining Engineering Evaluation and Economic Analysis of the Sand and Gravel Resources on Selected Properties Near Columbus, Ohio," for the BancOhio National Bank, Trustee for the Hartman Trust, a Keplinger Consulting Report, January 1, 85 p..

Campbell, M. D., 1979, "Preliminary Evaluation of Selected Oil Shale Resources in Jordan," a Keplinger Consulting Report for the World Bank, 10 p., November.

Campbell, M. D., and S. Poythress, 1979, "Preliminary Geological Evaluation and Reconnaissance Drilling of Oil shale Resources, San Saba County, Texas," a Keplinger Consulting Report, (private distribution), 40 p., October.

Warner, D. L. (and **M. D. Campbell**), 1977, EPA Guidance Document: *An Introduction to the Technology of Subsurface Wastewater Injection*: Chapter 6 (Pre-Injection Wastewater Treatment and Surface Facility Design), p. 188-233; Chapter 7 (Injection Well Design and Construction) , 234-282; Chapter 8 (Start-up Operations), 283-292, and Chapter 10 (Injection Well Abandonment), 320-328. U. S. Environmental Protection Agency, EPA-600/2-77-240, Robert S. Kerr Environmental Research Laboratory, Ada, OK.

Campbell, M. D., 1976, *Paleoenvironmental and Diagenetic Implications of Selected Siderite Zones and Associated Sediments in the Upper Atoka Formation, Arkoma Basin, Oklahoma-Arkansas*, unpubl., Master's Thesis, Rice University, 165 p., 45 figs., 35 tabs. For Interim Report, click (**here**).

Campbell, M. D., 1975, "Glossary of Sedimentary Structures in Carbonate Rocks," in *Carbonate Facies in Geologic History*, by J. L. Wilson, Springer-Verlag, p. 75-86.

Campbell, M. D., 1974, "Potassium-Uranium Systematics: Geologic Implications of Moon-Earth-Meteorite Origins," *Rice University Department of Geology Special Paper*, 74p.

Campbell, M. D., 1973, "A Review of Nitrate in Ground Water and its Toxicological Significance," *NWWA Research Facility Special Paper 2*, 23 p.

Campbell, M. D., 1971, "Notes on Science: Progress through Research," *Water Well Journal*, Vol. 25, No. 11, p. 48-49.

Campbell, M. D., 1971, "Notes on Science: Terradynamics," *Water Well Journal*, Vol. 25, No. 10, p. 42-44.

Publications / Papers in Preparation

Campbell, M. D. (In Preparation), *Nuclear Energy and the Environment*, American Geological Institute Natural Resource Series, ~70 p.

Campbell, M. D. and M. David Campbell, (*In Preparation*), *"Growth Faulting in the Houston, Texas Area: Origins and Characteristics, Regional and Local Relationships, Associated Geologic Hazards, Economic Impact and Methods of Investigation"*.

Campbell, M. D., Alexander, T. A., and M. David Campbell, (*In Preparation*), *"Siderite Occurrences in the Atoka Formation, Oklahoma and Arkansas, and their Hydrochemical, Diagenetic and Paleomagnetic Implications,"* Geological Society Section Mtg, Oklahoma State

University, Stillwater, March 5-6 (Abstract), preparing for subsequent publication in *Geology* or other journal.

Manuscripts Reviewed for the Technical Journals

Many manuscripts have been reviewed recently for *Ground Water* and for the *International Journal of Environmental Forensics.* Mr. Campbell also reviewed numerous manuscripts while serving on the *Ground Water* Editorial Board (1971-1978).

