STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : E. Wm. Ellis, DMEA Member, Uranium Commodity Committee

DATE: September 14, 1953

FROM : Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

SUBJECT: Final Field Team Report, DMEA Docket 3091 (Uranium), Clyde J. Wright, et. al. (Address not given) Pinion and Cedar groups of claims, Secs. 18 and 19 (unsurveyed) T. 48 N., R. 18 W. and Secs. 13 (unsurveyed) and 24, T. 48 N., R. 19 W., Montrose Co., Colorado.

The Field Team report concerning exploration on the property identified in the subject above has been reviewed.

The applicant proposed to drill 141 wagon drill holes ranging from 25 to 165 feet deep to explore for extensions of a small ore body in the upper part of the Salt Wash Member of the Morrison Formation.

Examination by the examining members of the field team revealed that the deposit is not in the uppermost and more favorable sandstone bed, but in a lower bed not generally favorable for numerous or large ore bodies. Some drilling by the applicant ahead of exposed mineralized rock has penetrated mostly barren rock. They conclude that the property is not likely to be a locus of enough ore to warrant Government assistance for exploration and recommend that the application for assistance be denied. If, however, exploration planned by the applicant with his own money should find some ore, the Field Team believe that a new application should receive consideration.

no - it is favorable!

Recommendation

I concur with the action of the Field Team denying the application.

Arthur P. Butler, Jr.

Copies to: Ellis (2)

IN REPLY REFER TO:

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

L. Wm. Ellis, DMEA Member, Uranium Commodity Committee

September 14, 1953

Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

Final Field Team Report, DMEA Docket 3091 (Uranium), Clyde J. Wright, et. al. (Address not given) Pinion and Cedar groups of claims, Secs. 18 and 19 (unsurveyed) T. 48 N., R. 18 W. and Secs. 13 (unsurveyed) and 24, T. 48 N., R. 19 W., Montrose Co., Colorado.

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Recommendation

I concur with the action of the Field Team denying the application.

Copies to: Ellis (2)

IN REPLY REFER TO:

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

Wm. Ellis, DMEA Member, Uranium Commodity Committee

September 14, 1953

Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

Final Field Team Report, DMEA Docket 3091 (Uranium), Clyde J. Wright, et. al. (Address not given) Pinion and Cedar groups of claims, Secs. 18 and 19 (unsurveyed) T. 48 N., R. 18 W. and Secs. 13 (unsurveyed) and 24, T. 48 N., R. 19 W., Montrose Co., Colorado.

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Recommendation

I concur with the action of the Field Team denying the application.

Copies to: Ellis (2)

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 16 1953

September 16, 1953

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4640

From: H. D. Keiser, Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket No. 3091, Clyde Wright, Montrose County, Colo.

I have reviewed the subject report and discussed it with Arthur P. Butler, Geological Survey Member.

I concur with the Field Team in denial of the application involved under the subject docket.

The report has been forwarded to the Chief, Minerals Division, Bureau of Mines, in accord with the routing slip attached thereto.

H. D. Keiser

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 3 - 1953

224 New Customhouse
Denver 2, Colorado

August 31, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 3091 (Uranium), Clyde Wright, Montrose County, Colorado.

Enclosed are four copies of the final report on the subject docket, a copy of the letter of denial to the applicant and two copies of Form 3b.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
9-9-53
(date)

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 3 - 1953

224 New Customhouse
Denver 2, Colorado

August 31, 1953.

Mr. Clyde Wright
Paradox
Colorado

Re: Docket DMEA-3091

Dear Mr. Wright:

Reference is made to your application for Government aid on the Penion and Cedar Group.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves of uranium by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

W. H. King
W. H. King
Field Team, Region IV

HMC:cwm

cc: Docket
Administrator, DMEA
WMTraver
RPFischer
ERGordon
AHKoschmann (2)
Chron.

A. H. Koschmann
A. H. Koschmann
Field Team, Region IV

Reviewed by
DMEA OPERATING COMMITTEE
9-9-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 3 1953

Mining Division
Region IV

August 31, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 3091 (Uranium), Clyde Wright, Montrose County, Colorado.

Enclosed are ten copies of the final engineering report on the subject docket.

The applicant requested $8,064.00 for wagon drilling 141 holes.

The examiners agree that this work is not warranted and they recommend denial.

We concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
9-9-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
August 25, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3091, Penion and Cedar groups (Uranium), Clyde Wright, et al., Applicants, Montrose County, Colo.

Enclosed please find the original and ten copies of Carl Belser's engineering report on the subject docket.

Field examination was made by the author with R. R. McLellan, Bureau of Mines, and C. F. Withington, Geological Survey, and you have received the geologic report.

Belser concludes that because the deposits in the area in the same sandstone beds have been small and widely dispersed and recent wagon drilling by the applicant has been unfavorable, the possibility of the proposed wagon drilling showing better results is unlikely. He recommends denial.

I concur with the conclusions and recommendations.

The brochure forwarded with your memorandum of June 25, 1953, instructing us to prepare a suitable report is also enclosed.

W. M. Traver

W. M. Traver

enclosures

WMT/cb

cc: 10
DMEA 3091
Caron.

Reviewed by
DMEA OPERATING COMMITTEE
9-9-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

August 14, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA 3091, Clyde Wright et al., Penion and Cedar groups, Paradox district, Montrose County, Colorado

Enclosed are 10 copies of the geologic report by C. F. Withington of the U. S. Geological Survey covering the above report.

It has been recommended that the loan be denied.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (10)

Reviewed by
DMEA OPERATING COMMITTEE
9-9-53
(date)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
GRAND JUNCTION, COLORADO

August 11, 1953

Memorandum

To: A. H. Koschmann
Field Team, Region IV

From: R. P. Fischer
Colorado Plateau District

Subject: DMEA 3091, Clyde Wright et al., Penion and Cedar groups, Paradox district, Montrose County, Colorado

Transmitted herewith are ten copies of a geologic report on the Penion and Cedar groups which are partly owned and partly leased by Clyde Wright, Keith Wright, U. A. Small and Jesse Steele. These claims are in the Paradox district, Montrose County, Colo. The applicants have applied for assistance in exploring for uranium deposits by drilling 141 wagon drill holes. The application requests $8,064.00 for drilling and construction of access roads.

The attached report was prepared by C. F. Withington, and is based on a field examination made jointly on July 17 with R. R. McLellen and Carl Belser of the Bureau of Mines.

Mineralized material is known only the Patterson Seep lode in a bed of sandstone about 90 feet stratigraphically below the top of the Salt Wash member. About 70 tons of ore, estimated to average about 0.35 percent U_3O_8 and 2.5 percent V_2O_5, have been produced. No reserves are present in the workings.

The report recommends that the proposed exploration be denied because sandstone beds at the stratigraphic position of the known deposits generally contain only small and scattered deposits, and because the applicants' own drilling in some of the ground purposed for exploration has not yielded favorable results. The chances of finding additional ore are considered poor.

I concur with the appraisal and recommendation.

R. P. Fischer

R. P. Fischer
Acting District Supervisor

Enclosures 10

Reviewed by
DMEA OPERATING COMMITTEE
9-9-53

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3091, Glenn Wright, et al., Applicants

Fenion and Cedar Groups

Montrose County, Colo.

Uranium

Carl Belser, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE

9-2-53
(date)

August 24, 1953

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS MCKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM

REGION IV

DMEA 3091 (Uranium)

Clyde Wright, et al., Penion and Cedar groups
Paradox district, Montrose County, Colorado

By

Charles F. Withington
U. S. Geological Survey

August 11, 1953

DMEA 3091 (Uranium)

CLYDE J. WRIGHT, ET AL., PENION AND CEDAR GROUPS, PARADOX DISTRICT, MONTROSE COUNTY, COLORADO

INTRODUCTION AND SUMMARY

Clyde J. Wright, Keith Wright, U. A. Small, and Jesse Steele have applied (DMEA Docket 3091) to the Defense Minerals Exploration Administration for a loan to be used for the exploration of uranium on the Penion and Cedar groups, in unsurveyed secs. 18 and 19, T. 48 N., R. 18 W., and secs. 13 (unsurveyed) and 24, T. 48 N., R. 19 W., New Mexico principal meridian, Paradox district, Montrose County, Colo. (fig. 1). The property proposed for exploration by this application is partly owned and partly leased by the applicants. The applicants also have a mining lease from the Atomic Energy Commission for the ground in conflict with oil and gas leases. (fig. 2).

The plan submitted by the applicants includes 80 hours of bulldozer work to prepare the area for drilling, and 7,950 feet of wagon drilling. The drilling is planned in one phase, to explore the ground on the Irish and Patterson Seep lodes along the apparent trend of the ore deposit on the Patterson Seep lode. The applicants propose to drill 141 holes, which would be spaced 12.5 feet apart near the mine face and would increase to 100 feet apart on the Irish lode (fig. 3). The holes would range in depth from 25 feet to 165 feet (fig. 3). The total cost of exploration is estimated to be $8,064.00

The applicants have already drilled 10 holes on 25- to 30-foot spacing in front of the Patterson Seep mine (fig. 4). Mr. Clyde Wright, one of the applicants, indicated that one of these holes cut mineralized material below the cutoffs for ore, and that the remaining holes were barren. Mr. Wright also indicates that he is planning at least one additional line of holes on 25-foot centers 50 feet from those already drilled. This information was not included in the applicants proposal.

An examination of these claims was made in the company of R. R. McLellen and Carl Belser of the U. S. Bureau of Mines on July 17, 1953. Mr. Clyde Wright was contacted, although he did not visit the claims with the field team.

It is recommended that the proposed exploration plan be denied in view of the fact that the applicants' own drilling have not yielded favorable results. Furthermore, part of the drilling proposed is so closely spaced that it can appropriately be considered development drilling rather than exploration drilling. No alternative plan is proposed, as it is thought that any additional drilling probably would not find enough ore to justify the Government's participation in an exploration program. However, if any ore is discovered with additional drilling by the applicants, consideration of a new application would be desirable.

GEOLOGY

The exposed rock on the Penion and Cedar groups consist of the Salt Wash member of the Jurassic Morrison formation. The Salt Wash member consists of three or more light brown sandstone beds 10 to 50 feet thick, seperated by beds of mudstone up to 50 feet thick. The mudstone beds are generally red-brown, but directly under the sandstone beds, they are locally gray-green. Included in the sandstone beds are lenses of mudstone which are generally red-brown, but in the vicinity of the ore deposit are gray-green. The exposed rocks strike about N. 45° W. and dip 5° to 6° NE.

Although the applicants state that the ore on the Patterson Seep lode occurs in the top or main ore-bearing sandstone of the Salt Wash member, in reality, it occurs in a bed of sandstone about 90 feet stratigraphically below the main ore-bearing sandstone. This sandstone bed generally contains only small and scattered deposits. The top sandstone bed of the Salt Wash member, from which most of the production of uranium from the Paradox district has come, appears to be unfavorable for ore in the vicinity of the Penion and Cedar groups according to criteria developed by the Geological Survey _/.

_/ Weir, D. B., 1952, Geologic guides to prospecting for carnotite deposits on Colorado Plateau: U. S. Geol. Survey Bull. 988-B.

However, the sandstone bed which contains the mineralized material on the Patterson Seep lode is favorable for ore according to the same criteria. The favorable sandstone extends latterally about 100 feet along the outcrop on either side of the mine portal, where it becomes unfavorable. The sedimentary structures indicate that the bed which contains the mineralized material trends slightly north of west.

ORE DEPOSITS

On the Penion and Cedar groups, uranium-bearing material is known only on the Patterson Seep lode. The deposit consists of a thin tabular body about 40 to 50 feet in diameter. This deposit is generally about 6 inches thick, but thickens locally to a foot or more to form NW-trending rolls. Fossil logs and carbonaceous material, in part containing mineralized material, are associated with the deposit. The logs are oriented in an E. to NE. direction. The minerals in the deposit are typical of those of the carnotite deposits of the Colorado Plateau. About 70 tons of ore averaging about 0.35 percent U_3O_8 and 2.5 percent V_2O_5 have been produced from the Patterson Seep lode. Production data are based in part on the figures supplied in the application and in part on figures from the AEC files. There is no record in the AEC files of the 12 tons of ore reported by the applicants to have been shipped in 1950.

No reserves are present in the workings, although there are a few thin seams of mineralized material.

PROPOSED EXPLORATION

The applicants have proposed exploration by wagon drilling. Their plan is to drill 141 holes, totaling 7,950 feet. The holes would range in depth from 25 to 165 feet. The plan is to test the projected trend of the favorable ground by drilling holes on 12.5-foot centers ahead of the Patterson Seep mine faces, increasing the centers to 100 feet on the Irish lode (see fig. 4).

SUBSEQUENT EXPLORATION BY APPLICANTS

At the time the field examination was made, the applicants had already drilled 10 holes, on 25- to 30-foot centers, in front of the mine faces, mostly in the ground proposed for DMEA exploration, and they indicated that more drilling is planned there. According to Clyde Wright, one of the holes drilled cut mineralized material below the cutoffs for ore. The remaining were barren.

CONCLUSIONS AND RECOMMENDATIONS

Because sandstone beds at the stratigraphic position of the known deposit on the Penion and Cedar groups of claims generally contains only small and scattered deposits, and because the drilling recently completed by the applicants in the ground proposed for exploration has not yielded favorable results, it is concluded that there is little chance of finding enough ore to justify the Government's participation in an exploration program. Furthermore, some of the drilling proposed is so closely spaced that it can appropriately be considered development drilling rather than exploration. For these reasons, it is recommended that the application be denied.

On the other hand, if continued work by the applicants yields information of better geologic favorableness, or should find some ore, consideration of a new application would be desirable.

DMEA 3091

CLYDE WRIGHT, ET AL., APPLICANTS

PENION AND CEDAR GROUPS

MONTROSE COUNTY, COLO.

Engineering Report

By Carl Baker
Mining Engineer
Bureau of Mines

DMEA 3091

CLYDE WRIGHT, ET AL., APPLICANTS
PENION AND CEDAR GROUPS
MONTROSE COUNTY, COLO.

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2. Claim map, Penion and Cedar groups, Montrose County, Colo.	3
3. Plan and contour map, Patterson Seep lode, Montrose County, Colo.	4
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DMEA 3091
CLYDE WRIGHT, ET AL., APPLICANTS
PENION AND CEDAR GROUPS
MONTROSE COUNTY, COLO.

ENGINEERING REPORT

By Carl Belser

INTRODUCTION

Clyde Wright, Keith Wright, U. A. Small, and Jesse Steele, who have a mining lease on the Penion and Cedar groups of mining claims, located in Carpenter Flats, northeast of Paradox, Colo., have applied for a Defense Minerals Exploration Administration loan to explore the property for Uranium. The applicants submitted a proposal estimated to cost $8,064.00--Government participation 90 percent, or $7,257.60--to explore the Patterson Seep and Irish claims in the third rim horizon of the Salt Wash member of the Morrison formation for uranium, at points which are impossible to examine from surface or from existing workings.

The proposal called for the drilling of 141 wagon drill holes, or 7,950 feet of drilling, together with supervision, preparation of drill sites, assaying, and engineering. The property was investigated on July 17, 1953, by a Region IV examining team.

ACKNOWLEDGMENTS

The writer was accompanied by Charles Withington, geologist, Geological Survey, and R. R. McLellan, mining engineer, Bureau of Mines, with whom geological conditions and the possibility of finding new ore deposits were fully discussed. The application was also discussed with Clyde Wright, who was unable to accompany the examining team to the property.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property consists of twenty lode mining claims grouped around the northeast corner of sec. 24, T. 48 N., R 19 W., New Mexico principal meridian, on Carpenter Flats, Montrose County, Colo. (fig. 1). The Carpenter Ridge road, an all-weather road, traverses the extreme southwest corner of the group and a 6,500-foot-long mine access road connects the Patterson Seep mine with the Carpenter Ridge road. This access road is unsurfaced and becomes impassable for short periods during wet weather. The Patterson Sink mine is 10 miles by road from Paradox, the nearest telephone station and postoffice; 28.5 miles from Uravan, the nearest supply point; and 90 miles from Ridgway and 117.5 miles from Grand Junction, the nearest railheads.

The altitude at the portal of the Patterson Sink mine is 6,770 feet. In general, the area consists of high mesas and rounded mountain tops separated by deep gorges and sunken valleys.

The climate is classed as semi-arid, with annual rainfall averaging about 12 inches. Winters, while severe, are not so rugged as to prohibit year-around operation. Juniper, pinon, and some ponderosa pine are found on the property and can be used as mine timbers.

A limited labor supply is available in Uravan, but wagon drill contractors would furnish their own crews. Water for mine use can be obtained from a reservoir 4 miles distant and drinking water is available at a spring 6 miles from the mine. Paradox is the nearest residential area, but a camp could be established at the mine.

HISTORY AND PRODUCTION

The only production reported from the property is from the Patterson Sink workings where 60 tons of ore, containing 2.25 percent V_2O_5 and an unknown amount of U_3O_8, were produced in 1944 and 12 tons, containing 0.41 percent U_3O_8, were produced in 1950. The ore in the face of the Patterson Sink working was cut off by mudstone and no production has been made since 1950. Some production was made from the Dorothy E. claim, a short distance to the north, and it is said the Radium King, Copper Jack, and Legal Tender mines, which are about one-half mile to the southeast, have produced over $200,000.00 worth of ore.

OWNERSHIP AND EXTENT

The property consists of twenty unpatented mining claims (fig. 2). They are recorded in the records of the county clerk and recorder at Montrose, as follows:

Claim	Book	Page	Claim	Book	Page
Patterson Seep	80	339	Penion No. 7	349	544
Judy Ann	343	393	Penion No. 8	349	544
Irish	343	392	Penion No. 9	349	545
Bonnie Bob	343	391	Penion No. 10	349	545
Penion No. 1	349	541	Penion No. 11	349	546
Penion No. 2	349	541	Penion No. 12	349	546
Penion No. 3	349	542	Cedar No. 1	349	547
Penion No. 4	349	542	Cedar No. 2	349	547
Penion No. 5	349	543	Cedar No. 3	349	548
Penion No. 6	349	543	Cedar No. 4	349	548

On May 25, 1953, a two-year lease was granted to the applicants on the Patterson seep lode mining claim by Joe and Andy Riddle. The lease calls for a minimum of 1,000 feet of wagon drilling for the first year and 2,000 feet the second year. The lessors agree to a subordination agreement in case a Government exploratory loan is granted. On May 25, 1953, a two-year lease was granted to the applicants on the Judy Ann, Irish, and Bonnie Bob lode mining claims by Bob and Kent Riddle. The agreement calls for the performance of annual assessment work and 1,000 feet of wagon drilling. The lessors agree to a subordination agreement in case a Government exploratory loan is granted. The Judy Ann claim was not shown on the applicants' map but is presumed to occupy the space between the Irish and Penion No. 5 claims. A lease was granted to Clyde J. Wright and U. A. Small on the Penion and Cedar lode mining claims (sixteen claims) on February 15, 1953, by the Atomic Energy Commission. This lease remains in force as long as the lease provisions are complied with. Portions in conflict with the Patterson Seep and Carpenter Flats No. 12 claims are exempted.

DESCRIPTION OF THE DEPOSITS

The ore occurs in lenses or "rolls" in the third rim of the Salt Wash member of the Morrison formation (Upper Jurrasic). In the Patterson Seep mine workings (fig. 3) the ore-bearing lense, which apparently has an east-west strike, occurs in a flat-dipping, soft sandstone which rests upon a micro-crystalline grey mudstone. The thicker parts of the "roll" are reported to have been 36 inches thick.

At least two east-west striking "trees" are said to have been mined. Remnants of ore are visable along the sides of the workings and "tree halos" are in evidence. The face of the main adit is entirely in mudstone. Some wagon drilling was done recently above the rim and results have been disappointing. The ground is moderately firm, but only smaller openings stand without timber.

MINEABLE ORE RESERVES.

There are no mineable ore reserves at this time. The applicants have drilled nine holes adjacent to the Patterson Seep workings on the apparent ore trend without penetrating mineable uranium ore and the chances of developing a substantial ore deposit by drilling additional holes along the apparent strike of the ore lense are not encouraging.

PRESENT STATUS

Exploration and Development

The mine workings are shown on figure 3. The map also shows the location of the holes that were drilled prior to the examination.

Mining and Milling Equipment and other Facilities

The only facilities on the property are the access road and standing timber. The nearest custom mill is at Uravan, 28.5 miles distant, and any ore produced would have to be transported there for treatment.

