DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 3796

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

Cys to USBM and USGS.

This document has been recorded as

Exploration

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

To:	700	Date	4/29/55
To:	Oper Com	Date	6-2-55
To:	~~Oper. Com.~~	Date	~~1-11-56~~
To:	Oper. Com	Date	~~1-12-56~~
To:	F. E. Johnson	Date	1-13-56
To:	[illegible]	Date	1-13-56
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	

DO NOT DETACH

CONTROLLED DOCUMENT

May 4-1955

DMEA-/3796

Norcomb called today & said they did not have the sketches attached to this copy nor the assay certs. Will have to write for more info on this applic. hence no memo from Norcomb.

EDK

700

FILE COPY
Surname:
Ching
Ellis
Nelson
Gulson
Selmeyer
Johnson

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

Messrs. Emmet Isaacs and Gerald F. Martin
d/b/a Isaacs and Martin
1006 Farlow Avenue
Rapid City, South Dakota

Re: Docket No. DMEA-3796 (Uranium)
Starlite and Johnson claims
Fall River County, South Dakota

Gentlemen:

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

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

Careful study of all our information, although noting some uranium mineralization on your property, indicates to us that the probability of disclosing minable ore reserves is not sufficiently promising to justify Government participation. We regret to advise you that, under these circumstances, your application for exploration assistance is denied. Such denial, however, is made without prejudice. In the event further work on your part discloses new and more favorable evidence of ore deposition on the property, we shall be pleased to consider a new application.

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

Sincerely yours,

C. O. Mittendorf

Administrator

MChing/izm 1-11-56
cc to: Docket
Code 700
Admr.'s Reading File
Operating Committee
Mr. Ching
DMEA Field Team, Region III (2)
Messrs. JECrawford, 3641 - THKiilsgaard, 5224 - JOHosted, 3210, GSA

Docket Copy

Ching
Ellis

January 11, 1956

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA-3796

Commodity: Uranium

Applicant: Emmet Isaacs and Gerald F. Martin, a partnership
d/b/a Isaacs and Martin
1006 Farlow
Rapid City, South Dakota

Property: 31 unpatented lode mining claims consisting of Starlite 1 - 8, Johnson 1 - 22 and Johnson 8A, located in Section 35, T. 8 S., R. 3 E., and Section 2, T. 9 S., R. 3 E., Fall River County, South Dakota. Applicant holds a lease dated October 20, 1954 from Jesse M. Johnson and Lenore E. Johnson.

Date of Application: April 20, 1955

Amount of Application: $23,918.00

Work Proposed: Prepare access roads and drill sites with bulldozer, and core drill 44 holes totaling 8,800 feet on 23 of the claims.

Estimated Cost:

Labor, supervision, consultants	$13,250.00	
Operating materials and supplies	5,773.00	
Bulldozer rental	2,000.00	
Miscellaneous	1,495.00	
Contingencies	1,400.00	
Estimated Total Cost		$23,918.00
Government Participation @ 75%		$17,938.50

Field Team Report:

The Fall River sandstone and Lakota sandstone of the Inyan Kara group are the main host rocks for uranium deposits in this area. Production from the Fuson formation and Minnewaste limestone, lying between the Fall River and Lakota, has been negligible.

The subject property lies on the steeply-dipping western flank of the Chilson Anticline. Relationship of known ore deposits to geologic structures such as the Chilson Anticline is not clear.

A poorly defined major facies change in the Fall River formation, indicated by a change from a thick massive channel sandstone southwest of the property to a thin-bedded mudstone, siltstone, and sandstone northeast of the claims, may represent the eastern margin of a northwest-trending channel. If such a channel exists, its eastern margin would pass close to the northeastern boundary of the subject claims and make at least the extreme western part of the property favorable for exploration.

The Gould Mine, one of the largest producers in the Black Hills, is 4 miles north of the subject property along the regional strike. Ore at the Gould Mine is localized 50 feet above the base of a channel sandstone of the Fall River formation.

At least 21 small deposits have been found within 2.5 miles of the property. Six of the deposits have been mined and have a total production of 402 tons. All production has come from the Lakota sandstone, and all except 2 of the 21 deposits were found in this member. The two exceptions, the Sheep Canyon and Starlite deposits were found in the Fall River sandstone and, in the case of the Starlite deposit, mineralization was also found at the base of the Fuson formation. Mineralization found to date in these two deposits has not been impressive. A small 2-ton stockpile of ore from an open cut on the Johnson No. 10 claim was found to have 0.06% equivalent uranium. Not enough ore was found in place in the open cut to provide a channel sample.

The Operator drilled 21 preliminary core holes in the three most favorable surface areas on the subject property with negative results, although gamma ray logs of the holes show anomalous stratigraphic intervals near the base of the Fall River and near the base of the Fuson. Material having slightly more than 0.10% equivalent uranium was found near the Sheep Canyon deposit under an exploration contract with Mining Research Corporation (Docket No. DMEA-2768).

On the basis of the known mineralization within a 2.5 mile radius of the subject claims the most favorable ore horizon is in the basal Lakota sandstone. However, nothing is known of this horizon on the subject claims and any program of exploration would have to be based almost entirely on the projection, over a considerable distance, of the known mineralized sediments. Furthermore, relatively deep drilling (up to 450 feet) would be required to reach the base of the Lakota sandstone. Exploration of this horizon is therefore not recommended under this project.

Some exploration of the Fall River and Fuson intervals is believed justified because favorable sedimentary and chemical conditions are present and the facies changes mentioned above are indicative of the presence of a channel favorable for ore deposition. A modified two-stage drilling program costing $15,226.00 is recommended.

Commodity Group Comments:

Bureau of Mines - James Paone - January 3, 1956:

Discussed the report of examination with the A.E.C. representative who favors the proposed project. Justification for the proposed program is based on the many small deposits and radioactive anomalies that are found widely distributed within a 2.5 mile radius of the subject property which indicate that sedimentary and chemical conditions were generally favorable for the deposition of uranium. Based on the statistics of production in the area, the results of preliminary drilling, and the sub-marginal grade of ore encountered on subject claims, approval of an exploration project would be questionable economically. Also sees some inconsistency in the Field Team's recommendation which prompts some reluctance in concurring with its recommendation..

Geological Survey - T. H. Kiilsgaard - January 5, 1956:

Although no trend of the indicated paleochannel is shown on the maps accompanying the report of examination, a well-defined channel is shown on a map of the area in Survey Trace Elements Investigations Report 590, pages 154-155. Another geologic aspect favoring the proposed project is that the property is on the western limb of the Chilson Anticline at or near the point where the limb of the Anticline flattens into a monocline. At other nearby areas similar situations have served as traps to uranium mineralization, thereby accounting for some of the more important deposits.

On the basis of regional structure and lithology the property would warrant exploration. On its own individual merit, however, the property presents little evidence that would support exploration. Open cut work and drilling done to date have not exposed ore and have been discouraging. Some holes have already been drilled in the same area where the field examiners recommend drilling, but with unfavorable results. The proposed drilling would therefore appear to be too speculative to warrant DMEA participation. It would be more prospecting than exploration. Recommends denial of the application without prejudice.

Rare and Miscellaneous Metals Division - Michael Ching - January 11, 1956:

Minable deposits of uranium discovered within a 2.5 mile radius of the subject property have been confined to the Lakota sandstone. No data is available on the subject claims to warrant exploration of this horizon.

Exploration of the Fall River and Fuson intervals is recommended by the examiners on the basis of the indicated presence of a paleochannel in the western part of the property and the belief

that sedimentary and chemical conditions in this area are favorable. Rather extensive work to date by the Applicant has failed to furnish concrete information that would support the belief that there is a geologic probability of making a significant discovery on the property.

Conclusions and Recommendations:

Despite favorable structure and lithology, the work already done on the property, together with the results of work on nearby properties, indicate that an exploration project is not justified. It is recommended that the application be denied without prejudice to the property. If, through additional preliminary work, the Applicant can establish the presence of specific targets of a worthwhile nature in the paleochannel, consideration should be given to a new application.

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

1-6-56 dym

IN REPLY REFER TO:

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

RECEIVED
JAN 8 1956

January 5, 1956

Re: DMEA 3796
Isaacs and Martin
Starlite and Johnson Claims
Fall River County, S. Dak.
Uranium

Memorandum

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

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of Field Team Report.

The Field Team has recommended approval of a modified exploration project on the applicants' property, the work to be done as two stages of drilling. The first stage, comprising 21 holes to be drilled in two rows along the western edge of the property, is designed to explore the Fall River and the underlying Fuson formations. If this work proves successful a second stage of offset drilling around the favorable holes is recommended.

Geologic justification for the project is premised on a paleochannel passing through the property in a northwesterly direction. This paleochannel is evidenced by a facies change in the thick, channel, Fall River sandstone from the southwest to a thin-bedded mudstone and siltstone in the northeast. Although no trend of the paleochannel is shown on the maps accompanying the report, a well-defined channel is shown on a map of the area in Survey Trace Elements Investigations Report 590, pages 154-155. Another geologic aspect favoring the proposed project is that the property is on the western limb of the Chilson anticline at or near the point where the limb of the anticline flattens into a monocline. In other nearby areas in South Dakota, similar flattened limbs of anticlines and monoclines in areas of abrupt facies change, have served as traps to uranium mineralization thereby accounting for some of the more important uranium deposits.

On the basis of regional structure and lithology the property would warrant exploration; it is readily understood why such exploration was recommended by the field examiners. On its own individual merit, however, the property presents little evidence that would support exploration. The open cuts on Starlite Nos. 1 and 2, and on Johnson 10 claims have not produced ore. Certainly, the 2 tons of .06 percent U_3O_8 from Johnson 10 claim is not encouraging. Furthermore, the anomalies in both these areas have been drilled, as well as other areas, and all drilling

has been discouraging. Drilling depths on the Johnson 8 claim have been enough to go through the Fuson formation and through the upper section of the Lakota, which in other nearby areas has been an important ore horizon. Holes have already been drilled in the western part of the claims (Nos. 16, 17, 18, 19, and 20), in the same area where field examiners recommended drilling, but with unfavorable results. It would therefore appear that the proposed drilling should be considered as too speculative to warrant DMEA participation.

I recommend denial of the contract on the grounds that proposed work is more prospecting than exploration. The denial should be without prejudice. If additional work by the applicant should prove the property to have a greater potential than would now appear we could reconsider a contract.

T. H. Kiilsgaard

T. H. Kiilsgaard

IN REPLY REFER TO:

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

RECEIVED
JAN 10 1956

January 5, 1956

Re: DMEA 3796
Isaacs and Martin
Sterlite and Johnson Claims
Fall River County, S. Dak.
Uranium

Memorandum

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

From: P. K. Killeen, U. S. Geological Survey

Subject: Review of Field Team Report.

The Field Team has recommended approval of a modified exploration project on the applicants' property, the work to be done on two stages of drilling. The first stage, comprising 22 holes to be drilled in two rows along the western edge of the property, is designed to explore the Fall River and the underlying Fuson formations. If this work proves successful a second stage of offset drilling around the favorable holes is recommended.

Geologic justification for the project is premised on a paleochannel running through the property in a northwesterly direction. This paleochannel is evidenced by a facies change in the thick, channel, Fall River sandstone from the southeast to a thin-bedded sandstone and siltstone in the northwest. Although no trend of the paleochannel is shown on the maps accompanying the report, a well-defined channel is shown on a map of the area in Survey Trace Elements Investigations Report 590, pages 154-155. Another geologic aspect favoring the proposed project is that the property is on the western limb of the Chilson anticline at or near the point where the limb of the anticline flattens into a monocline. In other nearby areas in South Dakota, similar flattened limbs of anticlines and monoclines in areas of abrupt facies change, have served as traps to uranium mineralization thereby accounting for some of the more important uranium deposits.

On the basis of regional structure and lithology the property would warrant exploration; it is readily understood why such exploration was recommended by the field examiners. On its own individual merit, however, the property presents little evidence that would support exploration. The open cuts on Sterlite Nos. 1 and 2, and on Johnson 10 claims have not produced ore. Certainly, the 2 tons of .06 percent U_3O_8 from Johnson 10 claim is not encouraging. Furthermore, the anomalies in both these areas have been drilled, as well as other areas, and all drilling

has been discouraging. Drilling depths on the Johnson 8 claim have been enough to go through the Fuson formation and through the upper section of the Lakota, which in other nearby areas has been an important ore horizon. Holes have already been drilled in the western part of the claims (Nos. 16, 17, 18, 19, and 20), in the same area where field examiners recommended drilling, but with unfavorable results. It would therefore appear that the proposed drilling should be considered as too speculative to warrant BMA participation.

