DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

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DMA Docket No. 3531

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Exploration Assistance

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MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Defense Minerals Administration
RECEIVED
OCT 14 1954

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. 3531
Metal or Mineral Uranium
Date Received
Estimated Cost $120,670
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: J. Anthony Kureus (Joseph Anthony Kureus)
60 E. 42nd St., New York 17, N.Y.
Partner: Leon W. Levenstein, Time & Life Bldg.,
15 West 48th St., New York 20, N.Y.

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract
See contract attached—EXHIBIT No. 1

(*b*) State any mine name by which the property is known. Dewey Prospect and Co.La Sal Prospect

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

(*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.
Copy of contract attached, marked EXHIBIT No. 2

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.
See : EXHIBIT No. 3

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

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. None

(*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. None

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.
See: EXHIBIT No. 4

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.
See: EXHIBIT No. 5

See: EXHIBIT No. 5-A

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore URANIUM and such other minerals as may be found on the property

(*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 attached EXHIBIT No. 6

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract. See attached EXHIBIT No. 6

(*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: Exhibit No. 6

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: See. EXH.6

(*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.). See: EXHIBIT No. 6

(*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. See: EXHIBIT No. 6

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. See: EXHIBIT No. 6

(*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. See : EXHIBIT No. 6

(*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. See: EXHIBIT No. 6

(*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. See EXH. 6

(*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. SEE: EXHIBIT No. 6

(*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. SEE: EXHIBIT No. 6

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

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

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

Explain in detail on acompanying paper. SEE: EXHIBIT 6

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 October 14, 1954, 195.

J. Murray
(Applicant)

By Fred C. Leuenthal

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

Applicant: J. Anthony Marcus, 60 E. 42 St., New York 17, N. Y.

EXHIBIT No. 1
****

3. Applicant's property rights:

Claims secured by applicant under contract

Grand County, Utah, Township 23 South, Range 24 East

DEWEY PROSPECT

22 claims described as follows:

Claims 16, 17, 18, 19, 20, ...In Section 20

" 13, 15, 16 In Section 20

Claims 39, 40, 41, 42, 43, 44
45, 46, 47, 48..... .....In Section 21

" 49, 50, 51, 52..... " 22

SOUTH LA SALE PROSPECT

18 Claims in San Juan County, Utah, Township 29South, Range 25 East.

Claims 88, 89, 90, 91, 92 , 93, 95, 94, 96, 98, 99, 100,

101, 102, 103, 104, 105, 106 in Section 18

Note: The above unorganized and unpatented mining claims have been located and filed under Section 2324 of the Revised Statutes of the U. S. The mining claims herein listed were filed under the name of CHASE by number in Grand County, Utah, as indicated above.

EXHIBIT No. 2

URANIUM INDUSTRIAL ASSOCIATES

45 EAST PUTNAM AVENUE
GREENWICH, CONNECTICUT
Telephone GReenwich 8-1700

August 31, 1954

Messrs. J. A. Marcus and Leon C. Leventhal
9 Rockefeller Plaza
New York, N. Y.

Re: 40 Utah Uranium Claims

Dear Sirs:

Referring to the offer embodied in our letters to you of July 15, 1954 and July 27, 1954, we acknowledge receipt of Five Thousand Dollars ($5,000) ~~principal amount of United States Government Bonds, in negotiable form~~, and the deposit in escrow thereof, as provided in said offer, as a good faith deposit.

We agree that you shall have ninety (90) days from and after the date hereof to pay the balance of the Fifty Thousand Dollars ($50,000) purchase price of the claims and, if such balance is not paid within such ninety (90) day period, our offer and agreement shall terminate without further liability of either party hereto to the other, except that you shall be entitled to the return of the escrow deposit.

If you desire an extension of our agreement beyond such ninety (90) day period, you may obtain it until February 28, 1955 upon the condition that the escrow deposit shall be payable and deliverable to us in all events, whether you buy the claims or not. If you have not, by February 28, 1955, paid to us or otherwise provided us with the Forty-Five Thousand Dollars ($45,000) balance, this agreement shall thereupon terminate without further liability of either party hereto to the other; but we shall be entitled to retain the entire Five Thousand Dollars ($5,000) escrow deposit.

We represent and warrant to you that the owners of the claims, as filed under Section 2324 of the Revised Statutes of the United States have granted to us the full right and power to convey these claims to you pursuant to the offer to and agreement with you. We call to your attention that Claim 16 in Section 20 in Grand County, Utah, Township 23 south, range 24 east, referred to twice in Schedule A to our letter of July 15, 1954 should in the first instance be Claim 14 in Section 20 and that the reference to Section 22 in said County, Township and range should be Section 21; and said Schedule A is hereby amended accordingly.

Except as herein changed, the offer and agreement embodied in our letters of July 15, 1954 and July 27, 1954 are hereby confirmed in their entirety.

Very truly yours,

URANIUM INDUSTRIAL ASSOCIATES, INC.

By [signature]
President

ACCEPTED:

[signature]

[signature]

Applicant: J. Anthony Marcus, 60 E. 42 St., New York 17,N.Y

EXHIBIT No. 3
****

Answer to your question (f) of No. 3 in the application will be submitted as soon as it arrives from the Denver office,namely--"book and page numbers of each recorded location notice."

COPY

APPLICANT: J. Anthony Mareus, 60 E. 42 St., New York 17, N. Y.

EXHIBIT No. 5
****

Reply to Question 4--D:

Nearest town to Dewey prospect is Cisco, Utah, about 12 miles; U.S. Highway #50; Main Line of D. & R. G. Accessible by railroad. Good gravel road; very little grade. Accessible at all times of the year.

La Sal Area: Approximately 2 miles from village of La Sal; 35 miles southeast of Moab, Utah; approximately 2 miles from State Highway, Utah #46. Gravel road, and trails from gravel road. Very accessible, and down hill grade to Moab. La Sal being about 6500 feet altitude, Moab 4000 feet.

Transportation by automobile or truck.

Dewey area about 12 miles from ore receiving station.

La Sal area about 37 miles from ore receiving station.

Residence points: Cisco, about 12 miles, nearest to Dewey Prospect;
Moab, about 35 miles, nearest to La Sal Prospect.

****

EXHIBIT No. 5--A
****

Replies to Question 4--E:

Labor conditions good and plentiful. Common labor approximately $1.75 per hour. Materials available. Ordinary supplies and equipment available.

WATER: Dewey area near Colorado river. La Sal area well water and ditch water at times. Water for domestic and camp purposes available and near. Drilling water plentiful

Applicant: J.Anthony Marcus, 60 E. 42 St.,New York 17,N. Y. EXHIBIT No.6

Replies to:

5. (a) Uranium and such other strategic minerals as may be found on the property.

(b) See attached reports by geologist Richard H.Benish of July 28, 1954, and supplement of Oct. 6, 1954, respectively.

(c) The work will start within 60-90 days after signing of exploration project contract. Completion will be contingent upon results of exploration work.

(d) Applicant and associates have had many years of experience in mining operations, prospecting and other phases of the business.

6. ESTIMATE OF COSTS: On advice of Prof. Clyde M. Shoemaker, formerly Chief Engineer of Johns-Manville Corp., we plan to drill a minimum of 30 holes and will engage a competent, recognized contractor for the purpose, with the advice and approval of the Atomic Energy Commission office at Grand Junction, Col. The cost therefore is estimated as follows:

(1)	Thirty (30) holes, average 500 feet, approximately $6 per foot, totalling for the entire operation.....	$90,000
(2)	Two (2) Surveyors, $1000 per month each, including expenses, 3 months	6,000
(3)	Supervising engineer for 3 months, remuneration & expenses.	5,400
44)	Prof. Clyde M.Shoemaker, consulting engineer (See: Who's Who in America)..... 3 months....	1,500
(5)	Technical equipment and supplies, estimated.....	2,000
(6)	Temporary camp equipment, estimated cost.....	3,000
(7)	Expenses for J.Anthony Marcus to organize and supervise the entire operation, $20 per day, 90 days.....	1,800
	Total.....	$109,700
	Allowance for contingencies, 10%.....	10,970
	Estimated grand total for the entire project.....	$120,670

(e) Rehabilitation and repairs: None. To be borne by contractor.

(f) New Buildings, Improvements, Installations: None.

(g) Miscellaneous: To be taken care of from the contingencies fund, as provided above. With your approval, we should like to submit an itemized statement later, after a contractor, the directing engineer and the two surveyors have been engaged.

---

7 (question) We will provide the funds for the operation in accordance with your usual procedure. Your instructions will be scrupulously followed, and the counsel of the experienced AEC men will be greatly appreciated.

Applicant : J. Anthony Marcus
60 E.42 St., New York 17,N.Y.

EXH. 4

DEMIX PROSPECT

Grand County, Utah

Applicant : J. Anthony Marous
60 E.42 St., New York 17,N.Y.

FOREWORD

The purpose of this report is to briefly outline the geologic conditions existing in the Dewey Prospect and to evaluate these conditions with respect to further exploration, and possible development, for uranium bearing ores.

Inasmuch as the Dewey Prospect is located within the bounds of the Colorado Plateau, it should be mentioned that this physiographic province is today, and has long been, the principal source of domestic production. It is here that our greatest domestic reserves are contained and the most prolific discoveries have been made in recent years of intense exploration. In realizing that exploration has been heavily concentrated here, it also appears that, until another area is found having comparable possibilities, the Colorado Plateau will continue to hold the greatest opportunities for future discoveries of uranium reserves.

Applicant : J. Anthony Marous
60 E.42 St., New York 17,N.Y.

DEWEY PROSPECT

The Dewey Prospect is comprised of 52 claims, lease blocks #5895 and #5730, and is located in Sections 16, 17, 20, and 21, T23S, R24E, Grand County, Utah, immediately south of that point where the Dolores River empties into the Colorado River. It is also approximately fifteen miles south of Cisco, Utah. Cisco is situated on U. S. Highways 6 and 50 and on the main line of the Denver & Rio Grande Western Railroad Company; an ore loading point, maintained by the A. E. C., is also located here. The prospect is accessible by good gravel roads on reasonable grades. Although all claims have been measured and staked from several known points, it is suggested that, before commencing further exploration and development, these claims be officially surveyed by a qualified engineer.

In general, the area is quite rugged and dissected by several canyons. Surface elevations range from approximately 4500 to 5500 feet above sea level. The geologic sequence of events, as shown by outcrops, include the greater portion of the Jurassic System.

The majority of the eastern half of the project (Sections 16 & 21) is comprised of a high mesa with the escarpment, or cliff face, being approximately 400 feet in height. Capping this mesa is 70 to 80 feet of the Salt Wash member of the Morrison formation (Upper Jurassic), and which includes two and three benches of the more resistant sandstone. These appear to vary from a reddish-buff colored shale to a buff-grey sandstone. It is this Salt Wash member which has been the principal uranium producer in the Morrison.

Lying below the Morrison is the Entrada member of the San Rafael Group of Upper Jurassic. The Entrada is known locally as the "slick rim" and is a prominent, smooth-weathered sandstone varying in color from a grey-buff to a reddish-buff. Aeolian-type cross-bedding is also evident in this formation. The thickness on the above mentioned cliff-face approaches several hundred feet. This formation may contain uranium and vanadium in the form of Roscoelite in some areas; however, no deposits of major significance have, to date, been found in commercial quantities in this immediate geographic sector of the Colorado Plateau. A distinct contact between the Entrada and Carmel formation can be observed along the base of the mesa. The Carmel is approximately 20 feet thick and consists of a reddish-brown, earthy mudstone.

Below the Carmel and present through the western one-half, and extreme northern and southern portions of the prospect, the Navajo Sandstone (Glen Canyon Group-Jurassic) comprises the surface formation. This is a fairly massive, intricately cross-bedded section and ranges in color from a buff-brown to gray.

A possible contact between the Navajo and the Kayenta formation (mid-Glen Canyon) was observed in a canyon located in the southwestern part of Section 20. Although the outcropping in this canyon was poorly defined there did exist a sharp contrast in coloring and cross-bedding. The Kayenta formation of sandstone and shale appeared to be more gray with a slight lavender tint and, in general, weathered to a darker color. Approximately the lower 60 feet of the canyon was exposed and consequently no estimate of its total thickness could be made.

Surface measurements, plus geologic information on the base of the Wingate Sandstone (basal Jurassic) indicate a dip of approximately five degrees to the N 20°E. This is also confirmed by surface elevations to the north-northeast being equal to those on the above mentioned mesa, yet, to the north-northeast there exists a greater section of Morrison outcrop. Several mines are in operation to the north and east, and are adjacent to the Dewey Prospect. These mining operations are being conducted in the Salt Wash member of the Morrison and in all appearances are identical to the Salt Wash which is present at the top of the mesa in Sections 16 and 21.

Although no Morrison is present in the western half of the prospect, it is my belief this sector also merits additional consideration. In this respect, the encountering of exposed Kayenta has heretofore been mentioned. Below the Kayenta is an undetermined thickness of Wingate which merges into the Chinle formation of Upper Triassic.

Immediately below the Chinle are the Shinarump conglomerates, and the Moenkopi shales (Triassic) plus the Cutler formation, the latter being of the Permian System. As the thickness of these formations, from basal Navajo through the Chinle, is not fully determinable, it is recommended that further detailed geologic work and exploratory drilling be utilized for a more accurate evaluation of these properties.

It is difficult to ascertain, with any degree of accuracy, the ore bodies present on most of the Colorado Plateau without drilling. Although a study of the geologic structure is essential, it is also a prime requisite that exploratory drilling be conducted.

Applica nt:
J. Anthony Marcus
60 E. 42 St., New York 17,N.Y.

With the presence of the Salt Wash member of the Morrison already established in the Dewey Prospect, it is therefore recommended that further exploration be conducted by means of conventional drilling, followed by a radioactive probe analysis. Upon discovery of mineralization, a core drilling program should ensue for accurate evaluation and measurements of the areal extent of the uranium ore-bearing bodies.

Respectfully submitted,

Richard H. Bonish
Geologist, MWB
University of Wisconsin, 1940

Date _____

Applica nt:
J. Anthony Marcus
60 E. 42 St., New York 17, N.Y.