PROJECT PROPOSALS, WITH COSTS

The applicants proposed drilling 141 wagon drill holes (fig. 4) varying in depth from 25 feet to 165 feet, or approximately 8,000 feet of drilling. The applicants' estimate, which covered preparation of drill sites, wagon drilling, supervision, assaying, technical services, and transportation totaled $8,064.00.

Contingencies not included in the estimate would involve testing any large showing of good ore that might be encountered in one of the deeper holes and would require about 10 additional holes (1,650 feet of drilling) at an additional cost of $1,237.50.

The contractor's bid of 75 cents a foot, for drilling, includes the saving of samples with a dust collector and was $14.00 less than recently bid for similar wagon drilling on the Quarrel group (DMEA 2788) where the bid was 65 cents a foot for holes up to 50 feet in depth and $1.00 a foot for depths between 50 feet and 150 feet. The salary of a full-time sampler would also be saved. Clyde Wright, the proposed superintendent, has had 15 years experience in mining vanadium-uranium ores.

In detail, the proposed initial drilling, as shown on figure 4, follows:

Row	Number of holes	Approx. depth feet	Spacing west of last row feet	Spacing between holes	Total footage
a - e	28	25		12.5	700
f - h	15	30	25.0	25.0	450
i - j	15	35	25.0	25.0	525
k	9	40	23.0	25.0	360
l - m	19	45	25.0	25.0	855
n - o	11	50	25.0	25.0	550
p	7	60	50.0	50.0	420
q	7	70	50.0	50.0	490
r	5	80	50.0	100.0	400
s	4	90	75.0	100.0	360
t	5	100	75.0	100.0	500
u	5	125	100.0	100.0	625
v	5	145	100.0	100.0	725
w	6	165	100.0	100.0	990
a - w	141				7,950

In the event a project is approved, the applicants state that work could begin within a week after notification to proceed, weather permitting, and could be completed in 30 working days.

CONCLUSIONS

The pinching out of the ore zone in the face of the adit by mudstone and the disappointing results from the wagon drilling previously completed, indicate that the possibility of a discovery of commercial uranium deposits by additional wagon drilling on the Pinion-Cedar group is remote and, in the opinion of the examining team, not a sound exploration project.

RECOMMENDATIONS

It is recommended that the applicants' request for Government assistance in exploration work on the Penion and Cedar groups be denied.

eb

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 3 - 1953

224 New Customhouse
Denver 2, Colorado

August 31, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 3091 (Uranium), Clyde Wright, Montrose County, Colorado.

Enclosed are four copies of the final report on the subject docket, a copy of the letter of denial to the applicant and two copies of Form 3b.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

DENIED

OFFICE OF THE ADMINISTRATOR

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 3 - 1953

C
O
P
Y

224 New Customhouse
Denver 2, Colorado

August 31, 1953

Mr. Clyde Wright
Paradox
Colorado

Re: Docket DMEA_3091

Dear Mr. Wright:

Reference is made to your application for Government aid on the Penion and Cedar Group.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves of uranium by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise thety your application for exploration aid is denied.

Very truly yours,

/s/ W. H. King
Field Team, Region IV

/s/ A.H. Koschmann
Field Team, Region IV

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 3 - 1953

Mining Division
Region IV

August 31, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 3091 (Uranium), Clyde Wright, Montrose County, Colorado.

Enclosed are ten copies of the final engineering report on the subject docket.

The applicant requested $8,064.00 for wagon drilling 141 holes.

The examiners agree that this work is not warranted and they recommend denial.

We concur in this recommendation.

W. H. King
W. H. King

Enclosures

Region IV

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
August 25, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3091, Penion and Cedar groups (Uranium), Clyde Wright, et al., Applicants, Montrose County, Colo.

Enclosed please find the original and ten copies of Carl Belser's engineering report on the subject docket.

Field examination was made by the author with R. R. McLellan, Bureau of Mines, and C. F. Withington, Geological Survey, and you have received the geologic report.

Belser concludes that because the deposits in the area in the same sandstone beds have been small and widely dispersed and recent wagon drilling by the applicant has been unfavorable, the possibility of the proposed wagon drilling showing better results is unlikely. He recommends denial.

I concur with the conclusions and recommendations.

The brochure forwarded with your memorandum of June 25, 1953, instructing us to prepare a suitable report is also enclosed.

W. M. Traver

W. M. Traver

enclosures

WMT/eb

cc: 10
DMEA 3091
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

August 14, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA 3091, Clyde Wright et al., Penion and Cedar groups, Paradox district, Montrose County, Colorado

Enclosed are 10 copies of the geologic report by C. F. Withington of the U. S. Geological Survey covering the above report.

It has been recommended that the loan be denied.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (10)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
GRAND JUNCTION, COLORADO

August 11, 1953

Memorandum

To: A. H. Koschmann
Field Team, Region IV

From: R. P. Fischer
Colorado Plateau District

Subject: DMEA 3091, Clyde Wright et al., Penion and Cedar groups, Paradox district, Montrose County, Colorado

Transmitted herewith are ten copies of a geologic report on the Penion and Cedar groups which are partly owned and partly leased by Clyde Wright, Keith Wright, U. A. Small and Jesse Steele. These claims are in the Paradox district, Montrose County, Colo. The applicants have applied for assistance in exploring for uranium deposits by drilling 141 wagon drill holes. The application requests $8,064.00 for drilling and construction of access roads.

The attached report was prepared by C. F. Withington, and is based on a field examination made jointly on July 17 with R. R. McLellen and Carl Belser of the Bureau of Mines.

Mineralized material is known only the Patterson Seep lode in a bed of sandstone about 90 feet stratigraphically below the top of the Salt Wash member. About 70 tons of ore, estimated to average about 0.35 percent U_3O_8 and 2.5 percent V_2O_5, have been produced. No reserves are present in the workings.

The report recommends that the proposed exploration be denied because sandstone beds at the stratigraphic position of the known deposits generally contain only small and scattered deposits, and because the applicants' own drilling in some of the ground purposed for exploration has not yielded favorable results. The chances of finding additional ore are considered poor.

I concur with the appraisal and recommendation.

R. P. Fischer

R. P. Fischer
Acting District Supervisor

Enclosures 10

AUG 1953
RECEIVED
U.S. Geological Survey
Mineral Deposits Branch
Denver

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3091, Clyde Wright, et al., Applicants

Penion and Cedar Groups

Montrose County, Colo.

Uranium

Carl Belser, Mining Engineer
Bureau of Mines

August 24, 1953

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS MCKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM

REGION IV

DMEA 3091 (Uranium)

Clyde Wright, et al., Penion and Cedar groups
Paradox district, Montrose County, Colorado

By

Charles F. Withington
U. S. Geological Survey

August 11, 1953

DMEA 3091 (Uranium)

CLYDE J. WRIGHT, ET AL., PENION AND CEDAR GROUPS, PARADOX DISTRICT, MONTROSE COUNTY, COLORADO

INTRODUCTION AND SUMMARY

Clyde J. Wright, Keith Wright, U. A. Small, and Jesse Steele have applied (DMEA Docket 3091) to the Defense Minerals Exploration Administration for a loan to be used for the exploration of uranium on the Penion and Cedar groups, in unsurveyed secs. 18 and 19, T. 48 N., R. 18 W., and secs. 13 (unsurveyed) and 24, T. 48 N., R. 19 W., New Mexico principal meridian, Paradox district, Montrose County, Colo. (fig. 1). The property proposed for exploration by this application is partly owned and partly leased by the applicants. The applicants also have a mining lease from the Atomic Energy Commission for the ground in conflict with oil and gas leases. (fig. 2).

The plan submitted by the applicants includes 80 hours of bulldozer work to prepare the area for drilling, and 7,950 feet of wagon drilling. The drilling is planned in one phase, to explore the ground on the Irish and Patterson Seep lodes along the apparent trend of the ore deposit on the Patterson Seep lode. The applicants propose to drill 141 holes, which would be spaced 12.5 feet apart near the mine face and would increase to 100 feet apart on the Irish lode (fig. 3). The holes would range in depth from 25 feet to 165 feet (fig. 3). The total cost of exploration is estimated to be $8,064.00

The applicants have already drilled 10 holes on 25- to 30-foot spacing in front of the Patterson Seep mine (fig. 4). Mr. Clyde Wright, one of the applicants, indicated that one of these holes cut mineralized material below the cutoffs for ore, and that the remaining holes were barren. Mr. Wright also indicates that he is planning at least one additional line of holes on 25-foot centers 50 feet from those already drilled. This information was not included in the applicants proposal.

An examination of these claims was made in the company of R. R. McLellen and Carl Belser of the U. S. Bureau of Mines on July 17, 1953. Mr. Clyde Wright was contacted, although he did not visit the claims with the field team.

It is recommended that the proposed exploration plan be denied in view of the fact that the applicants' own drilling have not yielded favorable results. Furthermore, part of the drilling proposed is so closely spaced that it can appropriately be considered development drilling rather than exploration drilling. No alternative plan is proposed, as it is thought that any additional drilling probably would not find enough ore to justify the Government's participation in an exploration program. However, if any ore is discovered with additional drilling by the applicants, consideration of a new application would be desirable.

GEOLOGY

The exposed rock on the Penion and Cedar groups consist of the Salt Wash member of the Jurassic Morrison formation. The Salt Wash member consists of three or more light brown sandstone beds 10 to 50 feet thick, seperated by beds of mudstone up to 50 feet thick. The mudstone beds are generally red-brown, but directly under the sandstone beds, they are locally gray-green. Included in the sandstone beds are lenses of mudstone which are generally red-brown, but in the vicinity of the ore deposit are gray-green. The exposed rocks strike about N. 45° W. and dip 5° to 6° NE.

Although the applicants state that the ore on the Patterson Seep lode occurs in the top or main ore-bearing sandstone of the Salt Wash member, in reality, it occurs in a bed of sandstone about 90 feet stratigraphically below the main ore-bearing sandstone. This sandstone bed generally contains only small and scattered deposits. The top sandstone bed of the Salt Wash member, from which most of the production of uranium from the Paradox district has come, appears to be unfavorable for ore in the vicinity of the Penion and Cedar groups according to criteria developed by the Geological Survey _/.

_/ Weir, D. B., 1952, Geologic guides to prospecting for carnotite deposits on Colorado Plateau: U. S. Geol. Survey Bull. 988-B.

However, the sandstone bed which contains the mineralized material on the Patterson Seep lode is favorable for ore according to the same criteria. The favorable sandstone extends latterally about 100 feet along the outcrop on either side of the mine portal, where it becomes unfavorable. The sedimentary structures indicate that the bed which contains the mineralized material trends slightly north of west.

ORE DEPOSITS

On the Penion and Cedar groups, uranium-bearing material is known only on the Patterson Seep lode. The deposit consists of a thin tabular body about 40 to 50 feet in diameter. This deposit is generally about 6 inches thick, but thickens locally to a foot or more to form NW-trending rolls. Fossil logs and carbonaceous material, in part containing mineralized material, are associated with the deposit. The logs are oriented in an E. to NE. direction. The minerals in the deposit are typical of those of the carnotite deposits of the Colorado Plateau. About 70 tons of ore averaging about 0.35 percent U_3O_8 and 1.5 percent V_2O_5 have been produced from the Patterson Seep lode. Production data are based in part on the figures supplied in the application and in part on figures from the AEC files. There is no record in the AEC files of the 12 tons of ore reported by the applicants to have been shipped in 1950.

No reserves are present in the workings, although there are a few thin seams of mineralized material.

PROPOSED EXPLORATION

The applicants have proposed exploration by wagon drilling. Their plan is to drill 141 holes, totaling 7,950 feet. The holes would range in depth from 25 to 165 feet. The plan is to test the projected trend of the favorable ground by drilling holes on 12.5-foot centers ahead of the Patterson Seep mine faces, increasing the centers to 100 feet on the Irish lode (see fig. 4).

SUBSEQUENT EXPLORATION BY APPLICANTS

At the time the field examination was made, the applicants had already drilled 10 holes, on 25- to 30-foot centers, in front of the mine faces, mostly in the ground proposed for DMEA exploration, and they indicated that more drilling is planned there. According to Clyde Wright, one of the holes drilled cut mineralized material below the cutoffs for ore. The remaining were barren.

CONCLUSIONS AND RECOMMENDATIONS

Because sandstone beds at the stratigraphic position of the known deposit on the Penion and Cedar groups of claims generally contains only small and scattered deposits, and because the drilling recently completed by the applicants in the ground proposed for exploration has not yielded favorable results, it is concluded that there is little chance of finding enough ore to justify the Government's participation in an exploration program. Furthermore, some of the drilling proposed is so closely spaced that it can appropriately be considered development drilling rather than exploration. For these reasons, it is recommended that the application be denied.

On the other hand, if continued work by the applicants yields information of better geologic favorableness, or should find some ore, consideration of a new application would be desirable.

DMEA 3091

CLYDE WRIGHT, ET AL., APPLICANTS

PENION AND CEDAR GROUPS

MONTROSE COUNTY, COLO.

Engineering Report

By Carl Belser
Mining Engineer
Bureau of Mines

DMEA 3091

CLYDE WRIGHT, ET AL., APPLICANTS
PENION AND CEDAR GROUPS
MONTROSE COUNTY, COLO.

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ILLUSTRATIONS

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3. Plan and contour map, Patterson Seep lode, Montrose County, Colo.	4
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DMEA 3091
CLYDE WRIGHT, ET AL., APPLICANTS
PENION AND CEDAR GROUPS
MONTROSE COUNTY, COLO.

ENGINEERING REPORT

By Carl Belser

INTRODUCTION

Clyde Wright, Keith Wright, U. A. Small, and Jesse Steele, who have a mining lease on the Penion and Cedar groups of mining claims, located in Carpenter Flats, northeast of Paradox, Colo., have applied for a Defense Minerals Exploration Administration loan to explore the property for Uranium. The applicants submitted a proposal estimated to cost $8,064.00--Government participation 90 percent, or $7,257.60--to explore the Patterson Seep and Irish claims in the third rim horizon of the Salt Wash member of the Morrison formation for uranium, at points which are impossible to examine from surface or from existing workings.

The proposal called for the drilling of 141 wagon drill holes, or 7,950 feet of drilling, together with supervision, preparation of drill sites, assaying, and engineering. The property was investigated on July 17, 1953, by a Region IV examining team.

ACKNOWLEDGMENTS

The writer was accompanied by Charles Withington, geologist, Geological Survey, and R. R. McLellan, mining engineer, Bureau of Mines, with whom geological conditions and the possibility of finding new ore deposits were fully discussed. The application was also discussed with Clyde Wright, who was unable to accompany the examining team to the property.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property consists of twenty lode mining claims grouped around the northeast corner of sec. 24, T. 48 N., R 19 W., New Mexico principal meridian, on Carpenter Flats, Montrose County, Colo. (fig. 1). The Carpenter Ridge road, an all-weather road, traverses the extreme southwest corner of the group and a 6,500-foot-long mine access road connects the Patterson Seep mine with the Carpenter Ridge road. This access road is unsurfaced and becomes impassable for short periods during wet weather. The Patterson Sink mine is 10 miles by road from Paradox, the nearest telephone station and postoffice; 28.5 miles from Uravan, the nearest supply point; and 90 miles from Ridgway and 117.5 miles from Grand Junction, the nearest railheads.

The altitude at the portal of the Patterson Sink mine is 6,770 feet. In general, the area consists of high mesas and rounded mountain tops separated by deep gorges and sunken valleys.

The climate is classed as semi-arid, with annual rainfall averaging about 12 inches. Winters, while severe, are not so rugged as to prohibit year-around operation. Juniper, piñon, and some ponderosa pine are found on the property and can be used as mine timbers.

A limited labor supply is available in Uravan, but wagon drill contractors would furnish their own crews. Water for mine use can be obtained from a reservoir 4 miles distant and drinking water is available at a spring 6 miles from the mine. Paradox is the nearest residential area, but a camp could be established at the mine.

HISTORY AND PRODUCTION

The only production reported from the property is from the Patterson Sink workings where 60 tons of ore, containing 2.25 percent V_2O_5 and an unknown amount of U_3O_8, were produced in 1944 and 12 tons, containing 0.41 percent U_3O_8, were produced in 1950. The ore in the face of the Patterson Sink working was cut off by mudstone and no production has been made since 1950. Some production was made from the Dorothy E. claim, a short distance to the north, and it is said the Radium King, Copper Jack, and Legal Tender mines, which are about one-half mile to the southeast, have produced over $200,000.00 worth of ore.

OWNERSHIP AND EXTENT

The property consists of twenty unpatented mining claims (fig. 2). They are recorded in the records of the county clerk and recorder at Montrose, as follows:

Claim	Book	Page	Claim	Book	Page
Patterson Seep	80	339	Penion No. 7	349	544
Judy Ann	343	393	Penion No. 8	349	544
Irish	343	392	Penion No. 9	349	545
Bonnie Bob	343	391	Penion No. 10	349	545
Penion No. 1	349	541	Penion No. 11	349	546
Penion No. 2	349	541	Penion No. 12	349	546
Penion No. 3	349	542	Cedar No. 1	349	547
Penion No. 4	349	542	Cedar No. 2	349	547
Penion No. 5	349	543	Cedar No. 3	349	548
Penion No. 6	349	543	Cedar No. 4	349	548

On May 25, 1953, a two-year lease was granted to the applicants on the Patterson seep lode mining claim by Joe and Andy Riddle. The lease calls for a minimum of 1,000 feet of wagon drilling for the first year and 2,000 feet the second year. The lessors agree to a subordination agreement in case a Government exploratory loan is granted. On May 25, 1953, a two-year lease was granted to the applicants on the Judy Ann, Irish, and Bonnie Bob lode mining claims by Bob and Kent Riddle. The agreement calls for the performance of annual assessment work and 1,000 feet of wagon drilling. The lessors agree to a subordination agreement in case a Government exploratory loan is granted. The Judy Ann claim was not shown on the applicants' map but is presumed to occupy the space between the Irish and Penion No. 5 claims. A lease was granted to Clyde J. Wright and U. A. Small on the Penion and Cedar lode mining claims (sixteen claims) on February 15, 1953, by the Atomic Energy Commission. This lease remains in force as long as the lease provisions are complied with. Portions in conflict with the Patterson Seep and Carpenter Flats No. 12 claims are exempted.

DESCRIPTION OF THE DEPOSITS

The ore occurs in lenses or "rolls" in the third rim of the Salt Wash member of the Morrison formation (Upper Jurrasic). In the Patterson Seep mine workings (fig. 3) the ore-bearing lense, which apparently has an east-west strike, occurs in a flat-dipping, soft sandstone which rests upon a micro-crystalline grey mudstone. The thicker parts of the "roll" are reported to have been 36 inches thick.

At least two east-west striking "trees" are said to have been mined. Remnants of ore are visable along the sides of the workings and "tree halos" are in evidence. The face of the main adit is entirely in mudstone. Some wagon drilling was done recently above the rim and results have been disappointing. The ground is moderately firm, but only smaller openings stand without timber.

MINEABLE ORE RESERVES.

There are no mineable ore reserves at this time. The applicants have drilled nine holes adjacent to the Patterson Seep workings on the apparent ore trend without penetrating mineable uranium ore and the chances of developing a substantial ore deposit by drilling additional holes along the apparent strike of the ore lense are not encouraging.

PRESENT STATUS

Exploration and Development

The mine workings are shown on figure 3. The map also shows the location of the holes that were drilled prior to the examination.

Mining and Milling Equipment and other Facilities

The only facilities on the property are the access road and standing timber. The nearest custom mill is at Uravan, 28.5 miles distant, and any ore produced would have to be transported there for treatment.

PROJECT PROPOSALS, WITH COSTS

The applicants proposed drilling 141 wagon drill holes (fig. 4) varying in depth from 25 feet to 165 feet, or approximately 8,000 feet of drilling. The applicants' estimate, which covered preparation of drill sites, wagon drilling, supervision, assaying, technical services, and transportation totaled $8,064.00.

Contingencies not included in the estimate would involve testing any large showing of good ore that might be encountered in one of the deeper holes and would require about 10 additional holes (1,650 feet of drilling) at an additional cost of $1,237.50.

The contractor's bid of 75 cents a foot, for drilling, includes the saving of samples with a dust collector and was $14.00 less than recently bid for similar wagon drilling on the Quarrel group (DMEA 2788) where the bid was 65 cents a foot for holes up to 50 feet in depth and $1.00 a foot for depths between 50 feet and 150 feet. The salary of a full-time sampler would also be saved. Clyde Wright, the proposed superintendent, has had 15 years experience in mining vanadium-uranium ores.