I recommend denial of the contract on the grounds that proposed work is more prospecting than exploration. The denial should be without prejudice. If additional work by the applicant should prove the property to have a greater potential than would now appear to could reconsider a contract.

W. H. Killegsard

WHKillegsard:jch
6-1/5/56
cc: Director's reading 4212
Branch reading 4212
BMA (3)
Docket file
J. R. Crawford, 3641 Interior
J. O. Hosted, 3210 GSA

IN REPLY REFER TO:

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

January 5, 1956

Re: DMEA 3796
Isaacs and Martin
Starlite and Johnson Claims
Fall River County, S. Dak.
Uranium

Memorandum

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

From: T. N. Kiilsgaard, U. S. Geological Survey

Subject: Review of Field Team Report.

The Field Team has recommended approval of a modified exploration project on the applicants' property, the work to be done on two stages of drilling. The first stage, comprising 22 holes to be drilled in two rows along the western edge of the property, is designed to explore the Fall River and the underlying Fuson formations. If this work proves successful a second stage of offset drilling around the favorable holes is recommended.

Geologic justification for the project is premised on a paleochannel passing through the property in a northwesterly direction. This paleochannel is evidenced by a facies change in the thick, channel, Fall River sandstone from the southwest to a thin-bedded sandstone and siltstone in the northeast. Although no trend of the paleochannel is shown on the maps accompanying the report, a well-defined channel is shown on a map of the area in Survey Trace Elements Investigations Report 590, pages 154-155. Another geologic aspect favoring the proposed project is that the property is on the western limb of the Chilson anticline at or near the point where the limb of the anticline flattens into a monocline. In other nearby areas in South Dakota, similar flattened limbs of anticlines and monoclines in areas of abrupt facies change, have served as traps to uranium mineralization thereby accounting for some of the more important uranium deposits.

On the basis of regional structure and lithology the property would warrant exploration; it is readily understood why such exploration was recommended by the field examiners. On its own individual merit, however, the property presents little evidence that would support exploration. The open cuts on Starlite Nos. 1 and 2, and on Johnson 10 claims have not produced ore. Certainly, the 2 tons of .06 percent U_3O_8 from Johnson 10 claim is not encouraging. Furthermore, the anomalies in both these areas have been drilled, as well as other areas, and all drilling

has been discouraging. Drilling depths on the Peterson chain have been enough to go through the Fuson formation and through the upper section of the Lakota, which in other nearby areas has been an important ore horizon. Holes have already been drilled in the western part of the claims (Sec. 16, 17, 18, 19, and 20), in the same area where field examiners recommended drilling, but with unfavorable results. It would therefore appear that the proposed drilling should be considered as too speculative to warrant BMM participation.

I recommend denial of the contract on the grounds that proposed work is more prospecting than exploration. The denial should be without prejudice. If additional work by the applicant should prove the property to have a greater potential than would now appear we could reconsider a contract.

T. N. Kilisgaard

TNKilisgaard:jeh
6-1/5/56
cc: Director's reading 4212
Branch reading 4212
BMM (3)
Docket File
J. R. Crawford, 3641 Interior
J. O. Wested, 3810 GSA

IN REPLY REFER TO:

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

January 5, 1956

Re: DMEA 3796
Isaacs and Martin
Sherlite and Johnson Claims
Fall River County, S. Dak.
Uranium

Memorandum

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

From: W. E. Killingsard, U. S. Geological Survey

Subject: Review of Field Team Report.

The Field Team has recommended approval of a modified exploration project on the applicants' property, the work to be done in two stages of drilling. The first stage, comprising 21 holes to be drilled in two rows along the western edge of the property, is designed to explore the Fall River and the underlying Fuson formations. If this work proves successful a second stage of offset drilling around the favorable holes is recommended.

Geologic justification for the project is premised on a paleochannel passing through the property in a northwesterly direction. This paleochannel is evidenced by a facies change in the thick, channel, Fall River sandstone from the southwest to a thin-bedded sandstone and siltstone in the northeast. Although no trend of the paleochannel is shown on the maps accompanying the report, a well-defined channel is shown on a map of the area in Survey Trace Elements Investigations Report 390, pages 154-155. Another geologic aspect favoring the proposed project is that the property is on the western limb of the Chilson anticline at or near the point where the limb of the anticline flattens into a syncline. In other nearby areas in South Dakota, similar flattened limbs of anticlines and synclines in areas of abrupt facies change, have served as traps to uranium mineralization thereby accounting for some of the more important uranium deposits.

On the basis of regional structure and lithology the property would warrant exploration; it is readily understood why such exploration was recommended by the field examiners. On its own individual merit, however, the property presents little evidence that would support exploration. The open cuts on Sherlite Nos. 1 and 2, and on Johnson 10 claims have not produced ore. Certainly, the 2 tons of .06 percent U_3O_8 from Johnson 10 claim is not encouraging. Furthermore, the anomalies in both these areas have been drilled, as well as other areas, and all drilling

has been discouraging. Drilling depths on the Johnson & claims have been enough to go through the Fuson formation and through the upper section of the Lakota, which in other nearby areas has been an important ore horizon. Holes have already been drilled in the western part of the claims (Nos. 16, 17, 18, 19, and 20), in the same area where field examiners recommended drilling, but with unfavorable results. It would therefore appear that the proposed drilling should be considered as too speculative to warrant BMA participation.

I recommend denial of the contract on the grounds that proposed work is more prospecting than exploration. The denial should be without prejudice. If additional work by the applicant should prove the property to have a greater potential than would now appear we could reconsider a contract.

T. H. Killegnard

THKillegnard:jch
6-1/3/56
cc: Director's reading 4212
Branch reading 4212
BMRA (3)
Docket file
J. E. Crawford, 3641 Interior
J. O. Hosted, 3210 GSA

1-5-56 [illegible]

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

January 3, 1956

Memorandum

RECEIVED
JAN 5 1956

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

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

Subject: Report of Examination, DMEA Docket 3796, Isaacs and Martin, Starlite and Johnson claims, Fall River County, South Dakota

I have reviewed the report of examination of the Starlite and Johnson claims, DMEA Docket 3796, dated December 23 and received in this office December 30. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The applicant proposes to explore separate areas on 22 of the 31 claims with 44 core-drill holes totaling 8,800 feet of core drilling at an estimated cost of $23,918.00. An examination of the subject claims was made by a DMEA Field Team on July 13, 1955, and again on August 26. The examining team found the property to contain no known reserves of minable ore and the two tons of "ore" stockpiled by the applicant from the subject claims was found by radiometric assay to be only 0.06 percent U_3O_8. The Field Team further state that in their opinion, the applicant's proposed drilling program is wildcatting or purely prospecting and the holes are too widely scattered and the spacing on and around anomalous areas is too great to be considered exploratory drilling.

In view of the wildcat nature of the exploration project, the Field Team recommend a modified two-stage drilling program consisting of 36 non-core holes totaling 7,200 feet and 6 core holes totaling 1,200 feet at a total project cost of $15,226.00. The justification of the program is based on the many small deposits and radioactive anomalies that are found widely distributed within a 2.5 mile radius of the subject property which indicate that sedimentary and chemical conditions were generally favorable for the deposition of uranium.

Within the 2.5 mile radius of the property, 21 small deposits have been found; six of these deposits have been mined and have a total aggregate production of 402 tons. The applicant drilled 21 core holes on the subject claims with negative results. Based on these statistics and the sub-marginal grade of ore encountered on subject claims, approval of a modified exploration project would be questionable economically.

The Field Team's comments state on one page that any program of exploration would be purely wildcatting, and on another page they recommend an exploration project. The inconsistency prompts some reluctance in concurrence with the Field Team's recommendation.

Mr. Hosted concurs in the recommendation of the field examiners.

The report of examination is being forwarded to the Chief, Division of Minerals, in accordance with the routing slip attached thereto.

James Paone

James Paone

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

January 3, 1956

Memorandum

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

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

Subject: Report of Examination, DMEA Docket 3796, Isaacs and Martin, Starlite and Johnson claims, Fall River County, South Dakota

I have reviewed the report of examination of the Starlite and Johnson claims, DMEA Docket 3796, dated December 23 and received in this office December 30. I have also discussed it with Joseph O. Hested, Washington representative of the Atomic Energy Commission.

The applicant proposes to explore separate areas on 22 of the 31 claims with 44 core-drill holes totaling 8,800 feet of core drilling at an estimated cost of $23,918.00. An examination of the subject claims was made by a DMEA Field Team on July 13, 1955, and again on August 26. The examining team found the property to contain no known reserves of minable ore and the two tons of "ore" stockpiled by the applicant from the subject claims was found by radiometric assay to be only 0.06 percent U_3O_8. The Field Team further state that in their opinion, the applicant's proposed drilling program is wildcatting or purely prospecting and the holes are too widely scattered and the spacing on and around anomalous areas is too great to be considered exploratory drilling.

In view of the wildcat nature of the exploration project, the Field Team recommend a modified two-stage drilling program consisting of 36 non-core holes totaling 7,200 feet and 6 core holes totaling 1,200 feet at a total project cost of $15,226.00. The justification of the program is based on the many small deposits and radioactive anomalies that are found widely distributed within a 2.5 mile radius of the subject property which indicate that sedimentary and chemical conditions were generally favorable for the deposition of uranium.

Within the 2.5 mile radium of the property, 21 small deposits have been found; six of these deposits have been mined and have a total aggregate production of 482 tons. The applicant drilled 21 core holes on the subject claims with negative results. Based on these statistics and the sub-marginal grade of ore encountered on subject claims, approval of a modified exploration project would be questionable economically.

The Field Team's comments state on one page that any program of exploration would be purely wildcatting, and on another page they recommend an exploration project. The inconsistency prompts some reluctance in concurrence with the Field Team's recommendation.

Mr. Hested concurs in the recommendation of the field examiners.

The report of examination is being forwarded to the Chief, Division of Minerals, in accordance with the routing slip attached thereto.

James Paone

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

January 3, 1956

Memorandum

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

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

Subject: Report of Examination, DMEA Docket 3796, Isaacs and Martin, Starlite and Johnson claims, Fall River County, South Dakota

I have reviewed the report of examination of the Starlite and Johnson claims, DMEA Docket 3796, dated December 23 and received in this office December 30. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The applicant proposes to explore separate areas on 22 of the 31 claims with 44 core-drill holes totaling 8,800 feet of core drilling at an estimated cost of $23,918.00. An examination of the subject claims was made by a DMEA Field Team on July 13, 1955, and again on August 26. The examining team found the property to contain no known reserves of minable ore and the two tons of "ore" stockpiled by the applicant from the subject claims was found by radiometric assay to be only 0.06 percent U_3O_8. The Field Team further state that in their opinion, the applicant's proposed drilling program is wildcatting or purely prospecting and the holes are too widely scattered and the spacing on and around anomalous areas is too great to be considered exploratory drilling.

In view of the wildcat nature of the exploration project, the Field Team recommend a modified two-stage drilling program consisting of 36 non-core holes totaling 7,200 feet and 6 core holes totaling 1,200 feet at a total project cost of $15,226.00. The justification of the program is based on the many small deposits and radioactive anomalies that are found widely distributed within a 2.5 mile radius of the subject property which indicate that sedimentary and chemical conditions were generally favorable for the deposition of uranium.

RECEIVED
JAN 3 1956

Within the 2.5 mile radius of the property, 21 small deposits have been found; six of these deposits have been mined and have a total aggregate production of 402 tons. The applicant drilled 21 core holes on the subject claims with negative results. Based on these statistics and the sub-marginal grade of ore encountered on subject claims, approval of a modified exploration project would be questionable economically.

The Field Team's comments state on one page that any program of exploration would be purely wildcatting, and on another page they recommend an exploration project. The inconsistency prompts some reluctance in concurrence with the Field Team's recommendation.

Mr. Hosted concurs in the recommendation of the field examiners.

