DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4935

Application
- [X] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [X] Application and attachments

Right Side

- [X] Project summary (final)
- [ ] Work Completed analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [X] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

Folders No._____: Maps (Use pocket folder or envelope)

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

LAW OFFICES OF
HARRY H. BROCHSTEIN
FARM & HOME BUILDING
TEXAS AT CAROLINE
HOUSTON, TEXAS

March 27, 1958

Mr. W. H. King
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Docket No. DMEA-4935 (Uranium)
Lone Star, et al, Claims
Yavapai and Yuma Counties, Arizona

Dear Sir:

The Administrator has requested certain information directing that it be furnished to you in triplicate, with one copy to the Washington office. In answer to this, please be informed:

1. Claims that are leased are described as follows:

T. 11 N., R. 10 W., G&SRB&M	
Lone Star Group	#1 through #26
Got It Group	#1 through #15
North Star Group	#1 through #24
Bright Star Group	#1 through #18
Red Star Group	#1 through #34
Last Chance Group	#1 through #4
Nine Slash Group	#1 through #14
Aldebaran Group	#1 through #21
Burhead Group	#1 through #3[illegible]

T. 11 N., R. 9 and R. 10 W., G&SRB&M	
Tobro Group	#1 through #27
Broto Group	#1 through #2[illegible]
Oh No Group	#1 through #35
Coronado Group	#1 through #26

T. 11 N., R. 9 W., G&SRB&M

B.O.S. Group #1 through #34.

2. All other claims are owned by Louis B. Lothmann as trustee for Texas-Arizona Minerals Co., Inc. subject to validation of titles consistent with the exploration program contemplated and which may be warranted.

3. The option agreement dated November 2, 1957, between Texas-Arizona and Louis B. Lothmann has as yet not been exercised, although it has been extended and such option agreement remains in effect.

Also in connection with subject application, there is enclosed the report of S. H. Glassmire and Associates informing you of further progress made by the applicant with respect to completion of hole No. 5A. Logs are attached to this report.

Thank you for your continuing interest and favorable consideration.

Respectfully submitted,

Harry B. Brochstein

HBB:BB
Encl.

CC and Enclosures:
Administrator
Department of Interior
Defense Minerals Exploration
Administration
Washington 25, D.C.

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

March 18, 1958

Mr. Ernest Wm. Ellis, Director
Division of Rare and Miscellaneous Metals
U. S. Department of the Interior
Defense Minerals Exploration Administration
Washington 25, D. C.

Dear Mr. Ellis:

Re: Docket No. DMEA - 4935 (Uranium)
Lone Star, et al., Claims
Yavapai & Yuma Counties, Arizona

Since our last communication to you, we have complete one more hole known as hole No. 5A. This hole was an offset hole to our original No. 5 hole which was mineralized.

Enclosed please find drilling, radiometric and assay reports on the new No. 5 assay hole which we respectively submit as one more supplement to our application.

Yours very truly,

S. H. Glassmire

S. H. Glassmire

SHG:jm

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

March 18, 1958

TEXAS-ARIZONA MINERALS COMPANY, INC.

DRILLING DATA - CONGRESS JUNCTION, ARIZONA URANIUM PROPERTY

SUMMARY AND CONCLUSIONS - Hole No. 5A:

This hole was an offset hole to the original Hole No. 5. (It was drilled 100 feet in a northwesterly direction from the original hole No. 5 (see map for exact location). It was bottomed in by basal conglomerate at 1535 feet (the basal conglomerate is a cemented igneous detrital material that directly overlies the true granitic basement. This hole encountered the possible ore bearing horizons, namely the ancient tertiary lake sediments at about 700 feet. The tertiary lake sediments processed to 1534 feet for a total depth of lake sediments of 834 feet.

A great deal of coring was done on this hole in an attempt to pull out samples of the ore that was encountered in the original No. 5 hole. Much difficulty was experienced in the coring, mainly due to the nature of the sediments which continually jammed the core barrel as the enclosed logs indicate. Therefore, the coring was only partially successful. The hole was probed both by our instruments and by Century Geophysical Corporation after it was completed and similar curves were obtained on both instruments. Our instruments appeared to be calibrated about .07% eU_3O_8 higher than the Century equipment. This is really not too much difference but in view of the fact that Century is a specialist in well probing, I will assume that their calibration is more correct and I will professionally yield to their calibration and I have corrected my figures to agree with their calibration. A summary and interpretation of Century's radiometric log is enclosed with this report. Also a print of our recording is enclosed with my interpretation indicated directly on the recording.

As the interpretations indicate, the same ore horizon that was encountered on the original Hole No. 5 was again found. However the strata had thinned slightly and decreased slightly in grade. Another thin one foot to 18 inch commercial ore horizon was encountered between 1485 and 1486 feet as the logs also indicate. This horizon was not encountered on the other hole. As the enclosed logs indicate, coring was attempted between 1518 to 1530 feet (in the ore horizon). However, unfortunately as the logs show, the bearings went out on the inner core barrel and less than three feet out of the 12 feet run was recovered. However, since this was in the ore horizon, the material that was recovered was sent in for assay, results given below. We also cored between 1532½ and 1534 feet and the results are given below.

ASSAY BY COLORADO ASSAY LABORATORY

	U_3O_8	eU_3O_8
20% recovery from 1518-1530'	.008	.02
1530-1531½'	.033	.065
1531½-1532½'	.052	.072
1532½-1534'	.013	.034

My own radiometrics on these samples are as follows:

1518-1530'	.028
1530-1531½'	.070
1531½-1532½'	.075
1532½-1534	.040.

As can be seen, my radiometrics essentially confirm those of the Colorado Assay Laboratory. The above two sets of assay data confirm the fact that uranium is present although unfortunately the strongest section was probably lost when the bearings went out and the core was dropped in the 1518-1530' run. The assay data also shows that the uranium mineral is slightly out of equilibrium. In other words, the radiometric count is higher than it should be for the amount of uranium material. Therefore, the probing figures, both mine and Century's, should be revised slightly lower to compensate for the out of equilibrium state. The exact mineral bearing the uranium was not found by either myself nor the Colorado Assay Laboratory. However, the core material was essentially carbon and it is believed that the uranium was precipitated directly with the carbon.

In final summary I conclude that commercial grade ore was encountered but that it is not sufficiently high in grade nor thickness to be commercial at depth. In other words if this strata were on the surface commercial grade ore might possibly be high grade ore of the deposit. Also in final conclusion I can say that on this hole even though the coring was not too satisfactory, we have two sets of data which essentially concur. The two sets of data I speak of are Century's log against mine and Colorado Assay Laboratory's assay against mine.

This hole also essentially confirms everything that was indicated in the original hole No. 5. However, since Century was not able to get down this original hole and since we appear to be calibrated .07% eU_3O_8 higher than Century, the final summary of original hole No. 5 might be revised downward. I suggested this hole as having a 10-foot strata averaging a .20% eU_3O_8. Professionally yielding and correcting my figures to Century's, this 10-foot strata might be corrected to averaging .13% eU_3O_8. Again this would indicate commercial grade ore but not commercial at depth.

Professionally submitted,

S. H. Glazmaire

SHG:mt

[illegible]

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

[illegible]

LOGGING DATA

PROBE SIZE: 1 3/8

CALIBRATION: 300CPS

DATE: 3-6-58

FIELD HDQTRS: WICKENBERG

	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE NO.	5A						
HOLE DIA.	9 3/4 IN						
DRILLED DEPTH	1560 FT					1652'	
LOGGED DEPTH	1557 FT	40	40	15			
GAMMA SCALE	25 CPS	100	250	500			
TIME CONSTANT	8 SEC	2	2	2			
PAPER SPEED	10 FT/IN	10	10	10			
LOGGING SPEED	10 FT/M	5 FT/M	5 FT/M	5 FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE	50Ω						
SELF POT SCALE	MV/IN	NO SP		SELF POT T.D.			
BORE HOLE MEDIUM	WATER	WITH		GEL, LIME			
MUD READINGS	RESISTIVITY			TYPE BASE	GEL		
	VISCOSITY			SALINITY			
	WEIGHT		LBS/GAL	LBS/CU FT			
CALIPER SCALE	INCH	LEG SIZE		PAPER SCALE			
TIME IN	1830	CASED TO			I. D.	IN	
TIME OUT	2000	CORE INT.			DIAM	IN	

LOCATION	TIME
SEC. 24 TWP. 11N RGE. 10W	DRIVE 1.7
COUNTY: YAVAPAI	FIELD: 1.5
STATE ARIZONA	STANDBY: 2.
AREA: OCHO COMC	BREAKDOWN:
CLIENT: TEXAS ARIZONA MINERALS	TOTAL: 5.2
LOG REC'D BY:	OPERATOR: GENE CLARKSON
	PARTY NO: U-3

Century

GEOPHYSICAL CORP.

TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY:

BORE HOLE NO.

FIELD

COUNTY

LOCATION: SEC. TWP. RGE.

LOG MEAS. FROM _____ FILE _____

DRLG. MEAS. FROM _____ NO. _____

DATE:	
FOOTAGE	
TOTAL DEPTH (DR)	
HOLE DIAM.	
LOGGING SPEED	
TIME CONSTANT	
MUD TYPE	
CASED TO	

LOCATION OF HOLE

ELEVATION KB / GL

BKGRD. COUNT _____

SLUSH PIT CT. _____

REMARKS:

1550-1510-0-250 CPS, TCZ

1495-1475-0-100 CPS, TCZ

1230-1210-0-100 CPS, TCZ

1190-1175 0-500 CPS, TCZ

INTERPRETATION

RADIO METRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

MINERALIZATION

COUNTS PER SEC.	BED THICKNESS	K KD	CORR. CPS.	% U_3O_8
500	1185 1186 1			.25
288	1522 1523.5 1½			.129
275	1524.5 1525.5 1			.123
202	1527 1529 2			.084
207	1529 1530 1			.088
200	1531 1533.5 2½			.084
250	1522 1525.5 3½			.103
172	1527 1535 8			.069
185	1522 1535 13			.076

INTERPRETATION BY: W. R. Linton

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS

RECEIVED MAR 28 1958 DALE ANTICLINE OIL CO.

SELF POTENTIAL

+ |◄ MV ►| −

NATURAL GAMMA RAY

COUNTS PER SECOND

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE

OHMS

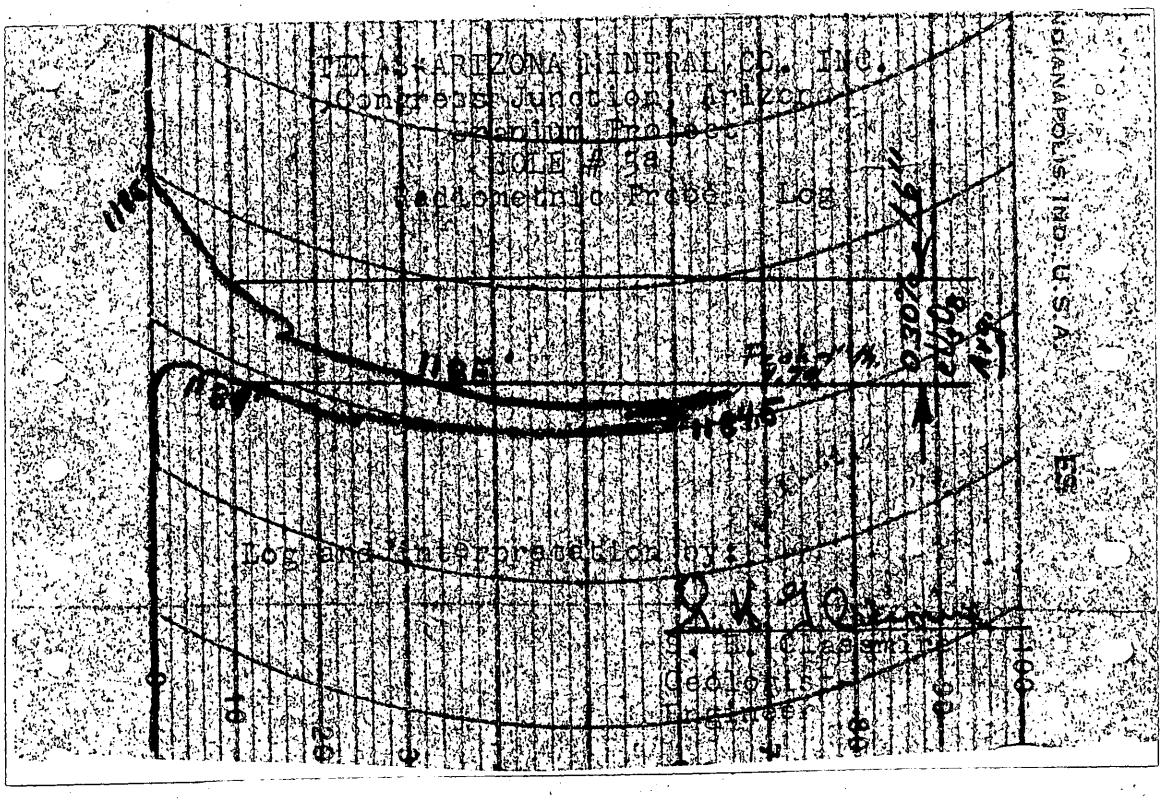
Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.



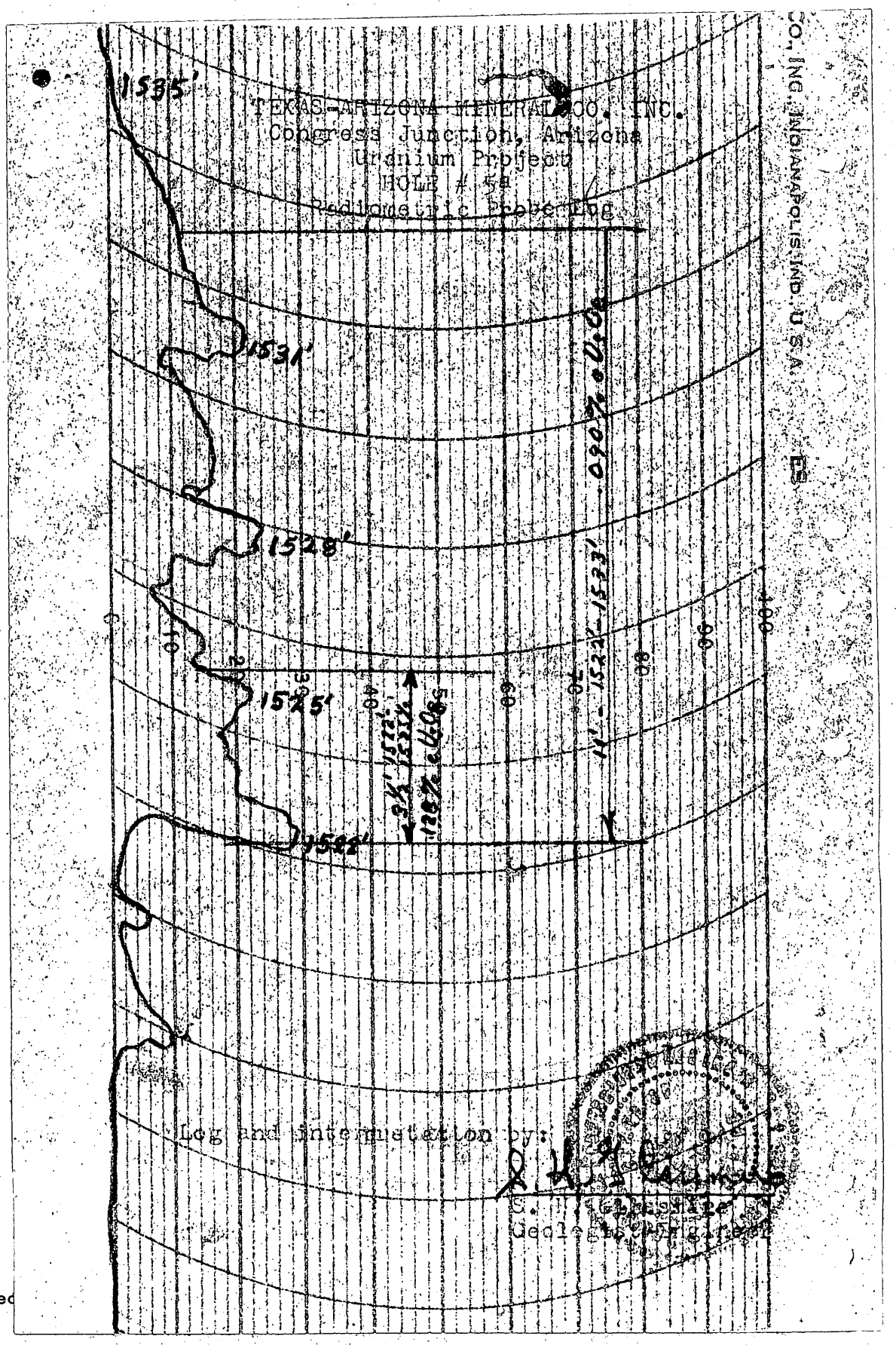
Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.



R19 B-10

SW SW 24 12E 14 W
Yavapai
Arizona

Lothmann
Claim Tobred # 8

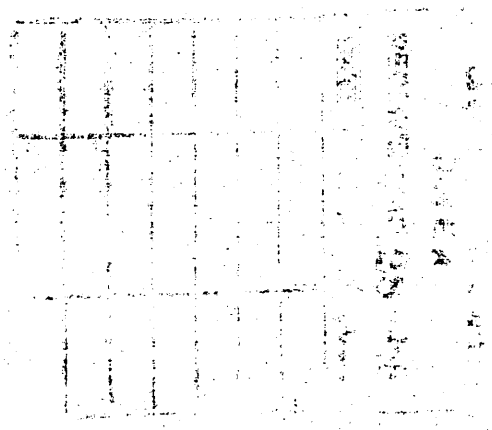
5-4 rotary ? mud		0' - 340'	unconsolidated alluvium	
		340'- 580'	consolidated SS	
		580'- 640'	Brownclay little ash	
		640'-700'	mudstone, ash, agate	
		700'-720'	mudstone plus ash	3 hours rig time
2-13-58	Core (Diamond) 30%	720'-1135'	mudstone, ash, agate	
		1135'-1225'	agate, solidified ash little mud stone	
2-19-58	Core (Diamond) 100%	1225'-1235'	mudstone and carbon	4 hours rig time
2-19-58	Core (Diamond) 80%	1235'-1245'	mudstone and ash carbon	3½ hours rig time
		1245'-1490'	mudstone, ash, carbon, agate	
2-24-58	Core (Diamond) 66%	1490'-1491.5	silicified ash (black)	4 hours 15 min. rig time
	Rotary?	1491.5'-1495	silicified ash- ash Black Waxie	
2-26-58	Core (Diamond)	1495-1501	silicified ash-ash	5 hours 50 min. rig time

[illegible]-2-10

[illegible] [illegible] [illegible] 113°10 W.
Tucupai
Arizona

Texas-Arizona Min[illegible]o.
Glide Tube #6

5-A Rotary		[illegible]-0.5'		
1/2Core	60%	[illegible] -[illegible]	Green Sulphur- soft	
1/2Core	80%	[illegible]-1515	" " - white	Bearings went out on inner core barrel & lost core.
2/3Core	80%	[illegible]-1530	Green Sulphur & Carbon	
3/4 Core	100%	[illegible]-32.6	" " "	
3/4 Core	95%	[illegible]-32.5	Heavy carbon - [illegible] = 0.065%	
3/4 Core	100%	[illegible]-34	" " - [illegible] = .035%	
Core	100%	[illegible]-35	" "	



● core barrel jammed

LAW OFFICES OF
HARRY H. BROCHSTEIN
FARM & HOME BUILDING
TEXAS AT CAROLINE
HOUSTON, TEXAS

ORIGINAL FILE COPY
DMEA
RECEIVED FEB 3 1958

DATE	INITIALS	CODE

January 28, 1958

Defense Minerals Exploration
Administration
Department of the Interior
Washington 25, D.C.

Application of Texas-Arizona
Minerals Co., Inc.

Gentlemen:

Enclosed are four copies of Application for Aid in an Exploration Project pursuant to your Order No. 1 under the Defense Production Act of 1950, as amended, in behalf of the captioned corporation.

It is respectfully requested that the Administration (i) notify this office of the docket number for this application, acknowledging receipt of the enclosures, and (ii) favorably consider the application now submitted.

Thank you for your prompt assistance and courtesies.

Yours very truly,

Harry H. Brochstein

HHB:BB
Encl.

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

COPY NO. 1

Application for Aid in an Exploration Project, Pursuant to DMEA Order No. 1, Under the Defense Production Act of 1950, as Amended.

Enclosures:

No. 1: Filled out Application Form MF103.
No. 2: Answer to 1(c) of Application Form.
No. 3: Answer to 3(a) of Application Form. (Map showing the legal survey and location of the properties)
No. 4: Answer to 3(b) of Application Form, showing the name of all properties.
No. 5: Answer to 3(d) of Application Form. (A copy of the lease by which the property is controlled)
No. 6: Answer to 4 of Application Form.
No. 7: Answer to 5(b) of Application Form.
No. 8: Answer to 5(d) of Application Form, showing the operating experience and background of the applicant.
No. 9: Answer to 6 of Application Form.

COPY
DMEA
RECEIVED FEB 3 1958
DATE | INITIAL | CODE

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED FEB 3 1958 DMEA

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. DMEA-4935
Metal or Mineral Uranium
Date Received 2/3/58
Estimated Cost $ 40,000.00
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: Texas-Arizona Minerals Co., Inc.
Farm and Home Savings & Loan Assn. Bldg.
600 Caroline Street
Houston 2, Texas

(*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. Incorporated in the States of Texas & Arizona

(*c*) If a corporation, add to above statement, titles, names and addresses of officers. See Enc. #2

(*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 See Enc. #3

(*b*) State any mine name by which the property is known. See Enc. #4

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Both lessee and original locator

(*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 Enc. #5

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

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. The book and page number of the unpatented claims included in appl. will be submitted at a later date as a supplement to this application.

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. See Enc. #6

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. See Enc. #6

(*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. See Enc. #6

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. See Enc. #6

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. See Enc. #6

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

(*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. See Enc. #7

(*c*) The work will start within 30 days and be completed within 6 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. See Enc. #8

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)?

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

☒ 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 _____, 195__

TEXAS-ARIZONA MINERALS CO., INC.
(Applicant)

By [signature]
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

Enclosure No. 2: Answer to 1(c) of Application Form, showing titles, names and addresses of officers of Texas-Arizona Minerals Co., Inc.

President & Board Chairman	:	H. E. Finger 3131 Gulf Freeway Houston, Texas
Vice-President	:	J. B. Greenfield Calico Building Houston, Texas
Secretary	:	Sam Silverman 3715 Blodgett Houston, Texas
Assistant Secretary	:	Tom Niland 11 North Hutcheson Houston, Texas
Treasurer	:	M. Kagan 2903 Louisiana Houston, Texas
Assistant Treasurer	:	H. E. Reader 1201 Naylor Houston, Texas
Directors	:	Ben McGuire Bankers Mortgage Building Houston, Texas H. E. Finger J. B. Greenfield Sam Silverman Tom Niland M. Kagan H. E. Reader

ENCLOSURE #2

Enclosure No. 4: Answer to 3(d) of Application Form; list of claims showing book and page numbers of the Federal Lode Mining Claims leased from Thomas H. Osborne.

