DMEA-3645

224 New Customhouse
Denver 2, Colorado

January 20, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance, (Uranium), Apex Uranium, Inc., Lace and Acme groups of claims, Elk Ridge Mining District, San Juan County, Utah

Enclosed are the four copies of the subject application for Government assistance in the full amount of $205,776.50.

The fact that no target areas exist on the property (uranium mineralization not having been established) places this application in the category of prospecting.

We recommend the entire application be returned to the applicant and Apex Uranium Inc. be required to do the necessary preliminary prospecting to establish target areas after which an exploration program can be logically formulated and application resubmitted.

W. M. Traver

RDB:pw

W. M. Traver

Wm. L. Branch, atty
718 Majestic Bldg
CH-4-4601

Date Rec'd.
1955
BUREAU OF MINES
Denver, Colorado

[illegible]

for

[illegible]

on

[illegible]

for

[illegible], Inc.
718 Majestic Building
Denver, Colorado

Geo- Engineering, [illegible] Main Street, Grand Junction, Colorado

Application for [illegible] project on the Lake and Home Groups [illegible] for Apex Resources, Inc., Wi Majestic Building, Denver, Colorado

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Geo-Engineering, 204 [illegible] Street, Grand Junction, Colorado

Application for [illegible] Project on the [illegible] Zone Maps [illegible] epared for [illegible] Operation, Inc., 710 Majestic Building, [illegible], Colorado

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2. [illegible]
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5. Manner of [illegible] and Calculation of Unit Costs

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EXHIBITS

Exhibit No. 1. Executed [illegible]-103
Exhibit No. 2. Copy of Lease (lessors to applicant)
Exhibit No. 3. Owner's Executed Consent to Lien, [illegible]-205

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MAPS AND PLATES

Figure 1. Index Map
Plate I. [illegible] Map - Lease Group
Plate II. [illegible] - [illegible] Group

[illegible]
[illegible]4 [illegible]in Street
[illegible]road Junction, Colo.

[illegible]ecember [illegible], 1954

[illegible]
[illegible]

[illegible]repared for

[illegible] [illegible], [illegible]
[illegible]713 [illegible]ajestic [illegible]uilding
[illegible]enver, Colorado

INTRODUCTION.

This application, prepared by Geo- [illegible]ngineering, is for the purpose of obtaining a [illegible] project loan on two [illegible]roups of claims, totalling [illegible]5 claims in the [illegible]lk [illegible]ide area of [illegible] [illegible]ount[illegible], [illegible]tah, for the applicant, [illegible]pex [illegible]ranium, Inc.

[illegible] form [illegible]-103 has been executed and is attached as [illegible]xhibit 1. [illegible]ering (and lettering) of the para[illegible]ph of this report refer to and correspond with the paragraphs of form [illegible]-103.

AMOUNT.

This application is for a [illegible] project contract of the short form or unit cost type. The project proposed is [illegible]0,770.80 for exploration of [illegible]5 claims lying in two [illegible]roups in the [illegible]lk Ridge (unorganized) [illegible] District in San Juan County, Utah. A total of 60,000 feet of drilling, including [illegible]0,000 feet of core drilling, is proposed at a unit cost of [illegible]5.2207 per foot. Additionally, 3,200 lineal feet of rim-stripping is proposed on the [illegible]ee claims and 500 feet of rim-stripping is proposed on the [illegible] group at a unit cost of [illegible]1.21 per lineal foot; and provision is made for custom assaying at [illegible]6.00 per sample, these latter items being included in the total cost of the project but not included in calculation of the unit cost of the drilling. [illegible] of the total estimated expenditure or [illegible]1,444.12 will be furnished by the applicant, [illegible]pex [illegible]ranium, Inc. The Defense Minerals Exploration Administration is requested to loan the rest, or [illegible]4,[illegible].36.

Geo-Engineering, 604 [illegible] Street, Grand Junction, Colorado

Application for [illegible] Project on the Lace and [illegible] Groups prepared for [illegible] Uranium, Inc., 718 Majestic Building, Denver, Colorado

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The claim groups referred to lie within what appears at this time to be a mineral belt in the Shinarump formation. Intensive exploration in such inferred belt has produced some very large mines to the northeast and to the southwest.

The project is submitted as involving two Stages. Stage I provides for rim-stripping of the Moenkopi-Shinarump* contact followed by drilling along the trend of all channels exposed thereby. Where rim-stripping is not available, Stage I holes will be in wide spaced grid pattern. The project provides for 300 Stage I holes. Average depth of the holes is estimated at 100 feet. As the program advances and more information becomes available the holes will be located with approval of the [illegible] field team where the geology appears most favorable.

Stage II of the proposed project provides for the drilling of an additional 30,000 feet, 300 holes, average depth 100 feet, to be located with the approval of the [illegible] field team in areas where the Stage I operations produce evidence of mineralization or favorable geology.

Drilling to date in the area indicates that moisture in holes will preclude wagon drilling. Rotary drilling with air or water is contemplated. Approximately 40% of the holes will be cored, averaging 50 feet of coring per hole. Thus approximately 20% of the entire footage will be cored.

Personnel of Geo-Engineering will act as consulting geologists and will supervise the execution of the project.

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* As here used, the term "Shinarump formation" includes all of the cap rock forming sandstones that lie at the base of the Chinle formation or between the Chinle and Moenkopi formations. The units which have by some been called "Mesaback", "Chinle [illegible]" and "Monitor Butte Sandstone" are all included here in the term "Shinarump formation".

Geo-Engineering, 204 Rio Street, Grand Junction, Colorado

Application for [illegible] project on the Grand Junction [illegible] for [illegible] Corporation, Inc., 715 Majestic Building, Denver, Colorado

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Paragraph 1. Name of applicant, etc.

(a) [illegible] Corporation, Inc.
715 Majestic Building, Denver, Colorado

(b) Applicant is a Colorado corporation, duly qualified to do business in Colorado and in process of qualifying to do business in the State of Utah.

(c) Officers of the corporation (and also the directors) are:

Lawrence [illegible] Stewart, President
501 Kearney Street, Denver, Colorado

[illegible] Arnold
4850 South Lincoln Street, Denver, Colorado

[illegible] Lemmon, Vice-President
4670 Garfield Street, Denver, Colorado

NOTE:

As above stated, Geo- Engineering will be in active charge of the project for applicant. It is therefore requested that correspondence regarding this application be addressed to:

Geo-Engineering
204 Rio Street
Grand Junction, Colorado

(d) Not applicable.