Appendix II

MULLC Selected Expanded Graphics and Photos

Cover Photo

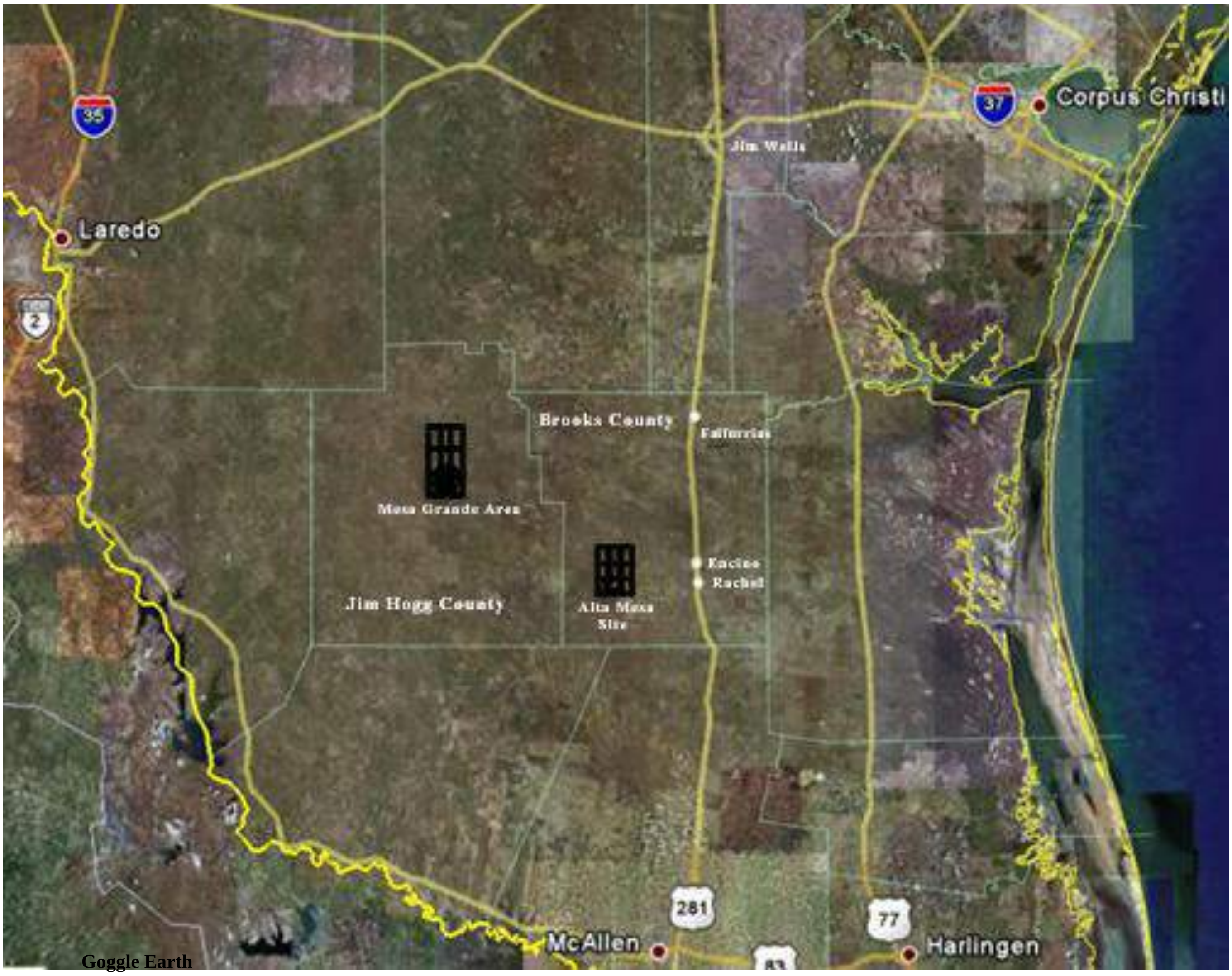


Figure 1- General Location of MULLC's Alta Mesa Site and Mesteña Grande Area. Access Road from Rachel, Texas to the Alta Mesa Plant Site (see Figure 3 for Local Guidance)

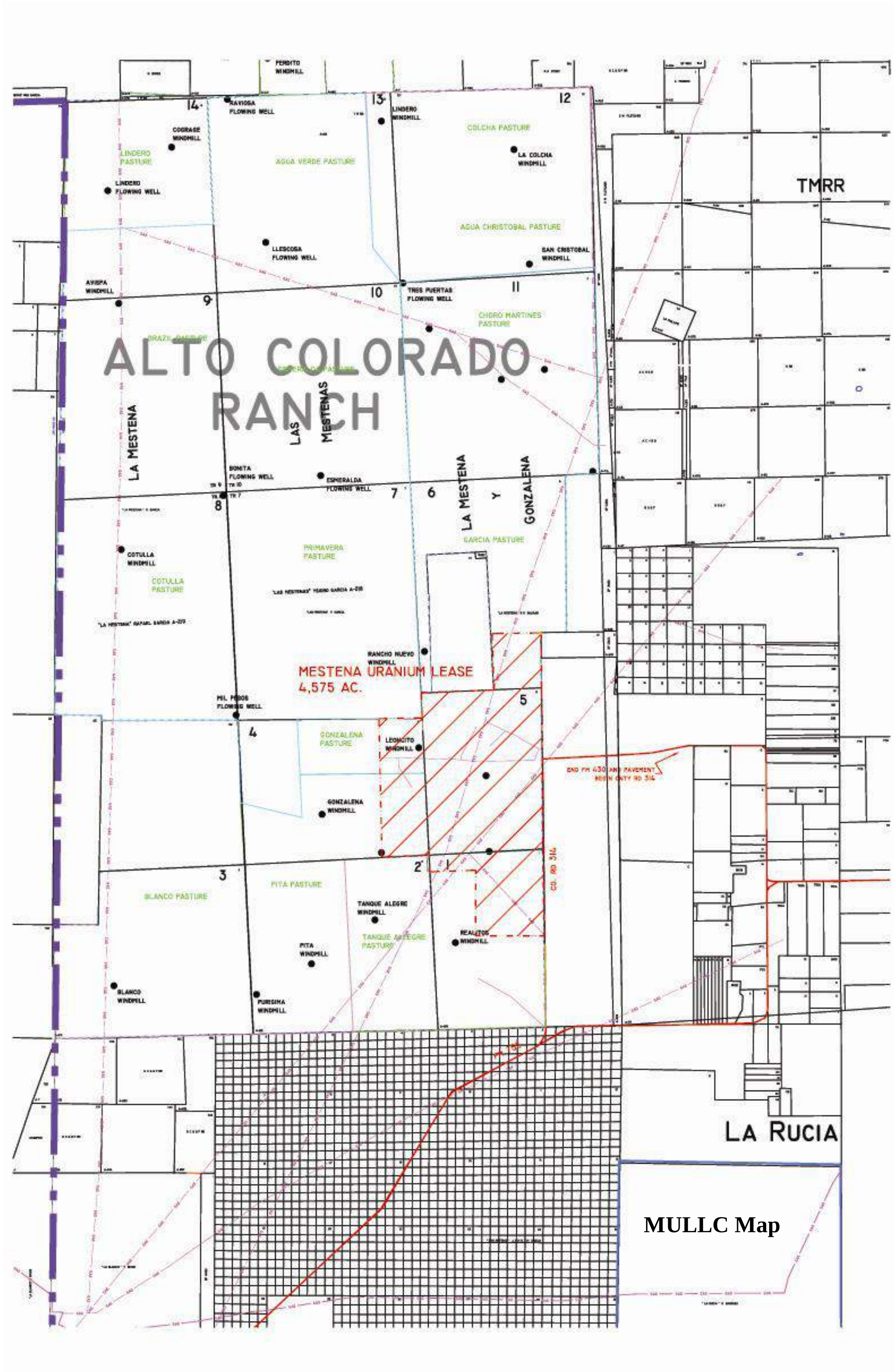


Figure 2 – Alta Mesa Lease

**Figure 3- Pre-Production Aerial View of Circa 2005
and Local Access to Alta Mesa Plant
(see Figure 1 for General Location)**