ENCLOSURE #4

Date	Name of Claim	Book	Page
11-6-57	Lone Star #1	112	578
	Lone Star #2	112	579
	Lone Star #3	112	580
	Lone Star #4	112	581
	Lone Star #5	112	582
	Lone Star #6	112	583
	Lone Star #7	112	584
	Lone Star #8	112	585
	Lone Star #9	112	586
	Lone Star #10	112	587
	Lone Star #11	112	588
	Lone Star #12	112	589
	Lone Star #13	112	590
	Lone Star #14	112	591
	Lone Star #15	112	592
	Lone Star #16	112	593
	Lone Star #17	112	594
	Lone Star #18	112	595
	Lone Star #19	112	596
	Lone Star #20	112	597
	Lone Star #21	112	598
	Lone Star #22	112	599
	Lone Star #23 Not on map	112	600
	Lone Star #24	112	601
	Lone Star #25	112	602
11-6-57	Nine Slash #1	113	1
	Nine Slash #2	113	2
	Nine Slash #3	113	3
	Nine Slash #4	113	4
	Nine Slash #5	113	5
	Nine Slash #6	113	6
	Nine Slash #7	113	7
	Nine Slash #8	113	8
	Nine Slash #9	113	9
	Nine Slash #10	113	10
	Nine Slash #11	113	11
	Nine Slash #12	113	12
	Nine Slash #13	113	13
	Nine Slash #14	113	14
11-6-57	North Star #12	113	15
	North Star #13	113	16
	North Star #14	113	17
	North Star #15	113	18
	North Star #16	113	19
	North Star #17	113	20
	North Star #18	113	21
	North Star #19	113	22

Enclosure No. [illegible]:
Page Two

Date	Name of Claim	Book	Page
11-6-57	North Star #20	113	23
	North Star #21	113	24
	North Star #22	113	25
	North Star #23	113	26
11-6-57	Oh No #1	113	27
	Oh No #2	113	28
	Oh No #3	113	29
	Oh No #4	113	30
	Oh No #5	113	31
	Oh No #6	113	32
	Oh No #7	113	33
	Oh No #8	113	34
	Oh No #9	113	35
	Oh No #10	113	36
	Oh No #11	113	37
	Oh No #12	113	38
	Oh No #13	113	39
	Oh No #14	113	40
	Oh No #15 in lease	113	41
	Oh No #16	113	42
	Oh No #17	113	43
	Oh No #18	113	44
	Oh No #19	113	45
	Oh No #20	113	46
	Oh No #21	113	47
	Oh No #22	113	48
	Oh No #23	113	49
	Oh No #24	113	50
	Oh No #25	113	51
	Oh No #26	113	52
	Oh No #27	113	53
	Oh No #28	113	54
	Oh No #29	113	55
	Oh No #30	113	56
	Oh No #31	113	57
	Oh No #32	113	58
	Oh No #33	113	59
	Oh No #34 Not on keep	113	60
	Oh No #35	113	61
	Oh No #36	113	62
	Oh No #37	113	63
	Oh No #38	113	64
	Oh No #39	113	65
	Oh No #40	113	66
	Oh No #41 Not in lease	113	67
	Oh No #42	113	68
	Oh No #43	113	69
	Oh No #44	113	70
	Oh No #45	113	71
	Oh No #46	113	72
	Oh No #47	113	73
	Oh No #48	113	74

Enclosure No. :
Page Three

Date	Name of Claim	Book	Page
11-6-57	Aldeharan #1	112	472
	Aldeharan #2	112	473
	Aldeharan #3	112	474
	Aldeharan #4	112	475
	Aldeharan #5	112	476
	Aldeharan #6	112	477
	Aldeharan #7	112	478
	Aldeharan #8	112	479
	Aldeharan #9	112	480
	Aldeharan #10	112	481
	Aldeharan #11	112	482
	Aldeharan #12	112	483
	Aldeharan #13	112	484
	Aldeharan #14	112	485
	Aldeharan #15	112	486
	Aldeharan #16	112	487
	Aldeharan #17	112	488
	Aldeharan #18	112	489
	Aldeharan #19	112	490
	Aldeharan #20	112	491
	Aldeharan #21	112	492
11-6-57	Bright Star #1	112	493
	Bright Star #2	112	494
	Bright Star #3	112	495
	Bright Star #4	112	496
	Bright Star #5	112	497
	Bright Star #6	112	498
	Bright Star #7	112	499
	Bright Star #8	112	500
	Bright Star #9	112	501
	Bright Star #10	112	502
	Bright Star #11	112	503
	Bright Star #12	112	504
	Bright Star #13	112	505
	Bright Star #14	112	506
	Bright Star #15	112	507
	Bright Star #17	112	508
11-6-57	Broto #1	112	509
	Broto #2	112	510
	Broto #3	112	511
	Broto #4	112	512
	Broto #5	112	513
	Broto #6	112	514
	Broto #7	112	515
	Broto #8	112	516
	Broto #9	112	517
	Broto #10	112	518
	Broto #11	112	519
	Broto #12	112	520

Enclosure No. 5:
Page Four

Date	Name of Claim	Book	Page
11-6-57	Broto #13	112	521
	Broto #14	112	522
	Broto #15 in lease	112	523
	Broto #16	112	524
	Broto #17	112	525
	Broto #18	112	526
	Broto #19	112	527
	Broto #20	112	528
	Broto #21	112	529
	Broto #22	112	530
	Broto #23	112	531
	Broto #24	112	532
	Broto #25	112	533
	Broto #26 — Not in lease	112	534
	Broto #27	112	535
	Broto #28	112	536
11-6-57	Coronado #1	112	537
	Coronado #2	112	538
	Coronado #3	112	539
	Coronado #4	112	540
	Coronado #5	112	541
	Coronado #6	112	542
	Coronado #7	112	543
	Coronado #8	112	544
	Coronado #9	112	545
	Coronado #10	112	546
	Coronado #11	112	547
	Coronado #12	112	548
	Coronado #13	112	549
	Coronado #14	112	550
	Coronado #15 In Lease	112	551
	Coronado #16	112	552
	Coronado #17	112	553
	Coronado #18	112	554
	Coronado #19	112	555
	Coronado #21	112	557
	Coronado #23	112	559
	Coronado #25 Not in lease	112	561
	Coronado #27	112	563
11-6-57	Got It #8	112	564
	Got It #9	112	565
	Got It #10	112	566
	Got It #11	112	567
	Got It #12	112	568
	Got It #13	112	569
	Got It #14	112	570
	Got It #15	112	571

Enclosure No. 3:
Page Five

Date	Name of Claim	Book	Page
11-6-57	Joshua #1 } not in lease	112	572
	Joshua #2 }	112	573
11-6-57	Red Star #1	113	75
	Red Star #2	113	76
	Red Star #3	113	77
	Red Star #4	113	78
	Red Star #5	113	79
	Red Star #6	113	80
	Red Star #7	113	81
	Red Star #8	113	82
	Red Star #9	113	83
	Red Star #10	113	84
	Red Star #11	113	85
	Red Star #12	113	86
	Red Star #13	113	87
	Red Star #14	113	88
	Red Star #15	113	89
	Red Star #16	113	90
	Red Star #17	113	91
	Red Star #18	113	92
	Red Star #19	113	93
	Red Star #20	113	94
	Red Star #21	113	95
	Red Star #22	113	96
	Red Star #23	113	97
	Red Star #24	113	98
11-6-57	Tobro #1	113	99
	Tobro #2	113	100
	Tobro #3	113	101
	Tobro #4	113	102
	Tobro #5	113	103
	Tobro #6	113	104
	Tobro #7	113	105
	Tobro #8	113	106
	Tobro #9	113	107
	Tobro #10	113	108
	Tobro #11	113	109
	Tobro #12	113	110
	Tobro #13 In lease	113	111
	Tobro #14	113	112
	Tobro #15	113	113
	Tobro #16	113	114
	Tobro #17	113	115
	Tobro #18	113	116
	Tobro #19	113	117
	Tobro #20	113	118
	Tobro #21	113	119
	Tobro #22	113	120
	Tobro #23	113	121
	Tobro #24	113	122
	Tobro #25	113	123

Enclosure No. 5:
Page Six

Date	Name of Claim	Book	Page
11-6-57	Tobro #26 In Issue	113	124
	Tobro #27	113	125
	Tobro #28	113	126
	Tobro #29	113	127
	Tobro #30	113	128
	Tobro #31	113	129
	Tobro #32 Not in Issue	113	130
	Tobro Fraction #1	113	131
	Tobro Fraction #2	113	132
	Tobro Fraction #3	113	133
11-12-57	Lone Star #23	113	245 ?
	Lone Star #23 (Amended Location)	112	600
			Yuma
11-7-57	Got It #1	211	193
	Got It #2	211	194
	Got It #3	211	195
	Got It #4	211	196
	Got It #5	211	197
	Got It #6	211	198
	Got It #7	211	199
	North Star #1	211	200
	North Star #2	211	201
	North Star #3	211	202
	North Star #4	211	203
	North Star #5	211	204
	North Star #6	211	205
	North Star #7	211	206
	North Star #8	211	207
	North Star #9	211	208
	North Star #10	211	209
	North Star #11	211	210
	North Star #24	211	211
		Yavapai County	
11-2-57	Last Chance #1	112	574
	Last Chance #2	112	575
	Last Chance #3	112	576
	Last Chance #4	112	577

ENCLOSURE #5

MINING LEASE

THIS AGREEMENT made and entered into this 30th day of October, 1957, by and between THOMAS L. OSBORNE, hereinafter called "Lessor", and LOUIS B. LOTHMANN, hereinafter called "Lessee",

WITNESSETH:

WHEREAS, Lessee is in the process of exploring for uranium, thorium, copper, gold, silver, rare earths and other valuable ores and minerals of all kinds, and

WHEREAS, Lessee has paid to Lessor the sum of ONE and No/100 DOLLARS ($1.00), and other good and valuable considerations, the receipt of which is hereby acknowledged by the Lessor,

NOW, THEREFORE, in consideration of the above and other valuable consideration, and of the covenants herein contained, the Lessor does hereby grant, demise, lease and let to the Lessee, exclusively, for the purpose of prospecting for, exploration, mining, development, production and removal of the aforesaid minerals in, upon, from and under the lands described in Exhibit "A" attached hereto and by reference made a part of this Lease, all of said lands being situated in the State of Arizona, together with the right to use so much of the surface as may be necessary to prospect, mine, and/or develop, and remove the minerals therefrom.

TO HAVE AND TO HOLD the said lands and privileges granted hereunder for a term of five (5) years, and so long thereafter as the said minerals or any of them in paying quantities shall be produced or mined from the leased lands, subject to all the terms and conditions as hereinafter set forth.

IN CONSIDERATION OF THE PREMISES, the parties covenant and agree as follows:

1. Lessee agrees to pay to Lessor as royalty five per cent (5%) of the net proceeds derived from ores removed from the premises, it being understood that net proceeds as used herein shall mean the gross proceeds received at the time of the sale of the ores or minerals after deducting therefrom only the cost of the final processing of the ore prior to or at the time of sale, which in the case of uranium or related ores shall mean deducting the cost of milling, or which in the case of base metals may mean the cost of smelting, but the prior costs incurred in mining, storing, transporting, or otherwise handling ores or minerals shall not be deducted in determining net proceeds.

2. Lessee agrees to make full settlement for all royalties on or before the 30th day of the month following the month of sale, for all said minerals mined and marketed from said leased lands.

3. Within ten (10) days from the date of this contract, Lessee agrees, at his sole expense, to commence exploration operations by actual physical drilling or excavation operations within said property (for the purpose of this Paragraph, the word 'property' shall mean all claims considered as a unit) and to continue such exploration operations to such minimum extent as shall require the expenditure of not less than $200.00 Two Hundred Dollars for each thirty (30) day period for labor and/or drilling costs and expenditures actually performed on the property, and, thereafter, upon the outlining and development of an ore body, to carry out actual mining operations in a most effectual, workmanlike and proper manner. Any expenditure in excess of the minimum requirement for labor and/or drilling costs and expenditures within any thirty (30) day period may be applied to the minimum requirement of the first twelve (12) thirty (30) day periods immediately thereafter.

4. In the conducting of said mining operations by Lessee, he shall comply in every respect with federal, state and local laws and regulations now existing or which may hereafter be promulgated, and in particular with all lawful rules and regulations of any federal or state bureau or department as now or as in the future may regulate the mining, production and operation of such mines as herein contemplated.

5. Lessee shall and hereby agrees to indemnify, protect and save Lessor harmless from and against the following claims, demands, and damages arising out of his negligence or actionable faults in connection with work and operations hereunder, to-wit:

(a) For damage to property of and injury or death to third persons, including workman compensation claims.

(b) Injury to or destruction of livestock and damage to permanent buildings and structures of the Lessor, situated on the demised premises, but to no other property or property interests of the Lessor whatsoever.

(c) Liens or lien claims on account of labor performed upon or material furnished to the demised property at the instance of Lessee.

In connection with the above, to provide and maintain, at Lessee's expense, an adequate policy of liability insurance for the benefit of Lessor and Lessee as against any liability which may be incurred by reason of the injury of any person or persons on, in, about or in connection with the premises, and to the extent of not less that One Hundred Thousand Dollars ($100,000.00) coverage for any one person and Three Hundred Thousand Dollars ($300,000.00) coverage for any one accident and to cause the insurance carrier to furnish Lessor with a duplicate copy of said policy, duplicate notices of premiums due and duplicate receipts for the payment of such premiums, and Lessee further agrees to comply with all of the requirements of the State of Arizona Mining Code and the safety rules and regulations promulgated by the State of Arizona Mine Inspector. So past, as required by Section 27-310 Arizona Revised Statutes, the laws relating

to the operation of mines within the State of Arizona, and, in behalf of owner, to post, record, maintain and keep in force and effect all notices executed by Lessor as owner and required by Section 33-990 Arizona Revised Statutes in order to protect and save the Lessor and the demised premises and improvements thereon harmless from any labor, materialman's, contractor's or millman's lien or any lien of any kind or nature and claim in connection therewith.

Lessee agrees to carry such insurance covering all persons working in or on said property as his employees as will fully comply with the provisions of the statutes of the State of Arizona covering workmen's compensation and occupational disease, as are now in force or as may hereafter be changed or amended.

6. Lessee may at any time execute and deliver to Lessor a release or releases embracing all or any portion or portions of a claim or the claims embraced by this Lease, and thereby terminate this Lease as to said portion or portions of a claim or claims, and terminate all obligations imposed on Lessee under this Lease as to the areas released. Such termination on the part of the Lessee may be effected by written notice forwarded to the Lessor.

7. It is understood by all the parties hereto that the Lessee will arrange for the marketing of all minerals produced and will obtain and keep in effect all necessary federal permits or licenses required in connection therewith.

8. This Agreement is subject in all respects to the Lessor having or obtaining perfect title in and to the claims described in Exhibit "A", it being understood that the Lessor and the Lessee are presently making all reasonable efforts to perfect the title of Lessor in and to said claims, and that the claims described in Exhibit "A" may be subject to relocation and

realignment and that it shall be the obligation of Lessee herein to perform all such acts as may reasonably be necessary to perfect the title of Lessor in and to said claims as the same presently exist or may be relocated or realigned from and after the date of this Agreement. In this connection it is specifically understood that Lessee shall cause the claims to be perfected to Lessor in accordance with law on or before thirty (30) days from the date hereof including surveying, posting, monumenting, recording and of the sinking of a discovery shaft in each of such claims; provided, however, Lessee shall not be obligated hereunder to perform any acts which shall amount to a dispute of the title of any third person or which, in the judgment of Lessee, exercised in good faith, may create a tort liability against Lessee.

9. Lessee may make or place such improvements and equipment upon the land as Lessee may determine to be necessary to explore for, mine and remove the minerals, and upon termination of this Lease, for any reason, Lessee may remove such improvements and equipment as can be removed; provided, however, that all rentals and royalties have been paid and that such removal is accomplished within twelve (12) months of the termination date. All improvements and equipment remaining upon the premises after the removal date, as set in accordance with this Paragraph, shall be forfeited to the Lessor without compensation.

10. In the event that Lessee shall be in default of any material obligation of Lessee herein required, Lessor may declare this Lease to be terminated and the rights of Lessee forfeited and Lessor may retake possession of the leased premises subject to the following:

(a) Lessor shall serve upon Lessee in writing a notice of default on the part of Lessee, setting forth with particularity the default which Lessor then contends exists.

(b) Lessee shall have thirty (30) days to undertake to cure such default set forth in the aforesaid written notice and shall have a period of ninety (90) days from the termination of the said thirty (30) day notice period in which to cure such default, and

(c) Lessor's right to retake hereunder shall only occur if Lessee shall fail to undertake to cure the default specified within the aforesaid thirty (30) day period, or shall fail to cause the same to be cured within the ninety (90) day period subsequent thereto.

Termination by notice, in accordance with the foregoing provisions, shall be the exclusive remedy of Lessor upon a default of Lessee herein and Lessor shall have no other right or claim for damages, excepting, however, that Lessor shall not be prohibited hereby from maintaining action for the payment of any royalty which became due and owing to Lessor prior to the termination of such notice period.

11. Any act required of Lessee within a time specified by this Contract shall be extended for such period and to such extent as the performance of Lessee hereunder may be interfered with or delayed by reason of fire, strike, unusual conditions, Acts of God or any other circumstance beyond the control of Lessee.

12. Lessee agrees to perform the assessment work on all claims perfected under this Lease before the expiration of any period allotted for the performance of such work.

13. The Lessee may assign this Lease in whole or in part.

14. Katherine Hunt Osborne, wife of Thomas L. Osborne, joins herein for the purpose of ratifying and confirming the terms and provisions of this Lease in all respects.

15. All of the obligations, covenants, agreements, rights and privileges of this Lease shall extend to and be binding and inure to the benefit of the lawful and recognized assigns or successors in interest of the parties hereto.

IN WITNESS WHEREOF this instrument has been executed by the parties hereto the day and year first above written.

Thomas L. Osborne

Katherine Hunt Osborne

Louis B. Lothmann

STATE OF ARIZONA)
) ss
County of Maricopa)

On this the 30th day of October, 1957, before me, the undersigned Notary Public, personally appeared THOMAS L. OSBORNE husband of Katherine Hunt Osborne, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I have hereunto set my hand and official seal.

Notary Public

My Commission expires:

My Commission Expires March 26, 1959

STATE OF ARIZONA)
) ss
County of Maricopa)

On this the 30th day of October, 1957, before me, the undersigned Notary Public, personally appeared KATHERINE HUNT OSBORNE, wife of Thomas L. Osborne, known to me to be the person whose name is subscribed to the within instrument and acknowledged that she executed the same for the purposes therein contained.

In witness whereof I have hereunto set my hand and official seal.

Notary Public

My Commission expires:

My Commission Expires [illegible]

STATE OF ARIZONA)
) ss
County of)

On this the 30 day of Oct., 1957, before me, the undersigned Notary Public, personally appeared LOUIS B. LOTHMANN, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I have hereunto set my hand and official seal.

Notary Public

My Commission expires:

My Commission Expires June 9, 1961

Mr. Louis B. Lothmann
Wickenburg, Arizona

Dear Mr. Lothmann:

In connection with the Lease which you have this date delivered to us for execution and as a material inducement to the execution of such Lease, it is herewith understood that the following agreement shall be a part of such Lease as though fully contained therein, to-wit:

> Lessee herewith agrees to make available to Lessor for examination at any reasonable time logs of any and all drilling performed on the properties subject to this Lease and to deliver to Lessor, on request, a split of any cores taken and a duplicate of any assay reports received and in the event that Lessee shall discover valuable minerals in place, Lessee shall promptly proceed to outline and develop the same as provided in Paragraph 3 and if such outlining and development shall disclose an ore body which may be economically extracted under the then existing circumstances and conditions, Lessee shall promptly undertake, within a short reasonable time, and proceed with, actual mining operations as provided in Paragraph 3 of this Lease and a failure so to do will constitute an actionable default of a material obligation of this Lease,

and that, insofar as this letter is delivered to you concurrently with the execution of the Lease, it shall be considered a part thereof upon your acceptance.

Very truly yours,

Thomas L. Osborne
Thomas L. Osborne

Katherine Hunt Osborne
Katherine Hunt Osborne

APPROVED, CONFIRMED
AND AGREED

Louis B. Lothmann
Louis B. Lothmann

EXHIBIT "A"

Unpatented Lode Mining Claims situated in the OCHO COMO MINING DISTRICT of Yavapai and Yuma Counties, Arizona, as follows:

T. 11 N., R. 10 W., G&SRB&M

Lone Star Group	Lone Star	#1 through #26
Got It Group	Got It	#1 through #15
North Star Group	North Star	#1 through #24
Bright Star Group	Bright Star	#1 through #18
Red Star Group	Red Star	#1 through #24
Last Chance Group	Last Chance	#1 through #4
Nine Slash Group	Nine Slash	#1 through #14
Aldebaran Group	Aldebaran	#1 through #21
Burhead Group	Burhead	#1 through #12

T. 11 N., R. 9 and R. 10 W., G&SRB&M

Tobro Group	Tobro	#1 through #27
Broto Group	Broto	#1 through #20
Oh No Group	Oh No	#1 through #35
Coronado Group	Corondao	#1 through #26

T. 11 N., R. 9 W., G&SRB&M

B.O.S. Group	B.O.S.	#1 through #34

Together with any relocation, realignment or amendment to any of said claims and any claim or claims located in lieu thereof, and together with all other unpatented lode mining claims situated in the aforesaid Mining District located by the Lessor, Osborne Exploration and Development, Inc., James E. Browning, Frank A. Browning and Tom Clayton, or by any person acting in behalf of any of said parties, prior to the date of this Agreement or within six (6) months subsequent to the date of this Agreement.

DEFINITE COPY
RECEIVED FEB 3 1958
DATE | INITIALS | CODE

ASSIGNMENT OF MINING LEASE

I, LOUIS B. LOTHMANN, referred to as Lessee in the annexed mining lease dated October 30, 1957, by and between Thomas L. Osborne and me, covering those certain unpatented lode mining claims situated in the Ocho Como Mining District of Yavapai and Yuma Counties, Arizona, more particularly described therein, and which lease in its entirety is here incorporated by reference and a photostatic copy thereof is attached, for and in consideration of $1.00 and other good and valuable consideration, the receipt of which is hereby acknowledged by me, have and do hereby assign and set over all of my rights, title and interest in and to said mining lease unto TEXAS-ARIZONA MINERALS CO., INC., its successors and assigns, hereinafter referred to as "Tamco", together with all and singular the rights and appurtenances in any manner thereto related, and I do hereby warrant that said mining lease is as of this date in full force and effect in accordance with its terms and provisions, that I am the sole legal and equitable owner of said mining lease and have the full and sole right to execute this assignment, and that I have not previously encumbered said lease and the various claims therein referred to in any manner whatsoever.

This assignment is made, however, upon and subject to the following reservations, provisions and conditions, to-wit:

1. I have and do hereby reserve unto myself, my heirs and assigns, an overriding royalty of nine per cent (9%)

of the net proceeds derived from ores removed from the premises, it being stipulated that "net proceeds" as used herein shall mean the gross proceeds received at the time of the sale of the ores or minerals after deducting therefrom only the costs of the final processing of the ore prior to or at the time of sale, which in case of uranium or related ores shall mean deducting the costs of milling, or which in case of base metals may mean the cost of smelting, but prior costs incurred in mining, storing, transporting or otherwise handling ores or minerals shall not be deducted in determining net proceeds. Payment and settlement for said overriding royalty herein reserved shall be made to me, my heirs and assigns, in the same manner as provided for by the Lessor in said mining lease herewith assigned.

2. The Assignee, Tamco, shall, by its acceptance of this assignment, comply with the terms and conditions of said lease to the same extent and in the same manner as though Tamco was first named as Lessee.

3. In the event Tamco shall be in default of any material obligation imposed upon the Lessee in said lease, and should the Lessor serve notice upon Tamco of any alleged breach or default as contemplated by paragraph 10 of said lease, then I shall have the right to re-take possession of the leased premises if Tamco shall fail to undertake to cure the default specified within the 30 day period mentioned in paragraph 10(b) of said lease, or shall fail to cause the same to be cured within the 75 day period subsequent thereto.

4. This assignment is made upon the express condition and stipulation that I am hereby relieved by Tamco of any obligations or duties with respect to any performance required of me as Lessee in said lease and, further, I am relieved of any obligation or duty whatsoever with respect to any operations to be conducted on said property or otherwise concerning said property. Tamco hereby agrees by the acceptance of this assignment to indemnify, protect and save me harmless from and against the claims, demands and damages arising out of Tamco's negligence or actionable faults or that of its contractors, sub-contractors, agents, employees or other representatives, in connection with work and operations under said lease to the same extent and in the same manner as though I was designated as the Lessor and Tamco as the Lessee in said lease, and in particular paragraph 5 thereof. Tamco agrees hereby to furnish to me as my interests may appear endorsements and copies of all insurance policies contemplated to be carried by the Lessee in said lease and in particular with reference to the provisions in paragraph 5 thereof.

5. Tamco may assign the subject lease by virtue of this assignment only upon my written consent, which I agree not to unreasonably withhold; provided, however, that an assignment will not be deemed to have occurred to any successor of Tamco or to any other company as a result of a merger, reorganization or consolidation involving, or upon liquidation of, Tamco.

6. Any notification desired or required herein shall be by certified mail, return receipt requested, and

the date thereof to be as of the postmark date, and the addresses of the parties shall be, unless otherwise changed, in the manner herein recited, as follows:

LOUIS B. LOTHMANN
524 First National Bank Bldg.
Albuquerque, New Mexico

TEXAS-ARIZONA MINERALS CO., INC.
600 Caroline
Houston, Texas.

7. This agreement is binding upon and shall inure to the benefit of the heirs, successors and assigns of the parties hereto.

EXECUTED IN DUPLICATE ORIGINALS this 2nd day of November, 1957.

Louis B. Lothmann
LOUIS B. LOTHMANN

ACCEPTED:

TEXAS-ARIZONA MINERALS CO., INC.

By [illegible]
President

Attest:

[illegible]
Secretary

THE STATE OF TEXAS)
)
COUNTY OF HARRIS)

On this the 2nd day of November, 1957, before me, the undersigned Notary Public, personally appeared LOUIS B. LOTHMANN, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same for the purposes therein contained.

In witness whereof I have hereunto set my hand and official seal.

Bobbye Becker
NOTARY PUBLIC
in and for Harris County, Texas

BOBBYE BECKER
Notary Public, in and for Harris County, Texas

My commission expires
June 1, 1959

THE STATE OF TEXAS)
)
COUNTY OF HARRIS)

On this the 2nd day of November, 1957, before me the undersigned Notary Public, personally appeared H. E. Finger and Sam Silverman, known to me to be the President and Secretary, respectively, of TEXAS-ARIZONA MINERALS CO., INC., a Texas corporation, the corporation named in the foregoing instrument, and acknowledged to me that they executed the same for said corporation for the purposes therein contained, as its free act and deed, and by each of them voluntarily executed.