All Correspondence

Paragraph 2. Not applicable.

Paragraph 3. Applicant's property rights, etc.

(a) Legal description.

Lode mining claims in [illegible] (unsurveyed) Mining District in San Juan County, Utah, referred to as the Lace and [illegible] Groups, as follows:

Lace [illegible]15 to [illegible]24, inclusive (10 claims). (See location map, Plate 1). Location certificates recorded Book 100, pp. 49-66, and re-recorded Book 135, pp. 440-448.

Lace [illegible]86 to [illegible]93, inclusive (8 claims). (See location map, Plate 1) Location certificates recorded Book 98, pp. 875-871.

Location of both groups shown on attached index map (Figure 1).

Applicant holds lease on 15 additional claims in immediate area, described in application dated December 23, 1954, for [illegible] project similar hereto. Applicant also holds option to lease 80 claims described in application for [illegible] project being prepared to be to be submitted currently.

(b) Size of property.

Property has no area other than the claims named and is herein referred to as the Lace and [illegible] Groups.

(c) Applicant's interest in property.

Applicant holds a lease upon the above described 18 claims from Lyle [illegible]. Campbell and Gilbert [illegible]. Simpson, both of Grand Junction, Colorado. Lease (copy) attached hereto as Exhibit A.

(d) Lease - copy attached, Exhibit B.

Consent to [illegible], Form [illegible]-203, executed by owners-lessors, is attached hereto as Exhibit B.

(e) Liens - None.

Geo- Engineering, 604 Main Street, Grand Junction, Colorado

Application for U.A. Project on the Lucc and Acme Groups prepared for Apex Uranium, Inc., 710 Majestic Building, Denver, Colorado

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(f) Land consists of unpatented claims. Location certificates recorded, San Juan County, Utah, in the names of the above-mentioned lessors as above stated under item (a). Photo copies will be furnished by applicant on request.

Paragraph 4. Physical Description of Property.

(a) Operations, etc.

There are no mine workings and there has been no exploratory work on the property.

(b) Production, Reserves.

There are no known deposits on the property.

(c) Geologic Features and Justification for Exploration.

The claims are located in what appears to be a uranium mineral belt in the Chinarump formation similar to the belt which has been defined for the Morrison formation. Areas to the northeast and to the southwest of the property have, under extensive exploration, produced some very large mines. (See Index Map, Figure 1). Drilling programs in White Canyon and on Deer Flat have been gradually proving the belt northward toward Elk Ridge. Film-stripping on adjoining claims (owned by Lucc Engineering, Grand Junction, Colorado) has exposed several mineralized sandstone lenses which have not to date been explored. If the inferred mineral belt exists, and Applicant's consulting geologists have expressed the opinion that it does, the prospects for this property are very good. Relatively shallow drilling depths justify systematic exploration.

Geology Stratigraphy: The two groups of claims are located on the Monument Upwarp, a broad flattened anticline with a north-south axis. Elk Ridge is the northern nose and eastern flank of the anticline.

The resistant Chinarump formation of late Triassic age is the only economically important ore-bearing formation underlying the two groups. Ore has been found in the Permian Cutler formation which also underlies the claims. Exploration of this formation is not included in this project because of the prohibitive drilling depths. (Note: As here used the term "Chinarump formation" includes all of the cap rock forming sandstones that lie at the base of the Chinle formation or between the Chinle and Moenkopi formations. The units which have by some been called "Monitor", "Chinle B" and "Commission Sandstone" are all included here in the term "Chinarump formation".)

The Lace claims lie on a broad flat area from which erosion has stripped all of the post-Chinarump formations leaving a clean Chinarump cap rock upon which drill sites can be prepared with minimum effort and expense. In the Lace group the drills will stand on a northeasterly dipping bench formed by the resistant Chinarump formation and site preparation will be relatively inexpensive.

(d) Accessability

The claims lie about 20 airline miles west of Monticello, Utah, and about 35 miles southwest of Moab. Roads distance to the [illegible] plant at Monticello is about 35 miles - 10 miles on an excellent paved highway and 25 miles over better than average mine roads. Moab and Monticello have adequate mine supply houses.

(e) Availability of manpower, etc.

Manpower, skilled in performing the type of drilling and exploration planned, is readily available in the area. Expendable sources of material and supplies are also available. Equipment will be furnished by private contractors.

Geo-Engineering, a professional engineering firm, will supply surveying instruments and transportation for technical personnel.

Paragraph 2. The exploration project.

(a) The mineral for which this project will explore is uranium.

(b) Proposed work, etc.

The exploration plan recommended to the Defense Exploration Administration and to Apex Uranium, Inc., is as follows:

Stage 1:

Approximately 2,200 lineal feet of rim-stripping by bulldozer should be done on the Lace claims in the approximate location shown on Plate I; and approximately 300 lineal feet on the Lone claim in the approximate location shown on Plate II.

Radiometric surveys to be made in areas where it is not feasible to expose the contact rock by stripping.

Drilling of 500 proposed holes at sites to be selected and submitted to the [illegible] field team for approval or date from rip-stripping is obtained. Depth of the holes is estimated to range from 50 feet to 150 feet and the average depth of each 500 holes is estimated to be 100 feet, the aggregate footage thus being 50,000 feet.

State II:

Drilling of 500 additional test holes following the usual pattern of fifty feet spacing in the areas the areas where the stage I stratigraphic drilling has revealed favorable geology. Locations of such stage II holes to be selected with the approval of the [illegible] field team as data from the preliminary work is accumulated and evaluated. Estimated depths of the stage II holes is the same as for stage I drilling, i.e., 100 feet per hole, and the aggregate of the holes will thus involve an aggregate of 50,000 feet.

Geologic control of drilling.

Applicant's consulting geologists will maintain close geologic control over the drilling and will locate and relocate proposed drill sites, with prior [illegible] approval, in the light of accumulating geological information.

Logging and sampling.

A sampler who will also act as a field assistant for surveying will be employed to do the logging and sampling. An accurate log will be maintained by the driller. Barren core will be [illegible] on the ground or otherwise preserved and properly identified so that the geologist or sampler can carefully check the driller's log. Core from each run will be carefully dropped out of the core barrel into a wooden tray. This will be carefully examined by the sampler or other competent individual, using a field radio ray detecting device. If any trace of mineralization is found, the complete core "run" will be arranged in a core box provided with a hinged lid and will be properly preserved until the geologist can properly sample the same. Core losses will be prorated proportionately, regardless of lithology. Each sample will be carefully described by the geologist in a bound field book, as it is placed in the sample sack. All

samples will be sent to commercial assayers for percentage determination of U_3O_8, V_2O_5, and $CaCO_3$. In addition, all holes will be checked by probe by sampler, geologist or other competent individual.