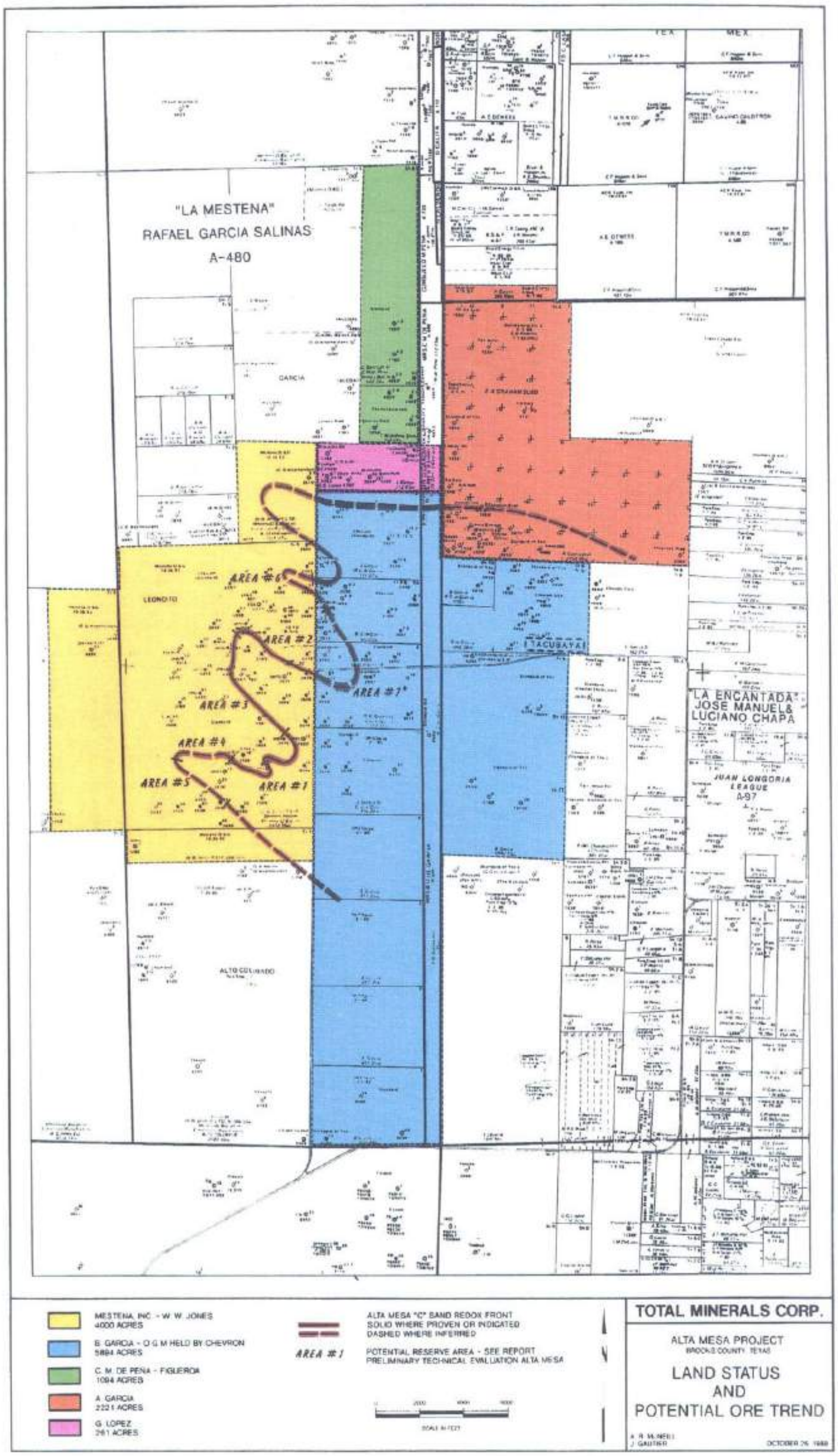


Figure 7 – 1986 Land Status, Drilling Locations, and Potential "Ore" Trend (Total 1986 Report).