The report of examination is being forwarded to the Chief, Division of Minerals, in accordance with the routing slip attached thereto.

James Faone

12-28-55 [illegible]

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

224 New Customhouse
Denver 2, Colorado

December 23, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 3796 (Uranium), Isaacs and Martin, Starlite and Johnson claims, Fall River County, South Dakota

Enclosed are the original and three copies of the Joint Report of Examination on the subject docket.

The field examiners recommend a modified two-stage drilling program at a total cost of $15,226.00, Government participation $11,419.50. We concur in this recommendation.

The matter of rental or use allowance for applicant owned equipment was discussed with the applicant, and he was informed that he could include the equipment in his costs on a rental or use allowance basis. However, the applicant stated he would furnish the equipment at no cost to the Government. A comparison of the recommended costs in this report with other contracts of a similar nature such as Wyoming Uranium Corporation, Contract Idm-E851 and Gaddis Mining Company, Contract Idm-E827 indicate that enough money has been allowed the applicant for the performance of this work without taking into consideration the use allowance of his equipment.

Nine extra copies of Figure 2A are attached for possible use in the contract.

In accordance with the request in your letter dated June 3, 1955 Forms MF-203, Owner's Consent to Lien, have been forwarded the applicant for the signatures of Jesse M. Johnson and Lenore E. Johnson. When received by us, the executed copies of the Owner's Consent to Lien will be forwarded you.

E. N. Harshman

E. N. Harshman
Acting Executive Officer, DMEA
Field Team, Region III

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE

12-30-55
(date)

TRANSMITTED

DEC 23 1955

MINERAL DEPOSITS
DMEA
RECEIVED
DEC 19 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

Rapid City Experiment Station
School of Mines Campus
Rapid City, South Dakota

DMEA
Date Rec'd.
DEC 20 1955
BUREAU OF MINES
Denver, Colorado

December 16, 1955

Memorandum

To: W. H. Traver, Executive Officer, DMEA Field Team, Reg. III

Through: E. N. Harshman, U. S. Geological Survey, Acting Executive Officer

From: Examining Team, H. P. Cuppels and S. C. Bingon

Subject: Report of Examination, DMEA Docket 3796 (Uranium), Isaacs and Martin, Starlite and Johnson Claims, Fall River County, S. Dak.

Enclosed are the original and ten copies of the subject report which include the Summary, Conclusions and Recommendations, and a Geologic and Engineering Report. Also enclosed are five copies of a revised claim map showing the location of the Johnson 8A Claim and five copies of a letter from the operator pertaining to the location and recording of the claim.

The five maps for the report are being mailed under separate cover and are as follows:

(1) Tracing Figure 1 Location Map

(11) Prints Figure 2 Claim Map

(1) Tracing Figure 2A Claim Map (Revised)

(11) Prints Figure 3 Geologic Map

(11) Prints Figure 4 Index Map of Uranium occurrences near the Starlite and Johnson Claims

Please return the tracings of figure 1 and figure 2A.

Herman P. Cuppels
S. C. Bingon

Reviewed by
DMEA OPERATING COMMITTEE

By: 12-30-55
(Date)

S. C. Bingon

TRANSMITTED
DEC 23 1955

[illegible]

[illegible]

DEC 27 1955

[illegible] 3796, Isaacs and Martin, Applicant

Starlite and Johnson Claims

Fall River County, South Dakota

Uranium

[illegible]. Simpson, Mining Engineer
Bureau of Mines

[illegible]. Cuppels, Geologist
Geological Survey

December 1[illegible], 1955

Reviewed by
DMEA OPERATING COMMITTEE

12-30-55
(date)

TRANSMITTED
DEC 23 1955

[illegible]

[illegible]

[illegible]

[illegible]

Summary, Conclusions, and Recommendations

By [illegible] Barton
Indian Service
Bureau of Indian Affairs

[illegible] Crowley
Geologist
Geological Survey

Declassified
DOE/HQ Classification Officer
12-30-55
(8/80)

TRANSMITTED
DEC 23 1955

DMEA 3796

ISAACS AND MARTIN, APPLICANT
STARLITE AND JOHNSON CLAIMS
FALL RIVER COUNTY, S. DAK.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By S. L. Bingon and H. F. Cuppels

Isaacs and Martin, a partnership, addressed in care of Ernest Isaacs, 1006 Parlow Ave., Rapid City, S. Dak., has applied to the Defense Minerals Exploration Administration for a loan to aid in exploration of their property, the Starlite and Johnson Claims, for uranium.

The property, which is held under a mining lease from Jesse M. and Lenore E. Johnson, includes 31 unpatented lode mining claims, the Starlite 1 through 8 and Johnson 1 through 22 and Johnson 8A, located 5 3/4 miles east of Edgemont in Sec. 35, T. 8S., R. 3E., and Sec. 2, T. 9S., R. 3E., Fall River County, S. Dak.

The applicant proposes to explore separate areas on 22 of the 31 claims with 44 core drill holes drilled to a depth of 200 feet, or a total of 8800 feet of core drilling. Some dozer work for access to and preparation of drill sites is also included. The estimate of total expenditures submitted by the applicant is $46,843.00 and includes a valuation of $22,925.00 for applicant-owned equipment to be used on the project. The applicant, although advised of the allowance for the cost of equipment, states that the $22, 925.00 was not intended to be included in the loan as the equipment would be furnished at no cost to the government. The actual amount of loan applied for is $23,918.00 of which the government's share at 75% participation would be $17,938.50.

The drilling program as proposed by the applicant is too widely scattered and is not sufficiently concentrated in those areas that he has assumed to be favorable, to be considered other than a prospecting program and would not adequately explore the selected areas.

However, on the basis of the available geologic data, it is believed that some exploration is warranted. With a favorable sedimentation and chemical environment that caused numerous small mineralized deposits and radioactive anomalies both on and in the area surrounding the property, it can be assumed that this environment could have resulted in deposition of larger uranium deposits. The poorly defined major facies change in the Fall River formation that is indicated by the change in the formation from a thick massive channel sandstone south west of the property to a thin-bedded mudstone, siltstone and sandstone north east of the claims is also a basis for assuming that at least a part of the property is favorable for exploration.

It is recommended that the extreme western part of the property as shown on figures 2 and 2A be explored under the modified two-stage drilling program outlined below.

Stage I

	Non-core Holes		Core Holes	
	No. of Holes	Footage	No. of Holes BX Size	Footage
Line A-B (Depth 200 ft.)	7	1400	3	600
Line C-D (Depth 200 ft.)	8	1600	3	600
TOTAL Stage I	15	3000	6	1200
Stage II (Offset Drilling)				
Line A-B	10	2000	-----	------
Line C-D	11	2200	-----	-----
TOTAL Stage II	21	4200	-----	-----
TOTAL STAGE I AND STAGE II	36	7200	6	1200

All Stage I drilling is to be completed and results evaluated before any offset drilling under Stage II is started.

The estimated total cost of the drilling program proposed by the examining team is $15,226.00 , of which the government's share at 75% participation is $11,419.50.

It is recommended that a short form contract on a unit cost basis for $15,226.00 be approved.

TRANSMITTED
DEC 23 1955

DMEA 3796

ISAACS AND MARTIN
STARLITE AND JOHNSON CLAIMS
Fall River County, S. Dak.

Engineering and Geologic Report

By E. O. Binyon
Mining Engineer
Bureau of Mines

N. P. Cupples
Geologist
Geological Survey

RPA 3796

ISAACS AND MARTIN, ET ALIAS
STARLITE AND JOHNSON CLAIMS
FALL RIVER COUNTY, IDAHO

CONTENTS

Engineering and Geologic Report	Page
Introduction	1
Acknowledgements	2
Location, topography and climate	2
History and production	3
Ownership and extent	4
Geology	6
Regional geology	6
Local geology	7
Stratigraphy	8
Mineral deposits	9
Anomalous radioactivity	11
Ore reserves	12
Present status	12
Mining and milling equipment and other facilities	12
Applicant's proposed exploration	13
Exploration proposed by examining team	15
Summary of proposed drilling	17
Estimated costs	19
Conclusions	22
Recommendations	22

ILLUSTRATIONS

Figure		Follows Page
1.	Location map, Starlite and Johnson Claims	2
2.	Claim map, Isaacs and Martin, Starlite and Johnson claims, Fall River County, Idaho	5
2A.	Claim map, Isaacs and Martin, Starlite and Johnson claims, Sec. 35, T. 7 S., R. 3 E., sec. 2, T. 8 S., R. 3 E., R. 4 E., Fall River County, S. Dak.	5
3.	Map showing the geology of the Starlite and Johnson claims, Fall River County, Idaho	7
4.	Index map of uranium occurrences near the Starlite and Johnson claims	9

DMEA 3796

ISAACS AND MARTIN
STARLITE AND JOHNSON CLAIMS
FALL RIVER COUNTY, S. DAK.

ENGINEERING AND GEOLOGIC REPORT

by

E. O. Binyon and N. P. Cuppels

INTRODUCTION

Isaacs and Martin, a partnership addressed in care of Emmet Isaacs, 1006 Farlow Ave., Rapid City, S. Dak., has made application to the Defense Minerals Exploration Administration for a loan to aid in the exploration for uranium of the Starlite and Johnson claims in sec. 35, T. 8 S., R. 3E., and sec. 2, T. 9 S., R. 3 E., Fall River County, S. Dak.

As proposed by the applicant, the exploration program is to include some road building to drill sites, drill site preparation, and core drilling of 44 holes to an average depth of 200 feet, or a total of 8,800 feet of drilling on 22 of the 31 claims now included in the application.

The applicant's estimated total cost of the proposed work is shown as $46,843.00; however, in this amount there is included $22,925.00, total value placed on applicant-owned equipment which is to be furnished by the applicant at no charge to the government. The actual amount of the loan applied for is $23,918.00.

An examination was made in company with Emmet Isaacs, one of the partners, on July 13, 1955 and again on August 26. The second examination was delayed by work on DMEA applications that had been submitted prior to Docket DMEA 3796.

ACKNOWLEDGEMENTS

To Mr. Emmet Isaacs, acknowledgement is made for his assistance in directing the examining team over the property. The information made available by the Atomic Energy Commission, John W. King, Chief, sub-office, Hot Springs, S. Dak., is gratefully acknowledged.

LOCATION, TOPOGRAPHY AND CLIMATE

The Starlite and Johnson Claims, a contiguous group of 31 claims, are in sec. 35, T. 8 S., R. 3 E., and sec. 2, T. 9S., R. 3 E., BH.B.M., Fall River County, S. Dak. As shown on figure 1, Location Map, the claims are 5 3/4 miles by road almost due east of Edgemont and 23 miles southwest of Hot Springs, the county seat of Fall River County, S. Dak.

Edgemont, the site of the AEC buying station and a mill now being constructed for treatment of uranium ores, is the nearest supply center and a rail point on the Chicago, Burlington and Quincy Railroad. The town is also serviced by several major truck lines.

To reach the property from Edgemont, take U. S. Highway 85A leading to Hot Springs and go 5¼ miles to a junction with a graveled road; turn right at the junction and go ½ mile to a gate on the right and onto the property.

All parts of the property and most of the claims are readily accessible from either the county road that passes through the northeastern corner of the property or the connecting ungraded dirt roads built with dozer by the applicant. However, the latter are fair weather roads and with even moderately wet weather or light snowfall, access to many of the claims, particularly in the southern and southeastern parts, would be difficult, and during the period from midwinter through early spring considerable maintenance would be required to permit travel or hauling

over most of the roads on the property.

The relief in that part of the property in section 35 is low to moderate, and the topography is marked only by a few broad ridges separated by shallow draws. The general slope is to the west. Near the central part of this area there is a fairly abrupt change in slope. The altitude on the west boundary at the section line is approximately 3,700 feet and from here rises to the east gently for about ¼ mile, then steepens, rising to an altitude of about 4,100 feet at the eastern boundary.

The areas in the southeastern part of the property and included by the claims in section 2 are more rugged, being cut by several fairly large steep-walled canyons and many small sharp draws. The altitude range is from 3,700 feet in the bottom of the east-west canyon that cuts through the Johnson No. 10 and No. 11 claims to 3,850 feet on the north and 3,900 to 3,950 feet to the south.