Richard H. Bonish, age 39, married, one daughter, age 9;
1765 South Fillmore, Denver 10, Colorado

Education: Bachelor of Philosophy degree in Geology from University of Wisconsin - 1940

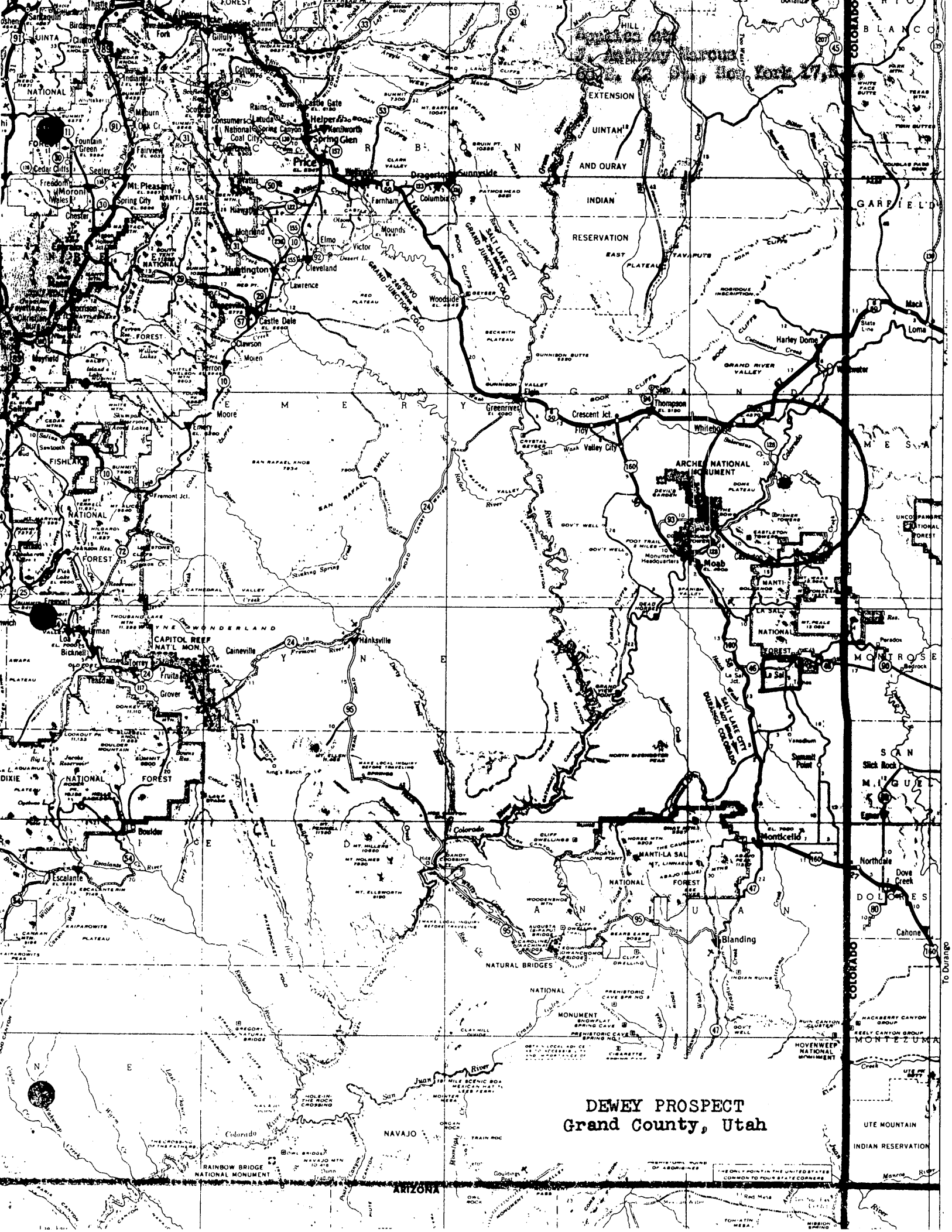
Employment: March, 1940 through September, 1942
Petty Geophysical Engineering Company
San Antonio, Texas
Duties: Geologist, seismologist, surveyor, etc.
Type of work: Oil exploration in Texas, Louisiana, Mississippi, West Virginia and Pennsylvania

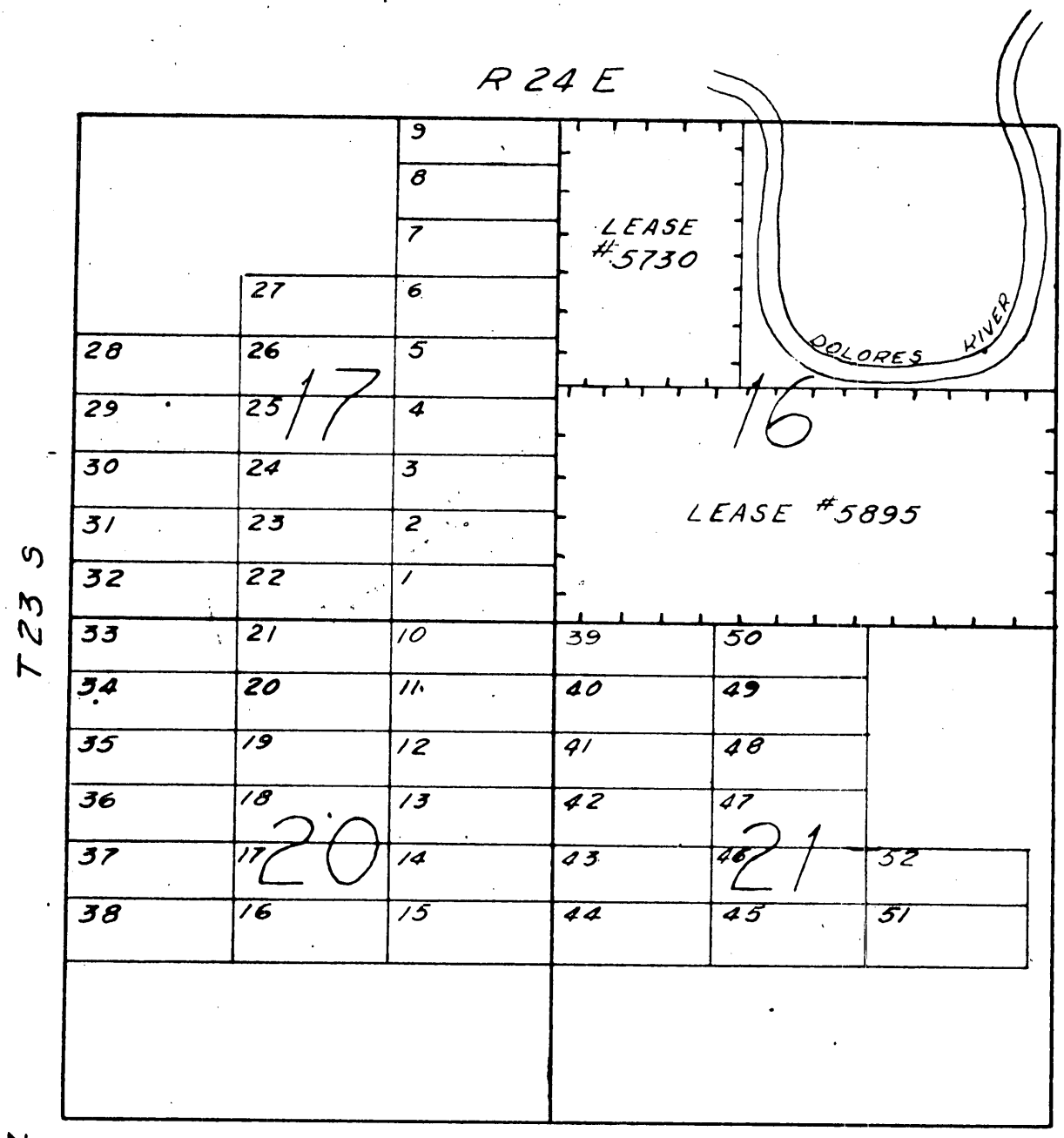
February, 1946 to October, 1951
Rogers-Ray, Inc., Houston, Texas
Duties: Geologist-geophysicist
Type of work: Supervisor of field seismic parties doing oil exploration in Texas, North Dakota, Alberta and Saskatchewan

October, 1951 to July 1, 1954
Rogers Geophysical Company, Houston, Texas
Duties: Geologist-geophysicist
Type of work: Supervisor and manager of Rocky Mountain Division; seismic parties doing oil exploration and investigations of uranium exploration; Colorado, Utah, Wyoming, and Montana
Past four and one-half years in Rocky Mt. Area and Canada; coordinating geology with geophysics; contact work with oil company officials; arranging of both seismic and drilling contracts.

Military Service: Naval Officer (Lieut.) in charge of communications and navigation aboard a U. S. vessel in the Pacific Ocean Areas.

Activities: American Association of Petroleum Geologists
Denver Geophysical Society
Houston Geological Society (1947-50)
American Geophysical Union (1948-50)
Wisconsin Alumni Association
A.F.&A.M. Lodge #1292, Houston, Texas


DEWEY PROSPECT
Grand County, Utah
Price
Helper
Castle Gate
Spring Glen
Wellington
Dragerton
Sunnyside
Columbia
Fernham
Mounds
Elmo
Victor
Cleveland
Huntington
Lawrence
Castle Dale
Clawson
Moen
Woodside
Green River
Crescent Jct.
Thompson
Whitehorse
Floy
Valley City
Moore
Emery
Fremont Jct.
Fremont
Loa
Bicknell
Torrey
Teasdale
Fruita
Grover
Caineville
Hanksville
Moab
La Sal
Monticello
Blanding
Bluff
Mexican Hat
Escalante
Boulder
Colorado
Mack
Loma
Harley Dome
Dove Creek
Cahone
Northdale
Slick Rock
Dolores
Mt. Pleasant
Spring City
Fairview
Manti
Ephraim
Gunnison
Salina
Richfield
Sevier
Kanab
Page
Navajo
Rainbow Bridge National Monument
Natural Bridges National Monument
Arches National Monument
Capitol Reef Nat'l Mon.
Manti-La Sal National Forest
Fishlake National Forest
Dixie National Forest
Uintah and Ouray Indian Reservation
Ute Mountain Indian Reservation
Hovenweep National Monument
Colorado
Utah
Arizona
Salt Lake City to Grand Junction, Colo.
Provo to Grand Junction, Colo.
Durango, Colorado
To Durango



N

DEWEY PROSPECT
GRAND COUNTY, UTAH

Condition [illegible]
F. Anthony [illegible]
[illegible] Ave., New York 17, N.Y.

DEWEY PROSPECT

(Supplement)

Grand County, Utah

Applicant : J.Anthony Marcus, 60 E.42 St.,New York 17, N.Y.

DEWEY PROSPECT
(Supplement)

This supplement of the original Dewey Prospect report pertains to Claims No. 13 through 20 in Section 20, and 39 through 52 in Section 21, T23S, R24E of the Salt Lake Base Meridian, Grand County, Utah.

The Salt Wash sandstone member of the Morrison formation, which is the principal carnotite producing formation in the Colorado Plateau, appears on the mesa top in the eastern portion of Sections 16 and 21. Although the areal extent appears to be of minor magnitude, actual acreage unknown to the writer, there is a thickness ranging from 50 to 70 feet. As mentioned in the original report on the Dewey Prospect, these claims should be officially surveyed by a registered engineer, after which a more accurate percentage of Salt Wash can be determined. According to hearsay, and from a fairly reliable source, "a mineralized outcrop is present in this sector"; however, as the writer did not personally investigate this mesa-top, he cannot confirm this statement.

A majority of the above mentioned claims show a surface outcropping of the Navajo sandstone formation of the upper Glen Canyon Group of Jurassic Age. Underlying the Navajo is the Kayenta formation; an exposure is believed to be present in a ravine in the southern part of Section 20.

Recent studies by geologic societies now place the massive Wingate sandstone, which underlies the Kayenta, in the Upper Triassic. No outcroppings of this formation exist in the Dewey Prospect. The geologic sequence of events includes the Chinle formation under the Wingate, thence a possible Shinarump, with the Moenkopi shales being the basal formation of Triassic Age.

In the Richardson Amphitheater, ten miles southwest of these claims, there are exposures on the cliff-face of the Moenkopi through the Wingate, with minor sections of Kayenta and possibly Navajo on the rim. As the formations dip to the northeast in this vicinity, a projection of these beds, with their respective thicknesses, are expected to be identical in the Dewey area. Estimates of the thickness of these stratigraphic units which would have to be penetrated in drilling are: Navajo formation, 200 feet; Kayenta formation, 100 feet; Wingate formation, 300 feet; Chinle formation, 250-300 feet; Shinarump formation (if present), 20 feet; a total of approximately 900 feet. The encountering of mineralization in the lower portions of the Chinle is feasible. Differences of opinion exist among geologists in that a conglomeratic sandstone near the base of the Chinle has been identified as the Shinarump formation and, contrariwise, as a basal member of the Chinle called the "Moss Back". Irregardless of identity,

or nomenclature, high grade ore bodies have, on occasions, been discovered at this level in mid-Triassic.

In summary, the area is located in a district that has uranium production from the Salt Wash; these mines are east and northeast of the Dewey Prospect. Due to the unknown quantity of the Salt Wash sandstones and shales within the confines of these claims, it is suggested that a dual exploratory program be conducted upon completion of the aforementioned official surveying. This should include:

A. If sufficient acres of Salt Wash are present, further evaluate these properties by drilling;

B. Drill one or more holes through the Chinle (estimated depth, 800 to 900 feet). If accessible, place drilling site in canyon bottom to eliminate drilling of extra Navajo footage.

It is further recommended that a constant check of the drill cuttings by geiger counter of the lower Chinle be made together with a radioactive probe analysis of the hole. If favorable ore bodies at these depths are discovered, a carefully planned drilling program should follow, with cores obtained from the mineralized zone to more accurately evaluate these properties.

Respectfully submitted,

Richard H. Benish
Geologist

Date [illegible]

Applicant: J.Anthony Marcus,60 E. 42 St., New York 17, N.Y.

EXH. 4

SOUTH LA SAL PROSPECT

San Juan County, Utah

FOREWORD

The purpose of this report is to briefly outline the geologic conditions existing in the South La Sal Prospect and to evaluate these conditions with respect to further exploration, and possible development, for uranium bearing ores.

Inasmuch as the South La Sal Prospect is located within the bounds of the Colorado Plateau, it should be mentioned that this physiographic province is today, and has long been, the principal source of domestic production. It is here that our greatest domestic reserves are contained and the most prolific discoveries have been made in recent years of intense exploration. In realizing that exploration has been heavily concentrated here, it also appears that, until another area is found having comparable possibilities, the Colorado Plateau will continue to hold the greatest opportunities for future discoveries of uranium reserves.

The South La Sal Prospect is located within five miles of the village of La Sal, San Juan County, Utah. It is approximately twenty-five miles southeast of Moab, Utah, and thirty miles north of Monticello, Utah. The area observed is accessible by good gravel roads and improved trails. Although all claims have been measured and staked from numerous known points, it is suggested that, before initiating further exploration and development, these claims be accurately surveyed by a qualified engineer.

SOUTH LA SAL PROSPECT

The South La Sal Prospect is located several miles to the east and southeast of La Sal, Utah. A greater majority, 117 claims, of this prospect lies in Sections 7, 8, 17, and 18, T29S, R25E, whereas the balance, 17 claims, are located in Sections 1 and 12, T29S, R24E. All plots staked in the South La Sal Prospect are indicated as the Buena Vista claims. Accessibility to this area is by a graveled road from La Sal which merges into several well defined trails. The northern portion of the project is dissected by several canyons with flat valleys easily traversed by automobile. There is a gradual emergence from the slightly dissected northern sector into a broad valley-type southern portion of the prospect.

Along the valley walls numerous outcrops are presented. Of utmost importance is a contact between the Brushy Basin member of the Morrison Formation (Jurassic) and the bottom of the Lower Dakota Formation (Lower Cretaceous). As a difference of opinion exists in the identity and association of the Burro Canyon (Lower Cretaceous) with the Dakota in southeastern Utah, this sandstone formation shall hereafter be referred to as Lower Dakota. Irregardless of nomenclature for these more resistant cap-rock and cliff-forming sandstones, the prime factor is the presence of the Brushy Basin (Upper Morrison) shale. The exposure is of gray-green shale from five to ten feet thick and which alters abruptly into a reddish-brown shale. Approximately 60 feet is exposed, which includes a part of the talus slope, above the valley floor midway between the northwest and southwest corners of Section 6, T29S, R25E. As the valley floor approaches 150 yards in width at this point, it is logical to assume that a considerable amount of Quaternary fill is present and also that the Brushy Basin thickness is definitely more than that indicated at the exposure. Above the Brushy Basin is exposed the Lower Dakota and which ranges in thickness from 40 to 120 feet.

The eastern wall of this canyon shows from 120 to 150 feet of Lower Dakota; the additional thickness possibly being due to southeast dip of formations plus a slightly higher elevation at the top of canyon wall. In traversing the area to the eastward from the above mentioned location, there was observed several additional canyons showing lesser outcrops and, in general, not as harshly dissected. A measurement of the dip indicated approximately six degrees to the southeast, and the elevation also decreased to the southeast.

With structural dip and elevation decrease both trending southeastward it would appear that, by means of drilling, the Salt Wash member of the Morrison should be encountered at not too great a depth. This is also true at the site of the Brushy Basin outcrop, southwest of the Buena Vista claim #26. At this

locale it is recommended that the drill site be established on the west flank of the valley floor and in the vicinity of the Morrison outcrop.

It is also recommended that additional exploratory drilling with a probe analysis and a core drilling program be established if uranium ore is encountered in any of the initial test holes. This South La Sal Prospect shows excellent Salt Wash opportunities.

Respectfully submitted,

Richard H. Benish
Geologist, PhB
University of Wisconsin, 1940

Date_____

Applicant: J. Anthony Marcus, 60 E.42St., New York 17,NY

Richard H. Benish, Consulting Geologist-Geophysicist
Age 39, married, one daughter, age 9;
1985 So. Fillmore St., Denver 10, Colo.