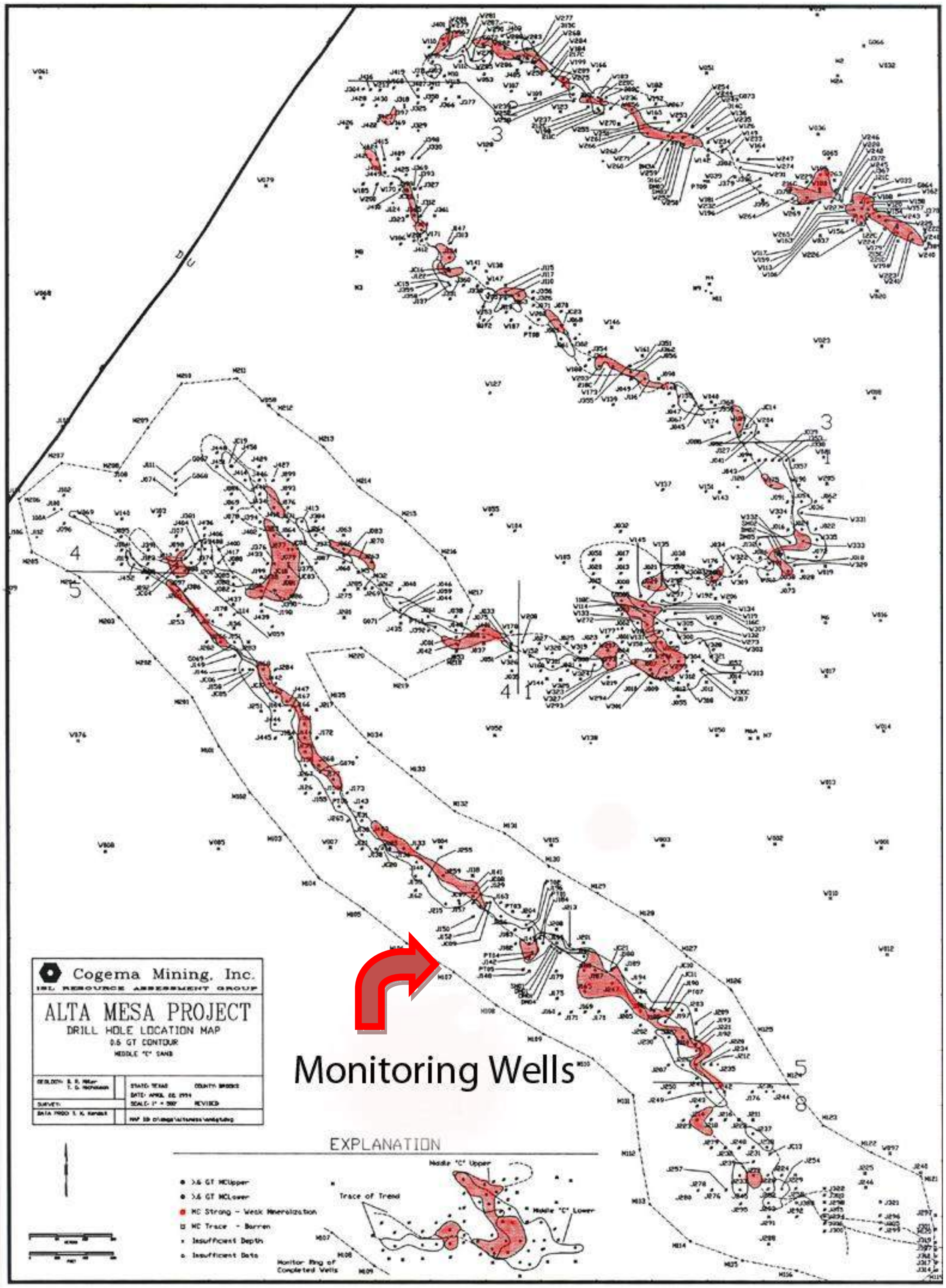


Figure 9 – Principal Zones of Mineralization as of the Mid-1980s at Alta Mesa (after Miller, 1994)

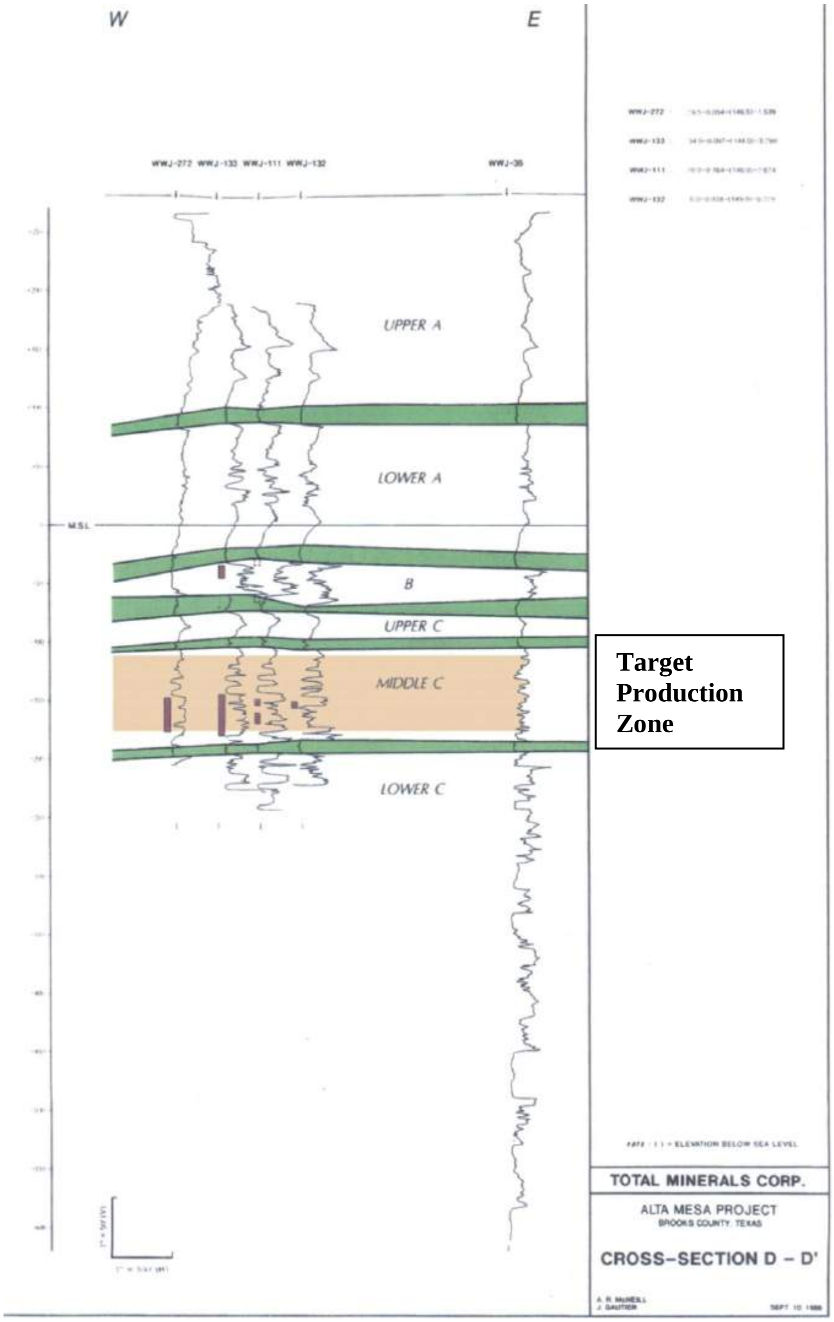


Figure 10 – Principal Zone of Mineralization and Clay Units as of the Mid-1980s at Alta Mesa. (after Miller, 1994)