In detail, the proposed initial drilling, as shown on figure 4, follows:

Row	Number of holes	Approx. depth feet	Spacing west of last row feet	Spacing between holes	Total footage
a - e	28	25		12.5	700
f - h	15	30	25.0	25.0	450
i - j	15	35	25.0	25.0	525
k	9	40	23.0	25.0	360
l - m	19	45	25.0	25.0	855
n - o	11	50	25.0	25.0	550
p	7	60	50.0	50.0	420
q	7	70	50.0	50.0	490
r	5	80	50.0	100.0	400
s	4	90	75.0	100.0	360
t	5	100	75.0	100.0	500
u	5	125	100.0	100.0	625
v	5	145	100.0	100.0	725
w	6	165	100.0	100.0	990
a - w	141				7,950

In the event a project is approved, the applicants state that work could begin within a week after notification to proceed, weather permitting, and could be completed in 30 working days.

CONCLUSIONS

The pinching out of the ore zone in the face of the adit by mudstone and the disappointing results from the wagon drilling previously completed, indicate that the possibility of a discovery of commercial uranium deposits by additional wagon drilling on the Pinion-Cedar group is remote, and, in the opinion of the examining team, not a sound exploration project.

RECOMMENDATIONS

It is recommended that the applicants' request for Government assistance in exploration work on the Penion and Cedar groups be denied.

cb

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JUN 29 1953

224 New Customhouse
Denver 2, Colorado

June 26, 1953.

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 DMA Form 3a and MF-103 and supporting data pertaining to the following applications for Government assistance in exploration work:

American Mining and Development Company
Newcastle
Wyoming (Copper)

Red Canyon Mines
c/o Donald T. Adams
Monticello, Utah (Uranium)

Clyde Wright
Paradox
Colorado (Uranium)

W. H. King
W. H. King

Enclosures

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JUN 29 1953

22A New Customhouse
Denver 2, Colorado

June 26, 1953.

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 DMA Form 3a and MF-103 and supporting data pertaining to the following applications for Government assistance in exploration work:

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Clyde Wright
Paradox
Colorado (Uranium)

W. H. King
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-R1035.2.

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

Not to be filled in by applicant

Docket No. DMEA-3091
Metal or Mineral
Date Received 6/29/53
Estimated Cost
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: Clyde Wright et al.
Paradox
Colorado

(*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 attached

(*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
See report attached

(*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
See report attached

(*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

(*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 7 days and be completed within one 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 June 23, 1953, 195__

Clyde Wright
(Applicant)

By Engineers Associates, Inc.
Charles W. Yetter, Pres.
Charles W. Yetter

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

ENGINEERS ASSOCIATES, Incorporated
Post Office Box 118 411½ Main Street
Telephone 2499
GRAND JUNCTION, COLORADO

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

1

(a) Name of Applicant & Address:

Keith Wright and Clyde Wright

(b) Partnership

Organized in State of Colorado

(c) Not applicable

(d) Addresses of all partners:

Clyde J. Wright.....Paradox, Colorado
Keith Wright..... " "
U. A. Small..... " "
Jesse Steele..... " "

3

(a) Property Rights

Applicants hold Mining leases on the following claims in Sec. 19, Twp. 48 N, Range 19 W, NMPM, Montrose County, Colorado, from Joe Riddle and A. Riddle, together with a mining lease from Bob Riddle and Kent Riddle.

(1) "Patterson Seep Lode", Recorded in Book 80, Page 339, County Recorders office, Montrose, Colorado (from Joe & Andy Riddle).

(2) "Judy Ann", "Bonnie Bob", & "Irish Lodes", Recorded in Book 343, Pages 391, 392 & 393, County Recorders office, Montrose, Colorado (from Bob Riddle & Kent Riddle).

(3) United States Atomic Energy Commission Lease No. AT (05-1)-CG-23 dated Feb. 15, 1953 on the following 16 Unpatented mining claims in W½ Section 19, Twp. 48 N, Range 19 W, NMPM. Said claims being

described and recorded in the books and on the pages of the public record of Montrose County, Colorado, as follows:

CLAIM	BOOK	PAGE	DATE	
Penion # 1	349	541	3-1-53	(Except that portion which overlaps Patterson Park Claim)
" 2	"	541	"	
" 3	"	542	"	
" 4	"	542	"	
" 5	"	543	"	
" 6	"	543	"	
" 7	"	544	"	
" 8	"	544	"	
" 9	"	545	"	
" 10	"	545	"	
" 11	"	546	"	
" 12	"	546	"	
Cedar # 1	"	547	"	(Except that portion which overlaps Carpenter Flats #12.)
" 2	"	547	"	
" 3	"	548	"	
" 4	"	548	"	

3 (a) Continued..see attached Map (Exhibit No. 1)

(b) No mine name.

(c) Interest in Land

Applicants are lessees' of land.

(d) Copy of Lease or Leases.

See exhibit No. 2 (Atomic Energy Commission lease on 16 claims)
See exhibit No. 3 (Private lease on Patterson Seep or Spring Lode Claim)
See exhibit No. 4 (Private lease on Judy Ann, Irish & Bonnie Bob Lode Mining Claims)

(e) Not applicable.

(f) This information given under paragraph (3a) above.

4

(a) Physical Description

There have been NO mining or exploration operations on the 16 claims covered by the Atomic Energy Commission Lease No. AT (05-1)-OG-23. There has been NO mining or exploration operations on the Irish Lode Claim.

(b) On the Patterson Seep Lode claim there has been actual mining operations. A brother of Messrs. Clyde & Keith Wright, in 1950, mined and sold to the Uravan mill of United States Vanadium Corp., two truck loads of ore, containing approximately 12 tons and averaging 0.41% U_3O_8. In 1944 approxi-

mately 60 tons of ore was mined and sold to the same mill. This ore averaged ?? U_3O_8 and 2.25% V_2O_5. The total production of both operations was 72 tons, all of which was produced from the same underground workings. There has been no production from ore exploration on this claim since 1959. The present underground workings are clear and accessible for exploration and are included as a part of the Mining Lease granted by Joe & Andy Riddle to U. A. Small, Jesse Steele, Keith Wright and Clyde Wright, and mentioned under paragraph (3a) above, (Exhibit #3).

(c) Geologic Features of Property

The largest production in tons and highest grade ore in U_3O_8 content, of the Colorado Plateau, has been mined from the third sandstone rim of the Salt Wash member of the Morrison formation, especially in the Uravan area adjacent to the claims covered by this application. The present underground openings on the Patterson Scep Lode claim are in this third sandstone rim. This rim underlies all 19 claims, covered by this application, with the exception of a scant area on the easterly side of the Patterson Scep Lode, where the third rim has been removed by erosion. (see attached map Exhibit # 1). The maximum overburden covering this ore bearing horizon is approximately 165 feet.

The uranium-vanadium ore, in the workings on this claim, occurs in fine grained sandstone lenses within the coarser grained sandstone. The ore appears to have conformed very closely to the stratification of the finer grained sandstone. There is some cross-bedding but little evidence of mineralization therein. It was reported that during the actual mining operations, the maximum thickness of the lense, or "roll" as it was locally termed, was 36 inches, but the only mineralization now visible are the fringe remnants of the ore lense. These remnants do not exceed 6 inches in the present walls. In the present walls are found the "halos" of carbonaceous tree structures, that appear to have been very high in uranium content. All

of these tree structures lie in a general East-West direction, with the exception of small branches and twigs which have the usual random orientation of stream channel "trash basins".

The main lense of ore was underlain by a micro-crystalline gray mud-stone. This same mud-stone is present in all the present face of the main adit and it is reported that the ore was pinched out completely by this gray mud-stone. Several rounds were drilled in this mud-stone, along the strike of the main adit, but the lense, or "roll" had been completely pinched off.

The trend of the lenses from which the past production was mined is generally East and West. The bearing of the main lense being S 85 W while that of a smaller parallel lense was N 85 W. Further to the west of the main workings, along the rim, a distance of 60 to 80 feet respectively, several small mineralized trees have been uncovered and mined. The bearing of both of these trees was due East and West. (see map of Underground Workings.. Exhibit #5).

With the exception of the accompanying engineering data, there are no geological or engineering reports on this property. All assay reports on past production have either been mislaid, lost or destroyed. A channel sample across the western remnant of the ore lense, measuring 6 inches in vertical height was taken by the writer. This sample analyzed 0.35% U_3O_8 and 5.51% V_2O_5 (see attached assay sheet...Exhibit #6).

Other Ore Occurrances

At a distance of 2800 feet north of the workings on the Patterson Seep Lode claim is found the nearest uranium-vanadium workings. This claim, the "Dorothy E" Lode is also held under lease by one of the applicants, Mr. Clyde Wright, but is not included in this application. However, an examination was made of this property in an effort to determine if there was any corallary to the general trend of the ore lenses on this particular portion of

Carpenter Flats. These workings were badly caved and too dangerous for actual examination underground. The overburden ranged from 4 to 10 feet in thickness and the caving of the underground workings was indicated by slumped areas on the surface. The trend of these slumped areas was also generally East and West, leading to the belief that a narrow lenticular ore-body, lying East-West, has been mined during past operations. All past production from this claim was also from the third rim of the Salt Wash.

A 12 inch vertical channel sample was cut in the pillar of a partially caved portal. This sample analyzed 1.11% U_3O_8 and 3.28% V_2O_5 (see assay sheet..Exhibit #6).

Approximately 2400 feet south and 1800 feet east is located another group of claims, most notable of which are the Radium King Lode, Copper Jack Lode and Legal Tender Lode claims. It is reported that more than $200,000.00 in uranium-vanadium ores has been produced from these claims. These figures were not investigated since they do not have an immediate bearing on the claims under consideration in this report, except to indicate that the 19 claims in this application are located within an area from which appreciable tonnages of uranium-vanadium ore has been mined and sold. All past production has been from the third rim of the Salt Wash, which is the rim that is proposed to explore by this application.

(d) Access Roads etc.

As is noted on the map of the claims (Exhibit #7) these claims are connected to the main Carpenter Flats-Paradox road, by the usual single lane, mine access dirt road. It would normally remain usable for regular mine traffic, but would become temporarily unusable after severe rain or snow storms. Such delays should not, however, be of more than a weeks duration following any single storm. Access roads to the proposed drill sites will have to be constructed by bulldozer. This work is included in this application. The nearest uranium treatment plant is located at Uravan, Colorado, a

distance of 28.5 miles, 4.16 miles of which is mine access road, 5.30 miles good Forest Service Road and 19.0 miles County maintained gravel road.

The nearest supply point for small mining equipment and supplies such as powder, cap, fuse, carbide, drill steel, bits, etc., is at Uravan, Colo., a distance of 28.5 miles. Larger mining equipment such as compressors hoists, cars, jackhammers, etc., could be obtained at Grand Junction, Colo., a distance of 117.5 miles.

The nearest regular residence area is at Paradox, Colorado, a distance of 9.46 miles from the claims. This area is served by a charter airplane service from Grand Junction. Flight time is 30 minutes one way. Regular Bell Telephone service is also available at Paradox.

(e) Manpower for mining is not too readily available in the immediate area but since it is proposed that the exploration drilling be let under contract to a Drilling Contractor, such labor will be supplied, housed and fed by the Contractor. The same holds true for the bulldozer work, which will also be let under contract.

Mining of the ore disclosed by the exploration drilling will be done by the four members of the group making this application. Each is an experienced uranium miner and is well qualified to do such work, therefore no problem regarding availability of miners exists.

Water for mining and drilling is available from a nearby reservoir on Carpentor Flats, a distance of 4 miles. Drinking water can be obtained from a nearby spring 6 miles, or hauled from Paradox.

There is no power available. Motivation will either be by gasoline or diesel fuel which can be obtained in Paradox, 9.46 miles, or Uravan, 28.5 miles from the claims.

5

(a) Uranium is the mineral that is proposed to be explored by this application.

(b) It is proposed that wagon drill exploration holes be drilled along the trend of the mineralization shown in the workings on the Patterson Seep Lode claim,

to determine the extent of this mineralization along the indicated trend, and into the claims covered by the Atomic Energy Commission Lease. This drilling will commence on the bench immediately above the present workings on the Patterson Deep Lode claim. These holes will be spaced on a 12.5' grid pattern, for the first 5 rows behind the rim. The maximum depth of these holes should not exceed 25 feet. A total of 28 holes is planned on this bench. Behind this bench, for a distance of approximately 250 feet, a second bench gradually slopes to a higher elevation in which the maximum depth of holes would be approximately 50 feet. On this bench the drill holes will be spaced 25 feet apart across the indicated ore trend with staggered rows 25 feet apart. From this point the bench continues to slope upwards to the top of the mesa, approximately 600 feet, where the maximum depth to drill would be 165 feet. On this slope the holes will be drilled 50 feet apart across the trend and staggered in rows each 50 feet apart, until a drill depth of 70 feet is reached. The next row of holes, approximately 80 feet depth each, will be drilled 50 feet behind the preceding row, but 100 feet apart across the trend. The next two rows will be 75 feet apart, and 100 feet apart, across the trend. From the 100 foot depth to 165 feet the holes and rows will be staggered 100 feet apart. (see attached Exhibit # 8).

28	holes	depth approx.	25	feet	each	700	feet
15	"	"	30	"	"	450	"
15	"	"	35	"	"	525	"
9	"	"	40	"	"	360	"
19	"	"	45	"	"	855	"
11	"	"	50	"	"	550	"
7	"	"	60	"	"	420	"
7	"	"	70	"	"	490	"
5	"	"	80	"	"	400	"
4	"	"	90	"	"	360	"
5	"	"	100	"	"	500	"
5	"	"	125	"	"	625	"
5	"	"	145	"	"	725	"
6	"	"	165	"	"	990	"
141	holes					7950	Total footage

(c) The work will commence within one week after this loan is granted and should be completed within one months time, weather and/or other unforseen conditions permitting.

(d) The Supervision of the drill locations, drilling operations, taking of samples and shipment of samples to the laboratory will be done by one of the applicants for this loan, namely Mr. Clyde Wright. Mr. Wright is a qualified practical uranium-vanadium miner. In the past 15 years he has mined and shipped uranium-vanadium ores to the various processing mills, that exceeded $145,000.00 in gross value. He has successfully conducted mining operations in the Squaw Park, Carpenter Ridge, Mucho Grande, Monument Canyon, Polar Mesa and Calamity areas of the Colorado Plateau.

6
(a) A reliable wagon drill Contractor in Grand Junction has quoted the following price per foot for such work.."We propose to bid on this work, using one of our late-type drills, namely one that is equipped with the 500 cubic foot, three stage compressor, which permits 200 pounds pressure blowing of the hole. Samples will be collected by our crew using a Bucon Dust Collector. Our proposed price, per foot, is $0.75, which includes move-in and move-out charges."

Using approximately 8000 feet of total drilling, the indicated contract price would be $6000.00.

In order to make the necessary drill sites accessible, approximately 10 days bulldozer work will be required. A Contractor in Grand Junction, Colorado, has quoted a price of $880.00, which includes move-in and move-out time, for this work. This is based upon a rate of $11.00 per hour, 8 hours per day.

The total exploration program is as follows:

(1)	Access sites bulldozed, by contract	$ 880.00
(2)	Wagon drilling, by contract	6000.00
(3)	Supervision of drilling (1 mo.)	600.00
(4)	Assays of samples (32 @ 5.00--assuming 25% holes are mineralized)(Assayed for uranium-vanadium)	160.00
(5)	Engineering (to check drilling, certify footage & write necessary reports.. 4 days/mo. field & 4 days in office)	320.00
	Plus transportation	88.00
(6)	Transportation samples to laboratory	16.00
	TOTAL	$ 8064.00

(b) There will be no hourly labor involved since the drill contractor and the bulldozer contractor will each furnish his own labor. The salary of the Supervisor of the drilling and sampling operations, Mr. Clyde Wright, will be at the rate of $600.00 per month. Engineering will be done on a consultive basis by the writer of this application, namely Charles Yetter, a registered graduate Mining Engineer and a member of the firm of Engineers Associates Inc. of Grand Junction, Colorado. It is planned that one day each week will be spent on the property to check the drilling progress, certify the footages drilled and to make any necessary changes in the program of the drilling pattern in the event the initial drilling or subsequent drilling, so warrants. An additional day each week will probably be required for compilation of data and the writing of the necessary reports required by the granting of this loan. The writers fee for this work will be at the rate of $40.00 per day, plus 8¢ per mile transportation from Grand Junction to the site of the drilling and return.

(c) Not applicable

(d) None necessary--all materials, labor & supplies to be furnished by contractors and included in prices submitted.

(e) Not applicable

(f) Not applicable

(g) Not applicable

(h) Contingencies are not included in the above estimates and the only contingency that might evolve would be that a large showing of good ore was encountered in one of the deeper holes, in the final stages of the drilling campaign. Should this occur, not more than 8 or 10 additional drill holes would be required to prove or disprove the existance of an ore-body that could be economically mined. 10 holes at the maximum indicated depth would mean 1650 feet of additional drilling at a cost of $1237.50.

7

(a) The applicants of this loan are willing and able to pay their

share of the proposed project in accordance with the regulations of Govt. participation (Sec. 7, ECCA No. 1).

(b) The applicants for this loan will furnish their share, of the costs of this project, in cash.

Respectfully submitted by
ENGINEERS ASSOCIATES INC.

Charles W. Yetter

Charles W. Yetter

CWY;r

FORM OG
2/12/53

MINING LEASE NO. AT(05-1)-OG- 23

THIS AGREEMENT OF LEASE, effective as of the Fifteenth of February, 1953, by and between the UNITED STATES ATOMIC ENERGY COMMISSION (hereinafter called the "Commission"), acting as agent of and on behalf of the UNITED STATES OF AMERICA, and Clyde J. Wright and U. A. Small, a partnership, whose address is Paradox, Colorado (hereinafter called the "Lessee");

WITNESSETH THAT:

WHEREAS, the Lessee desires to develop and produce uranium ore on certain lands which would be open to location under the mining laws except for the existence of an oil and gas lease on such property, issued under the provisions of the Act of February 25, 1920, (41 Stat. 437, 30 U.S.C., Sec. 181 et seq.), as amended; and

WHEREAS, the Commission desires to acquire source materials from those certain lands; and

WHEREAS, this agreement is authorized by and has been negotiated under the Atomic Energy Act of 1946, as amended, in the interest of the common defense and security;

NOW, THEREFORE, the parties hereto do mutually agree as follows:

1. The Commission, for and in consideration of the performance by the Lessee of the covenants and agreements hereinafter expressed, does hereby lease unto the said Lessee for the purpose of mining uranium bearing ores those certain mineral lands described as follows:

Unpatented mining claims in W½ section 19, T. 48 N., R. 18 W., N.M.P.M., SE¼ section 13 and E½ section 24, T. 48 N., R. 19 W., N.M.P.M., said claims being described and recorded in the books and on the pages of the public record of Montrose County, Colorado, as follows:

Claim	Book	Page	Date
Penion #1	349	541	3-1-53 (Except that portion which
Penion #2	349	541	" overlaps Patterson Park
Penion #3	349	542	" Claim.)
Penion #4	349	542	"
Penion #5	349	543	"
Penion #6	349	543	"
Penion #7	349	544	"
Penion #8	349	544	"
Penion #9	349	545	"
Penion #10	349	545	"
Penion #11	349	546	"
Penion #12	349	546	"
Cedar #1	349	547	"
Cedar #2	349	547	" - (Except that portion
Cedar #3	349	548	" - which overlaps Carpenter
Cedar #4	349	548	" - Flats #12.)

EXHIBIT No 2

The rights hereby granted are limited to mining within the vertical planes of the boundary lines of the above described premises.

2. The term of this lease shall be for so long as the Lessee shall comply with the lease terms.

3. In consideration of this lease, the Lessee agrees as follows:

(a) To enter upon the premises and commence work on or before _____, 19__, working the property in a manner consistent with good and economical practice and to conduct all operations with due regard for good land management and avoidance of unnecessary damage or waste.

(b) Throughout the life of the lease to sustain with reasonable diligence, skill and care, a program of development and mining of uranium deposits or a program of prospecting and exploration for such deposits in such manner as to achieve and maintain maximum production of uranium ore from the leased premises, consistent with good mining practice and the size of the deposit.

(c) To comply with all requirements of pertinent State and Federal laws applicable to the conduct of mining operations.

(d) To allow the Commission and its representatives at all reasonable times to enter upon the property and into all parts of the mine for purposes of inspection, drilling, sampling and mapping.

(e) To keep proper records of (1) shifts worked, (2) tonnage and grade of ore developed and mined, and (3) development work and drilling performed and assay data pertaining thereto.

(f) To submit reports to the Commission covering the matters referred to in 3(e) above, when requested to do so.