In witness whereof I have hereunto set my hand and official seal.

Bobbye Becker
NOTARY PUBLIC
in and for Harris County, Texas

BOBBYE BECKER
Notary Public, in and for Harris County, Texas

My commission expires
June 1, 1959

OPTION AGREEMENT

I, LOUIS B. LOTHMANN, in consideration of $1.00 and other good and valuable consideration, the receipt of which is acknowledged by me, have and do hereby grant unto TEXAS-ARIZONA MINERALS CO., INC., a Texas corporation, its successors and assigns, referred to as "Tamco", the sole and exclusive option to acquire by assignment executed by me, my heirs or personal representatives, on the form hereto attached, that certain mining lease and all rights, privileges and appurtenances pertaining thereto, dated October 30, 1957, by and between Thomas L. Osborne as Lessor and me as Lessee, covering those certain unpatented lode mining claims situated in the Ocho Como Mining District of Yavapai and Yuma Counties, Arizona, more particularly described therein, together with any relocation, re-alignment or amendment to any of said claims located in lieu thereof, and together with all other unpatented lode mining claims situated in the aforesaid mining district located by Lessor, and the other parties mentioned and as provided in Exhibit A of said lease, a copy of which lease is hereto attached and included herein by reference.

Said assignment has this day been executed by me and placed in escrow with FRED W. HOFSTETTER, of Houston, Texas, upon the following conditions and agreements: (a) said Hofstetter, as Trustee, shall not deliver said assignment except upon the delivery to him of 35,000 shares of the capital stock of Tamco, of which 20,000 shares shall be in my name, 8,000 shares of which shall be in the name of Jerry Ringer, 4,000 shares of which

shall be in the name of Harry H. Brechstein, and 3,000 shares thereof shall be in the name of Lester T. Lothman, and which said certificates shall be in proper order; (b) said assignment shall not become effective except upon and as of the date of delivery thereof to Assignor, upon the conditions herein expressed; and (c) said Hofstetter as Trustee is not authorized to deliver said assignment at any time after February 1, 1958, the expiration date of this option, to said corporation, but shall forthwith return same to me and thereupon said Hofstetter shall be relieved of his duties as Trustee herein. Said Hofstetter shall also be relieved of his duties as Trustee in the event said option is exercised by the delivery of said stock as hereinabove provided on or before February 1, 1958. Said Hofstetter joins in this instrument merely as Trustee and in no other capacity, thereby acknowledging receipt of said assignment, a copy of said mining lease and a copy of this option agreement.

In the event Tamco elects to exercise this option, it must do so on or before February 1, 1958, and failing to exercise such option within the time stated shall forthwith and as of such date terminate all of the option rights herein granted to Tamco, and it shall thereafter have no rights, title, interest or claim to said lease and claims.

If Tamco elects to exercise this option, it shall deliver 35,000 shares of its capital stock (each of the par value of $1.00 and the total capital stock of

said corporation being 100,000 shares of common stock) to said Hofstetter for the interests and to the parties above named and within the time stated.

During the period of this option, Tamco agrees by its acceptance hereof to comply with the duties and obligations imposed upon me as lessee by virtue of said lease and to do nothing to impair said mining lease or invalidate said lease so as to protect me and my rights thereunder in the event Tamco fails to exercise this option. Should the Lessor in said lease serve notice in writing of any default on the part of Lessee as set forth in paragraph 10(a) of said lease, I reserve the right to terminate this option agreement unless such default be cured within sixty (60) days from date of receipt of such notice (the automatic termination date of the option remaining, however, February 1, 1958, as hereinabove provided in the event such is an earlier date), provided, however, that I agree to immediately notify Tamco of any notice received by me as the Lessee in said lease of any default thereof, by deliverying a photostatic copy of such notice in the manner hereinafter provided.

Tamco is hereby given the exclusive license and permit to enter upon said property or any portion thereof to investigate same in such manner as it may see fit, including the right to explore same and conduct drilling operations thereon; and to validate such claims as it may elect in an endeavor to protect title thereto and as Tamco may see fit to do under and by virtue of the rights granted

to the Lessee in said lease. Tamco is also granted the right to validate all or any of said claims in such manner as may be required by Federal and, or, State laws and regulations. Notwithstanding any language above, it is agreed that all expenses whatsoever incurred in connection with the above and, or, Tamco's compliance with said lease, shall be solely borne by Tamco, and I shall never be obligated to pay for same. Notice is herewith served that Tamco is not authorized in any manner to incur any indebtedness or claim whatsoever chargeable against me in connection with the foregoing except upon my express written consent.

In the event Tamco, its contractors, sub-contractors, agents, employees and other representatives, carry on operations on said property, or conduct any other activity which it may do by virtue of this option contract, said Tamco shall be and is an independent contractor in all respects solely in charge of the method and manner of conducting said operations and activities by it, since I am interested only in the results and since I have the right reserved herein to me to obtain from Tamco a detailed disclosure of its activities, reports and findings, and since I have and do hereby reserve the right of inspection from time to time as I see fit to insure compliance on the part of Tamco with its obligations and agreements as herein set forth.

Any notification desired or required herein shall be by certified mail, return receipt requested, and the date thereof to be as of the postmark date, and the

addresses of the parties shall be, unless otherwise changed in the manner herein recited, as follows:

LOUIS B. LOTHMANN
524 First National Bank Building
Albuquerque, New Mexico

TEXAS-ARIZONA MINERALS CO., INC.
600 Caroline
Houston, Texas

FRED W. HOFSTETTER
600 Caroline
Houston, Texas

This agreement is binding upon and shall inure to the benefit of the heirs, successors and assigns of the parties hereto.

EXECUTED IN TRIPLICATE ORIGINALS this 2nd day of November, 1957.

Louis B. Lothmann
LOUIS B. LOTHMANN

TEXAS-ARIZONA MINERALS CO., INC.

By Norman Bunger
President

Attest:

Secretary

ACCEPTED:

Fred W. Hofstetter
FRED W. HOFSTETTER,
as Trustee only

THE STATE OF TEXAS }
COUNTY OF HARRIS }

On this the 2nd day of November, 1957, before me, the undersigned Notary Public, personally appeared LOUIS B. LOTHMANN, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same for the purposes therein contained.

In witness whereof I have hereunto set my hand and official seal.

Dorye Becker
NOTARY PUBLIC
in and for Harris County, Texas

My commission expires
June 1, 1959

DORYE BECKER
Notary Public in and for Harris County, Texas

THE STATE OF TEXAS }
COUNTY OF HARRIS }

On this the 2nd day of November, 1957, before me, the undersigned Notary Public, personally appeared H. E. Fergo and Sam Silverman, known to me to be the President and Secretary, respectively, of TEXAS-ARIZONA MINERALS CO., INC., a Texas corporation, the corporation named in the foregoing instrument, and acknowledged to me that they executed the same for said corporation for the purposes therein contained, as its free act and deed, and by each of them voluntarily executed.

In witness whereof I have hereunto set my hand and official seal.

Dorye Becker
NOTARY PUBLIC
in and for Harris County, Texas

My commission expires
June 1, 1959

DORYE BECKER
Notary Public in and for Harris County, Texas

THE STATE OF TEXAS }
COUNTY OF HARRIS }

On this 2nd day of November, 1957, before me, the undersigned Notary Public, personally appeared FRED W. HOFSTETTER, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same for the purposes therein contained, and in the capacity therein stated.

In witness whereof I have hereunto set my hand and official seal.

Dorye Becker
NOTARY PUBLIC
in and for Harris County, Texas

My commission expires
June 1, 1959

LIBRARY
SUBJECT
FEB 3 1958
DATE | NAMES | CODE

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. [redacted] ssociates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

RECONNAISSANCE GEOLOGIC AND ENGINEERING REPORT ON CERTAIN AREAS IN YAVAPAI COUNTY, ARIZONA

A Professional Report

prepared for

Texas-Arizona Minerals Company, Inc.
600 Caroline Street
Houston 2, Texas

January 2, 1958

ENCLOSURE #6

AUTHORIZATION FOR THIS WORK

This writer was instructed and authorized to make this report by Texas-Arizona Minerals Co., Inc., a legally organized corporation, authorized to do business in the states of Texas and Arizona.

SCOPE AND METHOD OF INVESTIGATION

This writer spent several weeks in the field studying the area covered in this report.

Two reports by F. C. Ramsing, Consulting Geologist, Phoenix, Arizona, and H. Clyde Davis, Consulting Geologist, Tucson, Arizona, were also studied in detail. Copies of these reports are enclosed herewith. Enclosure of these reports does not necessarily mean that I agree or disagree with all of their contents. However, this work by others is professionally acknowledged, and simplified the preparation of this report.

A professional report prepared by the U. S. Atomic Energy Commission, No. RME-2057, entitled "Geology of Uranium in Tertiary Lake Sediments of Southwestern Yavapai County, Arizona", has been carefully reviewed. This report essentially covers the working Anderson Uranium Mine only two miles distance from the property under consideration here. The information from this report is also professionally acknowledged.

This report summarizes the findings, conclusions and recommendations of this amount of work. It is purely reconnaissance in nature, aimed at the possible economic potential of the area.

LOCATION AND ACCESSIBILITY

The property is easily accessible over good roads, some 25 miles west and north of Congress Junction, Arizona.

Specifically, this report appraises the potential of the area centered in or around T 11 N., R 10 W., Yavapai County, Arizona. (See map enclosed with this report.)

OWNERSHIP

The unexplored property under consideration includes the unpatented Federal lode mining claims under lease from Thomas L. Osborne, Lessor, to Louis B. Lothmann, Lessee, dated October 30, 1957, (Enclosure #5), and also certain claims staked under the name of Mr. Louis B. Lothmann for the Company. The writer is advised that the title to these claims are in substantially good order considering the nature of the interests. The Company has an option to acquire these properties, having already expended in actual cash approximately $40,000.00 with reference to such properties and said option.

Areawise, the claims under consideration here include two groups of approximately 300 Federal lode mining claims located directly to the south of the Anderson Uranium Mine and located in T 11 N., R 9 and 10 W.;

and also six groups of 20 claims each located further to the south and west of these properties. See enclosed map of the area for specific locations.

The 300 claims have been leased from the original locators, while the 120 [redacted] located by Louis B. Lothmann, and [redacted]

CONSENTS

The principal purpose of this report is to summarize professional information for the use and guidance of Texas-Arizona Minerals Co., Inc. However, the author hereby gives his consent to use this report and its contents for any other purpose. It may be reproduced, printed and distributed, or otherwise used at the discretion of Texas-Arizona Minerals Co., Inc.

GENERAL REMARKS

The enclosed previously acknowledged reports by others covered enough of the theoretical geology, so I will get down to business and confine my remarks to simple economic possibilities, in layman's terms.

The area under consideration here, see map, is essentially flat desert country. Little exploration, development, or discovery has been made on the 180 claims considered here. In fact, few, if any, bed rocks are exposed.

A commercial Uranium ore discovery has been made in the Santa Maria River out about two miles to the north in Sec. 10 and 11, T 11 N., R 10 W. This discovery is now, since the end of last year, in production, being operated by Mr. Tom Anderson and associates from California. Personnel at the Anderson operation advised this writer that they were shipping 0.30%, U_3O_8 ore to Globe. The Anderson deposit has at least three producible horizons, each several feet thick surface exposed, which are amiable to open pit operations. The ore is good grade, secondary carnotite type mineralization, which has impregnated strata in what appears to be an ancient fresh water lagoon or lake. The beds dip 5 to 10 degrees to the south (maybe a little west) and lap up on an igneous intrusion to the north, which caused the south dip of the sedimentary strata.

To my knowledge, the extent, particularly to the south of the Anderson property, has never been fully explored by drilling. Because of the dip to the south, the ore horizons would be 500 to 1200 feet of depth on most of the property. (The beds could flatten (take on a smaller dip) to the south because of a greater distance from the dip causing intrusion).

The south wall of the canyon, on the Anderson property, is capped by one or maybe several basalt flows of unknown thickness. This would mean that drilling or shafting to the south might have to go through the basalt. Limited drilling, by Lothmann & Lothmann last spring, proved the existence of thick sand caps in the flats to the south of the Anderson Mine. No other data was obtained from this drilling, however, the work was inadequate in its extent.

CONCLUSIONS

Theoretically, you have a typical example of commercial Uranium occurrence. That is, you have a known commercial occurrence of Uranium in type strata condusive to secondary Uranium mineralization, namely, a fresh water lagoon or lake bed. In such a case, you could find richer concentration down dip from the surface exposure, which would be the situation in this instance.

To me there are two prime considerations. Namely, 1. does the U impregnated strata extend two miles south, in order to be under the property to the south? (in other words, what was the extent of the ancient lake bed?), and 2. if the ore bearing strata is under the property, would it be in strong enough concentration to sustain a deep shaft and underground operations? Geology and modern science offers no way of answering these questions except by drilling. Therefore, I must emphasize that the proposition is purely speculative. However, it could be classed as a good wildcat proposition, if you look at it as such. It could be compared to oil, whereby you have located a strata known to produce, and have an anticline giving a structural trap a short distance away. Still, the only thing that is going to tell you that you have oil is the end of the drill bit.

RECOMMENDATIONS

I would recommend exploratory drilling financed by speculative capital. Specifically, I would recommend a two-phased drilling program, with the second phase depending upon the results of the first. Deep holes should be spotted throughout the property, located so as to adequately test the area. $25 to $50,000. should be appropriated to handle this first phase of drilling. This first phase would only test the extent of the ore bearing tertiary lake bed and the existence of mineralization.

If mineral or ore were discovered on the first phase, the potential ore deposit should be blocked out by a planned drilling program in the second phase.

Professionally submitted,

S. H. Glassmire

S. H. Glassmire
Registered Professional Engineer

[illegible] LAWSON, P.E.
CONSULTING GEOLOGIST
[illegible] ARIZONA
[illegible] NORTH 2ND AVENUE
PHOENIX, ARIZONA

PRELIMINARY REPORT
ON THE [illegible] UNCLAIMED [illegible]

Introduction:

The mining claims covered in this report at this time are located in the [illegible] mining district of Yavapai County, Arizona, and specifically in T.11 N; R-9,10 [illegible]. The property is [illegible] to Dewey [illegible] in Arizona located about 80 miles [illegible] and direct access [illegible] property is owned by the Osborne Exploration & Development [illegible] Trust Bldg. Phoenix, Arizona. The company [illegible] claims by location and there are 161 [illegible] claims [illegible] contiguous [illegible]. These claims lie south and adjacent to an [illegible] mining [illegible] property [illegible] the [illegible] which [illegible] by the [illegible] Oil and Development Co.

The purpose of this report is [illegible] application [illegible] that the [illegible] Osborne [illegible]

in the old Tertiary lake bed in this area certainly extended southerly beyond the limits of the Osborne claims or a distance of less than one mile. Subsequently these beds were tilted toward the latter claims, which also promoted solution travel in that direction via sand and agglomeratic beds classified by the lake waters. In this promising new uranium mining district there is adequate reason for believing that the present ore horizon now being mined does extend into the Osborne claims. This can and is now easily proven by planned drilling which should include a plotted survey to spot the holes at the ground surface. The total money required for drilling should not be less than $30,000.00. This is indeed a cheap gamble when the other factors are favorable.

Geography:

The area under consideration lies within an ancient Tertiary lake bed which was undisturbed prior to the Miocene orogenic epoch after which it was re-elevated and tilted southerly. This occurred about 30 million years ago. It has since been resculptured to fit the present stream bed features of the area. The relief of the lake beds is about 700 feet, while that of the adjacent mountains to the north and east is about 2,000 feet.

Stratigraphy and Petrography:

The rocks are lacustrine as noted and form a lake bed that is now a part of a large fault block, the northern segment of which contains the Santa Maria River. [illegible] fault line [illegible] southern side of the fault block. The eastern fault line is traced [illegible] of the andesite [illegible] that side, which now is indicated [illegible] the present exposures of [illegible] the ancient [illegible] In the early history of the lake bed it received [illegible] quantities of volcanic ash and agglomerates from the nearby andesite extrusives. This is verified by the presently seen strata [illegible] of these beds. Similar [illegible] flows are [illegible] the top of these lake beds or at a much later geological

These are visible from the Anderson mine. The lake bed surface is now generally covered with recent detritus from the adjacent higher mountains.

Mineralization:

The present ore mined at the Anderson mine is a seam about four feet thick occurring in the volcanic ash beds. Three or more other beds have been determined below the one being mined. The nature of these beds are confidential. The upper mined ore vein is associated with considerable chert and opal which have reneform and other odd shapes usually associated with clay. The chert is no doubt formed from low temperature hydrothermal solutions. These may have been derived from the volcanics but they could also come from an underlying differentiating crystalline magma which is presumed to be the deep seated phase of the andesite rocks. Like other ash beds these undoubtedly contain considerable sulfur and sulfates of metals from which the uranium minerals could become soluable. These solutions can migrate and be precipitated under suitable conditions by phosphates and carbonates trapped within the ash beds. The latter material has already been found at the Anderson mine. The existing ore minerals are carnotites or related oxide minerals. No hypogene minerals have yet been discovered. This seems logical under the conditions we have at this mine.

Mr. Anderson showed me ore piled up by the dozer that assayed 0.43% U_3O_8 which is blended to 0.30 % to make shipping ore. This proceedure allows four feet of width to be mined. This width may vary to narrower or wider limits within any area. However if the vein continues into the Osborne claims it must be mined by underground methods such as exists on the Colorado Plateau.

Here is a wide open property that may be determined for uranium by mere drilling since it flanks a producing mine.

Respectfully submitted,

F. C. Ramming

F.C. Ramming

REGISTERED MINING ENGINEER
F. C. RAMMING
ARIZONA, U.S.A.

PORTION OF A GEOLOGICAL REPORT PREPARED NOVEMBER 14, 1956, BY H. CLYDE DAVIS, CONSULTING GEOLOGIST, TUCSON, ARIZONA.

I examined a group of claims located in the Ocho-Como Mining District, Yavapai County, Arizona. These claims are located in sections 19, 20, 21, 27, 28, 29, 33 and 34 of township 11 North range 10 west. This property was examined Monday, November 12, 1956.

GENERAL GEOLOGY

These claims are located on unconsolidated alluvial material resting on gentle dipping beds to the south. These beds were observed on the Anderson property area and if extended to your claims, the following chart indicated approximate thickness to the ore zone.

Age	Rock Type	Thickness
Recent	Alluvium (your claims surface)	300 to 500 ft.
Pleistocene	Conglomerate bed (Anderson property at Gate) (Well-defined capping material).	100 to 200 ft.
"	Basalt bed (Good marker bed.)	20 to 40 ft.
	Unconformity	
"	Conglomerate (fine grained) Chert bed (opal) Mudstone (fine bed) (Granite bearing [illegible]) Lead limestone	200 ft.
	Andesite (altered [illegible])	

The above chart was determined [illegible] workings where the various members could be measured to determine their thickness. This chart is accurate only at the [illegible] constant for two miles where [illegible] roup Lie [illegible] was confirmed by a geologist of the [illegible] v [illegible] However, it is entirely possible that [illegible] The [illegible] and lime [illegible] closer to [illegible] MAS [illegible] depth. This can only be determined [illegible]

URANIUM MINERALIZATION

The uranium mineral, [illegible] located a mile and a half [illegible] your property [illegible] carnotite material. The material is [illegible] area and the unit where you can visually see an [illegible] carnotite. These beds are located in an old fresh water [illegible] at one time in the history of deposition a [illegible] in a given stratum. Later, when this area was [illegible] waters circulated, [illegible] in contact with the [illegible]

CONCLUSIONS.

Your claims have a potential of producing [illegible] of the ore level is not prohibitive to a successful mining operation.

Carnotite deposits found in the Colorado [illegible] have [illegible] uranium ore where the [illegible] is a greater [illegible] on this property can be contacted [illegible] potential producing property. Because of the [illegible] property, it will be necessary to drill at least two holes [illegible] structure.

The two areas selected for drilling were [illegible] the basis of the Airborne Scintelometer survey.

This information was given to me by Mr. Osborne at the time I visited the property.

January 2, 1958

Enclosure No. 6: Answer to No. 4 of application form giving physical description of the properties.

No. 4 (a). Approximately $40,000.00 in cash has been actually expended on the properties included in this application. Approximately $15,000.00 of these expenditures have been directed towards the validation of the claims including a registered survey of the Osborn East Group and West group (see Enclosure No. 3), staking, papering and discovery hole digging on these same claims.

However, a certain amount of exploratory drilling has been performed upon these properties with encouraging results; namely, as of this date four holes (Holes No. 1 through No. 4 on map enclosure No. 3) have been completed to igneous bottom. Holes No. 3 and No. 4 penetrated to horizone known to contain uranium that is currently being worked in the Anderson Mine (Interstate Oil & Development Co.) a few hundred yards to the north (again refer to the map enclosure No. 3).

This horizon, known to contain uranium, is the mudstone of a lake bed Tertiary in age together with the agate, volcanic ash and carbonaceous material associated with this strata. In Hole No. 3 this potential ore bearing Tertiary lake bed was encountered at 451 feet and persisted through 830 feet in depth from the surface. In hole No. 4 the possible horizon was encountered at 948 feet and persisted through 1671 feet, thus showing a total potential horizon of some 723 feet. Both of these holes, according to the logs, have been certified as mineralized but not commercial since the U_3O_8 concentration is minus 0.03%. However, it can be emphatically emphasized that these two holes proved that the ancient ore bearing Tertiary lake extended far to the south of the Anderson Mines (Interstate Oil & Development Co.). It was proved that the possible horizon was thicker than the exposed cuts in the Anderson Mine (Interstate Oil & Development Co.). These holes also proved that the existence of the uranium control and/or precipitants; namely, agate, ash and carbonaceous material exists underneath the flats to the south of the Anderson Mine (Interstate Oil & Development Co.).

Since the possible ore bearing horizons have been already proven to exist on the properties concerned in this application, it is felt that additional drilling would locate suitable structures conducive to the accumulation of a major uranium deposit.

As of this date Holes No. 5 and No. 6 (again see Map enclosure No. 3) are in the process of being drilled. In hole No. 5 the possible

horizon (Tertiary lake sediments) were again encountered and are still persisting at 1100 feet from the surface. Hole No. 6 is not yet through the over-burden, but is down over 600 feet and it is expected that the potential ore bearing horizon will be encountered soon. Holes Nos. 7, 8, 9 and 10 have not been started as yet but it is planned to complete these holes on the current drilling program now under way. These holes are expected to be completed prior to the participation in the DMEA program and it is anticipated that they will give additional geological information.

No. 4 (b). The properties under consideration in this application has no current or prior production, nor have any ore reserves as yet been established. Production on the Anderson Mine (Interstate Oil & Development Co.) grades, quantities and reserves are available from Interstate and from AEC report No. RME-2057 and from published AEC reports.

For No. 4 (c), (d) and (e) refer to enclosure No. 6 of this application, report of S. H. Glassmire & Associates.

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

December 23, 1957

Enclosure No. 7: Answer to No. 5(b) of Application Form.

The plan of this exploration project is to drill the property in a two-phase drilling program. The work on the second phase as outlined here will depend upon the success of the first phase drilling. Hence, this Application at this time only solicits DMEA participation for the first phase. It is anticipated that $40,000 will be required to finance the first phase of the drilling, and another $40,000 will be required to finance the second phase if ore is encountered in the first phase.

Enclosure No. 3 of the Application is a map showing the location of the properties and the location of the proposed drilling holes for the first phase of the proposed drilling program. Deep drilling is the only type of exploration anticipated. Enclosure No. 3 also shows the location of all exploration holes already drilled.

ENCLOSURE # 7

December 23, 1957

Enclosure No. 8. Answer to No. 5(d) of Application Form.

Some of the major stockholders of Texas-Arizona Minerals Co., Inc. are essentially the same principals that formed Mid-Continent Exploration Company. That company caused the first shaft to be sunk in the Ambrosia Lake uranium area and also was one of the first companies to work in that area which now contains the nation's largest uranium body. Mr. Louis B. Lothmann at that time was the president of Mid-Continent Exploration Company and was the discoverer of the Ambrosia Lake ore body. Mr. Lothmann is now the field representative for Texas-Arizona Minerals Co., Inc., and consistent with his option will be a major stockholder therein when said option is exercised by the Company. Mr. Lothmann will continue to be in charge of field operations for the Company. S. H. Glassmire and Associates are retained as professional consultants by Texas-Arizona Minerals Co., Inc. and will be in charge, direct and supervise all field activities of the Company. A biographical background of Mr. Glassmire qualifying him to direct such activities is hereby enclosed.

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

BIOGRAPHY

S.H. GLASSMIRE, JR.

Presently:

1. Consulting Geologist-Engineer, offices for private practice at 214 College Street, Santa Fe, New Mexico. Offering professional services in Economic Geology, Mining, and Milling. Examination, valuation, exploration, and production. Professional fees arranged on a time, job or retainer basis.