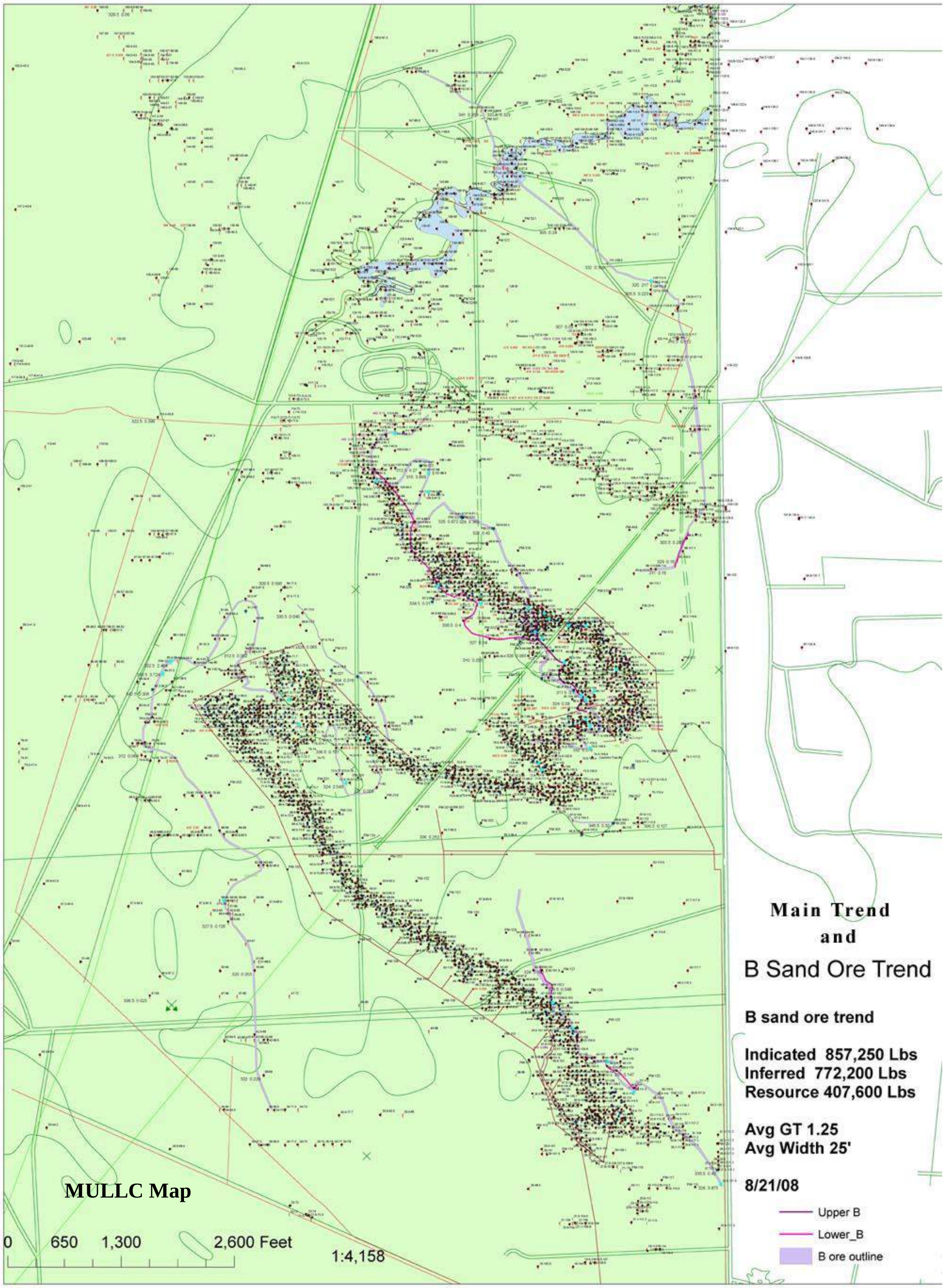


Figure 20 – Main Ore Trend and Zone B Trend Results (Interim Calculations)