(g) To permit the Commission to inspect Lessee's mine maps and assay records relating to the leased premises.

(h) To conduct operations hereunder in such manner as not to interfere with the lawful operations of any third party having an interest in the premises.

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4. The lease of premises for mining purposes pursuant to this agreement includes (subject to the provisions of paragraph 3(h) above) rights to use the surface of the area described only insofar as such use is reasonably necessary for the conduct of prospecting, development and mining operations for uranium, including the right of way over the surface for access to the workings. The Lessee shall have the right, to the extent required for operations, to erect buildings and structures and install machinery, and upon termination or expiration of this lease agreement it may remove any such buildings, structures and machinery placed by it on the property; provided, however, that this right of removal shall not extend to the removal of mine timbering. The Lessee hereby waives all rights, title and interest to and in all ore and tailings which have not been removed from the leased premises pursuant to Commission licensing regulations within ninety (90) days after the termination or expiration of this lease and all equipment, appurtenances, fixtures and other personal property not removed from the leased premises within such time.

5. (a) It is understood that the Commission shall not be responsible for any mechanics' or miners' liens or other liens, encumbrances or liabilities incurred by the Lessee in connection with the operation of the leased premises, and the Lessee assumes all responsibility for all claims of whatsoever nature arising from the operation or occupancy of the premises. The Lessee shall forthwith post, and at all times keep posted, in some conspicuous place upon the premises a notice stating that the premises are leased to the Lessee and that the interest of the Commission shall not be subject to any liens, claims or encumbrances arising in connection with the occupancy and operation of the premises, and that the Commission shall not be liable to any person not a party to this lease for any claims arising in connection with this lease of the leased premises.

(b) The Lessee agrees to protect and indemnify the Commission against any claims arising in connection with activities of the Lessee under this lease. The Lessee also agrees to provide (at its own cost and expense) for each workman employed by it in the conduct of its activities under the lease such protection as is required by applicable laws relating to workmen's compensation and employers' liability insurance.

6. This agreement or any interest herein may be assigned or transferred by the Lessee only upon prior written authorization from the Commission.

7. The term of this agreement shall expire, at the option of the Commission, upon failure of the Lessee to comply with any of the obligations in this lease within ninety (90) days after the receipt of a notice from the Commission specifying such failure and requesting compliance. Thereupon, the Commission or its representative may, after demand of possession in writing, enter upon the leased premises and dispossess all persons occupying the same. This lease may be terminated at any time by the Lessee by written notification to the Commission, such termination to be effective upon receipt by the Commission of the notification.

8. The Lessee does not waive any right to which he would otherwise be entitled because of the passage of subsequent legislation by entering into this agreement.

9. The provisions of the Commission's Domestic Uranium Program Circular 6 shall be applicable to ores produced from the leased premises to the same extent as if the Lessee held such land by reason of valid location under Federal and State mining laws.

10. The Lessee warrants that it has not employed any person to solicit or secure this lease upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this warranty shall give the Commission the right to terminate this lease, or, in its discretion, charge to the Lessee the amount of such commission, percentage, brokerage, or contingent fee.

11. No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this lease or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this lease if made with a corporation for its general benefit.

12. It is expressly agreed between the parties that should any legal proceedings be instituted which would interfere with the possession and enjoyment of the premises, the Lessee shall not attempt to hold the Commission liable in damages or otherwise to the Lessee on account of such disturbed and interrupted possession and enjoyment.

13. As used in this lease agreement, the term "Commission" includes the Commission and its authorized representative or representatives.

14. In performance of work under this agreement, the Lessee agrees not to discriminate against any employee or applicant for employment because of race, creed, color or national origin.

FORM OG
2/12/53

15. The Commission agrees that the Lessee by executing this agreement does not waive any right to assert any prior existing property interest in the leased tract which could have been asserted in the absence of this lease.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the day and year first above written, intending to be legally bound thereby.

THE UNITED STATES OF AMERICA
UNITED STATES ATOMIC ENERGY COMMISSION

Witnesses:

/S/ Harriet J. Dallard

/S/ Hazel M. Henderson

/S/ Mabel Small

/S/ LaVonne Wright

/S/ Frank H. MacPherson

/S/ Director, Production Division
(Title)

/S/ Clyde Wright

/S/ U. A. Small

MINING LEASE

THIS AGREEMENT OF LEASE, Made and entered into in duplicate as of May 25, 1953, between JOE RIDDLE and ANDY RIDDLE, parties of the first part, hereinafter called Lessors, and U. A. SMALL, JESSE STEELE, KEITH WRIGHT and CLYDE WRIGHT, second parties, hereinafter called Lessees, WITNESSETH:

That lessors, in consideration of the royalties hereinafter reserved and the covenants and agreements hereinafter expressed and by lessees to be kept and performed, hereby grant, demise and lease unto lessees the Patterson Spring or Seep lode mining claim, on Carpenter Flats, County of Montrose, State of Colorado, the location certificate being duly of record in Book 80 at page 339 of the Public Records in the office of the county recorder of said county.

TO HAVE AND TO HOLD Unto lessees for the term of two years from the date hereof, unless sooner forfeited through the violation of any covenant herein required to be performed by lessees, with the right in them to surrender this lease as hereinafter set forth.

In consideration of such lease, LESSEES COVENANT AND AGREE With lessors as follows, to-wit:

1. To do and perform the annual assessment work required by law for the assessment period ending June 30, 1953, and, in the event this lease is not surrendered prior to May 1, 1954, to do and perform the annual assessment work required by law for the assessment period ending June 30, 1954.

2. To do and perform a minimum of 1,000 feet of wagon drilling on said claim during the first year of this lease and a minimum of 2,000 feet of such drilling during the second year of this lease in the event this lease is in effect during said second year. Such drilling to be at such points as lessees may deem advisable, and all at their sole expense.

EXHIBIT No. 3

3. To make available to lessors' inspection, at all reasonable times, the drilling records pertaining to the drilling operations of said claim.

4. In the event commercial ores are encountered, to pay lessors a royalty of 20% of the proceeds thereof and 20% of any bonus paid by the Atomic Energy Commission, less haulage and development allowances, in accordance with existing AEC schedule of prices.

5. Lessees shall pay all state and federal taxes and exactions under its mining operations hereunder, including any production taxes, and shall save and keep harmless lessors from any and all liability of every kind and character arising out of their mining operations hereunder.

6. Lessors agree that in the event lessees make application for an exploratory loan from any government agency to explore for uranium or other metals upon the mining claim described herein, they will subordinate their royalty rights to the proceeds from ores discovered by such exploration work performed with funds from such loan to the extent of permitting a payment of per cent royalty of such proceeds for the purpose of repaying said loan; it being specifically understood and agreed that the provisions of this paragraph shall apply only to ores discovered as the result of work done by the use of such funds; it being further understood and agreed that any such royalty payment to the United States as heretofore set forth shall in no event reduce the royalty payments heretofore specified to be paid lessors, and that upon such application for such loans, lessors will promptly execute their consent to the same and the terms thereof if and when presented to them.

MUTUAL COVENANTS

IT IS MUTUALLY AGREED Between the parties hereto:

1. That if the exploration and development of said mining claim by lessees, during the first year of this lease, does not, in their sole opinion, result in the disclosure of commercial uranium-

vanadium ores which may be mined and shipped by them at a profit, they shall have the right to surrender this lease on or before May 1, 1954, by giving lessors written notice of such intention to surrender, and, in such event, there shall be no obligation for drilling or other exploration or development work, and, upon such surrender, lessee shall have 20 days from and after the date of such notice to remove from said claim any and all equipment and personal property belonging to them.

2. IT IS FINALLY AGREED That upon violation by lessees of any of their covenants herein set forth, the term of this lease shall, at the option of lessors, expire and said mining claim shall become forfeited to lessors, who may thereupon enter upon and repossess the same, with or without process of law; PROVIDED, HOWEVER, That if said lease is forfeited upon the election of lessors by reason of the failure of lessees to perform any of the covenants thereof by them assumed, lessors shall give lessees at least 30 days notice in writing, by registered mail, notifying them of such failure to perform, setting out in such notice the substantial facts as to any such default or breach, and upon failure or refusal by lessees to cure and correct such default within 30 days from the receipt of such notice, lessees shall surrender and deliver up the possession of said premises and their rights under this lease shall thereupon cease and determine.

3. Each of the terms and conditions herein shall inure to and be binding upon the heirs, personal representatives and assigns of lessors and lessees.

WITNESS Their names.

Joe Riddle

A. Riddle

Lessors

U. A. Small

Jesse L. Steele

K. Wright

Lessees

MINING LEASE

THIS AGREEMENT OF LEASE, Made and entered into in duplicate as of May 25, 1953, between BOB RIDDLE and KENT RIDDLE, parties of the first part, hereinafter called Lessors, and U. A. SMALL, JESSE STEELE, KEITH WRIGHT and CLYDE WRIGHT, second parties, hereinafter called Lessees, WITNESSETH:

That lessors, in consideration of the royalties hereinafter reserved and the covenants and agreements hereinafter expressed and by lessees to be kept and performed, hereby grant, demise and lease unto lessees the Judy Ann, Irish and Bonnie Bob lode mining claims, on Carpenter Flats, County of Montrose, State of Colorado, the location certificates thereof being duly of record in Book 343 at pages 393, 392 and 391 respectively of the Public Records in the office of the county recorder of said county.

TO HAVE AND TO HOLD Unto lessees for the term of two years from the date hereof, unless sooner forfeited through the violation of any covenant herein required to be performed by lessees, with the right in them to surrender this lease as hereinafter set forth.

In consideration of such lease, LESSEES COVENANT AND AGREE With lessors as follows, to-wit:

1. To do and perform the annual assessment work required by law for the assessment period ending June 30, 1953, and, in the event this lease is not surrendered prior to May 1, 1954, to do and perform the annual assessment work required by law for the assessment period ending June 30, 1954.

2. To do and perform a minimum of 1,000 feet of wagon drilling on one or more of said claims throughout the term of this lease, such drilling to be at such points as lessees may deem advisable, and all at their sole expense.

EXHIBIT No 4

3. To make available to lessors' inspection, at all reasonable times, the drilling records pertaining to the drilling operations of said claim.

4. In the event commercial ores are encountered, to pay lessors a royalty of 15% of the proceeds thereof and 15% of any bonus paid by the Atomic Energy Commission, less haulage and development allowances, in accordance with existing AEC schedule of prices.

5. Lessees shall pay all state and federal taxes and exactions under its mining operations hereunder, including any production taxes, and shall save and keep harmless lessors from any and all liability of every kind and character arising out of their mining operations hereunder.

6. Lessors agree that in the event lessees make application for an exploratory loan from any government agency to explore for uranium or other metals upon the mining claims described herein, they will subordinate their royalty rights to the proceeds from ores discovered by such exploration work performed with funds from such loan to the extent of permitting a payment of per cent royalty of such proceeds for the purpose of repaying said loan; it being specifically understood and agreed that the provisions of this paragraph shall apply only to ores discovered as the result of work done by the use of such funds; it being further understood and agreed that any such royalty payment to the United States as heretofore set forth shall in no event reduce the royalty payments heretofore specified to be paid lessors, and that upon such application for such loans, lessors will promptly execute their consent to the same and the terms thereof if and when presented to them.

MUTUAL COVENANTS

IT IS MUTUALLY AGREED Between the parties hereto:

1. That if the exploration and development of said mining claims by lessees, during the first year of this lease, does not, in their sole opinion, result in the disclosure of commercial uranium-vanadium ores which may be mined and shipped by them at a profit, they shall have the right to surrender this lease on or before May 1, 1954,

by giving lessors written notice of such intention to surrender, and, in such event, there shall be no obligation for drilling or other exploration or development work, and, upon such surrender, lessees shall have 20 days from and after the date of such notice to remove from said claims any and all equipment and personal property belonging to them.

2. IT IS FINALLY AGREED That upon violation by lessees of any of their covenants herein set forth, the term of this lease shall, at the option of lessors, expire and said mining claims shall become forfeited to lessors, who may thereupon enter upon and repossess the same, with or without process of law; PROVIDED, HOWEVER, That if said lease is forfeited upon the election of lessors by reason of the failure of lessees to perform any of the covenants thereof by them assumed, lessors shall give lessees at least 30 days notice in writing, by registered mail, notifying them of such failure to perform, setting out in such notice the substantial facts as to any such default or breach, and upon failure or refusal by lessees to cure and correct such default within 30 days from the receipt of such notice, lessees shall surrender and deliver up the possession of said premises and their rights under this lease shall thereupon cease and determine.

3. Each of the terms and conditions herein shall inure to and be binding upon the heirs, personal representatives and assigns of lessors and lessees.

WITNESS Their names.

Bob Riddle

Kent Riddle

Lessors

U. A. Small

Jesse Steele

Keith Wright

Clyde Wright

Lessees

THE BROWN LABORATORY

ROUTE 3
GRAND JUNCTION, COLORADO

ANALYTICAL DEPARTMENT

PHONE 0331-J4

CERTIFICATE OF ANALYSIS

To Charles Yetter
P. O. Box 118
Grand Junction, Colorado

Date 5-14-53

Material: Ore Samples - 2
Received: 5-14-53
For: Vanadium and Uranium Determinations

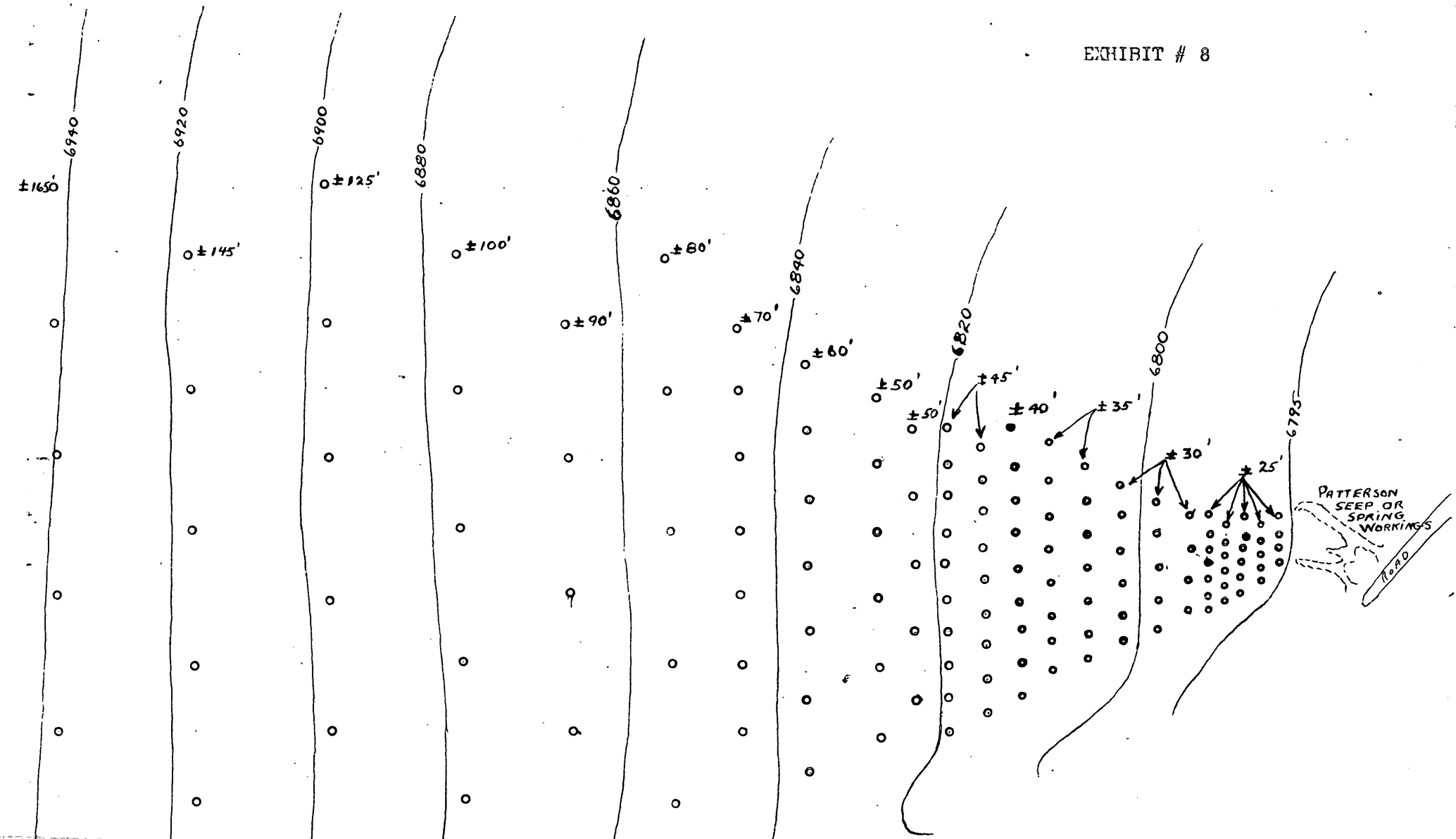
Order No. 3273-S

Lab. No.	Your No.	Description	Result	
			% V_2O_5	% U_3O_8
3273-1	1	Dorothy E.	3.28	1.11
3273-2	2	Seep	5.51	0.35

Analyst

Exhibit No. 4

EXHIBIT # 8



Plan of
Wagon Drill Holes
on
Patterson Seep & Irish Lodes
Scale 1" = 100'