(c) Duration of project.

The project will start within 30 days from the date of an exploration contract. It is estimated that it will require [illegible] months to complete this project with one drill. The employment of more than one drill could result in inadequate geological control, wasted footage and an increase in exploration costs per ton of ore discovered.

(d) Ability, Credit, Experience, etc.

Applicant's president, [illegible] Schwab, is president and general manager of International Fire Insurance Company; [illegible] is president and general manager of the [illegible] Company; and [illegible] is president and general manager of the [illegible] Drilling Company. These officers and directors have demonstrated successful business management of their respective companies, and are experienced operators.

Geo-Engineering, a firm of professional engineers and geologists, with offices centrally located in Grand Junction, Colorado, and at Grand Junction will act as consultants to [illegible] for this project. A brief description of the experience background of the three principal partners of Geo-Engineering is given below.

Louis [illegible], who is chief geologist for Geo-Engineering, began working in uranium in 1941, as geologist for the Union Mines Development Corporation, a contractor for the United States Army Manhattan Engineering Project. Subsequent experience in carnotite exploration included almost two years with the exploration branch of the Atomic Energy Commission in Grand Junction and six months with the United States Vanadium Company. Mr. [illegible] was for two years mining superintendent of the [illegible] Mining Company, where he was in charge of all mining and exploration. This company is at present mining large tonnages from ore bodies which were discovered during that period. From August 1952 to January 1955, Mr. [illegible] was manager of the Colorado [illegible] Division of the [illegible] Company. During this period Mr. [illegible] successfully prepared applications for and administered [illegible] projects.

Ico- [illegible], [illegible] [illegible] Street, [illegible] [illegible], Colorado

Application for [illegible] project on the [illegible] home [illegible] prepared for Apex [illegible], Inc., [illegible] Majestic Building, [illegible], Colorado.

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Harold [illegible] Culp is a geologist and geographicist and a graduate in [illegible] mining [illegible] [illegible] Anderson. [illegible] graduating with a degree in [illegible] Colorado [illegible] College in 1941, [illegible] [illegible], in addition to [illegible], worked with gold, oil, copper, [illegible] and [illegible]; [illegible] experience in [illegible] and 3 years of [illegible] in oil [illegible]. In addition to [illegible] for others, he has operated a mine [illegible] to [illegible] a 1/2 [illegible] interest. His work has included the preparation of [illegible] [illegible] exploration administration projects and, after approval of [illegible] applications by that agency, supervision of the project. During 1950-51, Mr. Culp was project geologist and [illegible] [illegible] of the [illegible] Canyon [illegible] of the U. S. [illegible] Survey.

Lewis [illegible] Anderson, mining engineer, is a graduate from the Colorado School of Mines (he [illegible] mining [illegible] since 1934 in Colorado). From December 1940 through 1946, Mr. Anderson worked as engineer and shift boss for the [illegible] mines, Company at Leadville, Colorado. From January 1943 through April 1950, he worked as mining engineer in the General Chemical Division of Allied Chemical and Dye. He was also foreman of the Ico- [illegible] Mining Company, Inc., Colorado, from June 1950 to October 1951. Mr. Anderson then was [illegible] employed as [illegible] engineer for the Lucky Mining Company in the [illegible], [illegible] Creek, [illegible], and [illegible] Valley area. From June 1951 to [illegible], Mr. Anderson's duties as mining engineer covered both the mining and milling of uranium-vanadium ores and included jurisdiction over the Walker Uranium Company's uranium operations in the [illegible], South Dakota area.

<u>Item [illegible].</u> Estimate of costs.

Applicant requests that this exploration project estimates be placed upon a unit cost basis. Costs of the project are calculated in terms of the cost per foot of drilling, except for the costs of simple analysis and of rim-stationing, indicated by separate units of cost.

Geo-Engineering, [illegible] Colorado

Application for [illegible] a Project on [illegible] for [illegible], [illegible], 71 [illegible], Colorado

- 3 - [illegible] -

[illegible]

(a) Independent Contracts.

Drilling will be done by qualified private contractors. The prices quoted by competent firms [illegible] are based on [illegible] per foot. [illegible] drilling [illegible] 100 feet, [illegible]. The prices quoted for [illegible] per foot for drilling (including [illegible] required) and [illegible] for coring. [illegible] will be cored and that there will be [illegible]. The project provides for [illegible] holes, with a total of [illegible] 20,000 feet, making a drilling cost of [illegible]. [illegible] 1, [illegible] and [illegible].

[illegible] will also [illegible] at sixty [illegible] drilling. [illegible], [illegible], in place at 100 [illegible]. [illegible] of moving drilling, it will be necessary to [illegible] to the project several [illegible] at 100 [illegible] is believed necessary. [illegible]

(b) Labor, Supervision and Consultants.

Geo-Engineering will supervise, direct and act as consulting [illegible] for 1,[illegible] per month [illegible]. Draftsman and [illegible] will [illegible] be provided [illegible] to prepare necessary project reports. [illegible] will be employed by Geo-Engineering [illegible], [illegible] to help with survey [illegible]. [illegible] are estimated at [illegible] for the project. [illegible].

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(c) Operating materials, supplies, etc.

Expenses for office supplies, [illegible] drill log reproductions for monthly reports and correspondence, [illegible], etc., are estimated at 150.00 per month, or 3,900.00 for the project. Expenses for survey stakes, blister crayons, water bags, sample containers, etc., are estimated at 100.00 for the project. See Exhibit 1, Item 3(c).

(d) Operating equipment.

All operating equipment will be provided by independent contractors or service-engineering.

(e) Rehabilitation and repairs.

None required.

(f) New buildings, improvements and rehabilitations.

Rental of one trailer house for field office and personnel supervisor is received at 60.00 per month for 10 months to be included in the estimated cost of the project. See Exhibit 1, Item 3(f).

(g) Miscellaneous.

Expense of [illegible], etc. for generating and [illegible] drawing for project, etc. as estimated at 100.00 per month. Additional expense for payroll taxes, estimated at 10% of items 1(b) above - wages of draftsmen, steno, field assistant, are included at 57.10 per month. See Exhibit 1, Item 3(g).