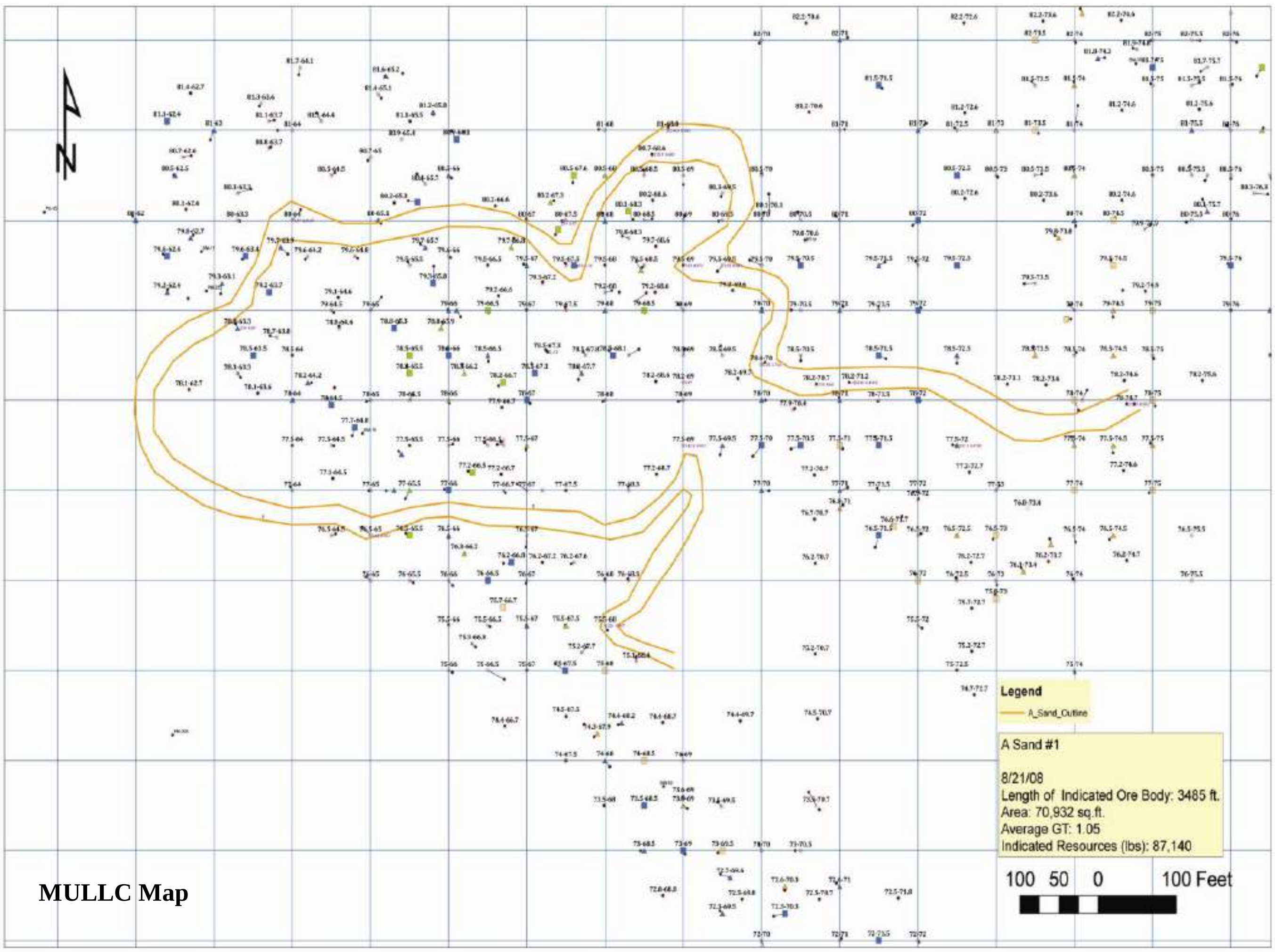


Figure 21 – Drilling on Zone A (w/ Interim Calculations).