The climate, which is typical of the plains states, usually permits continuous operation for 8 to 10 months of the year. During the 2 to 4 months period of mid-winter through early spring, the fairly heavy snow falls and wet weather with thawing makes hauling difficult or impractical and may, for short periods of 1 to 3 weeks, cause a shut-down of any outside work.

Water is not available on the property. However, sufficient water for any exploration or development drilling and small scale mining operations can be hauled either from the Cheyenne river or from Edgemont.

Some small timber, mainly Ponderosa pine, is found on the claims in the eastern half of the property. The timber is not suitable for support of heavy ground, but could be used in small openings and as lagging or where not much strength is required.

HISTORY AND PRODUCTION

The claims were first located during June through November 1953. The Starlite Group, Starlite 1 through 8, were recorded in the name of Evelyn Mantonile and Earl F. Larson, and the Johnson Group, Johnson No. 1 through 22, were recorded in the name of Jesse M. and Lenore E. Johnson of Edgemont, South Dakota.

Except for the discovery and assessment work, nothing was done on the claims until October 1954, when the applicant started the open cut as assessment work on a surface anomaly on the Starlite No. 2 claim and on the Johnson No. 10 near the common end line of the Johnson No. 8 (New Map) and No. 10 claims.

Production to date consists of about 2 tons, with a grade of about 0.06 percent U_3O_8 equivalent, which came from the open cut on the Johnson No. 10 claim and are still on the property.

OWNERSHIP AND EXTENT

The applicant holds all claims under a mining lease from Jesse M. and Lenore E. Johnson, Edgemont, S. Dak., who are the owners and lessors. The mining lease, dated October 20, 1954, is for a 3-year period and grants renewal rights for an additional three years. A copy of the lease is included with the application.

The property described in the lease, and as shown on the original claim map that accompanied the application, included 30 unpatented lode mining claims known as the Starlite No. 1 through 8 and Johnson No. 1

through 22. On the original map, however, Johnson No. 7 and No. 8 (both recorded as full claims) are divided into two parts and are misnumbered either below or above the section line, being actually a part of four claims. Two claims are in section 35, T. 7 S, R. 3E and two in section 2, T. 8 S, R. 3E, with the numbers Johnson No. 7 and No. 8 being duplicated. After several attempts, the applicant was finally contacted and advised of the error in the locations or names of the claims and that it should be corrected.

On November 20 the applicant submitted five photostatic copies of a map with the claim located as shown and a statement as to the recording of the additional claim Johnson No. 8A. The property now includes 31 claims, Starlite No. 1 through 8 and Johnson No. 1 through 22, and Johnson 8A. The claims apparently are now located so as to avoid the fraction or open ground of the Johnson No. 8, section 2; and duplication of numbering and overlap of that part of Johnson No. 7, section 2, on what is actually a part of Johnson No. 8 in section 2.

All claims are on record at the Register of Deeds office, Hot Springs, South Dakota, the Starlite No. 1 through No. 8 being recorded in Book 33, miscellaneous pages 129 through 132. The Johnson claims are also in Book 33, miscellaneous pages 143 through 148 and 165 through 168. The Johnson No. 8A is recorded in Book 38, miscellaneous page 628.

With the Johnson No. 8A the property now includes 31 claims with a total of 620 acres, 400 acres in section 35, T. 8S. R. 3E, and 80 acres in section 2, T. 8S. R. 3E. The outer boundaries as shown on figures 2 and 2A remain unchanged.

GEOLOGY

Regional Geology

The Starlite and Johnson claims are near the eastern boundary of the Edgemont uranium district which extends for 25 miles around the northwestern periphery of the Black Hills uplift. Resistant topographic features of the periphery such as Inglewood, the Chilson Anticline, and the Sheep Canyon Monocline, are underlain by the Lower Cretaceous Inyan Kara group of sediments. The Inyan Kara group has been the host rock for all uranium produced in the Edgemont district. In order of increasing age, the Inyan Kara group comprises the Fall River sandstone, Fuson formation, Minnewaste limestone, and Lakota sandstone. Within the district, the Fall River and Lakota sandstones have contributed about equally to the total production of ore. Production from the Fuson has been negligible and no ore has been mined from the Minnewaste.

The Fall River sandstone is generally a light-brown, fine- to medium-grained sandstone within which beds of mudstone and seams of carbonaceous material are important locally. The thickness of this unit has been reduced at more exposures and to greater degree, than other units of the Inyan Kara group by the present cycle of erosion but where overlying Cretaceous sediments are in place, the formation ranges in thickness from 60 to 125 feet. It is strongly cross-bedded in many places and commonly fills channels that have been scoured into the underlying Fuson formation.

The Fuson formation characteristically has much finer-grained sediments than either the Fall River or Lakota sandstones. In many places, it is a variegated, sandy to silty shale with lenses of fine-grained, white sandstone. Whereas carbonaceous material can be found in most exposures

of the Fall River and Lakota sandstones, it is rare or absent in the Fuson. Maximum thickness of the Fuson is about 150 feet but where it has been replaced by Fall River channel sediments, its thickness may be reduced to 30 feet or less. The Fuson is irregularly underlain by the Minnewaste limestone. In the Edgemont district, the limestone is absent at most exposures of the Inyan Kara group and rarely reaches a thickness of 15 feet. Where best exposed, this unit is a light to dark gray limestone which grades laterally into a calcareous sandstone or a light to yellow brown, nodular marl. Underlying the Minnewaste limestone in some places and the Fuson in others, the Lakota sandstone is generally found in the lower part of bluffs and canyons. The formation ranges in thickness from 200 to 485 feet and is commonly a light brown to buff, medium-grained sandstone. Outcrops of the Lakota sandstone tend to be more extensive and massive than is generally the case with the Fall River sandstone. Thick beds of sandstone are separated by red to gray mudstone or light colored siltstone.

Local Geology

Structural

The Starlite and Johnson claims lie on the steeply-dipping western flank of the Chilson Anticline. The claims extend from the axis of the anticline westward to where the dips flatten to form a structural terrace which separates the anticline from the Sheep Canyon Monocline. The anticlinal axis is sinuous and extends from the Cheyenne River northward for 9 miles where both limbs of the structure flatten and the anticline is no longer recognizable. The anticline is asymmetrical to the west; dips on the eastern limb are 2-3 degrees whereas the western limb has dips of 14 degrees.

Relation of known ore deposits to geologic structures such as the Chilson Anticline is not clear. Although many government and private geologists with experience in the Edgemont district consider relatively flat-lying beds, up-dip and near synclinal axis, to be favorable ground, the validity of this guide has not been established. The two largest deposits in the district do not fit this pattern. The Holdup 15 claim, 7 miles N. 15 deg. W. of the Sheridan claims, lies on the Sheep Canyon Syncline where the beds are dipping 14 degrees west. In contrast, the Gould Mine is in relatively flat-lying beds, 1000 to 1500 feet west of the western limb of the Chilson Anticline and 5000 feet east of the nearest synclinal axis.

Stratigraphy

The property is in the west-central part of the Flint Hill quadrangle. The geology of this quadrangle is being mapped at a scale of 1:7200 by H. Ball and R. V. Post of the U. S. Geological Survey. Most of the geologic data in this report pertaining to the claims has been obtained from field maps compiled by Ball and Post.

The Fall River sandstone has been eroded extensively in the western part of the claim area exposing the older formations of the Inyan Kara group as shown on the geologic map, Figure 3, of this report. Because of differential erosion, thicknesses of the younger formations vary considerably throughout the claims. The following stratigraphic information has been derived from lithologic logs of cores obtained from development drilling by the operator and from the Survey mapping.

Formation	Lithology	Thickness (ft.)
Fall River	Sandstone: buff, iron-stained, cross-bedded, fine- to medium-grained, massive.	40 to 80
	Siltstone: light gray to red, thin beds of fine-grained, lt. gray sandstone	40
Pierre	Mudstone: red to dark gray	40
	Sandstone: white, fine-grained.	20 to 40
Minnewaste (?)	Sandstone: Calcareous, fine-grained, well sorted. Also light brown to yellowish brown nodular marl	7
Lakota	Sandstone: lt. gray, fine-grained, thin-bedded, with interbedded gray to green siltstone.	50 to 100
	Sandstone: buff, fine- to medium-grained, massive.	250

Two miles northeast of the property, the Fall River sandstone forms nearly vertical cliffs of massive sandstone in Sheep Canyon. The massive sandstone is nearly 110 feet thick with few sandstone or siltstone splits. Abrupt facies changes in the sandstone are found east of Sheep Canyon, and within one-half mile east of the canyon, the equivalent stratigraphic interval consists of thin-bedded sandstone, siltstone, and mudstone. These facies changes may represent the eastern margin of a northeast-trending channel. If such a channel exists, its eastern margin would pass close to the northeastern boundary of the Sterlite claims. Lack of exposures in this area restrict verification of this projection.

Mineral Potential

History of Production

The only production of uranium ore east of the Shilson Anticline has come from the Washburn, Accidental, and Bunnite deposits which are shown on the index map, figure 4, accompanying this report. The Gould Mine, one of the largest producers in the Black Hills, is 4 miles north of the

Starlite and Johnson claims, along the regional strike. Ore at the Gould Mine has been localized 50 feet above the base of a channel sandstone of the Fall River sandstone.

At least 21 small deposits have been found within 2.5 miles of the property as shown on the index map,(figure 4). Six of the deposits have been mined and have a total aggregate production of 462 tons. All production has come from the Lakota sandstone, and all occurrences of uranium except the Sheep Canyon and Starlite deposits have come from this stratigraphic interval. The Sheep Canyon deposit is in the basal Fall River sandstone and visible mineralization has been found on the Starlite Claims near the bottom of the Fuson formation as well as in the basal Fall River sandstone. Of the 6 deposits that have been mined, the Accidental Nos. 3 and 10 produced the greatest tonnages, accounting for 284 tons of the total. The largest ore body on these claims was about 3 feet thick, 30 feet long and 20 feet wide. The ore was found in a fine- to very fine-grained, light gray, sandstone. In many exposures, this sandstone has a very distinctive banding caused by a coating on the quartz grains of yellow-brown oxides of iron.

The stockpile of ore mentioned by the operator in his application was examined by the Examining Team. The material is a well-sorted, highly calcareous, fine-grained, quartzitic sandstone near the base of the Fuson formation. Although bedding planes and fracture surfaces of the sandstone are thinly coated with a lemon-yellow, radioactive mineral, general dissemination of the mineral through the rock has been restricted by a calcareous cement which thoroughly fills interstices. Localization of the ore has been controlled almost exclusively by the bedding planes and fracture surfaces.

A sample of the material weighing 2 pounds and considered to be representative of the stockpile by the Examining Team and by the operator was found to have 0.06 percent equivalent uranium as determined by the sealer operated by the Hot Springs office of the A. E. C. The open cut on Johnson No. 10 from which the material had been mined was examined but not enough ore was found in place to provide a channel sample.

Anomalous Radioactivity

Areas of anomalous radioactivity are common both on, and near the claims. In the course of his development program, the operator has drilled 21 core holes on the claims. Results of the drilling are incomplete but gamma ray logs made by the A. E. C. show anomalous stratigraphic intervals near the base of the Fall River and near the base of the Pahasapa. Surface anomalies are strongest on Shanklin Claim Nos. 1 and 2 and Johnson Claims 8110. A check radiometric survey of these anomalies was considered of little or no value and was not made as the soil and rock removed from the surface had been spread around and over the anomalous areas so as to obscure the original outline and give erroneous results on the counter. The A. E. C. has drilled 6 holes to the Harvison formation near the Accidental and Washbourd claims. Gamma ray logging of these holes shows that all anomalies greater than 400 counts per second are within 180 feet of the Harvison-Lakota contact. Sediments having slightly more than 0.10 percent equivalent uranium were discovered near the Sheep Canyon deposit during drilling performed under the Mining Research-AEC contract (Docket 2768). Although these holes did not penetrate beyond the Fall River-Pahasapa contact, mineralized sediments were discovered in the basal 50 feet of the Fall River sandstone.

ORE RESERVES

The property has no known reserves of minable ore.

The applicant has sorted two tons of "ore" which was mined from the open cut on the Johnson No. 10 claim; however, the material is below shipping grade, a radiometric assay by sealer giving only 0.06 percent U_3O_8.