(h) Contingencies.

Drilling contractors vary the drilling charge with the size of the hole. Estimate for drilling cost is based upon an average depth of 100 feet. However, it is possible that the, if any, hole will be less than 50 to 70 feet while they may exceed 100 or even 150 feet. In such event, the drilling cost will exceed 3.00 per foot. Estimates for sand, gravel and other construction may be inadequate in that they are based upon local rates for dragline and bulldozer work, whereas a [illegible] drilling and blasting may be required. This is first for such equipment. Also, supervision and consultant payments are based on monthly or hourly

charges. Any other [illegible] the project will increase such costs. 10% is added to cover [illegible] costs. Essential materials and supplies have been estimated at a minimum. Unforeseen obstructions or complications could easily increase these costs by 50%. Miscellaneous costs, such, are incorporated in the omnibus [illegible] items, unforeseeable extra [illegible] costs, [illegible], etc. Schedule 4, Item 3(h).

Analytical Work.

20% cost of analytical work is not included but is covered by the [illegible] costs, [illegible], [illegible] per [illegible] of drilling. A separate drill cost of $6.00 has [illegible] to [illegible] project. It is estimated that [illegible] will be required. The breakdown of analytical costs is $2.00 each:

SO_4	2.00
Cl	1.00
$CaCO_3$	1.00
	6.00

It is estimated that the project will require an average of 3 assays per hole or analysis of 1347 drill holes at $6.00 each.

Air-Stripping.

Air-stripping will be done by qualified private contractors. The rates quoted in the area by competent firms for operator and rental of heavy equipment are $[illegible].00 per day. It is estimated that approximately 5,000 feet of air-stripping in the Lake Group will require 25 days, and 200 feet in the [illegible] Group will require 6 days. [illegible] allowed for moving on and off the property. Costs and drill costs per linear foot are estimated at $[illegible] plus two moving days, or 25 days at $[illegible].00 per day. The approximate locations of air-stripping are shown on Tables [illegible] and [illegible].

Geo-Engineering, [illegible] Street, Grand Junction, Colorado

Application for [illegible] Project on the [illegible] and [illegible] Proposed for Dyer Granite, Inc., [illegible] Majestic Building, Denver, Colorado

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Summary of Costs (from Schedule 6)

I.	Costs of drilling, including all costs of project except analytical work and min-stripping, shown separately - - - - - - - - - - - -	148,611.50
	Calculated unit cost: [illegible],000 feet drilling at $0.[illegible] per foot	
II.	Analytical tests, - contract unit cost 1800 samples at $[illegible] each	7,[illegible].00
III.	Cost of min-stripping:	
	Face [illegible] - 2,[illegible]0 feet at $1.51 - - - 3,[illegible].30	
	Acme [illegible] - [illegible]00 feet at $1.51 - - - 1,[illegible].30	4,[illegible].30
	TOTAL [illegible]	203,[illegible].80
	Amount to be paid by Dyer Granite, Inc. (2/3)	61,[illegible].13
	Amount of Defense Strategic Exploration Administration fee - constant	104,[illegible].00

(Note: Detail of respective costs shown on Schedules 1, 2, 3 and 4, and summary shown on Schedule 6.)

Geo-Engineering, [illegible] Main Street, Grand Junction, Colorado

Application for [illegible] project on the lease [illegible] acres [illegible] for Lone Mountain, Inc., [illegible] Majestic Building, Denver, Colorado

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Paragraph 7. Applicant's share of cost.

In accordance with the Lease Manual [illegible] Administrative Regulations, applicant, Geo-Engineering, Inc., is prepared to assume 25% of the cost of this project in the following manner, to-wit:

The company will perform all of the necessary work and pay for all of the labor, materials and supplies. Reimbursement of the company by the Lease will be pursuant to the schedule of costs listed hereinabove, less 25%, i.e., the amount to be loaned by the government will be 75% of the above stated unit costs for each of the miles of work performed.

Respectfully submitted as a part of "Application for [illegible] Exploration Project" Form [illegible]-105, attached hereto and made a part hereof.

[illegible]

Leroy Schwab

President

Application prepared, approved and recommended by:

Geo-Engineering (a partnership)
Louis P. [illegible]
Leroy [illegible] Schwab
Louis [illegible] Pierson

Louis P. Zaggini

Schedule 1.

[illegible]

It is estimated that drilling depths will range from 80 to 120 feet and will average 100 feet. Data on drilling process [illegible] holes, average depth 100 feet:

Stage I Drilling:

300 holes - average depth 100 feet (est'd.)--- total 30,000 feet

Stage II Drilling:

300 holes - average depth 100 feet (est'd.)--- total 30,000 feet

[illegible] 60,000 feet

Geo-Engineering, 104 4th Street, Grand Junction, Colorado

Application for A Project on the Face and Foot Zones Proposed for Apex Uranium, Inc., 713 Majestic Building, Denver, Colorado

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Schedule 2.

DRILLING SCHEDULE

	Holes	Est. Depth per Hole	Est. Non Core Drilling per Hole	Est. Coring per Hole
Stage I:	100	100'	50'	50'
	100	100'	100'	0'
Stage II:	100	100'	50'	50'
	100	100'	100'	0'
Total	400			

	Holes	Est. Total Feet Drilling	Est. Non Core Drilling	Est. Core Drilling
Stage I:	100	10,000	5,000	5,000
	100	10,000	10,000	-0-
Stage II:	100	10,000	5,000	5,000
	100	10,000	10,000	-0-
		40,000	40,000	10,000
Price per Foot		2.25	2.00	2.50
Cost		125,000.00	80,000.00	27,000.00

Schedule 2.

Geo- Engineering, 201 Main Street, Grand Junction, Colorado

Application for [illegible] project on the [illegible] and [illegible] groups prepared for Apex Uranium, Inc., [illegible] Uranium Mining, [illegible], Colorado

- [illegible] - [illegible] -

Schedule 3.

[illegible] (exclusive [illegible]-stripping [illegible] analysis).