DMEA - 309

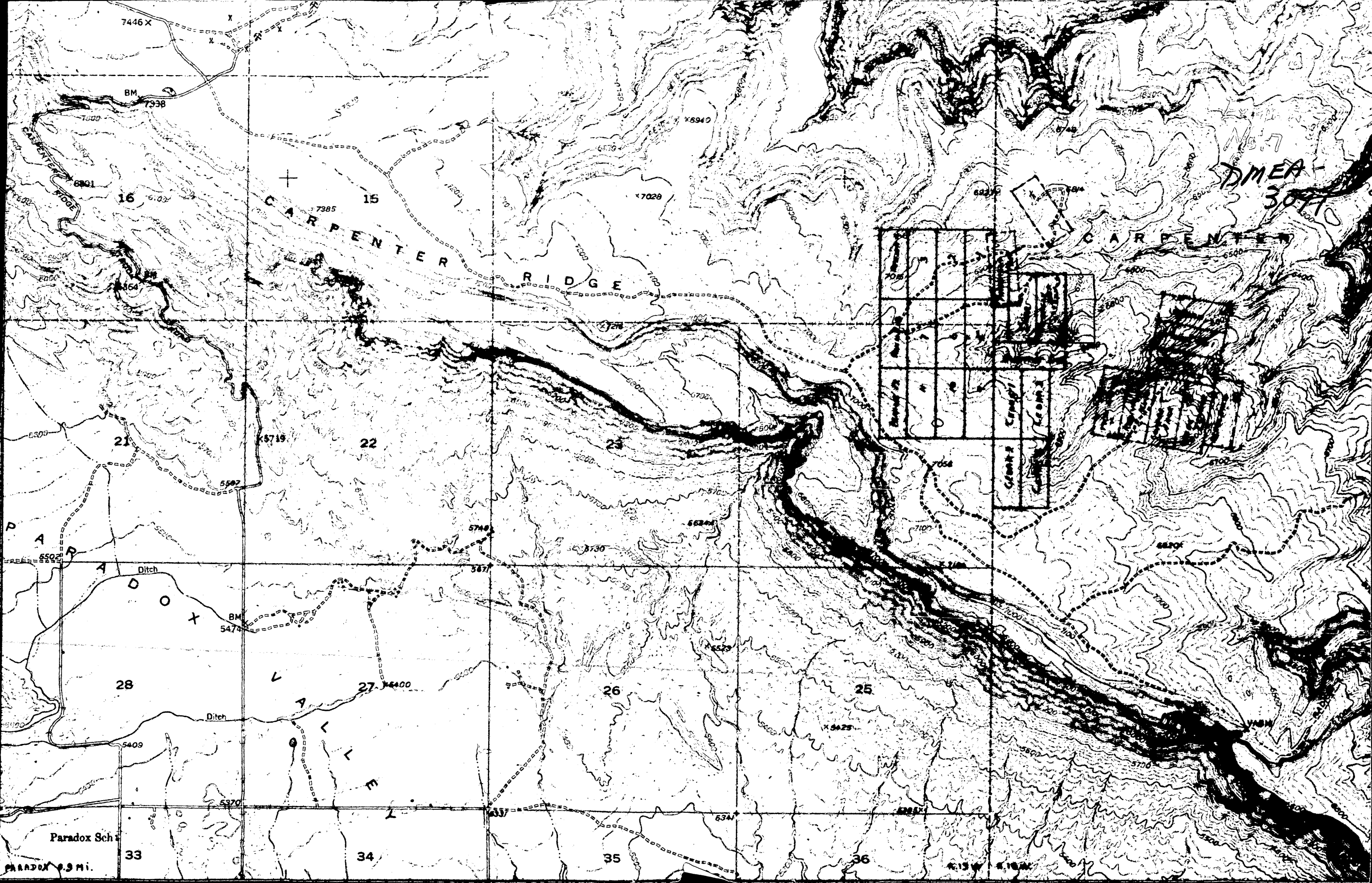
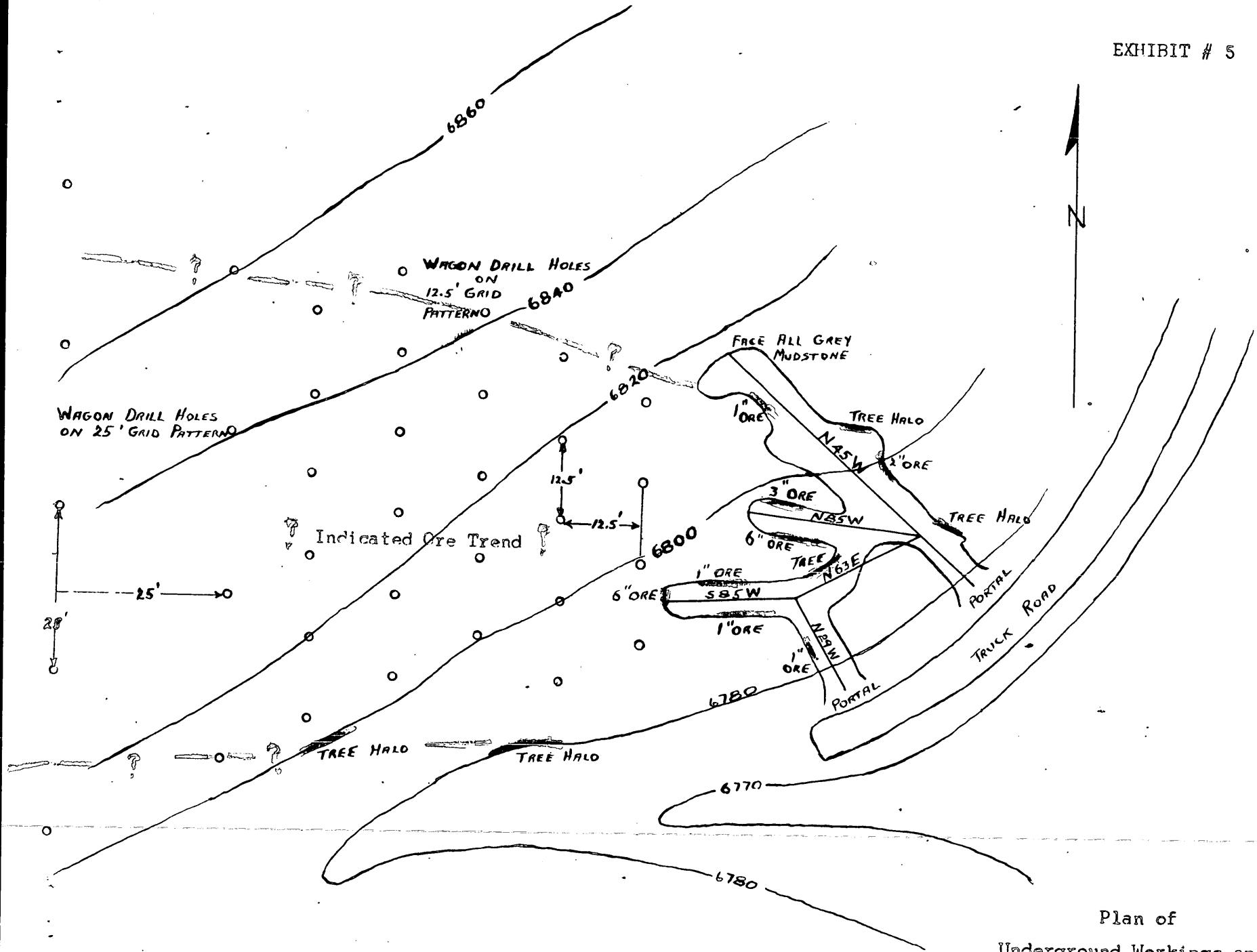

7446
BM 7938
CARPENTER RIDGE
16
15
CARPENTER RIDGE
21
22
23
PARADOX VALLEY
Ditch
BM 5474
28
27
26
25
Ditch
Paradox Sch
33
34
35
36
PARADOX 8.9 MI.
CARPENTER
DMEA-
3077

EXHIBIT # 5



Plan of

Underground Workings and
Surface Contours
Patterson Seep Lode
Scale 1" = 20'
Contours 1" = 100'

DMEA-3091

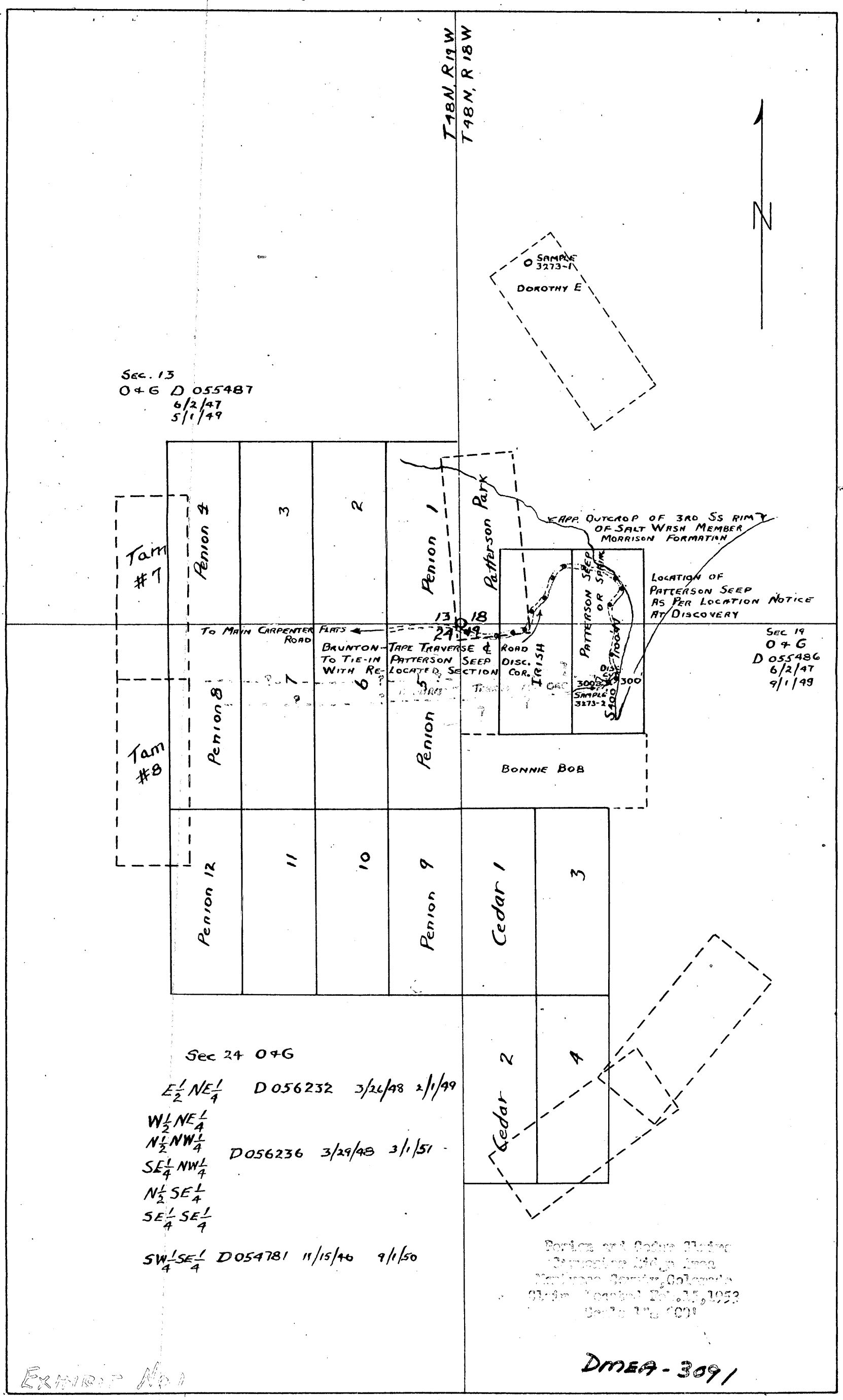
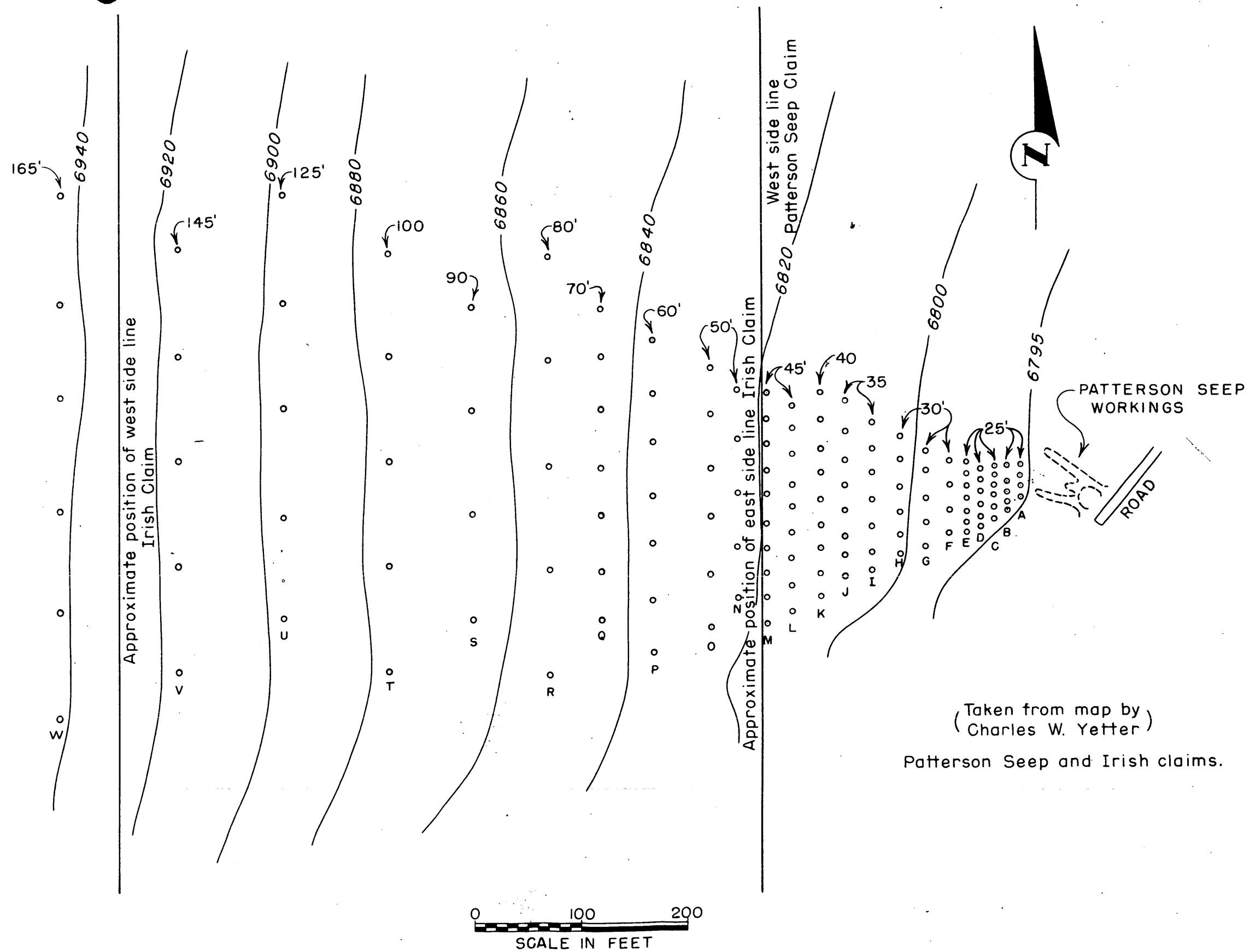

T48N, R19W
T48N, R18W
N
SAMPLE 3273-1
DOROTHY E
SEC. 13
O&G D 055487
6/2/47
5/1/49
Tam #7
Penion 4
3
2
Penion 1
Patterson Park
APP. OUTCROP OF 3RD SS RIM OF SALT WASH MEMBER MORRISON FORMATION
LOCATION OF PATTERSON SEEP AS PER LOCATION NOTICE AT DISCOVERY
PATTERSON SEEP OR SPRING
TO MAIN CARPENTER FLATS ROAD
13 18
24 19
BRUNTON-TAPE TRAVERSE TO TIE-IN WITH RE-LOCATED PATTERSON SEEP SECTION
IRISH
DISC. COR.
ROAD
DISC. CR.
300
300
SAMPLE 3273-2
SEC 19
O&G
D 055486
6/2/47
9/1/49
Tam #8
Penion 8
7
6
5
Penion
BONNIE BOB
Penion 12
11
10
Penion 9
Cedar 1
3
Cedar 2
4
Sec 24 O&G
E½ NE¼ D 056232 3/26/48 2/1/49
W½ NE¼
N½ NW¼
SE¼ NW¼ D056236 3/29/48 3/1/51
N½ SE¼
SE¼ SE¼
SW¼ SE¼ D054781 11/15/46 9/1/50
DMEA - 3091

EXHIBIT No. 1

BUREAU OF MINES
224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

OFFICIAL BUSINESS

Jay L. Chambers, Chief
Contract Administration and Audit Division
Defense Minerals Exploration Administration
Interior Building
Washington 25, D. C.



(Taken from map by Charles W. Yetter)

Patterson Seep and Irish claims.

MINERAL RESOURCES BRANCH – MINING DIVISION
REGION IV
BUREAU OF MINES

FIGURE 4 – MAP OF PROPOSED WAGON DRILL HOLES, PENION AND CEDAR GROUPS, MONTROSE COUNTY, COLO. (DMEA 3091)

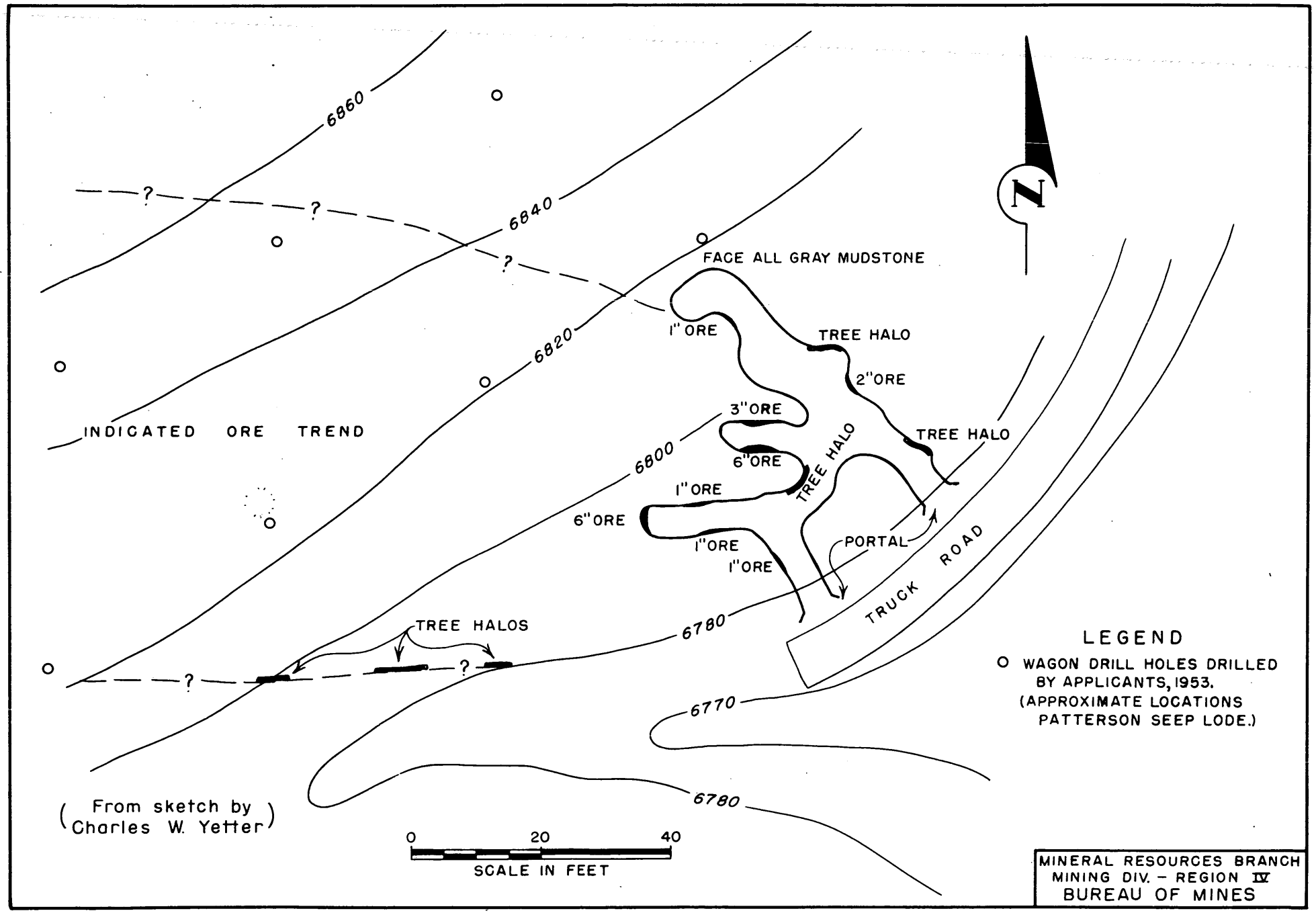
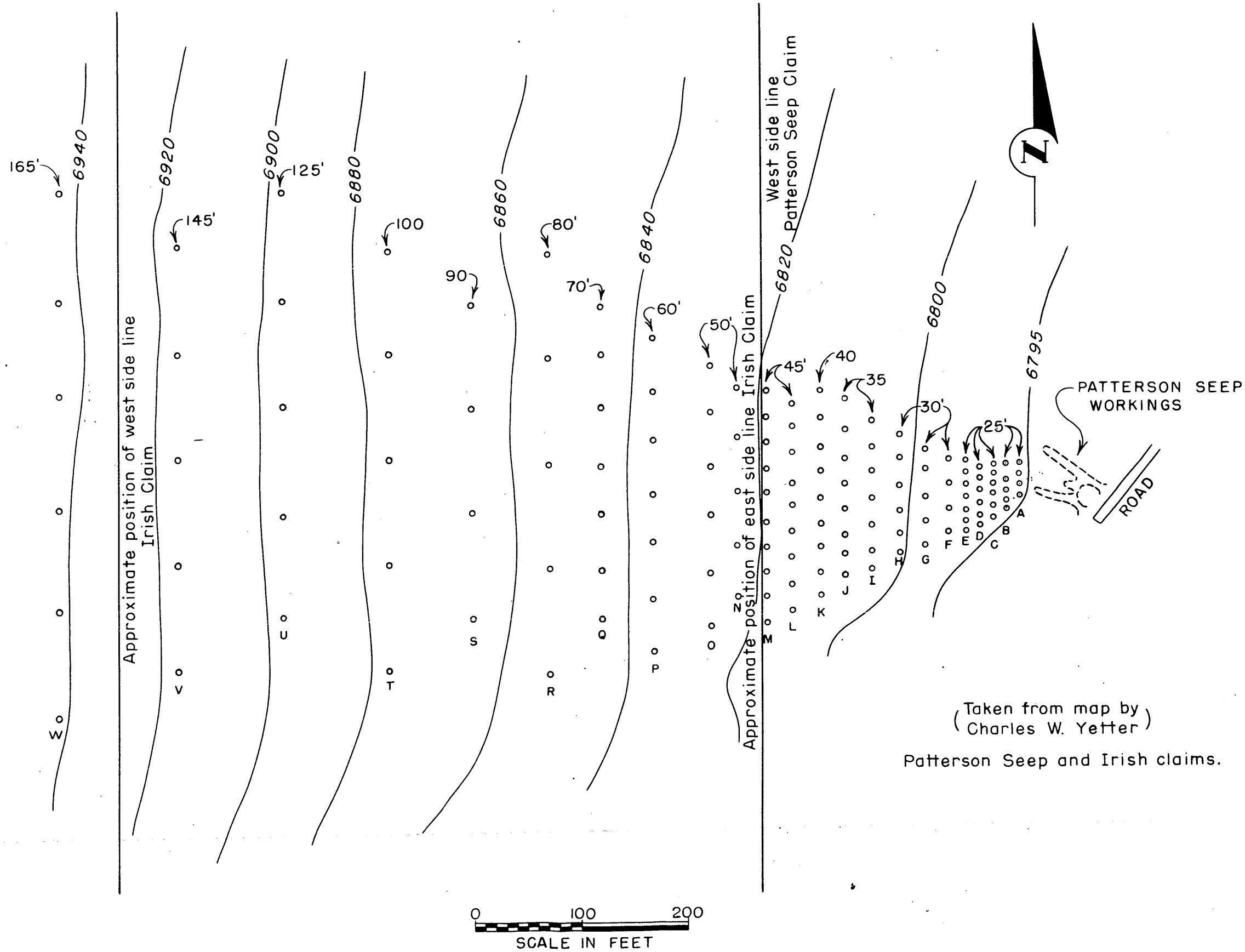


FIGURE 3 - PLAN AND CONTOUR MAP, PENION AND CEDAR GROUPS, MONTROSE COUNTY, COLO. (DMEA 3091)



(Taken from map by Charles W. Yetter)

Patterson Seep and Irish claims.

