MARQUEZ-JUAN TAFOYA URANIUM PROJECT
43-101 Technical Report
Preliminary Economic Assessment

PREPARED FOR:
enCore Energy Corporation

AUTHORED BY:

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This report titled Marquez-Juan Tafoya Uranium Project, NI 43-101 Technical Report, Preliminary Economic Assessment was prepared in accordance with National Instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101), and in accordance with Canadian Institute of Mining (CIM) Best Practice Guidelines for the Estimation of Mineral Resources and Mineral Reserves (CIM Standards) and has an effective date for mineral resources and pertinent data of June 9, 2021. The effective date of the Preliminary Economic Assessment (PEA) is the same as the overall report, June 9, 2021.

The report was prepared for enCore Energy Corporation (TSX-V: EU), (enCore or "the Company") a minerals development company with uranium properties in Arizona, New Mexico, Utah, Texas, and Wyoming. Two previous reports were issued on portions of the Project. The Marquez portion (Marquez Uranium Property, McKinley and Sandoval Counties, New Mexico: Alief, 2010) and the Juan Tafoya portion (NI 43-101 Technical Report on Mineral Resources, Juan Tafoya Uranium Project, Cibola, McKinley, and Sandoval Counties, New Mexico, USA: Carter, 2014). Although at the time of issuance these reports were completed under NI 43-101 guidance, enCore considers these mineral resource estimates as historical estimates. A qualified person has not done sufficient work for enCore to classify the historical estimates as current mineral resource estimate. The Company does not treat these historical estimates as current mineral resource estimates, and the estimates should not be relied upon. The current mineral resource estimate for the Project is described in Section 14 of this Report.

The Marquez-Juan Tafoya Uranium Project (Project) is an advanced-stage exploration property which has been extensively explored in the past by drilling and on a portion of which considerable pre-mining infrastructure was historically constructed including production and ventilation shafts, a mill processing facility, and tailings disposal cells. The surface facilities were dismantled in the early 2000s. No mining or mineral processing has occurred at the site.

This report includes disclosure permitted under Section 2.3(3) of NI 43-101 as the PEA. Mineral resources are not mineral reserves and do not have demonstrated economic viability. The PEA is preliminary in nature and there is no certainty that the preliminary economic assessment will be realized. The PEA is described elsewhere in this report and is based on the qualifications and assumptions described herein.

1.1 Project Overview

The Project is located within the Grants Uranium Mineral District of northwest New Mexico, approximately 50 miles west-northwest of Albuquerque, New Mexico (see Figure 1.1). The Project consists of two adjacent properties; Marquez and Juan Tafoya, that were previously developed by separate mining companies, Kerr-McGee Corporation and Bokum Resources, respectively. This is the first time that the two properties are controlled by one company., The Preliminary Economic Assessment (PEA) has been developed based on a combined mineral resource estimate and proposed underground mining and on site mineral processing for the Project.

The host for known uranium mineralization within the project is the Westwater Canyon member of the Upper Jurassic Morrison Formation. The Westwater deposits dip gently 1-3˚ to the west. The mineralization is sandstone-type present as coffinite and uraninite within primary trend deposits, varies from 1,800 to 2,500 feet deep.

1.2 Project Description and Overview

The Marquez-Juan Tafoya uranium project is located at approximately 35˚18' North Latitude by 107˚18' West Longitude. The site is approximately 50 miles west-northwest of Albuquerque, New Mexico (Figure 4-1, Location and Access Map). The project is in an area of mostly un-surveyed lands, in what would be Township 13 North, Ranges 04 and 05 West, 23rd Principal Meridian, New Mexico.

EnCore controls private land leases, Marquez and Juan Tafoya, totaling some 18,712 acres (7,572 ha). https://www.enCoreenergycorp.com/projects/new-mexico/juan-tafoya-marquez/

1.3 Development Status

In the 1970s to early 1980s, extensive mineral exploration by drilling defined significant uranium resources on the two properties. Mine and mineral processing infrastructure was constructed by Bokum Resources on the Juan Tafoya portion of the Project, including a 14-foot production shaft (completed to within 200 feet of the mine zone), a 5-foot ventilation shaft, and a partially built mill processing facility and tailings disposal cells. The surface facilities were dismantled and reclaimed in the early 2000s.

1.4 History

1.4.1 Marquez History

Kerr McGee Corporation entered into a mineral lease agreement with the Williams family for the Marquez Property in the early 1970s. In 1973 exploration drilling began. In 1978, Kerr McGee sold a 50% interest in the project to the Tennessee Valley Authority (TVA). At that time, the joint venture proposed mining the uranium deposit by conventional underground methods, with recovery at Kerr McGee's Ambrosia Lake mill facility. However, with the decrease in the uranium market beginning in 1980, the property was returned to the mineral lease holder. In 2007, Strathmore Minerals Corporation acquired a mineral lease to the Marquez property. Strathmore was subsequently acquired by Energy Fuels who sold the Marquez property to enCore.

1.4.2 Juan Tafoya History

In 1969, mineral leases were acquired in the Juan Tafoya area by Devilliers Nuclear and began exploratory drilling. In the early 1970s Exxon acquired the rights to 25 small mineral leases, all within the boundary of the JTLC lease, and began exploratory drilling. In 1975, the JTLC lease was acquired from Devilliers by Bokum Resources Corporation, which subsequently acquired the Exxon mineral leases also. In 1976, Bokum entered into a uranium purchase agreement with Long Island Lighting Company, a New York-based utility. However, with the decrease in the uranium market beginning in 1980, the property was returned to the mineral lease holders. In 2006-07, Neutron Energy Inc. acquired the mineral leases. In 2012, Neutron was acquired by Uranium Resources Inc (now Westwater Resources Inc) and in September 2020, enCore Energy announced the purchase of Westwater Resources' US uranium assets, including the mineral leases to the Juan Tafoya properties. The purchase was completed on December 31, 2020. enCore has yet to explore on the property.

1.5 Regulatory Status

With the exception of an exploratory drilling permit received by Neutron Energy from the State of New Mexico, and currently held by the Company, no other permits have been obtained for the Project. No mining or mineral processing has been completed on the property. A variety of Federal and State permits will be required prior to any mine and/or mineral processing developments. Refer to Section 20.

1.6 Geology and Mineralization

The host for known uranium mineralization at the Project, present as coffinite and uraninite, is sandstone deposits within the Westwater Canyon member of the Upper Jurassic Morrison Formation. The Westwater consists of a fluvial sedimentary sequence deposited during a period of wet subtropical climate as the San Juan Basin subsided and filled with synorogenic deposits during a pre-Laramide orogenic event. The major source of the sandstones was from uplifted highlands to the south and southwest; sediments were laid down by coalescing alluvial fans and associated braided streams. The Westwater deposits dip gently 1-3° to the west. Mineralization at the project varies from 1,800 to 2,500 feet deep.

The Westwater sands hosting the uranium mineralization consist of a series of fluvial stacked, quartz-rich arkosic sandstones separated by clay and mudstone beds. The Westwater is 250-325 feet thick at the Project, consisting of four main sand units. The mineralization formed by the down-gradient movement of groundwater solutions flowing through the arkosic-rich sediments and inter-formational and overlying tuffaceous (volcanic) materials. The uranium was precipitated where the action of pyrite-rich sediments and carbonaceous materials (humates) developed a reducing environment (oxidation-reduction contact). The mineralization is contained within mostly primary (trend-type) mineralized bodies previously deposited synorogentically. These trend-type deposits are similar in nature to those discovered and extensively mined in the Ambrosia Lake Uranium District 20 miles to the west. A lesser amount of the mineralization is possibly post-faulting or redistributed mineralization; perhaps amenable to in-situ recovery methods.

1.7 Mineral Resources

Some 926 drill holes totaling approximately 1.9 million feet drilled were completed by past operators. EnCore has not completed any drilling on the project. For this report, 604 drill holes, completed in the area of interest were used. These drill hole locations are shown on Figure 10.1, Drill Hole Map. From the total 604 drill holes, 192 and 337 mineralized incepts were used for the mineral resource estimates, for the "C" and "D" sands, respectively.

The principal tool for determining uranium grades encountered by exploration and development drill holes is the gamma-ray log, a geophysical surveying technique that was, and remains the standard in-place assaying method utilized by the global uranium industry. Equivalent uranium grades (% eU3O8), which are radiometric assays, were and are calculated from gamma ray logs using grade determination methodologies that are standard in the uranium mining industry.

Each drill hole used in making the mineral resource estimate was correlated and re-interpreted by the author. Conversion of downhole CPS measurements to equivalent uranium content, eU_3O_8, was verified by the author and is discuss in Section 12.

As discussed in Section 11 of this report, a positive disequilibrium factor is stated in historic reports (Alief, 2010 and Carter, 2014) which if applied would increase the estimated average grade and contained pounds. Although some of the chemical data cited in previous reports are available, original laboratory certificates were generally not available. In addition, the core holes were generally completed in areas on strong mineralization and thus may not be representative of the deposit in total. For these reasons, the author elected to assume that the mineralization was in radiometric equilibrium, and no positive factor was applied. A disequilibrium factor (DEF) of 1.0 was utilized for the mineral resource estimate as a conservative measure.

Mineral resources were estimated only for those area which contained sufficient thickness, grade and continuity of mineralization to support extraction by underground mining methods. Within these areas drill spacing was on approximate 100 foot centers with some additional closer spaced offset drilling. Mineralization that is well defined by drilling on the C horizon covers an area of approximately 2,500 feet along trend and 200 to 400 feet across trend. The D horizon has an approximate trend length of 4,000 feet and is 200 to 800 feet across trend. Given the dimensions of the mineralized area, the mineralized areas are well defined by multiple data points. Although the drill data has been verified by the author, it is of a historical nature and thus the author recommends that none of the mineralization be consider as measured mineral resource. Based on the continuity of the mineralization and drill spacing relative to the dimensions of mineralized area the author concludes the data support a classification of the mineral resource as indicated.

A minimum mining thickness of 6 feet was used. A bulk density factor of 15 ft^3/ton was used in the calculations. The mineral resources are reported at a 0.60 GT cutoff (refer to Table 1.1). Mineral resources were calculated using the Grade times Thickness (GT) Contour method in accordance with CIM guidance (CIM, 2013). For the PEA a slightly higher GT cutoff was applied to allow for a profit margin.

Table 1.1 Indicated Mineral Resource

Indicated Mineral Resource			
Minimum 0.60 GT	**TONS**	**%eU_3O_8**	**Pounds**
ROUNDED TOTAL (x 1,000)	7,100	0.127	18,100

Mineral resources are not mineral reserves and do not have demonstrated economic viability in accordance with CIM standards. At a minimum declaration of mineral reserves would require a Preliminary Feasibility Study (PFS). However, to be considered a mineral resource, reasonable prospects for economic extraction must be demonstrated. Reasonable prospects for economic extraction are demonstrated by the positive outcome of the Preliminary Economic Assessment (PEA) herein.

1.8 Capital and Operating Costs

Mine and mineral processing OPEX and CAPEX are discussed in Sections 17 and 18, respectively. Total CAPEX including pre-production costs, mine and mineral processing equipment and facilities, and replacement capital are estimated at $79.3 million $US. OPEX including mining, mineral processing, royalties, taxes, and reclamation are estimated at $48.15 per pound of uranium recovered. The annual cash flow is discussed in Section 12.

The mine production schedule is based on a nominal 1,000 tons mined per day for 15 years with an estimated total approximately 6 million tons at an average grade of 0.172 %eU_3O_8 containing some 12.2 million pounds of uranium.

1.9 Economic Analysis

This report includes disclosure permitted under Section 2.3(3) of NI 43-101 as the PEA includes a portion of the indicated mineral resources shown in Section 14 of the report. Mineral resources are not mineral reserves and do not have demonstrated economic viability. The PEA is preliminary in nature and there is no certainty that the preliminary economic assessment will be realized. The PEA is described elsewhere in this report and is based on the qualifications and assumptions described herein.

An economic analysis for the project is present in Section 22 based on a constant commodity price of $60 per pound as discussed in Section 19. The breakeven commodity price is approximately

US$56 per pound. Figures include in Section 22 show the effect of commodity price on IRR and NPV in the range of US$56 to US$70 per pound U_3O_8. The project as estimated at a commodity price of US$60 per pound U_3O_8, has a positive return on investment with an IRR of 17% and an NPV at a 7% discount rate of 20,595 million $US.

1.10 Conclusions

The PEA for the Marquez and Juan Tafoya project includes an underground conventional mine operation with on-site mineral processing. The underground mine operations would be concurrent with a mine life of approximately 15 years. This is the first time since the initial discoveries that these two adjacent areas of mineralization have been held by the same party.

The project, given the assumptions stated herein, would be profitable with a US$60 per pound selling price. In constant dollars the project is estimated to generate an IRR of 17% before taxes and has an NPV of approximately US$20.5 million at a 7% discount rate. (Refer to Section 22)

The technical risks related to the project are considered to be low as the mining and recovery methods are proven. The mining and mineral processing methods proposed have been employed successfully in the vicinity and regionally for deposits of a similar nature and setting.

The project was once permitted for similar operations but did not go forward due falling uranium prices in the 1980's. The project is located on private land and the mine and mill areas have been previously disturbed. The major permits required include a Source and Byproduct Materials License from the NRC and a mining permit from the state of New Mexico. Based on regional opposition to similar project in the region some level of opposition to the project should be expected. However, overall, the Fraser Institute Annual Survey of Mining Companies, 2020 ranks New Mexico as 10th out of 80 jurisdictions on their Policy Perception Index, which indicates a favorable perception by the mining industry towards New Mexico mining policies.

1.11 Recommendations

The project is sensitive to mining factors including resource recovery, dilution, and grade, and the sizing and sorting of mine materials and mineral processing and recovery. The project is also subject to scrutiny with respect to environmental considerations. Detailed recommendations are provided in Section 26 and are summarized by mineral tenor, mine and mineral resource, mineral processing, environmental and additional studies.

Table 1.2 – Summary of Recommendations

Mineral Tenor and Leases	**$**	**50,000**
Mine and Mineral Resources	**$**	**1,500,000**
Mineral Processing	**$**	**500,000**
Environmental	**$**	**500,000**
Southeast Deposit	**$**	**50,000**
Update Mineral Resources and PEA	**$**	**100,000**
GRAND TOTAL	**$**	**2,700,000**

Most of the recommended costs are one time expenditures. Maintaining environmental baselines studies as current and public outreach will have ongoing annual costs.

1.12 Summary of Risks

It is the author's opinion that the risks associated with this project are similar in nature to other mining projects in general and uranium mining projects specially, i.e., risks common to mining projects include:

- Future commodity demand and pricing,
- Environmental and political acceptance of the project,
- Variance in capital and operating costs,
- Risks associated with mineral resource estimates, including the risk of errors in assumptions or methodologies,
- Mine and mineral processing recovery and dilution, and
- Mineral leases are subject to renewal.

Specifically, the Project should anticipate, based on the experience of other proposed mines in the Grants Uranium District, some level of public opposition given its geographical location. However, the project was previously granted both a Source Materials License from the US Nuclear

Regulatory Commission (NRC). A new Source Materials License from the NRC for the uranium mill and possibly mined material screening and sorting will be required. New mining and other permits will be required from the State of New Mexico. Significant mine related infrastructure was constructed in the early 1980s. Additionally, the lease holders are active participants and supportive of the project. This sets a positive precedent for uranium mine development in the Marquez-Juan Tafoya area.

The author is not aware of any other specific risks or uncertainties that might significantly affect the mineral resource and reserve estimates or the consequent economic analysis. Estimation of costs and uranium price for the purposes of the economic analysis over the life of mine is by its nature forward-looking and subject to various risks and uncertainties. No forward-looking statement can be guaranteed, and actual future results may vary materially.

Readers are cautioned that it would be unreasonable to rely on any such forward-looking statements and information as creating any legal rights, and that the statements and information are not guarantees and may involve known and unknown risks and uncertainties, and that actual results are likely to differ (and may differ materially) and objectives and strategies may differ or change from those expressed or implied in the forward-looking statements or information as a result of various factors. Such risks and uncertainties include risks generally encountered in the exploration, development, operation, and closure of mineral properties and processing facilities. Forward-looking statements are subject to a variety of known and unknown risks, uncertainties and other factors which could cause actual events or results to differ from those expressed or implied by the forward-looking statements. Additional risks are itemized in Section 25.

Figure 1.1 Location Map

2.0 Introduction

2.1 Purpose of Report

This report was prepared for enCore Energy. The Marquez-Juan Tafoya uranium project in Cibola, McKinley, and Sandoval Counties, New Mexico, in accordance with 43-101 regulations and CIM guidance. This report discloses mineral resource estimates and includes disclosure permitted under Section 2.3(3) of NI 43-101 as the PEA. Mineral resources are not mineral reserves and do not have demonstrated economic viability. The PEA is preliminary in nature and there is no certainty that the preliminary economic assessment will be realized. The PEA is described elsewhere in this report and is based on the qualifications and assumptions described herein.

2.2 Terms of Reference

Units of measurement, unless otherwise indicated, are feet (ft), miles, acres, pounds avoirdupois (lbs), and short tons (2,000 lbs). Uranium oxide is expressed as % U_3O_8, the standard market unit. Values reported for historical resources and the mineral resources reported here are % eU_3O_8 (equivalent U_3O_8 by calibrated geophysical logging unit). Unless otherwise indicated, all references to dollars ($US) refer to the United States currency. Additional units of measurement follow in table 2.1.

Table 2.1 Terms and Abbreviations

URANIUM SPECIFIC TERMS AND ABBREVIATIONS				
Grade	Parts Per Million	ppm U_3O_8	Weight Percent	$\%U_3O_8$
Radiometric Equivalent Grade		ppm eU_3O_8		% eU_3O_8
Thickness	meters	M	Feet	Ft
Grade Thickness Product	grade x meters	GT(m)	grade x feet	GT(Ft)

GENERAL TERMS AND ABBREVIATIONS					
	METRIC		US		Metric: US
	Term	Abbreviation	Term	Abbreviation	Conversion
Area	Square Meters	m^2	Square Feet	Ft^2	10.76
	Hectare	Ha	Acre	Ac	2.47
Volume	Cubic Meters	m^3	Cubic Yards	Cy	1.308
Length	Meter	m	Feet	Ft	3.28
	Meter	m	Yard	Yd	1.09
Distance	Kilometer	km	Mile	mile	0.6214
Weight	Kilogram	kg	Pound	Lb	2.20
	Metric Tonne	Tonne	Short Ton	Ton	1.10

2.3 Sources of Information and Data

Data available for this report includes drill-hole maps, mineralized intercept data, downhole geophysical logs, downhole deviation (drift) surveys, historic reports and resource calculations, and other information from the original files and records of Kerr McGee Corporation (Marquez database) and Bokum Resources (Juan Tafoya database). Original data is in the possession of enCore and was made fully available to the author. The author has verified the drill data and considers it reliable for the purposes of this report.

2.4 Extent of Author's Field Involvement

Doug Beahm, PE, PG, last visited the site on May 24th and 25th 2012. Terry McNulty did not visit the site but has extensive work experience with conventional mineral processing in the Grants Uranium District.

2.5 Extent of Author's Past Education, Qualification, and Experience

Doug L. Beahm, P.E., P.G.: The primary author of this report, Mr. Doug Beahm, is both a Professional Geologist and a Professional Engineer, and a Registered Member of the US Society of Mining, Metallurgy, and Exploration Inc. (SME Inc.). Mr. Beahm is a Qualified Person and independent of enCore Energy, using the test set out in Section 1.5 of NI 43-101. Mr. Beahm is experienced with uranium exploration, development, and mining including past employment with Homestake Mining Company, Union Carbide Mining and Metals Division, and AGIP Mining USA. In addition, as a consultant and principal engineer of BRS Inc., Mr. Beahm has provided geological and engineering services related to the development of mining and reclamation plans for a variety of uranium projects. Mr. Beahm's professional experience dates to 1974. Mr. Beahm has worked previously on the Juan Tafoya project in 2012 as a consultant to a private firm that was reviewing the project for a potential acquisition. In addition, Mr. Beahm has extensive work experience with similar sandstone-hosted uranium deposits. Mr. Beahm is responsible for all sections of the report except as stated in Section 3 and Sections 13 and17, Mineral Processing and Metallurgical Testing and Recovery Methods, respectively, which was completed by Dr. McNulty.

Terrence P. McNulty, P.E., D.Sc.: Dr. McNulty is a Professional Engineer and Registered Member of the US Society of Mining, Metallurgy, and Exploration Inc. (SME Inc.). Dr. McNulty's responsibilities in the preparation of this report include Section 13, Mineral Processing and Metallurgical Testing and Section 17, Recovery Methods. Dr. McNulty also provide CAPEX and OPEX estimates related to mineral processing. Beginning in the 1960s, Dr. McNulty was involved in laboratory testing and process development for uranium resources being evaluated at Anaconda's exploration department, as well as providing technical services to the uranium operations. In the late 1970s, he had overall technical responsibilities for expansion Anaconda's Bluewater uranium acid leaching plant from 3,000 tons per day to 7,000 tons per day and conversion from resin-in-pulp uranium recovery to counter-current distillation and solvent extraction. The Bluewater mill was located north of Grants, New Mexico, in the prolific Ambrosia Lake uranium district, 25 miles west of the Marquez-Juan Tafoya Project. Dr. McNulty is familiar with the extractive metallurgy of sandstone-hosted uranium deposits and is professionally qualified to address the requirements related to Section 17 of this report.

3.0 Reliance on Other Experts

enCore Energy Corp provided, and the Author fully relied upon.

- The location, extent, and terms relating to Mineral Tenure, Section 4.
- Status of environmental and operating permits and current bond obligations on the Property, Section 20.
- Third party data from TradeTech™ for uranium pricing, Section 19.

With respect to policy perception, the Author fully relied upon the Fraser Institute "Annual Survey of Mining companies 2020".

4.0 Property Description

The Marquez-Juan Tafoya uranium project is located at approximately 35˚18' North Latitude by 107˚18' West Longitude. The site is approximately 50 miles west-northwest of Albuquerque, New Mexico (Figure 4-1, Location and Access Map). The project is located in the Grants Uranium District of northwestern New Mexico, in the common corners area of Cibola, McKinley, and Sandoval counties. The project is in an area of mostly un-surveyed lands, in what would be Township 13 North, Ranges 04 and 05 West, 23rd Principal Meridian, New Mexico.

EnCore controls private land leases, Marquez and Juan Tafoya, totaling some 18,712 acres (7,572 ha) ("the Property"). https://www.enCoreenergycorp.com/projects/new-mexico/juan-tafoya-marquez/

Marquez mineral lease:

- Approximately 14,501 acres
- Production Royalty 8 % net proceeds*
- Annual Payments varies with price currently $50,000 per year.
- Expiration September 4, 2022

Juan Tafoya mineral lease:

- Approximately 4,211 acres
- Production Royalty 4% gross
- If material from other sources is processed from other properties a milling royalty of 2% would apply
- Annual Payments $315,825.00
- Expiration October 11, 2021

Overriding royalty to Westwater Resources 2.5% net profits royalty

*For the PEA, a 4% gross royalty was applied to all production. The Marquez royalty of 8% net proceeds would be less than the 4% gross. Thus, this is a conservative approach.

4.1 Marquez Ownership and Mineral Tenure

The Marquez property is held by a mineral lease covering 14,501 acres; the vast majority of which lies on the western extent of the greater project area, with several small, separate parcels to the east within the boundary of the Juan Tafoya property. The mineral rights are owned separately from the surface rights; the Williams (87.5%) and Koontz (12.5%) families, and the State of New Mexico's Game and Fish Department, respectively. In 1967, the surface rights were conveyed from the Williams family to the State while the right to develop minerals from the property were retained by the Williams family.

4.2 Juan Tafoya Ownership and Mineral Tenure

The Juan Tafoya property is held by 26 mining leases covering 4,211 acres; 1 lease consists of 4,096 acres (Juan Tafoya Land Company), and the other 25 smaller leases make up 115 acres, all of which are within the boundary of the larger JTLC holdings. The Juan Tafoya leases are on the southeastern extent of the greater project area. The JTLC lease was acquired by Neutron Energy in 2006, and the remaining 25 smaller leases were acquired in 2007. None of the currently defined mineral resources are located on any of the 25 smaller leases.

4.3 Surface Rights

The surface rights to the Marquez property are owned and managed by the State of New Mexico's Game and Fish Department. The rights were acquired by the state upon transfer from the Williams family in 1967. The Williams retained the mineral rights. The conveyance includes a provision to allow for exploration and development of minerals beneath the land surface.

At the Juan Tafoya project the various mineral lease holders also own their surface rights. The lease provides for the use of the land to the extent necessary for mine development and production. Certain payments are necessary depending on if lands are removed from agricultural or grazing use for the extent of the mine and recovery production.

The proposed mineral processing facility and tailings disposal cell would be located on the Juan Tafoya lease within the previously licensed footprint. Mining operations will, to the extent practical, selectively handle and sort the mined material returning the waste product to the mine as backfill for mined out areas. This is beneficial for mine safety as roof support in the mine and will also serve to minimize the amount of mine waste brough to the surface.

4.4 Permitting

4.4.1 Required Permits for Exploration

By way of Neutron Energy's work on the Juan Tafoya lease, the Company holds a Subpart 4 Exploration Operation Permit (MK023ER-R4) issued by the State of New Mexico's Energy, Minerals, and Natural Resources Department to conduct exploratory drilling on the Juan Tafoya property. The terms of the permit allow for drilling of 44 holes to depths of up to 2,500 feet. The Company has not yet undertaken any activities under the permit.

4.4.2 Required Permits for Development

A right to mine permit is necessary, obtainable from the State of New Mexico Mining and Minerals Division of the Energy, Minerals and Natural Resources Department. A source materials license for the production and handling of radioactive materials is required from the U.S. Nuclear Regulatory Commission (NRC) if beneficiation, heap leaching, in-situ recovery, or milling occurs on site. This may also include mine material screening and sorting. If the mined material is transported off-site for mineral processing amendments to the existing facility source materials license may be required but a new source materials license would not.

Effective March 2016 the Energy, Minerals & Natural Resources Department Mining and Minerals Division issued "Guidance of Meeting Radiation Criteria Levels and Reclamation at New Uranium Mining Operations", Title 19, Chapter 10, Part 3 and Part 6, New Mexico Administrative Code. These regulations reinforce the US NRC requirements for uranium mill tailings decommissioning and reclamation requirements and add new requirements for reclamation of uranium mine waste. Key requirements of the new regulations include:

"The goal of mitigating mine site radiation levels will be to reclaim all new mining disturbance to background radiation levels, while taking into account pre-mining conditions. This will require removing or burying and covering materials that have higher than background levels of radionuclides with a sufficient thickness of clean cover material, such that the radioactivity is suppressed. The type and quality of borrow material chosen for this will be a critical component of successful reclamation. The thickness of the material chosen will also be a critical component. Because of the long half-life of radioactive materials that may be found at the site, reclamation must take into account Best Management Practices to address erosion and stability. Cover material must be of sufficient thickness and texture to remain in place, and not allow for the re-exposure of buried TENORM material." (NMED 2016)

Additional permits would include:

- Exploration and well drilling (agency jurisdiction dependent on the land status)
- Discharge and Storm Water Permits (New Mexico Environmental Department, NMED)
- Archaeological Clearance (State of New Mexico Historical Preservation Office, and other agencies depending on land status)
- Endangered Species (NMED and other agencies depending on land status)
- Air Quality Permits (NMED)
- Mine Dewatering Permit and Water Appropriations (State of New Mexico Engineer's Office)
- Other permits relative to land use, solid waste, rights-of-way, etc. depending upon the specific development plans.

4.5 Environmental Liabilities

Although the Marquez-Juan Tafoya project included a partially developed uranium mine and mill facility constructed in the late 1970s and early 1980s, there was never any uranium production from either the mine or mill. As such, there are no known reclamation obligations related to historical activities, and no liabilities that belong to enCore. In that regard, the Company has not assumed any responsibility for reclamation of disturbances other than those generated by enCore.

4.6 State and Local Taxes

In the State of New Mexico, three types of taxes are imposed on the value of produced minerals, including *Conservation*, *Mineral Severance*, and *Resources Excise* taxes. The taxes are as follows:

Conservation Tax

Uranium production in New Mexico is subject to a Conservation Tax. The taxable value of uranium is 25% of the difference between the taxable value defined under Section 7-25-3 NMSA 1978 and royalties paid or due any Indian tribe, Indian pueblo, or Indian that is a ward of the United States. The tax rate is 0.19% of the taxable value of the product sold.

(source: www.tax.newmexico.gov/2020/10/23/conservation-tax/).

Mineral Severance Tax

Uranium production in New Mexico is subject to a Mineral Severance Tax which is currently taxed at 3.5% of 50% of the taxable value of U_3O_8 produced. Currently the effective severance tax rate on uranium is 1.75% (Peach, *et al*., 2008).