PRESENT STATUS

Exploration and development

The exploratory and development work done by the applicant consists of several rim cuts and two small open cuts which are on the Starlite No. 2 claim and the Johnson No. 10 claim; also 21 core drill holes located as shown on the claim maps, figures 2 and 2A, have been drilled. As reported, the total drilling footage is approximately 2,900 feet. The hole numbers and depths are as follows:

Hole No.	Depth Feet	Hole No.	Depth Ft.	Hole No.	Depth Feet
1	140	8	60	15	153
2	196	9	57	16	140
3	70	10	75	17	70
4	80	11	70	18	150?
5	220	12	85	19	150?
6	200	13	95	20	200
7	105	14	230	21	200?

MINING AND MILLING EQUIPMENT AND OTHER FACILITIES

At the time of the examination, equipment on the property consisted of an Allis-Chalmers HD-10 dozer, Model 511, a Chicago-Pneumatic Model 8 gas-driven core drill mounted on a Ford 1½-ton truck, a Ford 1½-ton truck

with tank for water hauling, and a Ford 6-cyl. ½-ton pickup.

The only building on the property is a small portable tool shed, and there are no living facilities except for a small house trailer owned by the applicant.

APPLICANT'S PROPOSED EXPLORATION

Exploration, as proposed in the application, is confined to 22 of the 31 claims included in the property and is to be by core drilling. The applicant proposes to drill 44 holes, 200 feet in depth, or a total of 8,800 feet at the locations as shown on the claim map submitted with the application. Road building to some of the drill sites and drill site preparation with dozer is also included in the proposed work.

The drilling is to be done by the applicant with their own drill and at no charge to the government for use of the equipment. The dozer work is to be done with rented equipment, the dozer operator being paid by the applicant.

As shown in Exhibit F of the application, the grand total or amount of loan applied for is $23,918.00. The cost estimate also shows a total of $46,813.00; however, from this amount the applicant has deducted the $22,895.00, the value of equipment that he is to furnish for the project at no cost to the government. Therefore, the loan actually is $23,918.00.

The matter of rental or use-allowance for applicant-owned equipment was discussed and the applicant was informed that he could include the equipment in the cost on a rental or on a use-allowance basis, which usually is made at a monthly rate of 1/60 of the present value of the equipment. However, the applicant stated he would furnish the equipment

at no cost to the government.

Applicant's Cash Requirements

6 (a)	Independent Contracts	None	None
6 (b)	Supervision, 1000 hrs. @ $2.50 per hr.	$2,500.00	
	Driller, 1000 hrs. @ $3.00 per hr.	3,000.00	
	Driller helper, 1000 hrs. @ $2.00 per hr.	2,000.00	
	Labor (cat operator, truck driver and bookkeeper) 1000 hrs. @ $.70	5,700.00	
			13,200.00
(c)	Operating Materials & Supplies		
	Diamond bits	3,730.00	
	Fuel oils and greases	1,[illegible].75	
	Water	[illegible]	
	Misc. Tools	[illegible]	
			5,773.00
(d)	Operating Equipment		
	Cat - rental	2,000.00	
	Drill Rig	12,000.00*	
	Trucks (2)	5,000.00*	
	Air Compressor	1,300.00*	
			23,300.00
(e)			None
(f)	Tool Shop	685.00*	
	Trailer House	1,000.00*	
			1,685.00
(g)	Repairs	1,000.00	
	Analytical Costs	35.00	
	Workmen's Compensation	200.00	
	Payroll Taxes	[illegible]	
			1,165.00
(h)	Contingencies		1,000.00
TOTAL			$46,623.00
	Less $12,000.00*		
	5,000.00*		
	1,300.00*		
	1,685.00*		
			-22,985.00
			23,638.00
	Government participation @ 75%		17,728.50

* Equipment to be furnished at no cost to the government.

Exploration Proposed by Requisition Form

In the opinion of the examining team, the applicant's proposed drilling program is "wild cat" drilling or purely prospecting. The holes are too widely scattered and the spacing on and around anomalous areas is too great to be considered exploratory drilling. Thus far the drilling done by the applicant has been confined to surface anomalies and the results obtained have been almost entirely negative. Therefore, any further exploration of surficial anomalous areas on the property under a RDDA program is not warranted.

In this part of the Edgemont district, the stratigraphic intervals most favorable for uranium mineralization appear to be near the base of the Fall River, Fuson and Lakota, the formations (in sequence from upper to lower) of the Inyan Kara group. On the basis of the occurrence of mineralization, and mainly on the production record of six of the properties located within a 2.5 mile radius of the Starlite and Johnson Claims (as mentioned in the section under geology), the basal Lakota sandstone is, at least locally, the most favorable of these intervals. Nothing is known, however, about the mineralization of this interval within claim boundaries. Any program of exploration would have to be based almost entirely on the projection (over a considerable distance) of the mineralized sediments from the properties referred to above, into the area included by the Starlite and Johnson claims, and would be purely "wild fitting". Also relatively deep drilling will be required to reach the objective; from 350 to 450 feet in the western and 550 to 300 feet in the eastern part of the property. Owing to the lack of sufficient information for logical planning and the high cost of exploration, it is believed that exploration

of this interval should be deferred until additional geological information is available.

Locally the stratigraphic intervals in the Fall River sandstone and Fuson formation may be less favorable for exploration than the interval in the Lakota, if the comparison of favorability is made only on the production of ore from the three intervals. It is believed, however, that some exploration of the Fall River and Fuson intervals based on the following information is justified.

The many small deposits and radioactive anomalies that are found widely distributed within a 2.5 mile radius of the property indicate that sedimentary and chemical conditions were generally favorable for the deposition of uranium. With a favorable sedimentation and chemical environment for deposition on a small scale, it can be assumed that larger deposits could have been formed under these same conditions. Also, in addition to the uranium occurrences and anomalous areas in the Fall River sandstone both on and off the property, a poorly-defined, major facies change in this formation may have provided a favorable milieu for ore deposition. The formation changes from a thick massive channel sandstone southwest of the claims to a thin-bedded mudstone, siltstone and sandstone northeast of the claim. Evidence at major deposits in the Black Hills and on the Colorado Plateau suggests that similar facies changes have been a controlling factor in the localization of uranium.

As stated, some exploration is warranted and it is believed that the favorable intervals at the base of the Fall River sandstone and Fuson formation can best be explored under the modified, two-stage drilling program outlined below.

Stage I

As shown on figures 2 and 2A, twenty one holes in two lines designated A-B and C-D, with 10 and 11 holes respectively, are to be drilled under this stage.

Line A-B is designed to evaluate the facies change in the Fall River sandstone and to obtain a check on the relationship of mineralization to this change. Line C-D parallels and is down dip from the favorable outcrop in the Fall River sandstone and, at a depth of 200 feet, the holes should also intercept the favorable interval of the Fusen formation.

Holes are to be spaced on 200-foot centers and drilled to a depth of 200 feet. Three holes in each line or 6 holes, Nos. 1, 5, 9, 13, 17 and 21 are to be core drilled BX size or larger, and the remaining 7 in line A-B and 8 in line C-D are to be drilled non-core, using air for sample recovery.

The six core drill holes are for a check on lithologic logs of non-cored holes and to permit more exact examination of the favorable stratigraphic intervals.

Stage I drilling is to be completed entirely and the results evaluated before any offset or Stage II drilling is started.

Stage II (Offset drilling)

It is estimated that 10 holes for line A-B and 11 for line C-D, or a total of 21 offset holes, will be adequate for this stage of the program. Spacing for offset holes around mineralized holes of Stage I will, ofcourse, be dependent on the results of Stage I. The minimum spacing, however, is to be no less than 50 feet. Offset holes are to be drilled non-coring, the samples to be recovered by air.

Summary of Proposed Drilling

Stage I

	Non-Core Holes		Core Holes	
	No. of Holes	Footage	No. of Holes	Footage
Line A-B (Depth 200 ft.)	7	1400	3	600
Line C-D (Depth 200)	8	1600	3	600
Total Stage I	15	3000	6	1200
Stage II (Offset Drilling)				
Offset Holes For Line A-B	10	2000	——	——
Offset Holes For Line C-D	11	2200	——	——
Total Stage II	21	4200	——	——
Total Stage I and II	36	7200	6	1200

It is suggested that the following be made a specific part of the contract as an annex or exhibit.

1. Radiometric and lithologic logs are the responsibility of the operator and copies of the logs are to be submitted with the operator's monthly report. The holes for which no log is submitted with the monthly operator's report shall be disallowed until the log is submitted.

2. Cuttings from all air-blast or non-core holes are to be sampled at 2-foot intervals, and placed in properly marked sacks.

3. Cores are to be stored in core boxes properly marked and protected from weather. (This has not been the practice in the past. Cores were layed out on the ground.)

4. All cuttings and cores are to be available for examination by the government.

5. Samples with a radioactivity intensity of 2000 counts per second or .10 percent equivalent uranium are to be assayed chemically. Sample interval

for core samples with the above grade or intensity shall be 1 foot.

Estimated Costs

The following estimate is based on the assumption that non-core and core drilling will be carried on simultaneously, and that the average drilling footage per shift for non-core holes will be 200 feet and for core holes 30 feet. On this basis, the time required to complete all drilling of Stage I and Stage II is estimated at 2 months, and with an additional one half month allowed for the final report, the contract should be completed within 2½ months from the time drilling is started.

Independent Contracts

Non-core Drilling	7200 feet @ 1.25 per ft.	$ 9,000.00	
Core Drilling	1200 feet @ 2.25 per ft.	2,700.00	
Bull Dozer	1 day @ $100.00 per day	100.00	
Total, Independent Contracts			$11,800.00

Labor, Supervision and Consultants

Labor, Sampler @ $260.00 per mo. for 2 months	$ 520.00	
Supervision (part time) @ $550.00 per mo. for 1 mo.	550.00	
Geologist-Engineer (part time) @ $600.00 per mo. for 1 month	600.00	
TOTAL, Labor, Supervision and Consultants		$ 1,670.00

Operating Materials and Supplies

Gas, oil and misc. for field assistant's car-estimated mileage for 2½ mos. 1700 miles @ .05¢	$ 85.00	
Sample Sacks, 8,000 @ $10.00 per M	80.00	
Core Boxes, 50 @ $2.10 ea.	105.00	
TOTAL, Operating Materials and Supplies		$ 270.00

Operating Equipment

None (Applicant states equipment to be furnished at no charge)

TOTAL, Operating Equipment	———	———

Rehabilitation and Repairs

None	———	———

New Buildings and Improvements

None	———	———

Miscellaneous

Clerical Services - 2½ months at $50.00 per mo.	$ 125.00	
Payroll taxes, FICA @ 2% of $1,120.80	22.40	
Compensation & Liability Insurance (Exclusive of Supervisor, the applicant) Minimum premium for all others	50.00	
Chemical Analyses (estimated) 10 samples for 21 holes or 210 samples @ $5.00	1,050.00	
TOTAL, Miscellaneous		$ 1,247.40
Contingencies, 10% of $2,150.00 (rounded)	$ 215.00	
TOTAL, Contingencies		215.00
GRAND TOTAL		$15,202.40

The unit costs summarized below are calculated separately for non-core and core drilling and the items above, except as noted, have been prorated on the basis of 75% to non-core and 25% to core drilling. Also, the expenditure allowed for dozer work and chemical analyses are included as separate unit costs.