MINERAL RESOURCES BRANCH – MINING DIVISION
REGION IV
BUREAU OF MINES

FIGURE 4 – MAP OF PROPOSED WAGON DRILL HOLES, PENION AND CEDAR GROUPS, MONTROSE COUNTY, COLO. (DMEA 3091)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3091

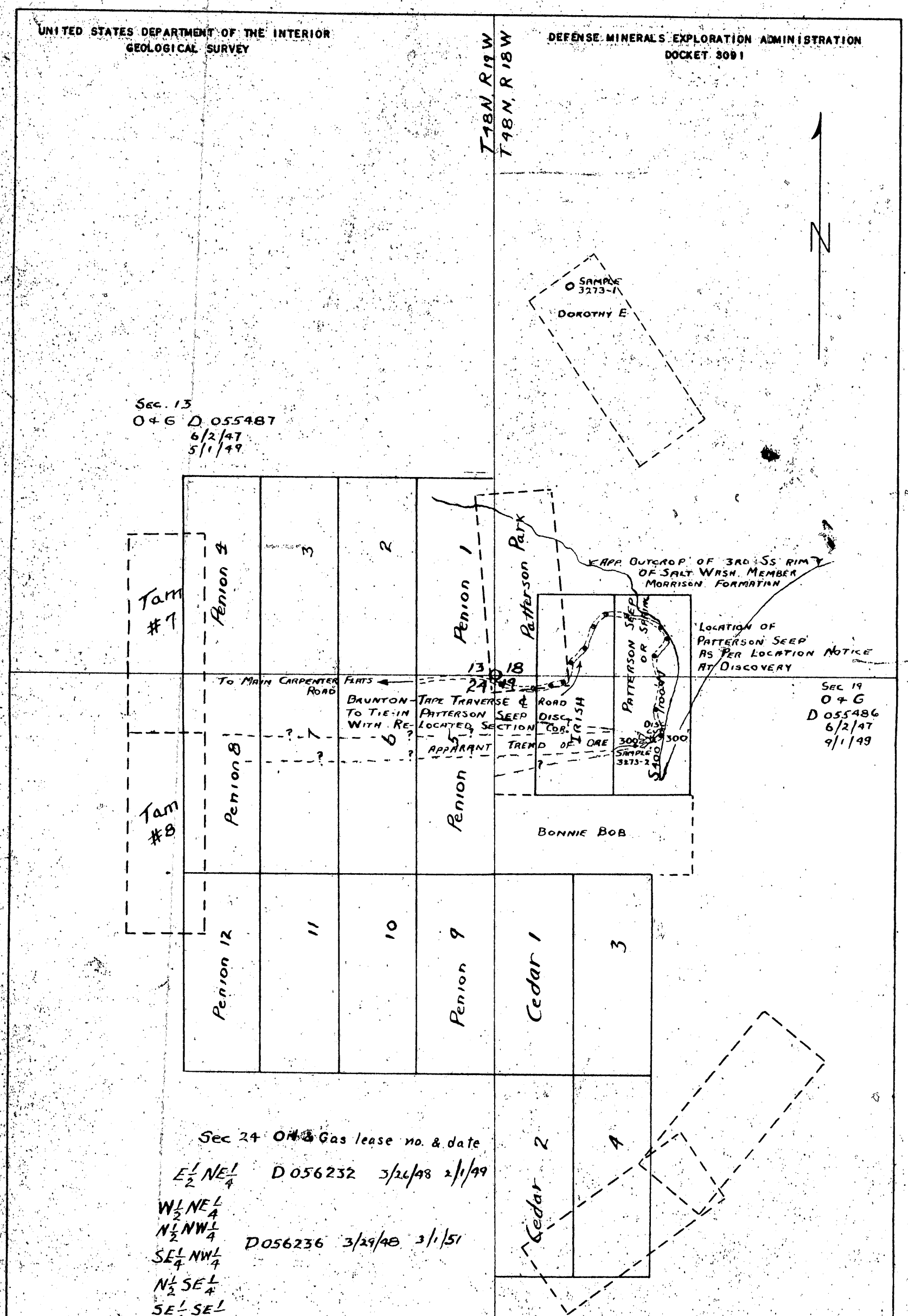


Exhibit 1, Applicants brochure
Penion and Cedar Claims
Carpenter Ridge Area
Montrose County, Colorado
Claims Located Feb. 15, 1953
Scale 1" = 800'

Figure 2. SKETCH MAP SHOWING LOCATION OF PENION AND CEDAR GROUPS OF CLAIMS, PARADOX DISTRICT, MONTROSE COUNTY, COLORADO

EXHIBIT No. 1

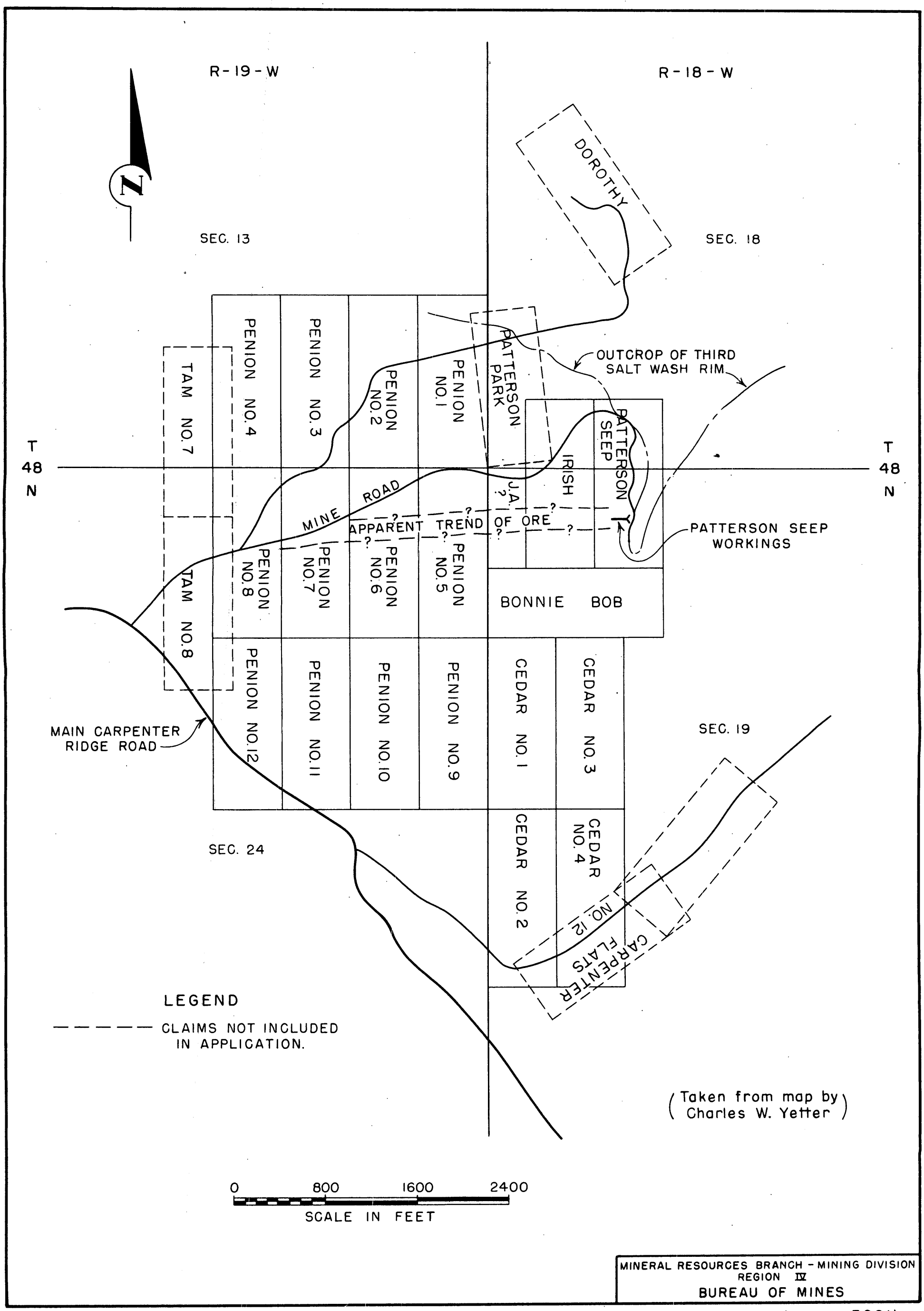


FIGURE 2-CLAIM MAP, PENION AND CEDAR GROUPS, MONTROSE COUNTY, COLO. (DMEA 3091)

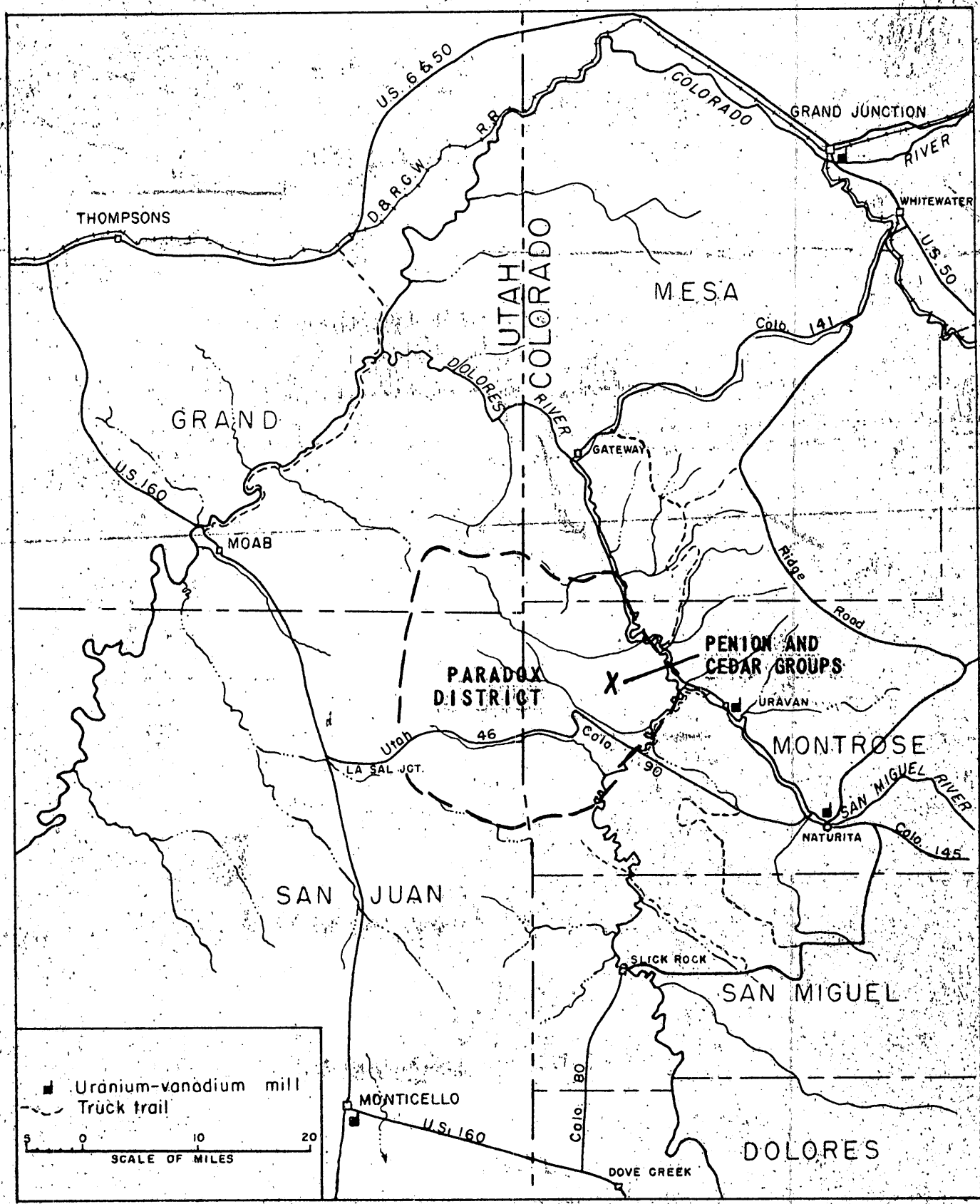
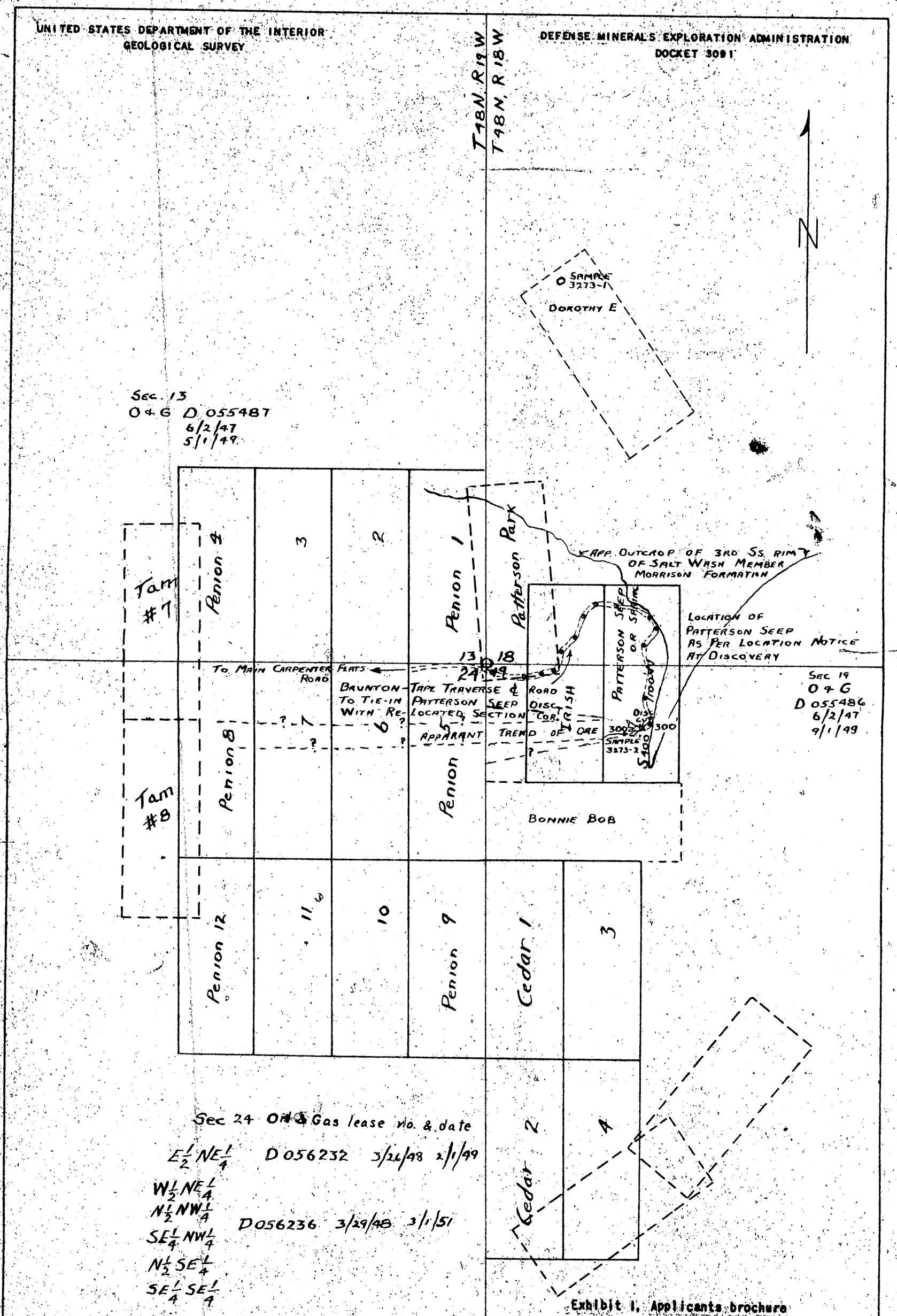


Figure 1. INDEX MAP OF PART OF THE COLORADO PLATEAU SHOWING THE APPROXIMATE LOCATION OF THE PENION AND CEDAR GROUPS, PARADOX DISTRICT, MONTROSE COUNTY, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3091



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Carpenter Ridge Area
Montrose County, Colorado
Claims Located Feb. 15, 1953
Scale 1" = 800'

Figure 2. SKETCH MAP SHOWING LOCATION OF PENION AND CEDAR GROUPS OF CLAIMS, PARADOX DISTRICT, MONTROSE COUNTY, COLORADO

EXHIBIT No. 1

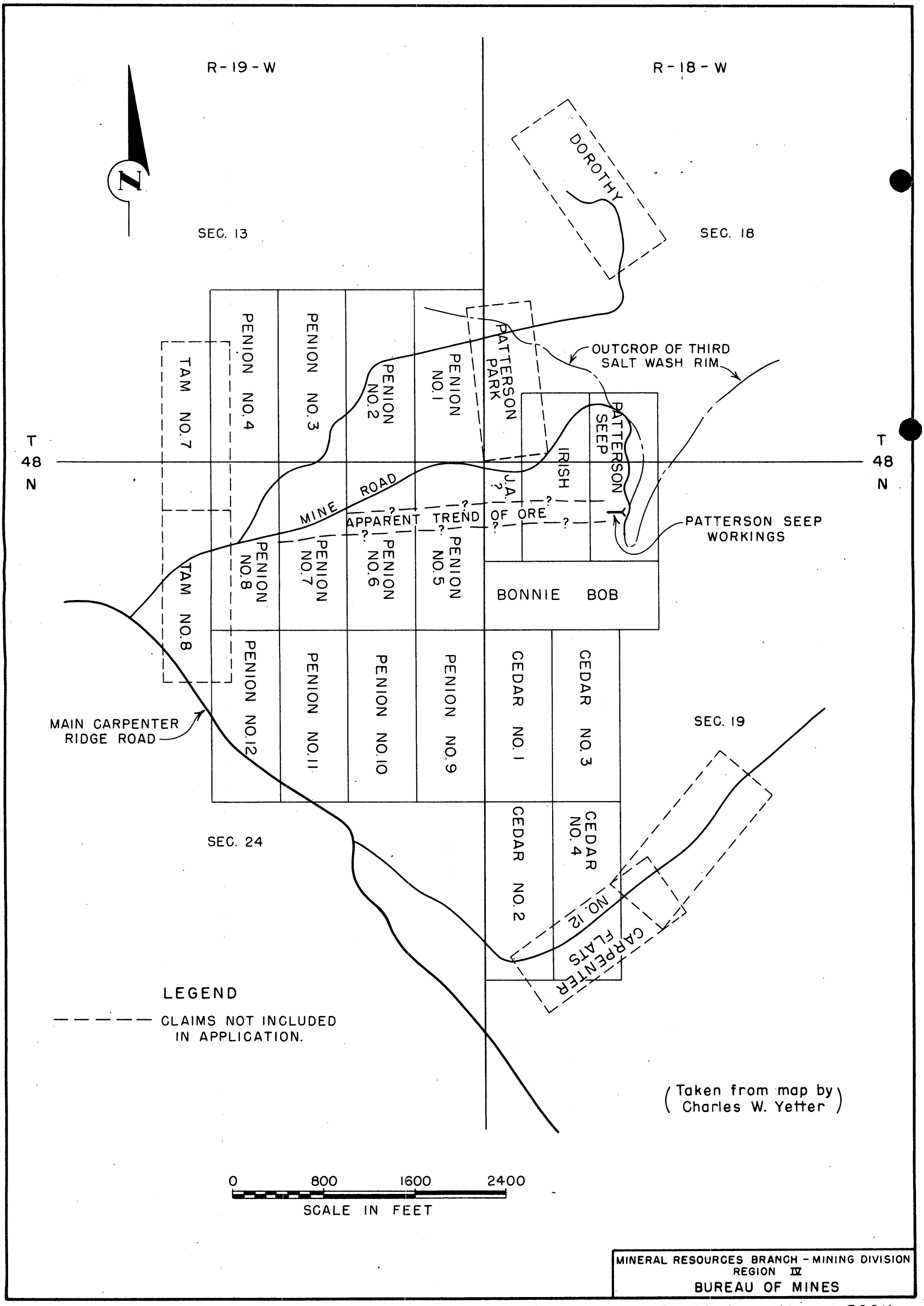


FIGURE 2-CLAIM MAP, PENION AND CEDAR GROUPS, MONTROSE COUNTY, COLO. (DMEA 3091)