Education: Bachelor of Philosophy degree in Geology from University of Wisconsin, 1940

Employment: March, 1940 through September, 1942
Petty Geophysical Engineering Company
San Antonio, Texas
Duties: Geologist, seismologist, surveyor, etc.
Type of work: Oil exploration in Texas, Louisiana, Mississippi, West Virginia and Pennsylvania

February, 1946 to October, 1951
Rogers-Ray, Inc., Houston, Texas
Duties: Geologist-geophysicist
Type of work: Supervisor of field seismic parties doing oil exploration in Texas, North Dakota, Alberta, and Saskatchewan

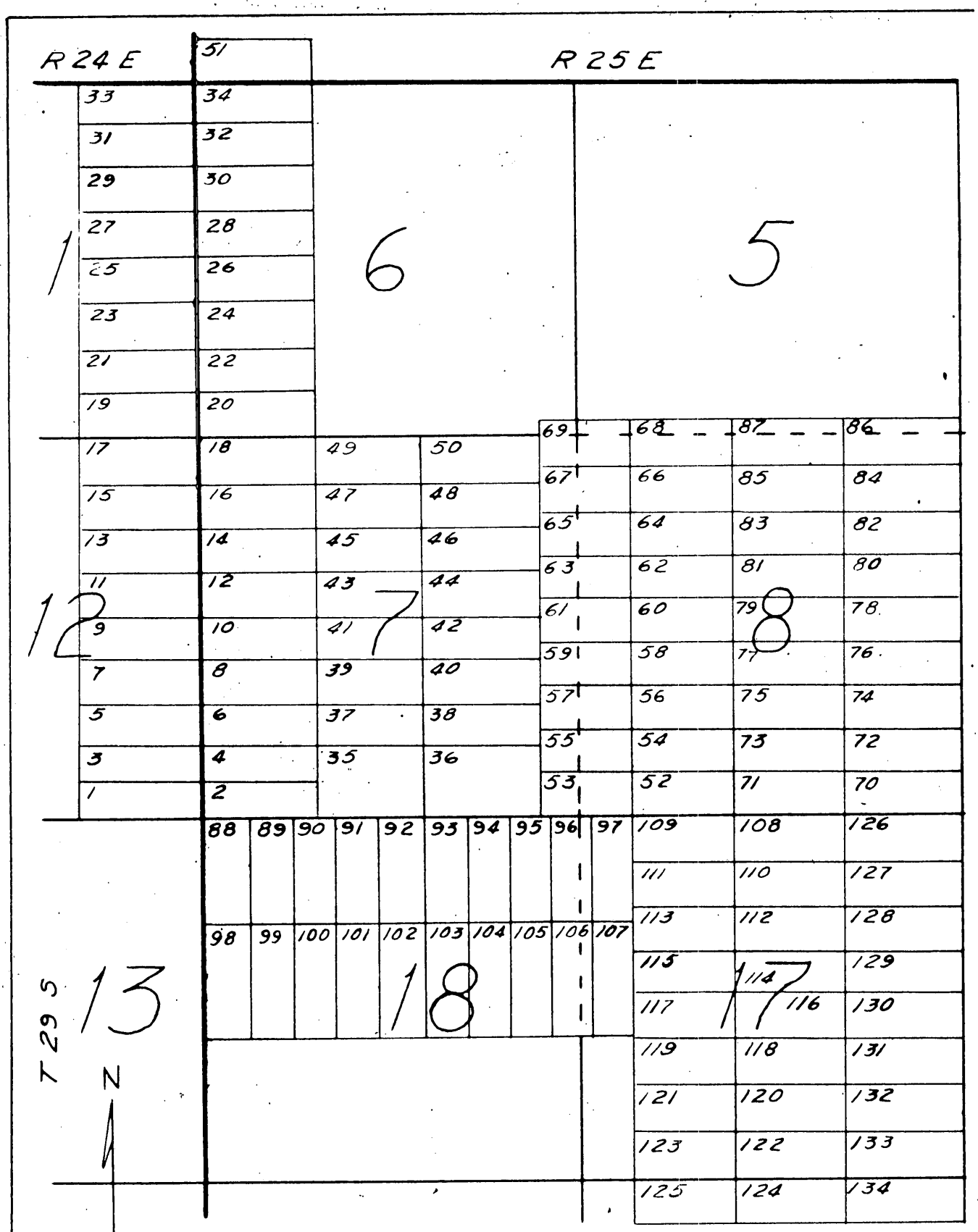
October, 1951 to July 1, 1954
Rogers Geophysical Company, Houston, Texas
Duties: Geologist-geophysicist
Type of work: Supervisor and manager of Rocky Mountain Division; Seismic parties doing oil exploration and investigations of uranium exploration; Colorado, Utah, Wyoming, Montana

Past four and one-half years in Rocky Mt. Area and Canada; coordinating geology with geophysics; contact work with oil company officials; arranging of both seismic and drilling contracts.

Military Service: Naval officer (Lieut.) in charge of communications and navigation aboard a U. S. vessel in the Pacific Ocean Areas.

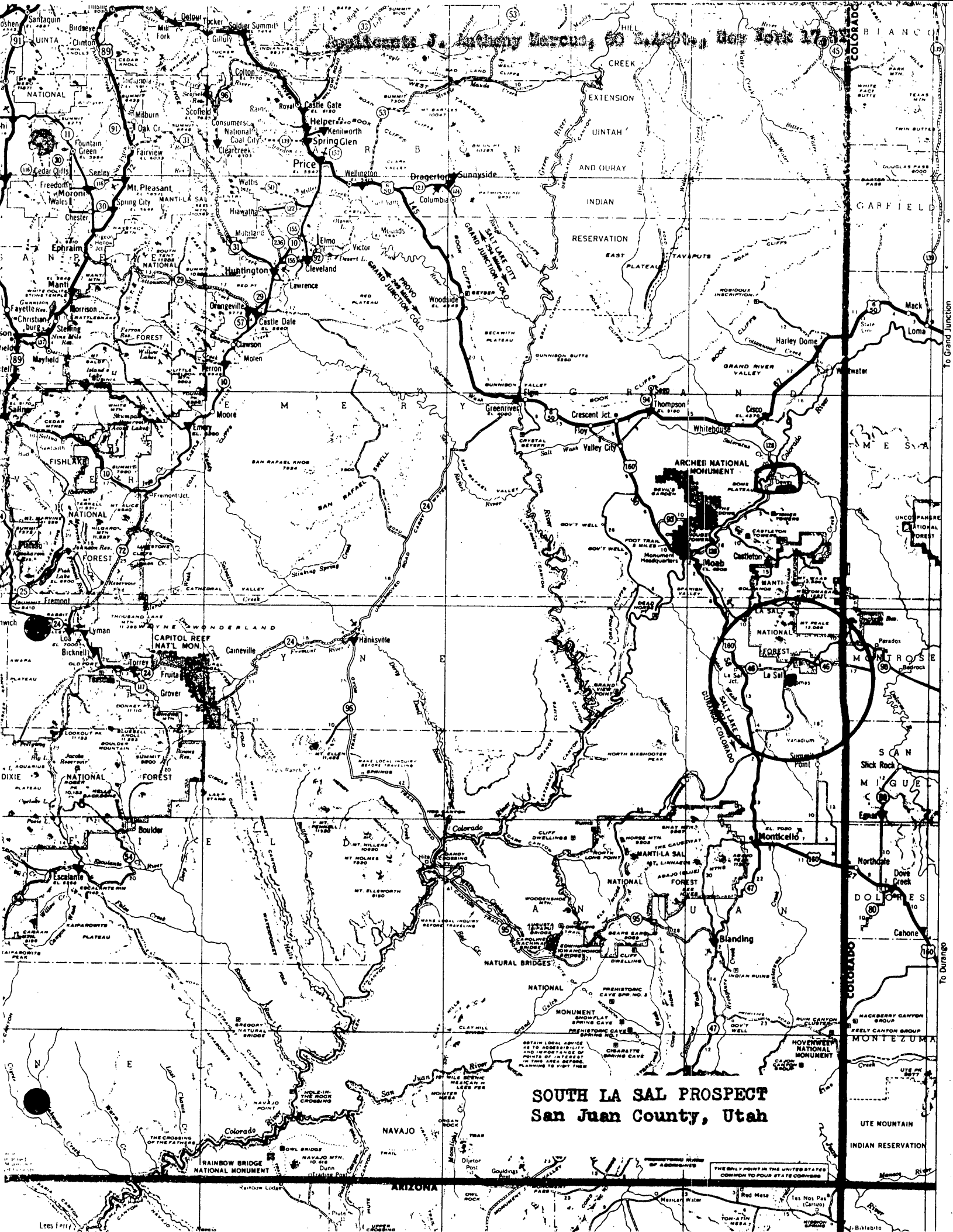
Activities: American Association of Petroleum Geologists
Denver Geophysical Society
Houston Geological Society (1947-50)
American Geophysical Union (1948-50)
Wisconsin Alumni Association
A.F.&A.M. Lodge #1292, Houston, Texas

Applicant: J. Anthony Marcus, 60 E.42St., New York 17,NY



SOUTH LA SAL PROSPECT
SAN JUAN COUNTY, UTAH

Applicants J. Anthony Marcus, 60 Dalton, New York 17,



Applicants J. Anthony Stewart, 60 E.42St., New York 17,NY

SOUTH LA SAL PROSPECT

(Supplement)

San Juan County, Utah

Applicant:
J.Anthony Marcus, 60 E.42 St.,New York 17, N. Y.

SOUTH LA SAL PROSPECT
(Supplement)

This supplement to the South La Sal Prospect report is comprised of 18 claims that are identified as Claims No. 88 through 96 and 98 through 106. They are located in the northern two-thirds of Section 18, T29S-R25E of the Salt Lake Base Meridian, San Juan County, Utah.

Approximately one and one-half miles north by northwest of this group of claims, a distinct contact between the top of the Brushy Basin shales and basal Cretaceous sandstone was observed. In reviewing this prospect and incorporating knowledge of the surrounding area, it is believed the basal Cretaceous can be more properly identified as the Burro Canyon formation of lower Cretaceous Age. In this vicinity, the Burro Canyon is a comparatively hard, resistant sandstone caprock which dips from six to seven degrees to the southeast.

Within the limits of these claims there exists an undetermined amount, probable of minor quantity, of Quaternary fill. As outcrops of Burro Canyon are insufficient for accurate field measurements, it is estimated the thickness of this formation ranges from 100 to 150 feet. Underlying the Burro Canyon is the Morrison formation of upper Jurassic Age. The estimated Morrison thickness is 700 feet; to be subdivided equally into 350 feet of Brushy Basin and 350 feet of the Salt Wash sandstone and shale member.

In view of the foregoing, it is apparent that no Salt Wash, which is the chief uranium producer on the Colorado Plateau, is exposed at the surface throughout the area. It is also obvious that this member underlies 100% of the claimed territory.

Assuming the above mentioned thicknesses to be correct, the ore-bearing beds of lower Brushy Basin and the total Salt Wash would approach a dimension of 400 to 450 feet. The uppermost favorable zone might be encountered at a depth of 400 feet; with fair opportunities of uranium ore being present at any one level from 400 to 800 feet below the surface. Normally, within a given sector, only one ore body in commercial quantities exists; this prolific section is predominantly in the lower half of the Salt Wash.

It is therefore the opinion of the writer that ore bodies are likely to exist within the limits of these claims. It is recommended that a drilling program be initiated to further evaluate these properties, with holes being drilled through the Salt Wash member of the Morrison formation, estimated depth 800 feet. The drill cuttings from 300 feet downward should be

closely checked with a geiger counter and a radioactive probe analysis should be conducted in each hole. Upon discovery of mineralization, it is further recommended that a planned drilling program be instituted with cores being obtained from the radioactive zones.

Although various theories on the origin and source of uranium have been offered, the writer prefers to withhold any comment in this respect for the South La Sal Prospect. It is suggested that a minimum of five holes be drilled, one near each corner and one in the center of this group of claims. Evidence procured may establish the direction of the "channel" and, consequently, be of additional aid in formulating a drilling program.

Respectfully submitted,

Richard H. Benish
Geologist

Date: _____

700 DOCKET
SURNAME
Ellis

JAN 1 8 1955

Mr. J. Anthony Marcus
60 East 42nd Street
New York 17, New York

Re: Docket No. DMEA-3531 (Uranium)
Bussy and South La Sal Prospects
Grand and San Juan Counties, Utah

Dear Mr. Marcus:

Reference is made to your letter of January 3, 1955, to Mr. W. H. King of our Denver Office, advising of your inability to proceed with the above-docketed application. We are, therefore, considering the application withdrawn and have closed our file on this docket.

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

Sincerely yours,

C. O. Mittendorf

Administrator

EWEllis:fcc
1-18-55
cc to: Admr. Reading File
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, GSA
DMEA Field Team, Region III (2)
Code 700

R.C.B.

1/14/55 gla

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

224 New Customhouse
Denver 2, Colorado

January 11, 1955

Memorandum

To: Chairman, Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 3531, J. Anthony Marcus and Leon C. Leventhal

Reference is made to our letters to the applicant dated November 16, 1954, and December 10, 1954, copies of which were sent to you.

We are enclosing a copy of a letter dated January 3, 1955, from J. Anthony Marcus. Inasmuch as this application is not within authority delegated to this region, we are requesting you to notify the applicant that the docket has been closed.

W. H. King

Enclosure

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

224 New Customhouse
Denver 2, Colorado

January 11, 1955

Memorandum

To: Chairman, Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 3531, J. Anthony Marcus and Leon C. Leventhal

Reference is made to our letters to the applicant dated November 16, 1954, and December 10, 1954, copies of which were sent to you.

We are enclosing a copy of a letter dated January 3, 1955, from J. Anthony Marcus. Inasmuch as this application is not within authority delegated to this region, we are requesting you to notify the applicant that the docket has been closed.

W. H. King

Enclosure

JFS:ld

Copy to: E. N. Harshman
Docket
Chron

J. ANTHONY MARCUS
60 EAST 42ND STREET
NEW YORK 17, N. Y.
MURRAY HILL 7-7992

Date Rec'd,
JAN 7 1955
RECEIVED
BUREAU OF MINES
Denver, Colorado

Jan. 3, 1955.

Mr. W. H. King,

U. S. Department of the Interior,

Defense Minerals Exploration Administration,

Washington 25, D. C.

Dear Mr. King:

In reply to yours of Dec. 10th, I regret to say that all our efforts to secure the information you specified in yours of Nov. 16th have not produced same. Inasmuch as you must have that information in order to proceed, there is nothing we can do about it at this time.

Thanking you for your interest, and with the season's greetings, I am,

Sincerely yours,

12/20/54 gla

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

224 New Customhouse
Denver 2, Colorado

December 10, 1954

Mr. J. Anthony Marcus
60 East 42nd Street
New York 17, New York

Dear Mr. Marcus:

Reference is made to your application for exploration assistance, Docket DMEA 3531.

We have not received a reply to our letter dated November 16, 1954, in which we requested additional information regarding your application. If we do not hear from you in 30 days, we will assume you are no longer interested in exploration assistance, and your docket will be closed.

Yours very truly,

W H King

W. H. King

E N Harshman

E. N. Harshman
For A. H. Koschmann

DMEA Field Team, Region IV

JFS:mn

cc: Docket 3531
Chairman, Oper. Comm.
A.H.Koschmann
Chron.

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

224 New Customhouse
Denver 2, Colorado

December 10, 1954

Mr. J. Anthony Marcus
60 East 42nd Street
New York 17, New York

Dear Mr. Marcus:

Reference is made to your application for exploration assistance, Docket DMEA 3531.

We have not received a reply to our letter dated November 16, 1954, in which we requested additional information regarding your application. If we do not hear from you in 30 days, we will assume you are no longer interested in exploration assistance, and your docket will be closed.

Yours very truly,

W H King

W. H. King

E. N. Harshman

E. N. Harshman
For A. H. Koschmann

DMEA Field Team, Region IV

JFS:mn

cc: Docket 3531
Chairman, Oper. Comm.
A.H.Koschmann
Chron.

11/22/54 gla

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
NOV 22 1954

224 New Customhouse
Denver 2, Colorado

November 16, 1954

DMEA-3531

Mr. J. Anthony Marcus
60 East 42nd Street
New York 17, N. Y.