Non-Core Drilling

(75% of total expenditures)		Cost Total	Cost Per ft.
Independent Contracts			
Drilling 7200 feet		9,000.00	1.250
Labor Supervision Consultants		1,252.50	.174
Operating Materials & Supplies			
Oil, Gas & Misc., 75% of 85.00	63.75		
Sample Sack	80.00	143.75	.020
Operating Equipment		———	———

		Cost Total	Cost Per ft.
Rehabilitation & Repairs		------	------
New Bldgs. & Improvements		------	------
Miscellaneous			
Clerical Services, 75% of 125.00	$93.75		
Payroll Taxes, 75% of 22.40	16.80		
Compensation & Liability Ins., 75% of 50.00	37.50	148.05	.020
Contingencies 75% of 215.00		161.75	.022
		$10,[illegible].55	1.486

Use $1.49 per foot

Core Drilling
(25% of Total Expenditures)

Independent Contracts			
Drilling 1200 feet		$ 2,700.00	2.250
Labor Supervision & Consultants 25% of 1,670.00		417.50	.348
Operating Material and Supplies			
Gas, Oil and Misc. for Pick-up, 25% of $85.00	$ 21.25		
Core Boxes	105.00	126.25	.105
Operating Equipment		------	------
Rehabilitation & Repairs		------	------
New Buildings & Improvements		------	------
Miscellaneous			
Clerical Services, 25% of 125.00	$ 31.25		
Payroll Taxes, 25% of 22.40	5.60		
Comp. & Liab. Ins., 25% of 50.00	12.50	49.35	.041
Contingencies 25% of $215.00		53.75	.045
		$3,346.85	$2.789

Use $2.79 per foot

Summary of Unit Cost

Item	Units Total	Units $ Unit	Total Expenditure	
Non-core Drilling	7,200	1.49	$10,728.00	
Core Drilling	1,200	2.79	3,348.00	
Dozer Work	day	100.00	100.00	
Chemical Analyses	210	5.00	1,050.00	
			$15,226.00	
Government Participation @ 75%				$11,419.50

CONCLUSIONS

The applicant's proposed drilling program is not adequate for exploration of the many widely scattered areas which apparently have been selected on the basis of surface anomalies or proximity to these anomalies. As previous drilling by the applicant was confined to surficial anomalies and the results were negative, it is believed that the results of the present program which appear to be designed to further test surficial anomalies and those areas in which it is assumed there may be deposits related to these anomalies, would also be negative. The proposed drill holes are too widely scattered and too few in any particular area to actually explore an area. Based on the geologic data given in the section of this report on geology, it is believed that exploration under the proposed modified two-stage drilling program, which is designed to explore the favorable stratigraphic intervals of the Fall River sandstone and Fuson formation in the western part of the property along lines A-B and C-D, is warranted.

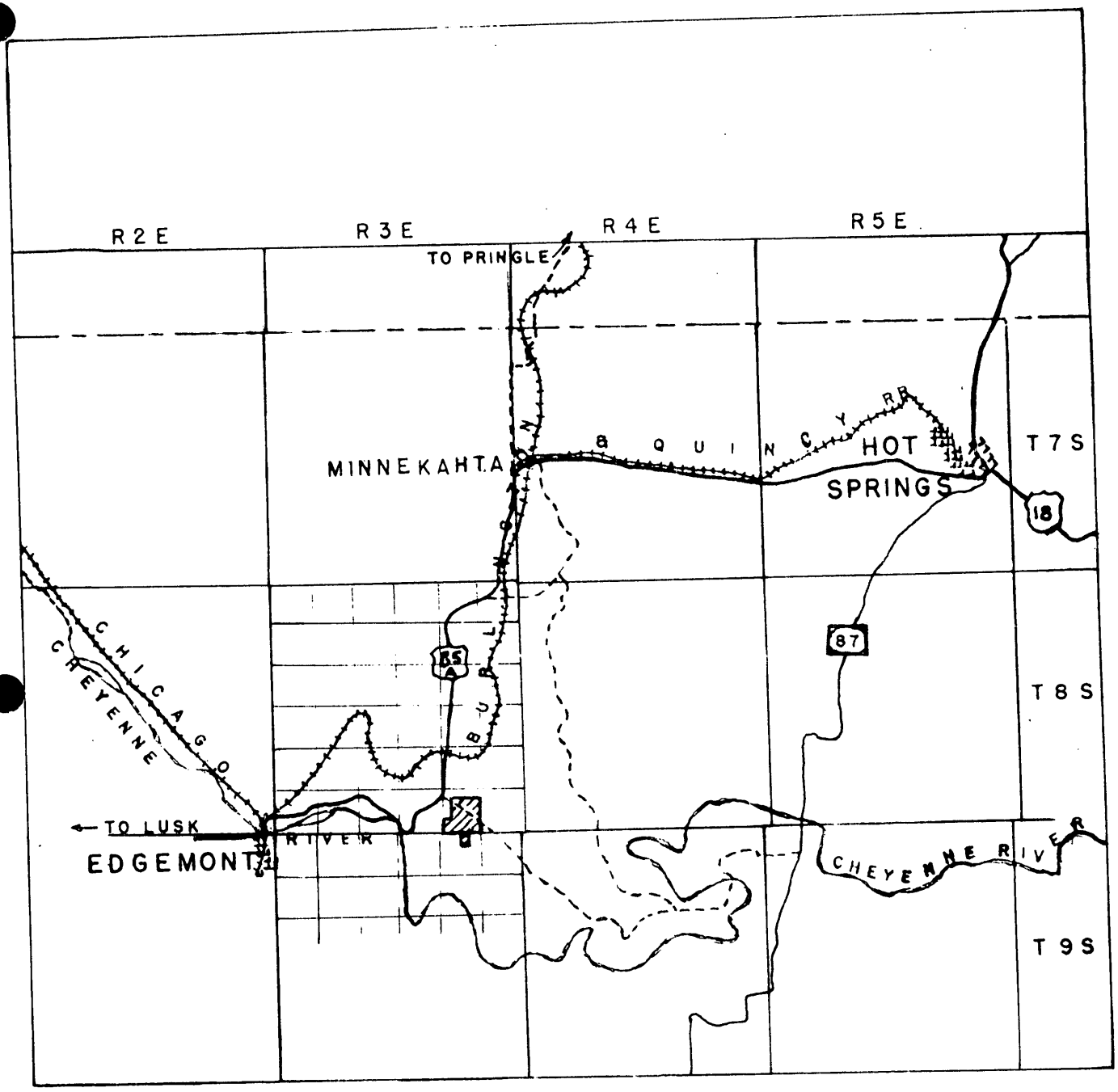
The applicant, while capable of supervising actual drilling operations, would require the services of either a geologist or an engineer in order to properly analyze drilling results and obtain the maximum geologic information from the drilling.

RECOMMENDATIONS

Exploration under the modified two-stage drilling program, as outlined in the section of the report entitled "Exploration Proposal by Examining Team", is recommended.

A short form contract on a unit cost bases is also recommended.

It is suggested that the contract include an annex or exhibit with the specific provisions concerning the details as to logging, sampling methods, handling of cores and cuttings, and time in which the drilling data are to be submitted.



SURFACED ROADS
GRAVEL "
DIRT "

AREA INCLUDED BY CLAIMS

1 0 1 2 3 4 5 MILES

Figure 1, LOCATION MAP, STARLITE and JOHNSON CLAIMS
ISAACS & MARTIN, FALL RIVER COUNTY, SOUTH DAKOTA, DMEA 3796

1/3/56 gla

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

RECEIVED
DEC 27 1955

224 New Customhouse
Denver 2, Colorado

December 23, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 3796 (Uranium), Isaacs and Martin, Starlite and Johnson claims, Fall River County, South Dakota

Enclosed are the original and three copies of the Joint Report of Examination on the subject docket.

The field examiners recommend a modified two-stage drilling program at a total cost of $15,226.00, Government participation $11,419.50. We concur in this recommendation.

The matter of rental or use allowance for applicant owned equipment was discussed with the applicant, and he was informed that he could include the equipment in his costs on a rental or use allowance basis. However, the applicant stated he would furnish the equipment at no cost to the Government. A comparison of the recommended costs in this report with other contracts of a similar nature such as Wyoming Uranium Corporation, Contract Idm-E851 and Gaddis Mining Company, Contract Idm-E827 indicate that enough money has been allowed the applicant for the performance of this work without taking into consideration the use allowance of his equipment.

Nine extra copies of Figure 2A are attached for possible use in the contract.

In accordance with the request in your letter dated June 3, 1955 Forms MF-203, Owner's Consent to Lien, have been forwarded the applicant for the signatures of Jesse M. Johnson and Lenore E. Johnson. When received by us, the executed copies of the Owner's Consent to Lien will be forwarded you.

E. N. Harshman

E. N. Harshman
Acting Executive Officer, DMEA
Field Team, Region III

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
12-30-55
(date)

MF-103
(Revised April 1955)

DMEA
Date Rec'd.

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

APR 22 1955

RECEIVED
APR 29 1955
BUREAU OF MINES
Denver, Colorado

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. 3796
Metal or Mineral Uranium
Date Received 4-29-55
Estimated Cost $46,843
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: [illegible] Partnership, South Dakota
[illegible] Partnership, Rapid City, South Dakota
[illegible] Mineral Mines Minerals, Clear Lake, Iowa

(*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 attached list marked exhibit "A"

(*b*) State any mine name by which the property is known. See Exhibit "A"

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

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

(*e*) If you own the land, describe any liens or encumbrances on it None not applicable

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Land has been patented, location notices filed by owner

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

(*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*) St[illegible] the mineral or minerals for which you wish [illegible]xplore Uranium

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

(*c*) The work will start within 2 days and be completed within 6 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper. See Exhibit "C"

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 20 Day of April, 1955

Isaacs & Martin
(Applicant)

By Emmet Isaacs

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

Exhibit "B"

(4) Physical Description

(a) Started exploration 20 October 1954, on Star Light claims one (1) thru eight(8) inclusive and Johnson claims one (1) thru twenty-two(22) inclusive. Exploration consisted of cat and dozer work. Star Light one and two and Johnson for purpose of discovery work was done by applicant. Production facilities consist of a jack hammer, air compressor, one bull dozer, two trucks, and micellaneous hand tools. Mine workings are readily accessable six and a half(6½) miles east of Edgemont, South Dakota. Oiled highway 85A and 18 to within half(½) mile of property; gravel road runs from oiled highway thru property east of said highway half (½) mile.

(b) Two tons of ore stock piled to date. Ore reserves unknown. Four tests run on mine samples. See attached analysis. Exhibit "C". Records in U. S. Atomic Energy Commission, Hot Springs, South Dakota.

(c) Out croppings of ore have been found on many of the above described claims. Deposits appear to be bedded and of sedimintary character. See Exhibit "A". Because of the out croppings encountered together with assays of samples and the fact that nearby properties are producing ore in commercial quantities lead us to believe that exploration will disclose substantial bodies of ore in commercial quantities.

(d) Claims lie six and a half (6½) miles East of the ore buying station at Edgemont, South Dakota. Six (6) miles of the access road is oiled and half(½) mile is graveled thru the properties. Edgemont has shipping, supply and residence facilities.

(e) Man power, materials, supplies equipment, water and power are readily available from Edgemont, South Dakota and other nearby communities.

Exhibit "D"

Commissioner of Mines
Bureau Minerals Administration
RECEIVED
MAY 29 1986

Proposed Work

Starlight Claims No. 1. (a) Core drilling
Thru eight(8)inclusive (b) Road Building
and Johnson Claims No. 1 (c) Drilling site leveling
Thru twenty-two(22)

See attached Plat for location of out cropings.

DEPARTMENT OF THE INTERIOR
Bureau of Mines Minerals Administration
RECEIVED
APR 25 1955

Exhibit "E"

5 (d)

Mr. Isaacs has had thirty(30) years experience with the type of equipment to be used in the exploration project. He will also supervise the project.

Exhibit "F"

Texas Minerals Administration
RECEIVED
APR 29 1955

6-a. Independent contracts-None

b. Labor, supervision, consultants

Type	Number	Cost	
Common Labor	1	1.25 per hour	
Supervisor	1	2.50 per hour	
Truck Driver	1	1.25 per hour	
Cat operator	1	1.75 per hour	
Driller	1	3.00 per hour	
Drillers Helper	1	2.00 per hour	
Bookkeeper	1	1.50 per hour	
		613.25	13,250.00

c. Operating Materials and Supplies

Type	Number	Cost	
Shovels	6	18.00	
Picks	3	12.00	
Bars	3	12.00	
Water	375,000 gals.	56.25	
Fuel	6000 gals.	1800.00	
Oil	2 bbl.	114.00	
Gun & Grease	200 #	35.50	
Trans. Grease	100 #	15.25	
Core Bits	14	3710.00	5773.00

d. Operating Equipment

Cat rental	2000.00	
Owned by operator Drilling rig-Purchase price	12000.00	
Owned by operator-2 trucks-Purchase price	5000.00	
Owned by operator-air compressor-purchase price	4300.00	
		23300.00

e. None

f. Tool shop-Previously built	625.00	
Trailer house-owned by operator	1000.00	
		1625.00
g. Repairs maintenance	1000.00	
Analytical work	35.00	
Workments comp.	200.00	
Payroll taxes	260.00	
		1495.00
h. Contigencies	1400.00	
		1400.00
Total		46843.00

Less equipment owned by operator	23300.00
Less buildings owned by operator	1625.00
	22925.00
Grand Total	23918.00

Exhibit "G"

Operator will furnish 25% of contract in cash.