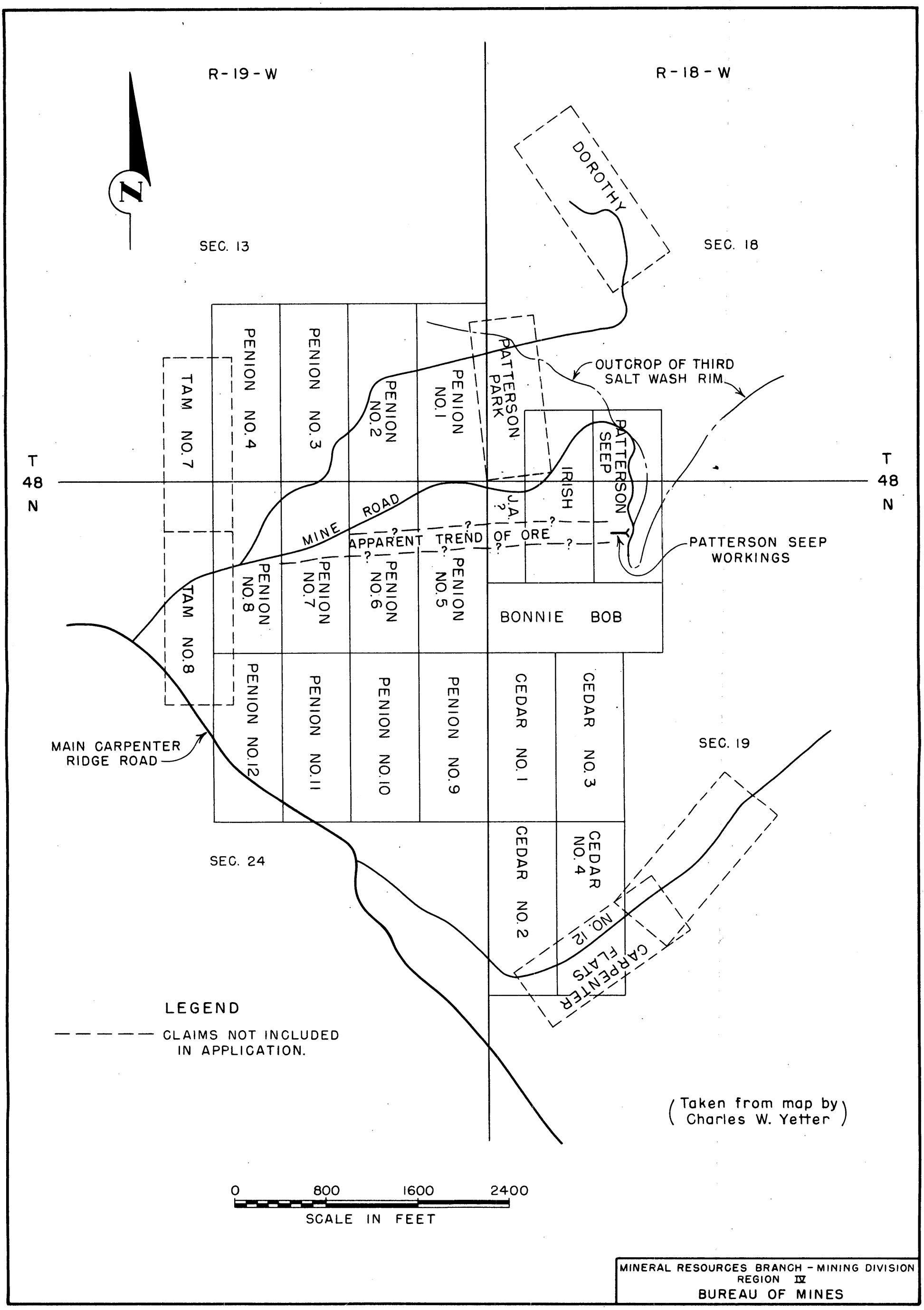
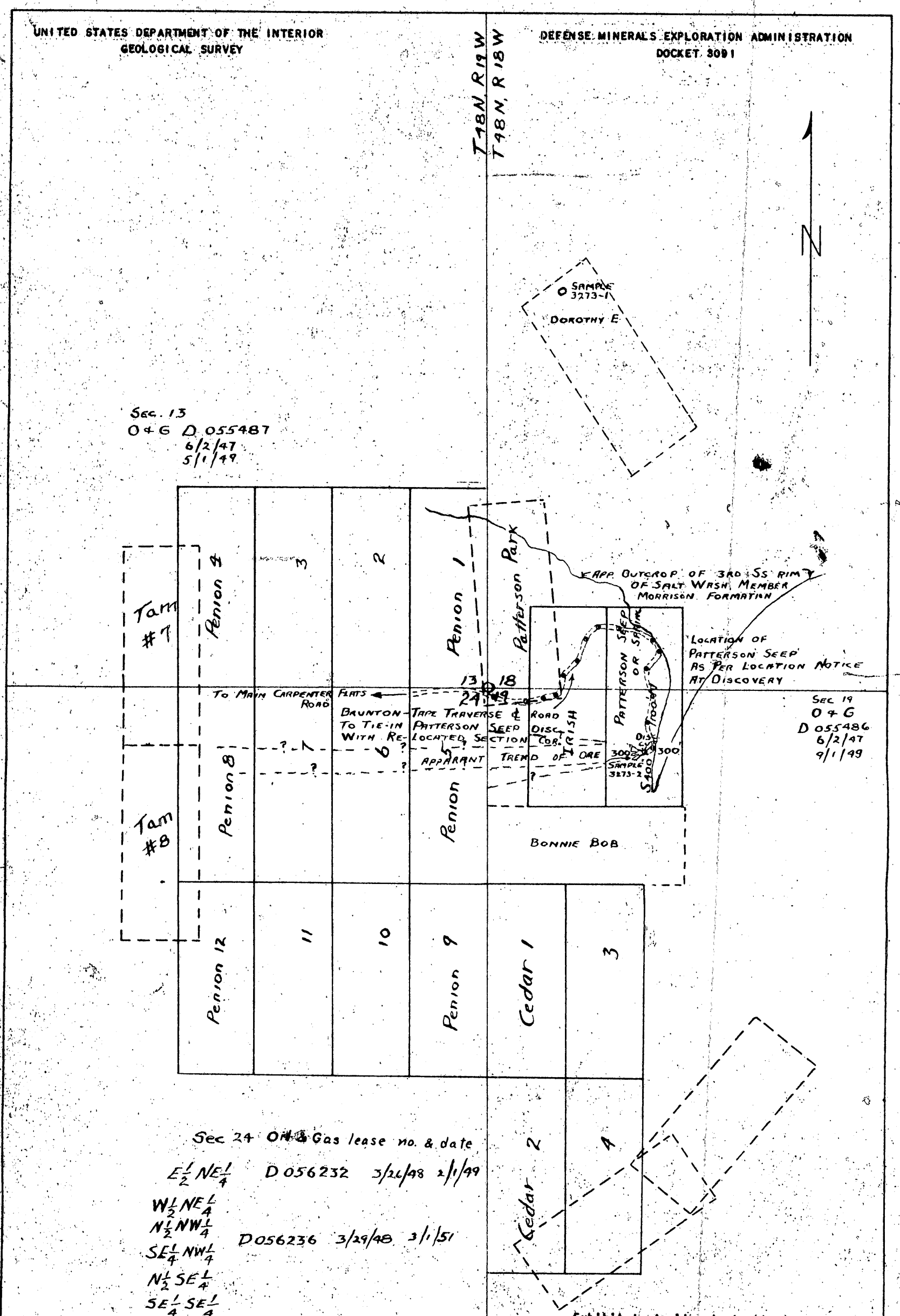


FIGURE 2-CLAIM MAP, PENION AND CEDAR GROUPS, MONTROSE COUNTY, COLO. (DMEA 3091)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3091



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Carpenter Ridge Area
Montrose County, Colorado
Claims Located Feb. 15, 1953
Scale 1" = 800'

Figure 2. SKETCH MAP SHOWING LOCATION OF PENION AND CEDAR GROUPS OF CLAIMS, PARADOX DISTRICT, MONTROSE COUNTY, COLORADO

EXHIBIT No. 1

U. S. DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

EXHIBIT # 8

OF APPLICANTS BROCHURE

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DOCKET NO. 3091

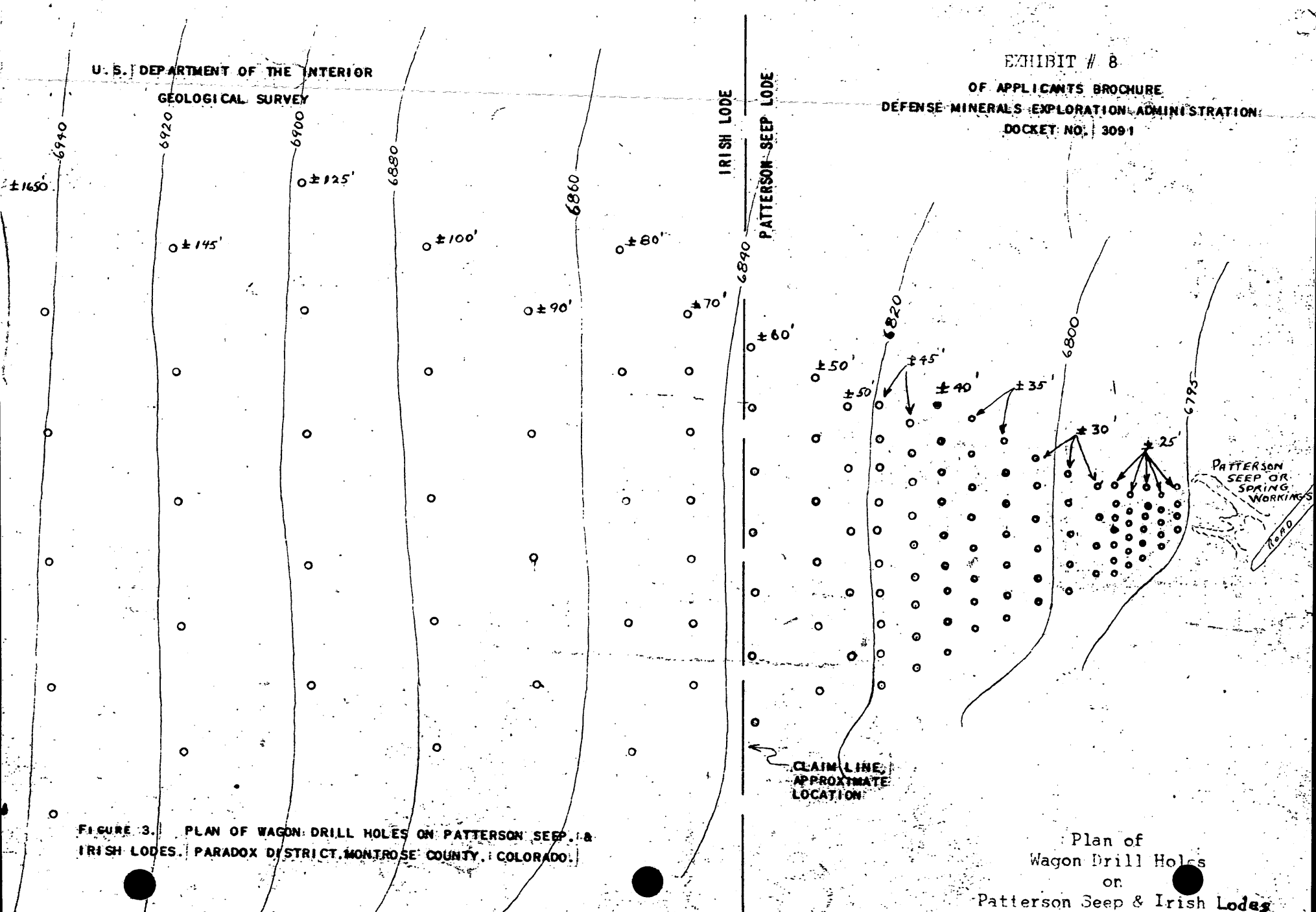


FIGURE 3. PLAN OF WAGON DRILL HOLES ON PATTERSON SEEP & IRISH LODES. PARADOX DISTRICT, MONTROSE COUNTY, COLORADO.

Plan of
Wagon Drill Holes
on
Patterson Seep & Irish Lodes
Scale 1" = 100'

EXHIBIT # 5
OF APPLICANTS BROCHURE

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3091

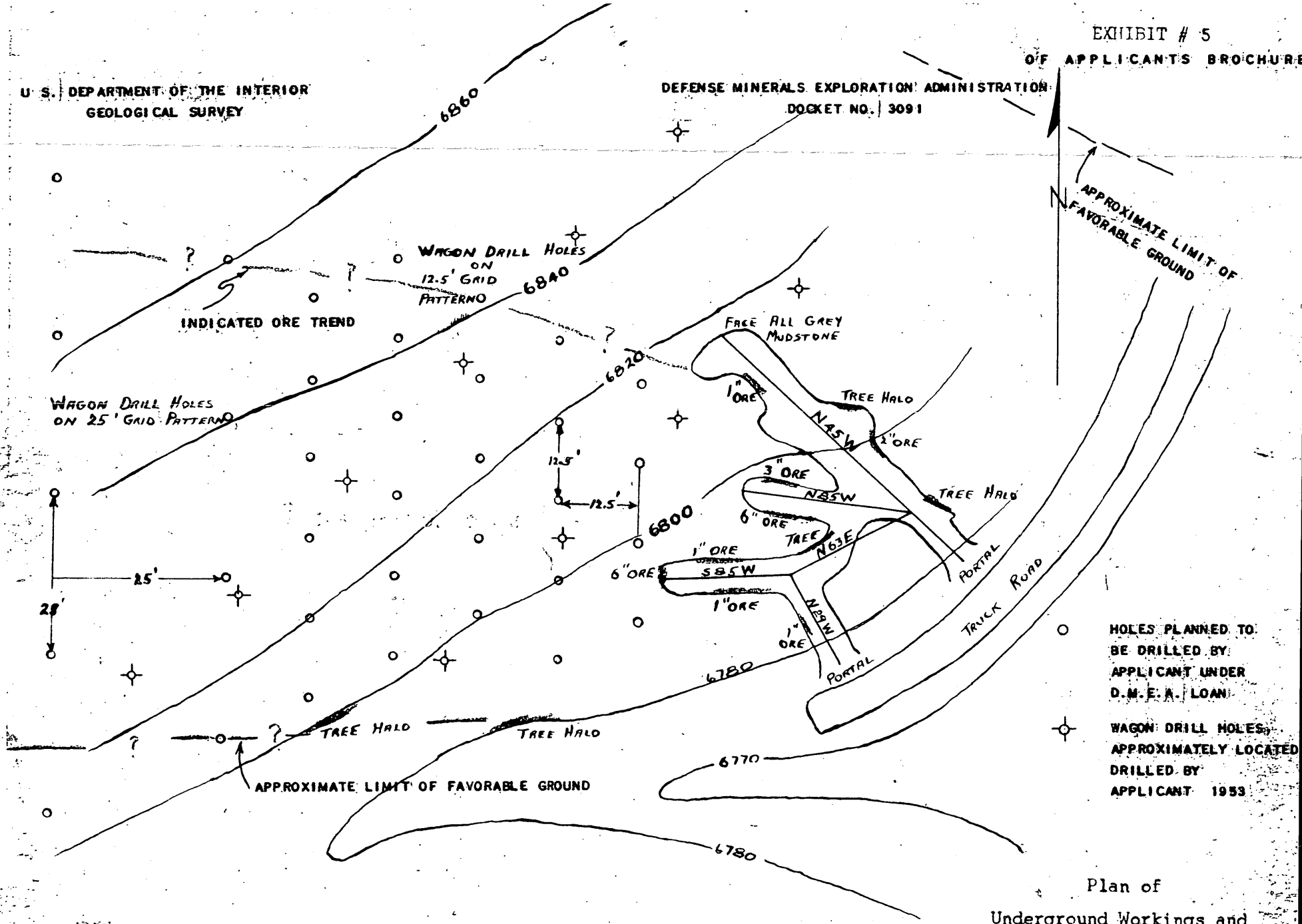


Figure 4. SKETCH MAP SHOWING APPROXIMATE LOCATION OF WAGON DRILL HOLES DRILLED IN 1953 ON THE PATTERSON SEEP LODE, PARADOX DISTRICT, MONTROSE COUNTY, COLORADO.

Plan of
Underground Workings and
Surface Contours
Patterson Seep Lode
Scale 1" = 20'
Contours = 10'

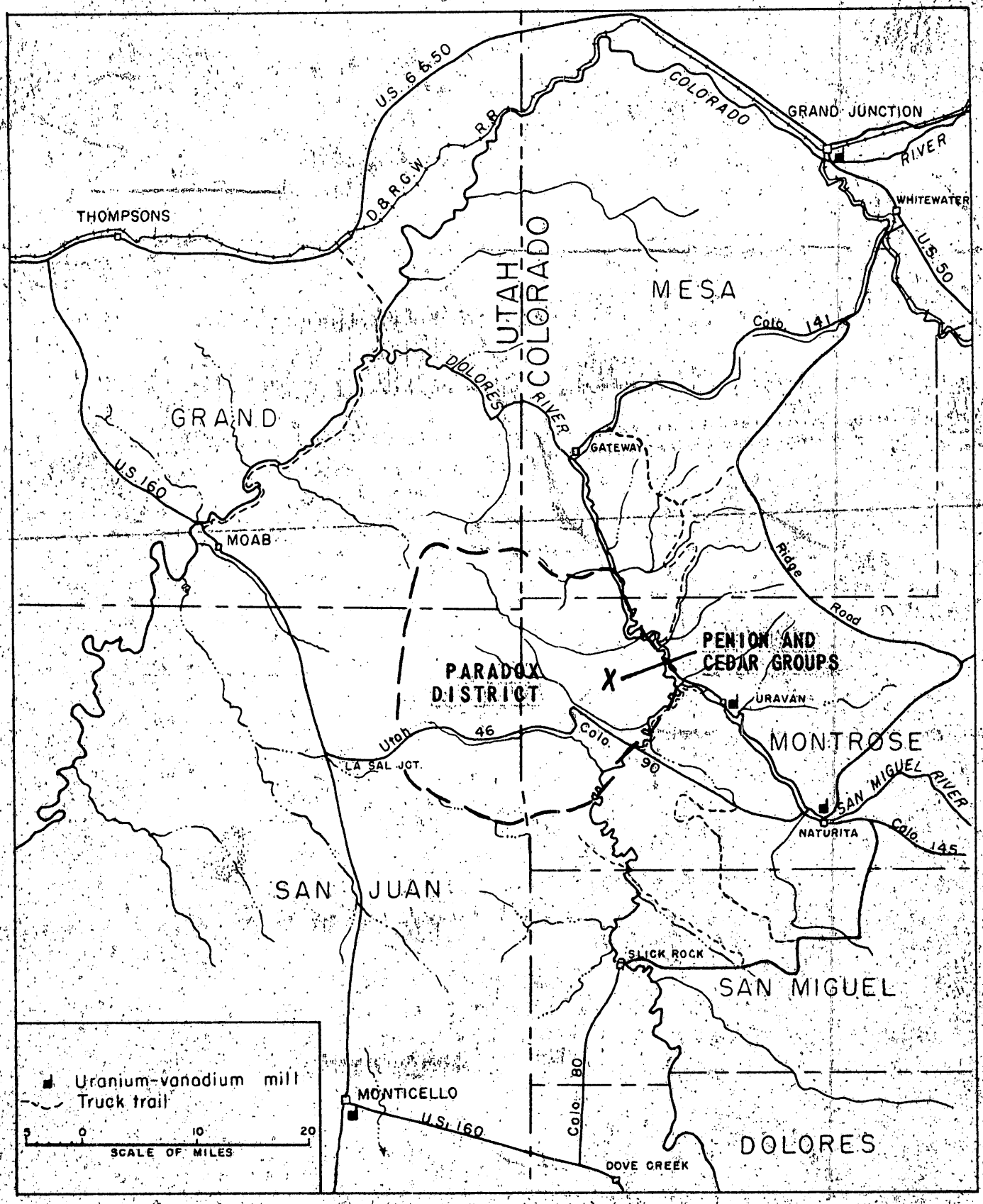


Figure 1. INDEX MAP OF PART OF THE COLORADO PLATEAU SHOWING THE APPROXIMATE LOCATION OF THE PENION AND CEDAR GROUPS, PARADOX DISTRICT, MONTROSE COUNTY, COLORADO