Exploration	Units	No. of Units	Cost/unit	Total Cost/item	Grand Total
Drilling Contractor:					
Stage I Drilling (See Schedule 2)					
300 holes @ 100 feet	feet	(30,000)			
non-core drilling	feet	24,000	2.00	48,000.00	
core drilling	feet	6,000	2.50	15,000.00	
Stage II Drilling (See Schedule 2)					
300 holes @ 100 feet	feet	(30,000)			
Non -Core Drilling	feet	24,000	2.00	48,000.00	
Core drilling	feet	6,000	2.50	15,000.00	
Total Drilling		60,000		126,000.00	$126,000.00
Bulldozer - Tractor Contractor:					
Moving on & off property [illegible]	[illegible]	8	100.00	800.00	
Rental with operator [illegible]	day	60	100.00	6,000.00	
					6,800.00
Total amounts to be paid to Independent Contractors	feet	60,000	2.10		132,600.00

(Note: Amounts to be paid contractors for [illegible]-stripping and analytical work are shown separately. See Schedule 3).

Schedule 3.

Geo-Engineering, [illegible] Main Street, Grand Junction, Colorado

Application for [illegible] Project on the Face and [illegible] Groups Prepared for Apex Gravium, Inc., 713 Majestic Building, Denver, Colorado

- 0 - 0 - 0 -

Schedule 4 - Other Costs

Item 6 NP-103 heading letter	Cost per month	Cost Project	Unit cost 00,000 ft.
6(b) Labor, and Outside Consultants.			
Geo-Engineering fees	1,000.00	12,000.00	
Expenses (other than personnel	350.00	4,200.00	
Draftsman (40 hrs. per mo. @ 3.60)	144.00	1,728.00	
Steno-typist (4 hrs. per mo. @ 2.20)	33.00	396.00	
Geologic - field assistant	375.00	4,500.00	
Total, Item 6(b)	1,581.00	18,768.00	.0466
6(c) Operating Materials, Supplies, etc.			
Office supplies, map and drill log reproductions for monthly reports and correspondence with [illegible], etc.	100.00	1,200.00	
Survey stakes, blaster crayons, water bags, sample containers, etc.		180.00	
Total, Item 6(c)		1,380.00	.0034
6(d) Operating Equipment.			
All operating equipment will be provided by independent contractors or by Geo-Engineering		None	
6(e) Rehabilitation and Re-[illegible].			
None needed		None	
6(f) New Buildings, Improvements and Installations.			
Rental of one trailer house	50.00	600.00	.015

Schedule 4 - contd.

Item [illegible]-102 Heading Letter	Cost per unit	Cost project	Unit cost 60,000 ft.
G(g) Miscellaneous.			
Expense for accounting and record keeping for project, etc.	160.00	1,[illegible].00	
Payroll taxes, estimated at 10% of items in (b) supra - types of craftsman, steno, [illegible] assistant	57.10	1,[illegible].24	
Total, Item G(g)	157.10	2,[illegible].24	.0471
G(h) Contingencies.			
15% of 120,000.00	18,000.00	18,000.00	(Sched. [illegible])
10% of 32,730.40	3,273.04	3,273.04	(Item G(b))
20% of 2,800.00	560.00	560.00	(Item G(c))
20% of 2,[illegible].24	1,414.08	1,414.08	(Item G(g))
Total, Item G(h)	24,[illegible].12	24,[illegible].00	.4113

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Recapitulation, Schedule 4

Item	Cost project	Unit cost
G(b)	32,730.40	0.5455
G(c)	2,800.00	0.0466
G(d)	none	
G(e)	none	
G(f)	800.00	0.0133
G(g)	2,[illegible].24	0.0471
G(h)	24,[illegible].00	0.4113
	64,[illegible].00	1.0267

Schedule 5.

Summary of Costs and Calculation of Unit Costs

Letter Reference	Description of Item	No. of Units	Unit Cost	Cost Project
6(a)	Drilling - Independent Contractor See Schedule 2	60,000 feet	2.1500	129,000.00
6(b)	Labor, Supervision & Consultants See Item 6(b) Schedule 4	[illegible]	0.0885	88,792.40
6(c)	Operating Materials, Supplies See Item 6(c) Schedule 4	[illegible]	0.0480	8,000.00
6(d)	Operating Equipment, Etc. See Item 6(d) Schedule 2	[illegible]		[illegible]
6(e)	Rehabilitation and Replacement See Item 6(e) Schedule 4	[illegible]		none
6(f)	New Buildings, Etc. See Item 6(f) Schedule 4	[illegible]	0.0150	[illegible]
6(g)	Miscellaneous See Item 6(g) Schedule 4	[illegible]	0.0471	[illegible]
6(h)	Contingencies See Item 6(h) Schedule 4	[illegible]	0.1115	21,[illegible]
	Total Project and Calculated Unit Cost Before Air-Stripping and Analytical Work	60,000 feet	3.0367	182,610.00
	Analytical	1400 samples	5.00	7,000.00
	Air-Stripping: Face group	5,000 feet	1.01	5,050.00
	Base group	800 feet	1.01	1,010.00
	Total Project			195,770.00

Schedule 5.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3645
Metal or Mineral Uranium
Date Received 1-24-55
Estimated Cost $205,776.50
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Apex Uranium, Inc. (Colorado corporation)
719 Majestic Building
Denver, Colorado
Officers' names and addresses attached

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Lessee of lode mining claims, see attached material.
Copy of lease attached as exhibit.

(*b*) State any mine name by which the property is known. Claim groups only - Acme & Lace groups

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Lessee

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. See Exhibit 2, copy of lease.

(*e*) If you own the land, describe any liens or encumbrances on it None known

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. See attached material, p. 4, par. 3.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

16—66551-1

Par. 4(a) to (e) See attached material pp. 5-6.

Paragraph 5(a) to (e) - See attached material pp. C-D.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. Par. (a) to (h) rec.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet) under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? Yes

(*b*) How do you propose to furnish your share of the costs?

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated December 28, 195[illegible]

[illegible] Inc.
(Applicant)

By Larry Schwab
President

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

MINING LEASE

THIS AGREEMENT, made and entered into in duplicate as of November 15, 1954, between LYLE F. CAMPBELL and JULIAN E. SIMPSON, of Grand Junction, Colorado, hereinafter called Lessors, and APEX URANIUM, INC., 718 Majestic Building, Denver, Colorado, hereinafter called Lessee, WITNESSETH:

That the Lessors, in consideration of the sum of Three Thousand Dollars ($3000.00), receipt of which is hereby acknowledged, and of the royalties hereinafter reserved and the covenants and agreements hereinafter expressed and by the Lessee to be kept and performed, hereby grant, demise and lease to Lessee the following described lode mining claims in Elk Ridge (unorganized) Mining District, County of San Juan, State of Utah, the Location Certificates thereof being duly of record in the office of said County as follows:

NAME OF CLAIM	RECORDED		RE-RECORDED	
	BOOK	PAGE	BOOK	PAGE
Lace 15	109	40	195	440
Lace 16	109	40	195	441
Lace 17	109	41	195	441
Lace 18	109	41	195	442
Lace 19	109	42	195	442
Lace 20	109	42	195	443
Lace 21	109	43	195	443
Lace 22	109	43	195	444
Lace 23	109	44	195	444
Lace 24	109	44	195	445
Acme 24	93	373		
Acme 25	93	374		
Acme 26	93	374		
Acme 27	93	375		
Acme 28	93	375		

TO HAVE AND TO HOLD Unto Lessee for a term of five (5) years from the date hereof, and thereafter so long as merchantable ores are mined and sold from any of said mining claims, unless sooner forfeited through the violations of any covenant herein required to be performed by Lessee, with a right to surrender this lease as hereinafter set forth.