2. Faculty member, St. Michael's College, Santa Fe, New Mexico. (Night school lecturer in Engineering, Geology, and Mineralogy.)

3. Registered Professional Engineer, #2109, State of New Mexico. Registered Consulting Geologist and Engineer, American Geologic Institute and A.I.M.E.

4. Member of: A.I.M.E.; Nuclear Engineering Division, A.I.Ch.E.; Sigma Gamma Epsilon; National Society of Professional Engineers; New Mexico Society of Professional Engineers.

Formerly:

1. On the staff of the University of California at the U.S. Atomic Energy Commission's Los Alamos Scientific Laboratory.

2. Consulting Geologist-Engineer to the New Mexico Economic Development Commission.

3. Graduate of University of Kansas and U.S.M.S. Engineering School.

4. Lieutenant (Sr. Grade), U.S.M.S., Atlantic and Pacific theatres of operation, World War II.

5. Author of many publications and technical papers, the most recent of which include:

    a. "Mica and Associated Minerals of New Mexico", N.M.E.D.C., 1956.

    b. "Radioactive Process Ventilation", A.S. H.A.E., 1957.

    c. "Clay Mineral Potential of Northeastern New Mexico", N.M.E.D.C., 1957.

Western U.S.A.
Mexico
Central & S. America

ENCLOSURE # 9

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

December 23, 1957

Enclosure No. 9: Answer to No. 6 of Application Form.

As stated in Enclosure No. 7, it is estimated that the property of concern here can be adequately explored in the first phase of the anticipated drilling program for $40,000. As also mentioned before, an additional $40,000 will be required if ore is discovered in the first phase of the drilling. The original $40,000 will cover the cost of contracting approximately 25 deep holes.

Enclosure No. 9: Answer to No. 6(a).

Drilling can be contracted in this area on the following schedule: 70¢ per foot for depths 100 to 300 feet; $1.00 per foot for depths 300 to 500 feet; $1.50 per foot for depths 500 to 1000 feet; $2.00 per foot for depths 1000 to 1500 feet; and $2.50 for depths 1500 to 2000 feet. As shown on the map (Enclosure No. 3), 2000 feet is the maximum depth anticipated. The drilling contract as per footage shown on the map (Enclosure No. 3) will amount to approximately $34,000.

Enclosure No. 9: Answer to No. 6(b).

Supervision, engineering, consultants and overhead is estimated to amount to $5,000.

Enclosure No. 9: Answer to No. 6(c).

Since the drilling contractor will furnish all material and equipment, the only equipment that the applicant will be required to furnish will be motor vehicle transportation to and from the property, which is expected to amount to approximately $1000. Therefore, the total of $40,000 can be itemized as follows: $34,000 to the drilling contractor, $5,000 for supervision, engineering and consultants, and $1,000 for transportation to and from the properties.

Docket

Murphy
Ellis

May 20, 1958

Summary of Proposed Project

Object: Denial of application for exploration aid.

Docket No.: DMEA-4935

Commodity: Uranium

Amount of Application: $40,000.00

Applicant: Texas-Arizona Minerals Company, Inc.
Farm and Home Savings and Loan Assn. Bldg.
600 Caroline Street
Houston 2, Texas

Property Rights: Lessee of following claims situate in Yavapai and Yuma Counties, Arizona:

T. 11 N., R. 10 W., G&S.R.B.M.--

Lone Star Group	#1	through	#26
Got It "	"	"	#15
North Star "	"	"	#24
Bright Star "	"	"	#18
Red Star "	"	"	# 24
Last Chance "	"	"	# 4
Nine Slash "	"	"	#14
Aldebaran "	"	"	#21
Burhead "	"	"	#12

T. 11 N., R. 9-10 W. G&S.R.B.M.--

Tobro Group	#1	through	#27
Broto "	"	"	#20
Oh No "	"	"	#35
Coronado "	"	"	#26
B.O.S. "	"	"	#34

Date of Application: (received Feb. 3, 1958)
Referred to Region III: March 13, 1958, with additional information.

Field Examination made: April 8, 1958
Field Team Report received: May 12, 1958

Work Proposed: Approximately 25 holes totaling an estimated 24,500 feet of rotary drilling.

Estimated Costs:

24,500 ft. drilling	$34,000.00	
Supervision & consultants	5,000.00	
Transportation	1,000.00	
TOTAL		$40,000.00

Excerpts from Joint Report of Examination by W.L. Emerick, USGS, and T.M. Romslo, USBM:

At the Uranium Aire Company's Anderson mine, north of the Applicant's property, anomalous radioactivity is largely confined to 2 carbonaceous layers, about 85 feet apart, within a series of outcropping lake sediments. These zones have been extensively explored by drill holes, and mined by open pits where the depths of overburden were less than 15 feet. Confidental production records to February 1958, show that 3,450 tons of ore assaying about 0.20% U_3O_8 were shipped to A.E.C. stations, and a few thousand tons of lower grade material were stockpiled at the mine. Inasmuch as ore mineralization is absent in one location and up to $4\frac{1}{2}$ feet thick in another, selective mining and/or sorting probably was necessary to maintain the .20% U_3O_8 shipping grade.

The outcropping beds dip south through the Uranium Aire's property, and lie at depths ranging from about 950 to 1,500 feet in the proposed project area, according to data from test holes drilled by the Applicant.

The outcropping lake beds now being exploited indicate that the concentrations of ore-grade material are small and scattered. There are no geologic reasons that larger concentrations of ore grade material will occur down dip from the outcrops, hence there is little chance that the proposed drilling would result in the discovery of significant uranium ore deposits.

The examiners and Field Team recommended that the subject application be denied.

Commodity Members' Comments:

In memoranda, dated May 15 and 16, 1958, James Paone, USBM, and W. P. Williams, USGS, respectively, concur in the Field Team's recommendation to deny the application.

Division of Rare & Misc. Metals, F. M. Murphy, May 20, 1958:

I agree with the field examiners that the proposed project, to explore for the small ore-bodies at depths of 1,500 feet in the lake beds, cannot be justified in view of the information available on the occurrence of ore-grade material in the adjacent area, and the drilling already performed on the subject property.

Conclusions and Recommendations:

This Division agrees with the conclusions of the field examiners, and concurs in the Field Team's recommendation that application DMEA-4935 should be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Director
Division of Rare and Misc. Metals

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5/20	Murphy	700
"	Ellis	700
5/21	Selfridge	130
"	[illegible]	110
"	Mittendorf	100
		220
		225

MAY 21 1958

Mr. H. E. Finger, President
Texas-Arizona Minerals Co., Inc.
Farm & Home Savings & Loan Assn. Bldg.
600 Caroline Street
Houston 2, Texas

Re: Docket No. DMEA-4935 (Uranium) 5/21 [illegible] (130)
Lone Star, et al., Claims
Yavapai and Yuma Counties, Arizona
5/21 Kulagaard (130)

Dear Mr. Finger:

Your application for aid in an exploration project and other information available to us in Washington concerning the above-named property have been reviewed.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program.

Careful study of all our information, indicates that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. We regret to advise you that, under these circumstances, your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

FMMurphy/izm 5-20-58
cc: Mr. Murphy
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
DMEA FT Reg. #3 (2)

8623

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 19 1958

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

DATE	INITIAL	CODE
5/19	C	220
"	7MM	700
Complete		

Memorandum May 16, 1958

To: E. W. Ellis, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of Field Examination Report, DMEA 4935 (Uranium), Texas-Arizona Minerals Company, Inc., Lone Star et al claims, Yavapai and Yuma Counties, Arizona.

The examining team report that geologic conditions on the applicant's property are not favorable for the presence of significant uranium ore deposits. About 3,450 tons of ore averaging 0.20% U_3O_8 have been mined from a property just north of the applicant's land. The ore was mined from open pits where the depth of overburden was less than about 15 feet. Selective mining and sorting were probably resorted to in order to bring the ore up to shipping grade. Test holes put down by the applicant encountered the productive beds at depths ranging from about 950 to 1,500 feet.

The Atomic Energy Commission has reported that the ore is spotty, being absent in one location and up to 4½ feet thick in another. Average thickness for the ore at the Anderson mine to the north of the applicant's property is 2 feet. The examiners point out that any drilling proposed in the alluvium covered areas on the applicant's property would certainly be wildcat drilling and in the realm of prospecting.

Under the conditions involved, it appears that the proposed project would result only in the discovery of small concentrations of uranium minerals that could not be economically mined by present-day underground mining methods. I agree with the recommendations of the examining team and the Field Team for denial of the application.

W. P. Williams

W. P. Williams

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 15 1958

DATE	INITIALS	CODE
5/15	C	220
"	7MM	700

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Washington 25, D. C.

Date May 15, 1958

DMEA Docket No. 4935
DMEA Contract No.
Commodity Uranium
Name of Applicant Texas-Arizona Minerals Co. Inc.
Name of property Lone Star et. al. claims
Location of property Yavapai &YUma Counties, Wyo.
Estimated cost of project

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: James Paone, Bureau of Mines Member JP
Uranium Commodity Committee

Subject: Review of Field Team Report
(Application, Field Team Report, etc.)

1. Date of subject document: 5/8/58. 2. Date received by reviewer: 5/13/58

3. Prior reports on this property known to reviewer: Yes ☐ No ☐

4. Prior reports on nearby properties known to reviewer: Yes ☐ No ☐

5. Information available on past production: Yes ☐ No ☐

6. Other pertinent factors known to reviewer: Yes ☐ No ☐

7. Explain items marked 'yes' above:

8. Factors needing special consideration:
a. Location ☐
b. Ownership ☐
c. Evidence of mineralization ☐
d. Geology ☐
e. Proposed exploration method ☐
f. Alternate exploration method ☐
g. Costs
h. ☐

9. Action advised:
a. Obtain information from applicant ☐
b. Refer to Field Team ☐
c. Denial ☒
d. Agree with Field Team ☒
e. Disagree with Field Team ☐
f. Suggest alternate plan ☐
g. Request another examination ☐
h. Approval ☐
i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 12 1958

DATE	[illegible]	CODE
5/12	C	220
5/14	2/3	130
5/15	C	220
"	7MM	700

224 New Customhouse
Denver 2, Colorado
May 8, 1958

Memorandum

To: Secretary to the Operating Committee

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4935 (Uranium) Texas-Arizona Minerals Company, Inc. (Lone Star et. al. claims) Yavapai and Yuma Counties, Arizona - Joint Report of Examination

Enclosed are the original and two copies of the Joint Report of Examination on the subject property by T. M. Romslo, USBM, and W. L. Emerick, USGS.

The field examiners conclude that the probability for making a significant discovery is not sufficiently promising to justify Government participation. Accordingly, they recommend that the Applicant's work proposal be denied. We concur in this recommendation.

E. N. Harshman

E. N. Harshman

2 maps in envelope pocket

ON-SITE EXAM

Reviewed by
DMEA OPERATING COMMITTEE
5-14-58
(date)

MINERAL DEPOSITS
DMEA
RECEIVED
MAY 7 1958

U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

EXTRA COPY
DMEA
RECEIVED MAY 12 1958

DATE	INITIALS	CODE
5/14	2/B	130
		220
Region III		

Box 4126 University Station
Tucson, Arizona

May 5, 1958

MEMORANDUM

To: W. H. King, Executive Officer, DMEA Field Team, Region III

From: T. M. Romslo

W. L. Emerick

Through: E. M. Harshman

Subject: Docket No. DMEA-4935 (Uranium) - Texas-Arizona Minerals Company, Inc. (Lone Star et al claims), Yavapai and Yuma Counties, Arizona

Enclosed find original and 9 copies of a joint field examination report on the above subject property, recommending denial of the application.

Also enclosed is the Bureau copy of Routing Control Sheet. The Survey copy of the application is being returned to Mr. Harshman's office.

Original signed by
T. M. Romslo

T. M. Romslo
U. S. Bureau of Mines

W. L. Emerick

W. L. Emerick
U. S. Geological Survey

TRANSMITTED
MAY - 6 1958

cc: W. H. King (9)
E. M. Harshman
DMEA/TUC
Emerick

TMR:WLE:mm

DMEA
DEPARTMENT OF THE INTERIOR
MAY 7 1958
REGION III
DENVER, COLORADO

Reviewed by
DMEA OPERATING COMMITTEE
5-14-58
(date)

FOR UNITED STATES GOVERNMENT USE ONLY

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 12 1958

DATE	INITIAL	CODE
5/14	JHB	130
		220

TRANSMITTED

MAY - 8 1958

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

Docket No. DMEA-4935 (Uranium)

Texas-Arizona Minerals Company, Inc.

(Lone Star et al claims), Yavapai and Yuma Counties, Ariz.)

W. L. Emerick, Geologist
U. S. Geological Survey

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
5-14-58
(date)

May 1958

DMEA-4935 (URANIUM) TEXAS-ARIZONA MINERALS COMPANY, INC.
(LONE STAR ET AL CLAIMS)
YAVAPAI AND YUMA COUNTIES, ARIZONA

CONTENTS

	Page
Introduction	1
Summary and Recommendation	1
Location, Accessibility and Local Facilities	3
Property	5
History and Production	5
Extent and Ownership of the Property	7
Present Status	8
Geology	8
Proposed Exploratory Project	14

ILLUSTRATIONS

Figure		
1.	Location map	following page 3
2.	Claim map	in folder
3.	Geology map	in folder

INTRODUCTION

The Texas-Arizona Minerals Company, Inc., 600 Carolina Street, Houston 2, Texas, applied to the Defense Minerals Exploration Administration for aid in exploration for uranium on the Lone Star et al claims, Yavapai and Yuma Counties, Arizona. The application was received and assigned docket number DMEA-4935 on February 3, 1958. It was reviewed by the Operating Committee and forwarded to the Field Team, Region III for field investigations and recommendations.

Field investigations for the Field Team were made April 8, 1958, by W. L. Emerick, geologist, U. S. Geological Survey, and T. M. Romslo, mining engineer, U. S. Bureau of Mines. They were accompanied by S. H. Glassmire and N. A. Regan, the applicant's consultant and field superintendent, respectively.

The examining team gratefully acknowledges the cooperation of Mr. W. R. Ashwill, Section Chief, Flagstaff Section, and Mr. D. C. Barrett, Phoenix Section, Atomic Energy Commission, in supplying supplemental information on the area and for the use of maps and report data.

SUMMARY AND RECOMMENDATION

The applicant's property comprises several widely scattered groups of claims within a large area underlain by recent alluvium. To the north of the area anomalous radioactivity is largely confined to 2 carbonaceous layers within a series of outcropping lake

sediments consisting of mudstones and limestones. The lake sediments are underlain by volcanics, granite and schist and are unconformably overlain by conglomerates, lavas and recent alluvium. The most conspicuous structural feature is a regional southerly dip of the formations toward the applicant's property.

The applicant proposed an estimated 24,500 feet of rotary drilling in approximately 25 holes at a total estimated cost of $40,000.00.

The anomalous radioactive zone to the north of the applicant's property has been rather extensively explored by drill holes and mined by open pits where the depths of overburden were less than about 15 feet. Known production is confined to the Uranium Aire Company's Anderson mine. Company confidential production records to February 1958 show that a total of about 3,450 tons of ore averaging about 0.20 percent U_3O_8 were shipped to AEC buying stations, and a few tens of thousand tons of lower grade material was stockpiled at the mine. It is believed that all of the ore was produced from the most extensive and highly mineralized of two known uranium-bearing beds. Inasmuch as ore mineralization is absent in one location and up to $4\frac{1}{2}$ feet thick in another, selective mining and/or sorting probably was necessary for the production of shipping grade ore of about 0.20 percent U_3O_8.

Test holes put down by the applicant have encountered, at places, the productive mudstone beds of the lake sediments at depths ranging from about 950 to 1500 feet. However, zones of significant uranium mineralization were not encountered except possibly

in 2 holes, one of which was offset a few feet from the other. It was alleged that 10 feet of 0.13 percent U_3O_8 was encountered at a depth of about 1500 feet in both holes. Additional drilling in the area of these two holes, although not proposed, is not believed justified by the field examiners because the factual data submitted does not conclusively or reliably prove the presence of significant radioactive material.

It is conceivable that concentrations of uranium similar to those of the Anderson mine, which would be noneconomic if mined by underground methods, are present at depth on the applicant's property. However, the geologic structures that may localize the known deposits are subtle and can be projected only for short distances. Thus, areas favorable for exploration away from the outcrops, particularly under the alluvium, can not be determined. It follows that the past and the proposed drilling of the applicant is of a wildcat variety, a type of exploration in which Government aid is not justified.

The field examiners recommend denial of the application.

LOCATION, ACCESSIBILITY, AND LOCAL FACILITIES

The Lone Star et al claims are grouped into 8 properties that are situated within an area comprising Tps. 9, 10 and 11 N., Rs. 9, 10, and 11 W., Yavapai and Yuma Counties, Arizona (figs. 1 and 2). The approximate center of the area is about 30 miles west

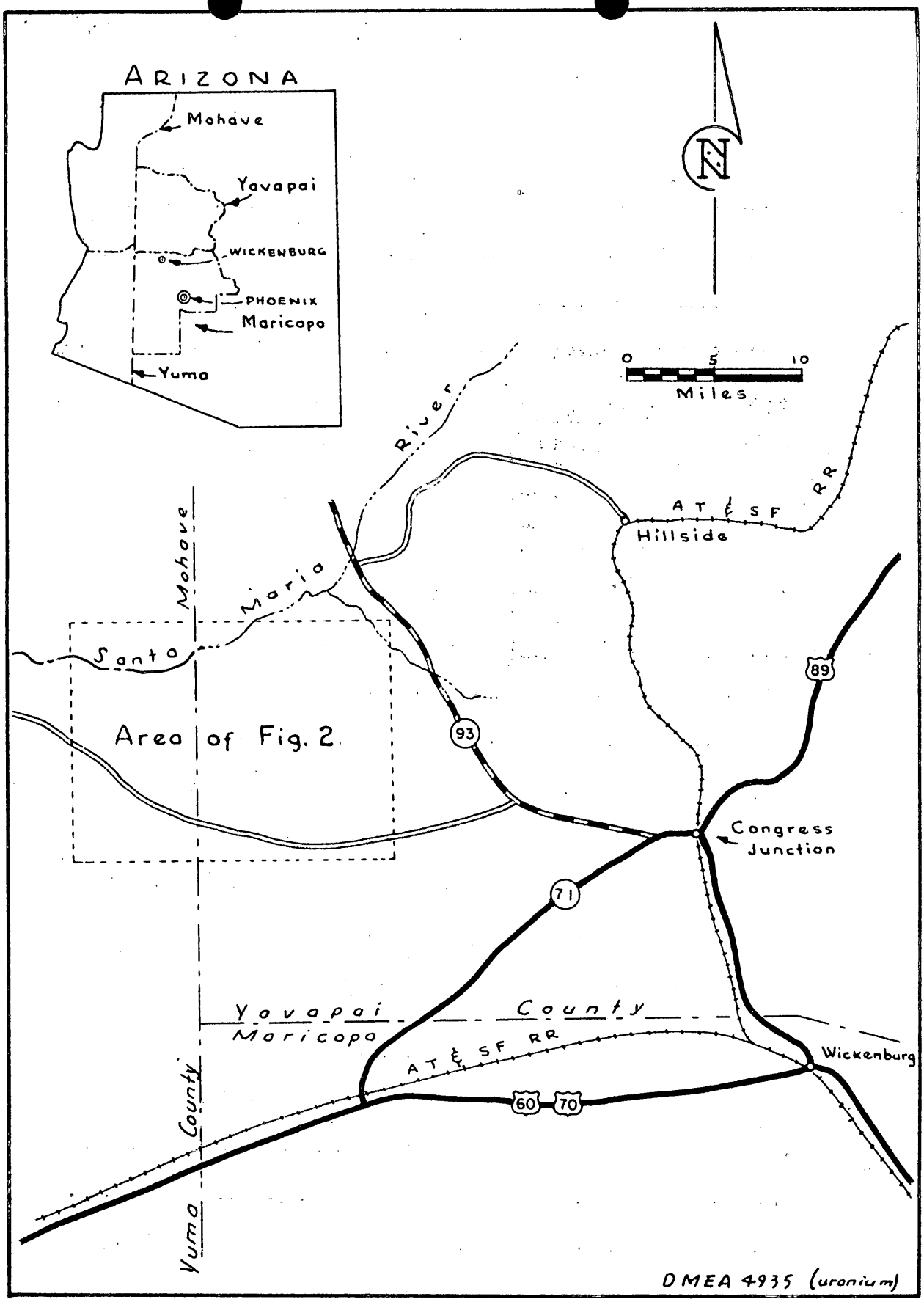


Fig. 1 Location map, Texas-Arizona Minerals Co., Inc. Yavapai and Yuma Counties, Arizona

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 12 1958

DATE	INITIALS	CODE

and north of Congress Junction, a village on U. S. Highway 89, State Highway 71 and a branch of the Atchison, Topeka and Santa Fe Railroad.

The claims are accessible from Congress Junction by paved highways and graded dirt roads which have no excessive grades. A log of a trip to the claims that commences by traveling southwesterly on Highway 71 is set down below.

	Miles
Junction of highways 71 and 89	0.0
Turn right, onto State 93	6.5
Turn left onto "Alamo" road	10.9
Bear left at fork	11.9
*Turn right onto Palmerita road	16.9
Turn right onto Anderson Mine access road	29.4
Junction of access road with trail to drill hole No. 5	33.0

From this point, the right fork is taken for 0.6 mile to the drill hole and one may continue straight ahead about 3 miles to the Anderson mine.

*Continue straight ahead on the Alamo road for about 5.5 miles to the first of the 5 groups of 20 claims each.

The Lone Star et al claims are situated in a broad area of flat and gently rolling desert country of an average altitude of about 2300 feet (fig. 2). On the north the flat desert country adjoins the moderate to very rugged area along the deeply incised Santa Maria River that contains the productive uranium mines. The area is drained to the west principally by the intermittent streams of Date Creek and Bullard Wash.

The vegetation is sparse; consisting of native grasses, cacti, shrubs and small trees of the varieties found at the intermediate altitudes of Arizona.

The climate is characterized by long hot summers and pleasant winters. Precipitation of about 8 inches annually occurs mainly as a few heavy rainstorms during July and August and occasional light rain- and snow-falls during the winters.

PROPERTY

History and Production

The U. S. Atomic Energy Commission's report RME-2057[1/] states:

> "Uranium in Tertiary lake sediments of southwestern Yavapai County was first discovered in January, 1955, by Mr. T. R. Anderson, Sacramento, California. Anomalous

---

1/ Reyner, M. L., Ashwill, W. R., and Robison, L. R., Geology of Uranium Deposits in Tertiary Lake Sediments of Southwestern Yavapai County, Arizona: U. S. Atomic Energy Comm. RME-2057, Part I, p. 8, 1956.

radioactivity was detected with an airborne scintillation counter, and subsequent ground checking disclosed numerous outcrops of carnotite. Several hundred claims have since been located in the surrounding region.

"The immediate area has no recorded mineral production. However, gold and tungsten have been mined a few miles to the north, and the Artillery Mountains manganese area lies 10 to 20 miles to the west.

"A few small shipments of uranium ore from the Uranium Aire property have been made to the Cutter buying station."

Company confidential data furnished the examining team by Walter R. Ashwill, Chief, AEC Flagstaff Section, show that a total of 3,145 dry tons of ore averaging 0.196 percent U_3O_8 had been shipped from Uranium Aire's Anderson mine to the buying station at Cutter, Arizona to June 30, 1957, when the station was shut down. An estimated ±300 tons of +0.20 percent U_3O_8 was later shipped to the AEC buying station at Grants, New Mexico. Recently 11 tons of 2.75 percent U_3O_8 was reportedly trucked to Rare Metals Corporation's mill at Tuba City, Arizona. It is believed that the ore shipped was selectively mined or sorted from lower grade stockpiled material that presently contains a few tens of thousand tons.

According to Geo. Allen, superintendent of the Anderson mine, exploratory drilling and the open pit mining and stockpiling of ore started during 1955 and is still in progress. He also reported the last shipment of a contract with the Grant's buying station was

made February 28, 1958, and that an extension of the contract has been requested.

The claims presently held by the applicant, the Texas-Arizona Minerals Co., Inc., are included in the several hundred claims since located in areas surrounding the Anderson mine. According to S. H. Glassmire, Louis B. Lothmann, locator of some of the applicant's claims, spent about $30,000.00 on location work and exploratory drilling during the spring of 1957. Later, the applicant acquired Lothmann's and other claims and renewed drilling operations in October 1957. To March 5, 1958, when all work was stopped, approximately $60,000 had been spent on engineering work and the drilling of test holes. A total of 10 holes ranging in depth from 340 feet to 2,090 feet and totalling 12,936.6 feet were drilled by Lothmann and the applicant. The drilling was contracted to Geohole Inc., Dallas, Texas. Rigs employed for rotary type of drilling and about 30 feet of coring in hole 5A were a model 1500 Fehling and a model 2000 Mayhew.

