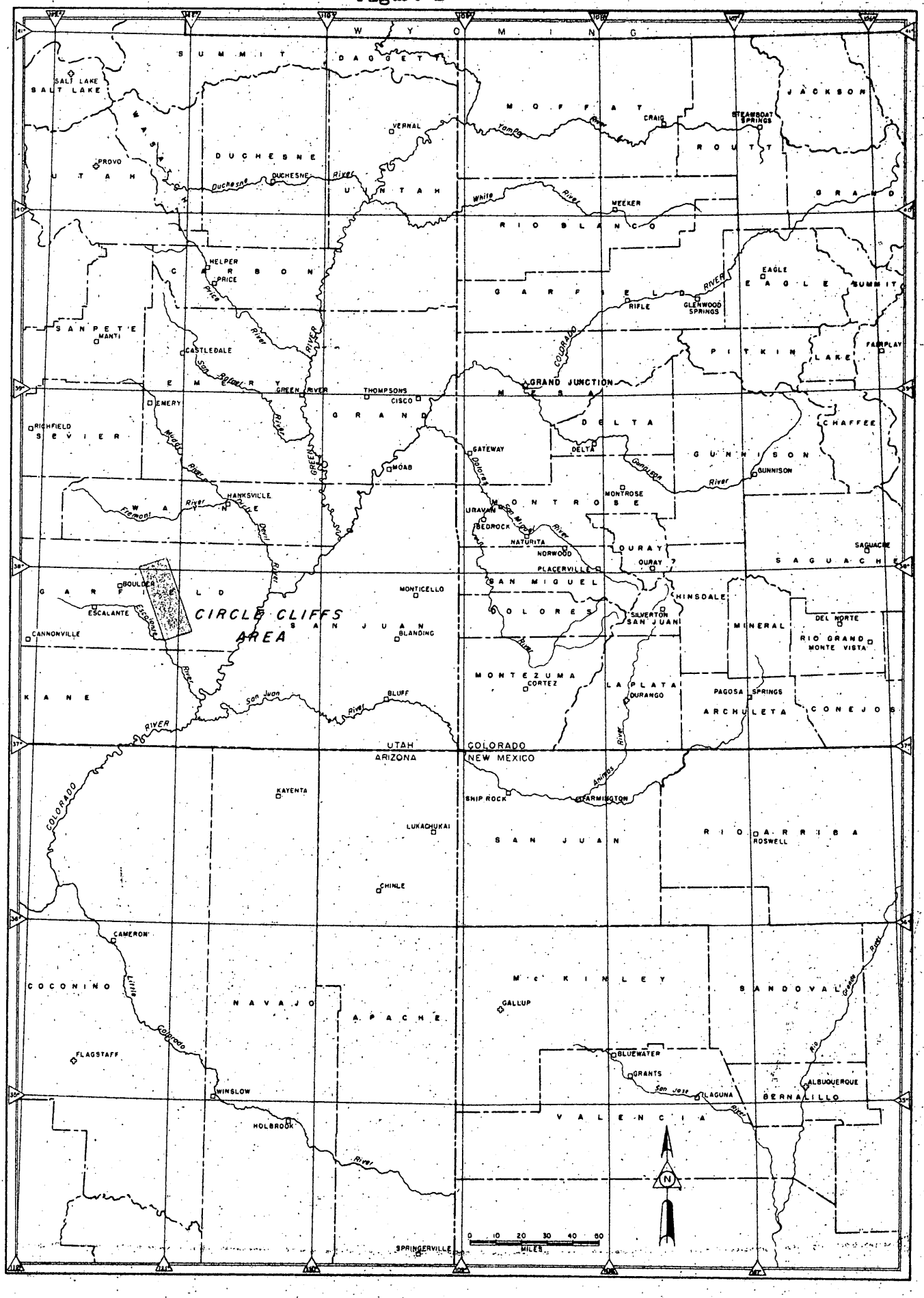
Figure 1


WYOMING
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EAGLE
EAGLE
SUMMIT
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MANTI
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PITKIN
LAKE
FAIRPLAY
EMERY
GREEN RIVER
THOMPSONS
CISCO
GRAND JUNCTION
MESA
EMERY
RICHFIELD
SEVIER
GRAND
DELTA
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GATEWAY
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GUNNISON
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MOAB
MONTROSE
HANKSVILLE
WAYNE
URAVAN
BEDROCK
MONTROSE
NATURITA
NORWOOD
OURAY
OURAY
SAGUACHE
SAGUACHE
PLACERVILLE
BOULDER
GARFIELD
MONTICELLO
SAN MIGUEL
HINSDALE
ESCALANTE
CIRCLE CLIFFS AREA
DOLORES
SILVERTON
SAN JUAN
MINERAL
DEL NORTE
CANNONVILLE
SAN JUAN
BLANDING
RIO GRANDE
MONTE VISTA
MONTEZUMA
CORTEZ
LA PLATA
DURANGO
PAGOSA SPRINGS
KANE
BLUFF
ARCHULETA
CONEJOS
UTAH
ARIZONA
COLORADO
NEW MEXICO
KAYENTA
SHIP ROCK
FARMINGTON
LUKACHUKAI
SAN JUAN
RIO ARRIBA
ROSWELL
CHINLE
CAMERON
COCONINO
NAVAJO
APACHE
McKINLEY
GALLUP
SANDOVAL
FLAGSTAFF
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UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
DEC 17 1954

224 New Customhouse
Denver 2, Colorado

December 14, 1954

Memorandum

To: Secretary to Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 3580 (Uranium) LaSalle Mining Company, Buckhorn, YoYo, and Mary claims, Garfield County, Utah.

Enclosed is a copy of a note from the applicant requesting that the subject application be withdrawn, a copy of our reply, and two copies of Form 3b.