In consideration of such lease, LESSEE COVENANTS AND AGREES With Lessors as follows, to wit:

1. To enter upon said mining claims and to do and perform exploration and development work by expending a minimum of Three Thousand Dollars ($3000.00) each six (6) months and, if commercial ores are discovered, to mine and ship ores of a minimum value of Three Thousand Dollars ($3000.00) each six (6) months period; it being understood and agreed that if Lessee is unable to mine ores of Three Thousand Dollars ($3000.00) in value during each six (6) months, but shall mine some ores, it shall expend in exploration and development to make up the difference between the value of such ores and said minimum of Three Thousand Dollars ($3000.00). The first six (6) months period shall commence on November 15, 1954.

2. To cause to be paid to Lessors a royalty of fifteen per cent (15%) of the proceeds of ores mined and sold from any of said claims, including fifteen per cent (15%) of any bonus payment paid by the Atomic Energy Commission, less, HOWEVER, development and haulage allowances. All such ores shall be shipped in the joint names of Lessors and Lessee and payment of such royalties shall be made as follows: 10.5% to Lyle F. Campbell, Box 1698, Grand Junction, Colorado, and 4.5% to Julian E. Simpson, Box 127, Grand Junction, Colorado.

3. To keep full and accurate records of all operations carried on hereunder, including drilling records, maps and assays, open to inspection of Lessors, or their agent, at all reasonable times, and to permit Lessors, or their agent, full and free access to said claims for the purpose of inspection and otherwise. To furnish Lessors with true copies of all drilling records, maps, assays, and other relevant information with respect to Lessee's mining operations.

To make Lessors, or their agent, a written report, within thirty (30) days after the end of each six (6) months period, showing gross value of ores shipped and cost of development work performed during such period.

4. To carry on all mining operations in strict conformity with all laws and regulations pertaining to such operations, to carry Workman's Compensation Insurance, and to pay all State and Federal taxes and exactions under operations hereunder, including any production taxes, and to save and keep harmless Lessors from any and all liability of every kind and character arising out of Lessee's mining operations hereunder.

5. To post notices at or near workings upon said mining claims, reciting in substance that all mining operations are being carried on and conducted by Lessee, and that Lessors will not be liable for any claims or acts of any kind or character arising out of Lessee's work hereunder.

6. So long as this lease may be in effect, to do and perform within the time prescribed by law the annual labor required for the retention of possessory rights upon said mining claims, and to make and file affidavits so stating, beginning with the period ending June 30, 1955; all of such work and expenditure to be completed on or before June 1 of each year.

MUTUAL COVENANTS

IT IS MUTUALLY AGREED That Lessee shall have the right to surrender this lease at any time upon giving Lessors at least thirty (30) days written notice of such intention to surrender, sent by registered mail to Lyle F. Campbell, Box 1698, Grand Junction, Colorado; and upon such surrender or cancellation as hereinafter provided, Lessee shall have the right, within a reasonable time, to remove all of its machinery, equipment and personal property from said lands, and, upon surrender or cancellation Lessee shall leave all excavations made by it in such condition that the removal of wast materials should not be required in order to continue mining at such point or points.

IT IS FURTHER AGREED That Lessee shall have the right to assign or sublet this lease, or any part or portion of said mining claims, without first obtaining consent of Lessors thereto; provided however, that such assignment or sublease shall not be valid until fifteen (15) days after Lessee has delivered a fully executed, true copy of such assignment or sublease to Lessors.

IT IS FURTHER AGREED That Lessors will execute the Owner's Consent to Lien in order that Lessee may obtain a Defense Minerals Exploration Administration loan, however it being understood and agreed that any royalty payment to the United States shall, in no event, reduce the royalty payment heretofore specified to be paid by Lessee.

IT IS FINALLY AGREED That upon violation by Lessee of any of the covenants in the foregoing lease, the term of this lease shall, at the option of Lessors, expire, and the same and said mining claims shall become forfeited to Lessors, and Lessors, or their agent, may thereupon enter upon said premises and dispossess all persons occupying the same, or, at the option of Lessors, Lessee and all persons found in occupation thereof, may be proceeded against as guilty of unlawful detainer, PROVIDED HOWEVER, that if said lease is forfeited upon the election of Lessors by reason of the failure of Lessee to perform the covenants thereof, Lessors shall give Lessee at least twenty (20) days notice in writing, by registered mail sent to Lessee at 718 Majestic Building, Denver, Colorado; notifying it of such failure to perform and setting out in said notice the substantial facts as to any such default or breach, and, upon failure or refusal by Lessee to cure and correct such defaults within twenty (20) days from the receipt of such notice, Lessee shall surrender and deliver up the possession of all of said premises and its rights under this lease shall thereupon cease and determine.

All of the provisions herein contained shall inure to and be binding upon the heirs and personal representatives of Lessors and Lessee and their lawful assigns.