Extent and Ownership of the property

The Lone Star et al claims comprise 8 groups of unpatented lode mining claims (fig. 2). Six of the groups each contain 20 claims that reportedly were located for the applicant, the Texas-Arizona Minerals Co., Inc., by Louis B. Lothmann. The other 2 groups,

the Osborne East and Osborne West, contain 139 claims and 88 claims, respectively. Thomas L. Osborne owns the 2 groups of claims and transferred them to Louis B. Lothmann by a Mining Lease of October 30, 1957. Transfer of the lease to the applicant is provided for by an Option Agreement of November 2, 1957, but the transfer had not been made to March 17, 1958.

The mailing address of the Texas-Arizona Minerals, Inc. is: Farm and Home Savings and Loan Association Building, 600 Caroline Street, Houston 2, Texas. Principal officers of the corporation, all of whom reside in Houston, Texas, are: H. E. Finger, President; Sam Silverman, Secretary; and M. Kagan, Treasurer.

Present Status

The property has been inactive since March 5, 1958. It contains no mining or milling equipment or buildings.

According to the applicant's representative, the applicant decided to suspend exploratory work during the period of negotiation for governmental aid.

GEOLOGY

The applicant's property (Fig. 2) is underlain by variable thicknesses of alluvium. Sediments and extrusive volcanics believed to be Tertiary in age crop out one to two miles north of the property (Fig.3). Further to the north Precambrian granite and schist are exposed.

The AEC made a detailed geologic study of the outcrop area to the north, at and adjacent to the Anderson mine, and states:

"Anomalous radioactivity is largely confined to two carbonaceous layers within a series of fresh-water mudstones and limestones of Pliocene(?) age. The lake sediments were deposited in a basin at least five miles wide by 40 miles long. They rest upon an eroded surface of older Tertiary volcanics which in turn lie upon Precambrian granite and schist. The lake sediments are unconformably overlain by younger Tertiary conglomerates, lavas, and Recent alluvium. A southerly regional dip was produced by recurrent normal faulting which took place during three recognizable periods. Gentle warping has produced minor asymmetric folds in the sediments that appear to have partially controlled the localization of ore."2/

The mudstone-limestone unit consists of about 100 feet of limestone and marl beds overlying andesite flows. There are abundant plant remains throughout the mudstone-limestone section and much of the unit has been partially to intensely silicified. A maximum thickness of 200 feet was reached in the area mapped by the AEC.

As further reported by AEC:

"The two (carbonaceous shaly) zones are about 85 feet apart stratigraphically with the lower zone occurring a few feet above the interbedded augite andesite. The carbonaceous layers average about two and a half feet in thickness and can be traced for a strike length of about 3 miles. The lower zone is the thicker of the two at least locally and contains more carbonized and less silicified material than the upper zone. More uranium has been found in the upper zone to date possibly because it has been more thoroughly prospected. Carnotite is exposed in the carbonaceous layers at intervals in outcrops, test pits and bull-dozer cuts throughout the exposed 3-mile strike length."3/

In reference to the mineralogy, the AEC says:

"Carnotite is the only uranium mineral identified to date. It occurs as yellow earthy incrustations and as yellow-orange crystals."4/

2/ Op. cit. p. 32, 1956.

3/ Idem. p. 22.

4/ Idem. p. 22

Other minerals present in the ore horizon are limonite, hematite, nontronite and an unidentified earthy green mineral. Plant remains in the ore zone are opalized, carbonized, or replaced by chalcedony. The uranium content appears to vary directly with the iron present.

In regard to structure, it is stated by the AEC that:

> "The most conspicuous structural feature of the area (Anderson mine) is the southerly regional dip. All Tertiary rocks have been tilted a minimum of approximately six degrees. The lake sediments have an average dip of about 15 degrees, and the older volcanic extrusives dip about 25 degrees to the south. The regional dip appears to be related to recurring downfaulting of the basin before, during and after sedimentation."5/

> "All major faults are normal and trend about N. 45° W. Smaller, linking faults trend about N. 20° W. and W."6/

The AEC geologists favor a hypogene origin related to faulting for the uranium mineralization. Localization of uranium ore between fault blocks, silicification of the host rock, hematite deposition, and veins of associated sepiolite and chalcedony are offered as favorable evidence in support of a hypogene origin. Other possible origins were also regarded, principally bog type deposition and the ash leach process. Concentration and redeposition of the uranium in favorable and more permeable parts of the unit by meteoric waters has obviously occurred.

Applicant has drilled 10 widely separated holes on the subject property (Fig. 2). A summary of these holes follows:

5/ Op. cit. p. 17 and 18.

6/ Idem. p. 18.

Hole No.	Location	Total Depth (feet)	Thickness of lake sediments (feet) encountered	Remarks
1	Coronado #16 claim Sec.29, T.11 N., R.9W.	400	None	Bottomed in granite. No mineralization. No radioactivity.
2	Coronado #23 claim Sec. 31, T. 11 N., R.9W.	340	None	Bottomed in granite. No mineralization No radioactivity
3	Broto #13 claim Sec. 30, T.11 N., R.9W.	860	None or only very thin lenses	Bottomed in granite. Slight mineralization. Radioactivity less than 0.02% eU_3O_8.
4	Tobro #29 claim Sec.25, T.11 N., R.10W.	1685.6	723	Bottomed in granite. Hole only slightly mineralized. No uranium mineralization. Radioactivity less than 0.02% eU_3O_8.
5	Tobro #8 claim Sec.24, T.11 N., R.10W.	1720	1190	Bottomed in granite. Radiometric probing showed one major (10') and 2 thin ore bands. The major band gave readings averaging between 1.2% and 1.5% eU_3O_8. Chemical assays did not confirm radiometric results.
5A	Tobro #8 claim Sec.24, T.11 N., R.10W.	1560	834	Bottomed in conglomerate. 10-foot ore band in this hole alleged to average 0.13% eU_3O_8. Data confused.
6	Tobro #3 claim Sec.25, T.11 N., R.10W.	1780	815	Bottomed in granite. No uranium mineralization and no appreciable radioactivity.
7	Lone Star #21 claim Sec.27, T.11 N.,R.10W.	2090	623(?)	Bottomed in granite. Only slightly mineralized. Radioactivity of 0.02% eU_3O_8 confined to one band of 8 ft. between 1506'-1514' on applicant's probe. Geophysical Company probe indicated no count.
7A	OH No #1 claim Sec. 17, T.11 N.,R.10 W.	1173	Several thin lenses	Bottomed in granite. No ore encountered and lake sediments thin. Radioactivity range about background.
7C	Sec.29, T.10 N.,R.10W.	1328	None	Bottomed in granite. No radioactivity. Lake sediments apparently do not extend this far south.

The results of the applicant's drilling (Fig. 2) indicates that 10 drill holes ranging in depth from 340 to 2,090 feet penetrated rock that was either unmineralized or only weakly mineralized. Holes 1, 2, 3, 4, 6, 7 and 7A encountered the lake sediments. Probing of these holes found no appreciable radioactivity, and little or no uranium mineralization was found either by petrographic or chemical analyses of drill hole cuttings from a few of these holes. Hole 7C did not encounter the lake sediments and showed no radioactivity by probing. The absence of lake sediments in this hole suggests that they were not deposited that far to the south. Hole 5 and its offset 5A showed radioactivity by probing and uranium mineralization by chemical assays in the lake sediments at a depth of about 1,500 feet. However, the degree of uranium mineralization as indicated by the confused data does not appear to be significant. Information from the AEC[7/] indicates that other companies beside the applicant have found mineralized zones by drilling in the alluvial-covered areas to the south of the outcrop areas. Insofar as known to the AEC none of these mineralized zones has equaled the Anderson mine pit areas in size or over-all grade.

It was observed in the field that the mining of uranium ore at the Anderson mine to the north of the applicant's property has been confined to open pits along the mudstone outcrop. Although the uranium mineralization appears to be fairly persistent in certain horizons of the lake sediments over a rather extensive area, only

---

7/ Ashwill, W. R., written communication, April 23, 1958.

one horizon has been mined. Drill holes in other parts of the area where thicker sections of the sediments are present have penetrated four widely separated horizons. The Anderson mine is believed to be in the fourth or bottom horizon of these four. The AEC report states that there is a fifth horizon about 85 feet below the one being mined. The average thickness of the mineralized zone at the Anderson mine is reported to be about 3 feet, and the zone averages between 0.20 percent and 0.25 percent U_3O_8.

Where observed in the open pit at the Anderson mine, the best grade of uranium ore appeared to come from the top $1\frac{1}{2}$-2 feet of a 3-foot-thick carbonaceous mudstone bed that has been silicified or agatized. Underlying the agatized mudstone bed is an undetermined thickness of consolidated and unmineralized volcanic ash. The best uranium ore within the formation was concentrated on the flatter limbs of shallow asymmetric folds which partially acted as structural controls. There was undoubtedly some secondary enrichment of these concentrations. The AEC[8/] found that "in outcrop most ore-grade material is of the silicified type." In the same communication it was said that "the ore is spotty, being absent in one location and up to $4\frac{1}{2}$ feet thick in another. The average thickness for the reserve block is 2 feet."

8/ Opus cit., April 23, 1958.

Although the better grade of ore in the Anderson mine is mostly in the silicified part of the mudstone unit, it was reported that in places the carbonaceous part of the unit was better in grade. Unconsolidated mudstone beds overlying the silicified beds appeared to be generally unmineralized or only weakly mineralized in places.

Although the uranium mineralization is extensive in certain layers of the favorable beds, all parts of it are not uniformly or significantly mineralized. It is not improbable that other concentrations of uranium, similar to that exposed at the Anderson mine, occur elsewhere beneath the alluvium to the south, but it would be difficult or impossible to project any probable structure from the exposed areas in the north on which to base drill hole patterns to the south on the applicant's property. Any drilling proposed in the alluvium covered areas to the south in search of latent reserves would certainly be wildcat drilling and in the realm of prospecting.

PROPOSED EXPLORATORY PROJECT

The proposed project of the applicant involved the rotary drilling of an estimated 24,500 feet in approximately 25 of the tentatively located 30 holes of figure 2, under stage 1. Depths of the holes were expected to range from several hundred feet to a maximum of 2,000 feet and average about 1,100 feet. Contractors could be expected to do the drilling at per foot costs that would range from 70 cents

for depths to 300 feet, to $2.50 for depths from 1,500 to 2,000 feet, and average about $1.24. On this basis, the cost of drilling the estimated total of 24,500 feet would be $34,000.00. The estimated total cost of $40,000.00 includes $5,000.00 for supervision, engineering and consultants, and $1,000 for transportation to and from the properties.

224 New Customhouse
Denver 2, Colorado
March 28, 1958

3/31 FLK

Memorandum

To: W. L. Emerick w/enclosures
T. M. Romslo w/enclosures

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4935 (Uranium) Texas-Arizona Minerals Company, Inc. (Lone Star, et. al. claims) Yavapai and Yuma Counties, Arizona

Enclosed is the following additional material relating to the subject docket.

1. Copy of a letter from Harry H. Brechstein to the Executive Officer dated March 27, 1958.

2. Copy of a letter from S. H. Glassmire dated March 18, 1958, to Mr. Ernest Wm. Ellis.

3. Summary and conclusion - Hole No. 5A by S. H. Glassmire.

4. Five sheets of drilling, radiometric and assay reports on Hole No. 5A.

Please place this additional information which has been submitted by the Applicant with your copy of the application.

Original signed by
E. N. HARSHMAN

E. N. Harshman

EHC:dp

cc: Sec. Oper. Comm. (2)
Harshman
Docket
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/24	Knouse	700
3/24	Ellis	700
3/26	[illegible]	130
"	[illegible]	110
"	[illegible]	[illegible]
3/27	[illegible]	220
		700

MAR 27 1958

Mr. W. H. King
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4935 (Uranium)
Texas-Arizona Minerals Company, Inc.
Lone Star, et al., Claims
Yavapai and Yuma Counties, Arizona

Dear Mr. King:

We are sorry the second extra copy of the subject application was omitted from the attachments to our letter of March 13. It is enclosed.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GB)

Enclosure

APPROVED:

P. F. Yopes (GB)
Member, Bureau of Mines

Thor H. Kiilsgaard (GB)
Member, Geological Survey

FLKnouse/izm 3-24-58
cc: Mr. Knouse
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OFFICIAL FILE COPY
DMEA
RECEIVED 20

DATE		NOTE
3/20	C	220
3/21	~~HC~~	700

224 New Customhouse
Denver 2, Colorado

March 18, 1958

Memorandum

To: Chairman, Operating Committee DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4935 (Uranium) Texas-Arizona Minerals Company, Inc. (Lone Star, et. al. claims) Yavapai and Yuma Counties, Arizona

Your letter dated March 13, 1958, transmitting the subject application to this office stated that two copies of the application were attached. Only one copy of the application was received, but three sets of the following were received.

a. Applicant's letter dated February 28, 1958.

b. S. H. Glassmire's letter dated February 13, 1958, and attachments referred to therein.

Will you please ascertain if the missing copy of the application is still in your office.

WH King

W. H. King

O... DMEA
RECEIVED 20
3/20 C 220
3/21 FLK 700

224 New Customhouse
Denver 2, Colorado

March 18, 1958

Memorandum

To: W. L. Emerick w/enclosures - items 1-5
T. M. Romslo w/enclosures - items 1-5

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4935 (Uranium) Texas-Arizona Minerals Company, Inc. (Lone Star, et. al. claims) Yavapai and Yuma Counties, Arizona

Enclosed is the following material relating to the subject docket.

1. Copy of application for Government assistance in exploration work under the DMEA program.

2. Memoranda of Review by James Paone, USBM.

3. Memoranda of Review by W. P. Williams.

4. Letter of transmittal of the foregoing to this office dated March 13, 1958, from the Chairman, Operating Committee, DMEA.

5. Routing Control sheet.

The field examination of the property and a joint report of findings and recommendations pertaining to the Applicant's work proposal are requested.

If the field examiners recommend Government participation in the proposed exploration program, please submit 11 extra copies of each map used in the joint report which show the land to be subordinated and the location and extent of recommended work, relative to property boundaries.

The Bureau of Mines' copy of the application should not be returned to this office, but is to be kept for the examining engineer's file. The routing control sheet, however, is to be completed, detached from the application, and forwarded to the Executive Officer with the joint report. The Survey's copy of the application is to be returned to Mr. Harshman's office.

Original signed by
W. H. KING

W. H. King

WHK:dp

Enclosures

cc: Exec. Oper. Comm. (2)
Harshman w/enclosures 1-4
Docket
Chron.

P. S. Only one copy of the application was received from the Washington Office, DMEA, instead of the two copies mentioned in the Chairman's letter. We are requesting another copy of the application from the Washington Office which we will forward you. In the meantime you will have only the one copy of the application to share.

For 7

OFFICIAL FILE COPY

Date	Surname	Code
3-11	Knapp	700
3-12	Ellis	700
3/12	[illegible]	130
"	Johnson	110
"	Whitehead	100
		020
		700

Mr. W. H. King
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

MAR 10 1958

Re: Docket No. DMEA-4935 (Uranium)
Texas-Arizona Minerals Company, Inc.
Lone Star, et al., Claims
Yavapai and Yuma Counties, Arizona

Dear Mr. King:

The subject application is referred to Region III Field Team for investigation, a field examination if deemed advisable, and recommendations. You will note in our letter of even date to the Applicant that he has been instructed to forward to you information concerning the claims owned and leased; also to advise if the Option Agreement, dated November 2, 1957, between the Applicant and Louis B. Lothman, has been exercised.

Enclosed are memoranda, dated February 5 and March 6, from James Paone, BLM, and dated February 6 and March 10, 1958, from W. P. Williams, USGS, respectively, relating to the proposed project. Also enclosed, for the use of the Field Team, are:

1. Two extra copies of the application.

2. Three sets of the following:

   (a) Applicant's letter, dated February 28, 1958, and

   (b) S. H. Glassmire's letter, dated February 13, 1958, and attachments referred to therein.

If a contract is approved, we will require the usual number of Consent to Lien and Subordination Agreement forms signed by Thomas L. Osborne and Katherine Hunt Osborne, covering the claims to be included in the contract. Also, if the Option Agreement, dated November 2, 1957, between the Applicant and Louis B. Lothman has not been exercised, we will require the usual number of Consent to Lien and Subordination Agreement forms signed by Louis B. Lothman covering all the claims to be included in the contract. Therefore, if the Field Team recommends a project, it should inform the Applicant of

8623

this requirement; also, it should advise the Applicant that while early submission of these forms would expedite processing of the application, their presentation does not imply that a contract will be granted.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (HB)

Enclosures

APPROVED:

Frank D. Lamb (HB)
Member, Bureau of Mines

Thor H. Kiilsgaard (HB)
Member, Geological Survey

FLKnouse/izm 3-11-58
cc: Mr. Knouse
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224

OFFICIAL FILE COPY

Date	Surname	Code
3-11	Knouse	700
3-12	Ell[illegible]	700
3/12	Selfridge	130
"	Johnson	110
"	Hartendorf	100
3/12	Lamb	130
3/12	Dogan	130
3/13	C	220
/		700

MAR 13 1958

Finger, President
izona Minerals Co., Inc.
Home Savings & Loan Assn. Bldg.
oline Street
2, Texas

Re: Docket No. DMEA-4935 (Uranium)
Lone Star, et al., Claims
Yavapai and Yuma Counties, Arizona

Dear Mr. Finger:

Messrs. S. H. Glassmire's and Harry H. Brochstein's letters of February 13 and 28, with the supplementary information requested in our letter of February 7, have been received. Your application has been referred to:

Mr. W. H. King
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

We note in your application that you are both lessee and original locator of the claims to be explored. If your company is the owner of some of the claims, please furnish a list of (a) the claims that are owned, and (b) claims that are leased. Also please advise if the Option Agreement, dated November 2, 1957, between your company and Louis B. Lothman, has been exercised.

You should send three copies of the above information to Mr. King at the above address and send one copy to this office.

Sincerely yours,

C. O. Hartendorf (for)

Administrator

FLKnouse/izm 3-11-58
cc: Mr. Knouse
Admr.'s Reading File
DMEA FT Reg. 3 (2)
THKiilsgaard, 5224

8623

IN REPLY REFER TO:

ORIGINAL COPY
DMEA
RECEIVED MAR 11 1958

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

3/11	C	220
3/14	Krome	700
	Guest	

March 10, 1958

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Supplemental information, DMEA 4935 (uranium), Texas-Arizona Minerals Company, Inc., Lone Star et al claims, Yavapai County, Arizona

In response to a letter request from the Director, Division of Rare and Miscellaneous Metals, the applicant has submitted claim ownership data, drill hole logs, and assays.

The drill holes penetrated only weakly mineralized rock. None of the new information changes any of the observations made in my memo of review of February 6, 1958. I still recommend that the application be referred to the Field Team for possible field examination and report.

W. P. Williams

W. P. Williams

RECEIVED COPY DMEA MAR 7 1958		
DATE	INITIALS	CODE
3-7	C	220
11	PLK	700

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Washington 25, D. C.

Date March 6, 1958

DMEA Docket No. 4935
DMEA Contract No.
Commodity Uranium
Name of applicant Texas-Arizona Minerals Co., Inc.
Name of property Lone Star, et al, claims
Location of property Yavapai and Yuma Co., Arizona
Estimated cost of project $40,000.00

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: James Paone, Bureau of Mines Member
Uranium Commodity Committee

Subject: Review of Application
(Application, Field Team Report, etc.)

1. Date of subject document: 2/28/58. 2. Date received by reviewer: 3/3/58.

3. Prior reports on this property known to reviewer: Yes ☐ No ☐

4. Prior reports on nearby properties known to reviewer: Yes ☐ No ☐

5. Information available on past production: Yes ☐ No ☐

6. Other pertinent factors known to reviewer: Yes ☐ No ☐

7. Explain items marked yes above:

8. Factors needing special consideration:
   a. Location ☐
   b. Ownership ☐
   c. Evidence of mineralization ☐
   d. Geology ☐
   e. Proposed exploration method ☐
   f. Alternate exploration method ☐
   g. Costs ☐
   h. _____ ☐

9. Action advised:
   a. Obtain information from applicant ☐
   b. Refer to Field Team ☒
   c. Denial ☐
   d. Agree with Field Team ☐
   e. Disagree with Field Team ☐
   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval ☐
   i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary)

Data contained in the application is not promising and would indicate denial, but in view of the work by applicant perhaps a field examination is in order.

LAW OFFICES OF
HARRY H. BROCHSTEIN
FARM & HOME BUILDING
TEXAS AT CAROLINE
HOUSTON, TEXAS

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 3 1958

DATE	INITIALS	CODE
3/3	C	220
"	BOK	700

February 28, 1958

United States Department of Interior
Defense Minerals Exploration
Administration
Washington 25, D.C.

Attn: Mr. Ernest Wm. Ellis,
Director, Division of
Rare and Miscellaneous Metals

Docket No. DMEA-4935 (Uranium)
Lone Star, et al, Claims
Yavapai and Yuma Counties, Arizona

Gentlemen:

This is in reply to your letter of February 7, 1958, concerning the captioned application.

The Company engineer, Mr. Sam H. Glassmire, was of the opinion that a field inspection should be made before answering, which has accounted for some delay. However, his report is enclosed in quadruplicate.

Mr. Glassmire has answered all of your inquiries with the exception of that set out in paragraph 2 of your February 7th letter. In answer to this inquiry, the claims mentioned by you were apparently inserted erroneously and, therefore, should be disregarded.

Respectfully submitted,

Harry H. Brochstein

Harry H. Brochstein,
Attorney for Texas-Arizona
Minerals Co., Inc.

HHB:BB
Encl.

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

February 13, 1958

Mr. Ernest Wm. Ellis, Director
Division of Rare and Miscellaneous Metals
Defense Minerals Exploration Administration
United States Department of the Interior
Washington 25, D. C.

3/3 C
11 ~~KLK~~ 220
700

Re: Docket No. DMEA-4935 (Uranium)
Lone Star, et al., Claims
Yavapai and Yuma Counties, Arizona

Dear Mr. Ellis:

This is in reference to your letter of recent date to Mr. H. E. Finger, President, Texas-Arizona Minerals Company, Incorporated, in reference to our application for aid in a uranium exploration project which has been assigned the above referred to docket number.

1. (a) Item No. 1 of your letter asked if we had performed certain acts to perfect the titles of the mining claims listed in Exhibit "A". This writer is a geologist and engineer engaged by Texas-Arizona Minerals Company, Incorporated, and as such, supervised the claim validation work on various properties described in Mining Lease dated October 30, 1957, between Osborne, Lessor, and Lothmann, Lessee, and the other properties described and/or reported in the application submitted by Texas-Arizona Minerals Company, Incorporated. I have recently, this date, reinspected the properties referred to so that I can accurately answer your first question. This is to certify that the following described claims have been properly staked in the field, have been legally surveyed by a registered surveyor, properly filed, and have a legal validation or discovery hole completed. In my opinion these claims have titles perfected in every respect and can be listed as follows:

Coronado group of claims Nos. 1 through 26. — short one claim
Broto group of claims Nos. 1 through 20. ✓
Tobro group of claims Nos. 1 through 32. ✓ + 5 claims
Tobro Fraction claims Nos. 1 through 3. ✓
Red Star group of claims Nos. 1 through 19. short 5 claims
Bright Star group of claims Nos. 1 through 16. short 2 "
Lone Star group of claims Nos. 1 through 18. short 2 "
Lone Star claims Nos. 21, 22, 24 and 25.
Joshua claim No. 1.

Map in envelope

(b) The following groups of claims have been legally staked, surveyed by a registered surveyor and properly filed. The validation and/or discovery hole digging on these claims has been only partially completed because of the expense involved although the claims have been duly filed with the view that the discovery work will be done as is consistent with the nature of the interests, the expense involved and the results obtained from explorations or drilling of the claims mentioned in the preceding paragraph. Claims in this category are:

Joshua claim No. 2.
Red Star claims Nos. 20 through 24.
Lone Star claims Nos. 19 and 20.
Nine Slash claims Nos. 1 through 14.
Aldebaram claims Nos. 1 through 21.
North Star claims Nos. 1 through 23.
Got It claims Nos. 1 through 15.
Last Chance claims Nos. 1 through 4.

(c) The following claims listed in the application have been properly staked and filed. They have not at this time been surveyed nor has the discovery work been done because of the expense, although the claims have been duly filed with the view that their discovery work will be done consistent with the nature of the interests, the expense involved and the results obtained from exploration of the area:

Coronado claim No. 27.
Broto claims Nos. 21 through 28.

and the six groups of 20 claims each, un-numbered, shown on map (enclosure No. 3 of application and lying to the south and west of the above mentioned claims).

2. In answer to questions asked by item No. 2 of your letter, it is my understanding that Mr. Harry H. Brochstein, attorney for the company, will answer your questions.

3. In answer to questions arising in item No. 3 of your letter, I can comment as follows:

Lone Star No. 23 recorded on page 113, book 245 and Lone Star No. 23 amended recorded in book 112, page 600, has not been validated and therefore it was not included on our map and was not submitted in our application. It was erroneously submitted with enclosure No. 4 of our application which listed the claim numbers, the recording book and page numbers of everything that we have under lease.