Resources Excise Tax

The Resources Excise Tax was imposed in 1966 at a rate of 0.75% of the reasonable value of the severed or processed resource. There have been no significant changes since that time (Peach *et al*., 2008).

4.7 Encumbrances and Risks

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

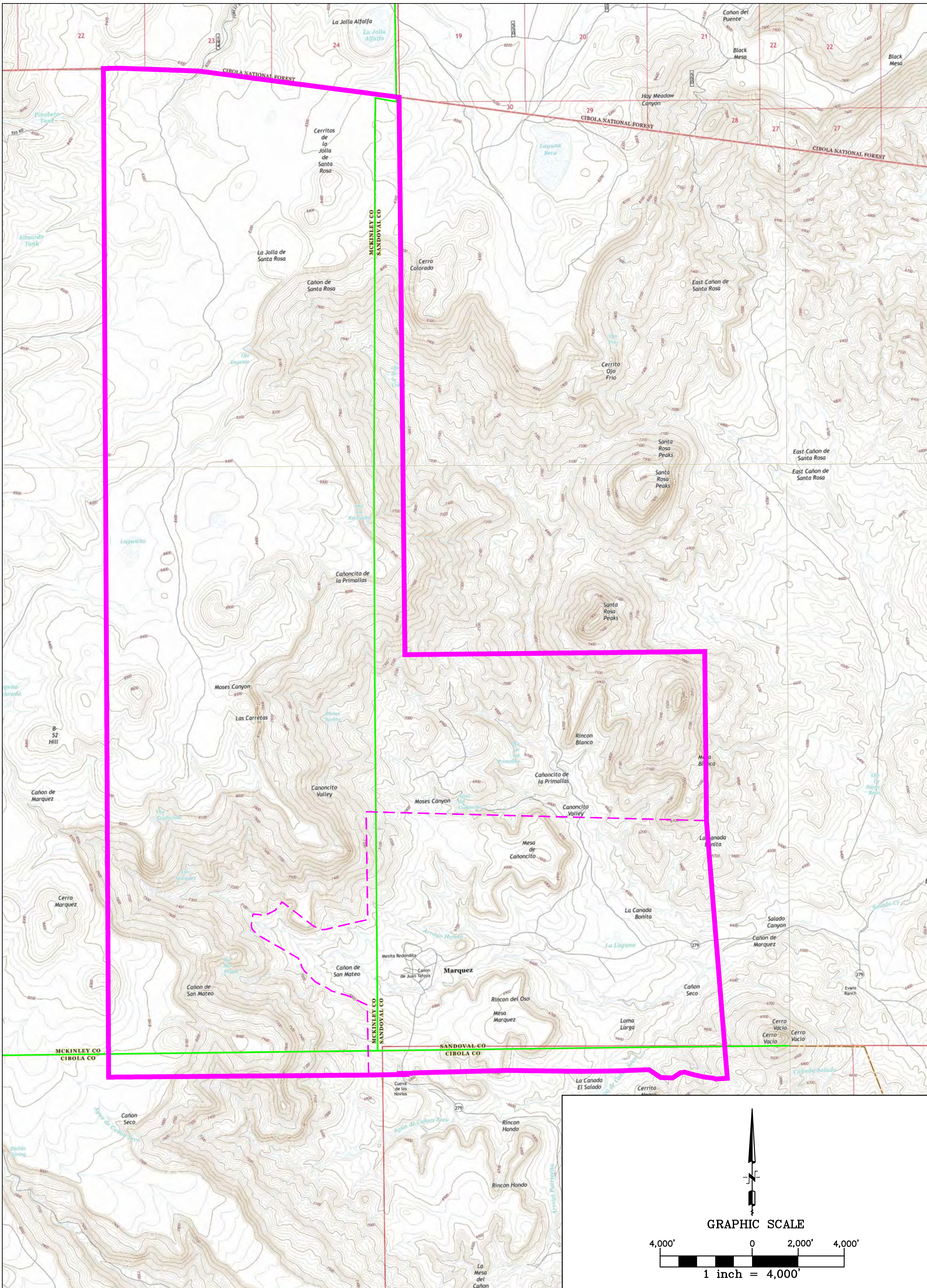
- Future commodity demand and pricing,
- Environmental and political acceptance of the project,
- Variance in capital and operating costs, and
- Risks associated with mineral resource estimates, including the risk of errors in assumptions or methodologies,
- Mine and mineral processing recovery and dilution, and
- Mineral leases are subject to renewal.

The project was granted both a Source Materials License from the US Nuclear Regulatory Commission and a mining permit from the State of New Mexico circa 1980. Thus, a variety of environmental baseline studies were completed and can be verified by current studies. However, environmental regulations have changed since the permits and licenses were issued in circa 1980 and recent public perception of uranium mining in the region has been negative despite local support. Specifically, the Project should anticipate, based on the experience of other proposed mines in the Grants Uranium District, some level of public opposition given its geographical location.

4.8 Social and Community Relations

Past owners within the last decade completed a variety of environmental studies per the National Environmental Policy Act (NEPA) and engaged the lease holders and local communities and there is local support of the project (Carter, 2014).

The Fraser Institute Annual Survey of Mining Companies, 2020 ranks New Mexico as 10th out of 80 jurisdictions on their Policy Perception Index, which indicates a favorable perception by the mining industry towards New Mexico mining policies. On the Fraser survey the states of Idaho, Wyoming, Nevada, Utah, and Arizona rank higher than New Mexico (Fraser, 2020).



LEGEND

COUNTY LINE

OVERALL PROPERTY BOUNDARY

INTERNAL PROPERTY LINE

ENCORE ENERGY – MARQUEZ & JUAN TAFOYA
43-101 TECHNICAL REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO

DRAWING NAME:			
OWNERSHIP MAP			
DRAWN BY: CDS	REVISION NO.	DATE	BY
DATE DRAWN: 5/03/2021			
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DATE LAST PLOT:			
CAD FILE: ENCORE/BRSCAD/FIGURES/OWNERSHIP MAP.DWG			

DRAWING NUMBER:

FIGURE 4.1

5.0 Accessibility, Climate, Local Resources, Infrastructure, and Physiography

5.1 Access

The Property can be accessed from Interstate 40 at the town of Laguna. From Interstate 40 take Exit #114, approximately 45 miles west of Albuquerque, and 25 miles east of Grants, and go north 12 miles on State Highway 279 to the village of Seboyeta. In Seboyeta, turn right at the southern edge of town, continue on State Highway 279 east and northerly for 17 miles to the village of Marquez. From there the main area of the Project (common property boundary) is about two miles west of the village.

5.2 Topography, Elevation, and Vegetation

The Project area is typical of the mesa and canyon topography of northwest New Mexico. The west side of the Project is dominated by Cañon de Marquez, one of several northwest-southeast trending canyons that have deeply incised the eastern flank of the Mount Taylor volcanic peak. Elevations range from 6,500 feet in the lowlands near the village of Marquez, to over 8,200 feet to the west atop the mesas.

Vegetation is subdivided into three sub-zones, based mostly on elevation: fir-aspen, piñon-juniper trees, and pine-oak-grasslands. Riparian flora of alder and maple populates the sparse stream bottoms. Fauna in the area includes important big game species of mule deer, elk, black bear, wild turkeys, doves/pigeons, and rabbits. Non-game species include rodents, lizards, and birds.

5.3 Climate

The Property climate is semi-arid to arid and receives annual precipitation of 7-12 inches with most precipitation falling in the form of spring rains and late autumnal to early spring snows. The summer months are usually hot, dry, and clear except for infrequent, monsoonal rains. Because of the dry climate, all streams in the area are intermittent to low flow, fed by storm runoff and the occasional groundwater seep. Temperatures range from approximately 50 to 80˚F in the summer season, and 10 to 40˚F in the winter season.

5.4 Property Infrastructure

Surface facilities constructed by Bokum Resources have been dismantled. Primary infrastructure included access roads, power, and water supply remain as discussed in Section 18. Two shafts (production, ventilation) were sunk by Bokum on the Juan Tafoya lease. Both shafts remain on site, covered by concrete slabs. Bokum also partially constructed a mill processing facility and associated tailings disposal cells. The mill facility and disposal cells were dismantled and reclaimed in the early 2000s. The only other remaining mining related infrastructure onsite are two water tanks, associated with the mill site.

5.5 Land Use

The project is located on Spanish land grants. Historically and currently, the land is used for livestock grazing and limited crop development. Within the project area and vicinity natural resource exploration and development has occurred.

5.6 Surface Rights and Local Resources

Surface rights vary depending on the leased property. The surface of the Marquez Property, controlled by the Williams Mineral Lease, is owned, and controlled by the State of New Mexico's Department of Fish and Game. At the main Juan Tafoya lease (JTLC), and the other 25 smaller leases, the surfaces are owned and controlled by the individual lease holders.

The project area has sufficient surface resources to support underground mining and mill processing facilities, and mine waste and mill tailings disposal cells. There are adequate supplies of water, electricity, and fuel in the area. Two high voltage transmission lines are present 2 to 6 miles south of the Property, and an electric line was constructed to the sites of the former Bokum mill and shaft locations. Three water wells are on the JTLC property, with approximately 1,850 acre-feet of industrial water rights available (Carter, 2014).

Although there are no sources of goods and services in the immediate vicinity of the project, there are adequate supplies of equipment, services, and work force at the city of Grants, 30 miles to the southwest, and at Albuquerque, 50 miles southeast of the project.

6.0 History

6.1 History of the Marquez Property

Kerr McGee Corporation entered into a mineral lease agreement with the Williams family for the Marquez Property in the early 1970s. In 1973 exploration drilling began. In 1978, Kerr McGee sold a 50% interest in the project to the Tennessee Valley Authority (TVA). At that time, the joint venture proposed mining the uranium deposit by conventional underground methods, with recovery at Kerr McGee's Ambrosia Lake mill facility. However, with the decrease in the uranium market price beginning in 1980, the project was eventually terminated and the property was returned to the mineral lease holder.

In 2007, Strathmore Minerals Corporation acquired a mineral lease to the Marquez property. Strathmore was subsequently acquired by Energy Fuels who sold the Marquez property to enCore in January 2016.

6.2 History of the Juan Tafoya Property

In 1969, mineral leases were acquired in the Juan Tafoya area by Devilliers Nuclear who then began exploratory drilling. In the early 1970s Exxon acquired the rights to 25 small mineral leases, all within the boundary of the JTLC lease, and began exploratory drilling. In 1975, the JTLC lease was acquired from Devilliers by Bokum Resources Corporation, which subsequently acquired the Exxon mineral leases also. In 1976, Bokum entered into a uranium purchase agreement with Long Island Lighting Company, a New York-based utility.

At the main deposit, a 14-foot diameter shaft was sunk (construction ceased approximately 200 feet above the planned mine level), a 5-foot diameter ventilation shaft was sunk, and a mill processing facility and associated tailings disposal cells were constructed. However, with the decrease in the uranium market, eventually the surface facilities were dismantled without operating and the leases were returned to the mineral owners in the late 1980s.

In 2006-07, Neutron Energy acquired the mineral leases. In 2012, Neutron was acquired by Uranium Resources Inc (now Westwater Resources Inc. (Westwater)) and in September 2020, enCore Energy announced the purchase of Westwater's US uranium assets, including the mineral leases to the Juan Tafoya properties. The purchase was completed on December 31, 2020. enCore has yet to explore on the property.

6.3 Previous Mineral Resource Estimates

Historical mineral resource estimates for the Marquez and Juan Tafoya uranium deposits are available from several sources. These estimates were prepared by Kerr McGee in 1977 and Strathmore in 2010 for the Marquez portion of the project, and Bokum in 1979 and Westwater (Carter 2014) for Juan Tafoya. The 2010 historical mineral resource estimate for Marquez and the 2014 mineral resource estimate for Juan Tafoya are discussed on enCore's web site.

(https://www.enCoreenergycorp.com/projects/juan-tafoya-marquez/).

Although at the time of issuance these reports were completed under 43-101 guidance, under "Rules and Policies" of NI 43-101 Standards of Disclosure the mineral resource estimates must be reported as Historical Mineral Resource Estimates. A qualified person has not done sufficient work for enCore to classify the historical estimates as current mineral resource estimates. The Company does not treat these historical estimates as current mineral resource estimates, and the estimates should not be relied upon. The current mineral resource estimate for the Project is described in Section 14 of this Report.

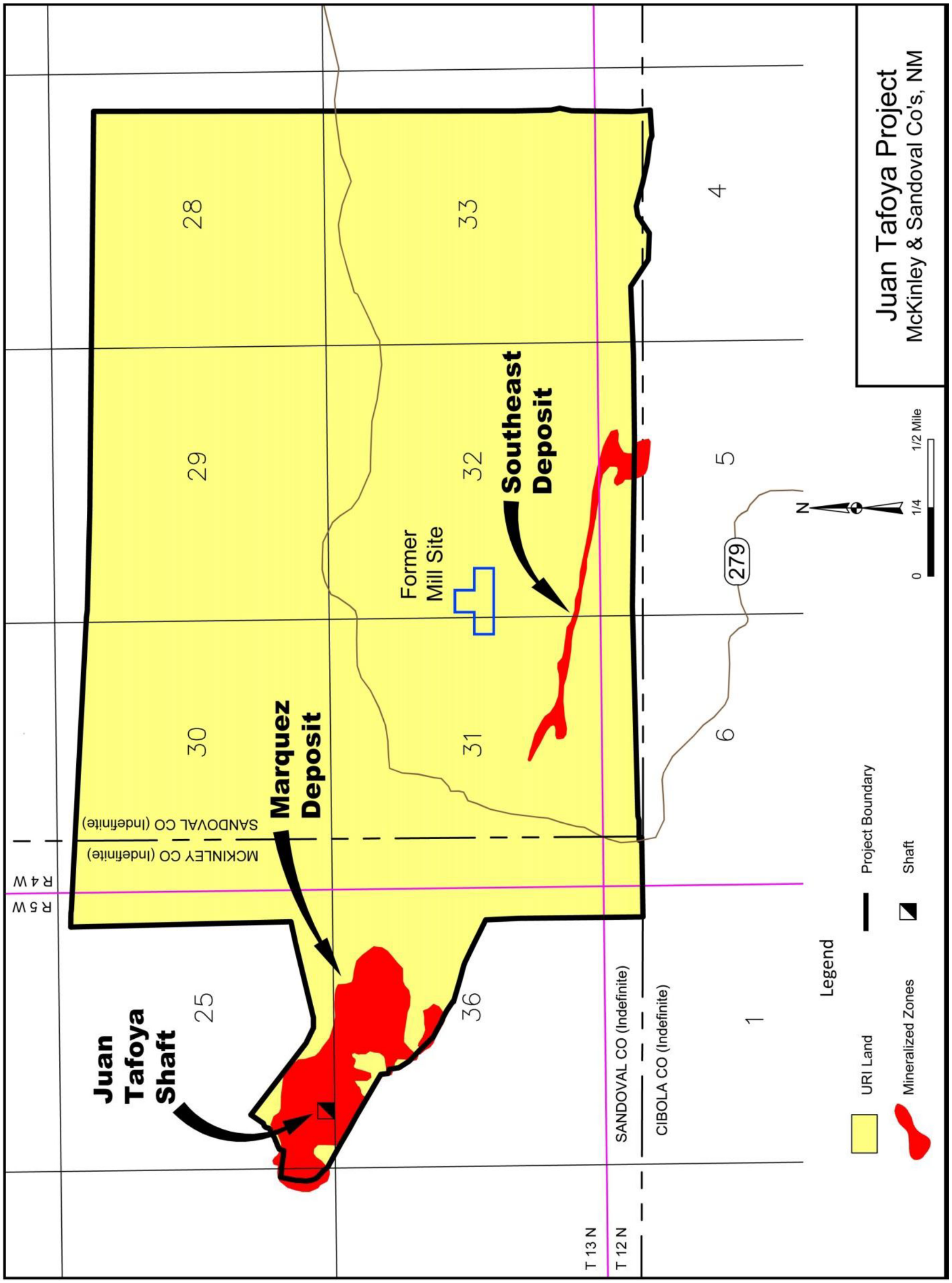
Within the Juan Tafoya mineral lease there is an additional area of mineralization defined by past drilling. This area is referred to as the Southeast Deposit (Carter, 2014). This area was not evaluated as part of the PEA as it is approximately 1 mile from the Marquez and Juan Tafoya mineralization and would require separate infrastructure, including a mine shaft, if the mineralization were exploited via conventional underground mining. (Refer to Figure 6.1). Carter, 2014 estimated an inferred mineral resource of 687,500 tons containing 1,900,000 pounds of uranium at an average grade of 0.138 %eU_3O_8, at a cutoff of 0.08 %eU_3O_8 for the Southeast Deposit.

enCore considers these mineral resource estimates as historical estimates. A qualified person has not done sufficient work for enCore to classify the historical estimates as current mineral resource estimates. The Company does not treat these historical estimate as current mineral resource estimates, and the estimates should not be relied upon.

6.4 Past Production

There has been no mineral production from either the Marquez or Juan Tafoya property.

Figure 6.1 Southeast Deposit Location



From Carter, 2014

7.0 Geological Setting and Mineralization

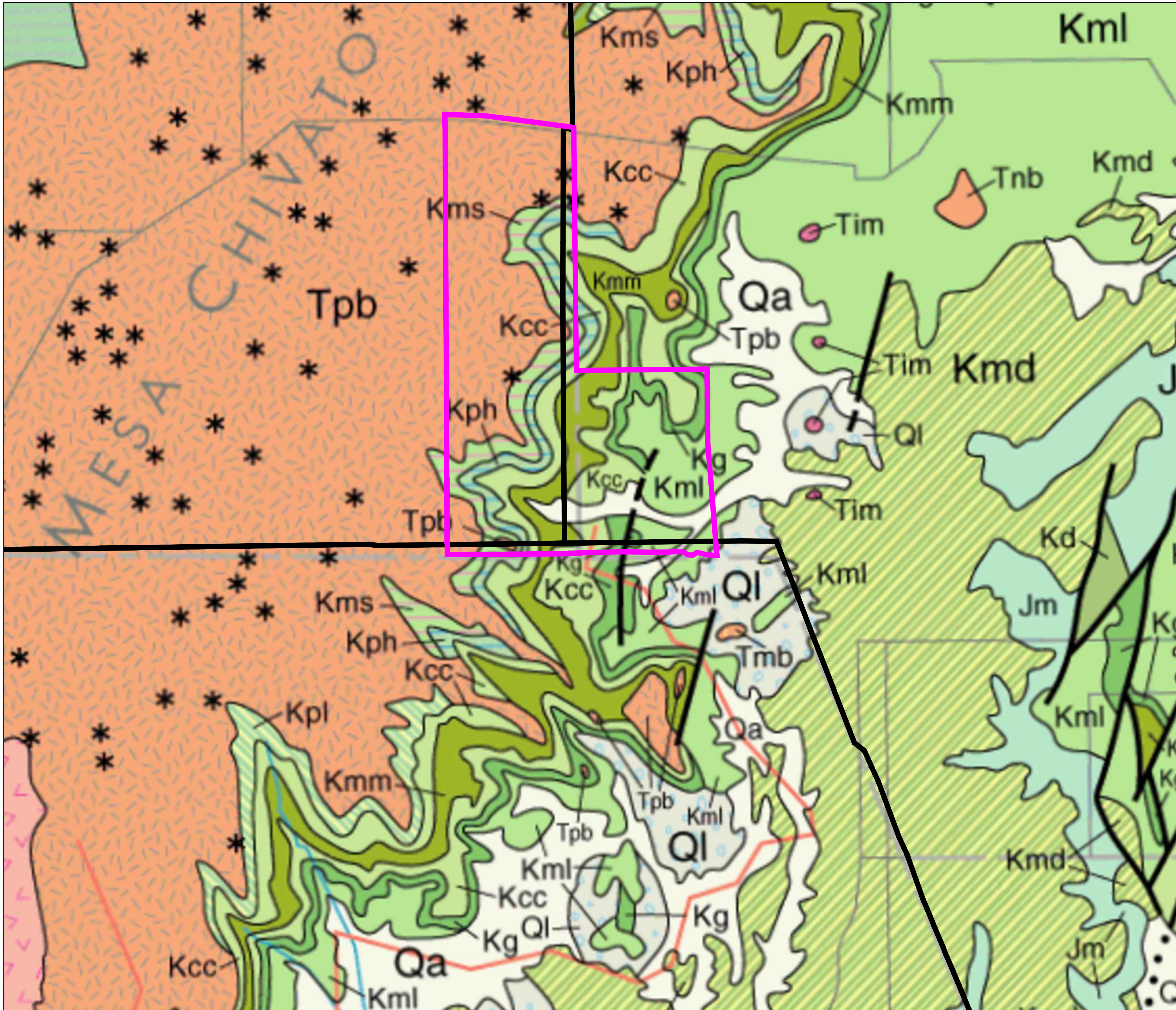
7.1 Regional Geological Setting

The Project is located in the Grants Mineral Belt, on the Chaco Slope, which forms the southern flank of the San Juan Basin of northwestern New Mexico. The mineral belt extends for several miles from east of the town of Laguna westerly to the Gallup area, a length of over 100 miles, and is about 25 miles wide. The region includes the Laguna (includes Marquez-Juan Tafoya), Ambrosia Lake, Crownpoint, and Church Rock uranium districts. The Property is located in the eastern part of the mineral belt, on strike with the main mining district of Ambrosia Lake about 25 miles to the west (Figure 7-1).

The Late Jurassic Morrison Formation members, including the Westwater Canyon, make up a major alluvial fan/plain system formed of continental, fluviatile deposits by mostly aggrading braided stream channels flowing in an easterly direction from their highland sources south of Gallup. These deposits consist mostly of a sequence of interbedded sandstone, claystone, or mudstone with minor limestone and conglomerate (Livingston, 1980; Turner-Peterson, 1986; Sandford, 1992).

Regionally the Morrison Formation consists of three members which, in ascending order, are the Recapture, Westwater, and Brushy Basin (See Figure 7-1). A fourth member, the overlying Jackpile sandstone, is present at the site but does not occur at all areas across the Grants mineral belt. The lower two members start as conglomerates along the southwestern edges of the Grants area, and, gradually, change to sandstones and eventually mudstones in the recognizable areas to the north in the San Juan Basin. The Brushy Basin is largely a lenticular body of bentonitic claystone with minor sandstone and limestone.

The Morrison Formation member of economic importance in most of the Grants Mineral Belt, including the Marquez-Juan Tafoya area, is the Westwater Canyon sandstone. The Westwater Canyon is 50 to 300 feet thick in the Grants Mineral Belt. Generally, the larger mineral deposits such as Marquez-Juan Tafoya tend to occur in the thicker sand units.



LEGEND

COUNTY LINE

OVERALL PROPERTY BOUNDARY

Qa — Alluvium (Holocene to upper Pleistocene)

Ql — Landslide deposits and colluvium (Holocene to Pleistocene)—Landslide deposits on western flanks of Socorro Mountains not shown for clarity

Tpb — Basaltic to andesitic lava flows (Pliocene)—Includes minor vent deposits and small shield volcanoes. Flows are commonly interbedded in the Santa Fe and Gila Groups

Tim — Tertiary mafic intrusive rocks (Pliocene to upper Eocene)—Includes many long basaltic andesite dikes of Oligocene age near Pie Town, Acoma, Riley, Chupadera, Truth or Consequences, Roswell, Raton, and Dulce; and several elongate or shoestring-like sills of basalt or basaltic andesite. Also includes basaltic necks of Pliocene age that dot the landscape northeast of Mount Taylor. Where dikes extend into Quaternary alluvium the contact is an unconformity

Kph — **Hosta Tongue of Point Lookout Sandstone** (Santonian)—Transgressive marine sandstone

Kms — **Satan Tongue of Mancos Shale** (Santonian)

Kcc — **Crevasse Canyon Formation** (Santonian to Coniacian)—Coal-bearing units are Dilco and Gibson Coal Members; other members are Bartlett Barren, Dalton Sandstone, and Borrego Pass Sandstone (or Lentil)

Kml — **Mancos Shale, lower part** (Turonian and Cenomanian)

Kg — **Gallup Sandstone** (Turonian)—Generally regressive marine sandstone

Kmd — **Intertongued Mancos Shale and Dakota Sandstone of west-central New Mexico** (Cenomanian)—Includes the Whitewater Arroyo Tongue of Mancos Shale and the Twowells Tongue of the Dakota

Jm — **Morrison Formation**—Upper Jurassic nonmarine rocks

N

GRAPHIC SCALE

10,000' 0 5,000' 10,000'

1 inch = 10,000 feet

ENCORE ENERGY – MARQUEZ & JUAN TAFOYA
43-101 TECHNICAL REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO

DRAWING NAME:	GEOLOGY MAP				
DRAWN BY: CDS	REVISION NO.	DATE	BY		
DATE DRAWN: 3/15/2021					
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DATE LAST PLOT:				FIGURE 7.1	
CAD FILE: ENCORE/RRSCAD/FIGURES/GEOLOGY MAP.DWG					

7.2 Local Geology and Property Geology

7.2.1 Structure

The geologic structure in the Project area is related to the Acoma Sag and Puerco fault system, both generally located south and southwest of the property (Kelley, 1960). Folding related to the Acoma Sag and movement along the Puerco fault system resulted in generally north-trending joints and fault sets. One such fault dropped a portion of the Marquez deposit 90 feet relative to the remainder of the deposit to the east. Generally, the host formation is flat lying dipping westward at 1-3˚.

7.2.2 Stratigraphy

The surficial geology of the Project area is dominated by continental and marine sediments of Upper Cretaceous age, including (in ascending order) the Gallup Sandstone, Dilco Coal member of the Crevasse Canyon Formation, the Dalton Sandstone and Mulatto Tongue members of the Mancos Shale, the Gibson Coal member of the Crevasse Canyon Formation, and the Point Lookout Sandstone (Dillinger, 1990). The floor of the Cañon de Marquez, the primary topographic feature that covers much of the project area, is comprised of the Mancos Shale and Gallup Sandstone. Exposures of the Crevasse Canyon and Point Lookout sandstones are limited to the canyon walls and mesas, where they form steep cliffs and prominent mesas. At depth below the Mancos Shale are the Dakota Sandstone, and the Jackpile, Brushy Basin, Westwater Canyon, and Recapture members of the Morrison Formation (Livingston, 1980; Turner-Peterson, 1986).

Figure 7.2 is a typical geophysical log (Hole MAR-382C) for the project showing the local stratigraphic section and host formation. The hole was collared in the Cretaceous Mancos Shale Formation and terminated in the Recapture Member of the Morrison Formation. The host of uranium mineralization locally is Westwater Canyon Member of the Morrison Formation. A brief description of the local stratigraphy follows:

- Mancos Shale (Cretaceous). Mostly dark gray, fissile shale containing minor thin beds of light brown sandstone.
- Dakota Sandstone (Cretaceous). Pale brown to light gray, well cemented sandstone in lenticular beds interbedded with minor amounts of dark gray shale; lower part is coarse grained, and commonly has quartz pebble conglomerate at the base. The Dakota sandstone lies in unconformable contact with the underlying Morrison Formation.

- Morrison Formation (Jurassic)
    - Jackpile Sandstone Member. A fine- to medium-grained, white to light gray, kaolinitic, feldspathic sandstone. Obtains a maximum of 107 feet thick at the Project area.
    - Brushy Basin Member. Pale, greenish gray claystone to fine-grained sandy claystone. Locally inter-tongues with the underlying Westwater Canyon member. The Brushy Basin is approximately 140 thick at the Project area.
    - Westwater Canyon Member. Composed of mostly pale yellow to reddish gray, fine to medium-grained cross bedded arkosic-rich sandstones and interbedded shale. A pervasive shale layer (informally termed the K shale) separates the upper sands from the lower sands. The uranium mineralization is confined to the sand layers, which are informally subdivided at the Property into four sandstone units: A, B, C, and D (in descending order). Individual sand units are on the order of tens of feet thick. Overall, the member varies from 239 to 328 feet thick in the Project area.
    - Recapture Member. A green to greenish gray, and maroon to brown, interbedded mudstone, claystone, siltstone, and sandstone. The Recapture is approximately 100 feet thick in the Project area.