WITNESS Their names:

Lyle F. Campbell

Lyle F. Campbell

Julian E. Simpson

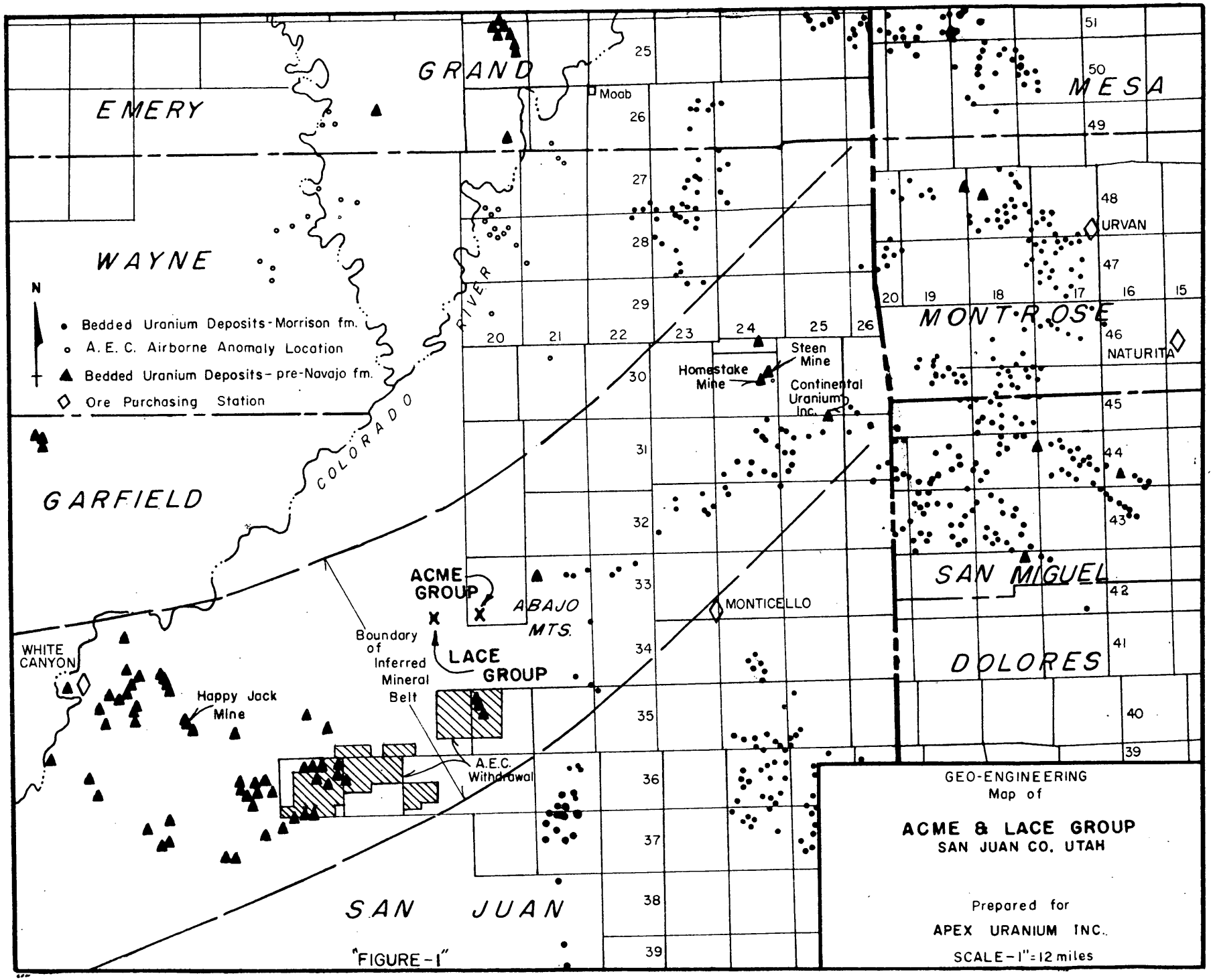
Julian E. Simpson
(Lessors)

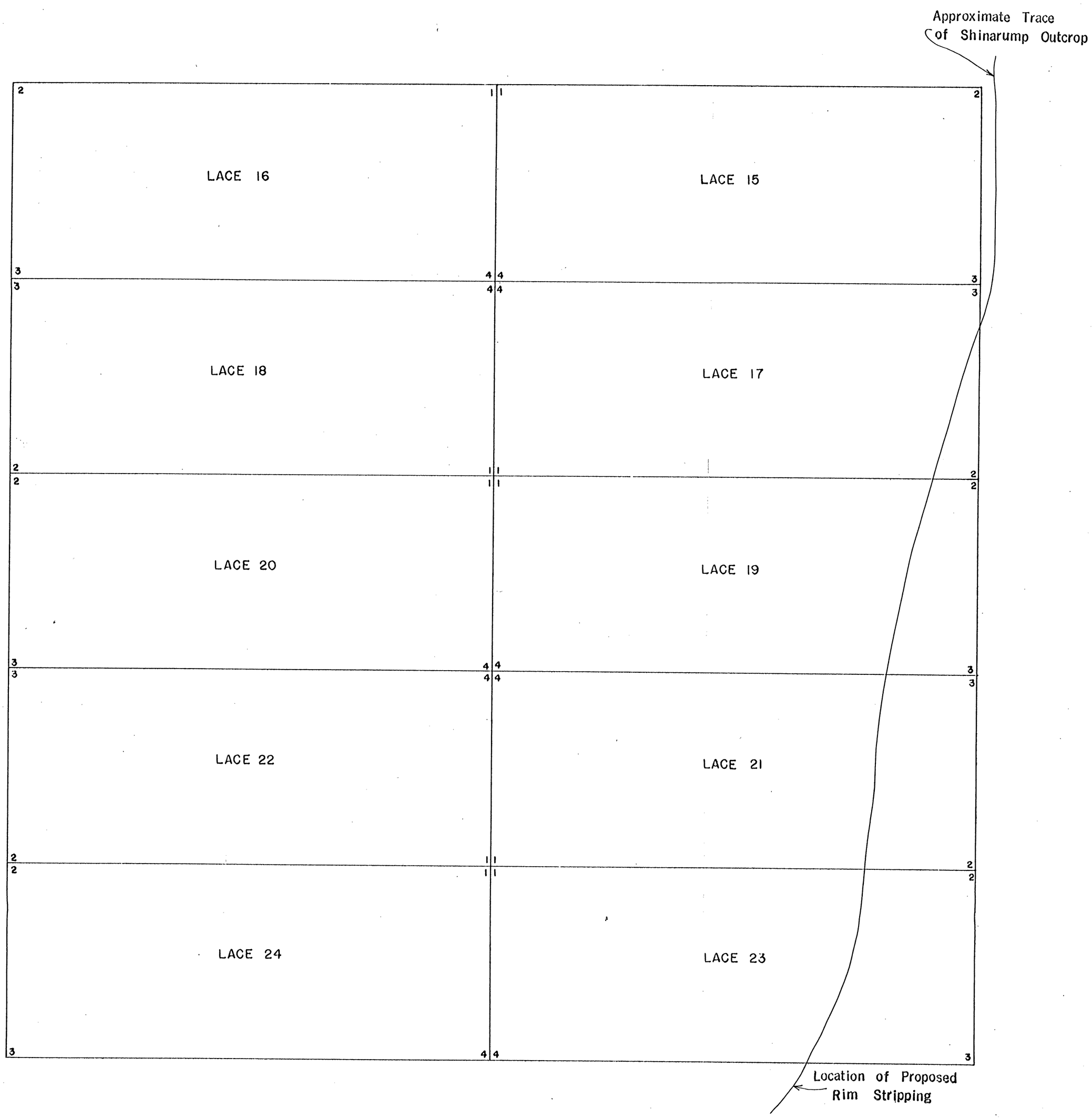
APEX URANIUM, INC.