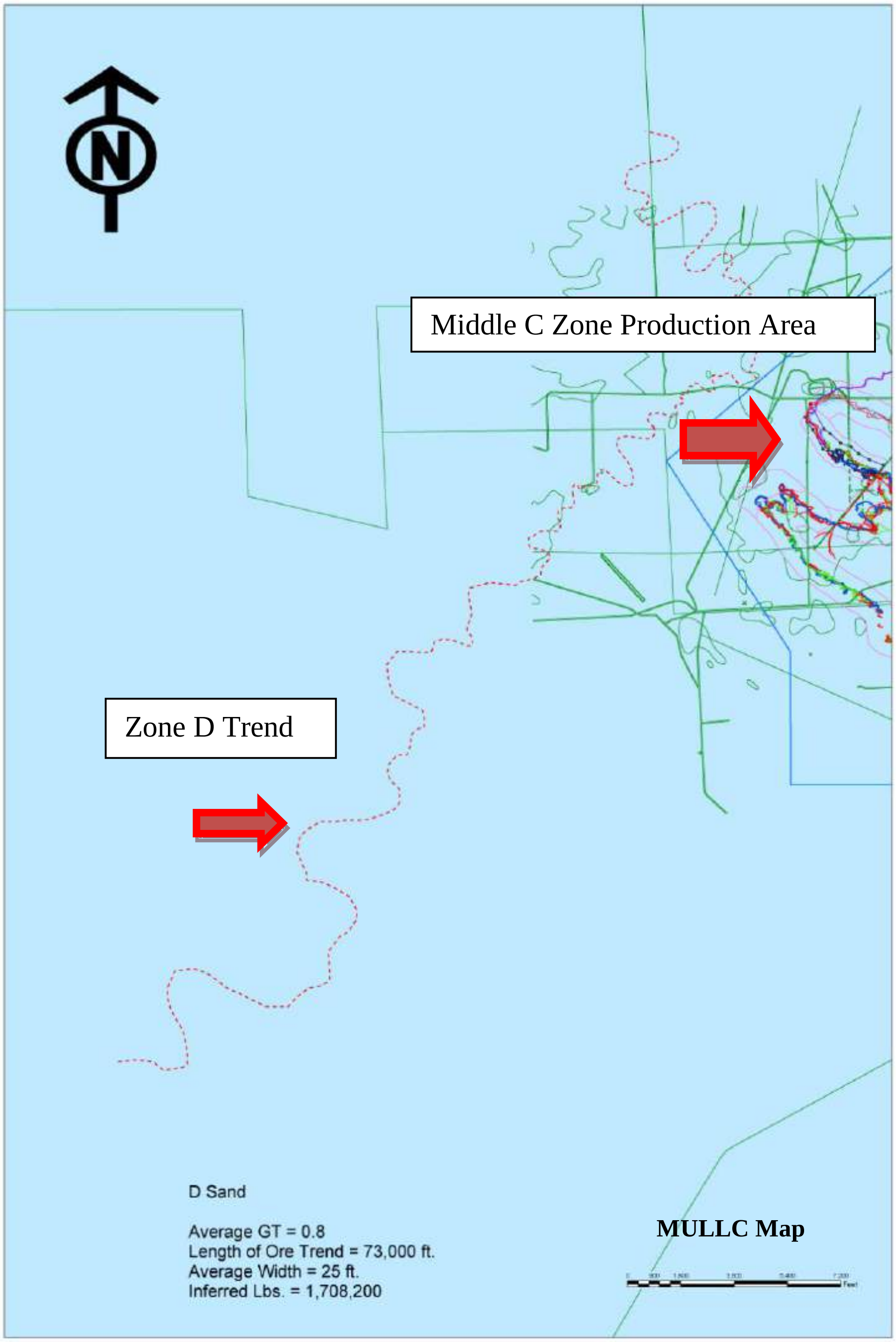
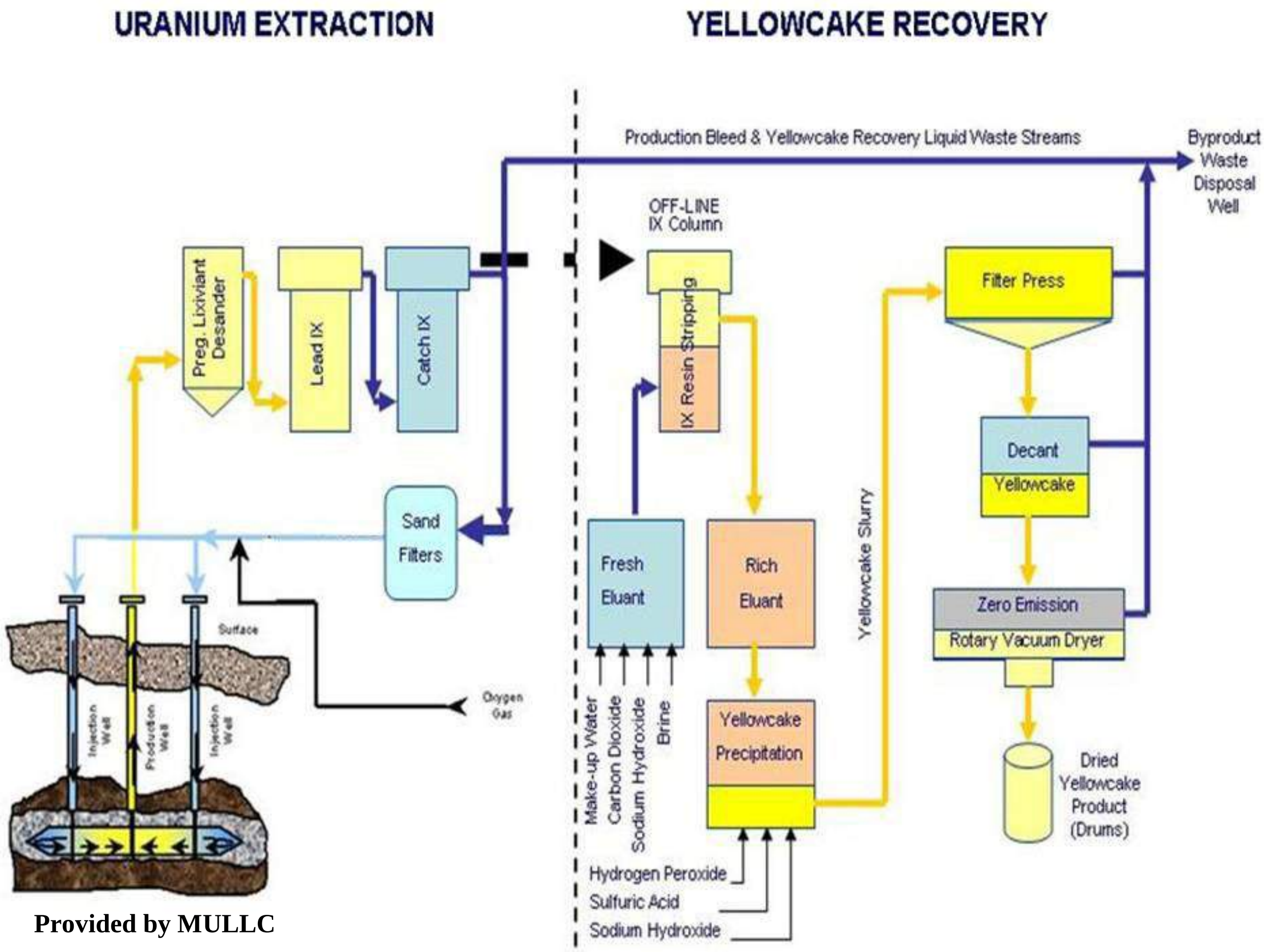