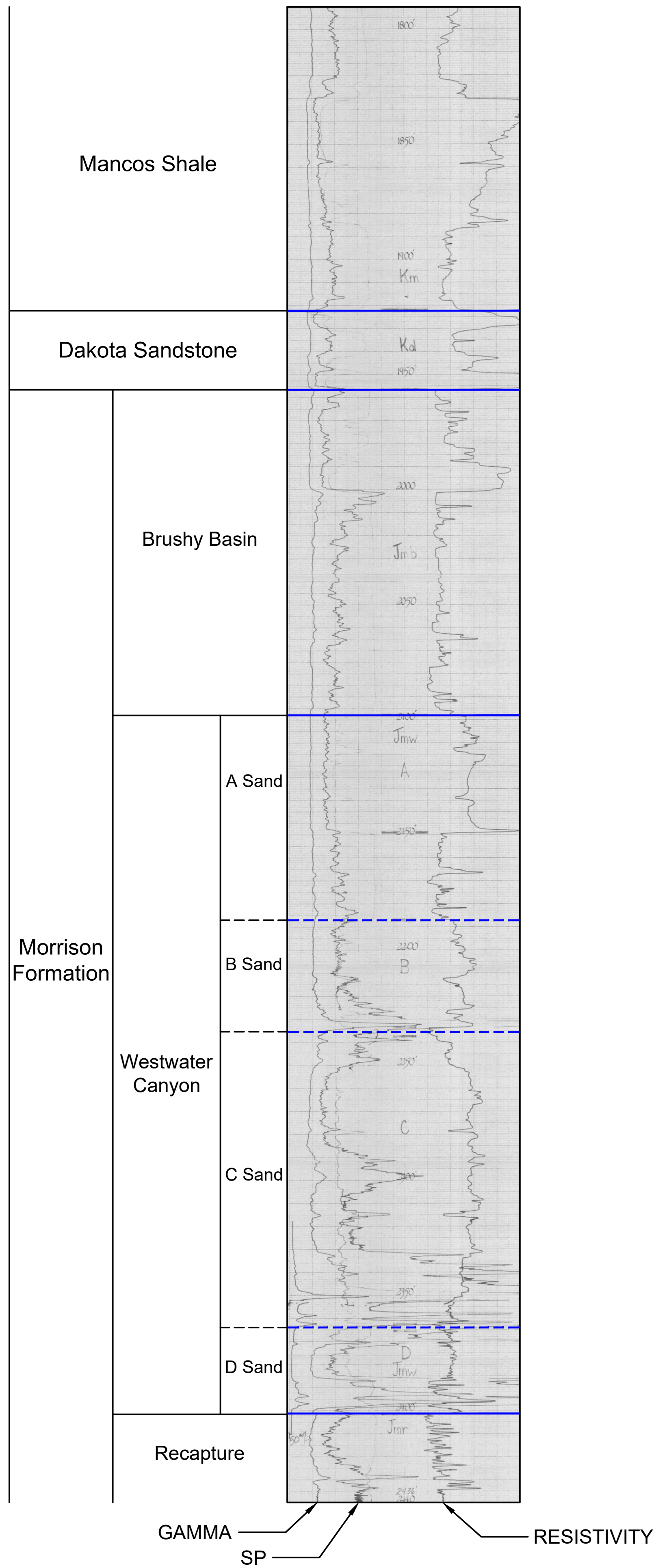

FIGURE 7.2 TYPE LOG OF DRILL HOLE MAR-382C

8.0 Deposit Types

8.1 Mineralization in the Grants Mineral Belt

Uranium mineralization in the Grants Mineral Belt of New Mexico is sandstone-hosted as defined in the "World Distribution of Uranium Deposits (UDEPO) with Uranium Deposit Classification", (IAEA, 2009). Regionally mineralization is termed primary or re-distributed based on the character and morphology of the mineralization. Re-distributed mineralization is typically roll front type. Primary deposits are typically tabular and range in size from small pods a few feet in width and length to bodies several tens of feet thick, several hundred feet wide and several thousand feet long. The deposits tend to occur in clusters and many form distinct trends that are parallel to the sedimentary trend (Fitch, 1980; Turner-Peterson, 1986; Sandford, 1992).

Uranium occurs mostly as coffinite and uraninite in tabular primary mineralization, and mostly as uraninite in C-shaped or roll fronts in the redistributed mineralization. Primary mineralization is generally associated with finely disseminated carbon and indistinct organic matter, known as humates. Humates are presumed to have formed from the breakdown and dissolving of vegetal matter and redeposition in the mineralized zones. The redistributed mineralization is typically primary mineralization that has been redissolved and moved farther down dip and redeposited in the form of C-shaped roll fronts. Mineralization occurs in stream channel bottoms and margins in straight channels and feeder channels, meanders, and overflow areas. Pyrite and jordisite (black, soft molybdenum mineral, MoS_2) are frequently associated minerals in the arkosic sandstone host rock. The mineralization is found as coating on the sand grains and as filling in the interstices between grains. The interstices are also filled with very-fine kaolin and calcium carbonate. The humates and jordisite, when present, give the mineralized rocks their dark gray to black color.

8.2 Uranium Mineralization at the Project

The mineralized host within the project is primarily hosted in the lower two sand units, Sands C and D, of the Westwater Canyon member of the Jurassic Morrison Formation. Lessor mineralization is present in Sand B but was not well enough defined for inclusion in the current mineral resource estimate. The mineralization occurs mostly as tabular primary deposits (Livingston, 1980) with lesser amounts as roll fronts. Much of the mineralization is associated with disseminated carbon matter (humates), especially the tabular type of mineralization.

9.0 Exploration

enCore Energy has not performed any exploration activities or drilling on the Marquez-Juan Tafoya property; all the data used to define the mineralization is historical in nature (refer Sections 6 and 10).

Historically exploration activities included ground and aerial radiometric reconnaissance survey and geological mapping programs. Mineralization at the project is at depth and was discovered by drilling subsequent to the area being defined as prospective by the previous owners.

10.0 Drilling

enCore Energy has not carried out any drilling at the Project. The following discussion describes the details of the pre-1990 drilling programs.

10.1 Drilling Methods and Data

Most of the exploratory and development drilling on the project was conducted by either Kerr McGee or Bokum Resources. When the drilling programs were being conducted the property, ownership was split between these former operators. Records indicate that on the Marquez property Kerr McGee drilled at least 358 holes for 865,940 feet. On the Juan Tafoya property Bokum (with Devilliers and Exxon) drilled at least 568 holes for 1,023,200 feet.

For this report, 604 drill holes were completed in the area of interest. These drill hole locations are shown on Figure 10.1, Drill Hole Map. From the total 604 drill holes, 192 and 337 mineralized incepts were used for the mineral resource estimates, for the “C” and “D” sands, respectively.

All of the drill holes were vertical and were completed by truck-mounted rotary drill rigs. Upon completion the holes were logged with a geophysical tool that recorded spontaneous potential, resistivity, and natural gamma. The holes were also logged to determine the extent and direction of drift which is the variance for vertical affecting the special location of mineralization relative to the collar location of the drill hole. Mineral resource estimates herein used the spatial location of the mineralized zones at depth based on the downhole drift surveys.

Figures 10.2 and 10.3 show representative cross sections of the mineralization along and across the mineralized trend.


A
A'
B
B'
LEGEND
COUNTY LINE
EXISTING ROADS
C SAND 0.1 GT BOUNDARY
D SAND 0.1 GT BOUNDARY
CROSS SECTION ALIGNMENTS
SEE FIGURES 10.2 &10.3
MINERALIZED DRILL HOLE
BARREN DRILL HOLE
MAR-405-B
MAR-203-B
MINE SHAFT LOCATION
GRAPHIC SCALE
400' 0 200' 400'
1 inch = 400'
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43-101 TECHNICAL REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO
DRAWING NAME:
DRILL HOLE MAP
DRAWN BY: CDS
DATE DRAWN: 4/29/2021
CHECKED BY:
DATE LAST PLOT:
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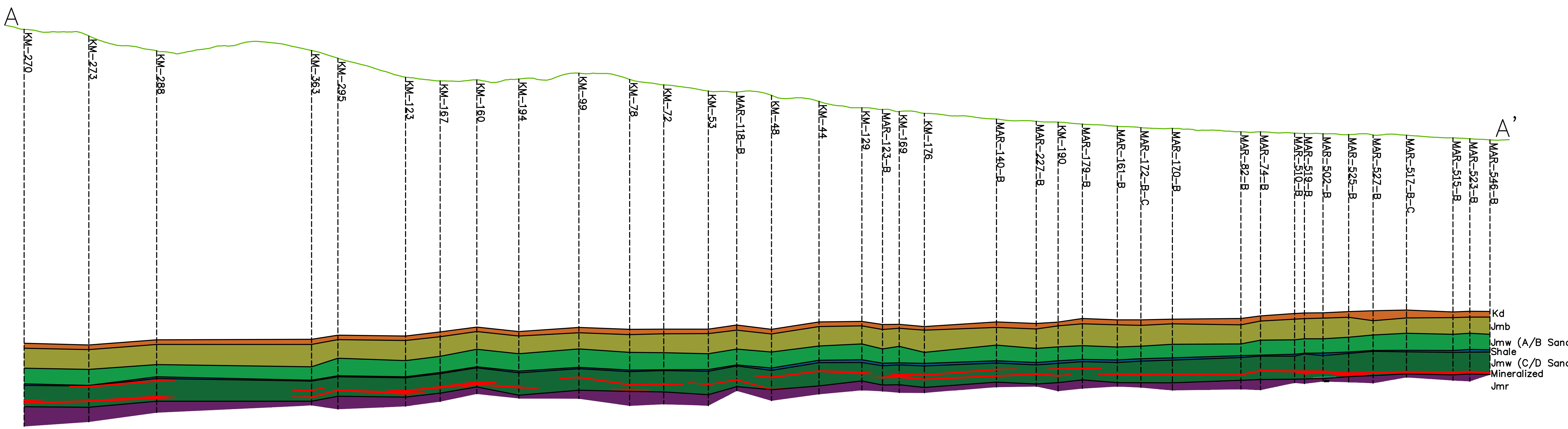

GRAPHIC SCALE

800' 0 400' 800'

1 inch = 800 feet

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43-101 REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO

DRAWING NAME: CROSS SECTION A-A'

DRAWN BY: JCS	REVISION NO.	DATE	BY	
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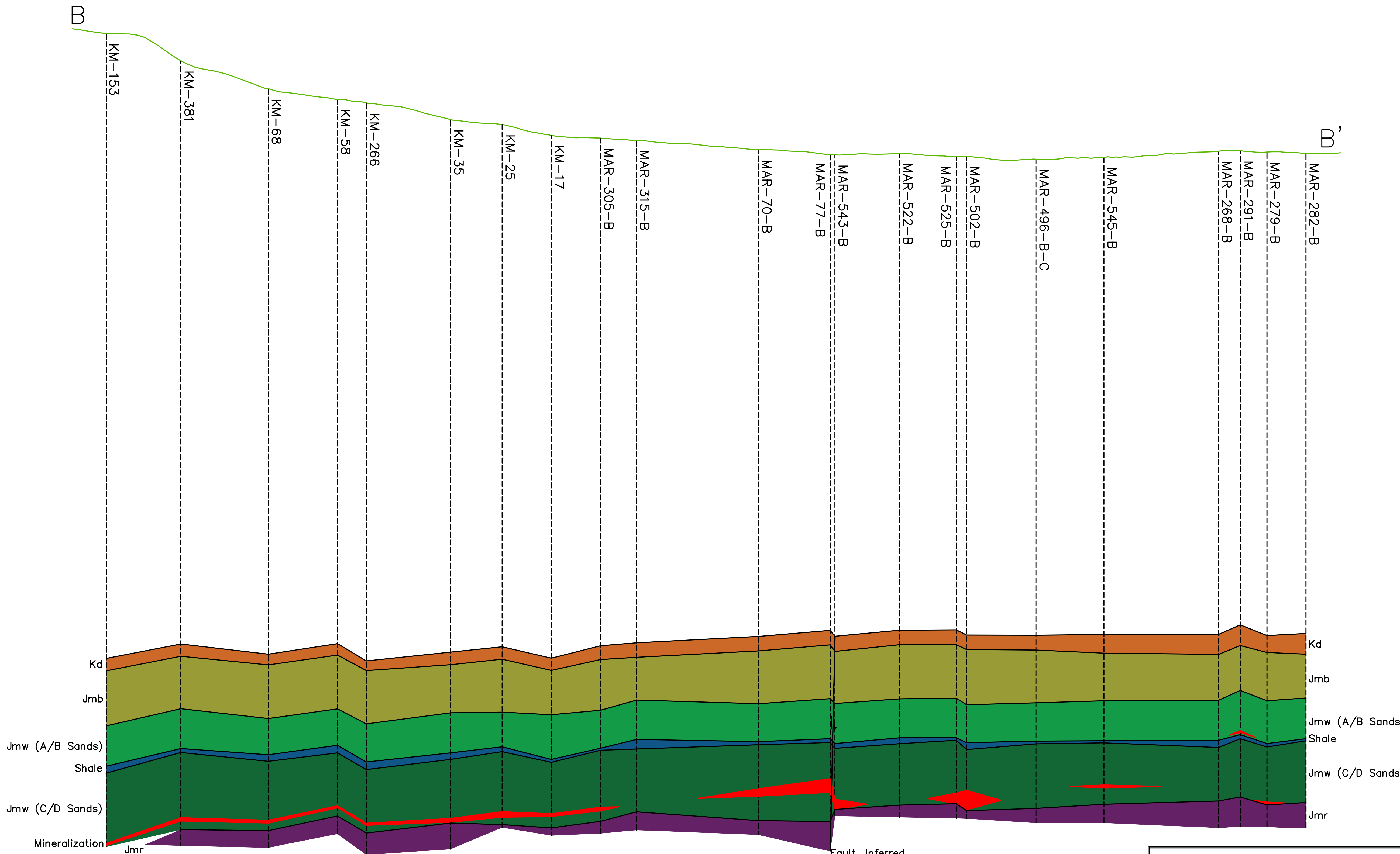

GRAPHIC SCALE

300' 0 150' 300'

1 inch = 300 feet

ENCORE ENERGY – MARQUEZ & JUAN TAFOYA 43-101 REPORT SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO				
DRAWING NAME: CROSS SECTION B-B'				
DRAWN BY: JCS	REVISION NO.	DATE	BY	
DATE DRAWN: 5/5/2021				
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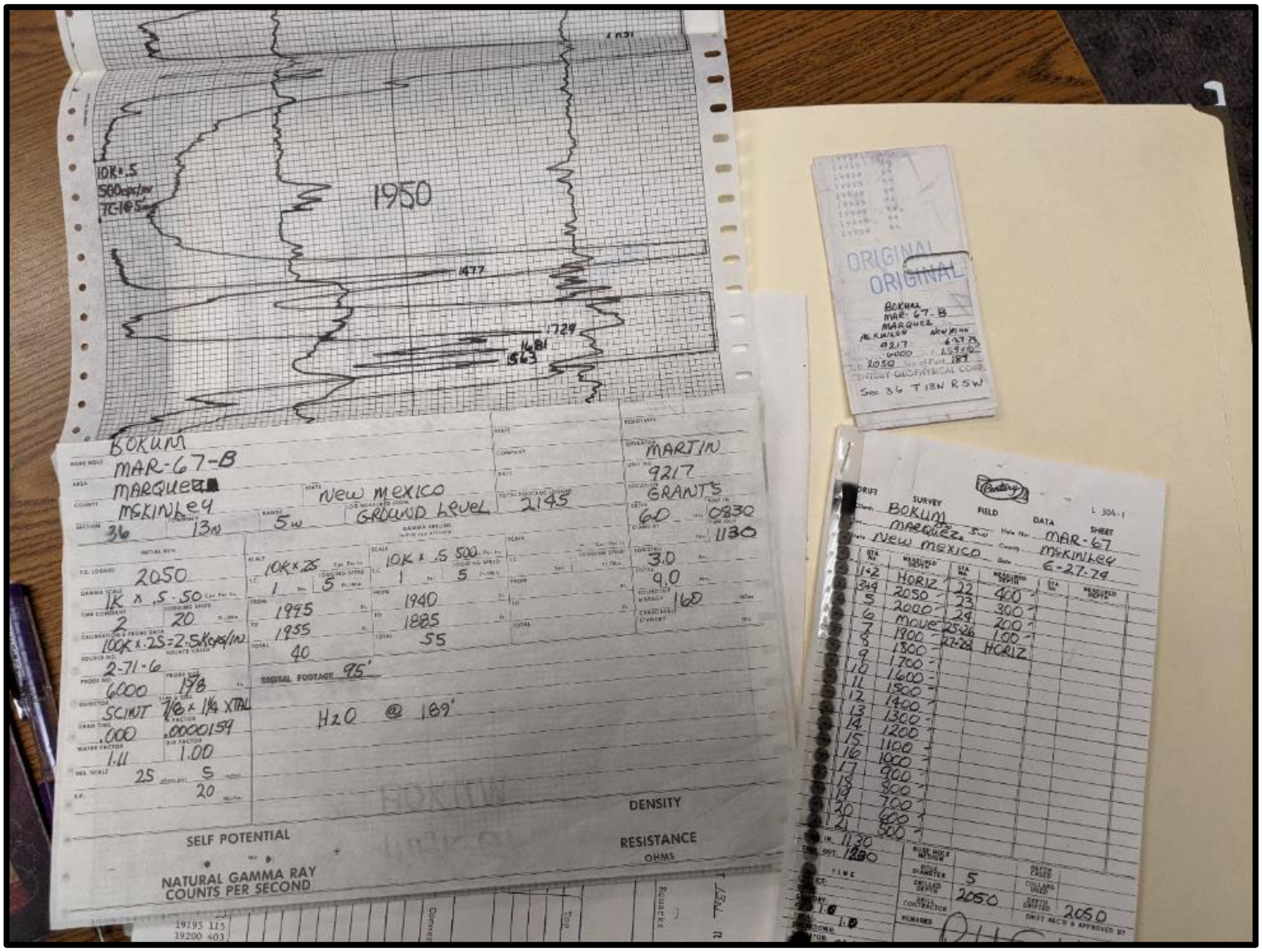
DATE LAST PLOT:				FIGURE 10.3
CAD FILE: ENCORE/BRSCAD/FIGURES/CROSS SECTION.DWG				

11.0 Sample Preparation, Analyses, and Security

The principal tool for determining uranium grades encountered by exploration and development drill holes is the gamma-ray log, a geophysical surveying technique that was, and remains the standard in-place assaying method utilized by the global uranium industry. Equivalent uranium grades (% eU_3O_8), which are radiometric assays, were and are calculated from gamma ray logs using grade determination methodologies that are standard in the uranium mining industry. Additional data include limited chemical assays of cored intervals of the uranium mineralization.

11.1 Radiometric Equivalent Geophysical Log Calibration

DOE supports the development, standardization, and maintenance of calibration facilities for environmental radiation sensors. Radiation standards at the facilities are primarily used to calibrate portable surface gamma-ray survey meters and borehole logging instruments used for uranium and other mineral exploration and remedial action measurements. This is an important quality control measure used by the geophysical logging equipment operators. The author has reviewed the geophysical logs and they have annotation of the calibration parameters necessary for the accurate conversion of gamma measurements recorded by the logging units to radiometric equivalent uranium grade. enCore owns all the original drill data for both the Juan Tafoya and Marquez project areas. This information includes geophysical logs, digital readouts of counts per second by ½ foot intervals, lithological logs, and downhole drift surveys as pictured below.



The geophysical logs generally consist of recordings of natural gamma, self-potential, and resistivity. Self-potential and resistivity data are useful in defining bedding boundaries and for correlation of sandstone units and mineralized zones between drill holes.

Calibration facilities for natural gamma logging are located at DOE sites at Grand Junction Regional Airport in Grand Junction, Colorado; Grants, New Mexico; Casper, Wyoming; and George West, Texas (https://energy.gov/lm/services/calibration-facilities). These calibration facilities were first established by the US Atomic Energy commission (AEC) in the 1950's to support the domestic uranium exploration and development programs of that era. The header information for the geophysical logs provides the calibration data and date of calibration.

Calibration procedures and standards for the geophysical logging equipment used in the determination of radiometric equivalent uranium grade has been consistent through the various drilling campaigns and has relied on calibration facilities maintain by the US government. It is standard practice for geophysical logging companies to rely on these calibration facilities. These models consist of a barren zone bored in concrete and a mineralized zone constructed of a homogenous concentration of uranium at a known grade followed by and underlying barren zone. There are different grade models to reflect the range on uranium concentrations typically found in the US. In addition, the models can be flooded to determine a water factor and there are models which are cased for the determination of a casing factor. Each of the models are approximately 9 feet deep consisting a 3-foot mineralized zone with 3-foot barren zones above and below. The facilities are secure. Logging unit operators logs the holes, provide the geophysical log data in counts per second (cps) to the facility which in turn processes the data and provides the company with standard calibration values including dead time, K Factor, and water and casing factors (Century, 1975).

11.2 Drilling Analyses

Radiometric equivalent U3O8 content was calculated from gamma logs using industry-standard methods developed by the Atomic Energy Commission (now the DOE: Department of Energy), using either manual or computer methods.

The AEC has published information on the calibration standards for geophysical logging and on gamma log interpretation methods (Dodd and Droullard, 1967). The standard manual log interpretation method was the half-amplitude method (Century, 1975). The AEC and its successor agency the Energy Research and Development Administration (ERDA) conducted workshops on gamma-ray logging techniques and interpretation as did private companies including Century Geophysical. The author attended the geophysical log interpretation workshop conducted by Century Geophysical and on November 19, 1976 received certification in geophysical log interpretation from Century after completing their short course. The author has continued to use these techniques where appropriate along with modern scanning and digitizing methods for the preservation and interpretation of geophysical logs.

11.3 Security

The original drill data is currently in the possession of enCore. Drill cutting samples and core samples were generally not preserved. In addition to the physical logs enCore has scanned and digitized logs for most of the data.

11.4 Radiometric Equilibrium

Natural uranium is primarily composed of U238, with U235 comprising only about 0.71% of the total. While both uranium isotopes are subject to radioactive decay and produce a series of daughter products, the gamma logging tool indirectly measures only the concentration of total uranium (expressed as eU3O8) based on the intensity of gamma radiation produced by the decay of daughter products of U235, rather than U235 itself. When all the decay products are maintained in close association with the primary uranium mineralization for the order of about seven hundred thousand years or more, the daughter products will be in equilibrium with the parent U235.Disequilibrium occurs when one or more decay products are dispersed as a result of differences in solubility between uranium and its daughter products. This can be an issue in areas of near-surface recharge of oxidizing, groundwater fluids.

Disequilibrium is considered positive when there is a higher proportion of uranium present compared to daughters and negative where daughters are accumulated, and uranium is depleted. The disequilibrium factor (DEF) is determined by comparing the assayed chemical uranium grade to the radiometric equivalent uranium grade. Radiometric equilibrium is represented by a DEF of 1, positive radiometric equilibrium by a factor greater than 1, and negative radiometric equilibrium by a factor of less than 1.

Chemical data suggest the Marquez-Juan Tafoya mineralization is enriched in respect to the gamma data. An analysis of disequilibrium for the Juan Tafoya portion of the project was completed by Broad Oak Associates in 2014. The report states that comparison of chemical and radiometric assays show a strong general trend of individual samples, in all grade ranges, to have higher chemical assays than the corresponding radiometric assays (Carter, 2014). Disequilibrium studies completed in 1979 and 1982 which showed DEF factors ranging from 1.23 to 1.28 and 1.17 to 1.31, respectively, on the Marquez portion of the project were cited by Alief, 2010.

Although some of the chemical data cited in previous reports were available, original laboratory certificates were generally not available. In addition, the core holes were generally completed in areas on strong mineralization and thus may not be representative of the deposit in total. For these reasons, the author elected not to apply a positive DEF factor and assumed that the mineralization was in radiometric equilibrium. Thus, a DEF of 1.0 was utilized for the mineral resource estimate.

12.0 Data Verification

Most of the exploratory and development drilling on the project was conducted by either Kerr McGee or Bokum Resources. When the drilling programs were being conducted the project there was split ownership of the project between these former operators. Records indicate that on the Marquez property Kerr McGee drilled at least 358 holes for 865,940 feet. On the Juan Tafoya property Bokum (with Devilliers and Exxon) drilled at least 568 holes for 1,023,200 feet.

For this report, 604 drill holes were completed in the area of interest. These drill hole locations are shown on Figure 10.1, Drill Hole Map. From the total 604 drill holes, 192 and 337 mineralized incepts were used for the mineral resource estimates, for the "C" and "D" sands, respectively.

12.1 Verification of Radiometric Drill Data

Original geophysical and lithological logs are in possession of enCore. Electronic scans of the drill data for Marquez and original data for Juan Tafoya were provided by enCore. Geophysical logs for every drill hole used in the mineral resource estimate was inspected and interpreted. This included geological correlation and interpretations to separate the mineralized zones by horizon. The C and D horizons contained mineralization of sufficient thickness, grade and continuity for mineral resource estimation. Mineralization in other horizons and within the C and D horizon which was not of sufficient thickness and grade or was isolated from the principal areas of mineralization was excluded from the mineral resource estimate.

All drill logs used in the mineral resource estimation contained header information including K Factor, Dead Time, and Water Factor necessary for determination of radiometric equivalent uranium concentration.

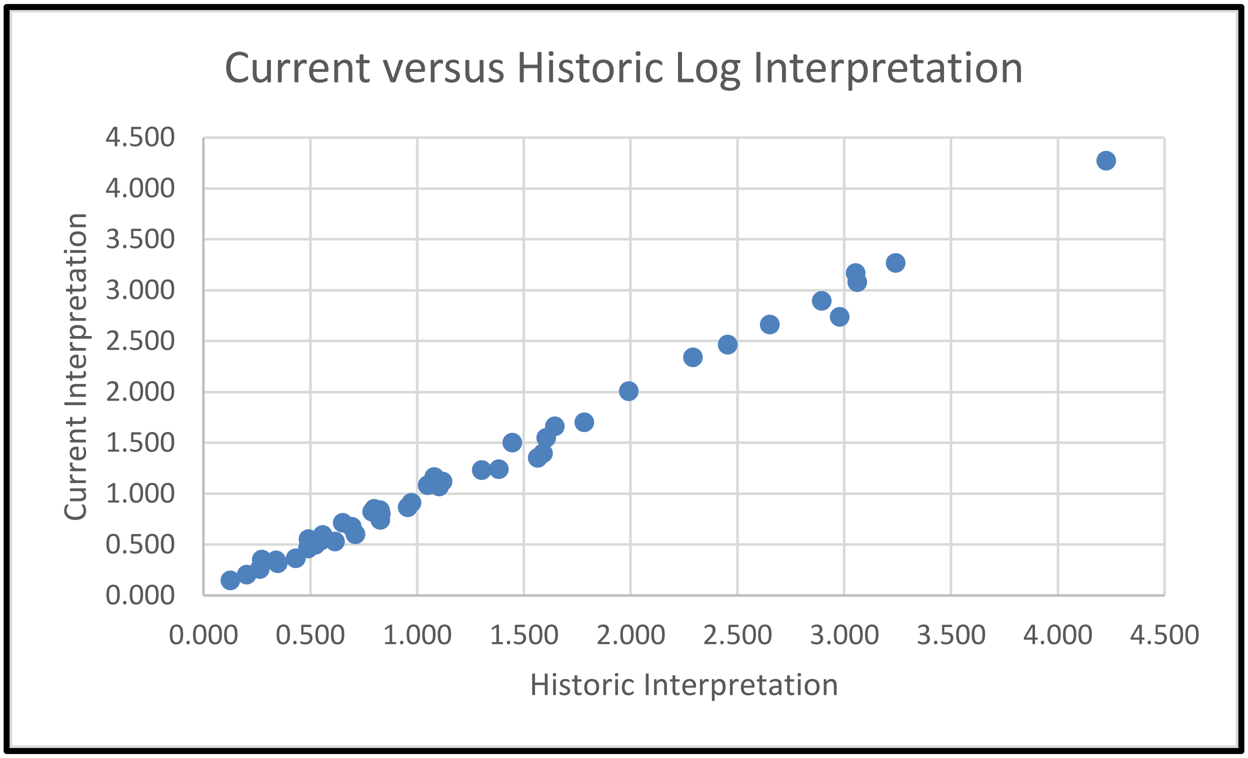
12.2 Verification of Radiometric Drill Data

For verification purposes, 46 of the 604 drill holes use in the mineral resource estimate were selected representing the range of mineralization observed. The Author re-calculated the mineralized intercepts using the manual log interpretation methods prescribed by the US AEC and others for each drill holes to verify the original log interpretation. Mineralization in the verification drill holes ranged from a high GT value of 4.27 to a low value of 0.15.

Verification by the Author confirmed that the drill hole database reasonably reflects the depth, thickness and radiometric equivalent uranium grade from the original geophysical logs. The only discrepancy noted was the omission of isolated mineralized intercepts of lower grade and thickness which were not included in the database, which the author concurs with.

Re-calculation by the Author of 46 drill holes shows the original interpretation of radiometric equivalent uranium grade is approximately 2% less the re-calculated values. Figure 12.1 is a comparison of the drill hole database values to those re-calculated by the Author using the standard half-amplitude log interpolation method.