Bright Star No. 17 was listed on our lease and was on enclosure No. 4, but we have not been able to find this claim in the field and therefore it was omitted from our map and hence should be omitted from our application.

Oh No claims 1 through 48 were also erroneously listed on our enclosure No. 4, but have not been in our opinion completely validated sufficiently for us to list them in our application and hence they should not be included on the map.

4. In reply to your item No. 4, I am enclosing the certified well logs and other data that we have on holes Nos. 1 through 4 that you requested. Since submitting our application we have completed five other holes and I am enclosing this data on these holes as I feel that you will also require them.

I hope that this satisfactorily answers all questions that you had in mind. However, if they are still not clear please bring it to our immediate attention.

Thanking you for your consideration.

Sincerely yours,

S. H. Glassmire

S. H. GLASSMIRE
Consultant Geologist - Engineer
for Texas-Arizona Minerals Company,
Incorporated

Enclosures

/bhb

rn U.S.A.
xico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

23 February 1958

TEXAS-ARIZONA MINERALS CO., INC.

DRILLING DATA - CONGRESS JUNCTION, ARIZONA URANIUM PROPERTY

SUMMARY AND CONCLUSIONS - Holes No. 1 and 2: (See map for location) Hole No. 1 was bottomed in igneous granite at 400 feet. Hole No. 2 was bottomed in igneous granite at 340 feet. These holes were drilled close to the high igneous (volcanic peaks) to the east of the drilling locations. They were drilled for the purpose of testing whether or not the possible ore bearing horizon, namely the Tertiary lake sediments, extended to the east and lapped up on the volcanic peaks. However, no lake sediments were encountered.

The holes were probed and no appreciable radioactivity was found and no uranium mineralization was found either by petrographic or chemical assay.

OFFICIAL
DMC
RECEIVED

Texas-Arizona Minerals Co. Inc.

S. H. GLASSMIRE
Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Louis B. Lothmann & Associates
Job No. Congress Junction U

Drilling Location: 29
1/4 1/4, S. 30 T. 11N R. 9W
Yavapai County
Arizona State
~~Drilling~~ Extreme SE corner of Osborne E Group

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Important Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
1	Rotary Dry	90%	-	0'-30'	Unconsolidated (Overburden)		Sand		-1"		Probed hole
	Rotary Wet	-	-	30'-65'	Consolidated		None		-1/4"		No Radioactivity
	"	-	-	65'-190'	SS & Igneous Sill		None		Solid		No Mineralization
	"	-	-	190'-210'	Brown Clay		None		Fine		
	"	-	-	210'-392'	Consolidated SS		None				
	"	-	-	392'-400'	Igneous Granite		None				Bottomed at 400'
2	Rotary Dry	90%	-	0'-60'	Unconsolidated (Congl. Overburden)		Sand		-2"		Probed Hole
	Rotary Wet	-	-	60'-85'	Consolidated Congl. & Sand		None		-2"		NO RADIOACTIVITY
	"	-	-	85'-285'	Basalt&Ign.		None				NO MINERALIZATION
				210'	2'-4' Br. Clay						
				285'-340'	Ign. Granite		None		Solid		
											Bottomed at 340'

Drilling Contractor Geohole (Gallup, N. M.)

Certified By S. H. Glassmire

Signed By _____ Driller

Louis B. Lothmann & Associates
Job No. Congress Junction U

S. H. GLASSMIRE
Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Drilling Location:
SE ¼ SW ¼ Sec. 34, T. 9N, R. __
Yavapai County
Arizona State

Drilling for: Osborn Claim
Brato #13

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
3	Rotary Dry	90		0-15'	Unconsolidated Allarium	-	-	-1-2"	-		Probe hole only slightly mineralized
	Rotary Wet	?		15-105	Consolidated S.S. (calliche)	Igneous		-½"	Igm		-0.02% eU_3O_8
	"	?		105-135	Pk Brown Cldy	?		-1 mm			
	"	?		135-451	Consolidated	Igneous	-	-½"			
	"	?		451-485	Mudstone in Strata with Consolidated S.S.	) Poor) grade) Sem-	-	-½"			
	"	?		485-830	Mudstone with little agate in spots	) ton-) ite) ray	-	-½"			
	"	?		830-860	Consolidated S.S.	Igneous Granite	-	-1/8"			Bottomed hole in igneous formation

Drilling Contractor: Self hole
Signed By _____ Driller

Certified By S. H. Glassmire
S. H. Glassmire

CONSULTING Mining • Milling • Geology

S. H. GLASSMIRE

Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Louis P. Lothmann & Associates
Job No. Congress Junction U

Drilling Location:
SW 1/4 SW 1/4, S25 T11N R.10W
Yavapai County
Arizona State

Drilling for Osborn Claim
Toro #29

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
4	Rotary Wet	?		0-65	Unconsolidated Alluvium		-	-	-1"		Probehole only slightly mineralized -0.02% eU_3O_8
	"	?		65-335	Unconsolidated Alluvium Conglomerate		-	-	-¼"		
	"										
	"			335-400	Clay		-	-	-1mm		
				400-425	Consolidated Alluvium		-	-	-¼"		
	"			425-510	Consolidated .S.		-	-	-¼"		
	"			510-545	Clay		-	-	-1mm		
	"			545-590	Consolidated .S.		-	-	-¼"		
	"			590-660	Conglomerate		-	-	-¼"		
	"			660-948	Consolidated .S. (Conglomerate)		-	-	-¼"		
	"			948-1500	Mudstone, Little Ash, Agate, Carbon	)	-) Bentonite Cldy	-	-¼"		Hit the Tertiary Lake mudstone known to contain uranium at 948'
	"			1500-1669	Mudstone Mixed with Fine gravel	)		-	-1/16"		

Drilling Contractor Geohole

Signed By _____ Driller

Certified By S. H. Glassmire
S. H. Glassmire

S. H. GLASSMIRE
Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Job No. Louis B. Lothmann & Associates Congress Junction U

Drilling Location: SW 1/4 1/4, S. 23 R. 10W
Yavapai County
Arizona State
Drilling for: Cabern Claim
Cobro #29

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
4	Rotary Wet	?		1669-1671	Agate)		Bentonite Clay	-	-1/16"		
	"			1671-16[illegible]	5.6"	Impeous	-	-	-1/16"		

Drilling Contractor Geohole
Signed By _____ Driller

Certified By S. H. Glassmire
S. H. Glassmire

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

23 February 1958

TEXAS-ARIZONA MINERALS CO., INC.

DRILLING DATA - CONGRESS JUNCTION, ARIZONA URANIUM PROPERTY

SUMMARY AND CONCLUSIONS - Hole No. 4: (See map for location) Hole No. 4 was driven to a total depth of 1685 ft. 6 in. The Tertiary lake mudstones known to contain uranium were first encountered at 948 feet and persisted to nearly the end of the hole for a total depth of approximately 700 feet. Volcanic ash and agate strata was penetrated intermittently in this 700 foot thick horizon. The uranium ore in the Anderson Mine is closely associated with agate, volcanic ash and carbonaceous material. The depth of the Tertiary lake mudstone sediment together with ash, agate and carbon is thicker in this hole than anywhere in the exposed cuts at the Anderson Mine. The mudstone in this hole contained much bentonite or bentonite clay material that formed thick mud which considerably hampered drilling since it continually had to be thinned with water which is at a premium in the area.

After the drill stem was pulled out, this mud quickly congealed all up and down the hole and hence the probe would not sink to the bottom. However, we finally probed the hole to the bottom by dropping the probe inside the drill stem. After the drill stem was then pulled out we dropped the probe again but it only went to a depth of 1354 feet. All the cuttings that came out of the hole were carefully checked. However, numerous samples were taken which are now in for chemical assay. This hole could again be classed as only slightly mineralized with minus 0.03% eU_3O_8 being the maximum concentration. Bentonite of proper quality that has the quality of expanding and congealing has commercial value. Therefore, samples of the bentonite that was contained in this hole were taken and will be carefully analyzed for any possible value.

Even though no uranium mineralization was encountered in this hole, it again proved that the original Tertiary lake extended over this location.

A. H. HOLLAND, PRES.
EDMUND E. PHILLIPS, VICE-PRES.—GEN. MGR.

OUR MOTTO:—WHAT THERE IS IN IT, NO MORE, NO LESS.

M. E. HOLLAND, TREASURER
M. E. PHILLIPS, SECRETARY

THE COLORADO ASSAYING COMPANY

(Incorporated)

COMPLETE ANALYSIS ON ANY ORE $25.00 UP
THIS ANALYSIS WILL DETECT AND REPORT EVERY ELEMENT OR METAL THAT MAY BE PRESENT IN THE ORE, TOGETHER WITH THE PERCENTAGE AND VALUE OF EACH. IT IS THE MOST SATISFACTORY ANALYSIS TO APPLY ON ALL UNKNOWN ORES, WHOSE GENERAL APPEARANCE INDICATES PROBABLE VALUES.

ASSAYERS AND CHEMISTS

2013 WELTON STREET

QUALITATIVE ANALYSIS $5.00
THIS ANALYSIS WILL DETECT AND REPORT THE ABSENCE OR PRESENCE OF THE FOLLOWING 25 METALS: LEAD, SILVER, MERCURY, GOLD, BISMUTH, ARSENIC, ANTIMONY, COPPER, CADMIUM, TIN, ALUMINUM, MANGANESE, COBALT, ZINC, CHROMIUM, STRONTIUM, IRON, NICKEL, BARIUM, CALCIUM, MAGNESIUM, TUNGSTEN AND MOLYBDENUM.

DENVER 1, COLO., Jan. 21, 1958

Report on Spectrographic Analysis submitted by Mr. S. H. Glassmire, S. H. Glassmire & Associates
Santa Fe, New Mexico.

* *

"Sample #226"

ELEMENTS PRESENT	APPROXIMATE PERCENTAGES
Silicon	major
Aluminum	15.
Iron	2.-5.
Calcium	5.
Magnesium	2.
Sodium	3.-5.
Potassium	2.-3.
Manganese	.05-.1
Titanium	.3-.5
Barium	.1
Beryllium	.001-.01
Copper	.001
Chromium	trace
Gallium	.001
Lead	trace
Lithium	.05-.1
Nickel	.001
Strontium	.01
Uranium	.001-.005
Vanadium	.01
Zirconium	.05

Gold trace
Silver trace

Sample of Bentonitic Mud encountered in Hole #4
Tex. Ariz. Mineral Co.
Congress Junction
Arizona, Uranium prospect

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 3 1958
DATE | INITIALS | CODE

REMARKS: This sample consists chiefly of gravel, mixed with fine silt (mostly silica), soft common and some Bentonite Clays (complex hydrous aluminum silicates), and Limestone (calcium carbonates). It is doubtful that a clean clay concentrate would be obtainable from this material. The fines do not form a high volume of suspended material or show a jell of any strength. The gravels consists of hard clear to white Quartz (silica), white to pale pink Feldspars (potassium sodium calcium aluminum silicate), reddish iron stained Quartzsite (mostly silica), and small amounts of heavy black Magnetite (iron oxide) and Ilmenite (iron and titanium oxides) and a few heavy clear Zircon (zirconium silicate).
There are no valuable metals present in large enough quantities to be of commercial interest.

Respectfully submitted,

THE COLORADO ASSAYING COMPANY

Ed Phillips

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

23 February 1958

TEXAS-ARIZONA MINERALS CO., INC.

DRILLING DATA - CONGRESS JUNCTION, ARIZONA URANIUM PROPERTY

SUMMARY AND CONCLUSIONS - Hole No. 5: (See map for location) This hole was drilled to a total depth of 720 feet. The possible ore bearing horizon, namely the Tertiary lake sediments, were encountered at approximately 700 feet depth and persisted to nearly the very bottom of the holes. This thus showed a possible ore bearing horizon approximately 1000 feet in thickness and hence indicates deposition at or near the center of the original Tertiary lake.

Radiometric probing of Hole No. 5 showed one major and two other thinner commercial grade ore stratas, see enclosed logs. As the logs indicate, the major ore strats is 10 to 12 feet thick. The counter gauge reading gave a maximum equivalent U_3O_8 concentration of slightly over 2% U_3O_8. The record (see enclosed recording) indicates the maximum peak to be equivalent of about 1.2%-1.5% U_3O_8. As can be seen by the data sheets, this hole was probed and recorded twice with approximately the same results each time.

Radiometric assays and chemical analysis, as also can be seen on the enclosed data sheets, do not confirm the results of the probing. In other words, we apparently have conflicting technical data. Mineralogic and petrographic studies partially confirmed the probe results since extremely fine secondary type uranium mineral was found. The chemical analysis and radiometric assays not confirming commercial ore might be explained by one of the following reasons: (1) The uranium minerals, since they were exceedingly fine, could well have been washed out of the cuttings and diluted by the many tons of drilling water and mud used. In this writer's opinion, this reason is the most plausible since I have run up against the same thing before in the past. (2) Something else besides uranium could possibly have increased the probe counts although no other radioactive minerals were detected and I feel certain none were missed. (3) Our counter and probe, being purely mechanical, could forseeably have been off. However, since the same results were obtained on two different occasions, this does not seem possible. (Our instrumentation was checked and reported O.K. and in calibration between each usage by Eberline Instrument Division, Santa Fe, New Mexico).

This hole was capped for possible future testing. Century Geophysical Corporation was engaged and on January 30, 1958, attempted to re-enter and re-probe the hole. However, the hole had apparently caved and they were unable to get their probe to the bottom of the hole. Hence no substantiation of our probing results was obtained by Century's efforts.

Spudded in 12/8/57
Bottomed 12/24/57

S. H. GLASSMIRE

Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Job No. Rig #11
Texas-Arizona Minerals Co. Inc
Congress Junction U. property.

Drilling Location:
SW 1/4 SW 1/4, S. 24 T. 11N R. 10W
Yavapai County
Arizona State
Drilling for: Lathrum

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
5	Rotary mud	?	(	0-200	unconsolidated	Alluvium	—	—	-1"	—	
	"			200-520	Consolidated	Alluvium Conglomerate?	—	—	-1/4"		
	"								-1mm	—	
	"			520-550	Dark Brown clay		—	—	-1/4"	—	
	"			550-610	Conglomerate		—	—			
	"			610-870	Mudstone, limey formation		—	—	-1/8"	—	
	(slug) Core	100%	— —	870-871	Agate (Core)		—	—			3 hrs 15 min trip time.
	core (diamond)	5%	— — —	871-877	Volcanic Ash (core)		—	—			3 hrs 15 min trip time (No Charge)
	core (slug)	50%	— — —	877-881	Mudstone		—	—	1/8"		3 hrs trip time.
	Rotary mud	?		881-1062	Mudstone interbedded with sandstone			— —			
	Core (slug)	60%		1062-1066	Mudstone interbedded with sandstone			— —			5 hrs, 15 min trip time
	core (diamond)	7%		1066-1080	Agate, mudstone interbedded with sandstone						5 hrs - trip time
	Rotary mud			1080-1245	Mudstone interbedded with SS			— —	— —	—	5 hrs 30 min trip time.
	Rotary (core) (slug)	80%		1245-1246.5	Mudstone, Carbon, Ash						5 hrs trip time
	core			1246.5-1260	Mudstone Carbon Ash			— —	— —	— —	
	~~Rotary~~ Diamond	5/8									

Drilling Contractor Geohole

Signed By Maurice Regan Driller

Certified By

S. H. GLASSMIRE

Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Job No. R19 #11

Texas-Am. Minerals Co Inc.
Congress, Junction Ari. U property

Drilling Location:
NW 1/4 SW 1/4, S. 24 T. 11 N R. 10 W
Yavapai County
Arizona State

Drilling for: Lothmann
Claim Tobro #8

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
5 Continuation	Rotary wet	?		1260-1365	Mudstone interbedded with SS Agate		limonite carbon Agate Ash	—	-1/8"		Ore hole by radiometric probe. See attached information Possible good bentonite
				1365-1372							
				1372-1430	mudstone, clay interbedded SS Agate + Ash		—	—	-1/8"		
				1430-1470	Agate, mudstone Basale interbedded Ash		—	—	-1/8"		
				1470-1503	Sand (consolidated)			— —	-1/8"		
				1503-1513	Agate		some carbon				
				1513-1710	mudstone, clay interbedded with SS.			— — —	-1/8"		
				1710-1720	Granite (Basal conglomerate)			— — —	-1/8"		T.D. 1720

Drilling Contractor Geohole Inc.

Signed By Maurice Reger Driller

Certified By S. H. Glassmire

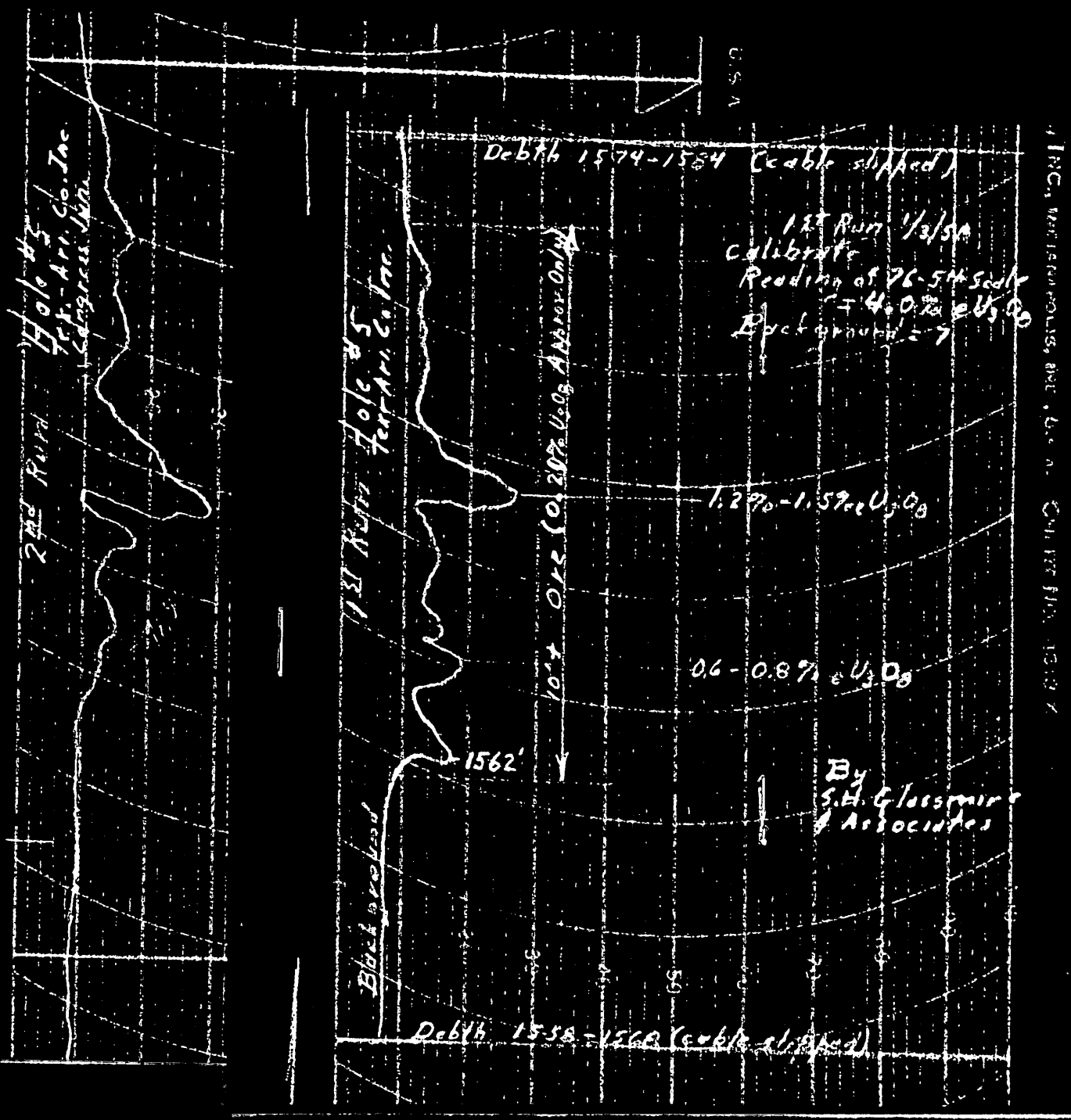
Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.



A. H. HOLLAND, PRES.
EDMUND E. PHILLIPS, VICE-PRES.—GEN. MGR.

OUR MOTTO:—WHAT THERE IS IN IT, NO MORE, NO LESS.

M. E. HOLLAND, TREASURER
M. E. PHILLIPS, SECRETARY

THE COLORADO ASSAYING COMPANY

(Incorporated)

COMPLETE ANALYSIS ON ANY ORE $25.00 UP
THIS ANALYSIS WILL DETECT AND REPORT EVERY ELEMENT OR METAL THAT MAY BE PRESENT IN THE ORE, TOGETHER WITH THE PERCENTAGE AND VALUE OF EACH. IT IS THE MOST SATISFACTORY ANALYSIS TO APPLY ON ALL UNKNOWN ORES, WHOSE GENERAL APPEARANCE INDICATES PROBABLE VALUES

ASSAYERS AND CHEMISTS

2013 WELTON STREET

QUALITATIVE ANALYSIS $5.00
THIS ANALYSIS WILL DETECT AND REPORT THE ABSENCE OR PRESENCE OF THE FOLLOWING 23 METALS: LEAD, SILVER, MERCURY, GOLD, BISMUTH, ARSENIC, ANTIMONY, COPPER, CADMIUM, TIN, ALUMINUM, MANGANESE, COBALT, ZINC, CHROMIUM, STRONTIUM, IRON, NICKEL, BARIUM, CALCIUM, MAGNESIUM, TUNGSTEN AND MOLYBDENUM.

DENVER 1, COLO., Jan. 21, 1958.

Report on IDENTIFICATIONS REPORTS submitted by S. H. Glassmire & Associates, Santa Fe, N. Mex.
* *

Sample #220, Hole #5 1660ft-1680ft. Uranium Oxide - - - - - 0.002%

Sample #221 Core Hole #5 1248.5'-1260' Uranium Oxide - - - - - 0.003%

This sample consists chiefly of the soft light-gray Limestone (calcium carbonate with a little magnesium manganese, and iron carbonates) and the hard gray Opalized Felsite (complex silicate of aluminum, sodium, potassium, some iron, calcium, trace of uranium, etc.).

Sample #222 Hole #5 1540-1500' Uranium Oxide - - - - - 0.004%

This sample consists mostly of Gravel, mixed with a little soft material containing common Clay, a little Bentonite Clay and Limestone (calcium carbonate). It is not a usable Bentonite. The Gravel consists mostly of hard clear Quartz (silica), white to pale pink Feldspars (potassium sodium calcium aluminum silicate), a little green Amphibole (complex calcium magnesium iron aluminum silicate), black Carbonaceous Shale, heavy black Magnetite (iron oxide), etc.
No other valuable metal contents are indicated.

Sample #223 Hole #5 1565'-1585' Uranium Oxide - - - - - 0.004%

Sample #224 Core Hole #5 1245-1246½' Uranium Oxide 0.003%

This sample consists chiefly of the hard gray Opalized Felsite rock (complex sodium potassium calcium aluminum silicate), and the lighter gray earthy Limestone (calcium carbonate with a little magnesium carbonate). A little Clay may be mixed with the Limestone, but it is not recoverable by physical means.
No other valuable metals contents are indicated.

Sample #225 Hole 5 1690'

This sample is largely the soft gray Kaolin type Clay (complex hydrous aluminum silicate with some calcium, magnesium, iron, titanium, sodium, potassium, etc.). It is quite plastic. Very little Bentonite Clay is present. Grains of hard clear Quartz (silica), white Feldspar (sodium potassium calcium aluminum silicate), flaky black Biotite Mica (potassium magnesium iron aluminum silicate) are present. No uranium minerals were observed. Oily spots were present which fluorescent green.
It is probably a usable Clay for bricks and other fire-clay products.

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 3 1958
DATE | INITIALS | CODE
Apr. 11 | | Properties

Tex-Ari Minerals
Congress Junction

Respectfully submitted,

THE COLORADO ASSAYING CO.

Ed Phillips

NOTE: Radio. & Chem. Analysis do not confirm probe results. However the uranium minerals were extremely fine and might have been washed out of the cuttings and diluted by drilling mud.

S. H. GLASSMIRE
Geologist - Engineer
214 College Street
Santa Fe, New Mexico

Job No.: Texas-Arizona Co., Inc.
Congress Junction, Ariz., Uranium

Drilling Location:
NW1/4, SW 1/4, S.24 T.11N R.10W
Yavapai, Arizona
Drilling for U claim, Tobro #8

Hole No. 5

Instrument Calibration, Bobbie Counter Read 76 on 4th Scale=4.00% eU_3O_8.
Background 5th Scale = 12, 4th scale = 8
RADIOMETRIC TEST LOG: Using: Bobbie Model 610 Counter, Ser.#1654, mfgd. by U.D.R. Co., Grand Junction and; Model AW Recorder Ser. #109122 mfgd. by Esterline-Angus, with probe on 2000' cable furnished by Eberline Instr. Div.