Dear Mr. Marcus:

Your application for exploration assistance, Docket DMEA 3531, has been referred to this office by the Washington office of Defense Minerals Exploration Administration.

A review of the application does not disclose a definite geologic target. The application was not accompanied by a map showing the location of the proposed drill holes in relation to your property lines. Before we can process your application further, we will require four copies of a claim map showing the location of the proposed drill holes. Additional geologic information that will indicate the presence of a definite target is also required.

When you have furnished the above information we will be glad to further process your application.

Very truly yours,

W. H. KING

W. H. King

E. N. Kirschman
for A. H. Koschmann

DMEA Field Team, Region IV

JFS:ld

Copy to: Koschmann
Chairman, Operating Committee, DMEA

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 22 1954

224 New Customhouse
Denver 2, Colorado

November 16, 1954

Mr. J. Anthony Marcus
60 East 42nd Street
New York 17, N. Y.

Dear Mr. Marcus:

Your application for exploration assistance, Docket DMEA 3531, has been referred to this office by the Washington office of Defense Minerals Exploration Administration.

A review of the application does not disclose a definite geologic target. The application was not accompanied by a map showing the location of the proposed drill holes in relation to your property lines. Before we can process your application further, we will require four copies of a claim map showing the location of the proposed drill holes. Additional geologic information that will indicate the presence of a definite target is also required.

When you have furnished the above information we will be glad to further process your application.

Very truly yours,

W. H. KING

W. H. King

E. N. Hausbrauer
for A. H. Koschmann

DMEA Field Team, Region IV

JFS:lf

Copy to: Koschmann

Chairman, Operating Committee, DMEA

Surname 700

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

Ellis
Kilgaard
Hedges
Selfridge

Messrs. J. Anthony Marcus
and Leon C. Leventhal
60 East 42nd Street
New York, New York

NOV 3 - 1954

Re: Docket No. DMEA-3531 (Uranium)
Dewey and South La Sal Prospects
Grand and San Juan Counties
Utah

Dear Sirs:

The application for assistance in exploring your property in Grand and San Juan Counties, Utah, under the above-captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred for a field examination to the Executive Officer of Region IV at the following address:

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

The Regional Office will contact you at the earliest opportunity in regard to your project.

Sincerely yours,

C. O. Mittendorf

Administrator

EWEllis:am
10-29-54
cc to: Admr. Reading File
Docket
Code 700
DMEA Field Team, Region IV (2)

R.C.H.

Surname 700

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

Ellis Selfridge

NOV 3 - 1954

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

Re: Docket No. DMEA-3531 (Uranium)
J. Anthony Marcus and
Leon C. Leventhal
Dewey and South La Sal Prospects
Grand and San Juan Counties
Utah

Dear Mr. King:

The captioned application is referred to Region IV Field Team for a field investigation (if deemed necessary) and recommendation. A copy of the application was forwarded to you on October 15, 1954.

You will note that the application covers two widely separated areas and thus two applications should have been filed. Please be sure that each area is reported separately. If a project is indicated on either one or both, one of the projects will be given a new application number by the Washington office. Of course, if both prospects are recommended for denial, then the one application will hold.

Mr. J. Anthony Marcus was in our office October 28, and it was explained to him that the application should be supported by better evidence of mineralization. Mr. Marcus, an oil operator, thought that the reports by his geologist, Richard H. Benish, were about as complete as possible. Mr. Marcus brought out the fact that the claims were held under a purchase contract and he had to exercise his rights by November 26, next.

Enclosed are copies of memoranda from E. L. Newcomb, dated October 22, and John E. Crawford, dated October 28, 1954, Geological Survey and Bureau of Mines Uranium Commodity Committee members respectively. Also enclosed are two copies of the recording data on the two subject prospects.

R.C.L.

Kindly discuss this application with appropriate members of the Atomic Energy Commission and state their opinions in the report covering each prospect.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

EWEllis:am
10-29-54

cc to: Admr. Reading File
Operating Committee
Docket

Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5225
J. O. Hosted, Rm. 3210, GSA
Code 700

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

October 28, 1954

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket No. 3531, J. Anthony Marcus (Joseph Anthony Marcus), 60 E. 42nd St., New York 17, N. Y.

I have reviewed the application included in the subject docket and have discussed it with Joseph O. Hosted, representative of the Atomic Energy Commission.

We recommend that the application be referred to the Field Team for investigation and report, and that the Field Team be requested to discuss the application with Ernest R. Gordon, Atomic Energy Commission, Grand Junction, Colorado.

John E. Crawford

John E. Crawford

Attachment

10/25/54 gla

IN REPLY REFER TO:

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

Defense Minerals Administration
RECEIVED
OCT 25 1954

October 22, 1954

Re: DMEA-3531
J. A. Marcus & L. C. Leventhal
(Dewey & So. La Sal Prospects)
San Juan & Grand Co., Utah
$120,670 - Uranium

Memorandum

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

From: E. L. Newcomb, U. S. Geological Survey

Subject: Review of application

The applicant requests exploration assistance to drill 30 holes to an average depth of 500 feet on the Dewey and South La Sal prospects.

The Dewey prospect consists of 22 claims in Sec. 20, 21 and 22, T. 23 S. and R. 24 E. in Grand County. The South La Sal prospect consists of 18 claims in Sec. 18, T. 29 S. and R. 25 E. in San Juan County.

Two brief reports have been submitted with the application, which were prepared by R. H. Benish, a consulting geophysicist and geologist. These reports do not present any tangible evidence in support of the requested exploration assistance. It is apparent that the applicant regards this project as strictly "wild catting." One or more holes will be drilled and then a radioactivity probe analysis will be run to determine whether further drilling is warranted.

On the basis of the application material this project appears to be too much of a "long shot" proposition for DMEA assistance.

We do not have any available information on the applicant's properties; however, it is possible that the Survey's Grand Junction office has pertinent data on the proposed project areas. If a field referral is made, it would seem best to leave the matter of a field examination to the discretion of the Field Team.

E. L. Newcomb

E. L. Newcomb

IN REPLY REFER TO:

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

October 22, 1954

Re: DMEA-3531
J. A. Marcus & L. C. Leventhal
(Dewey & So. La Sal Prospects)
San Juan & Grand Co., Utah
$120,000 - Uranium

Memorandum

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

From: E. L. Newcomb, U. S. Geological Survey

Subject: Review of application

The applicant requests exploration assistance to drill 30 holes to an average depth of 300 feet on the Dewey and South La Sal prospects.

The Dewey prospect consists of 22 claims in Sec. 20, 21 and 22, T. 23 S. and R. 24 E. in Grand County. The South La Sal prospect consists of 18 claims in Sec. 18, T. 29 S. and R. 23 E. in San Juan County.

Two brief reports have been submitted with the application, which were prepared by R. E. Danish, a consulting geophysicist and geologist. These reports do not present any tangible evidence in support of the requested exploration assistance. It is apparent that the applicant regards this project as strictly "wild cutting." One or more holes will be drilled and then a radioactivity probe analysis will be run to determine whether further drilling is warranted.

On the basis of the application material this project appears to be too much of a "long shot" proposition for DMEA assistance.

We do not have any available information on the applicant's properties; however, it is possible that the Survey's Grand Junction office has pertinent data on the proposed project areas. If a field referral is made, it would seem best to leave the matter of a field examination to the discretion of the Field Team.

ELNewcomb:hlm
G-10/22/54
CC: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641

E. L. Newcomb

October 29, 1954

Cap
3531

To: Robert E. Adams

From: Wingfield N. Chamberlain

"Cap" Ellis raised the question of the J. Anthony Marcus and Leon C. Leventhal application, DMEA-3531. The subject application refers to two parcels of graund separated from each other by six or seven miles. There isn't time to send the application back to the applicant in order to get him to resubmit a second application relating to one of the properties. "Cap" wanted to know if we could, at this point, divide the single application in half calling the first part of it DMEA-3531A and the second part DMEA-3531B. I told him that we should avoid this solution at all costs in view of the difficulties experienced with similar arrangements made in DMA days. I suggested that after field examination if both properties prove sufficiently promising to warrant the drifting of ~~the~~ contracts that, at that point, a second docket number be assigned to one or the other of the properties which would then put the applications in accord with the writing of two separate contracts.

It goes without saying that both properties could not satisfactorily be covered by one contract. Just to set your mind at rest on the whole thing, however, "Cap" told me that he doubts very much if either property will merit an exploration contract.

9 cover

10/26/54 glc

J. ANTHONY MARCUS
OIL OPERATOR
60 EAST 42ND STREET
NEW YORK 17, N. Y.
MURRAY HILL 7-7993

OCT 25 1954

Oct. 22, 1954.

Subject: DMEA--3531, Re: Exploration Assistance, Dewey & LaSal Prospects.

Defense Minerals Exploration Administration,

U. S. Department of the Interior,

Washington, 25, D. C.

Gentlemen:

With further reference to our communication of October 14, 1954, submitting our application for our project in Utah, as per above-mentioned number, I now take pleasure in transmitting herewith the information giving book and page numbers where the claims in Grand and San Juan counties of Utah are recorded.

Hoping that this may be of help to you in processing our application, I am,

Sincerely yours,

J. Anthony Marcus

Oct. 28-54

If this application is referred to field it will be necessary to make a copy of the attach contract & send it with the formal referral.

HOUSTON DALLAS SAN FRANCISCO DENVER

Applicant says they have until Nov. 26 to make proof

October 18, 1954

RECEIVED
OCT 25 1954

RECORDING DATA

on

Claims Under Contract to
J. A. Marcus and Leon L. Leventhal

DEWEY PROSPECT

Claims 13 through 20
recorded in Book 15, Pages 221 to 240
Grand County, Utah, - filed December 14, 1953

Claims 39 through 52
recorded in Book 16, Pages 346 to 367
Grand County, Utah - filed January 2, 1954

South La Sal group

Claims 88,89, Book 83, page 177; claims 90, 91, book 83, page 178; claims 92, 93, book 83, page 179; claims 94, 95; book 83, page 180; claim 96, book 83, page 181; claim 98, book 83, page 182; claim 99, book 83, page 182; claims 100, 101, book 83, page 183; claims 102, 103, book 83, page 184; claims 104, 105, book 83, page 185; claim 106, book 83, page 186, all filed April 20, 1954, San Juan County, Utah.

October 15, 1954
Subject: DMEA-3531
Re: Exploration Assistance
Dewey & LaSal Prospects

Messrs. J. Anthony Marcus
& Leon C. Leventhal
60 E. 42nd St.
New York 17, N. Y.

Gentlemen:

The receipt of your application dated October 14, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3531 and referred to the Rare and Miscellaneous Metals Division.

Kindly refer to in any future correspondence relating to your application.

Sincerely yours,

J. ANTHONY MARCUS
OIL OPERATOR
60 EAST 42ND STREET
NEW YORK 17, N. Y.
MURRAY HILL 7-7993

Defense Minerals Administration
OCT 14 1954

Oct. 12, 1954.

Hon. Frank E. Johnson, Deputy Administrator,
Defense Minerals Exploration Administration,
U. S. Department of the Interior,
Washington, D. C.

Dear Mr. Johnson:

With further reference to our previous correspondence, I take pleasure in submitting herewith our application form for aid in our exploration project for URANIUM on the 40 claims we hold in the Grand and San Juan Counties, state of Utah.

We hope the information will suffice to enable you to process the application promptly.

With the application we are submitting two reports from our geologist, Mr. Richard H. Benish of Denver, Colorado, dated July 28, 1954 and Oct. 6, 1954. We had hoped to file the inclosed application in August, but owing to Mr. Benish being away in the field on some important work, the supplementary report has only now reached us, and we wanted to let you have his very latest findings.

We are rather pressed for time in getting started, and would be most grateful to you if you would be good enough to give our application your immediate attention.

Sincerely yours,

Enclosure: 4 copies of
Application and documents.

BUY RADIUM LAND TO BREAK MONOPOLY

J. A. Marcus and Associate Get 200,00-Acre Tract in West Africa for New Supply.

SHARP PRICE CUT PROMISED

Former Commerce Expert Says Cost of Production Is $8,000 a Gram but $70,000 Is Charged Now.

An effort to break the Belgian radium monopoly held by the Union Miniere du Haut Katanga, against which many complaints have been made, is now under way in this country, it was learned yesterday through J. Anthony Marcus, formerly an expert for the United States Department of Commerce. He and an associate have purchased 200,000 acres of land in what was formerly German West Africa containing quantities of highly mineralized pitchblende, from which radium can be extracted.

Mr. Marcus, who has an office in the Knickerbocker Building, returned from South Africa a few days ago and is now organizing a company to finance the radium enterprise. He said yesterday that it was his intention to sell the radium, the world supply of which is very limited, at a price slightly above cost and to devote the new supplies to the cause of science and cancer relief.

Puts Production Cost at $8,000.

Mr. Marcus said that the retail price of radium set by the Belgian monopoly is $70,000 a gram, whereas the cost of production should not be much above $8,000.

"The situation is further aggravated by the restriction of production imposed by the Belgian monopoly," Mr. Marcus said. "There is no excuse either for the high price of radium or the lack of sufficient supplies. It is my intention to help relieve the situation, which can be done by the exploitation of South African pitchblende. This has been made possible by a recent discovery of German chemists, who have contrived to extract certain by-products from pitchblende the extraction of which makes it commercially possible to obtain also the radium from the same mineral."

In assailing the Belgian radium monopoly Mr. Marcus echoed the views recently expressed by Dr. R. B. Moore, Dean of Science at Purdue University, in Industrial and Engineering Chemistry, journal of the American Chemical Society. According to Dr. Moore, the world supply of radium is produced in Belgium by the Union Miniere du Haut Katanga from rich uranimum deposits in the Belgian Congo, the discovery and development of which has made it impossible for American plants to compete. Dr. Moore declared that the radium, which is retailed by the Belgians at $70,000 a gram and sold in large quantities at from $50,000 to $60,000 a gram, can actually be produced at $10,000 a gram, exclusive of mining costs and overhead.

Criticizes High Prices.

"There is no excuse for the Belgians exacting their high prices for this precious element, so essential in the treatment of cancer," Mr. Marcus said. "The Belgian Congo monopoly of radium has created an intolerable situation. Thanks to the recent discovery made by German chemists it has become commercially possible to utilize pitchblende for the extraction of radium. I am assured that the proposition is entirely economical. It is impossible as yet to tell how much radium can actually be produced from pitchblende, but that it can be produced and produced profitably seems certain. I hope to raise the necessary capital to make such production possible and we will offer the radium for scientific and cancer treatment purposes at prices covering cost and a small profit."

$10,000 FOR EQUITY FIGHT.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
OCT 14 1954

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. 3531
Metal or Mineral Uranium
Date Received
Estimated Cost $120,670
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: J. Anthony Marcus (Joseph Anthony Marcus)
60 E. 42nd St., New York 17, N.Y.
Partner: Leon C. Leventhal, Time & Life Bldg.,
15 West 48th St., New York 20, N.Y.

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract See contract attached—EXHIBIT No.1

(*b*) State any mine name by which the property is known. Dewey Prospect and So.La Sal Prospect

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

(*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. Copy of contract attached, marked EXHIBIT No. 2

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. See : EXHIBIT No. 3

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. None

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. None

(*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: EXHIBIT No. 4

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. See: EXHIBIT No. 5

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

See: EXHIBIT No. 5—A

5. *The exploration project.*—(*a*) State the mineral or minerals for which you [illegible]n to explore URANIUM and such other minerals as may be found on the property

(*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 attached EXHIBIT No. 6

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract. See attached EXHIBIT No. 6

(*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: Exhibit No. 6

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: See. EXH.6

(*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.). See: EXHIBIT No. 6

(*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. See: EXHIBIT No. 6

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. See: EXHIBIT No. 6

(*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. See : EXHIBIT No. 6

(*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. See: EXHIBIT No. 6

(*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. See EXH. 6

(*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. SEE: EXHIBIT No. 6

(*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. SEE: EXHIBIT No. 6

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

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

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

Explain in detail on acompanying paper. SEE: EXHIBIT 6

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 October 14, 1954, 195

(Applicant)

By Leon C. Greenthal

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

Applicant: T. Anthony Marcus, 60 E. 42 St., New York 17, N. Y.