Figure 12.1 – Database Comparison



Note: Average Factor: Current Interpretation 2% Higher than Historic Interpretation.
Range of Individual Intercept Factors: 0.771 to 1.183
Linear Regression: Slope 0.994, Intercept 0.026

12.3 Verification of Chemical Data

No core samples are available for inspection or assay.

12.4 Disequilibrium Factor

As discussed in Section 11 of this report, a positive disequilibrium factor is stated in historic reports (Alief, 2010 and Carter, 2014) which if applied would increase the estimated average grade and contained pounds. Although some of the chemical data cited in previous reports were available, original laboratory certificates were generally not available. In addition, the core holes were generally completed in areas on strong mineralization and thus may not be representative of the deposit in total. For these reasons, the author elected to assume that the mineralization was in radiometric equilibrium, and no positive factor was applied. A DEF of 1.0 was utilized for the mineral resource estimate as a conservative measure.

12.1 Density

Bulk density data is available for the Project from previous technical reports and studies completed by Kerr McGee and Bokum, resulting in 15 cubic feet per ton (ft3/ton) for the mineralized, host sandstone. This was the typical tonnage factor used by the mining companies across the greater Grants uranium district. The author recommends a density factor of 15 ft3/ton be used for all mineral resource estimations, based on available data and personal mining experience in similar sandstone-hosted deposits.

12.2 Downhole Deviation

All historical drilling on the Project was completed vertically. Downhole drift data were available for all of the drill holes used in the mineral resource estimate. Downhole drift calculations were re-calculated and the spatial location (X, Y, Z) at the base of the mineralized horizons was use in the mineral resource calculations.

The dip of the formation is relatively flat, 1-3˚ to the west. Assuming the combination of formational dip and deviation from vertical in the drill hole was 4 degrees, the ½ foot intervals to which the equivalent grade of mineralization are calculated would have a true thickness of 0.4988 rater than 0.50. this variance is far less than the accuracy to which the geophysical logs can be interpreted and would not affect the mineral resource estimation.

13.0 Mineral Processing and Metallurgical Testing

13.1 INTRODUCTION

In 1977 and 1978, comprehensive laboratory investigations of a 3-zone composite of the Marquez Canyon resource and a separate sample of core from a nearby resource identified as MAR-241-B-C were conducted by Hazen Research, Inc., Golden, CO ("Hazen"), for Bokum Resources Corporation. All tests were conducted with water from the Bokum shaft. This work was coordinated by A. H. Ross & Associates, Toronto, Ontario ("Ross"). A concurrent evaluation of the process design criteria established by the Hazen program was carried out by Ross, who prepared a flowsheet and an estimate of capital and operating costs that served adequately as the foundation for detailed engineering and plant design. During the 1970s, the combination of Hazen and Ross was considered the gold standard for uranium process development and led to the construction and commercialization of a large number of uranium mills.

In 1982, Kerr-McGee Corporation's Technology Center[a] conducted a fairly comprehensive laboratory leaching investigation (agitated and in-situ), and a separate analysis by Kerr-McGee Nuclear Corporation focused on the economic potential for in-situ leaching of the Marquez Canyon resource. Both laboratory-scale metallurgical testing programs are discussed in the following sections. Since the Ross evaluation pertained specifically to continuous processing considerations and plant equipment selection, it is discussed in Section 17 of this report.

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a Robertson, W. J., and Shaw, R. C., "Marquez Uranium Ore Characterization-Interim Report", Kerr-McGee Corporation Technical Center, June 30, 1982.

13.2 SUMMARY OF PRIOR LABORATORY TESTING

The first Hazen laboratory studyb explored the response of the resource to conventional (established industry practice) agitated leaching with sulfuric acid and an oxidant to produce a pregnant leach solution ("PLS"). Leaching was followed by residue washing in countercurrent decantation ("CCD") thickeners, solvent extraction ("SX") for purification and concentration of the PLS, and yellow cake precipitation from the SX strip liquor. During leaching, slurry samples were taken at intervals to gauge reaction kinetics. Variables included fineness of grind, acid addition (free acid concentration), oxidant type and addition (emf), and leaching temperature. A 51-pound master composite for the leaching and SX tests was prepared, representing the three mineralized zones in the proportions and grades shown in Table 13.1.

Table 13.1, Master Composite

ZONE					
Blue	237-B-C	1820-1852.5	7.20	14.2	0.075
Green	150-B-C	1963-1976.5	6.30		0.12
	239-B-C	2017.5 -2045.5	17.6		0.12
	219-B-C	1956-1968.5	5.00		0.27
	Subtotal/Average		28.90	56.8	0.146
Red	238-B-C	1939-1976	6.89		0.075
	240-B-C	1860-1902.5	7.86		0.082
	Subtotal/Average		14.75	29.0	0.079
	Total/Average		**50.85**	**100.0**	**0.116**

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b Coltrinari, E. L., "Uranium Recovery from Marquez Canyon Ore by Acid Leach and Solvent Extraction", HRI Project No. 4287, August 31, 1977.

Separate composites of each ore zone were also prepared, as summarized in Table 13.2, to evaluate the metallurgical variability of the three zones. Note that the weights and assays in Table 13.2 differ slightly from those in Table 13.1, possibly reflecting some variability between split core fragments from the same footage interval.

Table 13.2, Zone Composites

ZONE				
Blue	237-B-C	1820-1852.5	**100.0**	**0.073**
Green	150-B-C	1963-1976.5	21.5	
	239-B-C	2017.5-2045.5	61.4	
	219-B-C	1956-1968.5	17.1	
			100.0	**0.138**
Red	238-B-C	1939-1976	46.3	
	240-B-C	1860-1902	53.7	
	Total/Average		**100.0**	**0.075**

The first (1977) Hazen laboratory program concluded that the master composite and individual zone composites responded well to agitated 2-stage leaching with sulfuric acid at an elevated temperature and with either sodium chlorate or manganese dioxide as the oxidant. This work established near-optimum conditions, within the limitations of extrapolating laboratory data to commercial plant performance. For instance, the temperatures tested were 50°C and 80°C. Recommendations included a minus 28-mesh grind, 80 grams per liter of H_2SO_4, 10 lb/ton $NaClO_3$, 50°C, and 12 hours retention time. These conditions yielded 98.0-98.2 percent uranium extraction with 87-114 lb/ton acid consumption for the master composite, but tests on individual zone composites resulted in respective uranium extractions and acid consumptions as follows: Blue, 88% and 65 lb/ton; Red, 98% and 92 lb/ton; and Green, 98% and 111 lb/ton. Residues from the composites assayed 0.0020-0.0022 % U_3O_8. (Note that uranium recovery is somewhat lower than uranium extraction, as will be discussed in Section 13.3.8.)

Purification and concentration of the PLS was accomplished by SX. The loaded organic phase was then stripped with an acidic solution of sodium chloride and ammonium chloride. This solution was treated with ammonium hydroxide at pH 7.4-7.6 and 60-63°C to precipitate yellow cake, an ammonium diuranate-uranium hydrate compound. The precipitate was thickened, and ammonium sulfate was added to the thickened slurry to enable removal of sodium (as NaCl) by washing and re-thickening prior to de-watering and drying. The yellow cake met commercial specifications required at the time by Allied Chemical and Kerr-McGee for conversion to uranium hexafluoride, UF6.

However, a stabilized third-phase emulsion, or scum (currently called "crud"), consisting of a phosphomolybdate-amine species, formed during stripping of uranium from the loaded Alamine 336 extractant with the acidic chloride solution. This indicated the potential for operating problems in a commercial SX circuit and prompted Ross to recommend additional testing.

Accordingly, Hazen conducted a second study[c] in 1978 using a small continuous SX "mini-plant" to simulate conditions expected in the planned commercial facility. The objectives were (1) to establish a procedure for controlling formation and accumulation of the stable emulsion, and (2) to confirm that a high-purity yellow cake could be produced. The only element that approached a specification limit at the time was molybdenum at 0.079% Mo and 0.087% Mo versus limits of 0.100% Mo for both Kerr-McGee and Allied Chemical. The author understands that the specifications imposed by current converters of yellow cake, Cameco and ConverDyn, are essentially the same or only slightly more stringent as those for Kerr-McGee and Allied.

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c Coltrinari, E. L., "Uranium Recovery from Marquez Canyon Ore by Acid Leach and Solvent Extraction", HRI Project No. 4468, October 6, 1978.

The uranium and accessory minerals were not thoroughly characterized by Hazen, but a limited amount of work was reported as follows by the Kerr-McGee Technical Center[d]:

> "*Mineralogically, the composite consisted primarily of rounded quartz, rounded and altered feldspar grains, and clay. Many of the quartz and feldspar grains are cemented in agglomerates with the clay. Calcite is a minor constituent along with small amounts of zircon, pyrite, coal, a diopside-type mineral, and agglomerates of an asphaltic-appearing constituent containing quartz and feldspar grains.*
>
> *An autoradiograph of the asphaltic conglomerates showed them to be radioactive but no X-ray diffraction pattern other than quartz was obtained. However, the material could contain coffinite which is often amorphous and gives no pattern.*
>
> *A second coal-like sample gave a uraninite pattern, and a similar sample separated by heavy liquids assayed 0.8% U_3O_8.*
>
> *The natural grain size is mostly 48-mesh with some 28-mesh.*"

It is important to note that the study by Robertson and Shaw for Kerr-McGee applied some sophisticated analytical techniques to the hydrocarbon constituent observed by Hazen and revealed a possible cause of the refractory response of the uranium in the Marquez samples to standard agitated acid leaching conditions. The preliminary conclusion was that the organic carbon responsible for the problem is "younger", i.e., higher in volatile content, than the organic material that usually accompanies tractable uranium mineralization. Actually, there may be several issues at play, since the uranium in the leach residues could have been coffinite, U(SiO4)1-x(OH)4x, which is sometimes refractory in its own right.

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d Robertson, W. J., and Shaw, R. C., "Marquez Uranium Ore Characterization, Interim Report", Kerr-McGee Corporation Technical Center

13.3 PROCESSING OPTIONS and RECOVERY ESTIMATES

13.3.1 Underground Crushing, Screening, and Sorting

The resource will be saturated with hot water at approximately 100°F (38°C) and proposed upgrading of the mineralized rock by radiometric sorting will require 2-stage crushing to a nominal fragment top-size of 2 to 2½ inches (50-64 mm). This will create a significant quantity of fine particles ("slimes") that probably will be higher in uranium grade than the resource average. Recovery of this uranium and management of the solid residue will require pumping a slurry to the surface, leaching with sulfuric acid, and treatment of the resulting pregnant solution. Operationally, it would make sense to add the dust collection scrubber discharge slurry to the shaft sump along with the slimes stream. We have assumed that the combined uranium-bearing slurry will be collected in the sump, that a low-head sump pump will feed high-pressure slurry pumps, and that the slurry will be delivered to a thickener on the surface.

Regardless of the leaching option eventually selected for the project, we have assumed that the thickened slurry from the shaft sump will be leached with sulfuric acid and sodium chlorate at about pH 1.5. This could be done by adding the slurry to heap feed as it traverses a conveyor, or by combining the slurry with rod mill discharge for subsequent agitated leaching.

Since acid leaching of the uranium minerals will be enhanced by elevated solution temperature, the hot mine water will be a valuable asset, reducing significantly the amount of solution heating that would otherwise be required to achieve the optimum leaching temperature of 50°C (122°F).

We have no information on uranium grade as a function of rock fragment size at coarser sizes, e.g., above 2 inches mean diameter, but it is generally true that screening alone will result in a significant grade difference, with the coarser fragments having a lower uranium assay. Lacking this information specific to the Marquez Canyon resource, we have relied on our experience with other projects, suggesting that a significant fraction of the mined weight can be removed and left underground as backfill. We will use these assumptions to provide an understanding of cost and revenue effects, pending results of screening tests if a decision is made to explore this option. Our primary objective in taking this approach is to minimize the tonnage of ore that must be hoisted and treated. This in turn will minimize sulfuric acid usage, gypsum formation, tailings generation and disposal, and the volumetric requirements for evaporation and disposal of a process bleed stream.

The first commercial installation of radiometric sorting was at Cotter Corporation's underground Schwartzwalder Mine in Coal Creek Canyon west of Golden, CO, around 1970. Many installations followed globally, including conveyor belt, loader bucket, and overhead truck scanners. However, separation efficiency can only be confirmed by testing. The most reliable tests require large (20-50 ton) bulk samples at a supplier's facility, but laboratory screening and assaying can provide useful guidance.

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Depending on the nature of the screening and sorting method(s) employed on this project, NRC may require the process to be included within the source materials licensing for the mill.

Based on recent experience on a North African project, we are assuming that the feed would be screened in the size range minus 2½-inch plus 1-inch and that there would be a 30 percent weight rejection with a loss of 5 percent of the uranium, for a net mill feed grade increase from 0.120% U3O8 to about 0.16% U3O8. Screening alone would lead to unwanted rejection of coarse high-grade fragments, whereas radiometric sorting is more selective and will accommodate a potential coarse high-grade size fraction. Because sorting is inefficient on sizes smaller than 1-inch, it may be preferable to crush to a larger (>2½-inch) top-size, while combining the sorter concentrate with screen undersize. The installed cost and higher operating costs of sorting could then be partially offset by elimination of a secondary crusher.

13.3.2 Treatment of Ore Slimes from Underground Mine Water

As mentioned above in Sub-Section 13.3.1, slimes liberated during crushing and screening of the mineralized rock will provisionally be combined with the dilute (approximately 5 percent solids by weight) slurry from the underground dust collection venturi scrubber and pumped to the surface.

A small conventional thickener will densify the slimes to about 35-50 percent solids, and the slimes will be pumped to heap or conventional agitated leaching. The relatively clear thickener overflow will be added to the process water storage tank.

13.3.3 Heap Leaching with Sulfuric Acid

The metallurgical feasibility of heap leaching is traditionally assessed by conducting tests in a vertical column, usually made of a transparent plastic. A crushed sample is contacted by a downward flow of leaching solution applied at a low flowrate, typically 0.005 US gallons per minute per square foot of cross-sectional area (0.203 liters/minute/square meter) of the column. This is the usual application rate for a commercial heap, so scale-up is simplified. However, the Hazen and Kerr-McGee laboratory programs were conducted before heap leaching had become popular, so we have no relevant information.

Nonetheless, heap leaching of low-grade uranium ores was done commercially during the 1960’s and 1970’s and it has become such a common practice in treating oxidized ores of gold and copper that we can make some realistic assumptions.

13.3.4 Agitated Acid Leaching and Tailings Impoundment

At the time of the Hazen laboratory programs, nearly all uranium ores across the globe were being treated by agitated leaching, either with sulfuric acid or with alkaline carbonate solutions, in the case of ores with high calcite content that caused excessive acid consumption. The Hazen laboratory programs assessed sample response to standard agitated acid leaching practice and the Ross engineering evaluation confirmed suitability of that technology. This form of leaching generally has higher capital and operating costs than heap leaching, but will inevitably provide higher uranium extraction and recovery due to a number of factors that include (1) finer particle size distribution, allowing quick and complete access of solution to the uranium mineral, (2) the ability to operate at elevated temperature, ensuring faster reaction kinetics and maximum terminal extraction, and (3) avoidance of the various solution contact obstacles caused by heap construction and solution distribution.

However, there are downsides to agitated leaching in addition to higher costs: (1) operation with relatively high free acid concentration may cause increased mobilization of undesirable impurities; (2) the higher free acid concentration increases the eventual cost of tailings neutralization; and (3) the fine leached residue must be placed in a lined impoundment with monitoring wells and a requirement for perpetual management.

In response to the client's request and supplied with very solid laboratory data from Hazen, Ross designed a conventional 2,000 short ton per day (tpd) mill with a safety-factored design capacity of 2,192 tpd. The mill and its infrastructure were built during 1978 and 1979, were never operated, and were dismantled around 1992. In order to reduce sulfuric acid consumption, and consistent with the Hazen work, leaching was to be done in two stages at 50°C (122°F) and 55 percent solids with an interstage thickener and 12 hours total residence time in the leach tanks. We have deviated from this design by recommending a single-stage leach with the same temperature and slurry density, but with 20 hours residence time. This should yield the same uranium extraction with only slightly higher acid consumption, but with a significant reduction in capital expense due to elimination of an interstage thickener, pumps, piping, and building area.

13.3.5 Alkaline In-Situ Leaching from the Surface

Kerr-McGee Nucleare evaluated alkaline in-situ leaching, concluding that uranium extractions would be variable, but generally low at around 30 percent. Since the early-1980s, we as an industry have learned a lot about in-situ uranium extraction and it is likely that extractions could be improved markedly.

However, Kerr-McGee also learned that the barren strata above and below the uranium-mineralized zones have higher permeabilities than the uranium zones themselves from testing of ore from the Marquez project. If so, this would encourage leakage and loss of leach liquors and

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F. Buntz, B. J., and Freeman, M. D., "In-Situ Leaching Feasibility Study - Evaluation of the Marquez Deposit, McKinley County, New Mexico", Mining & Milling Division, Kerr-McGee Nuclear Corp., June 28, 1982.

unreliable hydraulic control. The current state of the art in the in-situ uranium recovery industry in the U.S. has identified controls to mitigate these issues, and the oil & gas industry has also developed a variety of flow control additives that potentially could reduce solution leakage, but such remedies would have to be investigated.

13.3.6 Alkaline In-Situ Leaching from an Underground Access Level

Kerr-McGee also concluded that in-situ injection and extraction wells with depths below collar of nearly 2,000 feet would be prohibitively expensive to drill, case, and operate. However, the existence of a shaft completed to within about 200 feet of the resource suggests the possibility of developing an access level just above mineralization in the upper confining barren formation. Hypothetically, this would allow inexpensive shallow wells and potentially simple and reliable operation and hydraulic control. Any further consideration of this option is outside the scope of a PEA but may deserve future attention.

13.3.7 Pregnant Solution Treatment and Bleed Solution Disposal

Pregnant solution treatment and bleed solution disposal is common to all options. The Ross design and the constructed mill separated PLS from leached residue in a countercurrent decantation circuit consisting of six conventional thickeners. The PLS was clarified in a seventh thickener and the clarified solution was pumped through two multi-media “sand” filters for final removal of entrained solids. The solution was upgraded and purified with solvent extraction in four stages each of extraction and stripping. The recommended tertiary amine (Alamine 336) was to be diluted with kerosene (Napoleum 470-B) and isodecanol as a modifier. The purified strip liquor was to be sparged in two stages with anhydrous ammonia to precipitate ammonium diuranate (“ADU”) yellow cake, which would be thickened, centrifuged, and dried in a multiple-hearth furnace.

Leachable molybdenum dictated a sodium chloride (salt) strip of the loaded organic, followed by regeneration with sodium carbonate.

13.3.8 Estimated Uranium Recoveries

Since there have been no laboratory simulations of heap leaching by the conventional vertical column method, we have no information about the response of the resource to acid leaching, the potential for swelling or compaction, net acid consumption, extraction of uranium, and solution grades. Therefore, we have made some assumptions based on industry experience and professional judgment. This has resulted in an estimate of 83 percent extraction of uranium into the pregnant leach solution. Typical solution treatment losses are about 3 percent, giving a recovery estimate of 80 percent.

Fortunately, the 1977-78 Hazen agitated tests on ground samples and the 1978 Ross estimate of solution losses are very reliable, enabling us to reduce the 98 percent uranium extractions to 95 percent uranium recovery to yellow cake.

13.4 RISKS, RECOVERY UNCERTAINTIES, and DISCUSSION

There is a finite risk that samples tested do not faithfully represent what will be mined over the project's life. There is a possibility that molybdenum could exceed yellow cake specifications, above which a penalty could be applied by the converter. We believe that the 1978 Hazen investigation provided clear guidance toward minimizing this risk, but careful attention will be required during plant operation. Advances in instrumentation and process control during the intervening 40 years will ease this task. Our assumptions about radiometric sorter efficiency may not be realistic and should be confirmed.

13.5 RECOMMENDATIONS

If time and budgets permit and if core rejects exist in an unaltered condition, it would be advisable to initiate a laboratory confirmation of the Hazen Research results for grinding, leaching, solvent extraction, yellow cake precipitation, and yellow cake impurity levels. Heap and in-situ leaching are potentially viable alternatives, so evaluation of those techniques would probably be very worthwhile. Radiometric sorting could offer a significant cost advantage but sorting efficiency should be validated with at least a laboratory-scale program that explores the variability of uranium grade with drill core fragment size. It is also possible that a vendor of sorting equipment would conduct an inexpensive design test on a bulk sample of the resource.

14.0 Mineral Resource Estimates

14.1 Mineral Resource Estimation

This technical report provides estimates of mineral resources at the Marquez-Juan Tafoya project. Mineral resources are not mineral reserves and do not have demonstrated economic viability in accordance with CIM standards. At a minimum declaration of mineral reserves would require a Preliminary Feasibility Study (PFS). However, to be considered a mineral resource, reasonable prospects for economic extraction must be demonstrated. For the purpose of this report, reasonable prospects for economic extraction are demonstrated by the positive outcome of the Preliminary Economic Assessment (PEA) herein.

14.1.1 Definitions

A mineral resource is defined as a concentration of an occurrence of natural, solid, inorganic, or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics, and continuity of a mineral resource are known, estimated, or interpreted from specific geologic evidence and knowledge (CIM, 2014). Mineral resource estimates are classified as Measured, Indicated, or Inferred based on the level of understanding and definition of the mineral resource.

The mineral resources reported herein have demonstrated reasonable prospect for eventual economic extraction as demonstrated by the PEA. The capital and operating costs and other economic considerations are discussed in subsequent sections of this report.

Mineral resources were estimated only for those area which contained sufficient thickness, grade and continuity of mineralization to support extraction by underground mining methods. Within these areas drill spacing was on approximate 100 foot centers with additional closer spaced offset drilling. Mineralization that is well defined by drilling on the C horizon covers and area of approximately 2,500 feet along trend and 200 to 400 feet across trend. The D horizon has an approximate trend length of 4,000 feet and is 200 to 800 feet across trend. Given the dimensions of the mineralized area, the mineralized areas are defined by multiple data points.

Mineral resource estimates by Kerr McGee and others assigned measured mineral resources to a 50 foot radius from the drill hole and indicated mineral resources from 50 to 200 ft form the drill hole. Hasan, 2010 assigned measured resources to a 100 foot square polygon and indicated mineral resources up 200 feet from the drill hole.

Although the drill data has been verified by the author, it is of a historical nature and the author recommends that none of the mineralization be consider as measured mineral resource. Based on the continuity of the mineralization and drill spacing relative to the dimensions of mineralized area the author concludes the data support a classification of the mineral resource as indicated.

14.1.2 Methodology

Mineral resource calculations are based on radiometric equivalent uranium grades calculated by downhole gamma-ray probes. Drill data was available by ½ foot intervals. The procedure followed to define mineralized zones within each drill holes for resource estimation purposes included.

- Drill logs were interpreted and correlated by horizon. Mineral resource estimation was only completed in the C and D horizons. These estimates were done separately.
- A minimum mining thickness of 6 feet was applied to all mineralized zones.
    - Mineralized zones less than 6 feet were diluted to 6 feet at the grade present in the drill hole.
    - Mineralized zones greater than 6 feet were not diluted.
- The Grade Thickness product (GT) was calculated for each mineralized zone after dilution to the 6 foot minimum thickness.
- The GT intercept data were mapped in space accounting for downhole drift to total depth.
- A GT Surface model was developed inclusive of each sand horizon GT intercept and contours modeled over the range of 0.10 to 5.0 GT
- The 0.1GT contour areas of influence for each datum point above cutoff grade was applied on an observed Northwest to Southeast anisotropy.
- Areas of influence were 200 feet along a longitudinal axis observed to be oriented at an azimuth of 300 degrees and 150 ft of influence was applied along the latitudinal axis.
- The Volume of the GT model was then used to estimate pounds of uranium.
- The Grade Thickness product (GT) was calculated for each mineralized zone after dilution to the 6 foot minimum thickness.
- The GT data were contoured over the range of 0.10 to 5.0 GT to estimate pounds of uranium.

- Thickness (T) was contoured for the same area to estimate tonnage of mineralized material.
- Average grade was calculated from GT divided by T.

A minimum mining thickness of 6 feet used. A bulk density factor of 15 ft^3/ton was used in the calculations. The mineral resources were reported at a 0.60 GT cutoff. Mineral resources were calculated using the Grade times Thickness (GT) Contour method in accordance with CIM guidance (CIM, 2013).

14.2 Key Assumptions and Parameters

14.2.1 Cutoff Criteria and Reasonable Prospects for Economic Extraction

The PEA estimates the cost of mining and mineral processing to be $92 per ton. A sales price of $60 per pound has been used as the base case as discussed in Section 19. For these parameters, the breakeven grade would be approximately 0.078 %eU_3O_8 or a GT, at a 6 foot thickness of approximately 0.50. Mineral resources are reported at a slightly higher GT cutoff of 0.60 to meet reasonable prospects for economic extraction. In addition, areas where the mineralization appeared to be isolated and/or drilling was limited which were estimated to contain less than 20,000 lbs eU_3O_8 were excluded from the reported estimated mineral resource due to economic considerations.

The PEA was based on a cutoff of 0.80 to allow for a reasonable profit margin.

14.2.2 Bulk Density

As previously discussed, a bulk density of 15 cubic feet per ton was used in the estimation of mineral resources.

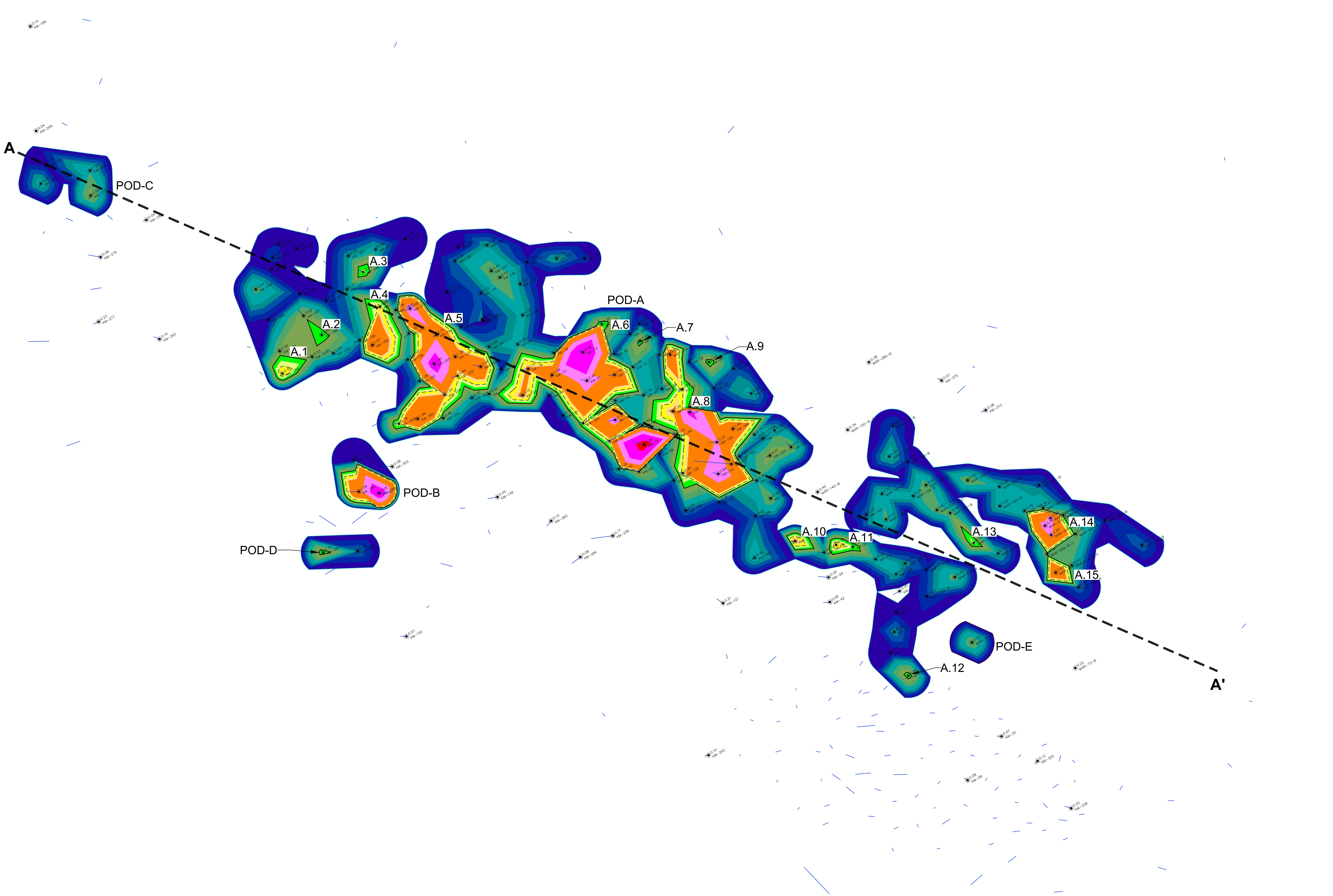
14.2.3 Radiometric Equilibrium

As previously discussed, a DEF of 1 was used in the estimation of mineral resources.