Defense Minerals Administration
RECEIVED
APR 29 1955

TRANSMITTED

DEC 23 1955

MINERAL DEPOSITS
DMEA
RECEIVED

DEC 19 1955

U.S.
GEOLOGICAL SURVEY
DENVER, COLORADO

Rapid City Experiment Station
School of Mines Campus
Rapid City, South Dakota

DMEA
Date Rec'd.

DEC 20 1955

BUREAU OF MINES
Denver, Colorado

December 16, 1955

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Reg. III

Through: E. N. Harshman, U. S. Geological Survey, Acting Executive Officer

From: Examining Team, N. P. Cuppels and E. O. Binyon

Subject: Report of Examination, DMEA Docket 3796 (Uranium), Isaacs and Martin, Starlite and Johnson Claims, Fall River County, S. Dak.

Enclosed are the original and ten copies of the subject report which include the Summary, Conclusions and Recommendations, and a Geologic and Engineering Report. Also enclosed are five copies of a revised claim map showing the location of the Johnson 8A Claim and five copies of a letter from the operator pertaining to the location and recording of the claim.

The five maps for the report are being mailed under separate cover and are as follows:

(1) Tracing Figure 1 Location Map

(11) Prints Figure 2 Claim Map

(1) Tracing Figure 2A Claim Map (Revised)

(11) Prints Figure 3 Geologic Map

(11) Prints Figure 4 Index Map of Uranium occurrences near the Starlite and Johnson Claims

Please return the tracings of figure 1 and figure 2A.

Norman P. Cuppels
E. O. Binyon

Reviewed by
DMEA OPERATING COMMITTEE
12-30-55
(Date)

By:

E. O. Binyon

TRANSMITTED
DEC 23 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3796, Isaacs and Martin, Applicant

Starlite and Johnson Claims

Fall River County, South Dakota

Uranium

E. O. Binyon, Mining Engineer
Bureau of Mines

N. P. Cuppels, Geologist
Geological Survey

December 16, 1955

Reviewed by
DMEA OPERATING COMMITTEE
12-30-55
(date)

TRANSMITTED
DEC 23 1955

DMEA 3796

ISAACS AND MARTIN, APPLICANT

STARLITE AND JOHNSON CLAIMS

FALL RIVER COUNTY, SOUTH DAKOTA

Summary, Conclusions, and Recommendations

By E. O. Binyon
Mining Engineer
Bureau of Mines

N. P. Cuppels
Geologist
Geological Survey

DMEA
12-30-55

TRANSMITTED

DEC 23 1955

DMEA 3796

ISAACS AND MARTIN, APPLICANT
STARLITE AND JOHNSON CLAIMS
FALL RIVER COUNTY, S. DAK.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By E. O. Binyon and N. P. Cuppels

Isaacs and Martin, a partnership, addressed in care of Emmet Isaacs, 1006 Farlow Ave., Rapid City, S. Dak., has applied to the Defense Minerals Exploration Administration for a loan to aid in exploration of their property, the Starlite and Johnson Claims, for uranium.

The property, which is held under a mining lease from Jesse M. and Lenore E. Johnson, includes 31 unpatented lode mining claims, the Starlite 1 through 8 and Johnson 1 through 22 and Johnson 8A, located 5 3/4 miles east of Edgemont in Sec. 35, T. 8S., R. 3E., and Sec. 2, T. 9S., R. 3E., Fall River County, S. Dak.

The applicant proposes to explore separate areas on 22 of the 31 claims with 44 core drill holes drilled to a depth of 200 feet, or a total of 8800 feet of core drilling. Some dozer work for access to and preparation of drill sites is also included. These estimate of total expenditures submitted by the applicant is $46,843.00 and includes a valuation of $22,925.00 for applicant-owned equipment to be used on the project. The applicant, although advised of the allowance for the cost of equipment, states that the $22, 925.00 was not intended to be included in the loan as the equipment would be furnished at no cost to the government. The actual amount of loan applied for is $23,918.00 of which the government's share at 75% participation would be $17,938.50.

The drilling program as proposed by the applicant is too widely scattered and is not sufficiently concentrated in those areas that he has assumed to be favorable, to be considered other than a prospecting program and would not adequately explore the selected areas.

However, on the basis of the available geologic data, it is believed that some exploration is warranted. With a favorable sedimentation and chemical environment that caused numerous small mineralized deposits and radioactive anamalies both on and in the area surrounding the property, it can be assumed that this environment could have resulted in deposition of larger uranium deposits. The poorly defined major facies change in the Fall River formation that is indicated by the change in the formation from a thick massive channel sandstone south west of the property to a thin-bedded mudstone, siltstone and sandstone north east of the claims is also a basis for assuming that at least a part of the property is favorable for exploration.

It is recommended that the extreme western part of the property as shown on figures 2 and 2A be explored under the modified two-stage drilling program outlined below.

Stage I

	Non-core Holes		Core Holes	
	No. of Holes	Footage	No. of Holes BX Size	Footage
Line A-B (Depth 200 ft.)	7	1400	3	600
Line C-D (Depth 200 ft.)	8	1600	3	600
TOTAL Stage I	15	3000	6	1200
Stage II (Offset Drilling)				
Line A-B	10	2000	----	----
Line C-D	11	2200	----	----
TOTAL STAGE II	21	4200	----	----
TOTAL STAGE I AND STAGE II	36	7200	6	1200

All Stage I drilling is to be completed and results evaluated before any offset drilling under Stage II is started.

The estimated total cost of the drilling program proposed by the examining team is $15,226.00 , of which the government's share at 75% participation is $11,419.50.

It is recommended that a short form contract on a unit cost basis for $15,226.00 be approved.

TRANSMITTED
DEC 23 1955

DMEA 3796

ISAACS AND MARTIN
STARLITE AND JOHNSON CLAIMS
Fall River County, S. Dak.

Engineering and Geologic Report

By E. O. Binyon
Mining Engineer
Bureau of Mines

N. P. Cupples
Geologist
Geological Survey

DMEA 3796

ISAACS AND MARTIN, APPLICANT
STARLITE AND JOHNSON CLAIMS
FALL RIVER COUNTY, SOUTH DAKOTA

CONTENTS

Engineering and Geologic Report	Page
Introduction	1
Acknowledgements	2
Location, topography and climate	2
History and production	4
Ownership and extent	4
Geology	6
Regional geology	6
Local geology	7
Stratigraphy	8
Mineral deposits	9
Anomalous radioactivity	11
Ore reserves	12
Present status	12
Mining and milling equipment and other facilities	12
Applicant's proposed exploration	13
Exploration proposed by examining team	15
Summary of proposed drilling	18
Estimated costs	19
Conclusions	22
Recommendations	22

ILLUSTRATIONS

Figure		Follows Page
1.	Location map, Starlite and Johnson Claims,	2
2.	Claim map, Isaacs and Martin, Starlite and Johnson claims, Fall River County, S. Dak.	5
2A.	Claim map, Isaacs & Martin, Starlite and Johnson claims, Sec. 35, T. 8 S., R. 3 E., sec. 2, T. 9 S., R. 9 S., R. 3 E., Fall River County, S. Dak.	5
3.	Map showing the geology of the Starlite and Johnson claims, Fall River County, S. Dak.	8
4.	Index map of uranium occurrences near the Starlite and Johnson claims	9

DMEA 3796

ISAACS AND MARTIN
STARLITE AND JOHNSON CLAIMS
FALL RIVER COUNTY, S. DAK.

ENGINEERING AND GEOLOGIC REPORT

by

E. O. Binyon and N. P. Cuppels

INTRODUCTION

Isaacs and Martin, a partnership addressed in care of Emmet Isaacs, 1006 Farlow Ave., Rapid City, S. Dak., has made application to the Defense Minerals Exploration Administration for a loan to aid in the exploration for uranium of the Starlite and Johnson claims in sec. 35, T. 8 S., R. 3E., and sec. 2, T. 9 S., R. 3 E., Fall River County, S. Dak.

As proposed by the applicant, the exploration program is to include some road building to drill sites, drill site preparation, and core drilling of 44 holes to an average depth of 200 feet, or a total of 8,800 feet of drilling on 22 of the 31 claims now included in the application.

The applicant's estimated total cost of the proposed work is shown as $46,843.00; however, in this amount there is included $22,925.00, total value placed on applicant-owned equipment which is to be furnished by the applicant at no charge to the government. The actual amount of the loan applied for is $23,918.00.

An examination was made in company with Emmet Isaacs, one of the partners, on July 13, 1955 and again on August 26. The second examination was delayed by work on DMEA applications that had been submitted prior to Docket DMEA 3796.

ACKNOWLEDGEMENTS

To Mr. Emmet Isaacs, acknowledgement is made for his assistance in directing the examining team over the property. The information made available by the Atomic Energy Commission, John W. King, Chief, sub-office, Hot Springs, S. Dak., is gratefully acknowledged.

LOCATION, TOPOGRAPHY AND CLIMATE

The Starlite and Johnson Claims, a continguous group of 31 claims, are in sec. 35, T. 8 S., R. 3 E., and sec. 2, T. 9S., R. 3 E., BH.B.M., Fall River County, S. Dak. As shown on figure 1, Location Map, the claims are 5 3/4 miles by road almost due east of Edgemont and 23 miles southwest of Hot Springs, the county seat of Fall River County, S. Dak.

Edgemont, the site of the AEC buying station and a mill now being constructed for treatment of uranium ores, is the nearest supply center and a rail point on the Chicago, Burlington and Quincy Railroad. The town is also serviced by several major truck lines.

To reach the property from Edgemont, take U. S. Highway 85A leading to Hot Springs and go 5¼ miles to a junction with a graveled road; turn right at the junction and go ½ mile to a gate on the right and onto the property.

All parts of the property and most of the claims are readily accessible from either the county road that passes through the northeastern corner of the property or the connecting ungraded dirt roads built with dozer by the applicant. However, the latter are fair weather roads and with even moderately wet weather or light snowfall, access to many of the claims, particularly in the southern and southeastern parts, would be difficult, and during the period from midwinter through early spring considerable maintenance would be required to permit travel or hauling

over most of the roads on the property.

The relief in that part of the property in section 35 is low to moderate, and the topography is marked only by a few broad ridges separated by shallow draws. The general slope is to the west. Near the central part of this area there is a fairly abrupt change in slope. The altitude on the west boundary at the section line is approximately 3,700 feet and from here rises to the east gently for about $\frac{1}{4}$ mile, then steepens, rising to an altitude of about 4,100 feet at the eastern boundary.

The areas in the southeastern part of the property and included by the claims in section 2 are more rugged, being cut by several fairly large steep-walled canyons and many small sharp draws. The altitude range is from 3,700 feet in the bottom of the east-west canyon that cuts through the Johnson No. 10 and No. 11 claims to 3,850 feet on the north and 3,900 to 3,950 feet to the south.

The climate, which is typical of the plains states, usually permits continuous operation for 8 to 10 months of the year. During the 2 to 4 months period of mid-winter through early spring, the fairly heavy snow falls and wet weather with thawing makes hauling difficult or impractical and may, for short periods of 1 to 3 weeks, cause a shut-down of any outside work.

Water is not available on the property. However, sufficient water for any exploration or development drilling and small scale mining operations can be hauled either from the Cheyenne river or from Edgemont.

Some small timber, mainly Ponderosa pine, is found on the claims in the eastern half of the property. The timber is not suitable for support of heavy ground, but could be used in small openings and as lagging or where not much strength is required.

HISTORY AND PRODUCTION

The claims were first located during June through November 1953. The Starlite Group, Starlite 1 through 8, were recorded in the name of Evelyn Montonile and Earl F. Larson, and the Johnson Group, Johnson No. 1 through 22, were recorded in the name of Jesse M. and Lenore E. Johnson of Edgemont, South Dakota.