EXHIBIT No. 1
****

3. Applicant's property rights:

Claims secured by applicant under contract

Grand County, Utah, Township 23 South, Range 24 East

DEWEY PROSPECT

22 claims described as follows:

Claims 16, 17, 18, 19, 20, ...In Section 20

" 13, 15, 16 In Section 20

Claims 39, 40, 41, 42, 43, 44
45, 46, 47, 48..... .....In Section 21

" 49, 50, 51, 52..... " 22

SOUTH LA SALE PROSPECT

18 Claims in San Juan County, Utah, Township 29South, Range 25 East.

Claims 88, 89, 90, 91, 92 , 93, 95, 94, 96, 98, 99, 100,

101, ~~100~~ 102, 103, 104, 105, 106 in Section 18

Note: The above unorganized and unpatented mining claims have been located and filed under Section 2324 of the Revised Statutes of the U. S. The mining claims herein listed were filed under the name of CHASE by number in Grand County, Utah, as indicated above.

EXHIBIT No. 2
****

URANIUM INDUSTRIAL ASSOCIATES

45 EAST PUTNAM AVENUE
GREENWICH, CONNECTICUT
Telephone GReenwich 8-1700

August 31, 1954

Messrs. J. A. Marcus and Leon C. Leventhal
9 Rockefeller Plaza
New York, N. Y.

Re: 40 Utah Uranium Claims

Dear Sirs:

Referring to the offer embodied in our letters to you of July 15, 1954 and July 27, 1954, we acknowledge receipt of Five Thousand Dollars ($5,000) ~~principal amount of United States Government Bonds, in negotiable form~~, and the deposit in escrow thereof, as provided in said offer, as a good faith deposit.

We agree that you shall have ninety (90) days from and after the date hereof to pay the balance of the Fifty Thousand Dollars ($50,000) purchase price of the claims and, if such balance is not paid within such ninety (90) day period, our offer and agreement shall terminate without further liability of either party hereto to the other, except that you shall be entitled to the return of the escrow deposit.

If you desire an extension of our agreement beyond such ninety (90) day period, you may obtain it until February 28, 1955 upon the condition that the escrow deposit shall be payable and deliverable to us in all events, whether you buy the claims or not. If you have not, by February 28, 1955, paid to us or otherwise provided us with the Forty-Five Thousand Dollars ($45,000) balance, this agreement shall thereupon terminate without further liability of either party hereto to the other; but we shall be entitled to retain the entire Five Thousand Dollars ($5,000) escrow deposit.

We represent and warrant to you that the owners of the claims, as filed under Section 2324 of the Revised Statutes of the United States have granted to us the full right and power to convey these claims to you pursuant to the offer to and agreement with you. We call to your attention that Claim 15 in Section 20 in Grand County, Utah, Township 23 south, range 24 east, referred to twice in Schedule A to our letter of July 15, 1954 should in the first instance be Claim 14 in Section 20 and that the reference to Section 22 in said County, Township and range should be Section 21; and said Schedule A is hereby amended accordingly.

Except as herein changed, the offer and agreement embodied in our letters of July 15, 1954 and July 27, 1954 are hereby confirmed in their entirety.

Very truly yours,
URANIUM INDUSTRIAL ASSOCIATES, INC.
By [signature]
President

ACCEPTED:
[signature]
[signature]

Applicant: J. Anthony Marcus, 60 E. 42 St., New York 17,N.Y

EXHIBIT No. 3
****

Answer to your question (f) of No. 3 in the application will be submitted as soon as it arrives from the Denver office,namely--"book and page numbers of each recorded location notice."

APPLICANT: J. Anthony Marcus, 60 E. 42 St., New York 17, N. Y.

EXHIBIT No. 5
****

Reply to Question 4--D:

Nearest town to Dewey prospect is Cisco, Utah, about 12 miles; U.S. Highway #50; Main Line of D. & R. G. Accessible by railroad. Good gravel road; very little grade. Accessible at all times of the year.

La Sal Area: Approximately 2 miles from village of La Sal; 35 miles southeast of Moab, Utah; approximately 2 miles from State Highway, Utah #46. Gravel road, and trails from gravel road. Very accessible, and down hill grade to Moab. La Sal being about 6500 feet altitude, Moab 4000 feet.

Transportation by automobile or truck.

Dewey area about 12 miles from ore receiving station.

La Sal area about 37 miles from ore receiving station.

Residence points: Cisco, about 12 miles, nearest to Dewey Prospect;
Moab, about 35 miles, nearest to La Sal Prospect.

****

EXHIBIT No. 5--A
****

Replies to Question 4--E:

Labor conditions good and plentiful. Common labor approximately $1.75 per hour. Materials available. Ordinary supplies and equipment available.

WATER: Dewey area near Colorado river. La Sal area well water and ditch water at times. Water for domestic and camp purposes available and near. Drilling water plentiful

Applicant: J.Anthony Marcus, 60 E. 42 St.,New York 17, N. Y. EXHIBIT No.6

Replies to:

5. (a) Uranium and such other strategic minerals as may be found on the property.

(b) See attached reports by geologist Richard H.Benish of July 28, 1954, and supplement of Oct. 6, 1954, respectively.

(c) The work will start within 60-90 days after signing of exploration project contract. Completion will be contingent upon results of exploration work.

(d) Applicant and associates have had many years of experience in mining operations, prospecting and other phases of the business.

6. ESTIMATE OF COSTS: On advice of Prof. Clyde M. Shoemaker, formerly Chief Engineer of Johns-Manville Corp., we plan to drill a minimum of 30 holes and will engage a competent, recognized contractor for the purpose, with the advice and approval of the Atomic Energy Commission office at Grand Junction, Col. The cost therefore is estimated as follows:

(1)	Thirty (30) holes, average 500 feet, approximately $6 per foot, totalling for the entire operation.....	$90,000
(2)	Two (2) Surveyors, $1000 per month each, including expenses, 3 months—	6,000
(3)	Supervising engineer for 3 months, remuneration & expenses.	5,400
(4)	Prof. Clyde M.Shoemaker, consulting engineer (See: Who's Who in America)..... 3 months....	1,500
(5)	Technical equipment and supplies, estimated.....	2,000
(6)	Temporary camp equipment, estimated cost.....	3,000
(7)	Expenses for J.Anthony Marcus to organize and supervise the entire operation, $20 per day, 90 days.....	1,800
	Total.....	$109,700
	Allowance for contingencies, 10%.....	10,970
	Estimated grand total for the ~~the~~ entire project.....	$120,670

(e) Rehabilitation and repairs: None. To be borne by contractor.

(f) New Buildings, Improvements, Installations: None.

(g) Miscellaneous: To be taken care of from the contingencies fund, as provided above. With your approval, we should like to submit an itemized statement later, after a contractor, the directing engineer and the two surveyors have been engaged.

---

7 (question) We will provide the funds for the operation in accordance with your usual procedure. Your instructions will be scrupulously followed, and the counsel of the experienced AEC men will be greatly appreciated.

Applicant: J. Anthony Ma[illegible]s, 60 E. 42 St.,
New York 17, N.Y.

Applicant: J. Anthony M[illegible]cus, 60 E. 42 St.,
New York 17, N.Y.

DEWEY PROSPECT

Grand County, Utah

FOREWORD

The purpose of this report is to briefly outline the geologic conditions existing in the Dewey Prospect and to evaluate these conditions with respect to further exploration, and possible development, for uranium bearing ores.

Inasmuch as the Dewey Prospect is located within the bounds of the Colorado Plateau, it should be mentioned that this physiographic province is today, and has long been, the principal source of domestic production. It is here that our greatest domestic reserves are contained and the most prolific discoveries have been made in recent years of intense exploration. In realizing that exploration has been heavily concentrated here, it also appears that, until another area is found having comparable possibilities, the Colorado Plateau will continue to hold the greatest opportunities for future discoveries of uranium reserves.

Applicant: J. Anthony M[illegible]us, 60 E. 42 St.,
New York 17, N.Y.

DEWEY PROSPECT

The Dewey Prospect is comprised of 52 claims, lease blocks #5895 and #5730, and is located in Sections 16, 17, 20, and 21, T23S, R24E, Grand County, Utah, immediately south of that point where the Dolores River empties into the Colorado River. It is also approximately fifteen miles south of Cisco, Utah. Cisco is situated on U. S. Highways 6 and 50 and on the main line of the Denver & Rio Grande Western Railroad Company; an ore loading point, maintained by the A. E. C., is also located here. The prospect is accessible by good gravel roads on reasonable grades. Although all claims have been measured and staked from several known points, it is suggested that, before commencing further exploration and development, these claims be officially surveyed by a qualified engineer.

In general, the area is quite rugged and dissected by several canyons. Surface elevations range from approximately 4500 to 5500 feet above sea level. The geologic sequence of events, as shown by outcrops, include the greater portion of the Jurassic System.

The majority of the eastern half of the project (Sections 16 & 21) in comprised of a high mesa with the escarpment, or cliff face, being approximately 400 feet in height. Capping this mesa is 70 to 80 feet of the Salt Wash member of the Morrison formation (Upper Jurassic), and which includes two and three benches of the more resistant sandstone. These appear to vary from a reddish-buff colored shale to a buff-gray sandstone. It is this Salt Wash member which has been the principal uranium producer in the Morrison.

Lying below the Morrison is the Entrada member of the San Rafael Group of Upper Jurassic. The Entrada is known locally as the "slick rim" and is a prominent, smooth-weathered sandstone varying in color from a gray-buff to a reddish-buff. Aeolian-type cross-bedding is also evident in this formation. The thickness on the above mentioned cliff-face approaches several hundred feet. This formation may contain uranium and vanadium in the form of Roscoelite in some areas; however, no deposits of major significance have, to date, been found in commercial quantities in this immediate geographic sector of the Colorado Plateau. A distinct contact between the Entrada and Carmel formation can be observed along the base of the mesa. The Carmel is approximately 20 feet thick and consists of a reddish-brown, earthy mudstone.

Below the Carmel and present through the western one-half, and extreme northern and southern portions of the prospect, the Navajo Sandstone (Glen Canyon Group-Jurassic) comprises the surface formation. This is a fairly massive, intricately cross-bedded section and ranges in color from a buff-brown to gray.

A possible contact between the Navajo and the Kayenta formation (mid-Glen Canyon) was observed in a canyon located in the southwestern part of Section 20. Although the outcropping in this canyon was poorly defined there did exist a sharp contrast in coloring and cross-bedding. The Kayenta formation of sandstone and shale appeared to be more gray with a slight lavender tint and, in general, weathered to a darker color. Approximately the lower 60 feet of the canyon was exposed and consequently no estimate of its total thickness could be made.

Surface measurements, plus geologic information on the base of the Wingate Sandstone (basal Jurassic) indicate a dip of approximately five degrees to the N 20°E. This is also confirmed by surface elevations to the north-northeast being equal to those on the above mentioned mesa, yet, to the north-northeast there exists a greater section of Morrison outcrop. Several mines are in operation to the north and east, and are adjacent to the Dowey Prospect. These mining operations are being conducted in the Salt Wash member of the Morrison and in all appearances are identical to the Salt Wash which is present at the top of the mesa in Sections 16 and 21.

Although no Morrison is present in the western half of the prospect, it is my belief this sector also merits additional consideration. In this respect, the encountering of exposed Kayenta has heretofore been mentioned. Below the Kayenta is an undetermined thickness of Wingate which merges into the Chinle formation of Upper Triassic.

Immediately below the Chinle are the Shinarump conglomerates, and the Moenkopi shales (Triassic) plus the Cutler formation, the latter being of the Permian System. As the thickness of these formations, from basal Navajo through the Chinle, is not fully determinable, it is recommended that further detailed geologic work and exploratory drilling be utilized for a more accurate evaluation of these properties.

It is difficult to ascertain, with any degree of accuracy, the ore bodies present on most of the Colorado Plateau without drilling. Although a study of the geologic structure is essential, it is also a prime requisite that exploratory drilling be conducted.

With the presence of the Salt Wash member of the Morrison already established in the Dewey Prospect, it is therefore recommended that further exploration be conducted by means of conventional drilling, followed by a radioactive probe analysis. Upon discovery of mineralization, a core drilling program should ensue for accurate evaluation and measurements of the areal extent of the uranium ore-bearing bodies.

Respectfully submitted,

Richard H. Benish
Geologist, PhB
University of Wisconsin, 1940

Date

Richard H. Benish, age 39, married, one daughter, age 9;
1985 South Fillmore, Denver 10, Colorado

Education: Bachelor of Philosophy degree in Geology from University of Wisconsin - 1940

Employment:

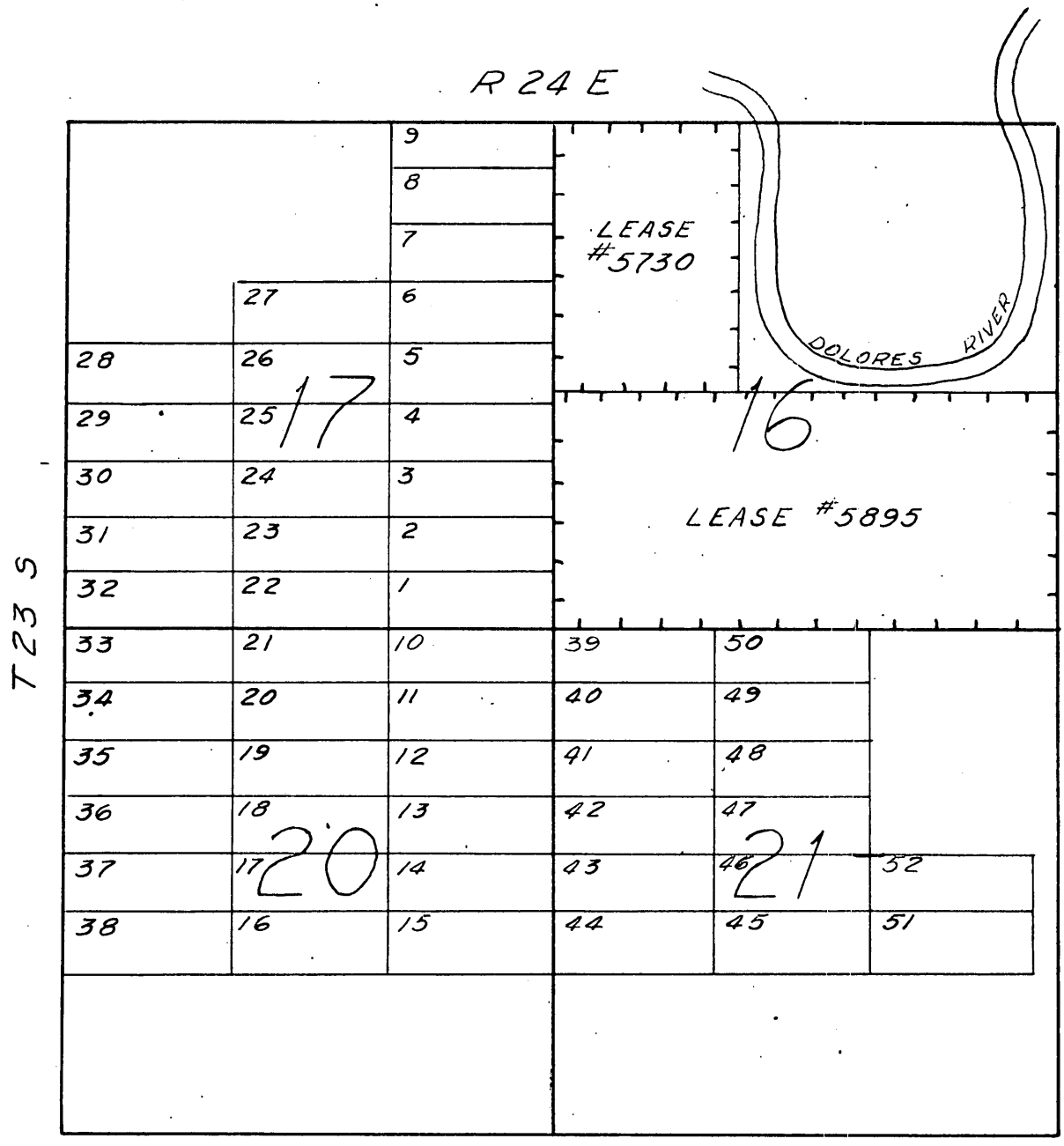
March, 1940 through September, 1942
Petty Geophysical Engineering Company
San Antonio, Texas
Duties: Geologist, seismologist, surveyor, etc.
Type of work: Oil exploration in Texas, Louisiana, Mississippi, West Virginia and Pennsylvania

February, 1946 to October, 1951
Rogers-Ray, Inc., Houston, Texas
Duties: Geologist-geophysicist
Type of work: Supervisor of field seismic parties doing oil exploration in Texas, North Dakota, Alberta and Saskatchewan

October, 1951 to July 1, 1954
Rogers Geophysical Company, Houston, Texas
Duties: Geologist-geophysicist
Type of work: Supervisor and manager of Rocky Mountain Division; seismic parties doing oil exploration and investigations of uranium exploration; Colorado, Utah, Wyoming, and Montana
Past four and one-half years in Rocky Mt. Area and Canada; coordinating geology with geophysics; contact work with oil company officials; arranging of both seismic and drilling contracts.