14.3 Mineral Resource Summary

Table 14.1 Indicated Mineral Resources

Indicated Mineral Resources			
Minimum 0.60 GT	**TONS**	**%eU_3O_8**	**Pounds**
C Sand	1,426,355	0.156	4,455,706
D Sand	5,685,244	0.120	13,678,258
TOTAL	7,111,599	0.127	18,133,964
ROUNDED TOTAL (x 1,000)	7,100	0.127	18,100



LEGEND

- PROPERTY BOUNDARY
- ANNUAL MINING AREAS
- DRILL HOLE DRIFT PATH
- .06 GT INTERCEPT LOCATION
- .08 GT INTERCEPT LOCATION
- DRILL HOLE INTERCEPT LOCATION USED IN MODELING (GT → 0.22 MAR–73–B ← DRILL HOLE ID)
- AREAS NOT INCLUDED IN MINERAL RESOURCE ESTIMATE
- CROSS SECTION ALIGNMENT SEE FIGURE 10.2 (A — — A')

GT Range Table

GT Minimum	GT Maximum	Color
0.10	0.15	
0.15	0.20	
0.20	0.25	
0.25	0.30	
0.30	0.40	
0.40	0.50	
0.50	0.60	
0.60	0.70	
0.70	0.80	
0.80	0.90	
0.90	1.00	
1.00	2.00	
2.00	3.00	
3.00	5.00	
5.00	20.00	

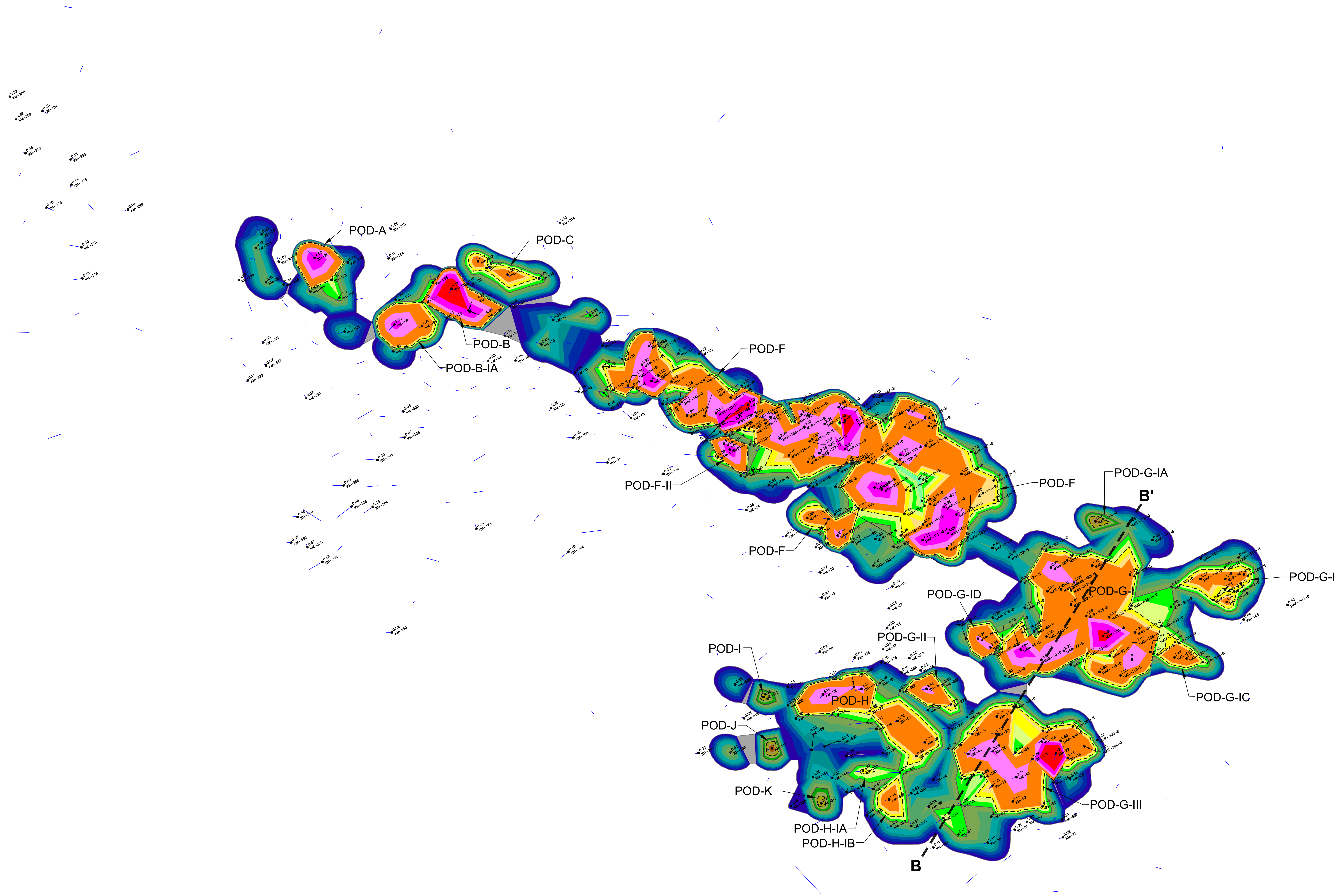
GRAPHIC SCALE

400' 0 200' 400'

1 inch = 400'

ENCORE ENERGY – MARQUEZ & JUAN TAFOYA
43–101 TECHNICAL REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO

DRAWING NAME: C SAND GT MAP				
DRAWN BY: CDS	REVISION NO.	DATE	BY	
DATE DRAWN: 4/29/2021				
CHECKED BY:				DRAWING NUMBER:
DATE LAST PLOT:				FIGURE 14.1
CAD FILE: ENCORE/BRSCAD/FIGURES/C SAND GT MAP.DWG				



LEGEND

PROPERTY BOUNDARY
ANNUAL MINING AREAS
DRILL HOLE DRIFT PATH
.06 GT INTERCEPT LOCATION
.08 GT INTERCEPT LOCATION
DRILL HOLE INTERCEPT LOCATION USED IN MODELING
GT 0.22 MAR-73-B DRILL HOLE ID
AREAS NOT INCLUDED IN MINERAL RESOURCE ESTIMATE
CROSS SECTION ALIGNMENT SEE FIGURE 10.3 B B'

GT Range Table

GT Minimum	GT Maximum	Color
0.10	0.15	
0.15	0.20	
0.20	0.25	
0.25	0.30	
0.30	0.40	
0.40	0.50	
0.50	0.60	
0.60	0.70	
0.70	0.80	
0.80	0.90	
0.90	1.00	
1.00	2.00	
2.00	3.00	
3.00	5.00	
5.00	20.00	

GRAPHIC SCALE
400' 0 200' 400'
1 inch = 400'

ENCORE ENERGY – MARQUEZ & JUAN TAFOYA
43-101 TECHNICAL REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO

DRAWING NAME: **D SAND GT MAP**

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CAD FILE: ENCORE/BRSCAD/FIGURES/D SAND GT MAP.DWG			

DRAWING NUMBER: **FIGURE 14.2**

15.0 Mineral Reserve Estimates

Mineral reserves are not reported herein as a PEA is not sufficient to support the declaration of mineral reserves.

16.0 Mining Methods

16.1 Summary

For the purposes of this PEA mining via conventional underground room and pillar mining with vertical shaft hoist was selected. The shaft would be located at the previous site location requiring rehabilitation of the shaft and installation of a new hoist.

Figures 16.1 and 16.2 depict the annual mine production work areas for the C and D sands, respectively. Mining in the C sand would extend for 10 years while the D sand would extend over 15 years.

16.2 Mining Method

Mineralization within the C and D sand horizons is reasonably flat lying and tabular. The deposit is crossed by one identified post-mineralization, high angle normal fault with approximately 90 feet displacement with will require and internal raise to access mineralization on both sides of the fault. There is a risk that ground water flow may be higher along and near the fault and that additional roof support may be necessary.

Mining will be by room and pillar. General methods and assumptions include:

- Development drifts will utilize dual openings. 10 by 15-foot openings will be used for haulage, and 8 by 10-foot openings will be used for transportation and ventilation.

- Mining panels will utilize multiple entries depending on the width of the zone. Entries will be approximately 12 feet wide, minimum of 6 feet high and averaging 7 feet high.

- Crosscuts will be placed on 100-foot centers.

- Mining will be completed by advance and retreat methods.

- Advance mining is accomplished by driving approximately 12 by 7-foot drifts within zones meeting cutoff grade. Multiple drifts will be driven parallel to one another with crosscuts on 100-foot centers. The parallel drifts will be 27 feet apart on centerline.

- This will leave a pillar with a dimension of approximately 15 feet wide and 90 feet long. On retreat mining, these pillars are removed if they meet cutoff criteria.

- As discussed in Section 19, mined material will be sized and sorted underground with the waste return to mined out rooms as backfill. This will provide additional roof support and will minimize the quantity of mine waste brought to the surface which would need to be disposed of.

- Ventilation will include a minimum of two ventilation shaft which will also function as emergency escapeways.

- Mine ventilation which meets standards for removal of diesel emissions will also provide adequate ventilation for radon gas given the anticipated mining grades.

- Blasting of the rock, both for development and mining, will be done by drilling 8 to 12-foot blast holes using jumbo drilling rigs and filling the blast holes with ANFO (Ammonium Nitrate and Fuel Oil).

16.3 Mine Equipment

Multiple references were available for estimation of mine OPEX and CAPEX. The most relevant included data the late-2020 edition of Mining Cost Service and an internal report completed by former owner, Neutron Energy, in 2011.

With respect to CAPEX, the 2011 Neutron Energy CAPEX for mine equipment escalated to 2021 was 13.2 million $US. Using Mine Cost Service, CAPEX was estimated at $13.4 million $US. The slightly higher Mine Cos Service estimate was used in the PEA. Mine CAPEX costs are summarized in Table 16.1.

With respect to OPEX Costmine (published in 2009 and escalated to 2021$) estimates an OPEX for a 1,200 ton per day (TPD) hoist room and pillar underground mine at $42.53 per ton. The Neutron Energy estimate (2011 escalated to 2021$) estimated OPEX costs of $50.49 per ton. The higher of the two estimates of $50.49 per ton was used in the PEA.

Table 16.1 Mine CAPEX

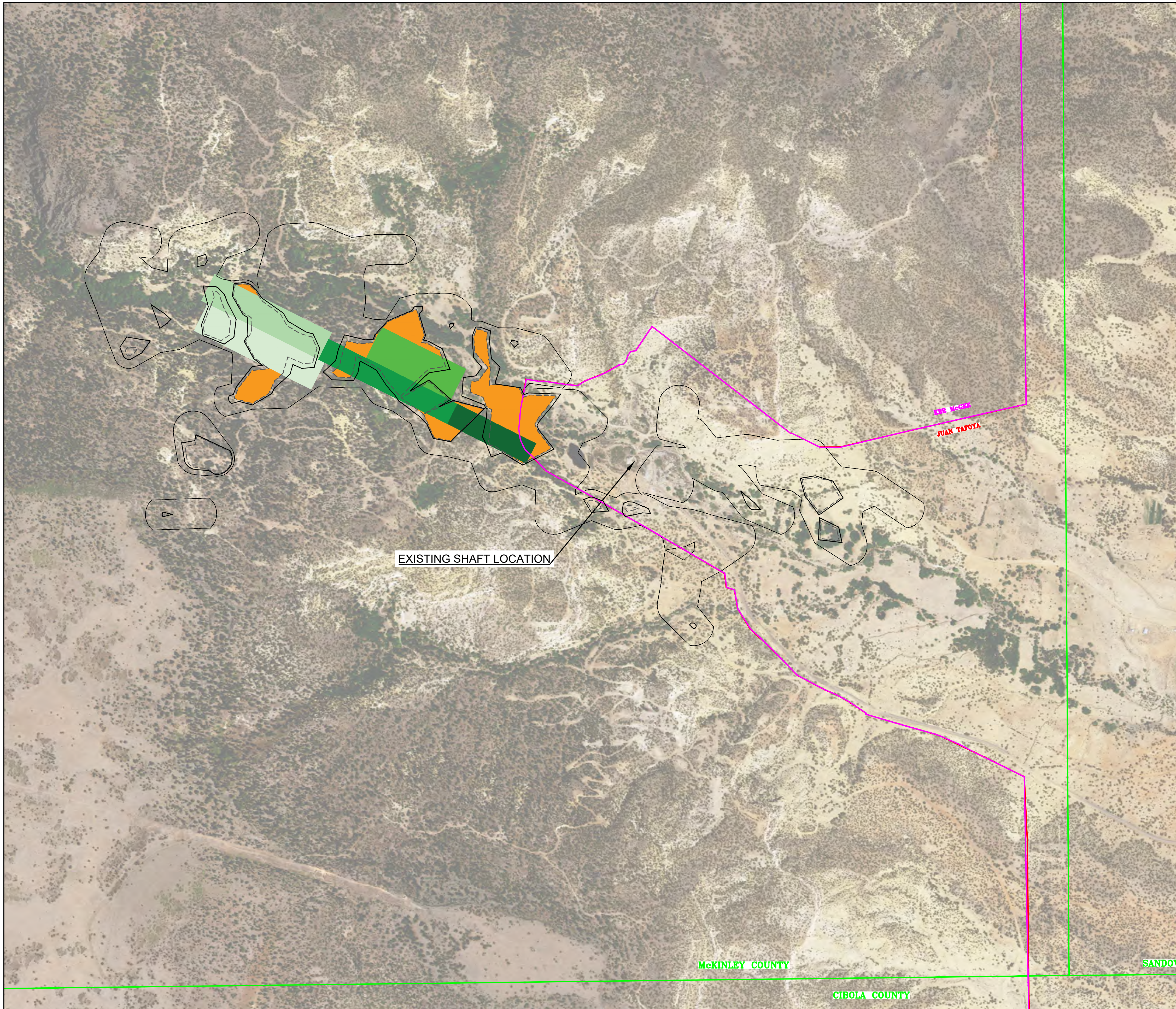
Underground Mine Equipment	Description	CAPEX
Single Boom Jumbo	21'x18'coverage	$ 1,158,400
Bolter	20' to 23' reach	$ 766,000
Medium Loader 2.5 Yd	81 HP	$ 708,300
UG Haul Truck	20 t	$ 1,343,000
PowderTruck	600 pound ANFO	$ 505,000
Scissor Truck	12 feet lift	$ 350,100
Lube Truck	675 gall	$ 184,000
shotcrete machine	25 yds per hr	$ 429,000
shotcrete hauler	10 yd transmixer	$ 390,000
Grader	12ft	$ 318,700
Pickups	1 ton reg cab	$ 273,000
Main Vent Fans	120 inch 500 kcfm, 800hp	$ 308,400
Smaller Main Fans	96 inch 300 kcfm, 500hp	$ 399,800
Aux fans	30 hp 47 kcfm	$ 198,400
Juan Tafoya Hoist	150T/HR 80" DRUM 5T SKIP	$ 1,535,600
Shaft Pump	380 kw (twice size of Shafter)	$ 655,000
Stationery Pumps w fish tan	0	$ 295,000
Small Face Pump	3 HP max flow 460 max head 70'	$ 60,000
Large Face Pump	75 HP max flow 1140 max head 180	$ 100,500
Surface loader	5 yd3	$ 365,300
Surface Grader	14ft	$ 431,000
Road Hauler	14 yd3 tractor and trailer	$ 382,000
Water Truck- small	5000 GALLON 175 hp	$ 279,000
Skid Steer Loader	3250 lb lift capacity	$ 83,900
Compressor Small	2500 cfm 600 hp	$ 198,600
Backup Generator Large	2250 kw	$ 454,900
Lamp Charger	40 LAMP	$ 48,000
Lamp	led - Li Iodide	$ 49,200
Self Rescuer	Standard	$ 57,000
Explosive Magazines Large	24 t trailer mount	$ 39,000
Explosive Magazines Small	8 t skid mount	$ 34,000
Workshop Tools	0	$ 115,000
Air Doors	12x12	$ 30,375
Service Trucks	82hp, 5 Ton, no cranes or attachme	$ 381,500
Portable Transformers	0	$ 425,000
Refuge Chamber		
TOTAL MINE CAPEX		$ 13,351,975
Rounded (x 1,000) US$		$ 13,400

16.4 Life of Mine Plan

The life on mine production schedule is based on an average hoisting capacity of 1,000 TPD for 330 day (to account for maintenance and downtime). Initial mining will occur within both the C and D sands. Table 16.2 summarizes and Figures 16.1 and 16.2 display the mine production schedule. Years 1 through 5 are broken out as to specific mining areas. More general areas for mining are shown for Years 5-10 and 10-15. The C mining is anticipated over a 10 year period while the D sand extends to 15 years.

Table 16.2 Mine Production Profile

Production	Totals	1	2	3	4	5	years 5-10	ears 10-15
Mine Rate 1000 tpd 330 m tons/year								
C Sand (A area)								
Total Tons (Ratio 1.3:1)	1,222	137	144	169	131	114	527	
Tons of Waste	282	32	33	39	30	26	122	
Tons of Resource (x1,000)	940	105	111	130	101	88	405	
Selective handling to separate waste reduce tons 30%	658	74	78	91	71	62	284	
Pounds U3O8 Contained (x1,000)	3,445	418	364	595	379	434	1,255	
Selective handling to separate waste - loss 5% lbs	3,273	397	346	565	360	412	1,192	
Grade % U3O8	0.249	0.270	0.223	0.311	0.255	0.335	0.210	
D Sand (C, F, and G1 areas)								
Total Tons	4,811	239	270	205	189	287	1,378	2,243
Tons of Waste	1,110	55	62	47	44	66	318	518
Tons of Resource	3,701	184	208	158	145	221	1,060	1,725
Selective Handling to remove waste reduce tons 30%	2,591	129	146	111	102	155	742	1,208
Pounds U3O8 Contained (x1,000)	9,380	538	591	438	456	602	2,665	4,090
Selective Handling to remove waste - loose 5% lbs	8,911	511	561	416	433	572	2,532	3,886
Grade % U3O8	0.172	0.198	0.193	0.188	0.213	0.185	0.171	0.171
Total Tons	6,033	376	415	374	320	402	1,905	2,243
Tons of Waste	1,392	87	96	86	74	93	440	518
Tons of Resource	3,249	202	223	202	172	216	1,026	1,208
Pounds U3O8 Contained	12,184	908	907	981	793	984	3,724	3,886
Grade % U3O8	0.188	0.224	0.203	0.243	0.230	0.228	0.182	0.182
Recovered Pounds 95% Recovery	11,421	863	862	932	754	935	3,538	3,538



LEGEND

COUNTY LINE	
KER McGEE LANDS	
JUAN TAFOYA LANDS	
0.1 GT CUTOFF	
0.6 GT CUTOFF	
0.8 GT CUTOFF	

MINE PRODUCTION SCHEDULE

- YEAR 1
- YEAR 2
- YEAR 3
- YEAR 4
- YEAR 5
- YEARS 6-10

GRAPHIC SCALE

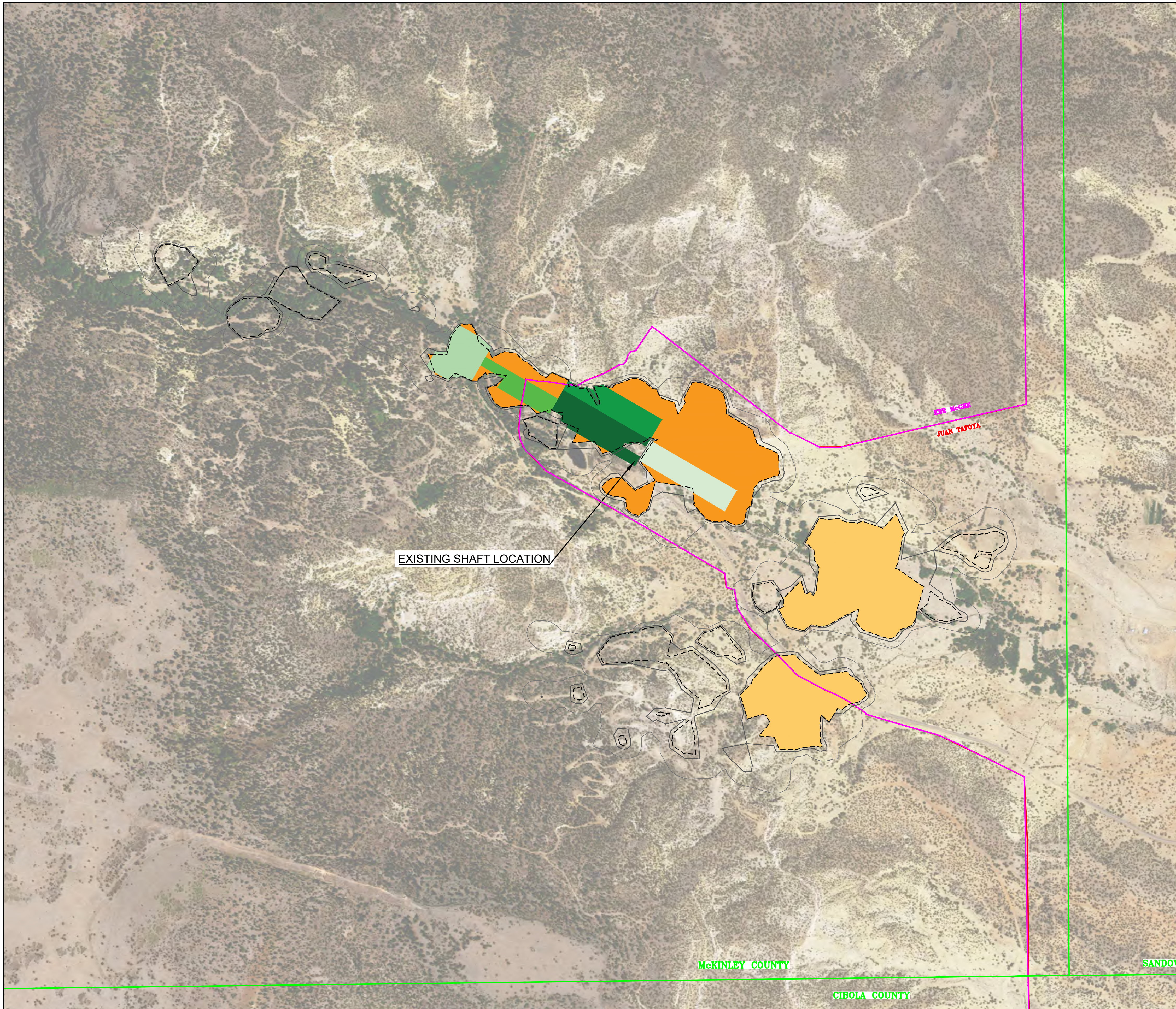
1000' 0 500' 1000'

1 inch = 1000 feet

ENCORE ENERGY – MARQUEZ & JUAN TAFOYA
43-101 REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO

DRAWING NAME: C-SAND PROPOSED MINE DEVELOPMENT PLAN MAP

DRAWN BY: CDS/JCS	REVISION NO.	DATE	BY	
DATE DRAWN: 5/3/2021				
CHECKED BY:				DRAWING NUMBER:
DATE LAST PLOT:				FIGURE 16.1
CAD FILE: ENCORE/BRSCAD/FIGURES/C-SAND MINE PROD PLAN.DWG				



LEGEND

COUNTY LINE	green solid line
KER McGEE LANDS	magenta solid line
JUAN TAFOYA LANDS	red solid line
0.1 GT CUTOFF	thin solid line
0.6 GT CUTOFF	dashed line
0.8 GT CUTOFF	solid line

MINE PRODUCTION SCHEDULE

YEAR 1
YEAR 2
YEAR 3
YEAR 4
YEAR 5
YEARS 6-10
YEARS 11-15

N

GRAPHIC SCALE

1000' 0 500' 1000'

1 inch = 1000 feet

ENCORE ENERGY – MARQUEZ & JUAN TAFOYA
43-101 REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO

DRAWING NAME: D-SAND PROPOSED MINE DEVELOPMENT PLAN MAP

DRAWN BY: CDS/JCS	REVISION NO.	DATE	BY	
DATE DRAWN: 5/3/2021				
CHECKED BY:				DRAWING NUMBER:
DATE LAST PLOT:				FIGURE 16.2
CAD FILE: ENCORE/BRSCAD/FIGURES/D-SAND MINE PROD PLAN.DWG				

17.0 Recovery Methods

17.1 RECOVERY METHODS and PROCESSING FLOWSHEETS

17.1.1 Plant Design by A. H. Ross and Associates (1977)

Pursuant to the client's request, Ross designed a conventional 2,000 ton per day plant with a semi-autogenous grinding ("SAG") mill that eliminated the need for a primary crusher. The SAG mill discharge was delivered to a rod mill for production of a nominally minus 28-mesh feed to a 2-stage agitated sulfuric acid leaching circuit. The 2-stage leaching configuration was common at the time with the objective of maximizing uranium extraction while reducing acid consumption. Planned leaching conditions included a total retention time of 12 hours at 50°C with about 80 grams/liter free acid and 10 pounds/ton of sodium chlorate, NaClO4, as the oxidant for tetravalent uranium. We have considered other processing options, as discussed in Section 13, and presented in greater detail below.

17.1.2 Underground Selective Handling, Screening and Sorting

As illustrated in **Figure 17.1**, ore is trammed from the stopes to a transfer conveyor that discharges into a primary jaw crusher surge bin, thence through the crusher onto a double-deck vibrating screen. Screen undersize at about minus 1-inch is conveyed directly to the skip and screen oversize in the approximate range minus 2½-inch plus 1-inch is delivered to a radiometric ore sorter with selectable discrimination sensitivity. The reason for removing the fine fraction is that sorting efficiency is greatly reduced for fragments with mean diameters less than about 1 inch (25 mm). The less radioactive fraction is rejected and returned to the stopes as backfill, while the more radioactive fraction is conveyed to the skip. The combined screen undersize and sorter concentrate are hoisted to the surface for processing.

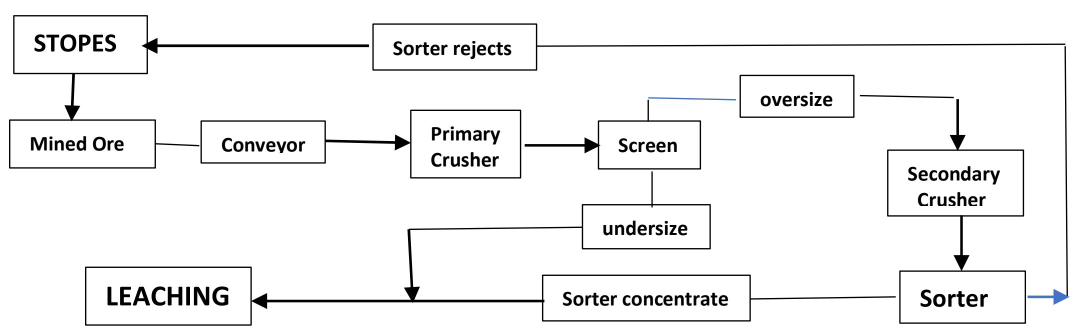
Radiometric sorting has been used in the uranium industry since the early-1970s, when Cotter Corp. installed it at the Schwartzwalder Mine near Golden, Colorado. It is likely that Cotter's objectives included (1) reducing the cost of truck haulage of the ore from Golden to Cañon City, a distance of several hundred miles, and (2) increasing the grade of the feed to an old mill with limited capacity. For the Marquez Project, we are recommending sorting for different reasons: (1) the sorter reject, comprising coarse rock fragments, would be ideal backfill for mined-out stopes,

(2) electrical energy consumption for hoisting would be reduced; and (3) the total volumes of impounded tailings solids and evaporation pond influent would be reduced.

Although there will be exhaust fans for evacuation of radon-contaminated air from the underground workings, we have also provided for wet venturi scrubbers to capture dust generated during crushing and screening. The slurry from the venturi scrubbers, combined with muddy water released from crushing wet ore will be carried through a drainage ditch to a partitioned shaft sump, keeping the slurry separate from nearly clear water released from drifts and stopes. A separate pumping system will deliver the slurry to a thickener on the surface and the thickener underflow will be processed.