Dec. 24, 1957, thru probe

Depth from Surface	Coming out Reading Scale 5th	Scale 4th	$\%eU_3O_8$ Equiv.	Chem. U_3O_8
1628'	12			660-80' .002%
1600	12			
1591	12			
1581	12			
1585	14			
1582	14			
81	15			
1579	20			
78	20	10		
72	12			
68	15			
67	30	16	.3%	
65	35			
63	18			
62	40	18	.50	
59	50	20	.63%	
58	60	30	1.15%	
57	70	30	1.15%	1565-85' .004%
		40		
54	100	34	1.9%	
52	60		1.1%	
50	38			
48	20			1540-70 .004%
46	10			
28	20			
1528	30			
10	23		.1%	
1508	30		.3%	
07	60		1.1%	
06	10			
1500	30			
1497	10			
73	15			
87	20			
45	20			
22	10			
1375	20			
1243	30			1245-60' .003%
38	16			
1233	20		.15%	1245-40 .003%
		12		
1228	54		.600	
24	10			
1111	20		.10%	
1063	19			
1026	18			
1011	16			
1003	3			
979	20			
919	20			
907	20			
863	30			
861	20			
880	24			

Jan. 3, 1958

Depth from Surface	Going out Reading Scale 5th	Scale 4th	$\%eU_3O_8$ Equiv.
1572'	20		
69	20		.1
68	56		
66	60	28	1.05%
64.7	90	40	1.7%
63	10		
62.7	50		
62	60		1.05%
59.7	40		
57	50		
58	10		
57	10		

Analysis eU_3O_8

No ore indicated doesn't confirm probe results

See separate sheet for complete radiometrics

Other

5 Scl. & 4 Scl. means reading on the 5th &/or 4th Scale on Bobbie instrument

Probed hole Dec. 24, 1957 through drill stem.

Cable on footage counter slipped on 6th

Dec. 24, 1957 and Jan. 3, 1958.

Correlate 1554' Dec. 24 with 1564.7' on Jan. 3

RADIOMETRIC ASSAY - S. H. GLASSMIRE & ASSOCIATES
214 College Street, Santa Fe, N. M.

Background .015 Av., (Subtract from all readings) Hole #5 January 4, 1958

610' = .028 eU_3O_8 Max.
15' = .024
20' = .024
25' = .028
30' = .026
35' = .026
40' = .020
45' = .026
50' = .020
55' = .018
60' = .020
65' = .024
70' = .020
75' = .024
80' = .018
85' = .018
90' = .018
95' = .018
700' = .024
05' = .020
10' = .018
15' = .020
20' = .020
25' = .020
730' = .020
35' = .020
40' = .018
45' = .020
50' = .018
55' = .018
60' = .022
65' = .020
70' = .020
75' = .018
80' = .018
85' = .018
90' = .018
95' = .020
800' = .018
05' = .020
10' = .020
15' = .015
20' = .020
25' = .018
30' = .015
35' = .018
40' = .015
45' = .018
50' = .020
55' = .022
60' = .020
65' = .018
70' = .015
75' = .022
80' = .020
85' = .030
90' = .024
95' = .020
900' = .026
05' = .024
10' = .018
15' = .020
20' = .020
25' = .018

930' = .022 eU_3O_8 Max.
35' = .018
40' = .020
45' = .026
50' = .020
55' = .022
60' = .020
65' = .015
70' = .020
75' = .018
80' = .018
85' = .015
90' = .018
95' = .018
1000' = .016
05' = .020
10' = .018
15' = .018
20' = .018
25' = .020
30' = .020
35' = .018
40' = .015
45' = .018
50' = .018
55' = .015
60' = .010
65' = .020
70' = .018
75' = .018
80' = .020
85' = .015
90' = .018
95' = .018
1100' = .018
05' = .020
10' = .018
15' = .018
20' = .015
25' = .020
30' = .016
35' = .026
40' = .018
45' = .018
50' = .020
55' = .018
60' = .018
65' = .015
70' = .015
75' = .020
80' = .020
85' = .015
90' = .020
95' = .018
1200' = .018
05' = .020
10' = .018
15' = .020
20' = .018
25' = .020
30' = .015
35' = .020
40' = .018
45' = .018
50' =

RADIOMETRIC ASSAY - S. H. GLASSMIRE & ASSOCIATES
214 College Street, Santa Fe, N. M.

Background .015 Avg. (subtract from all readings) Hole #5 January 9, 1958

1255' = eU_3O_8 Max.
60' =
65' =
70' = .018
75' = .020
80' = .018
85' = .020
90' = .018
95' = .020
1300' = .020
05' = .018
10' = .022
15' = .018
20' = .018
25' = .030-
30' = .028
35' = .018
40' = .020
45' = .018
50' = .020
55' = .020
60' = .020
65' = .020
70' = .018
75' = .020
80' = .018
85' = .015
90' = .018
95' = .020
1400' = .020
05' = .020
10' = .020
15' = .020
20' = .022
25' = .015
30' = .015
35' = .018
40' = .018
45' = .015
50' = .020
55' = .018
60' = .018
65' = .022
70' = .020
75' = .018
80' = .030-
85' = .020
90' = .030-
95' = .028-

1500' = .020 eU_3O_8 Max.
05' = .020
10' = .020
15' = .020
20' = .018
25' = .020
30' = .026
35' = .020
40' = .025
45' = .025
50' = .018
55' = .018
60' = .018
65' = .023
70' = .023
1575' = .025
80' = .025 -.030
85' = .025
90' = .020
95' = .018
1600' = .020
05' = .020
10' = .018
15' = .020
20' = .020
25' = .020
30' = .035-
35' = .025
40' = .018
45' = .018
50' = .030
55' = .025
60' = .020
65' = .020
70' = .020
75' = .018
80' = .022
85' = .025
90' = .025
95' = .020
1700' = .018
05' = .018
10' = .030
15' = .022
20' = .020

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

23 February 1958

TEXAS-ARIZONA MINERALS CO., INC.

DRILLING DATA - CONGRESS JUNCTION, ARIZONA URANIUM PROPERTY

SUMMARY AND CONCLUSIONS - Hole No. 6: (See map for location) Circulation was lost in Hole No. 6 and hence a new location was spotted in slightly to the southeast of this original location. The new hole is known as No. 6A.

Hole No. 6 was drilled to a total depth of 1780 feet. No uranium of ore grade was encountered up to 1600 feet. Our instruments went out at 1600 feet and hence the last 180 feet were not probed. This hole was also capped for future reference.

However, again the possible ore bearing horizon, namely the Tertiary lake sediments, were encountered at approximately 950 feet and persisted to near the bottom of the hole.

RECEIVED
MAR 3 1955
INFORMATION FILE ONLY

S. H. GLASSMIRE
Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Job No. ~~[illegible]~~

Texas-Arizona Minerals Co. Inc.
Congress Junction Ari. U. properties

Drilling Location:
NW 1/4 NW 1/4, S. 15 T. 11 R. 10W
Yavapai County
Arizona State

Drilling for: Jothmann
Tobro claim #3

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
6-A	Rotary wet	?		0-540	Unconsolidated Alluvium			—	≈1"		T.D-1780'
	" "	?		540-620	Conglomerate strata with clay-Brown		igneous	—	3/4"		
	" "	?		620-700	consolidated SS in strata with brown clay			—	1/4"-1mm"		Probed hole to 1600 Ft. only.
	" "	?		700-980	mud, clay in strata with conglomerate		—	—	1/3"		No appreciable activity.
	" "	?		980-1080	mudstone, Ash, agate		—	— —	1/8"		No ore. Only slightly mineralized
	Core (insert)	10%	2 1/2 hrs	1080-1082	mudstone, Ash		— —	— —	1		SHG.
				1082-1427	mudstone, Ash, Agate		—	— —	1/8"		
	Core (insert)	5%	6 1/2 hrs	1427-1436	silisified mudstone, Ash-Agate			— — —	1/8"		
				1436-1690	Mudstone in strata with Gravel, Ash, Carbon, Agate			— —	1/16"		
				1690-1765	mud, Gravel			— — —	1/3"		
				1765-1780	decomposed Granite			— — —	1/32"		

Drilling Contractor Geohole Inc

Certified By S. H. Glassmire

Logged & Signed By M. Regan. Driller Supt.

RADIOMETRIC ASSAY - E. H. GLASSMIRE & ASSOCIATES
214 College Street, Santa Fe, N. M.

Background .015 Avg. (Subtract from all readings) Hole #6-A January 10, 1958

800' - .018 eU3O8 Max.
05' - .018
10' - .015
15' - .018
20' - .020
25' - .018
30' - .020
35' - .020
40' - .020
45' - .020
50' - .022
55' - .018
60' - .018
65' - .018
70' - .018
75' - .020
80' - .018
85' - .020
90' - .020
95' - .015
900' - .018
05' - .018
10' - .018
15' - .018
20' - .015
25' - .022
30' - .020
35' - .022
40' - .015
45' - .018
50' - .018
55' - .015
60' - .015
65' - .018
70' - .018
75' - .018
80' - .020
85' - .020
90' - .018
95' - .022
1000' - .015
05' - .018
10' - .018
15' - .015
20' - .020
25' - .020
30' - .020
35' - .020
40' - .020
45' - .030-
50' - .020
55' - .022
60' - .020
65' - .020
70' - .015
75
80' -
85' - .020
90' - .018
95' - .018
1100' - .020
05' - .015
10' - .018
15' - .015
20' - .020
25' - .018

1130' - .020 Max.
1135' - .020
40' - .020
45' - .018
50' - .018
55' - .018
60' - .015
65' - .018
70' - .015
75' - .022
80' - .020
85' - .015
90'
95'
1200' -
05' - .020
10' - .018
15' - .015
20' - .015
25' - .020
30' - .025-
35' - .018
40' - .022
45' - .020
50' - .030-.040
55' - .020
60' - .018
65' - .020
70' - .025-
75' - .020
80' - .020
85' - .025-
90' - .015
95' - .018
1300' - .020-.030
05' - .025
10' - .020
15' - .018
20' - .020
25' - .020
30' - .018
35' - .022
40' - .018
45' - .015
50' - .030-
55' - .020
60' - .020
65' - .018
70' - .020
75' - .030-
80' - .028
85' - .018
90' - .020
95' - .018
1400' - .018
05' - .020
10' - .015
15' - .018
20' - .022
25' - .020
30' - .015
35' - .018
40' - .015
45' - .018
50' - .015
55' - .020

1460' - .020 Max
65' - .018
70' - .020
75' - .025
80' - .020
85' - .020
90' - .022
95' - .025
1500' - .030-
05' - .018
10' - .015
15' - .015
20' - .020
25' - .018
30' - .030-
35' - .020
40' - .018
45' - .020
50' - .020
55' - .022
60' - .020
65' - .020
70' - .020
75' - .025
80' - .018
85' - .015
90' - .015
95' - .020
1600' - .018
05' - .018
10' - .025
15' - .030-
20' - .018
25' - .025
30' - .030
35' - .022
40' - .020
45' - .020
50' - .015
55' - .018
60' - .015
65' - .015
70' - .015
75' - .020
80' - .030
85' - .018
90' - .030
95' - .025
1700' - .030-
05' - .020
10' - .022
15' - .022
20' - .028
25' - .038-
30' - .030-
35' - .030-
40' - .020
45' - .020
50' - .018
55' - .030-
60' - .020
65' - .018
70' - .018
75' - .015
80' - .020

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

23 February 1958

TEXAS-ARIZONA MINERALS CO., INC.

DRILLING DATA - CONGRESS JUNCTION, ARIZONA URANIUM PROPERTY

SUMMARY AND CONCLUSIONS - Hole No. 7: (See map for location) This hole was bottomed in decomposed igneous granite at a total depth of 2083 feet. The possible ore bearing Tertiary lake sediments were encountered at 1060 feet. At 1460 feet the uranium controls, the volcanic ash, agate and carbon beds were encountered intermittently and interbedded with the Tertiary lake mudstones. The hole was probed radiometrically and could be classed as slightly mineralized (0.02% eU_3O_8).

In final summary it can be said that even though no commercial grade ore was encountered, the nearly 1000 foot thickness of the possible strata indicated at this location was near the center of the original Tertiary lake.

CENTRAL FILE COPY
DTEA
RECEIVED MAR 3 1958
DATE | INITIAL | CODE

1060

S. H. GLASSMIRE

Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Job No. Rig D-11 from 4th to 21st-58
Rig D-10 from 22-

Drilling Location:
NW 1/4 NE 1/4, S. 27 T. 11N R. 10W
Yavapai County
Arizona State

Drilling for: Lothmann
Lone Star Claim #21

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
7	Rotary wet	?		0'-150'	Unconsolidated alluvium		—	—	-1"		Rig D-11 burned on night of 1-20-58
				150-390	Consolidated Alluvium-SS				-1/4"		
		?		390-1060	Consolidated SS (Conglomerate)			—	-1/4"		Bottomed hole in decomposed Granite at 2090' - T.D.
				1060-1460	Clay in strata with consolidated SS		—	—	-1/4"		Certification
				1460-2083	Mudstone, ash agate, little carbon-Clay in strata		—	—	-1/4"		Clay started at 1060 1460'-2085' was in good typical lake sediments (the horizon).
				2083-2090	Decomposed Granite		—	—	-1/8"		Probed hole. No ore. Slightly mineralized Fe_2O_3 & U_3O_8 [illegible] Century Geophysical Corp. probed hole 1/29 - No count.

Drilling Contractor Geohole

Signed By M. Regan Driller

Certified By S. H. Glassmire

RADIOACTIVITY LOG

COMPANY: Texas-Ariz Mining Inc | Hole No.: 7 | 1st Read: | Date: 1-24-56
CLAIM: L 5 21 | Elev: | L'st Read: | Inst. No.: 1654
Location: | T.D.: 1820 INC | Total: | Run By: Reohn
County: Yavapai | State: Ariz | Hole Size: 4 3/4-4 1/2 | B.G.: .02 | Witness: Mr. Coy
Remarks: | Casing: 2 3/8 DRILL PIPE | Samp.%: 76 CN 4
Fluid: MUD | Samp. Read: 76 CN 4

Depth	Run 1	Run 2	Scale
1785	.014		5
1774	.012		
1744	.006		
1700	.006		
1695	.006		
1676			
1658	.008		
1655	.010		
1653	.010		
1652	.010		
1651	.010		
1649	.010		
1646	.010		
1640			
1630	.010		
1601	.010		
1575	.010		
1554	.008		
1551	.010		
1540	.010		
1514	.010		
1512	.010		
1511	.010		
1509	.010		
1508	.010		
1506	.012		
1485	.010		
1417	.014		
1400	.010		
1459	.010		
1440	.010		
1433	.010		

→ RADIOACTIVITY INCREASE →

BG .006

gradated

Monitoring accuracy (.004 - .008)

1630 — 1658 Max .010 Thus 5G .000
Min .004

provided an excellent

No Ore Max
0.020 U_3O_8
activity

RADIOACTIVITY LOG

COMPANY: _____ Hole No.: 7 1st Read: _____ Date: 1-28-58

CLAIM: LS 21 Elev: _____ L'st Read: _____ Inst. No.: 7654

Location: _____ T.D.: 2090 Total: _____ Run By: Regan

County: Navajo State: _____ Hole Size: _____ B.G.: .004 Witness: Vick

Remarks: Probed to 1965' Casing: 2 3/8 Pipe Samp.%: _____

Fluid: Mud Samp. Read: _____

Depth	Run 1	Run 2	Scale
1930	.016		5
1926	.010		
1886	.016		
1880	10		
75	14		
70	14		
65	14		
60	14		
58	20		
56	14		
48	10		
43	16		
36	18		
30	10		
26	18		
25	14		
22	10		
1886	16		

→ RADIOACTIVITY INCREASE →

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

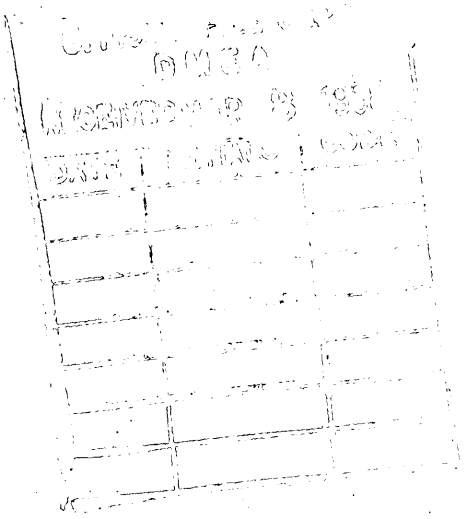
214 COLLEGE STREET, SANTA FE, N.M.

23 February 1958

TEXAS-ARIZONA MINERALS CO., INC.

DRILLING DATA - CONGRESS JUNCTION, ARIZONA URANIUM PROPERTY

SUMMARY AND CONCLUSIONS - Hole No. 7A: (See map for location) This hole was drilled to a total depth of 1173 feet. No ore was encountered and the lake sediments, as can be seen on the log, were very thin. Figures under "Remarks" on the log are approximately eU_3O_8 percentage equivalents.



Spudded in 1/15/58
Bottomed 1/19/58

19 21 25

S. H. GLASSMIRE
Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Job No. Tex.-Ariz. Mining Co., Inc.
Congress Junction U.

Drilling Location:
NW 1/4 SW 1/4, S.17 T.11N R. 10W
Yavapai County
Arizona State

Drilling for: Lothmann
Oh No Claim No. 1

Hole No.	Type of Drilling	Recovery	Surface Elevation	Depth From To	Type of Rock	Formation	Commer. Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
7a or Oh No #1	Rot. Dry			0-15'	Alluvium, unconsol.		None		-1"		Probed Hole. 5th Scale.
	Rot. Wet			15-90'	Alluvium		"				Background-.010. No ore.
	" "			90-270'	Clay, ash, sand, consol.						Very little mineral.
	" "			270-560'	Clay, sand, ash in strata		"		-1/4" -1" -1"		Cal. 76-4scale-4.0%eU308
	" "			560'-900'	Sand, clay, white & red ash, mudstone in strata		"		-1/4"		
	" "			900-904'	Igneous sill		"		-1/8"		
				904-990'	Consol. SS				-1/8"		
					Ash, clay, mudstone		"				
	" "			990-991'	Agate sill				-1/8"		
	" "			991-1155'	Igneous sills mudstone, ash, sand in strata		"				
	" "			1155-1173'	Granite		"		-1/8"		

Ft.	5th Scl.	Ft.	5th Scale
1143	.010.	583	.014.
1100	.010.	580	.014.
1093	.010.	462	.016.
1050	.016.	459	.012.
1026	.014.	452	.014
993	.014.	448	.012.
863	.010.	443	00000
849	.012.	415	.014.
810	.014.		
800	.012.		
796	.014.		
788	.012.		
780	.014.		
778	.014.		
774	.016.		
767	.012.		
761	.014.		
758	.012		

1/19/58 Bottomed hole in granite

Drilling Contractor Geohole, Inc.

Signed By Maurice Regan Driller

Certified By S. H. Glassmire
S. H. Glassmire

Western U.S.A.
Mexico
Central & S. America

Telephones
Office 2-0348
Res. 2-0270

S. H. Glassmire & Associates

GEOLOGISTS • ENGINEERS

214 COLLEGE STREET, SANTA FE, N.M.

23 February 1958

TEXAS-ARIZONA MINERALS CO., INC.

DRILLING DATA - CONGRESS JUNCTION, ARIZONA URANIUM PROPERTY

SUMMARY AND CONCLUSIONS - Hole No. 7C: (See map for location) This hole was bottomed in igneous granite at 1328 feet. No possible ore bearing horizon, namely Tertiary lake sediments, was encountered. This proved that the possible ore bearing lake sediments did not extend this far to the south. The hole was probed radiometrically but no appreciable activity was encountered.

S. H. GLASSMIRE

Geologist -- Engineer
716 East Palace Avenue
Santa Fe, New Mexico

Job No. Rig D-10

Drilling Location:
SW 1/4 SW 1/4, S. 29 T. 10N R. 10W
Yavapai County
Arizona State

Drilling for: Lothmann
Checkerboard claim #9 Group #4

Hole No.	Type of Drilling	Re-covery	Surface Elevation	Depth From To	Type of Rock	Formation	Minerals Present	Test, Observation, etc. Roundness	Grain Size	Other	Remarks
7-C	Rotary wet	?		0'-80'	Unconsolidated alluvium		— —	—1"			T.D. 1328' Bottomed in Granite
				80'-950'	Brown clay			—1mm			
				950-1280	Conglomerate interbedded with brown clay		— — —	—½"			
							— — —	—½"			
				1280-1328	Granite		— — —	—⅛"			

No mudstone or Tertiary lake Sediments. (the Horizon)
No radioactivity
Probed hole
No count &
No horizon.

Drilling Contractor Geohole
Signed By M. Regan Driller

Certified By S. H. Glassmire

LAW OFFICES OF
HARRY H. BROCHSTEIN
FARM & HOME BUILDING
TEXAS AT CAROLINE
HOUSTON, TEXAS

DMEA
RECEIVED FEB 12 1958

DATE	INITIALS	CODE
2/12	C	220
2/12	[illegible]	700

February 10, 1958

United States Department of Interior
Defense Minerals Exploration Administration
Washington 25, D.C.

Attention: Mr. Ernest Wm. Ellis,
Director, Division of
Rare and Miscellaneous Metals

Docket No. DMEA-4935 (Uranium)
Lone Star, et al, Claims
Yavapai and Yuma Counties, Arizona

Gentlemen:

Many thanks for your prompt interest in the captioned application.

Your letter of February 7, 1958, has been received today and copies thereof are being forwarded to the field representatives involved to obtain the information requested by you.

Sufficient data should be collected within the next seven days to answer your inquiries.

Your interest is reassuring.

Very sincerely yours,

Harry H. Brochstein

HHB:BB

Via Air Mail

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
2/6/58	Kuonen	700
2/7	Ellis	700
"	Retended	100
2/10		220
		700

Mr. H. E. Finger, President
Texas-Arizona Minerals Co., Inc.
Farm and Home Savings
& Loan Assn. Bldg.
600 Caroline Street
Houston 2, Texas

FEB 7 1958

Re: Docket No. DMEA-4935 (Uranium)
Lone Star, et al., Claims
Yavapai and Yuma Counties, Arizona

Dear Mr.Finger:

You should clarify and furnish the following information so that we can process your application to explore the referenced property:

1. Under Item 8 of the Mining Lease, dated October 30, 1957, between Thomas L. Osborne, lessor, and Louis B. Lothmann, lessee, the lessee was obligated to perform certain acts to perfect the titles of the mining claims listed in Exhibit "A" attached thereto. Please advise if these acts have been performed.

2. The following claims listed in your application are not listed in the Mining Lease (Item 1 above): Oh No Nos. 36 through 48; Broto Nos. 21 through 28; Coronado No. 27; Joshua Nos. 1 and 2; Tobro Nos. 28 through 32 and Tobro Fractions Nos. 1, 2, and 3; and Lone Star No. 23 amended, recorded in Book 112, page 600. If these claims are not owned by the Applicant, you should furnish evidence that it controls them, i.e., lease, assignment, or other documents.

3. The following claim locations listed in the application are not shown on your claim map: Lone Star No. 23 recorded on page 113, book 245, and Lone Star No. 23 amended, recorded in Book 112, page 600; Oh No Nos. 1 through 48; and Bright Star No. 17. You should furnish a map which shows the locations of each claim.

4. We note that four holes were drilled on your property and that other holes are being drilled. You should furnish any available

8623

geological and radiometric probing logs of each hole completed and certified copies of any assay certificates of drill cuttings or core obtained from the drill holes.

Please forward four copies of the above information except two copies of leases, etc. (indicated under Item 2), so the processing of your application will not be delayed.

Sincerely yours,

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

FLKnouse/gla
2-6-58
cc to: Admr.'s Reading File
THKiilsgaard, 5224
FLKnouse
DMEA Field Team, Region III (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

IN REPLY REFER TO:

OFFICIAL FILE COPY
DMEA
RECEIVED Feb 7. 1958

DATE		CODE
2/7	C	
11	EWE	220
	FLR	700
	Complete	

February 6, 1958

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of application, DMEA 4935 (uranium), Texas-Arizona Minerals Company, Inc., Lone Star et al claims, Yavapai County, Arizona

The applicant proposes to explore for uranium ore deposits on extensive holdings consisting of some 354 mining claims located in west-central Arizona. The proposed work would consist of a drilling project that would cost an estimated $80,000.

Although from the applicant's description the Anderson uranium mine is only 2 miles from the property, considerable doubt seems to exist as to whether or not the potential ore zone is present beneath the surface of the property. Drilling would be deep-approaching 2,000 feet at some places. It seems probable that at least 10 holes have been drilled on the property. The applicant states that some of the drill holes penetrated mineralized rock. Drill hole logs or assay results have not been submitted by the applicant.

The drill holes proposed by the applicant are very wide spaced--often a mile apart. The whole proposal appears to have many aspects common to prospecting. If a mineralized trend could be carried from the Anderson mine by drilling, there might be justification for the work.

I recommend that the application be referred to the Field Team for further processing. The Field Office in Tucson very likely has information about the Anderson mine and its general vicinity.