Military Service: Naval Officer (Lieut.) in charge of communications and navigation aboard a U. S. vessel in the Pacific Ocean Areas.

Activities:
American Association of Petroleum Geologists
Denver Geophysical Society
Houston Geological Society (1947-50)
American Geophysical Union (1948-50)
Wisconsin Alumni Association
A.F.&A.M. Lodge #1292, Houston, Texas



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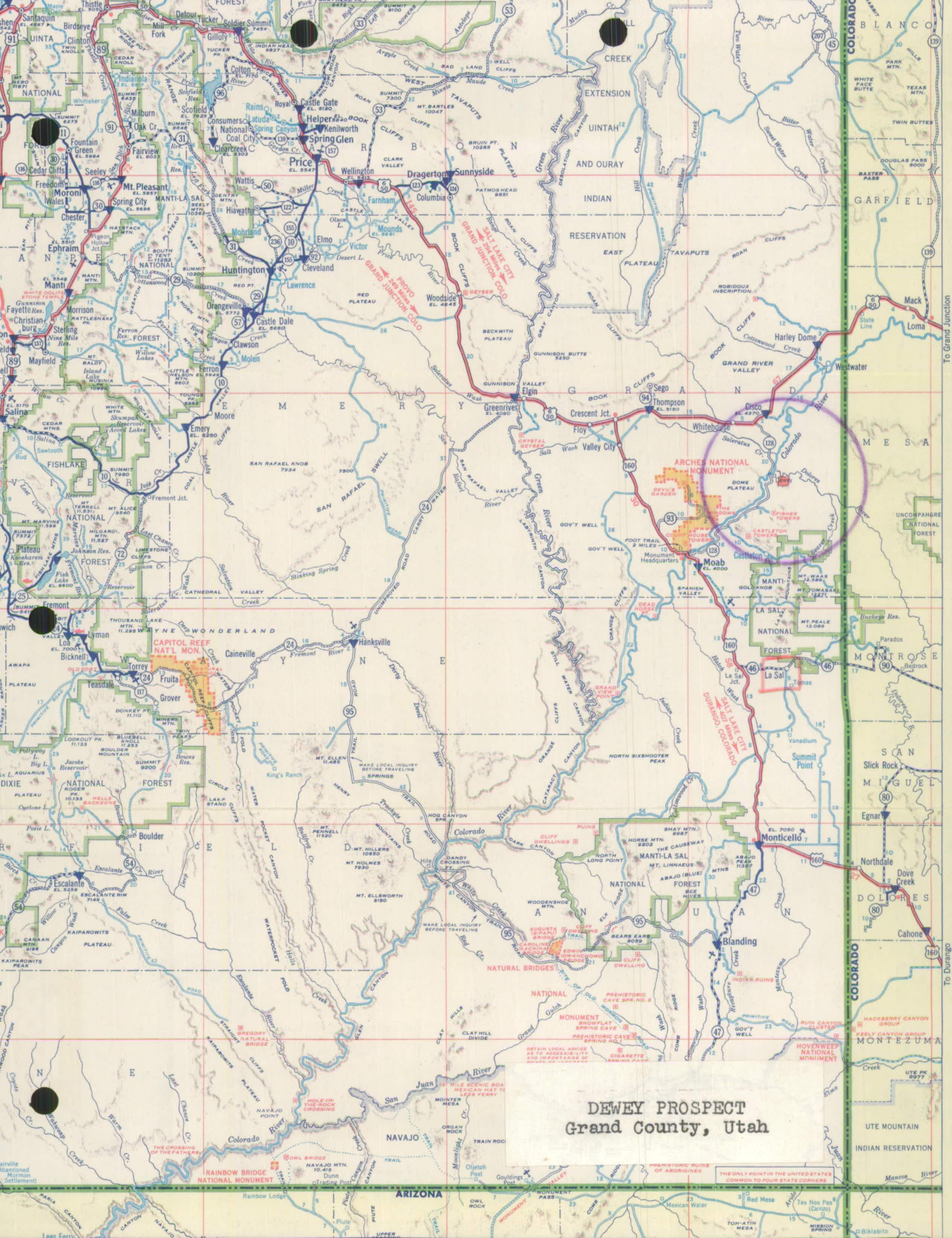
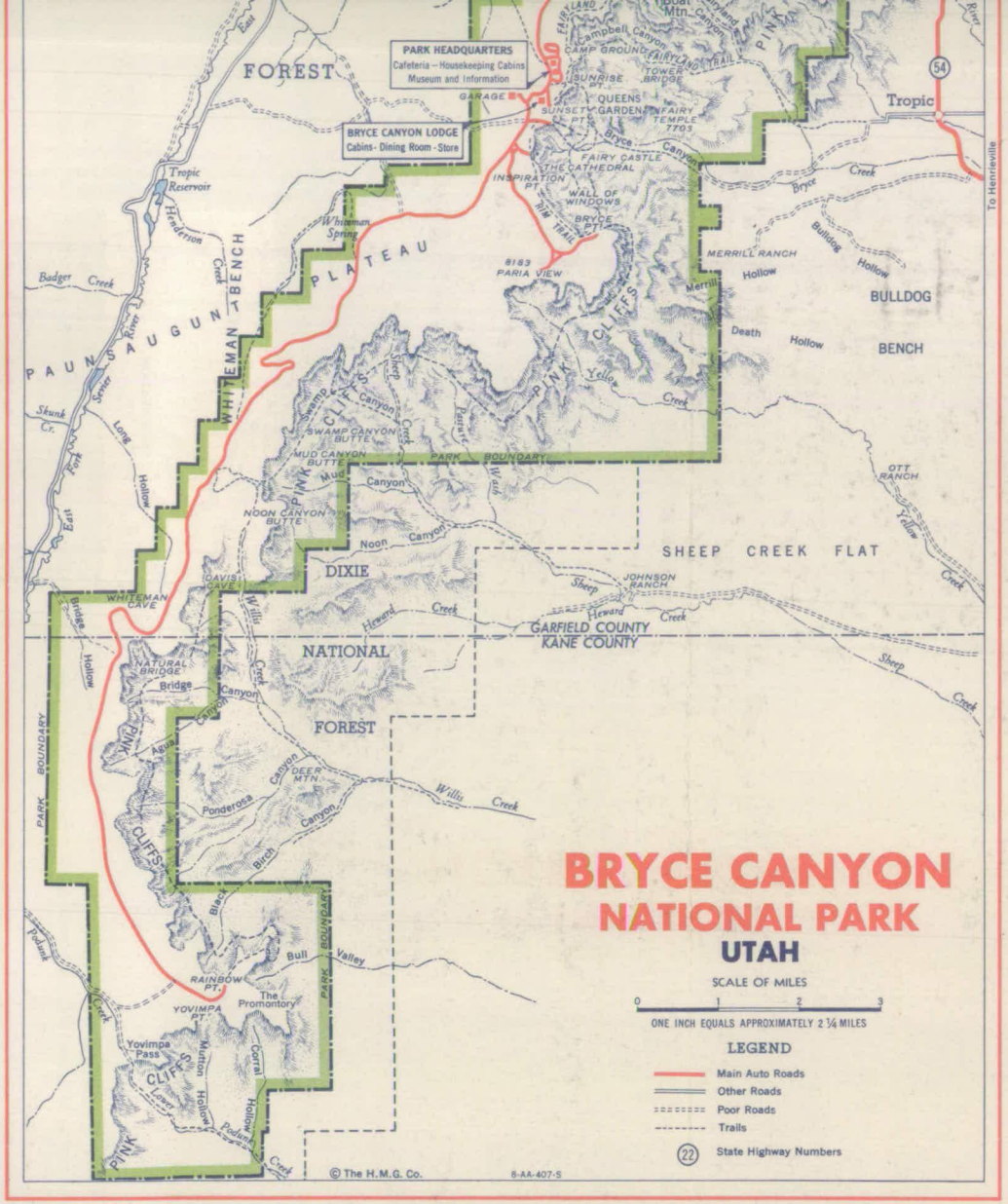
DEWEY PROSPECT
GRAND COUNTY, UTAH


DEWEY PROSPECT
Grand County, Utah
Price
Castle Gate
Helper
Kenilworth
Spring Glen
Wellington
Dragerton
Sunnyside
Columbia
Farnham
Mounds
Victor
Elmo
Cleveland
Huntington
Lawrence
Castle Dale
Orangeville
Clawson
Molen
Ferron
Emery
Moore
Mt. Pleasant
Spring City
Manti
Ephraim
Fairview
Fountain Green
Moroni
Mayfield
Salina
Fremont
Loa
Bicknell
Torrey
Teasdale
Fruita
Grover
Boulder
Escalante
Hanksville
Caineville
Woodside
Elgin
Greenriver
Crescent Jct.
Floy
Valley City
Sego
Thompson
Whitehouse
Cisco
Harley Dome
Westwater
Mack
Loma
Moab
Castleton
Monticello
Blanding
Bluff
Dove Creek
Cahone
Egnar
Slick Rock
Summit Point
Vanadium
La Sal
Paradox
Bedrock
Dewey
ARCHES NATIONAL MONUMENT
CAPITOL REEF NAT'L MON.
NATURAL BRIDGES NATIONAL MONUMENT
RAINBOW BRIDGE NATIONAL MONUMENT
HOVENWEEP NATIONAL MONUMENT
UTE MOUNTAIN INDIAN RESERVATION
THE ONLY POINT IN THE UNITED STATES COMMON TO FOUR STATE CORNERS
ARIZONA
COLORADO
To Grand Junction
To Durango


BRYCE CANYON
NATIONAL PARK
UTAH
SCALE OF MILES
0 1 2 3
ONE INCH EQUALS APPROXIMATELY 2 ¼ MILES
LEGEND
Main Auto Roads
Other Roads
Poor Roads
Trails
22 State Highway Numbers
PARK HEADQUARTERS
Cafeteria – Housekeeping Cabins
Museum and Information
BRYCE CANYON LODGE
Cabins - Dining Room - Store
GARAGE
Tropic
Tropic Reservoir
To Henrieville
FOREST
PAUNSAUGUNT PLATEAU
WHITEMAN BENCH
PINK CLIFFS
BULDOG BENCH
SHEEP CREEK FLAT
DIXIE
NATIONAL
FOREST
GARFIELD COUNTY
KANE COUNTY
PARK BOUNDARY
WHITEMAN CAVE
NATURAL BRIDGE
RAINBOW PT.
YOVIMPA PT.
Yovimpa Pass
The Promontory
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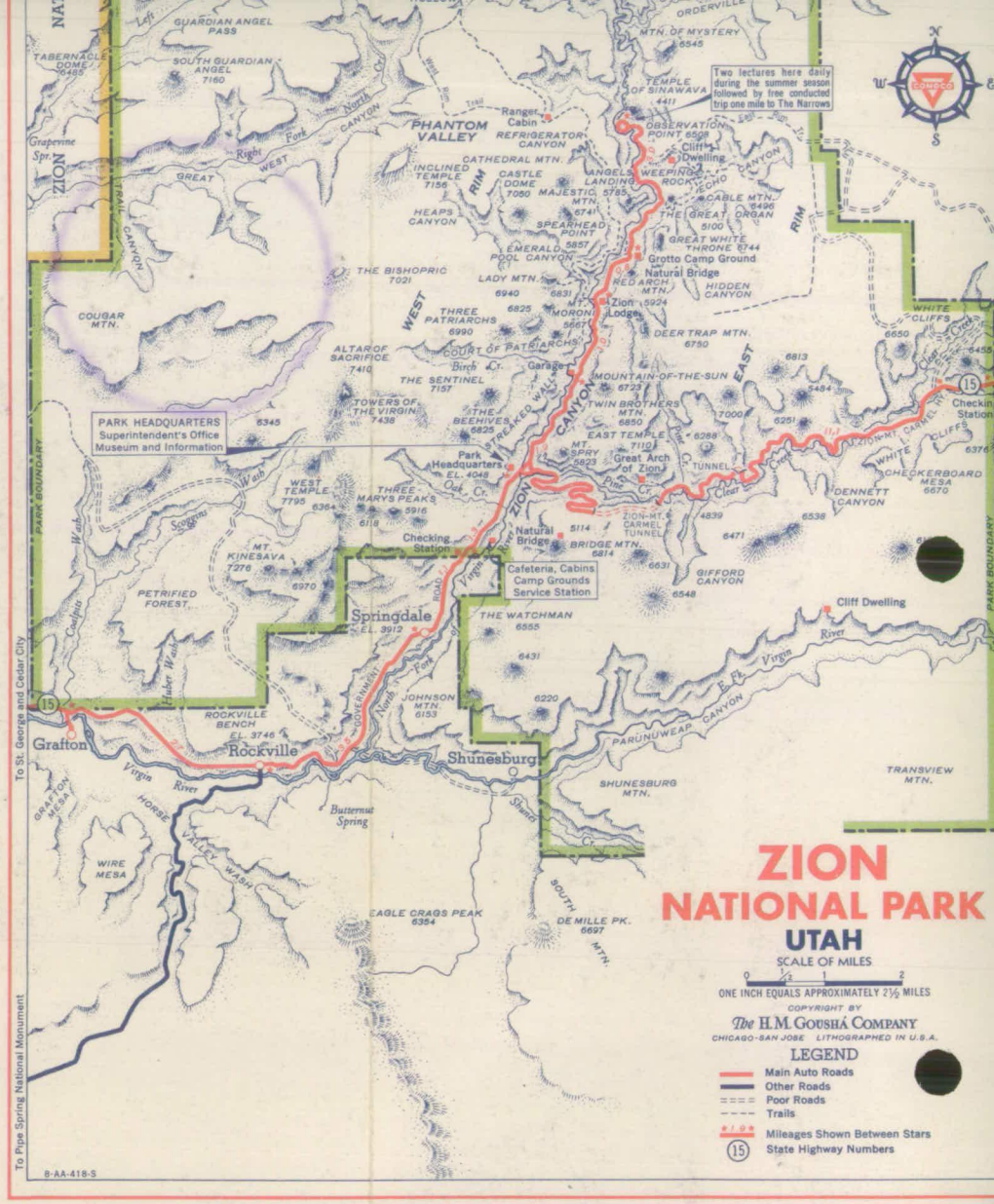
ZION
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UTAH
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ONE INCH EQUALS APPROXIMATELY 2½ MILES
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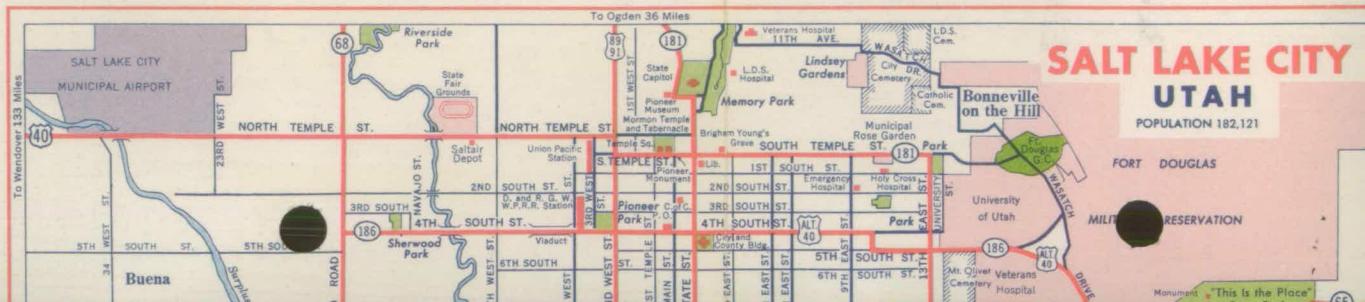
CHICAGO-SAN JOSE LITHOGRAPHED IN U.S.A.
LEGEND
Main Auto Roads
Other Roads
Poor Roads
Trails
Mileages Shown Between Stars
15 State Highway Numbers
Two lectures here daily during the summer season followed by free conducted trip one mile to The Narrows
PARK HEADQUARTERS
Superintendent's Office
Museum and Information
Cafeteria, Cabins
Camp Grounds
Service Station
Checking Station
Park Headquarters
Natural Bridge
Cliff Dwelling
Grotto Camp Ground
Zion Lodge
Great Arch of Zion
Springdale
Rockville
Shunesburg
Grafton
PHANTOM VALLEY
WEST RIM
EAST RIM
ZION CANYON
To St. George and Cedar City
To Pipe Spring National Monument
8-AA-418-S

CONOCO


SALT LAKE CITY
UTAH
POPULATION 182,121
To Ogden 36 Miles
To Wendover 133 Miles
SALT LAKE CITY MUNICIPAL AIRPORT
NORTH TEMPLE ST.
SOUTH TEMPLE ST.
1ST SOUTH ST.
2ND SOUTH ST.
3RD SOUTH
4TH SOUTH ST.
5TH SOUTH ST.
6TH SOUTH
Riverside Park
State Fair Grounds
Saltair Depot
Sherwood Park
Pioneer Park
Memory Park
Lindsey Gardens
Bonneville on the Hill
FORT DOUGLAS
University of Utah
Veterans Hospital
Buena

DEWEY PROSPECT

(Supplement)

Grand County, Utah

DEWEY PROSPECT
(Supplement)

This supplement of the original Dewey Prospect report pertains to Claims No. 13 through 20 in Section 20, and 39 through 52 in Section 21, T23S, R24E of the Salt Lake Base Meridian, Grand County, Utah.