W. H. King

W. H. King

Enclosures

Defense Minerals Administration
DEC 17 1954

DMEA 3580

LA SALLE MINING CO.
FIRST NATIONAL BANK BUILDING
P. O. Box 217 PHONE 1799

G. T. RUMMEL, PARTNER
HOME PHONE 1423-M

GRAND JUNCTION
COLORADO

Mining Division
Date Rec'd.
DEC 10 1954
BUREAU OF MINES
Denver, Colorado

Mr. R. W. Cannon

We have an application for a DMEA loan in the Circle Cliffs area in Utah. We have made the arrangements to get this drilled and we wish to withdraw this application.

We will submit another application in another area at an early date.

Yours

La Salle Mining Co
By G. T. Rummel
President

224 New Customhouse
Denver 2, Colorado

December 14, 1954

Mr. G. T. Rummel, Partner
LaSalle Mining Company
First National Bank Building
P. O. Box 217
Grand Junction, Colorado

Re: Docket No. DMEA 3580 (Uranium)
LaSalle Mining Company,
Buckhorn, YoYo, and Mary claims,
Garfield County, Utah.

Dear Mr. Rummel:

In compliance with your request of December 10, 1954, your application for DMEA assistance on your property in the Circle Cliff area is withdrawn.

Very truly yours,

W H King

W. H. King
Executive Officer
DMEA Field Team, Region IV

HMC:dm
cc: Subject
Sec. to Oper. Comm.
SRWilson
ALBrokaw
AEKoschmann
Chron

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

December 2, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region IV.

DMEA - 3580 La Salle Mining Co.

Robert E. Adams,
Chief, Operation's Control
and Statistics Division

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 2 1954

224 New Customhouse
Denver 2, Colorado

November 29, 1954

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region lV

Subject: Application for DMEA assistance (Uranium) La Salle Mining Co.
Buckhorn, Yo Yo, and Mary groups of claims
Garfield County, Utah

Region lV copy of the subject application was received from the Washington office, but the docket number had not been attached.

Please inform us of the docket number that has been assigned to this application.

John F. Shaw
For W. H. King

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

Defense Minerals Administration
RECEIVED
DEC 2 1954

224 New Customhouse
Denver 2, Colorado

November 29, 1954

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region 1V

Subject: Application for DMEA assistance (Uranium) La Salle Mining Co.
Buckhorn, Yo Yo, and Mary groups of claims
Garfield County, Utah

Region 1V copy of the subject application was received from the Washington office, but the docket number had not been attached.

Please inform us of the docket number that has been assigned to this application.

John F. Shaw
For W. H. King

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

224 New Customhouse
Denver 2, Colorado

November 19, 1954

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: Code 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMEA Form 3a and MF-103 and supporting data pertaining to the following applications for Government assistance in exploration work:

LaSalle Mining Company	Uranium
Eula Belle Uranium, Inc.	Uranium

John F. Shaw
for W. H. King

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1085.2.

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

Not to be filled in by applicant

Docket No. 3580
Metal or Mineral Uranium
Date Received
Estimated Cost $31,855
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: La Salle Mining Company, P. O. Box 217, Grand Junction, Colorado. A partnership consisting of the following; G. T. Rummel, and M. P. Rowe, Grand Junction, Colorado; M. M. Hardin and R. Eidal, Albuquerque, New Mexico

(*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 report)

(*b*) State any mine name by which the property is known.

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

(*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.

(*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.

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

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

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

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

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

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

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

(*c*) The work will start within 30 days and be completed within 2 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated November 11, 1954

La Salle Mining Co.
(Applicant)

By [signature]

G. T. Rummel

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

NOV 22 1954

APPLICATION FOR D. M. E. A. LOAN

Compiled by

Richard F. Pascoe, Geologist

La Salle Mining Co.

November 11, 1954

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Appendix No. B Drilling Contract

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MAR 22 1954

Introduction

This report is written as a formal application for aid in an exploration project, pursuant to D. M. E. A. Order No. 1, under the Defense Production Act of 1950 as amended.

Proposed exploration is for uranium and associated minerals to be conducted by La Salle Mining Co., P. O. Box 217, Grand Junction, Colorado. A partnership that is comprised of the following:

(1) Matthew P. Rowe, Grand Junction, Colorado

(2) G. Thomas Rummel, Grand Junction, Colorado

(3) Major M. Hardin, Albuquerque, New Mexico

(4) Roy M. Eidal, Albuquerque, New Mexico

La Salle Mining Co. entered the uranium mining industry as a partnership in November 1950 and has successfully conducted uranium mining operations since that date. At the present time, they have mining operations on Club Mesa, Montrose County, Colorado, and on Mineral Point, Grand County, Utah.

The property to be explored is as follows:

Claim	Book	Page
Buckhorn	11	297
Buckhorn #1	11	329
Buckhorn #2	11	362
Buckhorn #3	20	16
Buckhorn #4	20	17
Yo Yo #12	14	570
Yo Yo #13	14	570
Yo Yo #14	14	571
Yo Yo #18	20	11
Mary No. 1	14	575
Mary No. 2	14	575
Mary No. 3	14	576

All claims are unpatented claims located in Circle Cliffs, Garfield County, Utah in an unsurveyed area.

Ownership

The Buckhorn Group, of five unpatented mining claims, is leased from Ernest D. Griffin, Lorin Griffin, Ray Griffin and Carl Dewel. The Yo Yo No's. 12, 13 and 14 are leased from Kenneth Pratt. Yo Yo 18 is leased from W. M. Christensen. The Marys No's. 1, 2 and 3 are leased from Haynes Woolsey. All the leasees reside in Escalante, Utah. Appendix A includes duplicate copies of the leases.

Access and Physiography

The property is located in an area known as Circle Cliffs, Garfield County, Utah. Circle Cliffs is roughly 40 miles east of Escalante, Utah, and 45 miles southwest of Hanksville, Utah as shown on figure 1.

Access is either by 60 miles of truck trail and improved dirt road from Escalante, or by 68 miles of all weather dirt road from Hanksville. Nearest rail head is Green River, Utah. Nearest ore buying stations are at Marysvalle, Utah a distance of 127 miles, and Thompson, Utah a distance of 154 miles.