Figure 17.1 Selective Handling and Sorting

Figure 17.1



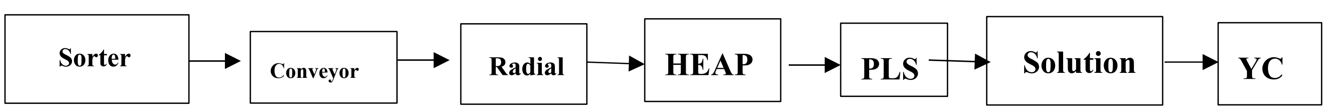
17.1.3 Heap Leaching with Dilute Sulfuric Acid

The ore may be processed either by heap leaching of the sorter concentrate or by agitated ("tank") leaching following size reduction of the concentrate by rod milling. The choice between the two methods of leaching may ultimately be determined by a more detailed evaluation. Heap leaching, which has been applied extensively in the gold industry, and adopted at a few uranium operations during the 1960s and 1970s, may have lower capital costs if the original tailings impounded area is useable. However, we lack data from traditional column simulation of heap leaching, so are provisionally recommending agitated leaching, which was tested thoroughly by Hazen with very high uranium extractions.

The cost estimation section and the Appendix contain information on heap pad design, and our design strategy is one which has evolved in the gold industry. Basically, a suitable area, preferably rectangular with a slight natural gradient of a few percent, is graded and compacted before being surrounded by a berm and covered by a heavy-duty high-density polyethylene ("HDPE") sheet with welded seams. This primary liner is then covered with 12 to 18 inches of gravel in which a network of perforated solution collection piping has been installed. The gravel is overlain with a second HDPE liner sheet that is covered by typically 12 inches of fine soil to protect the upper liner from sharp rock fragments and vehicular traffic.

If heap leaching is eventually selected, sorter concentrate will be delivered by conveyor to a radial stacker, which is a moveable inclined conveyor that can pivot at the lower end, enabling creation of a uniform pile of ore about 25-30 feet in height. PLS would be pumped to a solution treatment plant for clarification, solvent extraction, and precipitation of yellowcake, labeled "YC" in **Figure 17.2**.

Figure 17.2 Heap Leach Flow Sheet



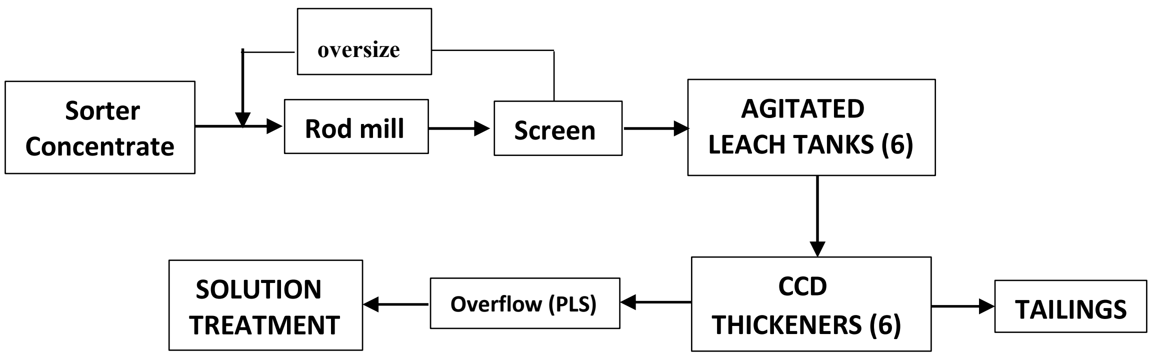
17.1.4 Agitated Leaching with Dilute Sulfuric Acid

This is the processing route for which we have the most information, including the 1977-78 laboratory reports by Hazen and the 1977 report by A. H. Ross[f] that provided the design criteria for the 2,000 tpd plant that was built for Bokum Resources. We have estimated CAPEX and OPEX for a very similar process but reduced in scale to 1,000 tpd of ore. However, there are important differences between the original concept and the current recommendation.

For reasons, as mentioned in **17.1.2**, that mainly relate to reduced hoisting expense and minimized waste management requirements, we are recommending underground crushing and screening and radiometric ore sorting. This eliminates the semi-autogenous grinding ("SAG") mill but retains a rod mill for final grinding to grain liberation particle size. The risk of sending oversize slow-leaching particles to the leaching circuit is eliminated by adding a DSM-type sieve bend on the rod mill discharge. Whereas Ross chose two-stage leaching with an interstage thickener and 12 hours retention time, we recommend single-stage leaching for 20 hours. This is expected to maximize leach extraction by increasing leach tank dimensions while eliminating a thickener and a significant amount of plumbing and pumping. See **Figure 17.3**.

f Ross, A. H., and Associates, "A Metallurgical Evaluation and Criteria for the Marquez Uranium Mill Design", October 1977.

Figure 17.3 Agitated Leach Flow Sheet



17.1.5 Underground In-Situ Leaching with Alkaline Solution

A limited amount of testing and evaluation of in-situ leaching was done by two Kerr-McGee groups, as summarized in **Section 13**, and the conclusions were generally negative. Some of the obvious drawbacks included (1) variable, but generally poor, response to an alkaline carbonate lixiviant; (2) the confining strata above and below the mineralized formation were more porous and permeable than the mineralized sandstone; (3) permeabilities were generally very low in the mineralized sandstone; and (4) the depth from surface to mineralization, 1,800-2,000 feet, was considered extreme for an in-situ application and the predicted well costs and pumping energy requirements were very high.

These are all valid concerns and we have decided that it makes sense to accept Kerr-McGee's conclusions. However, we offer two observations: (1) a lot has been learned about in-situ leaching since the early-1980s, especially with regard to solution management (permeability blocking polymers, etc.) and hydraulic control, and (2) since the existing shaft extends to a depth only about 100-200 feet above mineralization, there could be an opportunity to develop an access level at that depth and to drill very shallow injection and extraction wells. Pregnant leach solutions could then be collected on that level and pumped to the surface for treatment.

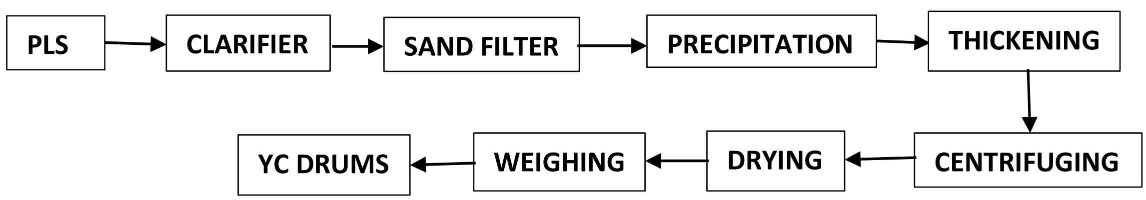
17.1.6 Solution Treatment and Bleed Solution Disposal

Common to all leaching options, the recommended plant for treating PLS is conventional and essentially identical to the original flowsheet, except for reduced treatment capacity and the minor changes noted in **17.1.4.** Precipitation with ammonia yields ammonium diuranate ("ADU"), which is then thickened. Ammonium sulfate is added to the first yellow cake thickener underflow to remove sodium and the slurry is repulped and thickened in a second thickener. The final underflow is further de-watered in a centrifuge prior to drying. In order to minimize worker exposure in the yellow cake section, we are recommending a rotary vacuum dryer as a modern replacement for the classic multiple hearth roaster specified by Ross.

The dried yellow cake is packaged in standard reinforced steel drums with locking clamps and seals and is stored on a dock prior to shipment by truck directly to buyers or to a uranium hexafluoride conversion plant. See **Figure 17.4**.

Figure 17.4 Solution Treatment Flow Sheet

Figure 17.4



17.2 ESTIMATED CAPITAL and OPERATING COSTS

Our primary database for equipment costs is the late-2020 edition of Mining Cost Service and equipment purchase prices were escalated to June 2021 using the U. S. Consumer Price Index, which has been nearly unchanged during the last year. Some equipment items are not included in that publication, so we have escalated those values from our most recent vendor quotations. In some cases, the equipment capacity based on a mass balance for Marquez Canyon did not match available data, so prices were interpolated at a 0.6 exponential, $(\text{price } 2/\text{price } 1)^{0.6}$.

Rather than estimating the complete spectrum of costs for the two alternatives, heap and agitated (tank) leaching, we have made separate estimates of costs for (1) underground crushing and sorting, (2) heap leaching, (3) agitated leaching, and (4) solution treatment, since (1) and (4) are common to both leaching methods. If in-situ leaching is evaluated in the future, it will be acceptable to estimate the costs of that technique, then simply to add item (4) costs.

A distinct advantage of the Marquez Canyon resource that was not recognized during the late-1970s, but mentioned by Kerr-McGee, is that geothermal influence from proximity to Mt. Taylor has resulted in an underground water temperature of about 100°F. Uranium minerals invariably dissolve more rapidly at elevated temperatures and the Hazen laboratory tests confirmed this behavior, concluding that a leaching temperature of 50°C (122°F) was near optimum. The result from a cost standpoint is that using water from underground as process water will reduce significantly the capital and operating costs for a water heating system. This advantage applies both to heap and agitated leaching, although the exposed nature of heap leaching leads to fairly rapid cooling with reduced thermal effect on kinetics.

In the Appendix is a 3-sheet Excel database containing (1) a simplified mass balance used to estimate post-sorting ore tonnage, (2) an itemized estimate of equipment sizes, purchased prices, and constructed plant costs, and (3) estimated costs of operating and maintaining the surface assets. The estimated cost of constructing a tailings disposal impoundment for the agitated leaching option is provisional and assumes that the preparation done by Bokum Resources, i.e., site clearing, grading, and berm construction, is still serviceable. In comparing these estimates with those for other projects, it is important to bear in mind that this is a medium-size project in terms of pounds, but a relatively small one in terms of ore treatment rate, so maximum economy of scale has not quite been achieved.

Table 17.1 Mineral Processing Options

PROCESSING OPTION	U_3O_8 Recovery, %	CAPEX, US$ x1,000	OPEX, US$x 1,000/YR
Heap Leaching	**80**	**28,770**	**9,140**
Agitated Leaching	**95**	**29,960**	**12,270**

For the purposes of this PEA the Agitated Leaching option was evaluated.

18.0 Project Infrastructure

All necessary utilities and general infrastructure for the planned project are either currently available on site or can readily be established. Existing infrastructure is depicted on Figure 18.1.

In the early 1980's the project was being developed by Bokum Resources as a conventional underground mine and mill operation when falling uranium prices halted development. The underground mine shaft and head frame were constructed but have been removed. The bottom of the shaft was completed to within 200 feet of the first mineralized horizon. The processing facility was constructed but not operated and has been dismantled. Foundations and access roads for both the shaft and processing facility remain on site.

The project is located on private lands dating to an original Spanish land grant. These lands are adequate for all planned mining and mineral processing operations including the disposal of mineral processing wastes (tailings).

Project infrastructure is present at the site but may need to be updated including:

- Access to the project area, as well as the site of the Marquez deposit shaft and former mill site is pre-existing with a well-constructed gravel road capable of supporting heavy truck traffic connecting the project site with a paved State highway. A haulage road between the shaft site and the former mill was constructed by the former operator of the project.
- Water wells with adequate supply for planned operations are present at the project.
- A high-voltage electrical transmission line extends into the property from a transformer substation located approximately 2 miles (3.2 kilometers) south of the project. This electrical line was constructed to provide power to the mine and mill facilities that were partially developed on the property and is adequate for planned operations.


TAILINGS FACILITY
MILL SITE
McKINLEY COUNTY
CIBOLA COUNTY
SANDOVAL COUNTY
LEGEND
COUNTY LINE
EXISTING ROADS
PROPERTY BOUNDARY
OVERHEAD UTILITIES
MINERALIZED DRILL HOLE
BARREN DRILL HOLE
MONITOR WELL LOCATION
MINE SHAFT LOCATION
GRAPHIC SCALE
600' 0 300' 600'
1 inch = 600'
ENCORE ENERGY – MARQUEZ & JUAN TAFOYA
43–101 TECHNICAL REPORT
SANDOVAL, CIBOLA & McKINLEY COUNTIES, NEW MEXICO
DRAWING NAME:
INFRASTRUCTURE MAP
DRAWN BY: CDS
REVISION NO.
DATE
BY
DATE DRAWN: 5/5/2021
CHECKED BY:
DATE LAST PLOT:
CAD FILE: ENCORE/BRSCAD/FIGURES/DRILL MAP.DWG
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18.1

19.0 Market Studies and Contracts

Uranium does not trade on the open market and many of the private sales contracts are not publicly disclosed. Monthly long-term industry average uranium prices based on the month-end prices are published by Ux Consulting, LLC, and Trade Tech, LLC. CIM Guidance of Commodity Pricing (November 28, 2015) reviews methods for determining an appropriate long-term commodity price assumption for use in cut-off calculations and to support assessment of “reasonable prospects of eventual economic extraction.” Industry accepted practice is to use "Consensus Prices" obtained by collating publicly available commodity price forecasts from credible sources.

The following provides a summary of TradeTech™ 4th quarter 2020 forecasts for 2020 (TradeTech™ 2020). TradeTech™ uranium price forecasts are based on Forward Availability Models (FAM). The FAM 1 model assume a good level of uranium production growth resulting is higher supply and more conservative pricing. In contrast FAM 2 assumes continued restricted project development resulting in lower supply and higher pricing. FAM 2 price forecasts are the most reasonable for purposes of this report, as they more closely reflect past and current market conditions. TradeTech™ provides both spot and long term contract or term pricing. For the purposes, of this report term pricing is assumed as larger projects are typically supported by long-term contracts.

Table 19.1 – Uranium Prices 2020 Through 2035

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
FAM 2 term* (nom)	$46	$48	$52	$53	$55	$58	$62	$67	$70	$76	$79	$82	$85	$88	$91
FAM 1 TERM (NOM)	$44	$45	$45	$46	$48	$51	$55	$58	$59	$59	$62	$64	$67	$70	$71

*TradeTech™ FAM 2: Uranium Market Price Forecasts (Nominal US$/lb U_3O_8) used for PEA.

The average price (FAM 2 NOM) over the period of 2021 through 2035 is US$67/lb. Discounting the projected price @ 2% per year, to account for inflation, yields a discounted average price of US$58/lb over the same period. For the economic analysis, Internal Rate of Return (IRR) and Net Present Value (NPV) were estimated at 2020 constant dollars assuming an average uranium price of US$60/lb. This analysis was compared to a future dollar case where the project production was assumed to begin in 2025 with CAPEX and OPEX escalated @ 2% per year from 2021 through 2035 with uranium price as projected in Table 19.1. In both cases the IRR was the similar. The future dollar case yielded a higher NPV. Thus, the Author recommends the more conservative constant dollar case with a price of US$60/lb for the economic analysis, Section 22 of this report.

20.0 Environmental Studies, Permitting, and Social or Community Impact

20.1 BASELINE STUDIES

enCore has not conducted or prepared any environmental baseline studies that would support a mine permit application for the combined projects. Neutron Energy, Inc. conducted preliminary baseline environmental studies to support the permitting and licensing of the Juan Tafoya Mine and the proposed uranium mill on the former Bokum Mill Site. This work continued from 2007 through 2010 before it was placed on hold in response to declining uranium prices. Likewise, in the 1980's, Kerr-McGee conducted baseline environmental studies. Prior to further permitting, enCore may have to perform new baseline environmental studies due to the age of the previous work by Neutron Energy Inc and Kerr-McGee.

20.2 SITE HYDROLOGY

In 2009, Neutron Energy Inc. prepared a report on the regional and local hydrology for the Juan Tafoya Mine. That report was preliminary, but it provides an adequate description of the hydrologic settings associated with the Juan Tafoya-Marquez Project. The hydrologic setting at the Site consists of ephemeral stream channels, shallow alluvial aquifers, and deeper regional aquifers. These hydrologic features of the Site are described in more detail in the following subsections.

20.2.1 Surface Water

The Cañón de Marquez, a tributary of the Rio Grande, is the major surface water feature at the Site. The headwaters of Cañón de Marquez are located on the Mesa Chivato at an elevation of approximately 7,500 feet. Cañón de Marquez is said to be perennial near its headwaters due to a small spring, Ojo de Marquez, that discharges through the highly permeable volcanic cap rock on Mesa Chivato approximately 3,500 feet west of the JTLC boundary (Bokum Resources, 1978; TVA, 1983) (Figure). Depending upon the season, some or all of the streamflow is diverted into a small reservoir and irrigation ditch (acequia) that is used by members of the JTLC. East of the village of Marquez, Cañón de Marquez is ephemeral. There has been no gauging of spring or stream flow in Cañón de Marquez that would provide historical information on seasonal spring flow fluctuations (TVA, 1983).

Other tributaries at the Site including Cañón de Santa Rosa and Cañón Seco are ephemeral and are highly dependent on seasonal precipitation and snowmelt (Figure 7).

20.2.2 Groundwater

Groundwater is regionally present in two types of aquifers: (1) unconfined alluvial aquifers thatare limited in extent and fluctuate in direct relationship to seasonal precipitation (short-term fluctuations) and climatic change (long-term fluctuations), and (2) deeper confined aquifers that vary greatly in water quantity and quality. Figure 7 illustrates locations of existing wells in and around the Site found through records searches and field reconnaissance. The water quality and quantity in the aquifers in the vicinity of the Site is described in the following subsections.

20.2.2.1 Alluvial Aquifers

Unconsolidated alluvial sediments that accumulate in the major drainage channels are locally and intermittently saturated. Alluvial deposits are composed of permeable sands and gravel that allow for infiltration following storm events. Because of their dependence on infrequent recharge, these aquifers are not dependable water sources, though several tribes in the area (Laguna and Acoma Pueblo) depend on these shallow aquifers for their drinking water. Generally, the water quality in the alluvial aquifers at the Site is of poor quality and the water is suitable only for small domestic or stock wells (TVA, 1983).

20.2.2.2 Gallup Sandstone

The Gallup Sandstone is the first major aquifer unit encountered at wells in the Site vicinity and is the drinking water source for the JTLC. Reported transmissivity values in the Gallup Sandstone range from 57 to 300 square feet per day (ft2/day) (NRC, 1980a). Measured sustainable discharge from 49 water wells in the San Juan Basin that were completed in the Gallup Sandstone ranges from less than 1 to 645 gallons per minute (gpm) with the median discharge being 42 gpm. The water is generally of good quality, containing total dissolved solids (TDS) concentrations of less than 2,000 milligrams per liter throughout the aquifer; it is a major source of potable or treatable water for the City of Gallup, Chaco Culture National Historical Park, and many small public distribution systems in the southern part of the San Juan Basin (Kernodle, 1996). Near the Site, wells completed in the Gallup Sandstone provide drinking and stock water to the village of

Marquez. The Gallup Sandstone is expected to be about 100 feet bgs at the mill site and is not present beneath the tailings site.

20.2.2.3 Tres Hermanos Sandstone

The Tres Hermanos Sandstone is the only unit in the Mancos Shale Formation that can yield potable water. The yield from these beds, which are discontinuous in the area, is typically low, from 5 to 20 gpm (Dinwiddie, 1964). The Tres Hermanos is expected to be about 700 feet bgs beneath the mill site, and about 350 to 530 feet bgs beneath the tailings site. Because it is low yielding and deep in the area of the Site, and because the research completed for this report did not reveal any water supplies wells completed in this unit, the Tres Hermanos Sandstone is not considered a viable aquifer of concern for the purposes of this analysis and will not be discussed further.

20.2.2.4 Dakota Formation

The Dakota Formation is approximately 500 to 1,000 feet bgs at the Site. Transmissivity values of 44 and 85 ft2/day were reported for aquifer tests conducted northeast of Crownpoint, New Mexico (Dames and Moore, 1977, cited by Kernodle, 1996). An aquifer test conducted east of Grants, New Mexico indicated transmissivity of 2,000 ft2/day (Risser and Lyford, 1983, cited by Kernodle, 1996). The quality of the water in the sandstone aquifers of the Dakota Formation generally is not as good as that of water in the underlying Westwater Canyon Member of the Morrison Formation (Kernodle, 1996); however, in the southern part of the San Juan Basin, the Dakota Formation is hydraulically connected with the underlying Morrison Formation (Cooley and Weist, 1979; Stone et al., 1983; Craigg et al., 1989). The reported or measured discharge from 30 water wells completed in the Dakota ranges from 1 to 75 gpm with a median of 12 gpm (Kernodle, 1996). Although the Dakota Formation is a regionally-important aquifer, low local yields and poor water quality resulting from naturally-occurring sulfide and uranium minerals make the water from this aquifer unfit for consumption in some areas of New Mexico.

20.2.2.5 Westwater Canyon Sandstone

The Westwater Canyon Sandstone is both a principal uranium ore-bearing zone in the Grants Mineral Belt and a source of potable water in the southern San Juan Basin. It is separated from the Dakota Formation aquifer by the Brushy Basin Member of the Morrison Formation, which consists of approximately 160 feet of shale and limestone. The Westwater Canyon Sandstone varies in thickness from 100 feet on the north, east, and south sides of the San Juan Basin to about 300 feet in the west-central part of the basin (Craig et al., 1955, cited by Kernodle, 1996).

A groundwater flow model of the Westwater Canyon Formation northeast of Gallup, New Mexico indicated the aquifer has a transmissivity of 300 ft2/day (Hearne, 1977, cited by Kernodle, 1996). The median discharge reported from 83 water wells completed in the Morrison Formation across the San Juan Basin is 30 gpm with a range from 1 to 2,250 gpm. Generally, yields are high and transmissivity values range from 2 to 490 ft2/day (TVA, 1983). However, the Morrison Formation has been greatly influenced by aquifer dewatering associated with previous uranium mining in the areas west of Mt. Taylor. Like the Dakota Formation, the Westwater Canyon Sandstone is a regionally-important aquifer, but locally poor water quality resulting from naturally-occurring sulfide and uranium minerals make the water from this aquifer unfit for consumption in some areas. It is expected to be approximately 2,000 feet bgs at the Site.

20.2.2.6 San Andres Limestone and the Glorieta Sandstone

The Pemian-age San Andres Limestone consists of limestone with minor dolomite, shale, siltstone, and gypsum. The top of the formation was exposed and eroded during Triassic time (McLemore, 1998; Summers and Kottlowski, 1969). The Permian-age Glorieta Sandstone is described near Bluewater Lake in the Zuni Mountains. It is typically cross bedded, indicating deposition as eolian dunes and in local stream channels along the shore of the Permian sea that extended across New Mexico (McLemore, 1998.). The Glorieta was deposited along the coast or in shallow water as the seas began to cover the region (USGS, 2005). Both formations provide water supplies in certain areas of the State; however, based on the research completed for this report, there are no water supply wells in these formations in the area of the Site most likely because these formations are over 4,000 to 6,000 feet bgs in the study area. Therefore, these aquifers will not be considered further in this report.

20.3 PROJECT PERMITTING

20.3.1 PERMITTING REQUIREMENTS - STATE

Mine permitting authority in New Mexico resides primarily with the Mining and Minerals Division MMD) of the New Mexico Energy, Minerals, and Natural Resources Department. The permitting process entails preparation of three major documents: a Sampling and Analysis Plan, a Baseline Data Report, and a Mining, Operations and Reclamation Plan. In October

The New Mexico Environment Department (NMED) regulates mining operations through the issuance of a Discharge Permit and establishment of standards for discharges or potential releases from mining operations. The Discharge Permit requires characterization of all materials or structures (e.g., waste rock piles) that could be exposed to environmental dispersal agents, and designs for all systems that will be used to prevent or control potential releases to the environment (e.g., liner systems for ponds).

Mine dewatering is regulated by the New Mexico Office of the State Engineer (NMOSE) through approval of a Mine Dewatering Permit. Under the Mine Dewatering Act, the applicant is required to provide a Plan of Replacement for wells or other water sources that could be impaired by the proposed dewatering activities over the Projected life of the mine. Water pumped from the mine is considered “produced” water and conveys no water right but can be used for beneficial purposes.

20.3.2 PERMITTING REQUIREMENTS- FEDERAL

All of the surface ownership for the Juan Tafoya-Marquez Project is former Spanish Land Grant that is owned in fee by others that enCore leases. There is no Federal Land Management Agency such the Department of Interior or Department of Agriculture.

Federal approvals needed are a discharge permit (NPDES) for the discharges related to dewatering and approval of radon releases from the mine under the National Emission Standards for Hazardous Air Pollutants (NESHAPs) regulations, both issued by the U.S. EPA.

If enCore intends to use radiometric ore sorting or construct a surface uranium recovery facility such as a uranium mill or a heap leach, along with the related tailings management facility, a Source Material License will be required to be issued by the U.S. Nuclear Regulatory Commission. In this case, upon decommissioning of the uranium recovery facility and closure of the tailings management facility, the site will be transferred to the U.S. Department of Energy, Office of Legacy Management. This will be completed in a manner similar to the nearby L-Bar Mill Tailings site.

Table 20-1 lists the major permits needed to construct a new underground uranium mine in the State of New Mexico. Because it is anticipated that there would be no processing or concentrating of natural ore at the mine site, no U.S. Nuclear Regulatory Commission (NRC) approvals are needed.

TABLE 20.3 - 1 MAJOR AND MINOR JUAN TAFOYA-MARQUEZ PROJECT PERMITS

AGENCY PERMIT OR APPROVAL	
FEDERAL	
U.S. Army Corps of Engineers	Nationwide 44 Permit (Section 404 compliance)
U.S. Environmental Protection Agency	Spill Prevention Control and Countermeasures Plan (SPCC) Notification of Hazardous Waste Activity Storm Water Pollution Prevention Plan (SWPPP) Subpart A of the Radionuclide National Emission Standards for Hazardous Air Pollutants (NESHAPs) National Pollutant Discharge Elimination System (NPDES) permit
U.S. Fish and Wildlife Service	Threatened and Endangered Species (Section 7 Consultation)
Federal Communications Commission	Radio authorizations
U.S. Department of Transportation	Requirements for transport and handling of radioactive material including ore
Treasury Department (Bureau of Alcohol, Tobacco, Firearms and Explosives)	Explosives use permits
Mine Safety and Health Administration	Mine Identification Number Legal Identity Report Ground Control Plan Miner Training Plan Worker exposure standards
STATE	
New Mexico Energy, Minerals and Natural Resources, Department, Mining and Minerals Division	New Mine Permit
New Mexico Environment Department – Groundwater Bureau	Discharge Permit
New Mexico Environment Department – Drinking Water Bureau	Public water supply system

New Mexico Environment Department –Waste Management Bureau	Solid Waste System Permit
New Mexico Environment Department – Petroleum Storage Tank Bureau	Registration of diesel and petroleum tanks
New Mexico Office of the State Engineer	Permit to Appropriate Waters Mine Dewatering Permit Dam Safety Drilling Permit
New Mexico Game & Fish Department	Wildlife consultation
State Historic Preservation Office	Section 106 (NHPA) consultation
New Mexico Department of Transportation	Road Access ROW and Pipeline Construction
McKinley and Sandoval Counties	Building Department Building Permits Septic System Approval

20.3.3 CURRENT PERMIT STATUS

The Company only has one permit in effect at this time. In 2015, the New Mexico Energy, Minerals and Natural Resources Department renewed Exploration Permit; Marquez Canyon Exploration Project, Permit No. MK023ER-R6.

20.4 SOCIAL OR COMMUNITY REQUIREMENTS

Any permitting activities for the Project will require a two part review process. Upon completion of the technical review by the regulatory agency on specific approval actions, the agency's decision will be made available to the public for review and comment prior to issuance of any major approvals. When the Company begins to advance the permitting process, it will work closely with the regulatory agencies, government officials, and the local community to assure transparency as the Project is advanced.

20.5 ARCHAEOLOGICAL AND TRADITIONAL CULTURAL PROPERTY

Consideration of archaeological and cultural resources is an important part of the USFS and State of New Mexico permitting processes. The company will need to conduct cultural resource surveys of the Juan Tafoya-Marquez Project area. Prior to the field survey, a literature search will be conducted of the National Register of Historic Places (NRHP), the State Register of Cultural Properties, and the Archaeological Records Management Section of the State Historic Preservation Division (HPD). Following the literature search, detailed field surveys will be completed to identify cultural resources within the Project area boundary and proposed access corridors, so that appropriate mitigation measures could be implemented in advance of any construction and operations. Archaeological sites will be inventoried and mapped as required by the State of New Mexico SHPO regulations. Detailed inventory reports prepared by LMASI and submitted to the USFS and SHPO for review. If necessary, facility layouts were adjusted to avoid eligible archaeological sites wherever feasible to do so.

20.6 MINE CLOSURE REQUIREMENTS

20.6.1 Reclamation

Reclamation and closure of the entire mine and surface facilities will be conducted in accordance with the methods and commitments made in the Mining, Operations and Reclamation Plan (MORP).

Reclamation and closure will be based on the following general objectives:

- Reclamation goals and objectives will be considered during design and planning of construction and operations;
- Concurrent (progressive) reclamation will be implemented where possible.
- Upon cessation of operations, the areas will be decommissioned and rehabilitated to allow for future land use as guided by the federal, state and local agencies; and
- Reclamation and closure will ensure that long-term physical and chemical stability is provided.