The Salt Wash sandstone member of the Morrison formation, which is the principal carnotite producing formation in the Colorado Plateau, appears on the mesa top in the eastern portion of Sections 16 and 21. Although the areal extent appears to be of minor magnitude, actual acreage unknown to the writer, there is a thickness ranging from 50 to 70 feet. As mentioned in the original report on the Dewey Prospect, these claims should be officially surveyed by a registered engineer, after which a more accurate percentage of Salt Wash can be determined. According to hearsay, and from a fairly reliable source, "a mineralized outcrop is present in this sector"; however, as the writer did not personally investigate this mesa-top, he cannot confirm this statement.

A majority of the above mentioned claims show a surface outcropping of the Navajo sandstone formation of the upper Glen Canyon Group of Jurassic Age. Underlying the Navajo is the Kayenta formation; an exposure is believed to be present in a ravine in the southern part of Section 20.

Recent studies by geologic societies now place the massive Wingate sandstone, which underlies the Kayenta, in the Upper Triassic. No outcroppings of this formation exist in the Dewey Prospect. The geologic sequence of events includes the Chinle formation under the Wingate, thence a possible Shinarump, with the Moenkopi shales being the basal formation of Triassic Age.

In the Richardson Amphitheater, ten miles southwest of these claims, there are exposures on the cliff-face of the Moenkopi through the Wingate, with minor sections of Kayenta and possibly Navajo on the rim. As the formations dip to the northeast in this vicinity, a projection of these beds, with their respective thicknesses, are expected to be identical in the Dewey area. Estimates of the thickness of these stratigraphic units which would have to be penetrated in drilling are: Navajo formation, 200 feet; Kayenta formation, 100 feet; Wingate formation, 300 feet; Chinle formation, 250-300 feet; Shinarump formation (if present), 20 feet; a total of approximately 900 feet. The encountering of mineralization in the lower portions of the Chinle is feasible. Differences of opinion exist among geologists in that a conglomeratic sandstone near the base of the Chinle has been identified as the Shinarump formation and, contrariwise, as a basal member of the Chinle called the "Moss Back". Irregardless of identity,

or nomenclature, high grade ore bodies have, on occasions, been discovered at this level in mid-Triassic.

In summary, the area is located in a district that has uranium production from the Salt Wash; these mines are east and northeast of the Dewey Prospect. Due to the unknown quantity of the Salt Wash sandstones and shales within the confines of these claims, it is suggested that a dual exploratory program be conducted upon completion of the aforementioned official surveying. This should include:

A. If sufficient acres of Salt Wash are present, further evaluate these properties by drilling;

B. Drill one or more holes through the Chinle (estimated depth, 800 to 900 feet). If accessible, place drilling site in canyon bottom to eliminate drilling of extra Navajo footage.

It is further recommended that a constant check of the drill cuttings by geiger counter of the lower Chinle be made together with a radioactive probe analysis of the hole. If favorable ore bodies at these depths are discovered, a carefully planned drilling program should follow, with cores obtained from the mineralized zone to more accurately evaluate these properties.

Respectfully submitted,

Richard H. Benish

Richard H. Benish
Geologist

Date Oct. 6, 1954

SOUTH LA SAL PROSPECT

San Juan County, Utah

FOREWORD

The purpose of this report is to briefly outline the geologic conditions existing in the South La Sal Prospect and to evaluate these conditions with respect to further exploration, and possible development, for uranium bearing ores.

Inasmuch as the South La Sal Prospect is located within the bounds of the Colorado Plateau, it should be mentioned that this physiographic province is today, and has long been, the principal source of domestic production. It is here that our greatest domestic reserves are contained and the most prolific discoveries have been made in recent years of intense exploration. In realizing that exploration has been heavily concentrated here, it also appears that, until another area is found having comparable possibilities, the Colorado Plateau will continue to hold the greatest opportunities for future discoveries of uranium reserves.

The South La Sal Prospect is located within five miles of the village of La Sal, San Juan County, Utah. It is approximately twenty-five miles southeast of Moab, Utah, and thirty miles north of Monticello, Utah. The area observed is accessible by good gravel roads and improved trails. Although all claims have been measured and staked from numerous known points, it is suggested that, before initiating further exploration and development, these claims be accurately surveyed by a qualified engineer.

SOUTH LA SAL PROSPECT

The South La Sal Prospect is located several miles to the east and southeast of La Sal, Utah. A greater majority, 117 claims, of this prospect lies in Sections 7, 8, 17, and 18, T29S, R25E, whereas the balance, 17 claims, are located in Sections 1 and 12, T29S, R24E. All plots staked in the South La Sal Prospect are indicated as the Buena Vista claims. Accessibility to this area is by a graveled road from La Sal which merges into several well defined trails. The northern portion of the project is dissected by several canyons with flat valleys easily traversed by automobile. There is a gradual emergence from the slightly dissected northern sector into a broad valley-type southern portion of the prospect.

Along the valley walls numerous outcrops are presented. Of utmost importance is a contact between the Brushy Basin member of the Morrison Formation (Jurassic) and the bottom of the Lower Dakota Formation (Lower Cretaceous). As a difference of opinion exists in the identity and association of the Burro Canyon (Lower Cretaceous) with the Dakota in southeastern Utah, this sandstone formation shall hereafter be referred to as Lower Dakota. Irregardless of nomenclature for these more resistant cap-rock and cliff-forming sandstones, the prime factor is the presence of the Brushy Basin (Upper Morrison) shale. The exposure is of gray-green shale from five to ten feet thick and which alters abruptly into a reddish-brown shale. Approximately 60 feet is exposed, which includes a part of the talus slope, above the valley floor midway between the northwest and southwest corners of Section 6, T29S, R25E. As the valley floor approaches 150 yards in width at this point, it is logical to assume that a considerable amount of Quaternary fill is present and also that the Brushy Basin thickness is definitely more than that indicated at the exposure. Above the Brushy Basin is exposed the Lower Dakota and which ranges in thickness from 40 to 120 feet.

The eastern wall of this canyon shows from 120 to 150 feet of Lower Dakota; the additional thickness possibly being due to southeast dip of formations plus a slightly higher elevation at the top of canyon wall. In traversing the area to the eastward from the above mentioned location, there was observed several additional canyons showing lesser outcrops and, in general, not as harshly dissected. A measurement of the dip indicated approximately six degrees to the southeast, and the elevation also decreased to the southeast.

With structural dip and elevation decrease both trending southeastward it would appear that, by means of drilling, the Salt Wash member of the Morrison should be encountered at not too great a depth. This is also true at the site of the Brushy Basin outcrop, southwest of the Buena Vista claim #26. At this

locale it is recommended that the drill site be established on the west flank of the valley floor and in the vicinity of the Morrison outcrop.

It is also recommended that additional exploratory drilling with a probe analysis and a core drilling program be established if uranium ore is encountered in any of the initial test holes. This South La Sal Prospect shows excellent Salt Wash opportunities.

Respectfully submitted,

Richard H. Benish

Richard H. Benish
Geologist, PhB
University of Wisconsin, 1940

Date July 28, 1954

Richard H. Benish, Consulting Geologist-Geophysicist
Age 39, married, one daughter, age 9;
1985 So. Fillmore St., Denver 10, Colo.

Education: Bachelor of Philosophy degree in Geology from University of Wisconsin, 1940

Employment: March, 1940 through September, 1942
Petty Geophysical Engineering Company
San Antonio, Texas
Duties: Geologist, seismologist, surveyor, etc.
Type of work: Oil exploration in Texas, Louisiana, Mississippi, West Virginia and Pennsylvania

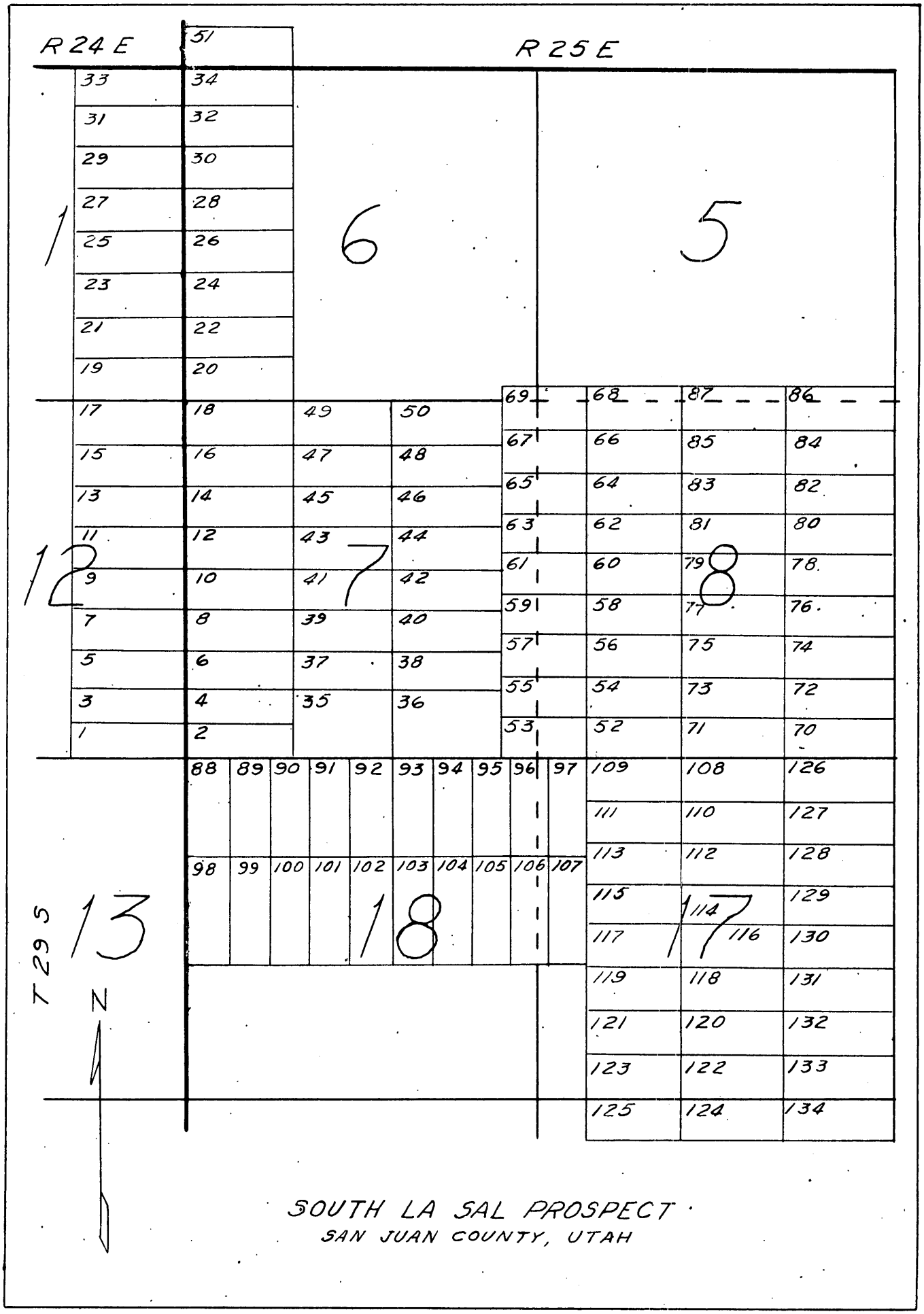
February, 1946 to October, 1951
Rogers-Ray, Inc., Houston, Texas
Duties: Geologist-geophysicist
Type of work: Supervisor of field seismic parties doing oil exploration in Texas, North Dakota, Alberta, and Saskatchewan

October, 1951 to July 1, 1954
Rogers Geophysical Company, Houston, Texas
Duties: Geologist-geophysicist
Type of work: Supervisor and manager of Rocky Mountain Division; Seismic parties doing oil exploration and investigations of uranium exploration; Colorado, Utah, Wyoming, Montana

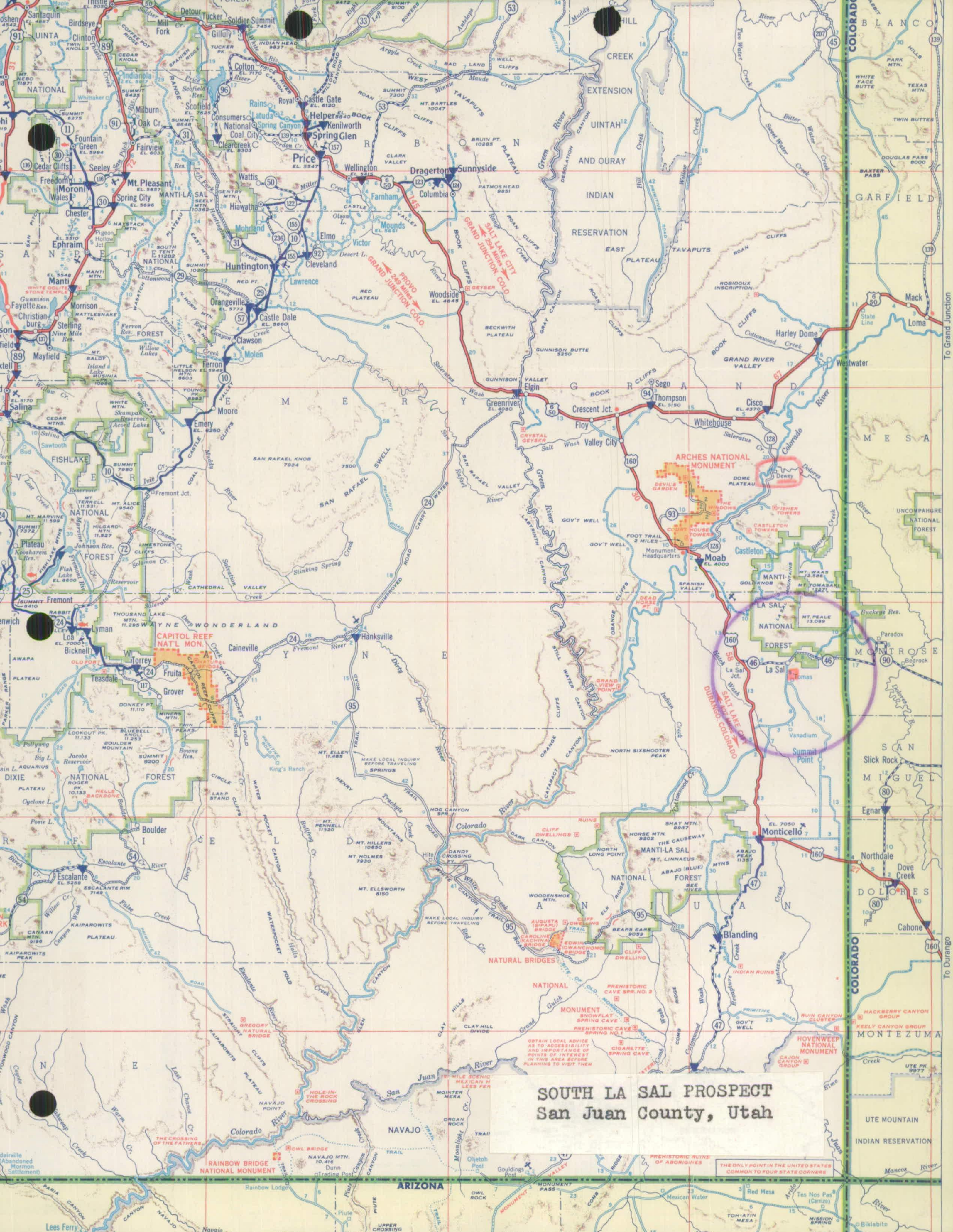
Past four and one-half years in Rocky Mt. Area and Canada; coordinating geology with geophysics; contact work with oil company officials; arranging of both seismic and drilling contracts.