Topography is typical of the Colorado Plateau; that is, sandstone capped mesas covered with pinons and junipers. The mesas are easily accessable to drill rigs with a minor amount of bulldozer work. Average elevation is approximately 6,500 feet. Average annual rain fall is less than 10 inches. The summers are uncomfortably hot and winters are moderately cold. Year round operations can be conducted with little difficulty.

History of the District

The first uranium claims in the district were located during 1948. Inaccessability impaired development of the area, and little was done other than assessment work until the fall of 1953 when the Atomic Energy Commission completed the Burr Trail Access road. The early part of this summer the Stud Horse Peaks

Mine and Rainy Day Mine started producing. This was the first significant production from the area. Location of these ore deposits is shown in figure 2. The Atomic Energy Commission withdrew about 12,500 acres from mineral entry and established a field camp in the area shortly after the first of the year. At the present time a number of private companies are drilling in the area.

General Geology

The locality referred to as Circle Cliffs is a northwest trending eliptical shaped uplift, approximately forty miles long and ten miles wide. Rocks of Permian Age are exposed on the crest of the structure. The west flank is capped by the Glen Canyon Group of Jurassic Age, and the east flank is capped with the San Rafael Group, also of Jurassic Age. Erosion has denuded the structure producing an oval shaped valley in the Moenkopi formation, surrounded by inward facing cliffs, of the Glen Canyon Group. The resistent Shinarump formation is exposed as a more or less continuous bench around the uplift, and as a sandstone capping on outlying mesas. Table 1 is a generalized stratigraphic section of the area.

During Triassic time ancient streams scoured channels in the Moenkopi formation which were subsequently filled with the courser clastic sediments of the Shinarump formation. These paleo-channels offer a structural control for the uranium deposits. Most of the uranium deposits in the Circle Cliffs Area differ from most other Triassic deposits on the Plateau, in that they occur in altered Moenkopi mudstones and sandstones underlying the channels rather than in the course-grained sandstones or conglomerates in the channel bottoms. This seems to indicate that mineralizing solutions showed preference to the interfingering sandstones, siltstones, and mudstones rather than the courser more permeable clastics in the bottoms of the scours. Figure 2 shows the major paleo-channels in the area and the relationship of mineralized outcrops to channel flanks.

Table 1

Generalized Stratigraphic

Section, Circle Cliffs

Age	Group and Formation		Thickness Feet	Character
JURASSIC	San Rafael Group	Morrison Summerville Entrada Carmel	1200 1650	Light colored sandstones, and red to gray mudstone, siltstones, and shales
	Glen Canyon Group	Navajo sandstone	1000 -- 1250	White to light yellow, sandstone, cross bedded
		Kayenta formation	200	Reddish, sandstone, bench forming
		Wingate sandstone	250	Reddish-brown sandstone, massive, cliff forming
TRIASSIC		Chinle formation	500'	Varicolored, sandstone mudstone, clay, predominatly red, fossil wood abundant
		Shinarump formation	0 - 280+	White to tan sandstone, locally conglomerate lenses, extremely variable in thickness, fossil wood abundant
		Moenkopi formation	475	Chocolate-brown to tan mudstone, and sandstone, predominantly ripple marked mudstone
PERMIAN		Kiabab limestone- Coconino sandstone Undifferentiated	Thickness unknown	Tan to gray limestone, tan sandstone

Mineralization is of the copper uranium type. Finely disseminated uraninite appears to be the principle ore mineral. The following geologic guides are most significant of ore deposits: (1) Presence of a channel. (2) Red Moenkopi mudstone altered to light tan. (3) Abundance of carbonaceous material. (4) Copper stain on the outcrop. (4) Anamolous radioactivity on the outcrop.

Geology of the Property

Colt Mesa

Figure 3 is a claim map of Colt Mesa and Horse Pasture Mesa, the areas to be explored. As shown in figure 2, Colt Mesa is on a channel that extends from deer point westerly through Colt Mesa and swings to the southwest paralleling Silver Falls Creek. A split around in the channel occured somewhere under the Yo Yo claim (figure 3) and then the channel coverged again to the east of the Sneaky Mine. The Sneaky Mine located on the flank of this channel has produced a small amount of ore. Picked specimens assaying as much as 1.50% U_3O_8 can be obtained from the workings. This indicates mineralizing solutions have been present in the channel.

Rim stripping has exposed abundant copper mineralization and anomalous radioactivity at the southwest end of the mesa. Copper mineralizations is exposed in an inaccessable spot about 40 feet above the outcrop, where the rim has been stripped. Carbonaceous material is abundant and a continuous alteration varying in thickness from a few inches to several feet can be traced all the way around the outcrop.

Horse Pasture Mesa

Horse Pasture Mesa is a remanent of a structure that trends slightly north of west from a protuberance of Four Mile Bench to a similar point on Chop Rock Bench. This channel is also shown on figure 3. Copper mineralizations and anomalous radioactivity show along the outcrop on the north side of the mesa.

Carbonaceous material is abundant in the sediments and altered Moenkopi is observable around most of the mesa.

Proposed Exploration

The proposed program of exploration will be under the supervision of an experienced uranium geologist and will be executed in three phases. (1) Preparation of a structural contour-map of the two mesas from a plane table survey of the rim. (2) Initial drilling on a fence-type grid. (3) Delineation of any ore that might be found.

Preparation of a structural contour map will facilitate placing the fence grid at the most advantageous position along the flanks of the channels. As drilling progresses, a structural contour map will be carried from drill hole data. In conjunction with this mapping a certain amount of rim stripping at critical points will be required to expose the contact.

The proposed grid will be laid out as shown in figure 3. This will be modified to conform with the structural contour map as work progresses. The grid spacing of fences on five hundred foot centers with fence spacing of three holes 100 feet apart on the margin of the channels and 300 foot spacing toward the bottom of the scours was chosen because of the spacial relationship of channel flanks and mineralized outcrops. In the event that a substantial amount of drilling shows this to be unsound for the specific channel all the spacing will be on 300 foot centers and the remaining footage will be used for offsetting ore holes. If it becomes evident, as anticipated, that the ore will be confined to the flanks, then the deeper drilling will be abandoned and the footage applied to blocking out ore.