W. P. Williams

W. P. Williams

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 6 1958

DATE	INITIALS	CODE
2-6	C	220
"	~~EWE~~	700
2-7	FLK	

February 5, 1959

4935

Uranium
Texas-Arizona Minerals Co., Inc.
Ocho-Domo Mining District
Yauapai County, Arizona
$40,000.00

Ernest William Ellis, DMEA Member
Uranium Commodity Committee
James Paone, Bureau of Mines Member JP
Uranium Commodity Committee

Application

1. Date of [illegible] 1/28/58 2. Date received by [illegible] 2/3/58
3. Did [illegible] Yes [ ] No [x]
4. Prior [illegible] Yes [ ] No [x]
5. Information [illegible] Yes [ ] No [x]
6. Other pertinent factors known to reviewers Yes [ ] No [x]
7. Explain [illegible] you checked

8. Factors [illegible] considerations
   a. Location [ ]
   b. Commodity [ ]
   c. Evidence of mineralization [x]
   d. Costs [x]
   e. Proposed exploration method [x]
   f. Alternate exploration method [ ]
   g. Costs [x] (Should be on a unit basis)
   h. [illegible] [ ]

9. Action [illegible]
   a. Obtain [illegible] [ ]
   b. Refer [illegible] [x]
   c. Deny [ ]
   d. Approve [illegible] [ ]
   e. [illegible]
   f. Discuss [illegible] [ ]
   g. Request [illegible] [ ]
   h. Request [illegible] [ ]
   i. Approve [ ]
   j. [illegible]

10. Reviewer [illegible]

Unless the applicant has more information available for the examining team, it appears that the team may want to deny the application on grounds of wildcat prospecting.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

February 3, 1958

Texas-Arizona Minerals Co., Inc.
Farm and Home Savings & Loan Assn. Bldg.
600 Caroline Street
Houston 2, Texas

Gentlemen: Subject: DMEA-4935

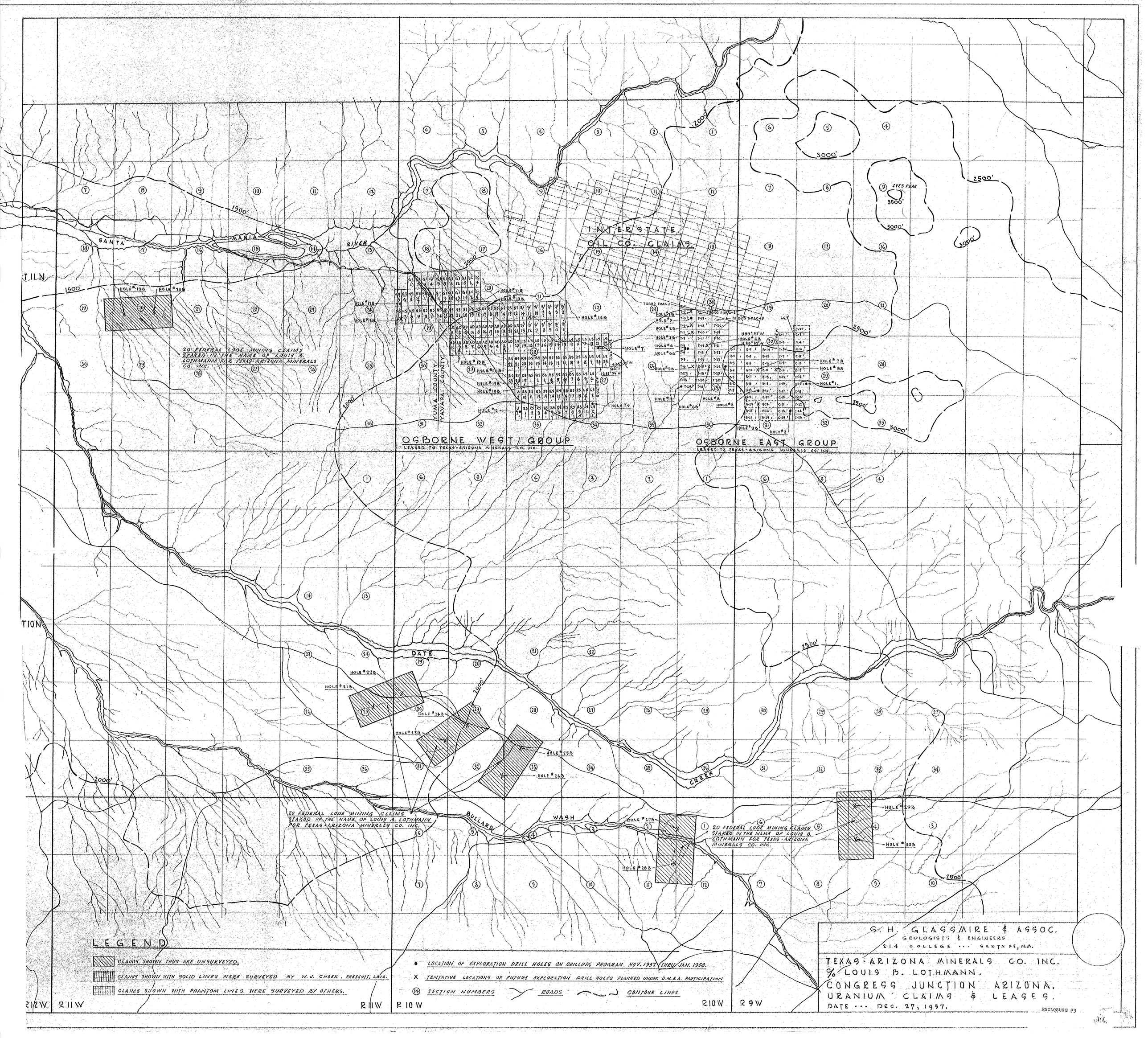
Your application for exploration assistance, dated undated submitted to our office at Washington, D. C. has been assigned Docket Number DMEA-4935 and referred to the Rare and Miscellaneous Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

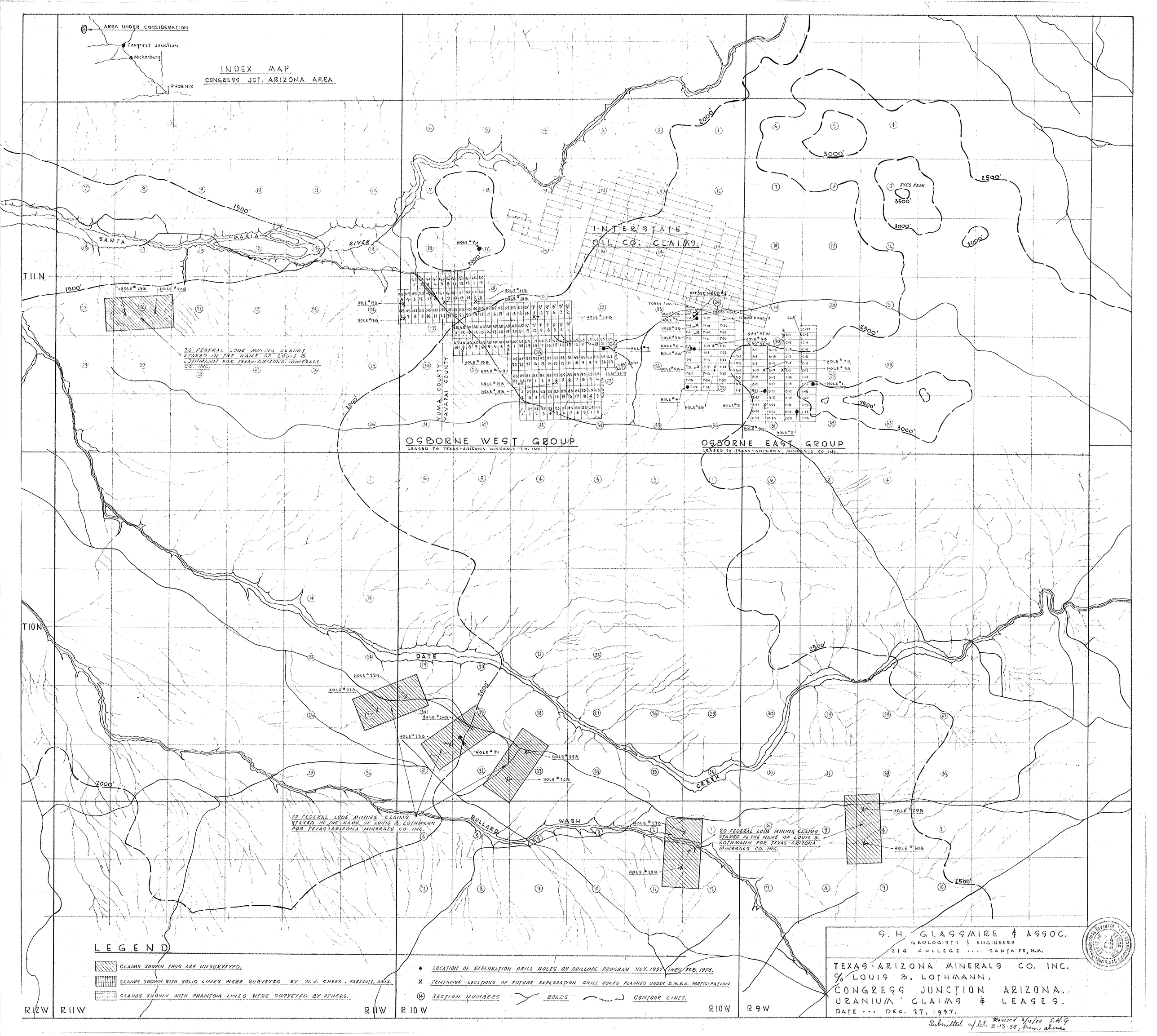
Allen S. Dakan, Director
Operations Control and
Statistics Division

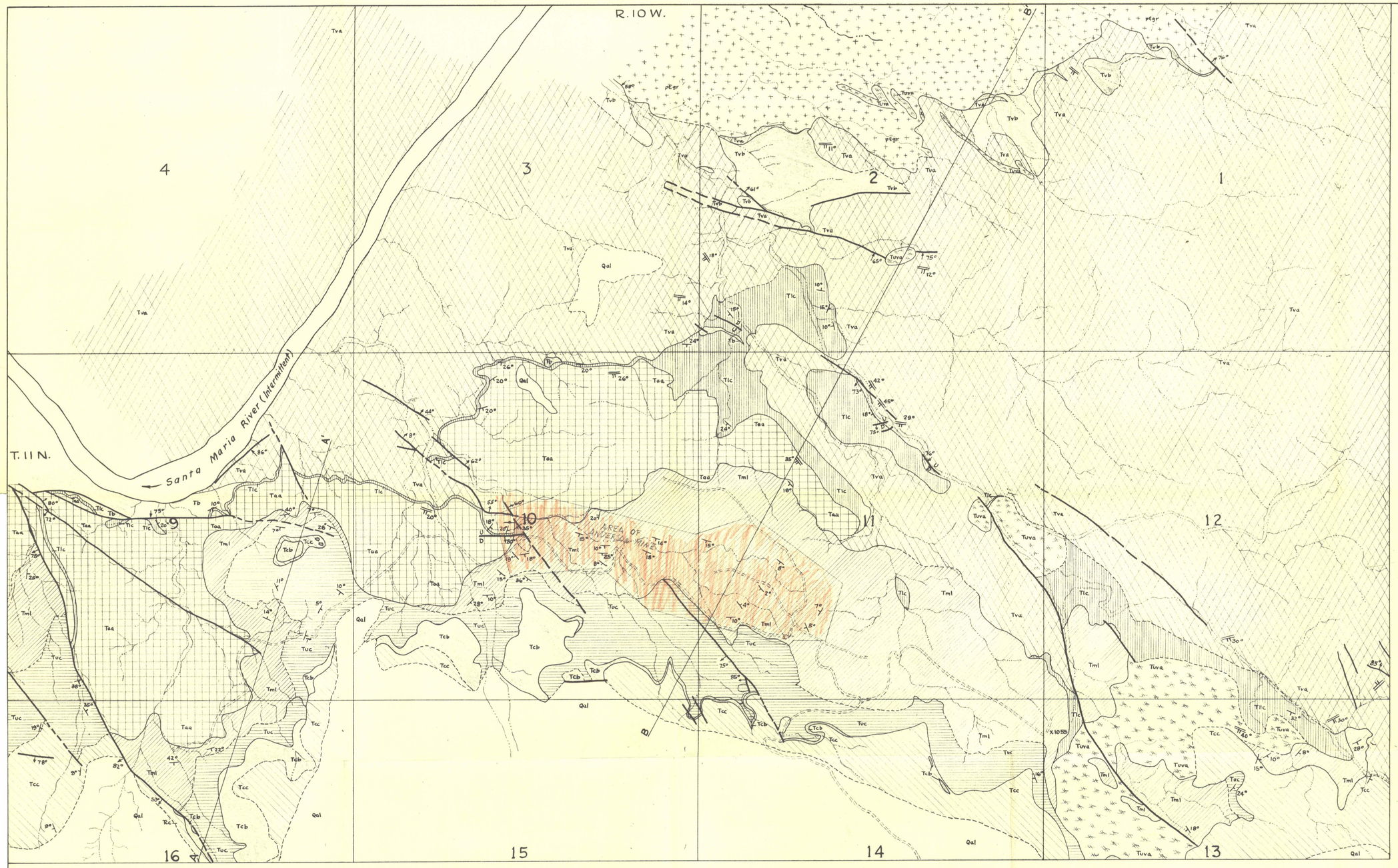
Copy to:

Region III


INTERSTATE OIL CO. CLAIMS
OSBORNE WEST GROUP
LEASED TO TEXAS-ARIZONA MINERALS CO. INC.
OSBORNE EAST GROUP
LEASED TO TEXAS-ARIZONA MINERALS CO. INC.
20 FEDERAL LODE MINING CLAIMS STAKED IN THE NAME OF LOUIS B. LOTHMANN FOR TEXAS-ARIZONA MINERALS CO. INC.
20 FEDERAL LODE MINING CLAIMS STAKED IN THE NAME OF LOUIS B. LOTHMANN FOR TEXAS-ARIZONA MINERALS CO. INC.
20 FEDERAL LODE MINING CLAIMS STAKED IN THE NAME OF LOUIS B. LOTHMANN FOR TEXAS-ARIZONA MINERALS CO. INC.
SANTA MARIA RIVER
DATE CREEK
BULLARD WASH
YUMA COUNTY
YAVAPAI COUNTY
IVES PEAK
3500'
3000'
2500'
2000'
1500'
TION
TILN
HOLE #1
HOLE #2
HOLE #3
HOLE #4
HOLE #5
HOLE #6
HOLE #7
HOLE #8
HOLE #9
HOLE #10
HOLE #11B
HOLE #12B
HOLE #13B
HOLE #14B
HOLE #15B
HOLE #16B
HOLE #17B
HOLE #18B
HOLE #19B
HOLE #20B
HOLE #21B
HOLE #22B
HOLE #23B
HOLE #24B
HOLE #25B
HOLE #26B
HOLE #27B
HOLE #28B
HOLE #29B
HOLE #30B
TODRO FRAC. 1
TODRO FRAC. 2
TODRO FRAC. 3
N89° 52' W
S89° 54' W
R12W
R11W
R10W
R9W
LEGEND
CLAIMS SHOWN THUS ARE UNSURVEYED.
CLAIMS SHOWN WITH SOLID LINES WERE SURVEYED BY W. J. CHEEK, PRESCOTT, ARIZ.
CLAIMS SHOWN WITH PHANTOM LINES WERE SURVEYED BY OTHERS.
LOCATION OF EXPLORATION DRILL HOLES ON DRILLING PROGRAM NOV. 1957 THRU JAN. 1958.
X TENTATIVE LOCATIONS OF FUTURE EXPLORATION DRILL HOLES PLANNED UNDER D.M.E.A. PARTICIPATION
SECTION NUMBERS
ROADS
CONTOUR LINES.
S. H. GLASSMIRE & ASSOC.
GEOLOGISTS & ENGINEERS
214 COLLEGE ... SANTA FE, N.M.
TEXAS-ARIZONA MINERALS CO. INC.
% LOUIS B. LOTHMANN.
CONGRESS JUNCTION ARIZONA.
URANIUM CLAIMS & LEASES.
DATE ... DEC. 27, 1957.

ENCLOSURE #3


AREA UNDER CONSIDERATION
Congress Junction
Wickenburg
PHOENIX
INDEX MAP
CONGRESS JCT. ARIZONA AREA
SANTA MARIA RIVER
INTERSTATE OIL CO. CLAIMS
IVES PEAK
3500'
3000'
2500'
2000'
1500'
20 FEDERAL LODE MINING CLAIMS STAKED IN THE NAME OF LOUIS B. LOTHMANN FOR TEXAS-ARIZONA MINERALS CO. INC.
YUMA COUNTY
YAVAPAI COUNTY
OSBORNE WEST GROUP
LEASED TO TEXAS-ARIZONA MINERALS CO. INC.
OSBORNE EAST GROUP
LEASED TO TEXAS-ARIZONA MINERALS CO. INC.
OFFSET HOLE #3
TOBRO FRAC-1
TOBRO FRAC-2
TOBRO FRAC-3
N89°32'W
S87°56'W
DATE
CREEK
BULLARD
WASH
20 FEDERAL LODE MINING CLAIMS STAKED IN THE NAME OF LOUIS B. LOTHMANN FOR TEXAS-ARIZONA MINERALS CO. INC.
LEGEND
CLAIMS SHOWN THUS ARE UNSURVEYED.
CLAIMS SHOWN WITH SOLID LINES WERE SURVEYED BY W. J. CHEEK, PRESCOTT, ARIZ.
CLAIMS SHOWN WITH PHANTOM LINES WERE SURVEYED BY OTHERS.
LOCATION OF EXPLORATION DRILL HOLES ON DRILLING PROGRAM NOV. 1957 THRU FEB. 1958.
X TENTATIVE LOCATIONS OF FUTURE EXPLORATION DRILL HOLES PLANNED UNDER D.M.E.A. PARTICIPATION
SECTION NUMBERS
ROADS
CONTOUR LINES.
R12W
R11W
R10W
R9W
S. H. GLASSMIRE & ASSOC.
GEOLOGISTS & ENGINEERS
214 COLLEGE ... SANTA FE, N.M.
TEXAS-ARIZONA MINERALS CO. INC.
% LOUIS B. LOTHMANN.
CONGRESS JUNCTION ARIZONA.
URANIUM CLAIMS & LEASES.
DATE ... DEC. 27, 1957.
Submitted w/lt. 2-13-58, Revised 2/15/58 S.H.G. from above



EXPLANATION

QUATERNARY

- **RECENT** — Qal — ALLUVIUM

TERTIARY

- **UPPER PLIOCENE** — Tcc, Tcb
  - Tcc — CAPPING CONGLOMERATE
  - Tcb — BASALT FLOWS
- **LOWER PLIOCENE** — Tuc — UPPER CONGLOMERATE
- Tml — MUDSTONE-LIMESTONE UNIT
- DIKES CUTTING AUGITE ANDESITE
  - Taa — AUGITE ANDESITE
  - Tuva — UPPER VITROPHYRIC ANDESITE FLOWS, DIKES AND VENTS
- Tlc — LOWER CONGLOMERATE
- Tb — BASALT FLOWS
- **MIOCENE & LOWER PLIOCENE** — Tva, Tvb
  - Tva — VITROPHYRIC ANDESITE (Undifferentiated)
  - Tvb — BASALT FLOWS NEAR BASE

PRECAMBRIAN

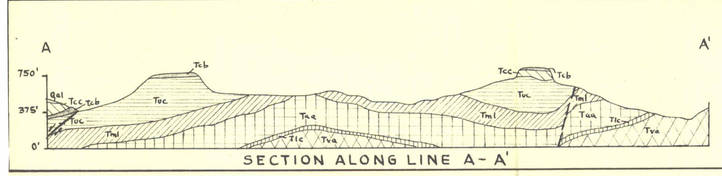
- pEgr — GRANITE-SCHIST COMPLEX

CONTACT (Dashed where inferred)

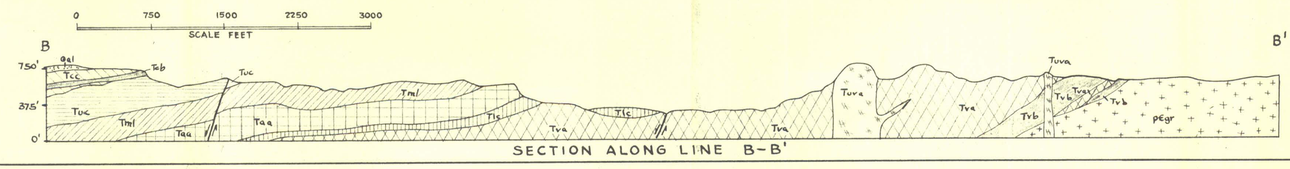
75° FAULT (Dashed where inferred)

32° STRIKE AND DIP OF BEDS

30° ATTITUDE OF FLOWS



SECTION ALONG LINE A-A'



0 750 1500 2250 3000
SCALE FEET

SECTION ALONG LINE B-B'

TRACED FROM MAP BY REYNER, M.L., ASHWILL, W.R., & ROBISON, L.R. - AEC RME-2057, PART 1, 1956.

DMEA 4935

FIGURE 3.- GEOLOGIC MAP OF A PORTION OF SOUTHWESTERN YAVAPAI COUNTY, ARIZONA.

Red w/onsite cram

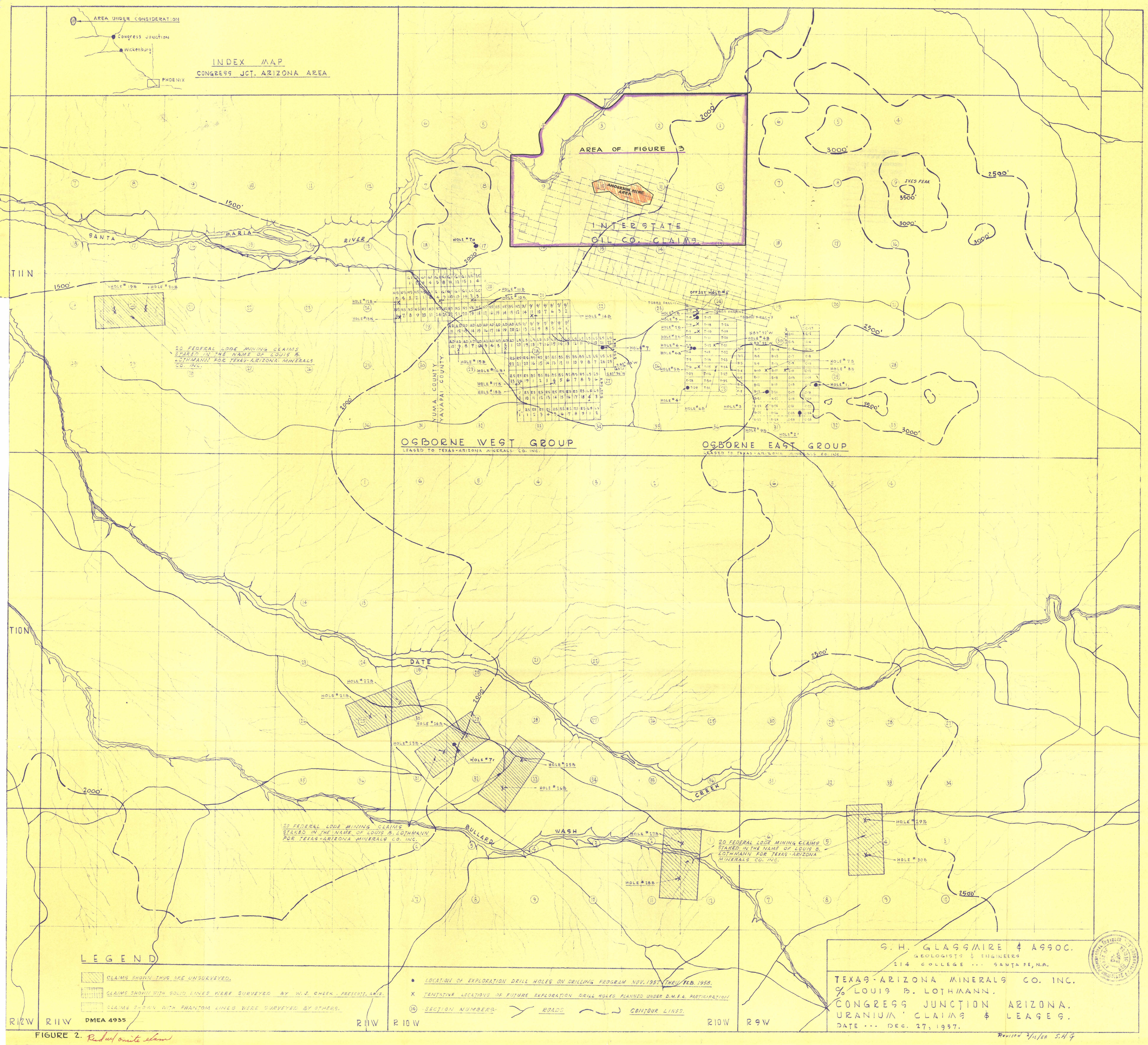


FIGURE 2. Redrawn onto claim