Figure 22 – Trend Drilling on Zone D Sand (w/ Interim Calculations).

Figure 28

Process-Flow Schematic



Provided by MULLC

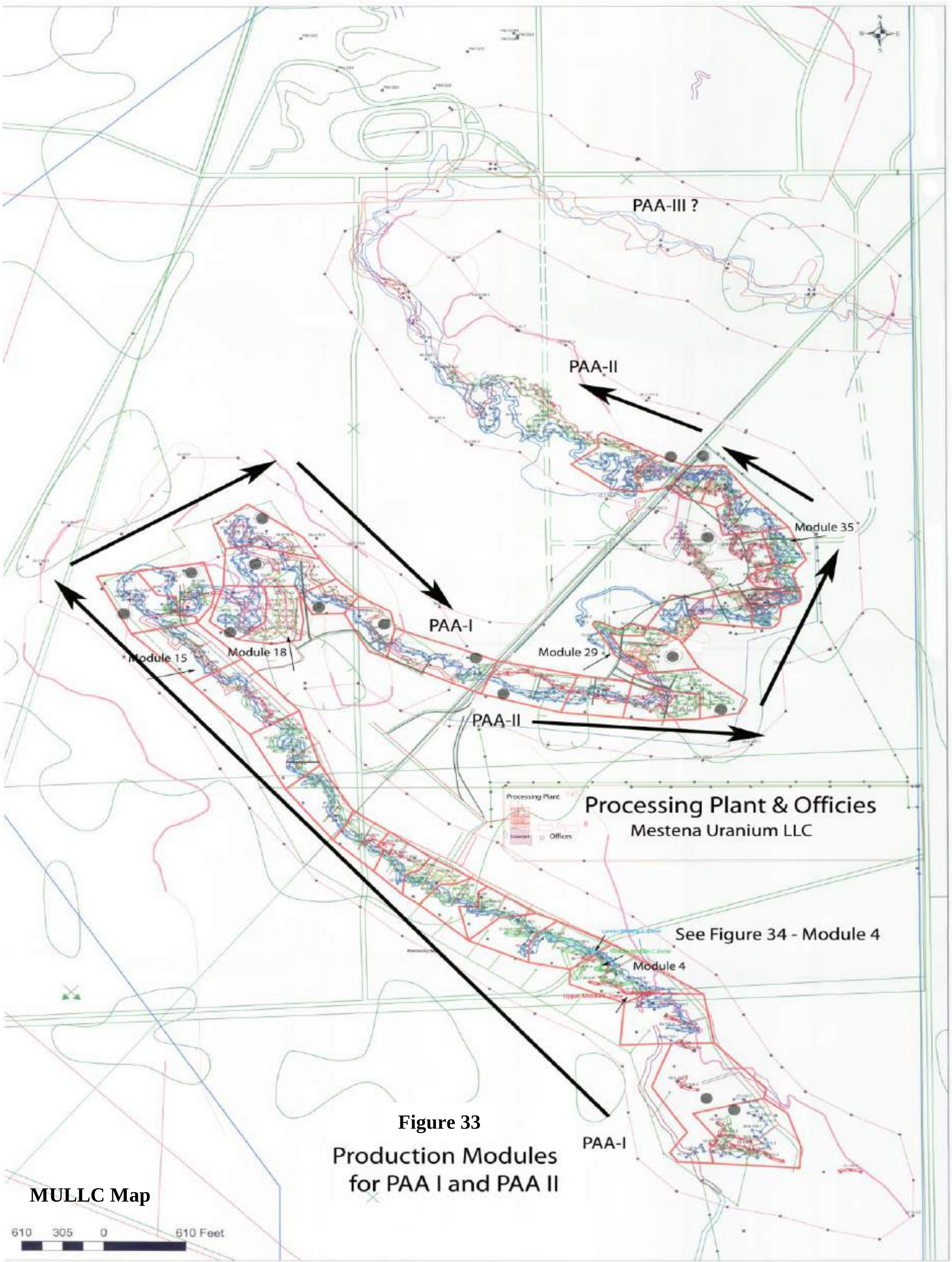


Figure 33

Production Modules
for PAA I and PAA II

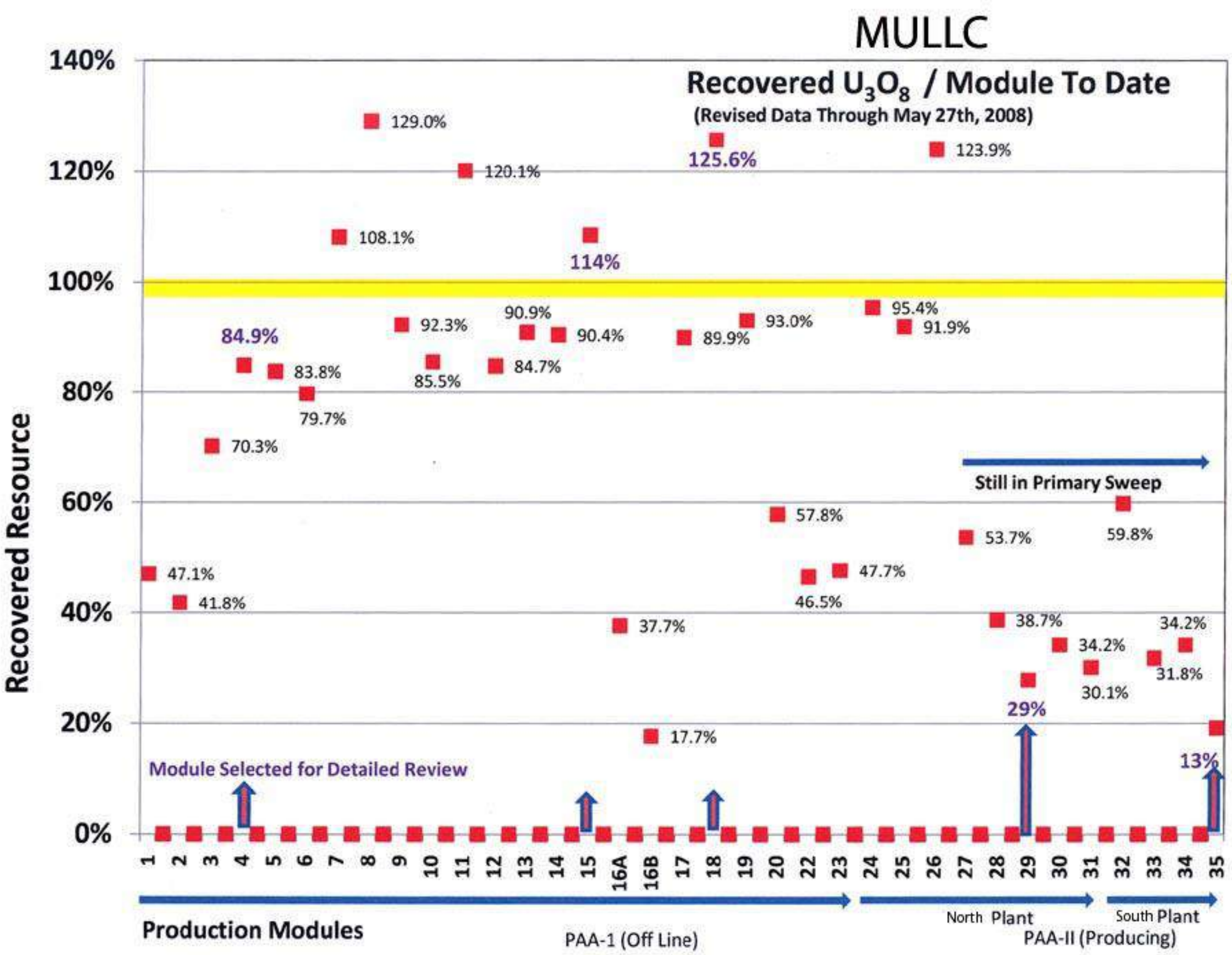


Figure 40 – Module Production Recoveries

Alta Mesa Plant

Alta Mesa Plant

Alta Mesa Plant

xxx