Drilling will be done with a combination air water rig capable of recovering a 2 1/8 inch core with either wet or dry drilling. The holes will be plugged to the ore horizon and about twenty-five feet of core will be cut. Appendix B is a duplicate copy of the most favorable bid submitted for the drilling. All holes will

be probed with a "Babble counter".

Cost Estimates

Cost estimates are based on average prices prevailing on the Colorado Plateau. Location of access roads is shown in figure 3. These will be constructed with a D-7 dozer and a small amount of blasting. Bulldozing access to drill sights on the Mesa tops is included in the drilling bid; however, it will be necessary to keep a small compressor on hand to do the drilling for a minor amount of blasting.

Table 2 is a detailed breakdown of cost estimates.

Table 2

Cost Estimates

Drilling		
10,400 feet drill hole @ $2.50/foot	$26,000.00	
55 Core boxes @ $4.00/box	220.00	$26,220.00
Roads		
40 Hours bulldozing @ $12.00/hour	$ 480.00	
105 compress, 2 month rental @ $165.00/month	230.00	
Jack Hammer outfit, 2 months @ $50.00/month	100.00	
10 boxes powder @ $10.50/box	105.00	915.00
Labor		
1 Geologist Supervisor, 2 months @ $50.00/month	$ 1,000.00	
1 Surveyor, 2 months @ $400.00/month	800.00	
1 Rodman, 2 months @ $350.00/month	700.00	
1 Sampler, 2 months @ $350.00/month	700.00	3,200.00
Miscellaneous		
Accounting	$ 450.00	
Workmen's compensation	110.00	
Camp Maintainance and subsistance	960.00	1,520.00
	TOTAL ESTIMATED COST	$31,855.00

BOOK 12 PAGE [illegible]

L E A S E

THIS AGREEMENT, Made by and between - - - - - - - - - - [illegible], Lessor, and LA SALLE MINING COMPANY, a partnership consisting of ROY M. KIPAL, M. M. HARDIN, G.T. KIMMEL and MATTHEW F. ROWE, having offices at Grand Junction, Colorado, Lessee, WITNESSETH THAT:

Lessor in consideration of the royalties and agreements hereinafter set forth hereby lease to the lessee for a period of five years, the following unpatented mining claims in the [illegible] Mining District - - - - - - of [illegible] County, Utah, as follows, to-wit:

[illegible]

The lessee agrees as follows:

1. To enter upon said mining claims and to take and hold the possession thereof and to conduct any mining operations done by it in a good and minerlike fashion;

2. During the continuance of this lease or any extension thereof, the lessee agrees to do only such amounts of work and labor on said claims as may be necessary to comply with the statutory requirements as to the performance of annual labor and improvements on unpatented mining claims;

3. To allow lessor to enter upon the leased premises from time to time and to inspect the same;

4. To pay to lessor as royalty on all ores mined and sold from the leased premises 10% of the net smelter returns together with 15% of any bonuses or gratuities paid by the United States or any of its agencies and actually received by lessee on account of the mining of uranium or other fissionable material. Any transportation and development allowances paid on account of the mining, development or operation of said claims shall belong exclusively to lessee. Lessee shall request all buyers of ore mined from said

premises to make payment direct to lessor of the 10% royalty above referred to. "Net mill returns" shall mean net cash returns from ore purchaser after deducting the cost to lessee of charges for treatment and sampling, if any, and each liquidation or settlement made by the ore buyer shall be considered separately for purposes of computing royalty due hereunder;

5. The lessee agrees to do and perform all of its work in accordance with all applicable laws and regulations;

6. The lessors may cancel this lease upon the failure of lessee to perform any covenants herein contained on the part of lessee; provided, however, that before cancelling this lease lessor shall notify lessee in writing of the alleged breach and lessee shall have 30 days from receipt of such notice within which to cure the same;

7. The lessee may cancel this lease at any time by giving lessor 30 days written notice of intention to cancel, such written notice may be addressed to lessor by United States mail at Escalante, Utah, or by delivery in person. In the event lessee desires to so cancel this lease such cancellation, to be effective within the year in which the same is made, shall be made prior to May 1st of such year so that lessor shall have the period from May 1 to July 1 to perform and do the annual assessment work;

8. The lessee shall have the right to remove any and all improvements placed by it upon the leased premises including but not by way of limitation tracks, ore bins, ore chutes, storage tanks, and other buildings and structures and shall be entitled to remove the same irrespective of whether such removal may cause damage to the leased premises herein;

9. Lessee shall have the right to extend this lease for 1 additional five year period upon the same terms and conditions as herein set forth. If lessee desires to so extend this lease, written notice shall be given lessor not less than 30 days before the expiration hereof;

10. This lease shall be binding upon and inure to the benefit of the heirs, representatives, successors and assigns of the parties hereto.

Executed at Escalante, Utah, This 7 day of August, 1953.

Lessors :

Ray Griffin

Ernest D. Griffin

Lessee :

La Salle Mining Com any

by E. Mendenhall Jr.

for G. T. Rumrill

Approved:

La Salle Mining Co.