Military Service: Naval officer (Lieut.) in charge of communications and navigation aboard a U. S. vessel in the Pacific Ocean Areas.

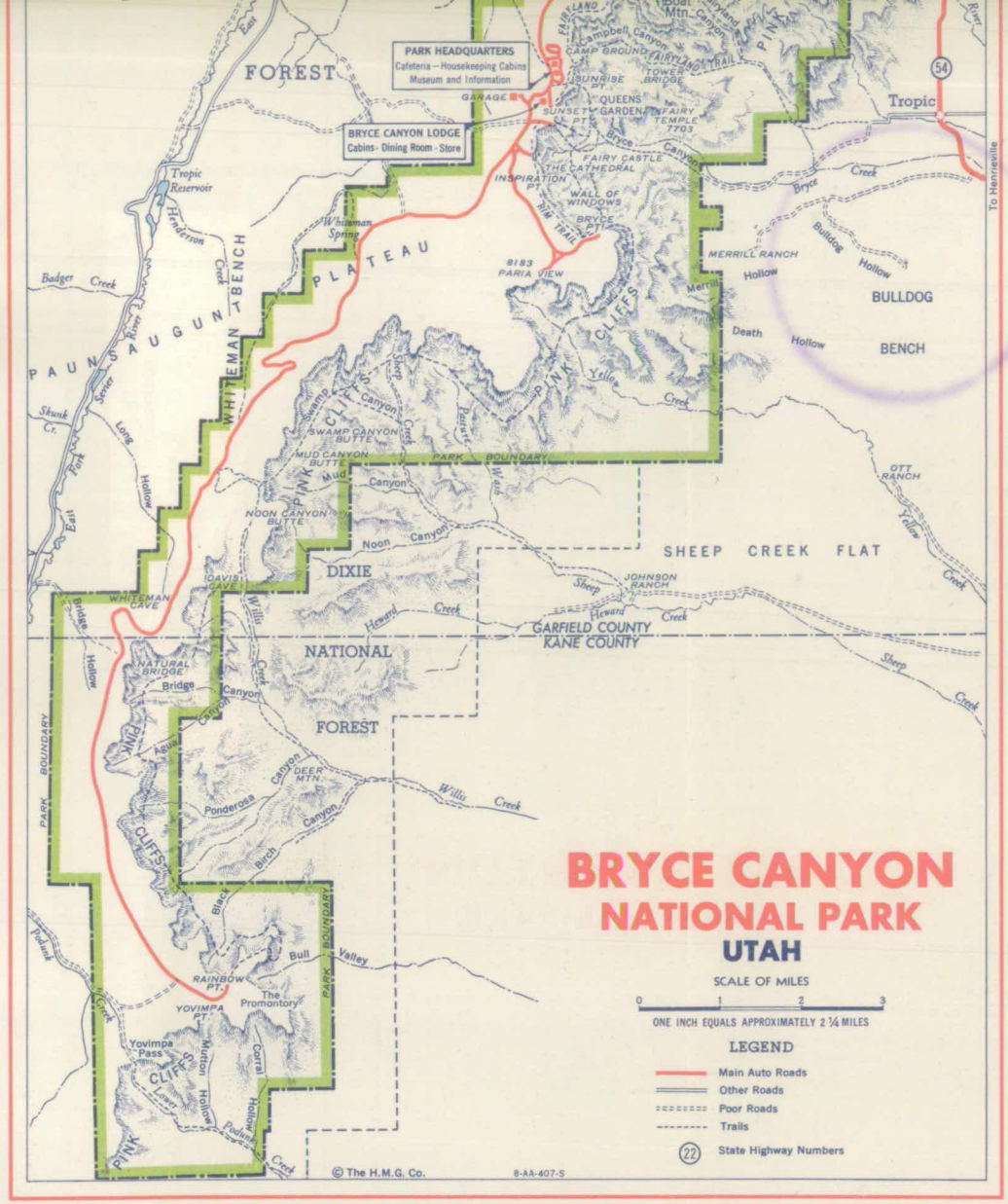
Activities: American Association of Petroleum Geologists
Denver Geophysical Society
Houston Geological Society (1947-50)
American Geophysical Union (1948-50)
Wisconsin Alumni Association
A.F.&A.M. Lodge #1292, Houston, Texas

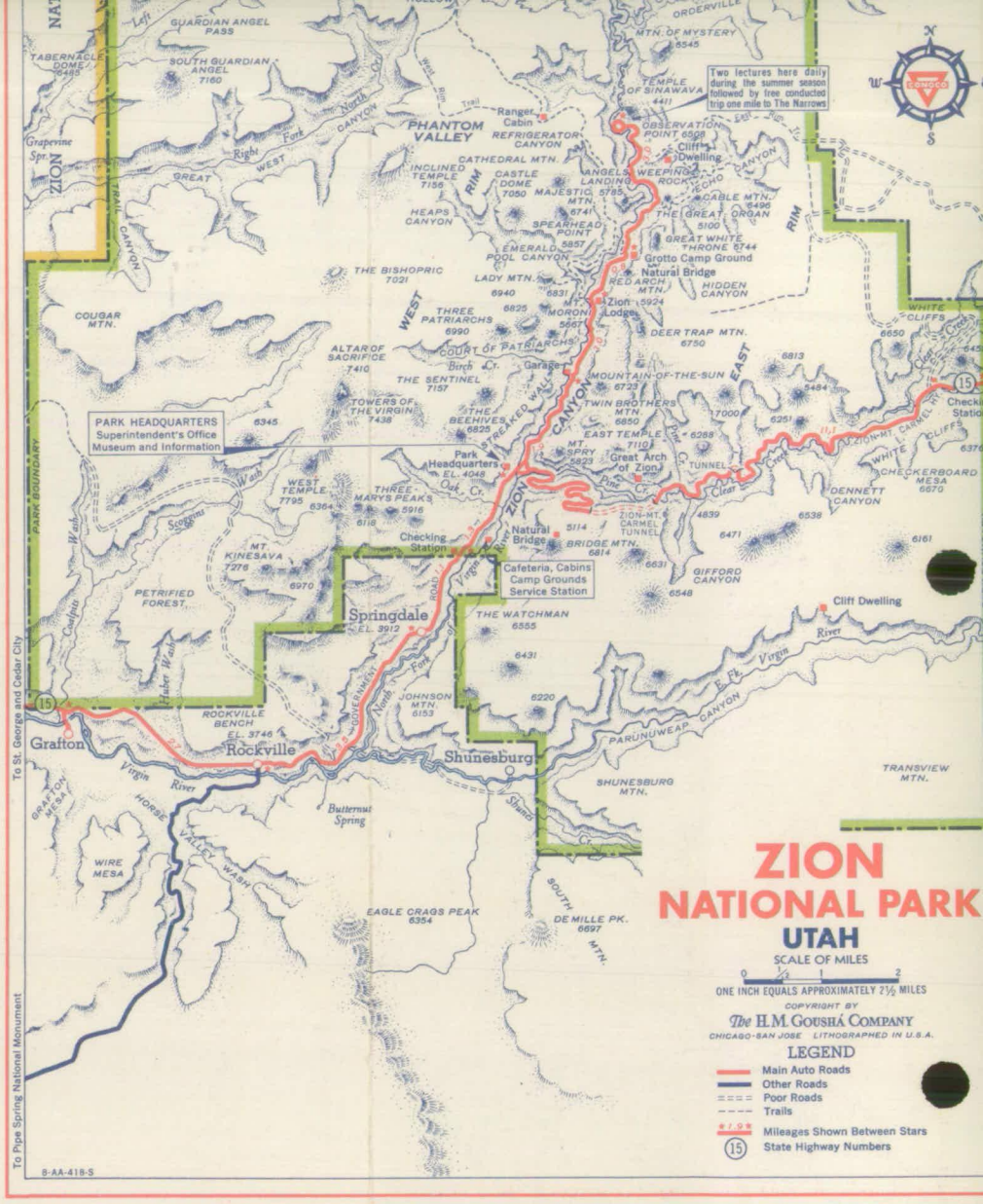


SOUTH LA SAL PROSPECT
SAN JUAN COUNTY, UTAH



SOUTH LA SAL PROSPECT
San Juan County, Utah


BRYCE CANYON
NATIONAL PARK
UTAH
SCALE OF MILES
0 1 2 3
ONE INCH EQUALS APPROXIMATELY 2 ¼ MILES
LEGEND
Main Auto Roads
Other Roads
Poor Roads
Trails
State Highway Numbers
PARK HEADQUARTERS
Cafeteria – Housekeeping Cabins
Museum and Information
BRYCE CANYON LODGE
Cabins - Dining Room - Store
Tropic
To Henrieville
PAUNSAUGUNT PLATEAU
WHITEMAN BENCH
PINK CLIFFS
BULLDOG BENCH
SHEEP CREEK FLAT
DIXIE NATIONAL FOREST
GARFIELD COUNTY
KANE COUNTY
PARK BOUNDARY
© The H.M.G. Co.
8-AA-407-S


ZION
NATIONAL PARK
UTAH
SCALE OF MILES
0 ½ 1 2
ONE INCH EQUALS APPROXIMATELY 2½ MILES
COPYRIGHT BY
The H.M. Goushá Company
CHICAGO-SAN JOSE LITHOGRAPHED IN U.S.A.
LEGEND
Main Auto Roads
Other Roads
Poor Roads
Trails
Mileages Shown Between Stars
State Highway Numbers
PARK HEADQUARTERS
Superintendent's Office
Museum and Information
Cafeteria, Cabins
Camp Grounds
Service Station
Two lectures here daily during the summer season followed by free conducted trip one mile to The Narrows
PHANTOM VALLEY
ZION CANYON
Springdale
Rockville
Grafton
Shunesburg
To St. George and Cedar City
To Pipe Spring National Monument
PARK BOUNDARY
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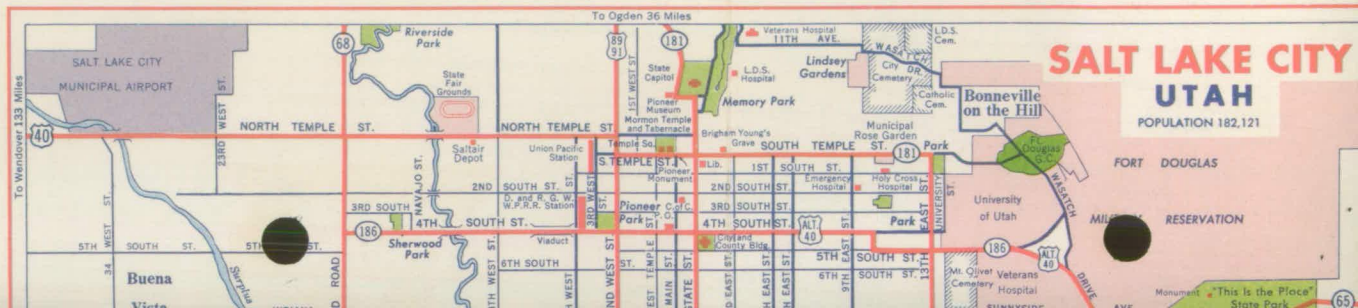
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Mt. Olivet Cemetery
Holy Cross Hospital
Emergency Hospital
Municipal Rose Garden
Lindsey Gardens
State Capitol
Union Pacific Station
Saltair Depot
State Fair Grounds
Pioneer Museum
Mormon Temple and Tabernacle
Brigham Young's Grave
City and County Bldg.
L.D.S. Hospital
L.D.S. Cem.
City Cemetery
Catholic Cem.
"This is the Place" State Park
Monument

SOUTH LA SAL PROSPECT

(Supplement)

San Juan County, Utah

SOUTH LA SAL PROSPECT
(Supplement)

This supplement to the South La Sal Prospect report is comprised of 18 claims that are identified as Claims No. 88 through 96 and 98 through 106. They are located in the northern two-thirds of Section 18, T29S-R25E of the Salt Lake Base Meridian, San Juan County, Utah.

Approximately one and one-half miles north by northwest of this group of claims, a distinct contact between the top of the Brushy Basin shales and basal Cretaceous sandstone was observed. In reviewing this prospect and incorporating knowledge of the surrounding area, it is believed the basal Cretaceous can be more properly identified as the Burro Canyon formation of lower Cretaceous Age. In this vicinity, the Burro Canyon is a comparatively hard, resistant sandstone caprock which dips from six to seven degrees to the southeast.

Within the limits of these claims there exists an undetermined amount, probable of minor quantity, of Quaternary fill. As outcrops of Burro Canyon are insufficient for accurate field measurements, it is estimated the thickness of this formation ranges from 100 to 150 feet. Underlying the Burro Canyon is the Morrison formation of upper Jurassic Age. The estimated Morrison thickness is 700 feet; to be subdivided equally into 350 feet of Brushy Basin and 350 feet of the Salt Wash sandstone and shale member.

In view of the foregoing, it is apparent that no Salt Wash, which is the chief uranium producer on the Colorado Plateau, is exposed at the surface throughout the area. It is also obvious that this member underlies 100% of the claimed territory.

Assuming the above mentioned thicknesses to be correct, the ore-bearing beds of lower Brushy Basin and the total Salt Wash would approach a dimension of 400 to 450 feet. The uppermost favorable zone might be encountered at a depth of 400 feet; with fair opportunities of uranium ore being present at any one level from 400 to 800 feet below the surface. Normally, within a given sector, only one ore body in commercial quantities exists; this prolific section is predominantly in the lower half of the Salt Wash.

It is therefore the opinion of the writer that ore bodies are likely to exist within the limits of these claims. It is recommended that a drilling program be initiated to further evaluate these properties, with holes being drilled through the Salt Wash member of the Morrison formation, estimated depth 800 feet. The drill cuttings from 300 feet downward should be

closely checked with a geiger counter and a radioactive probe analysis should be conducted in each hole. Upon discovery of mineralization, it is further recommended that a planned drilling program be instituted with cores being obtained from the radioactive zones.

Although various theories on the origin and source of uranium have been offered, the writer prefers to withhold any comment in this respect for the South La Sal Prospect. It is suggested that a minimum of five holes be drilled, one near each corner and one in the center of this group of claims. Evidence procured may establish the direction of the "channel" and, consequently, be of additional aid in formulating a drilling program.

Respectfully submitted,

Richard H. Benish

Richard H. Benish
Geologist

Date: Oct. 6, 1954