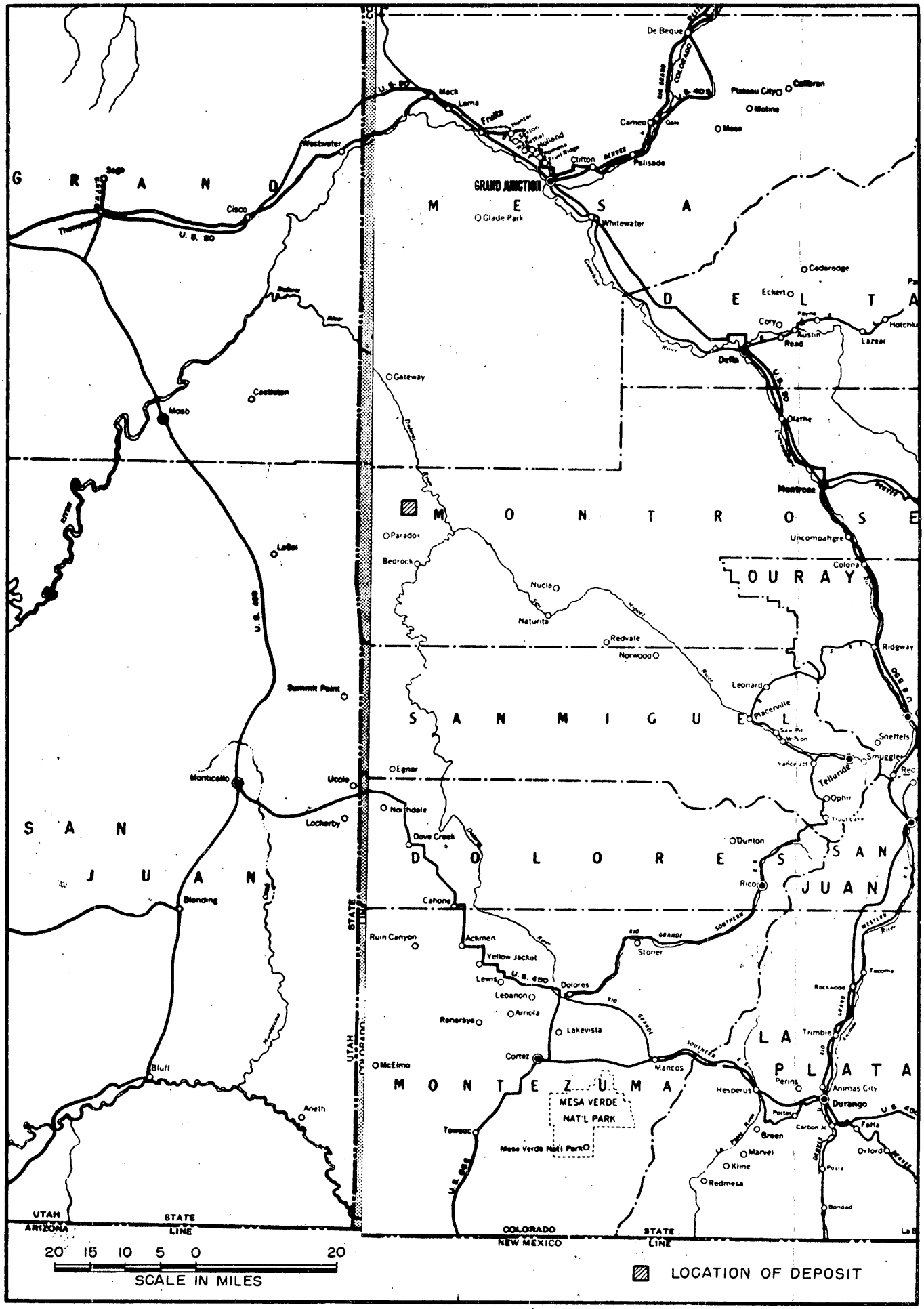


FIGURE 1. - LOCATION MAP, PENION AND CEDAR GROUPS, MONTROSE COUNTY, COLO. (DMEA 3091)

EXHIBIT # 8

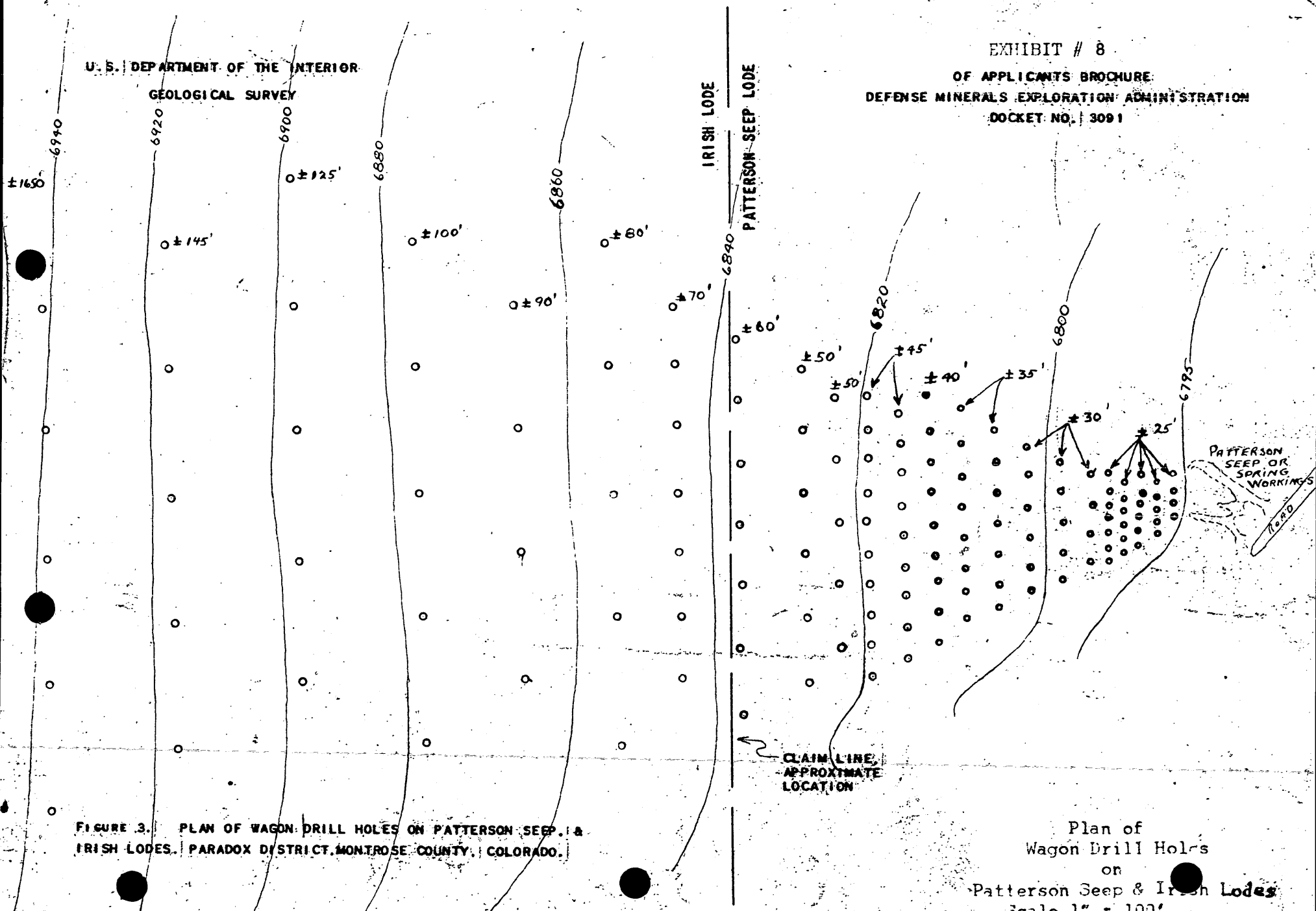
OF APPLICANTS BROCHURE

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DOCKET NO. 3091

U. S. DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY



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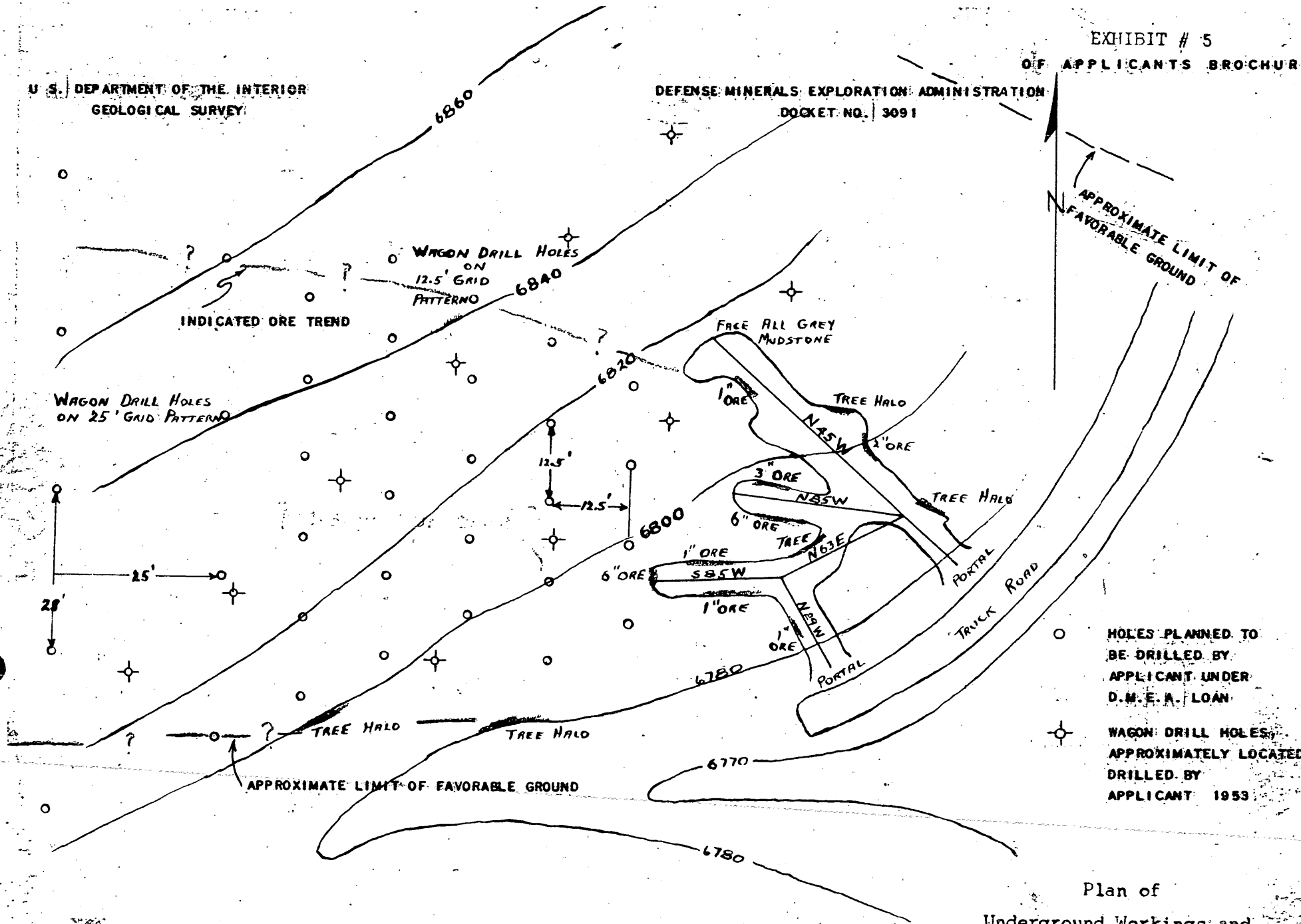
Plan of
Wagon Drill Holes
on
Patterson Seep & Irish Lodes
Scale 1" = 100'

EXHIBIT # 5
OF APPLICANTS BROCHUR

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3091



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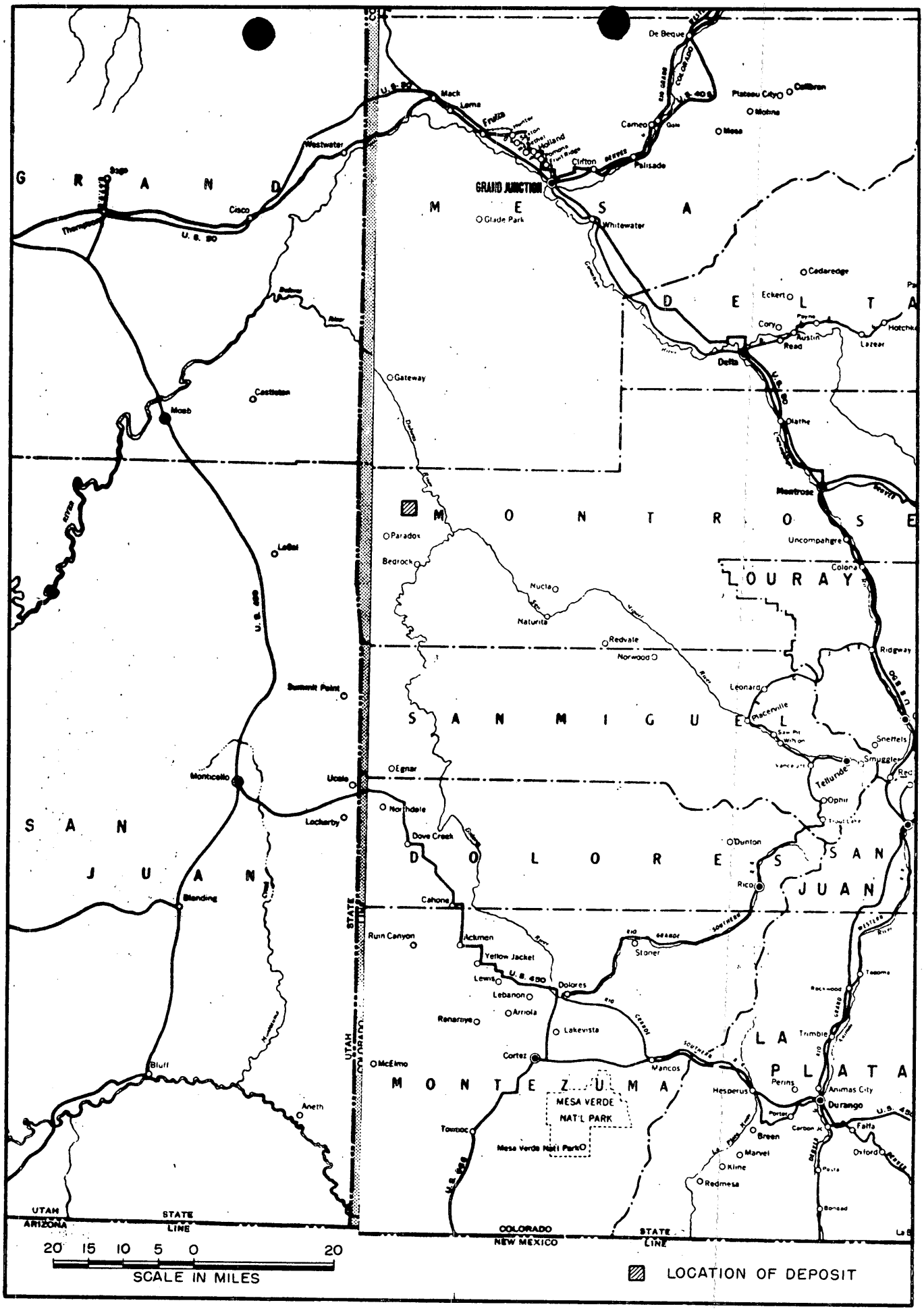
Surface Contours
Patterson Seep Lode
Scale 1" = 20'
Contours = 10'



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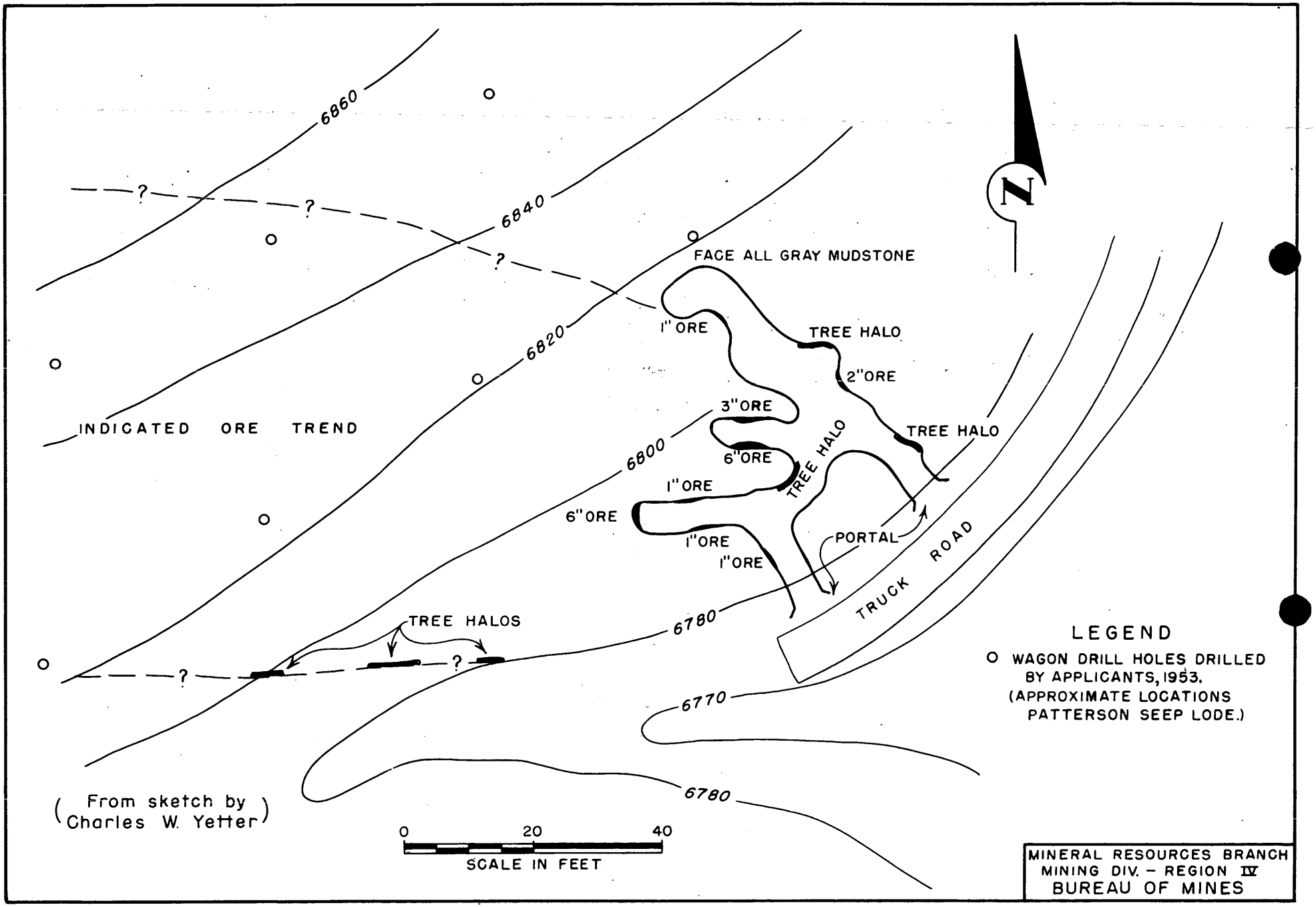

FIGURE 3 - PLAN AND CONTOUR MAP, PENION AND CEDAR GROUPS, MONTROSE COUNTY, COLO. (DMEA 3091)