By [illegible]

Partner

L E A S E

THIS [illegible], MADE by and between RAY GRIFFIN

and [illegible] COMPANY, a partnership consisting of ROY M. [illegible], [illegible] HARRIS, G. T. [illegible] and MATTHEW P. [illegible], having offices at Grand Junction, Colorado, Lessee, WITNESSETH THAT:

Lessors in consideration of the royalties and agreements hereinafter set forth hereby lease to the lessee for a period of five years, the following unpatented mining claims in the _____ Circle Cliff Mining District _____ of Garfield County, Utah, as follows, to-wit: BUCKHORN'S 3 AND 4
G's 1 through 14

The lessee agrees as follows:

1. To enter upon said mining claims and to take and hold the possession thereof and to conduct any mining operations thereon in a good and miner-like fashion:

2. During the continuance of this lease or any extension therof, the lessee agrees to do only such assessment work and labor on said claims as may be necessary to comply with the state law requirements as to the performance of annual labor and in regard to unpatented mining claims;

3. To allow lessors to enter upon the leased premises from time to time and to inspect the same;

4. To pay to lessors as royalty on all ores mined and sold from the leased premises 10% of the net smelter returns together with 10% of any bonuses or gratuities paid by the United States or any of its agencies and actually received by lessee on account of the mining, development or operation of said claims shall belong exclusively to lessee. Lessee shall pay to all owners of ore mined from said premises the royalty direct to lessors of the 10% royalty above referred to. Net mill returns shall mean net ore returns from ore purchaser after deduction the cost

to lessee of charges for treatment and sampling, if and, and each liquidation or settlement made by the ore buyer shall be considered separately for purposes of computin royalty due hereunder;

5. The lessee agrees to do and perform all of its work in accordance with all applicable laws and regulation;

6. The lessors may cancel this lease upon the failure of lessee to perform any covenants herein contained on the part of lessee; provided, however, that before cancelling this lease lessors shall notify lessee in writing of the alleged breach and lessee shall have 30 days from receipt of such notice within which to cure the same;

7. The lessee may cancel this lease at any time by giving lessors 30 days written notice of intention to cancel, such written notice may be addressed to lessors by United States mail at Escalante, Utah, or by delivery in person. In the event lessee desires to so cancel this lease such cancellation, to be effective within the year in which the same is made, shall be made prior to May 1st of such year so that lessors shall have the period from May 1 to July1 to perform and do the annual assessment work;

8. The lessee shall have the right to remove any and all improvements placed by it upon the leased premises including but not by way of limitation trees, ore bins, ore chutes, storage tanks, and other buildings and structures and shall be entitled to remove the same irrespective of whether such removal may cause damage to the leased premises therein;

9. Lessee shall have the right to extend this lease for one additional five year period upon the same terms and conditions as herein set forth. If lessee desires to so extend this lease, written notice shall be given lessors not less than 30 days before the expiration hereof;

10. This lease shall be binding upon and inure to the benefit of the heirs, representatives, successors and assigns of the parties hereto.

Executed at Escalante, Utah, this 17th day of March, 1954.

Lessors:

Filed for record 45677

this 17 day of March A. D. 19 54

Recorded this 17 day of

March A. D. 19 54

in Book 19 Page 440

Garfield County Records,

Mildred Deuel

Garfield County Recorder.

At 9:30 A. M. at the request
of I. W. Andrews Jr.

Lessee:

LA CALLE MINING COMPANY

By [illegible]

President.

L E A S E

THIS AGREEMENT, MADE by and between W H. MORMON CHRISTENSEN

and LA SALLE MINING COMPANY, a partnership consisting of ROY M. EI AL, M. M. HARDIN, G. T. BUMMEL and MATTHEW P. ROWE, having offices at Grand Junction, Colorado, Lessee, WITNESSETH THAT:

Lessors in consideration of the royalties and agreements hereinafter set forth hereby lease to the lessee for a period of five years, the following unpatented mining claims in the _____ Circle Cliff Mining District _____ of Garfield County, Utah, as follows, to-wit: YO YO - 18, 20 AND 21
BUFF's 1, 3, 4, 5, 6, 7, 8,
CF's 1, 2, 3, 4, 5

The lessee agrees as follows:

1. To enter upon said mining claims and to take and hold the possession thereof and to conduct any mining operations done by it in a good and minerlike fashion:

2. During the continuance of this lease or any extension therof, the lessee agrees to do only such amounts of work and labor on said claims as may be necessary to comply with the statutory requirements as to the performance of annual labor and improvements on unpatented mining claims;

3. To allow lessors to enter upon the leased premises from time to time and to inspect the same;

4. To pay to lessors as royalty on all ores mined and sold from the leased premises 10% of the net smelter returns together with 15% of any bonuses or gratuities paid by the United States or any of its agencies and actually received by lessee on account of the mining, development or operation of said claims shall belong exclusively to lessee. Lessee shall request all buyers of ore mined from said premises to make payment direct to lessors of the 10% royalty above referred to. "Net mill returns" shall mean net cash returns from ore purchaser after deduction the cost

to lessee of charges for treatment and sampling, if and, and each liquidation or settlement made b y the ore buyer shall be considered separately for purposes of comrutin royalty due hereunder;

5. The lessee agrees to do and perform all of its work in accordance with all applicable laws and regulation;

6. The lessors may cancel this lease upon the failure of lessee to perform any covenants herein contained on the part of lessee; provided, however, that before cancelling this lease lessors shall notify lessee in writing of the alleged breach and lessee shall have 30 days from receipt of such notice within which to cure the same;

7. The lessee may cancel this lease at any time by giving lessrs 30 days written notice of intention to cancel, such written notice may be addressed to lessors by United States mail at Escalante, Utah, or by delivery in person. In the event lessee desires to so cancel this lease such cancellation, to be effective within the year in which the same is made, shall be made prior to May 1st of such year so that lessors shall have the period from May 1 to Julyl to perform and do the annual assessment work;

8. The lessee shall have the right to remove any and all improvements placed by it upon the leased premises including but not by way of limitation tracks, ore bins, ore chutes, storage tanks, and othe buildings and structures and shall be entitled to remove the same irrespective of whether such removal may cause damage to the leased premises herein;

9. Lessee shall have the right to extend this lease for one additional five year period upon the same terms and conditions as herein set forth. If lessee desires to so extend this lease, written notice shall be given lessors not less than 30 dayd before the expiration hereof;

10. This lease shall be binding upon and inure to the benefit of the heirs, representatives, successors and assigns of the parties hereto.

Executed at Escalante, Utah, this 1st day of March, 1954.

Filed for record 45[illegible]

this 17 day of March A.D. 19 54

Recorded this 17 day of

March A.D. 19 54

In Book 12 Page 426

Garfield County Records

Mildred Deuel

Garfield County Recorder.