The initial reclamation and closure plan prepared for the mine and surface facilities will be living documents that will be updated throughout the Project's life to reflect changing conditions and the input of the applicable federal and state regulatory agencies. The primary reclamation activities will involve backfilling mine workings, removal of surface facilities and infrastructure, re-contouring and scarifying disturbed areas, applying stockpiled organics, and re-vegetation in accordance with seed mixtures and methods that are required for the MORP.

20.6.2 Reclamation and Closure

A detailed closure plan will be developed for the Project. The closure plan will be developed using the guidelines noted above. enCore will be required to post a reclamation performance bond with the State of New Mexico prior to approval of the Permit to Mine. The New Mexico Mining and Minerals Division (MMD) regulations allow for phased bonding, and enCore intends to prepare those cost estimates in phases of site development.

21.0 Capital and Operating Costs

Project cost estimates are based on a conventional room and pillar underground mine operation with on-site processing via a conventional acid mill. All costs are estimated in Constant 2021 U.S. Dollars. Mining and mineral recovery methods and annual schedules are described in Sections 17 and 18, respectively. The currently planned mine life is 15 years. The estimated annual cash flow follows.

OPEX and CAPEX costs reflect a full and complete operating cost going forward including all pre-production costs, permitting costs, mine and mineral processing costs through the production of yellowcake, and compete reclamation and closure costs for of the mine and mill. CAPEX does not include sunk costs or acquisition costs.

Production		Totals				years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Mine Rate 1000 tpd 330 m tons/year					tpy																		
C Sand (A area)																							
Total Tons (Ratio 1.3:1)		1,222					137	144	169	131	114	105	105	105	105	105	-	-	-	-	-		1,222
Tons of Waste		282			tpy		32	33	39	30	26	24	24	24	24	24	-	-	-	-	-		282
Tons of Resource (x1,000)		940			tpy		105	111	130	101	88	81	81	81	81	81							940
Selective handling to separate waste reduce ton		658					74	78	91	71	62	57	57	57	57	57	-	-	-	-	-		658
Pounds U3O8 Contained (x1,000)		3,445					418	364	595	379	434	251	251	251	251	251							3,445
Selective handling to separate waste - loss 5% l		3,273					397	346	565	360	412	238	238	238	238	238	-	-	-	-	-		3,273
Grade % U3O8		0.249					0.270	0.223	0.311	0.255	0.335	0.210	0.210	0.210	0.210	0.210							0.249
D Sand (C, F, and G1 areas)																							
Total Tons		4,811					239	270	205	189	287	276	276	276	276	276	449	449	449	449	449		4,811
Tons of Waste		1,110			tpy		55	62	47	44	66	64	64	64	64	64	104	104	104	104	104		1,110
Tons of Resource		3,701			tpy		184	208	158	145	221	212	212	212	212	212	345	345	345	345	345		3,701
Selective Handling to remove waste reduce tons		2,591					129	146	111	102	155	148	148	148	148	148	242	242	242	242	242		2,591
Pounds U3O8 Contained (x1,000)		9,380					538	591	438	456	602	533	533	533	533	533	818	818	818	818	818		9,380
Selective Handling to remove waste - loose 5% l		8,911					511	561	416	433	572	506	506	506	506	506	777	777	777	777	777		8,911
Grade % U3O8		0.172					0.198	0.193	0.188	0.213	0.185	0.171	0.171	0.171	0.171	0.171	0.161	0.161	0.161	0.161	0.161		0.172
Total Tons		6,033					376	415	374	320	402	381	381	381	381	381	449	449	449	449	449	0	6,033
Tons of Waste		1,392					87	96	86	74	93	88	88	88	88	88	104	104	104	104	104	-	1,392
Tons of Resource		3,249					202	223	202	172	216	205	205	205	205	205	242	242	242	242	242	0	3,249
Pounds U3O8 Contained		12,184					908	907	981	793	984	745	745	745	745	745	777	777	777	777	777		12,184
Grade % U3O8		0.188					0.224	0.203	0.243	0.230	0.228	0.182	0.182	0.182	0.182	0.182	0.161	0.161	0.161	0.161	0.161		0.188
Recovered Pounds 95% Recovery		95%					863	862	932	754	935	708	708	708	708	708	738	738	738	738	738	-	11,575
Pounds Sold		11,575					863	862	932	754	935	708	708	708	708	708	738	738	738	738	738	0	11,575
Price per Pound	$	60.00					60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
GROSS REVENUES							$ 51,767	$ 51,713	$ 55,937	$ 45,215	$ 56,099	$ 42,454	$ 42,454	$ 42,454	$ 42,454	$ 42,454	$ 44,295	$ 44,295	$ 44,295	$ 44,295	$ 44,295	$ -	$ 694,474
Direct Costs:																							
MINE OPEX																							
OPEX cost per ton Muck (Ore + Waste)	$	50.49	per total tons				$ 18,969	$ 20,938	$ 18,903	$ 16,147	$ 20,282	$ 19,232	$ 19,232	$ 19,232	$ 19,232	$ 19,232	$ 22,645	$ 22,645	$ 22,645	$ 22,645	$ 22,645	$ -	304,621
Hoisting Cost	$	0.67	per total tons				$ 136	$ 150	$ 135	$ 115	$ 145	$ 137	$ 137	$ 137	$ 137	$ 137	$ 162	$ 162	$ 162	$ 162	$ 162		2,177
Haul from Mine to Processing Facility	$	0.40	per resource ton				$ 81	$ 89	$ 81	$ 69	$ 87	$ 82	$ 82	$ 82	$ 82	$ 82	$ 97	$ 97	$ 97	$ 97	$ 97	$ -	1,299
Total Mine OPEX						$ -	$ 19,186	$ 21,177	$ 19,119	$ 16,331	$ 20,513	$ 19,451	$ 19,451	$ 19,451	$ 19,451	$ 19,451	$ 22,903	$ 22,903	$ 22,903	$ 22,903	$ 22,903	$ -	308,097
Reclamation and Closure*																							
$1.50/cy	$	7,500	Total cost																			$ 7,500	7,500
Seal shaft and vents	$	2,000	Total cost																			$ 2,000	2,000
Reclaim 100 acres @ $2,000/acre	$	200	Total cost																			$ 200	200
salvage	$	-																					
Total Reclamation and Closure	$	9,700	Total cost																			**$ 9,700**	**9,700**
Reclamation Bond Mine	$	9,700	bond, 2% fee			**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**194**		**3,104**
Taxes & Royalties																							
NM Excise Tax (0.75% @$60/lb spot)	$	0.45	cost per pound			$ -	$ 388	$ 388	$ 420	$ 339	$ 421	$ 318	$ 318	$ 318	$ 318	$ 318	$ 332	$ 332	$ 332	$ 332	$ 332	$ -	5,209
NM Severance Tax (1.75% @$60/lb spot)	$	1.05	cost per pound			$ -	$ 906	$ 905	$ 979	$ 791	$ 982	$ 743	$ 743	$ 743	$ 743	$ 743	$ 775	$ 775	$ 775	$ 775	$ 775	$ -	12,153
NM Conervation Tax (0.19% @$60/lb spot)	$	0.11	cost per pound			$ -	$ 98	$ 98	$ 106	$ 86	$ 107	$ 81	$ 81	$ 81	$ 81	$ 81	$ 84	$ 84	$ 84	$ 84	$ 84	$ -	1,320
Lease Payments	$	365.83	$US x 1,000/year			$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	$ 366	6,219
Royalties (4% $60/lb)	$	2.40	cost per pound			$ -	$ 2,071	$ 2,069	$ 2,237	$ 1,809	$ 2,244	$ 1,698	$ 1,698	$ 1,698	$ 1,698	$ 1,698	$ 1,772	$ 1,772	$ 1,772	$ 1,772	$ 1,772	$ -	27,779
Overriding Royalty (2.5 % net profits - Used 2.5% @	$	0.50	cost per pound			$ -	$ 431	$ 431	$ 466	$ 377	$ 467	$ 354	$ 354	$ 354	$ 354	$ 354	$ 369	$ 369	$ 369	$ 369	$ 369	$ -	5,787
Total Taxes and Royalties						**$ -**	**$ 3,829**	**$ 3,825**	**$ 4,108**	**$ 3,391**	**$ 4,119**	**$ 3,206**	**$ 3,206**	**$ 3,206**	**$ 3,206**	**$ 3,206**	**$ 3,329**	**$ 3,329**	**$ 3,329**	**$ 3,329**	**$ 3,329**	**$ 366**	**$ 52,313**
OPEX Mill			per year				**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ 12,270**	**$ -**	**$ 184,050**
TOTAL DIRECT COSTS	**$**	**48.15**	**cost per pound recovered**			**$ 194**	**$ 35,479**	**$ 37,467**	**$ 35,691**	**$ 32,186**	**$ 37,096**	**$ 35,121**	**$ 35,121**	**$ 35,121**	**$ 35,121**	**$ 35,121**	**$ 38,696**	**$ 38,696**	**$ 38,696**	**$ 38,696**	**$ 38,696**	**$ 10,066**	**$ 557,265**
Cash Flow						**$ (194)**	**$ 16,289**	**$ 14,247**	**$ 20,246**	**$ 13,030**	**$ 19,003**	**$ 7,333**	**$ 7,333**	**$ 7,333**	**$ 7,333**	**$ 7,333**	**$ 5,598**	**$ 5,598**	**$ 5,598**	**$ 5,598**	**$ 5,598**	**$ (10,066)**	**$ 137,209**
Capital Expenditures:																							
Development Drilling					$ 500	$ 500	$ 500																$ 1,500
Engineering Design, permitting and CM					$ 1,000	$ 2,000	$ 1,000																$ 4,000
Hoist Replace and Shaft Rehab							$ 4,300																$ 4,300
Ug Mine Equip							$ 13,400																$ 13,400
Office, Shop, and Dry							$ 3,200																$ 3,200
Ventilation/Escape shafts							$ 2,500				$ 4,500												$ 7,000
Mine Equipment with replacement @ 5% per year							$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670				$ 8,710
Mill total							$ 30,200																$ 30,200
Tailings							$ 7,000																$ 7,000
Working Capital (2 months opex costs credited @ end)							$ 4,000														$ (4,000)		$ -
TOTAL CAPITAL EXPENDITURES				**$ -**	**$ 1,500**	**$ 2,500**	**$ 66,770**	**$ 670**	**$ 670**	**$ 670**	**$ 5,170**	**$ 670**	**$ 670**	**$ 670**	**$ 670**	**$ 670**	**$ 670**	**$ 670**	**$ 670**	**$ -**	**$ (4,000)**	**$ -**	**$ 79,310**
NET CASH FLOW PRE TAX				**$ -**	**$ (1,500)**	**$ (2,694)**	**$ (50,481)**	**$ 13,577**	**$ 19,576**	**$ 12,360**	**$ 13,833**	**$ 6,663**	**$ 6,663**	**$ 6,663**	**$ 6,663**	**$ 6,663**	**$ 4,928**	**$ 4,928**	**$ 4,928**	**$ 5,598**	**$ 9,598**	**$ (10,066)**	**$ 57,899**
CUMULATIVE NET CASH FLOW:				$ -	$ (1,500)	$ (4,194)	$ (54,675)	$ (41,099)	$ (21,523)	$ (9,163)	$ 4,670	$ 11,333	$ 17,995	$ 24,658	$ 31,320	$ 37,983	$ 42,911	$ 47,839	$ 52,768	$ 58,366	$ 67,965	$ 57,899	
CORPORATE TAXES AS STAND ALONE PROJECT																							
Amortization/Depreciation of Initial Capital Expenditures				$ -			$ 4,718	$ 4,718	$ 4,718	$ 4,718	$ 4,718	$ 4,718	$ 4,718	$ 4,718	$ 4,718	$ 4,718	$ 4,258	$ 4,258	$ 4,258	$ 5,178	$ 5,638		**$ 70,770**
Expense Replacement Capital								$ 670	$ 670	$ 670	$ 5,170	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ 670	$ -	$ (4,000)	$ -	**$ 8,540**
Taxable Income before Percentage Depletion					$ -				$ 4,082	$ 6,972	$ 3,945	$ 1,275	$ 1,275	$ 1,275	$ 1,275	$ 1,275	$ 0	$ 0	$ 0	$ 420	$ 7,960	$ (10,066)	**$ 19,687**
Depletion @ 22%								$ -	$ 898	$ 1,534	$ 868	$ 280	$ 280	$ 280	$ 280	$ 280	$ 0	$ 0	$ 0	$ 92	$ 1,751	$ (2,214)	$ 4,331
Federal Taxable Income								$ -	$ 3,184	$ 5,438	$ 3,077	$ 994	$ 994	$ 994	$ 994	$ 994	$ 0	$ 0	$ 0	$ 328	$ 6,209	$ (7,851)	$ 15,356
																							$ -
Total Income Tax 21%								$ -	$ 669	$ 1,142	$ 646	$ 209	$ 209	$ 209	$ 209	$ 209	$ 0	$ 0	$ 0	$ 69	$ 1,304	$ (1,649)	$ 3,225
NET CASH FLOW POST TAX				$ -	$ (1,500)	$ (2,694)	$ (50,481)	$ 13,577	$ 18,907	$ 11,218	$ 13,187	$ 6,454	$ 6,454	$ 6,454	$ 6,454	$ 6,454	$ 4,928	$ 4,928	$ 4,928	$ 5,530	$ 8,294	$ (8,417)	**$ 54,674**
CUMULATIVE NET CASH FLOW:				$ -	$ (1,500)	$ (4,194)	$ (54,675)	$ (41,099)	$ (22,191)	$ (10,974)	$ 2,213	$ 8,667	$ 15,121	$ 21,575	$ 28,028	$ 34,482	$ 39,410	$ 44,339	$ 49,267	$ 54,797	$ 63,091	$ 54,674	

Unit Costs are in US Dollars; Cost Totals are in US Dollars x 1,000; and Quantities (Tons, Pounds, and Cubic Yards) are x 1,000.

22.0 Economic Analysis

This report includes disclosure permitted under Section 2.3(3) of NI 43-101 as the PEA includes a portion of the indicated mineral resources shown in Section 14 of the report. Mineral resources that are not mineral reserves and do not have demonstrated economic viability. The PEA is preliminary in nature and there is no certainty that the preliminary economic assessment will be realized. The PEA is described elsewhere in this report and is based on the qualifications and assumptions described herein.

22.1 Life of Mine Cost Summary

The cost model, Table 21.3, is in constant US dollars (2021) and was based on a constant commodity price of US$60 per pound of uranium oxide. Life of mine costs are summarized in Table 22.1.

Table 22.1 – Life of Mine Cost Summary

Cost Center	Total Cost US$ (x1,000)*	Cost per Pound Recovered US$
OPEX Mine	$308,000	$26.62
OPEX Mill	$184,000	$15.90
Decommissioning and Reclamation	$13,000	$1.11
Taxes and Royalties	$53,000	$4.55
TOTAL CAPITAL (Life-Of-Mine)	$558,000	$15.90

*rounded

22.2 Pre-Tax Rate of Return and NPV

The Project has a positive rate of return as follows.

IRR PRE INCOME TAX	17%
NPV 5%	$ 28,293
NPV 7%	$ 20,595
NPV 10%	$ 11,856

22.3 After Tax Considerations

Tax considerations, with respect to US income tax, are based on a stand-alone operation and include a depletion tax credit equivalent to 22% of 50% of the expenses for uranium and a US corporate federal income tax rate of 21%. Table 22.3 summarizes the estimated after-tax IRR and NPV for a range of discount rates in US$ x 1,000.

IRR POST INCOME TAX	16%
NPV 5%	$ 25,900
NPV 7%	$ 18,473
NPV 10%	$ 10,082
NPV 15%	$ 1,077

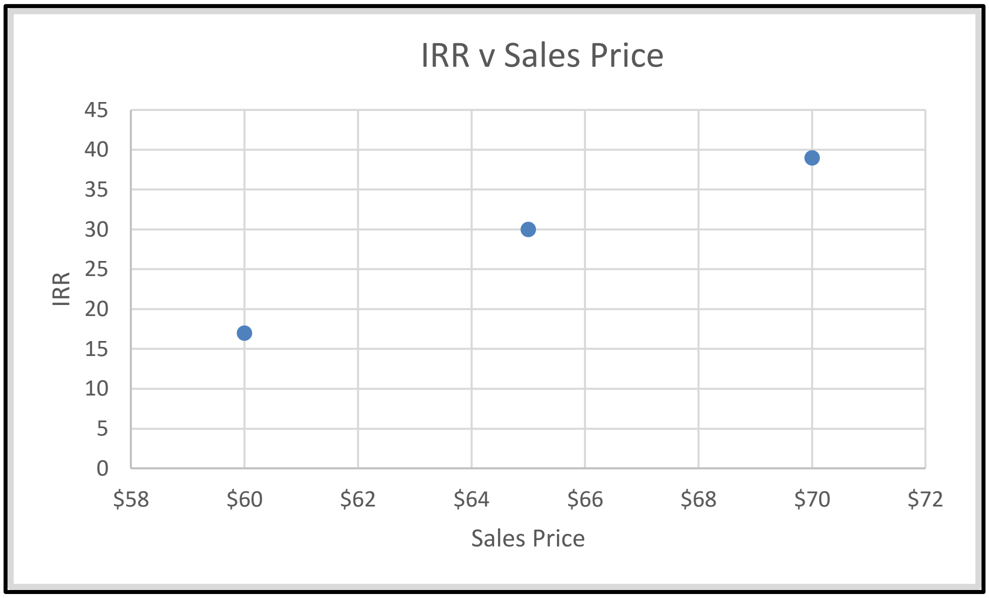
22.4 Sensitivity

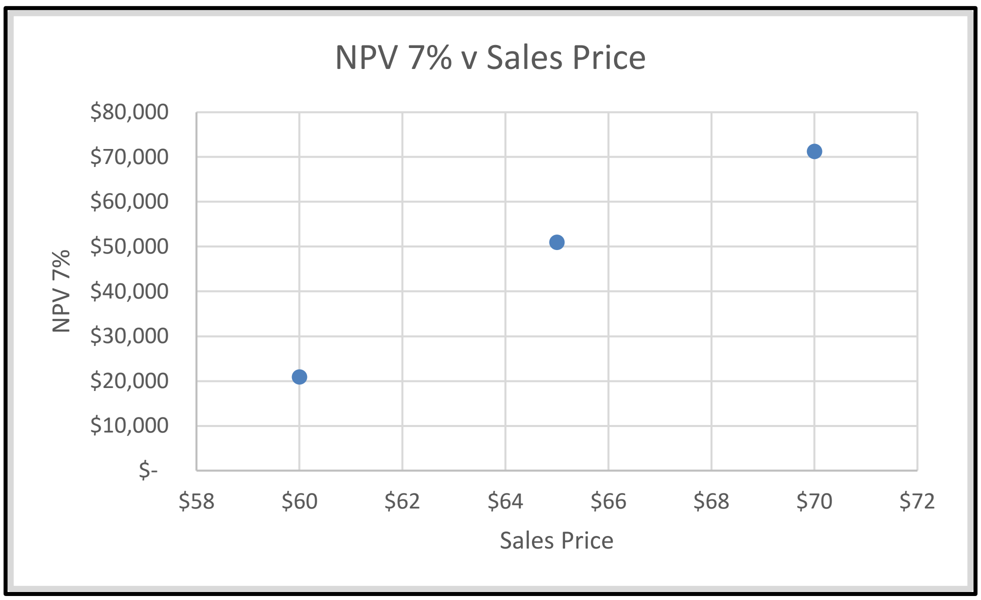
Project economic sensitivities were evaluated with respect to commodity price, resource recovery, mined grade, CAPEX, and OPEX. Overall, the project the project is most sensitive to mined grade, resource recovery, and commodity price. The project is less sensitive to variations in OPEX and is the least sensitive to variations in CAPEX, as follows.

10% Change	IRR	NPV 7%*
Price	13%	$ 30,000
Recovery	15%	$ 35,000
Grade	16%	$ 37,000
CAPEX	5%	$ 6,400
OPEX	10%	$ 26,000
		*rounded

The subsequent table and figures display the projects sensitivity to these criteria for IRR and NPV 7% for commodity price. The breakeven commodity price is approximately US$56 per pound U_3O_8.

Commodity Price per Pound U_3O_8	IRR (%)	NPV @ 7% Discount Rate UD$ x 1,000
$ 56	5	nil
$ 60	17	$ 20,914
$ 65	30	$ 50,970
$ 70	39	$ 71,199





22.5 Payback Period

Referring to the cash flow (Table 21.3) the payback period is approximately 5 years.

22.6 Consideration of Inferred Mineral Resources

The base case economic analysis considered only the Indicated mineral resources for the project. For the PEA, a GT cutoff of 0.80 was applied and areas of isolated mineralization, less than 20,000 pounds of uranium, were excluded.

23.0 Adjacent Properties

The Project is within the Grant Uranium Belt and as such there are numerous areas of historic mining and milling operations, as well as numerous advanced stage projects controlled by others. The are no current mineral processing facilities in the Grants Uranium Belt. The nearest processing facility is approximately 300 miles to the northwest, the White Mesa mill, owned by Energy Fuels.

24.0 Other Relevant Data and Information

24.1 Groundwater Levels and Quality

Historic groundwater quality data in the vicinity of the mine shaft show Radium-226 levels below drinking water standards (Intera, 2008). This and other historic water quality parameters indicate the mine waters could be discharged and/or would be suitable for use as mill process water.

The water level associated with the Westwater Canyon Member (host sandstone) is approximately 6130 feet above mean sea level as compared to the shaft collar elevation of approximately 6980 feet above mean sea level or a depth of approximately 850 feet below the ground surface (Intera, 2009). Specific information relative to mine inflow and dewatering requirements were not available.

For the PEA it was assumed that water from mine dewatering would be used for mineral processing. If the volume of water produced form mine dewatering was not sufficient enCore has sufficient water rights from other sources for mineral processing.

There is a risk that the mine dewatering volume could exceed mineral processing requirements and/or the water quality would not meet discharge standards. In that event some form of water treatment may be required.

25.0 Interpretations and Conclusions

The PEA for the Marquez and Juan Tafoya project includes an underground conventional mine operation with on-site mineral processing. The underground mine operations would be concurrent with a mine life of approximately 15 years. This is the first time since the initial discoveries that these two adjacent areas of mineralization have been held by the same party.

The project, given the assumptions stated herein, would be profitable with a US$60 per pound selling price. In constant dollars the project is estimated to generate an IRR of 17% before taxes and has an NPV of approximately US$20.5 million at a 7% discount rate. (Refer to Section 22)

The technical risks related to the project are considered to be low as the mining and recovery methods are proven. The mining and mineral processing methods proposed have been employed successfully in the vicinity and regionally for deposits of a similar nature and geologic setting.

The project was once permitted for similar operations but did not go forward due falling uranium prices in the 1980's. The project is located on private land and the mine and mill areas have been previously disturbed. The major permits required include a Source and Byproduct Materials License from the NRC and a mining permit from the state of New Mexico. Based on regional opposition to similar project in the region some level of opposition to the project should be expected. However, overall, the Fraser Institute Annual Survey of Mining Companies, 2020 ranks New Mexico as 10th out of 80 jurisdictions on their Policy Perception Index, which indicates a favorable perception by the mining industry towards New Mexico mining policies.

The author is not aware of any other specific risks or uncertainties that might significantly affect the mineral resource and reserve estimates or the consequent economic analysis. Estimation of costs and uranium price for the purposes of the economic analysis over the life of mine is by its nature forward-looking and subject to various risks and uncertainties. No forward-looking statement can be guaranteed, and actual future results may vary materially.

Readers are cautioned that it would be unreasonable to rely on any such forward-looking statements and information as creating any legal rights, and that the statements and information are not guarantees and may involve known and unknown risks and uncertainties, and that actual results are likely to differ (and may differ materially) and objectives and strategies may differ or change from those expressed or implied in the forward-looking statements or information as a result of various factors. Such risks and uncertainties include risks generally encountered in the exploration, development, operation, and closure of mineral properties and processing facilities. Forward-looking statements are subject to a variety of known and unknown risks, uncertainties and other factors which could cause actual events or results to differ from those expressed or implied by the forward-looking statements, including, without limitation:

- risks associated with mineral resource estimates, including the risk of errors in assumptions or methodologies;
- risks associated with estimating mineral extraction and recovery, forecasting future price levels necessary to support mineral extraction and recovery and the Company's ability to increase mineral extraction and recovery in response to any increases in commodity prices or other market conditions;
- uncertainties and liabilities inherent to conventional mineral extraction and recovery;
- geological, technical and processing problems, including unanticipated metallurgical difficulties, less than expected recoveries, ground control problems, process upsets, and equipment malfunctions;
- risks associated with labor costs, labor disturbances, and unavailability of skilled labor;
- risks associated with the availability and/or fluctuations in the costs of raw materials and consumables used in the production processes;
- risks associated with environmental compliance and permitting, including those created by changes in environmental legislation and regulation, and delays in obtaining permits and licenses that could impact expected mineral extraction and recovery levels and costs;
- actions taken by regulatory authorities with respect to mineral extraction and recovery activities;
- risks associated with dependence on third parties in the provision of transportation and other critical services; and
- risks associated with the assumptions and general level of accuracy of a PEA.

26.0 Recommendations

The project is sensitive to mining factors including resource recovery, dilution, and grade, and the sizing and sorting of mine materials and mineral processing and recovery. The project is also subject to scrutiny with respect to environmental considerations. Recommendations are summarized by mineral tenor, mine and mineral resource, mineral processing, and environmental including but are not limited to:

- Mineral tenor and rights should be confirmed, and leases updated.
- Mine and mineral resources
    - The condition of the existing mine and vent shaft should be determined. This could include accessing the shafts, examining the interior of the shafts via downhole camera, lidar (above the water table) and/or sonar (below the water table)
    - Hydrological studies are recommended using existing wells to determine potentiometric water levels, hydraulic properties of the Westwater Canyon Member, and predict groundwater inflow during mining operations.
    - Groundwater quality studies using existing wells to determine water quality parameters and assess suitability for use in mineral processing and/or treatment and discharge.
    - Coring to define disequilibrium conditions and to collect a representative bulk sample of the mineralized material for geotechnical and metallurgical studies.
    - Geotechnical studies would include material classification, compressive strength and related parameters.
- Mineral processing
    - Representative bulk samples from coring should be tested for:
        - the variability of uranium grade by size fraction.
        - suitability of the material for radiometric sorting.
        - parameters related to grinding, leaching characteristic via acid and alkaline lixiviants, process recovery, solvent extraction, yellow cake precipitation, and yellow cake impurity levels.
    - Suitability of the material for heap and/or in-situ recovery should be evaluated.

- Environmental
    - An environmental audit should be completed.
    - Status of all previously conducted environmental baseline studies should be determined and follow up studies and/or sampling should be conducted to maintain the studies in accordance with current regulations and practices.
    - The fatal flaw analysis for mill and tailings site in 2008 should be reviewed and updated as appropriate.
    - Public outreach within the local communities should be revived.
- Southeast Deposit
    - Review past drilling and other geologic information relative to the Southeast Deposit.
    - As appropriate and an investigative program should be recommended to evaluate the mineral resources and potential economic recovery methods for mineralization in this area.
- Update Mineral Resource Estimates and PEA

Cost estimates are summarized in Table 26.1. Most of the costs are one time expenditures. Maintaining environmental baselines studies as current and public outreach will have ongoing annual costs.

Table 26.1 – Recommendations

Mineral Tenor and Leases	**$**	**50,000**
Mine and Mineral Resources		
Shaft Condition	$	50,000
Hydrological Study	$	250,000
Groundwater Quality	$	50,000
Coring	$	1,000,000
Sample Analysis	$	50,000
Geotechnical Testing	$	100,000
Subtotal Mine and Mineral Resources	**$**	**1,500,000**
Mineral Processing		
Sizing and Sorting	$	150,000
Metallurgical Testing	$	250,000
Heap and ISR evaluation	$	100,000
Subtotal Mineral Processing	**$**	**500,000**
Environmental		
Audit	$	50,000
Status and Update Baseline Studies	$	250,000
Fatal Flaw Analysis	$	50,000
Public Outreach	$	150,000
Subtotal Environmental	**$**	**500,000**
Southeast Deposit	**$**	**50,000**
Update Mineral Resources and PEA	**$**	**100,000**
GRAND TOTAL	**$**	**2,700,000**

27.0 References

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Tradetech, 2020, Uranium Market Study Issue 4.