BY W. R. Teodore
President
Thereunto duly authorized.

ATTEST:

By Kathryn Teodore
Secretary


GEO-ENGINEERING
Map of
ACME & LACE GROUP
SAN JUAN CO. UTAH
Prepared for
APEX URANIUM INC.
SCALE - 1" = 12 miles
N
Bedded Uranium Deposits - Morrison fm.
A. E. C. Airborne Anomaly Location
Bedded Uranium Deposits - pre-Navajo fm.
Ore Purchasing Station
EMERY
GRAND
WAYNE
GARFIELD
SAN JUAN
MESA
MONTROSE
SAN MIGUEL
DOLORES
COLORADO RIVER
Moab
URVAN
NATURITA
MONTICELLO
WHITE CANYON
Happy Jack Mine
Homestake Mine
Steen Mine
Continental Uranium Inc.
ACME GROUP
LACE GROUP
ABAJO MTS.
Boundary of Inferred Mineral Belt
A.E.C. Withdrawal
"FIGURE - 1"



COR. 2, LACE 15 IS APPROX.
28' SOUTH AND 12,030' WEST
OF THE N.W. COR. OF SEC. 31,
T33S., R20E., S.L.M.

GEO-ENGINEERING
CLAIM MAP

LACE GROUP

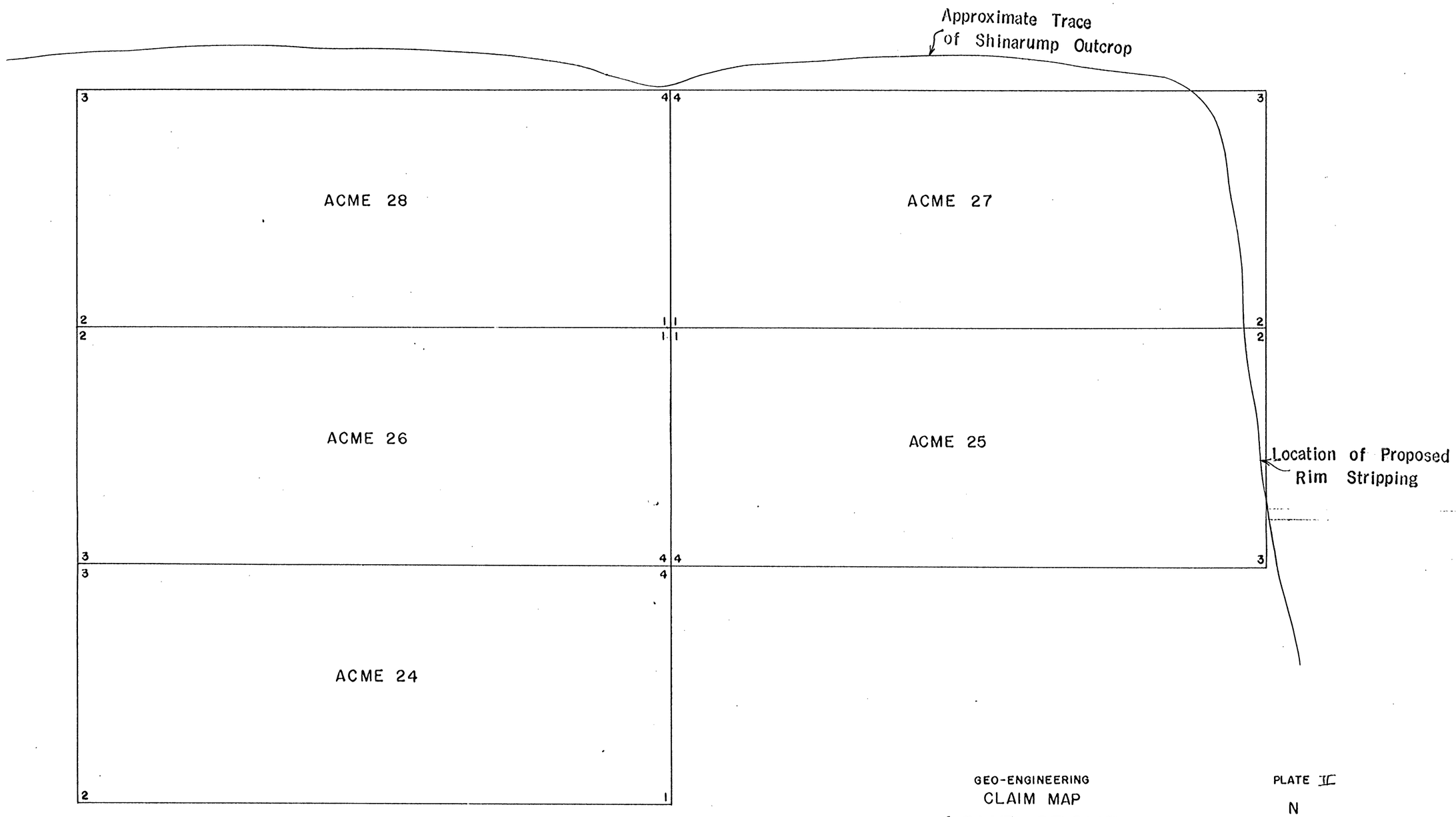
15-24
SAN JUAN COUNTY,
UTAH

SCALE — 1" = 200 FEET

PREPARED FOR
APEX URANIUM INC.
D.M.E.A. APPLICATION

PLATE I

N



COR. 3, ACME 28 IS APPROX. 560' SOUTH AND 300' EAST OF THE N.W. COR. OF SEC. 29, T33S., R20E., S.L.M.

GEO-ENGINEERING

CLAIM MAP

ACME GROUP

24–28

SAN JUAN COUNTY, UTAH

SCALE — 1" = 200 FEET

PREPARED FOR

APEX URANIUM INC.

D.M.E.A. APPLICATION

PLATE II

N