At 9:30 A.M. at the request of

I. W. Andrews Jr.

Lessors:

W. M. Andrews

Lessee:

LA SALLE MINING COMPANY

BY [illegible]

Partner

L E A S E

THIS AGREEMENT, Made by and between - KENNETH PRATT - - - - - - - - - - - Lessor and LA SALLE MINING COMPANY, a partnership consisting of ROY M. BIDAL, M. M. HARDIN, C. T. KUDEL and MATTHEW P. ROWE, having offices at Grand Junction, Colorado, Lessee, WITNESSETH THAT:

Lessor in consideration of the royalties and agreements hereinafter set forth hereby leases to the lessee for a period of five years, the following unpatented mining claims in the - - - - - - - - - -Circle Cliffs Mining District - - - - - - of Garfield County, Utah, as follows, to-wit:

Buff 2, YoYo, YoYo #1, 2, 3, 4, 6, 12, 13, 14, 15, 16, 17, and 25.

Lessee agrees as follows:

1. To enter upon said mining claims and to take and hold the possession thereof and to conduct any mining operations done by it in a good and minerlike fashion;

2. During the continuance of this lease or any extension thereof, the lessee agrees to do only such amounts of work and labor on said claims as may be necessary to comply with the statutory requirements as to the performance of annual labor and improvements on unpatented mining claims;

3. To allow lessor to enter upon the leased premises from time to time and to inspect the same;

4. To pay to lessor as royalty on all ores mined and sold from the leased premises 10% of the net smelter returns together with 10% of any bonuses or gratuities paid by the United States or any of its agencies and actually received by lessee on account of the mining of uranium or other fissionable material. Any transportation and development allowances paid on account of the mining, development or operation of said claims shall belong exclusively to lessee. Lessee shall request all buyers of ore mined from said

premises to make payment direct to lessor of the 10% royalty above referred to. "Net mill returns" shall mean net cash returns from ore purchaser after deducting the cost to lessee of charges for treatment and sampling, if any, and each liquidation or settlement made by the ore buyer shall be considered separately for purposes of computing royalty due hereunder;

5. The lessee agrees to do and perform all of its work in accordance with all applicable laws and regulations;

6. The lessor may cancel this lease upon the failure of lessee to perform any covenants herein contained on the part of lessee; provided however, that before cancelling this lease lessor shall notify lessee in writing of the alleged breach and lessee shall have 30 days from receipt of such notice within which to cure the same;

7. The lessee may cancel this lease at any time by giving lessor 30 days written notice of intention to cancel, such written notice may be addressed to lessor by United States mail at Escalante, Utah, or by delivery in person. In the event lessee desires to so cancel this lease such cancellation, to be effective within the year in which the same is made, shall be made prior to May 1 of such year so that lessor shall have the period from May 1 to July 1 to perform and do the annual assessment work;

8. The lessee shall have the right to remove any and all improvements placed by it upon the leased premises including but not by way of limitation tracks, ore bins, ore chutes, storage tanks, and other buildings and structures and shall be entitled to remove the same irrespective of whether such removal may cause damage to the leased premises herein;

9. Lessee shall have the right to extend this lease for one additional five year period upon the same terms and conditions as herein set forth. If lessee desires to so extend this lease, written notice shall be given lessor not less than 30 days before the expiration hereof;

10. This lease shall be binding upon and inure to the benefit of the heirs, representatives, successors and assigns of the parties hereto.

Executed at Escalante, Utah, this 5th day of August, 1953.

Lessors :

Kenneth K Pratt

Filed for record 45678

this 17 day of March A. D. 19 54

Recorded this 17 day of March A. D. 19 54

In Book 19 Page 441

Garfield County Records;

Mildred Dessel
Garfield County Recorder.

Lessee :

La Salle Mining Company

by [illegible]

At 9:30 A. M. at the request of I. W. Andrews Jr.

L E A S E

THIS AGREEMENT, Made by and between - - - - - - - - -

,Lessor ,

and LA SALLE MINING COMPANY, a partnership consisting of ROY M. EIDAL, M. M. HARDIN, G.T. RUMMEL and MATTHEW P. ROWE, having offices at Grand Junction, Colorado, Lessee, WITNESSETH THAT:

Lessor in consideration of the royalties and agreements hereinafter set forth hereby lease to the lessee for a period of five years, the following unpatented mining claims in the

Mining District - - - - - -

of County, Utah, as follows, to-wit:

The lessee agrees as follows:

1. To enter upon said mining claims and to take and hold the possession thereof and to conduct any mining operations done by it in a good and minerlike fashion;

2. During the continuance of this lease or any extension thereof, the lessee agrees to do only such amounts of work and labor on said claims as may be necessary to comply with the statutory requirements as to the performance of annual labor and improvements on unpatented mining claims;

3. To allow lessor to enter upon the leased premises from time to time and to inspect the same;

4. To pay to lessor as royalty on all ores mined and sold from the leased premises 10% of the net smelter returns together with 15% of any bonuses or gratuities paid by the United States or any of its agencies and actually received by lessee on account of the mining of uranium or other fissionable material. Any transportation and development allowances paid on account of the mining, development or operation of said claims shall belong exclusively to lessee. Lessee shall request all buyers of ore mined from said

premises to make payment direct to lessor of the 10% royalty above referred to. "Net mill returns" shall mean net cash returns from ore purchaser after deducting the cost to lessee of charges for treatment and sampling, if any, and each liquidation or settlement made by the ore buyer shall be considered separately for purposes of computing royalty due hereunder;

5. The lessee agrees to do and perform all of its work in accordance with all applicable laws and regulations;

6. The lessors may cancel this lease upon the failure of lessee to perform any covenants herein contained on the part of lessee; provided, however, that before cancelling this lease lessor shall notify lessee in writing of the alleged breach and lessee shall have 30 days from receipt of such notice within which to cure the same;

7. The lessee may cancel this lease at any time by giving lessor 30 days written notice of intention to cancel, such written notice may be addressed to lessor by United States mail at Escalante, Utah, or by delivery in person. In the event lessee desires to so cancel this lease such cancellation, to be effective within the year in which the same is made, shall be made prior to May 1st of such year so that lessor shall have the period from May 1 to July 1 to perform and do the annual assessment work;

8. The lessee shall have the right to remove any and all improvements placed by it upon the leased premises including but not by way of limitation tracks, ore bins, ore chutes, storage tanks, and other buildings and structures and shall be entitled to remove the same irrespective of whether such removal may cause damage to the leased premises herein;

9. Lessee shall have the right to extend this lease for 1 additional five year period upon the same terms and conditions as herein set forth. If lessee desires to so extend this lease, written notice shall be given lessor not less than 30 days before the expiration hereof;

10. This lease shall be binding upon and inure to the benefit of the heirs, representatives, successors and assigns of the parties hereto.