28.0 Signature Page and Certification of Qualified Person

I, Douglas L. Beahm, P.E., P.G., do hereby certify that:

1. I am the Principal Engineer and President of BRS, Inc., 1130 Major Avenue, Riverton, Wyoming 82501.
2. I am the author of the report "Marquez-Juan Tafoya Uranium Project, 43-101 Technical Report, Preliminary Economic Assessment" dated June 9, 2021.
3. I graduated with a Bachelor of Science degree in Geological Engineering from the Colorado School of Mines in 1974. I am a licensed Professional Engineer in Wyoming, Colorado, Utah, and Oregon; a licensed Professional Geologist in Wyoming; a Registered Member of the SME.
4. I have worked as an engineer and a geologist since 1974. My work experience includes uranium exploration, mine production, and mine/mill decommissioning and reclamation. Specifically, I have worked with numerous uranium projects hosted in sandstone environments in Wyoming.
5. I was last present at the site on May 25, 2012.
6. I am responsible for all sections of the report with the exception of Sections 13 and 17 where I relied upon Terence McNulty, co-author, and those portions of Sections 4, 19, and 20, where I relied on enCore as stated in Section 3.
7. I am independent of the issuer in accordance with the application of Section 1.5 of NI 43-101. I have no financial interest in the property and am fully independent of enCore Energy. I hold no stock, options or have any other form of financial connection to enCore. enCore is but one of many clients for whom I consult.
8. I do have prior working experience on the property as stated in the report.
9. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of my education, professional registration, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
10. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with same.
11. As of the date of this report, to the best of my knowledge, information and belief, the parts of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

June 9 , 2021

"original signed and sealed"

/s/ Douglas L. Beahm

Douglas L. Beahm, SME Registered Member

CERTIFICATE of QUALIFIED PERSON

TERENCE P. ("Terry") McNULTY

I, Terence P. McNulty, D. Sc., P. E., do hereby certify that:

1. I am the owner and President of T. P. McNulty and Associates, Inc., located at 4321 N. Camino de Carrillo, Tucson, AZ 85750-6375. My email address is tpmacon1@aol.com.
2. I am co-author of the report entitled "Marquez - Juan Tafoya Uranium Project NI 43-101 Technical Report - Preliminary Economic Assessment", and dated June 9, 2021.
3. I earned a Bachelor of Science degree in Chemical Engineering from Stanford University in 1961, a Master of Science degree in Metallurgical Engineering from Montana School of Mines in 1963, and a Doctor of Science degree from Colorado School of Mines in 1966. I am a Registered Professional Engineer in the State of Colorado (License # 24789) and a Registered Member (#2152450RM) of the Society of Mining, Metallurgy, & Exploration, Inc.
4. I have worked as a metallurgical engineer for 58 years, including periods of employment between degrees. For the purpose of this Report, my relevant experience includes the following:
    a. I was Manager of Corporate R&D and Technical Services for The Anaconda Company and ARCO/Anaconda Minerals during the 1970s and was responsible for direction of many laboratory investigations for the Uranium Division;
    b. I had overall technical responsibility for expansion of the Bluewater, NM, uranium mill from 3,000 to 7,000 tons of ore daily and had the same responsibilities for the in-situ uranium production facility at Rhode Ranch, TX;
    c. Since 2008, I have participated in 35 uranium studies and have contributed to NI 43-101 compliant reports for most of them.
5. I have not been on the site recently.
6. I am responsible for all of Sections 13 and 17 of this report and related Appendices.
7. Applying all relevant tests in NI 43-101, I am independent of the issuer.
8. I do not have prior work experience on the subject property.
9. I have read the definition of "Qualified Person" set out in National Instrument 43-101 and certify that, by reason of my education, professional registration, and relevant work experience, I fulfill the requirements of Qualified Person for the purposes of NI 43-101.
10. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance with those requirements.
11. As of the date of this Report, I am unaware of any material fact or material change with respect to the subject matter of the Technical Report that would affect the conclusions provided herein.
12. I consent to the filing of the Technical Report with any stock exchange and any regulatory authority.

June 9, 2021
Signed and Sealed

Terence P. McNulty

Terence P. McNulty

Appendix A

APPENDIX 17- I
ENCORE ENERGY CORP.
MARQUEZ CANYON/JUAN TAFOYA PROJECT
SIMPLIFIED MASS BALANCE for UNDERGROUND SORTING with HEAP or AGITATED LEACHING on the SURFACE
Terry McNulty - May 2021

The following assumes 30% weight loss and 5% U_3O_8 loss during screening and sorting

Preliminary design assumes primary and secondary crushing undrrground to a nominally minus½-inch product, which would be a suitable feedsize for underground radiometric sorting. The upgraded ore would then be hoisted and collected in a stockpile from which ore would be drawn through a slot onto a belt feeder. The ore would pass over a conveyor and belt scale ("weightometer"), thence to a rod mill in closed circuit ith a sieve-bend screen, yielding a nominally minus 28-mesh (0.589 mm) product. Previous designs have included a semi-autogenous ("SAG") mill, but underground crushing, screening, and sorting have eliminated this requirement.

High water flows underground with entrained uranium-bearing solids may necessitate a sump pump and booster pump to elevate the slurry to a surface thickener and then to the agitated acid leach circuit for dissolving uranium from the collected sludge, including slurry from the dust scrubber. The thickener underflow mass flow and solution flowrate would be measured and sampled for correct metallurgical accounting. Alternatively, the slurry would be acidified and added to heap leach feed, enabling agglomeration of fines..

One-stage 6-tank agitated leaching in hot aqueous sulfuric acid with sodium chlorate as an oxidant for tetravalent uranium would be followed by counter-current decantation ("CCD") washing of dissolved uranium away from the leached residue in a string of six high-rate thickeners.. The clarified pregnant leach solution ("PLS") would then be purified and upgraded in uranium concentration through a standard solvent extraction circuit using a tertiary amine diluted with kerosene and isodecanol. Four extraction mixer/settlers are in closed circuit with four strip mixer/settlers and a single-stage organic scrub mixer/settler using soda ash solution to regenerate the organic. The uranium-enriched strip liquor is then steam-heated and enters three agitated tanks in series where it is sparged with anhydrous ammonia to precipitate ammonium diuranate yellowcake ("ADU"). The ADU slurry is thickened, centrifuged, and dried in a vacuum rotary dryer, followed by loading into standard drums for shipment. Wet venturi scrubbers are located throughout the plant to capture fugitive dust, and the dust slurries are returned to points in the process that most closely match uranium concentration. For example, dust slurry from the grinding area will be added to the rod mill discharge and periodically hand-sampled to ensure accurate metallurgical accounting.

		DILUTED MINE-RUN ORE SCREENED or SORTED						Calculated HEADS
OPTION	**DESCRIPTION**	**Wet TPD**	**% Water**	**Dry TPD**	**TPD H_2O**	**% U_3O_8**	**Lb. U_3O_8**	
ALL	Primary jaw crusher to 6-inch	1,429	10	1286	143	0.120	3,087	
	Conveyor	1,429	10	1286	143	0.120	3,087	
	2-deck vibrating screen	1,429	10	1286	143	0.120	3,087	
	Secondary crusher to 2½-inch	715	10	643	71	0.120	1,543	
	Screen o'size return conveyors	715	10	643	71	0.120	1,543	
	Sorter feed conveyor	1,429	10	1286	143	0.120	3,087	
	Radiometric sorter	1,429	10	1286	143	0.120	3,087	
	Reject conveyor to backfill	409	10	368	41	0.042	154	
	Upgraded ore conveyor	1,000	9	905	95	0.159	2,901	
	Skip loading pocket	1,000	9	905	95	0.159	2,871	
	Minewater and ore slimes slurry	20	75	5	15	0.309	31	0.160
	Surface stockpile with draw slot	1000	9	910	90	0.160	2,871	
	Apron feeder	1000	9	910	90	0.160	2,871	
	Conveyor to Heap or Mill	1000	9	910	90	0.160	2,901	
	Weightometer	1000	9	910	90	0.160	2,901	
	Process water tank (from mine)	2731	100	0	2731	0	0	
	Process water pump	2731	100	0	2731	0	0	
	Minewater slurry thickener	20	60	8	12	0.309	31	
HEAP	Portable radial stacker	1,000	9	905	95	0.160	2,901	
LEACH	(Feed conveyor included above)							
TANK	Solution head tank	0	100	0	810	0	0	
LEACH	Mill feed conveyor	1,000	9	905	95	0.160	2,901	
	Weightometer	1,000	9	905	95	0.160	2,901	
	Rod-media grinding mill discharge	1,267	30	1267	1293	0.160	2,901	
	Screen feed pump	1,811	50	905	905	0.160	2,901	
	DSM-type sieve bend	500	50	250	250	0.160	2,901	
	Agitated leaching tanks (1 stage only)	1,811	45	941	869	0.160	31	
	Leach discharge thickener, incl.4% gypsum	1,883	50	941	869	0.002	31	
	CCD feed pump	1,883	50	941	869	0.002	2,901	
	CCD thickeners	1,883	50	941	869	0.002	31	
	CCD underflow pump	1,883	50	941	869	0.002	31	
	Tailings booster pump	1,883	50	941	869	0.002	31	
ALL	Clarifier feed pump	869	99	9	860	0.002	0	
OPTIONS	Clarifier underflow to leach	50	70	9	860	0.002	0	
	Sand filter feed pump	1	99	0	860	0.002	0	

APPENDIX17-II
ENCORE ENERGY CORP.
MARQUEZ CANYON/JUAN TAFOYA PROJECT
EQUIPMENT LISTS and COST ESTIMATES
Terry McNulty - May 2021

Actual average ore feedrate = 910-1,000 Dry Short Tons per Day (DSTPD), but design is for 1,100 DSTPD to allow
for expansion or exessive downtime that would require operating at higher throughput.
Note: Some items, especially tanks, may have diffrent prices for the same sizes, reflecting different materials or
protective coatings.
Equipment selections are important. For instance, these leach residues are good candidates for high-rate thickeners.
The purchase price is higher and more flocculant is usualoly needed, but the tanks are typically one-third the diameter of
conventional thickeners, enabling savings in building footprine, lengths of piping and elecytrical runs, and HVAC expense.

ITEM	LEACH FEED DSTPD	SIZE	kW	Number	UNIT PRICE	TOTAL PRICE
COMMON TO ALL OPTIONS:	**1,000**					
Crusher feed bin		20-ton w/16" x 16" grizzly	0	1	57,000	57,000
Apron feeder, manganese alloy		36" x 8'	5	1	102,000	102,000
Primary jaw crusher, 2-toggle		15" x 24"	30	1	178,000	178,000
Conveyor to screen, inclined		36" x 100'	40	1	80,000	80,000
Vibrating screen, 2-deck, inclined		4'W x 10'L	4	1	41,000	41,000
Secondary (cone) crusher		30-inch standard	100	1	327,000	327,000
Chutes, lpcally fabricated, rubber lined steel		As needed to fit equipment	0	5	25,000	125,000
Sorter feed conveyor		24" x 100', inclined	7	1	68,000	68,000
Radiometric sorter		24" wide with air blast rejector	20	1	570,000	570,000
Reject conveyor to backfill surge pile		24" x 100'	20	1	68,000	68,000
Weightometer, 0.5% accuracy w/panel		36"	0.5	2	10,600	21,200
Upgraded ore conveyor		24" x 100', essentially level	20	1	68,000	68,000
Skip loading pocket (included by BRS)			0	0		-
Motor control center		300 kva	0	1	88,000	88,000
Lighting (included by BRS)			0	0		-
Dust scrubber, wet venturi		18,000 cfm	80	1	125,000	125,000
Minewater sump pump		30 gpm, 50' TDH	4	1	12,100	12,100
Minewater booster pump to surface		50 gpm, 2,500' TDH	20	4	19,000	76,000
Scrubber slurry pump		20 gpm, 25' TDH	4	1	7,500	7,500
Pipeline to plant area		3' ABS, 13,000'@ $4.00 laid	0	13,000	4	52,000
Thickener for minewater slurry		30' D, epoxy-painted steel	2	1	198,000	198,000
Agitated leach tank for minewater slurry		4-hour 8'D x 10' RLS, 50% solids	0	1	32,000	32,000
Leach tank agitator		36'D, RLS	15	1	22,000	22,000
Minewater leach residue thickener		30'D, conventional, RLS	3	1	225,000	225,000
Surface surge bin for skip		50-ton, locally fabricated steel	0	1	50,000	50,000
Belt feeder to stockpile conveyor		24" x 8'	5	1	21,000	21,000
Conveyor to stockpile		24" x 100', inclined	7	1	68,000	68,000
Surface stackpile pad w/feeder slot		100' x 100' x 8-inch concrete	0	1	100,000	100,000
Belt feeder		24" x 20'	5	1	45,000	45,000
Weightometer, 0.5% accuracy w/panel		36"	0.5	1	10,600	10,600

Front-end wheel loader		4.5 cy, Cat 966 equiv.	0	1	360,000	360,000			
TOTAL			**392**			**3,197,400**			
A. **HEAP LEACHING OPTION for 9.6 Million Tons @ 3 tons/square foot:**						-		**NET if TAILINGS AREA LINED**	
Pad with dual-HDPE liners:						-			
	Preparation	3.2 MM Sq. Feet		3,200,000	0.05	160,000			-
	Fabric	3.32 MM Sq. Feet		3,320,000	0.15	498,000			-
	Bedding material	69,000 Cu. Yards		69,000	7.34	506,460			-
	Drain material	137,000 Cu. Yards		137,000	6.77	927,490			-
	Liner, 80-mil HDPE	6.64 MM Sq. Feet		6,640,000	0.72	4,780,800			2,390,400
	Geo-net	3.32 MM Sq. Feet		3,320,000	0.35	1,162,000			581,000
	ABS pipe	10-inch		1,200	6.89	8,268			8,268
	ABS pipe	8-inch		7,800	4.79	37,362			37,362
	ABS pipe	6-inch		10,100	2.52	25,452			25,452
	PVC pipe	2-inch		9,200	0.90	8,280			8,280
	Sub-total					8,114,112			3,050,762
	Mobilization & de-mobilization					243,423			121,712
	QA/QC on plastic welds					324,564			162,282
	Solution collection ditches					811,411			811,411
	Runoff diversion channels					40,571			40,571
	Sub-total					1,419,970			1,135,976
	Solution ponds					476,704			238,352
	Pumping & piping					190,682			190,682
	Sub-total					667,386			429,034
	Motor control center	300 kva				88,000			88,000
	Safety showers			3	1,250	3,750			3,750
	Eye wash fountains			3	475	1,425			1,425
	Makeup water & monitor wells					255,037			255,037
	Sub-total					348,212			348,212
	Sub-total					10,549,679			4,963,983
	Construction materials					2,109,936			992,797
	Construction labor					3,164,904			1,489,195
	Contractor's fee					3,164,904			1,489,195
	Sub-total					8,439,743			3,971,186
	Sub-totals					18,641,211			8,935,169
Leach pad loading @ nominally minus 2-inch									
	Stockpile conveyor to stacker	24-inch x 200 feet	24	1	102,000	102,000			102,000
	Portable radial stacker	24-inch x 80 feet	7.5	1	93,000	93,000			93,000
	Sub-total		**31.5**			195,000			195,000
	TOTAL					**18,836,211**		**NET**	**9,130,169**
B. GRINDING & AGITATED LEACHING:			kW						
	Process water storage tank	100,000 gal., 36'D x 14'H	0	1	111,000	111,000			
	Concentrated sulfuric acid storage tank	12'D x 20'H, polyethylene	0	2	16,000	32,000			
	Sulfuric acid feed pump	5 gpm	0.75	6	7,000	42,000			

Sodium chlorate bulk storage bin	2,000 cu. ft., (1 week), poly.	0	1	20,000	20,000
Sodium chlorate feeder (dry solids)	6" x 36" vibrating, reagent-type	0.75	1	3,500	3,500
Sodium chlorate mix tank	1,500 gal., polyethylene	0	1	1,500	1,500
Mix tank circulating pump	10 gpm, 50' TDH, plastic	1	2	3,000	6,000
Sodium chlorate solution feeder (valve)		0	2	2,000	4,000
Instrument air compressor	21 cfm	5	1	6,500	6,500
Surge bin, 20-ton	Locally fabricated, steel	0	1	25,000	25,000
Belt feeder	24"W x 4"L	2	1	12,000	12,000
Rod mill feed conveyor	30"W x 20'L	8	1	31,000	31,000
Weightometer, 0.5% accuracy, w/panel	36"	9	1	10,600	10,600
Dust scrubber, wet venturi	18,000 cfm	80	1	125,000	125,000
Overhead travelling bridge crane	5-ton, 32' span	2	1	49,000	49,000
Sump for rod mill, screen, and scrubber	Locally fabricated, steel	0	1	7,500	7,500
Grinding area sump pump	30 gpm, 50' TDH	5	1	12,100	12,100
Rod mill discharge pump	600 gpm, 40' TDH	40	1	19,000	19,000
Sieve bend classifier	4'W x 5' L	0	1	49,000	49,000
Rod mill	7'D x 12'L	188	1	315,000	315,000
Boiler for superheating solutions	5 MMBtu/hour natural gas	0	1	78,000	78,000
Slurry storage tank	20'D x 24'H, epoxy-painted steel	0	1	120,000	120,000
Slurry tank agitator	54"D, ship-type, RLS	15	1	55,000	55,000
Automatic sampler	Variable,cycle, slotted cutter head	0.3	1	13,000	13,000
Leach feed slurry pump	400 gpm, 40' TDH	8	2	13,500	27,000
Leach tank, 1-stage, 20 hours, 50°C	20'D x 24'H, baffled, RLS	0	6	195,000	1,170,000
Leach tank agitator, Mixco A-310	42" D	93	6	185,000	1,110,000
Leach tank scrubber, wet venturi	18,000 cfm	80	1	125,000	125,000
Flocculant mix tank	500 gal., polyethylene	0	1	900	900
Flocculant mix tank agitator	Portable	1.5	1	1,800	1,800
Flocculant feeder	6" x 36", vibrating, reagent-type	0.3	1	3,500	3,500
Leaching area sump	Cast in concrete floor	0	1	0	-
Leaching area sump pump	30 gpm, 50' TDH	5	1	12,100	12,100
CCD feed pump	600 gpm, 40' TDH	40	2	19,000	38,000
CCD thickener tank, High-rate	25'D x 10' H w/mixer box	0	6	255,000	1,530,000
CCD thickener mechanism	Automatic lift, torque controlled	7	6	85,000	510,000
CCD underflow pump	200 gpm, 25' TDH	4	6	15,000	90,000
CCD overflow pump	500 gpm, 25' TDH, SS 316	6	6	32,000	192,000
Tailings pump	200 gpm, 40' TDH	12	2	13,000	26,000
Tailings impoundment	Existing area will need upgrading	0	1	950,000	950,000
Tailings water reclaim barge & pump	500 gpm, 100' TDH, RLS	7.5	1	19,000	19,000
Eye wash fountains		0	3	475	1,425
Motor control centers	1,000 kva	15	1	160,000	160,000
Building, prefabricated	100'W x 125' x 35'H, insulated	100	1	2,200,000	2,200,000
Sub-total		1,316			9,314,425
Construction materials					4,657,213
Installation labor					3,725,770
Contractor's fee					2,328,606
Sub-total					**20,026,014**

C. PREGNANT LEACH SOLUTION and MINEWATER TREATMENT:						
	Combined solution clarifier	Conventional thickener, 50' D	2	1	310,000	310,000
	Clarifier mechanism, light duty	Slime solids only	2	1	65,000	65,000
	Clarifier underflow pump	50 gpm, 40' TDH, SS 316	4	1	12,000	12,000
	Mixed media "sand" filter	24" D, swimming pool-type, FRP	0	3	4,500	13,500
	Sand filter feed pump	600 gpm, 25 psi, swimming pool	2	2	7,000	14,000
	Clarified PLS storage tank	20'D x 24'H, epoxy-painted steel	0	1	120,000	120,000
	Isodecanol storage tank	500 gal., polyethylene	0	1	900	900
	Amine extractant storage tank	500 gal., polyethylene	0	1	900	900
	Kerosene diluent storage tank	5,000 gal. fuel tank, mild steel	0	1	13,000	13,000
	Kerosene pump	20 gpm, 10' TDH	1.5	1	900	900
	SX feed pump	500 gpm, 25'TDH, SS 316	7	1	27,000	27,000
	Extraction mixer/settler	815 sq. ft., FRP	7	4	38,000	152,000
	Raffinate storage tank w/skimmer	55,000 gal., 20'D x 24' RLS	0	1	135,000	135,000
	Raffinate pump	500 gpm, 25' TDH, SS 316	7	1	27,000	27,000
	Crud tank w/skimmer	15,000 gal., polyethylene	0	1	16,000	16,000
	Filter press feed pump	10 gpm, 100' TDH, SS 316	3	1	9,000	9,000
	Crud filter press	10-leaf, 20 sq. ft., FRP, manual	0	1	18,000	18,000
	Strip mixer/settler	160 sq. ft., FRP	3	4	19,000	76,000
	Salt (NaCl) mix tank	5,000 gal., polyethylene	0	1	6,500	6,500
	Salt mix tank agitator	Portable	1.5	1	1,800	1,800
	Organic scrub mixer/settler	160 sq. ft., FRP	3	1	19,000	19,000
	Clean organic storage tank	15,000 gal., polyethylene	0	1	16,000	16,000
	Fire suppression system	N_2-loaded sprinklers	0	1	55,000	55,000
	Eye wash station		0	3	475	1,425
	Ammonia storage tank	Provided by farm supplier	0	1	0	-
	Precipitation tank	500 gal., polyethylene	0	3	900	2,700
	Precipitation tank agitator	Portable	1.5	3	1,800	5,400
	Yellowcake thickener	10'D, conventional, FRP	1.5	2	65,000	130,000
	Thickener mechanism		1.5	2	17,000	34,000
	Yellowcake thickener overflow tank	2,500 gal, polyethylene	0	1	3,500	3,500
	Ammonium sulfate storage tank	2,500 gal, polyethylene	0	1	3,500	3,500
	Polishing filter (for entrained YC fines)	24" D, swimming pool-type, FRP	0	1	4,500	4,500
	Filter feed pump	20 gpm, 25 psi, swimming pool	1.5	1	2,000	2,000
	Clarified barren strip tank	1,500 gal, polyethylene	0	1	1,500	1,500
	Sodium removal tank	200 gal, polyethylene	0	2	500	1,000
	Sodium removal tank agitator	Portable	1.5	2	1,800	3,600
	Clarified YC solution bleed tank to tailings	500 gal., polyetylene	0	1	900	900
	Centrifuge for thickened yellowcake slurry	150 lb/hr H_2O removal	3	1	14,000	14,000
	Vacuum rotary dryer, Stokes type, SS 316	1.4 cu. m.	2	1	288,000	288,000
	Vacuum pump	150 scfm	5.5	1	21,000	21,000
	Dust scrubbrer, wet venturi	2,800 cfm	7	1	19,400	19,400
	Drum filling & weighing machine	5 drums/ 24 hours	1	1	29,000	29,000
	Yellowcake drum inventory	Reinforced, 800 lb, security lid	0	10	110	1,100
	Drum loading dock		0	1	18,000	18,000
	Bleed solution evaporation cell	1 acre x 3' deep, double-lined	0	1	0	175,000

	Office (double-wide mobile)		50-foot length, HVAC	15	1	40,000	40,000
	Sample prep building		50-foot length, HVAC	15	1	40,000	40,000
	Sample prep equipment		Crusher, pulverizer, hoods, etc.	15	1	75,000	75,000
	Assay lab (double-wide mobile)		50-foot length, HVAC	15	1	43,000	43,000
	Analytical equipment and supplies		Hoods, benches, AA, fluorometer	0	1	435,000	435,000
	Motor control centers		500 kva	10	2	90,000	180,000
	Standby generator		Diesel, 400 kW	0	1	59,000	59,000
	Security shack, mobile		8' x 20', insulated	7	1	13,000	13,000
	SX building		50'W x 80'L x 15'H, insulated	20	1	410,000	410,000
	Reagent first fills		30-day supply	0	1	227,000	227,000
	Perimeter fence		4,000 linear feet @ 6 feet high	0	4,000	12	48,000
	Perimeter and yard lighting			50	1	15,000	15,000
	First-aid supplies			0	1	1,000	1,000
	Sub-total			**216**			3,454,025
	Construction materials						1,554,311
	Contractor's fee						1,727,013
	TOTAL						**6,735,349**
							-
HEAP LEACHING TOTAL CAPITAL =	=	**28,768,959**					-
AGITATED LEACHING TOTAL CAPITAL =		**29,958,763**					-

APPENDIX 17-III
ENCORE ENERGY CORP.
MARQUEZ CANYON/JUAN TAFOYA PROJECT
ESTIMATED OPERATING & MAINTENANCE/REPAIR COSTS for STAFFING and MATERIALS & REAGENTS
Terry McNulty - May 2021

A. PERSONNEL:

		LEACHING OPTIONS								
		HEAP LEACHING			AGITATED LEACHING			SOLUTION TREATMENT		
CLASSIFICATION	Number	ANNUAL	BURDEN	TOTAL	ANNUAL	BURDEN	TOTAL	ANNUAL	BURDEN	TOTAL
Salaried:										
Processing Manager	1	145,000	0.38	200,100	145,000	0.38	200,100			0
Metallurgist	1	135,000	0.38	186,300	135,000	0.38	186,300			0
Operations Supervisor	1	110,000	0.38	151,800	110,000	0.38	151,800			0
Mainenance Supervisor	1	105,000	0.38	144,900	105,000	0.38	144,900			0
Radiation Safety Officer	1	105,000	0.38	144,900	105,000	0.38	144,900			0
Personnel & Safety Manager	1	100,000	0.38	138,000	100,000	0.38	138,000			0
Chief Chemist	1	95,000	0.38	131,100	95,000	0.38	131,100			0
Purchasing Agent/Warehouse	1	85,000	0.38	117,300	85,000	0.38	117,300			0
Shift Foreman	4	85,000	0.38	117,300	85,000	0.38	469,200			0
Accounting Clerk	1	50,000	0.38	69,000	50,000	0.38	69,000			0
TOTALS	**13**			**1,400,700**			**1,752,600**			**0**
Hourly:										
Heap or Plant Operator	4	68,000	0.38	93,840	68,000	0.38	375,360	0		0
Grinding & Leaching Operator	4	0	0.38	0	68,000	0.38	375,360	0		0
CCD & SX Operator	4	0	0.38	0	0	0.38	-	68,000	0.38	375,360
Yellowcake Operator	4	0	0.38	0	0	0.38	-	68,000	0.38	375,360
Laboratory Technician	4	0	0.38	0	68,000	0.38	375,360	0		0
Intrumentation & Process Control	1	0	0.38	0	68,000	0.38	93,840	0		0
Mechanic/Welder	3	68,000	0.38	93,840	68,000	0.38	281,520	0		0
Electrician	3	65,000	0.38	89,700	65,000	0.38	269,100	0		0
Helper/Laborer	6	48,000	0.38	66,240	48,000	0.38	397,440	0		0
TOTALS	**33**			**343,620**			**2,167,980**			**750720**

B. CONSUMABLES:	Price/unit	USAGE	Annual $	USAGE	Annual $	USAGE	Annual $
Electricity, PSCNM, $/kWh	0.030	3,104,640	93,139	10,422,720	312,682	214	50,846
Natural gas, NMGas, $/MMBtu	2.20	0	0	23,760	52,272	0	
Diesel fuel, $/gal	2.75	18,000	49,500	6,000	16,500	0	
Sulfuric acid, $/ton	150	11,550	1,732,500	14,850	2,227,500	0	
Sodium chlorate, $/ton	250	1,650	412,500	3,300	825,000	0	
Flocculant for CCD, $/lb	3.00	0		50,000	150,000	0	
Kerosene, $/gal	3.50	0		0	-	59,400	207,900
Isodecanol SX modifier, $/lb	1.35	0		0	-	6,900	9,315
Alamine 336 SX extractant, $/lb	7.50	0		0	-	3,900	29,250
Sodium chloride, $/ton	40	0		0	-	3,300	132,000
Anhydrous ammonia, $/ton	280	0		0	-	99	27,720
Ammonium sulfate, $/ton	175	0		0	-	150	26,250
Lubricants, $/gal	16	660	10,560	330	5,280	85	1,360
Maintenance & repair supplies/day	1,000	330	330,000	330,000	330,000	0	-
Laboratory supplies/day	1,000	330	330,000	330,000	0	0	-
			2,958,199		**3,919,234**		**484,641**

TOTAL ANNUAL OPEX:		Recovery	Lbs.U_3O_8	$/Pound
Heap Leaching	**9,135,281**	0.80	844,800	10.81
Agitated Leaching	**12,272,575**	0.95	1,003,200	12.23

TOTAL CAPEX:		Life Lbs.		Total $/lb
Heap Leaching/SX	**28,768,959**	12,672,000	2.27	13.08
Agitasted Leaching/SX*	**29,958,763**	15,048,000	1.99	14.22
* Includes reagent "first fill" at	**227,287**			

If existing tailings area useable for a pad,
heap capital reduces to $19,063,619.