Executed at Escalante, Utah, this 6th day of August, 1953.

Filed for record [illegible]

this 17 day of March A.D. 19 54

Recorded this 17 day of

March A.D. 19 54

In Book 19 Page 430

Garfield County Records.

Mildred Deuel

Garfield County Recorder.

At 9:30 A. M. at the request of I. W. Andrews Jr.

Lessors : Haynes Woolsey

Lessee: La Salle Mining Company

by [illegible]

GEO. Mc KENZIE

4409 Cambridge
3450 MOECO

EL PASO DRILLING & EQUIPMENT CO.

EL PASO, TEXAS

54164
DMb-5-0566

October 18, 1954

La Salle Mining Co.
P. O. Box 217
Grand Junction, Colorado

Attention of G. T. Rummel

To whom this may concern:

I wish to submit the following bid to the La Salle Mining Co., of Grand Junction, Colorado for drilling in the Circle Cliffs area of San Juan County, Utah.

Using a new Portadrill, heavy duty rotary air rig, mounted on a D-6 caterpillar tractor.

Footage - to be from 10,000 to 15,000 feet.
Depth - average depth to be around 150 feet but not to exceed 500 feet.
Formation - Shinarump sandstone and Moenholpi Shales.
Coring - using a Christensen double tube heavy duty core barrell, cutting a 2 1/8 inch core, I will guarantee 90% core recovery.
Plug drilling - using air will cut a 4 3/4 inch hole with Hughes rock bits.
Engineering - the number of cores, the footage and depths of hole and drill sites to be determined by La Salle Co. engineer and to be followed implicitly, by the drilling contractor.
Operation - to begin within the months of November or December, 1954. Drilling, to be in a continuous and workman like manner and under direct supervision of La Salle engineer.
Camp facilities - to be furnished by contractor, as well as transportation of moving on and off location.
Price - I will do this drilling for $2.50 (two dollars and fifty cents) per foot including the coring and plug drilling.

Respectfully submitted by

George McKenzie

Geo. McKenzie

GMcM/db

Denver Federal Center
Denver, Colorado

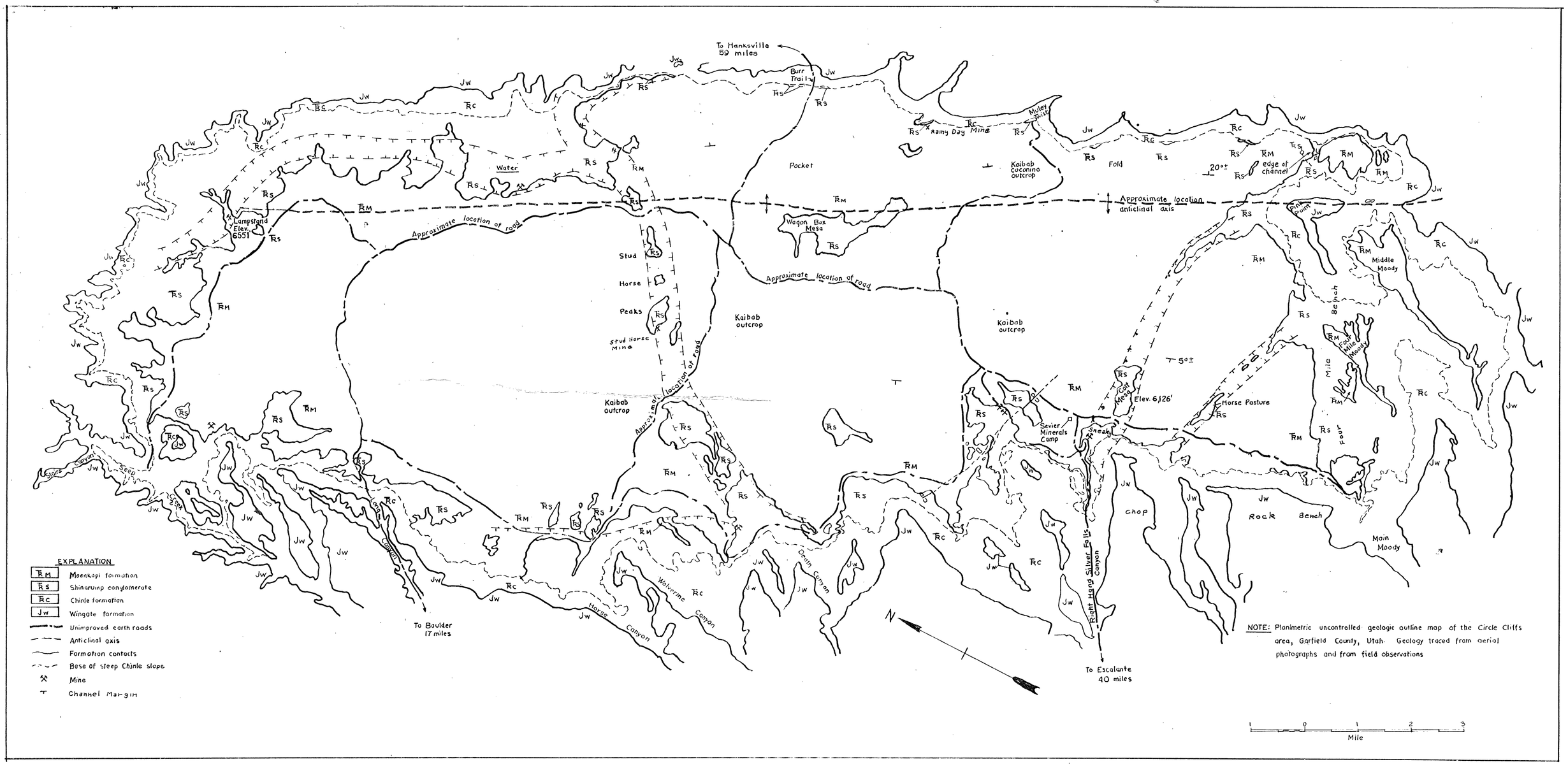
OFFICIAL BUSINESS

AIR MAIL

AIR MAIL

Mr. E. William Ellis
Defense Minerals Exploration Administration
Interior Building, Room 4640
Washington 25, D. C.

AIR MAIL



Geologic map of Circle Cliffs area — Garfield County, Utah

Figure 2

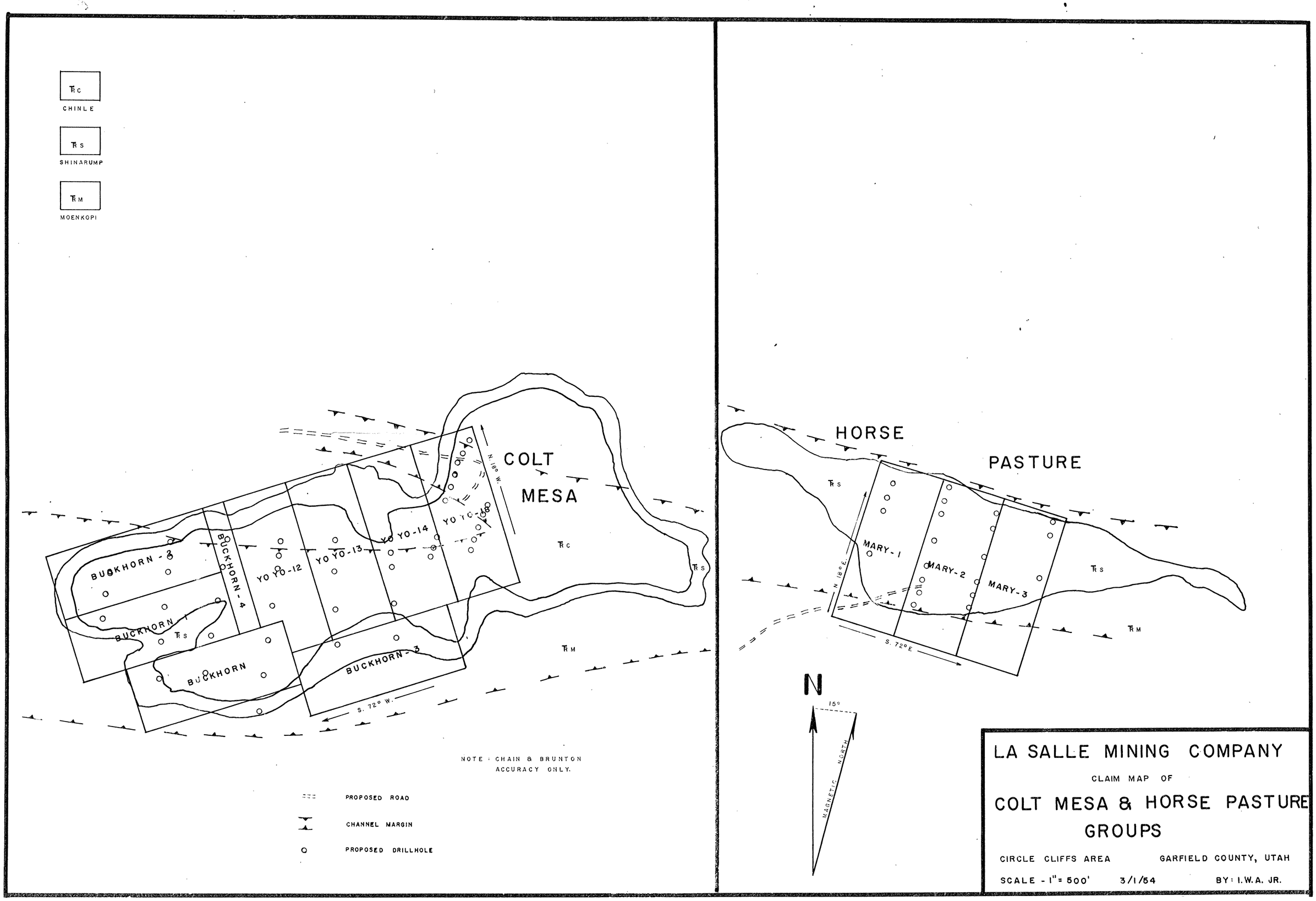

TRc
CHINLE
TRs
SHINARUMP
TRm
MOENKOPI
COLT
MESA
N. 18° W.
BUCKHORN - 2
BUCKHORN - 4
YO YO-12
YO YO-13
YO YO-14
YO YO-18
BUCKHORN - 1
BUCKHORN
BUCKHORN - 3
S. 72° W.
NOTE : CHAIN & BRUNTON
ACCURACY ONLY.
PROPOSED ROAD
CHANNEL MARGIN
PROPOSED DRILLHOLE
HORSE
PASTURE
MARY - 1
MARY - 2
MARY - 3
N. 18° E.
S. 72° E.
N
15°
MAGNETIC NORTH
LA SALLE MINING COMPANY
CLAIM MAP OF
COLT MESA & HORSE PASTURE
GROUPS
CIRCLE CLIFFS AREA
GARFIELD COUNTY, UTAH
SCALE - 1" = 500'
3/1/54
BY: I.W.A. JR.

FIGURE 3