Except for the discovery and assessment work, nothing was done on the claims until October 1954, when the applicant started the open cut as assessment work on a surface anomaly on the Starlite No. 2 claim and on the Johnson No. 10 near the common end line of the Johnson No. 8 (New Map) and No. 10 claims.

Production to date consists of about 2 tons, with a grade of about 0.06 percent U_3O_8 equivalent, which came from the open cut on the Johnson No. 10 claim and are still on the property.

OWNERSHIP AND EXTENT

The applicant holds all claims under a mining lease from Jesse M. and Lenore E. Johnson, Edgemont, S. Dak., who are the owners and leasors. The mining lease, dated October 20, 1954, is for a 3-year period and grants renewal rights for an additional three years. A copy of the lease is included with the application.

The property described in the lease, and as shown on the original claim map that accompanied the application, included 30 unpatented lode mining claims known as the Starlite No. 1 through 8 and Johnson No. 1

through 22. On the original map, however, Johnson No. 7 and No. 8 (both recorded as full claims) are divided into two parts and are misnumbered either below or above the section line, being actually a part of four claims. Two claims are in section 35, T. 7 S, R. 3E and two in section 2, T. 8 S, R. 3E, with the numbers Johnson No. 7 and No. 8 being duplicated. After several attempts, the applicant was finally contacted and advised of the error in the locations or names of the claims and that it should be corrected.

On November 20 the applicant submitted five photostatic copies of a map with the claim located as shown and a statement as to the recording of the additional claim Johnson No. 8A. The property now includes 31 claims, Starlite No. 1 through 8 and Johnson No. 1 through 22, and Johnson 8A. The claims apparently are now located so as to avoid the fraction or open ground of the Johnson No. 8, section 2; and duplication of numbering and overlap of that part of Johnson No. 7, section 2, on what is actually a part of Johnson No. 8 in section 2.

All claims are on record at the Register of Deeds office, Hot Springs, South Dakota, the Starlite No. 1 through No. 8 being recorded in Book 33, miscellaneous pages 129 through 132. The Johnson claims are also in Book 33, miscellaneous pages 143 through 148 and 165 through 168. The Johnson No. 8A is recorded in Book 38, miscellaneous page 628.

With the Johnson No. 8A the property now includes 31 claims with a total of 480 acres, 400 acres in section 35, T. 8S. R. 3E, and 80 acres in section 2, T. 8S. R. 3E. The outer boundaries as shown on figures 2 and 2A remain unchanged.

GEOLOGY

Regional Geology

The Starlite and Johnson claims are near the eastern boundary of the Edgemont uranium district which extends for 25 miles around the southwestern periphery of the Black Hills uplift. Dominant topographic features of the periphery such as hogbacks, the Chilson Anticline, and the Sheep Canyon Monocline, are underlain by the lower Cretaceous Inyan Kara group of sediments. The Inyan Kara group has been the host rock for all uranium produced in the Edgemont district. In order of increasing age, the Inyan Kara group comprises the Fall River sandstone, Fuson formation, Minnewaste limestone, and Lakota sandstone. Within the district, the Fall River and Lakota sandstones have contributed about equally to the total production of ore. Production from the Fuson has been negligible and no ore has been mined from the Minnewaste.

The Fall River sandstone is generally a light-brown, fine- to medium-grained sandstone within which beds of mudstone and seams of carbonaceous material are important locally. The thickness of this unit has been reduced at more exposures and in greater degree, than other units of the Inyan Kara group by the present cycle of erosion but where overlying Cretaceous sediments are in place, the formation ranges in thickness from 60 to 125 feet. It is strongly cross-bedded in many places and commonly fills channels that have been scoured into the underlying Fuson formation.

The Fuson formation characteristically has much finer-grained sediments than either the Fall River or Lakota sandstones. In many places, it is a variegated, sandy to silty shale with lenses of fine-grained, white sandstone. Whereas carbonaceous material can be found in most exposures

of the Fall River and Lakota sandstones, it is rare or absent in the Fuson. Maximum thickness of the Fuson is about 150 feet but where it has been replaced by Fall River channel sediments, its thickness may be reduced to 30 feet or less. The Fuson is irregularly underlain by the Minnewaste limestone. In the Edgemont district, the limestone is absent at most exposures of the Inyan Kara group and rarely reaches a thickness of 15 feet. Where best exposed, this unit is a light to dark grey limestone which grades laterally into a calcareous sandstone or a light to yellow brown, nodular marl. Underlying the Minnewaste limestone in some places and the Fuson in others, the Lakota sandstone is generally found in the lower part of hogbacks and canyons. The formation ranges in thickness from 200 to 485 feet and is commonly a light brown to buff, medium-grained sandstone. Outcrops of the Lakota sandstone tend to be more extensive and massive than is generally the case with the Fall River sandstone. Thick beds of sandstone are separated by red to gray mudstone or light colored siltstone.

Local Geology

Structural

The Starlite and Johnson claims lie on the steeply-dipping western flank of the Chilson Anticline. The claims extend from the axis of the anticline westward to where the dips flatten to form a structural terrace which separates the anticline from the Sheep Canyon Monocline. The anticlinal axis is sinuous and extends from the Cheyenne River northward for 9 miles where both limbs of the structure flatten and the anticline is no longer recognizable. The anticline is assymetrical to the west; dips on the eastern limp are 2-3 degrees whereas the western limb has dips of 14 degrees.

Relation of known ore deposits to geologic structures such as the Chilson Anticline is not clear. Although many government and private geologists with experience in the Edgemont district consider relatively flat-lying beds, up-dip and near monoclinal axis, to be favorable ground, the validity of this guide has not been established. The two largest deposits in the district do not fit this pattern. The Holdup 15 claim, 7 miles N. 15 deg. W. of the Starlite claims, lies on the Sheep Canyon Monocline where the beds are dipping 14 degrees west. In contrast, the Gould Mine is in relatively flat-lying beds, 1000 to 1500 feet west of the western limb of the Chilson Anticline and 5000 feet east of the nearest monoclinal axis.

Stratigraphy

The property is in the west-central part of the Flint Hill quadrangle. The geology of this guadrangle is being mapped at a scale of 1:7200 by H. Bell and E. V. Post of the U. S. Geological Survey. Most of the geologic data in this report pertaining to the claims has been obtained from field maps compiled by Bell and Post.

The Fall River sandstone has been eroded extensively in the eastern part of the claim area exposing the older formations of the Inyan Kara group as shown on the geologic map, Figure 3, of this report. Because of differential erosion, thicknesses of the younger formations vary considerably throughout the claims. The following stratigraphic information has been derived from lithologic logs of cores obtained from development drilling by the operator and from the Survey mapping.

Formation	Lithology	Thickness (ft.)
Fall River	Sandstone: buff, iron-stained, cross-bedded, fine- to medium-grained, massive.	40 to 80
	Siltstone: light gray to red, thin beds of fine-grained, lt. gray sandstone	40
Fuson	Mudstone: red to dark gray	40
	Sandstone: white, fine-grained.	20 to 40
Mimewaste (?)	Sandstone: Calcareous, fine-grained, well sorted. Also light brown to yellowish brown nodular marl	7
Lakota	Sandstone: lt. gray, fine-grained, thin-bedded, with interbedded gray to green siltstone.	50 to 100
	Sandstone: buff, fine- to medium-grained, massive.	250

Two miles northwest of the property, the Fall River sandstone forms nearly vertical cliffs of massive sandstone in Sheep Canyon. The massive sandstone is nearly 110 feet thick with few mudstone or siltstone splits. Abrupt facies changes in the sandstone are found east of Sheep Canyon, and within one-half mile east of the canyon, the equivalent stratigraphic interval consists of thin-bedded sandstone, siltstone, and mudstone. These facies changes may represent the eastern margin of a northwest-trending channel. If such a channel exists, its eastern margin would pass close to the northeastern boundary of the Starlite claims. Lack of exposures in this area restrict verification of this projection.

Mineral Deposits

History of Production

The only production of uranium ore east of the Chilson Anticline has come from the Washboard, Accidental, and Damsite deposits which are shown on the index map, figure 4, accompanying this report. The Gould Mine, one of the largest producers in the Black Hills, is 4 miles north of the

Starlite and Johnson claims, along the regional strike. Ore at the Gould Mine has been localized 50 feet above the base of a channel sandstone of the Fall River sandstone.

At least 21 small deposits have been found within 2.5 miles of the property as shown on the index map, (figure 4). Six of the deposits have been mined and have a total aggregate production of 402 tons. All production has come from the Lakota sandstone, and all occurences of uranium except the Sheep Canyon and Starlite deposits have come from this stratigraphic interval. The Sheep Canyon deposit is in the basal Fall River sandstone and visible mineralization has been found on the Starlite Claims near the bottom of the Fuson formation as well as in the basal Fall River sandstone. Of the 6 deposits that have been mined, the Accidental Nos. 3 and 10 produced the greatest tonnages, accounting for 204 tons of the total. The largest ore body on these claims was about 3 feet thick, 30 feet long and 20 feet wide. The ore was found in a fine- to very fine-grained, light gray, sandstone. In many exposures, this sandstone has a very distinctive banding caused by a coating on the quartz grains of yellow-brown oxides of iron.

The stockpile of ore mentioned by the operator in his application was examined by the Examining Team. The material is a well-sorted, highly calcareous, fine-grained, quartzitic sandstone near the base of the Fuson formation. Although bedding planes and fracture surfaces of the sandstone are thinly coated with a lemon-yellow, radioactive mineral, general dissemination of the mineral through the rock has been restricted by a calcareous cement which thoroughly fills interstices. Localization of the ore has been controlled almost exclusively by the bedding planes and fracture surfaces.

A sample of the material weighing 2 pounds and considered to be representative of the stockpile by the Examining Team and by the operator was found to have 0.06 percent equivalent uranium as determined by the scaler operated by the Hot Springs office of the A. E. C. The open cut on Johnson No. 10 from which the material had been mined was examined but not enough ore was found in place to provide a channel sample.

Anomalous Radioactivity

Areas of anomalous radioactivity are common both on, and near the claims. In the course of his development program, the operator has drilled 21 core holes on the claims. Results of the drilling are incomplete but gamma ray logs made by the A. E. C. show anomalous stratigraphic intervals near the base of the Fall River and near the base of the Fuson. Surface anomalies are strongest on Starlite Claim Nos. 1 and 2 and Johnson Claims 8&10. A check radiometric survey of these anomalies was considered of little or no value and was not made as the soil and rock removed from the surface had been spread around and over the anomalous areas so as to obscure the original outline and give erroneous results on the counter. The A. E. C. has drilled 6 holes to the Morrison formation near the Accidental and Washboard claims. Gamma ray logging of these holes shows that all anomalies greater than 600 counts per second are within 100 feet of the Morrison-Lakota contact. Sediments having slightly more than 0.10 percent equivalent uranium were discovered near the Sheep Canyon deposit during drilling performed under the Mining Research-DMEA contract (Docket 2768). Although these holes didnot penetrate beyond the Fall River-Fuson contact, mineralized sediments were discovered in the basal 50 feet of the Fall River sandstone.

ORE RESERVES

The property has no known reserves of minable ore.

The applicant has saved two tons of "ore" which was mined from the open cut on the Johnson No. 10 claim; however, the material is below shipping grade, a radiometric assay by scalor giving only 0.06 percent U_3O_8E.

PRESENT STATUS

Exploration and development

The exploratory and development work done by the applicant consists of several rim cuts and two small open cuts which are on the Starlite No. 2 claim and the Johnson No. 10 claim; also 21 core drill holes located as shown on the claim maps, figures 2 and 2A, have been drilled. As reported, the total drilling footage is approximately 2,900 feet. The hole numbers and depths are as follows:

Hole No.	Depth Feet	Hole No.	Depth Ft.	Hole No.	Depth Feet
1	140	8	60	15	153
2	196	9	57	16	340
3	70	10	75	17	70
4	80	11	70	18	150?
5	220	12	85	19	150?
6	200	13	95	20	200
7	105	14	230	21	200?

MINING AND MILLING EQUIPMENT AND OTHER FACILITIES

At the time of the examination, equipment on the property consisted of an Allis-Chalmers HD-10 dozer, Model 511, a Chicago-Pneumatic Model 8 gas-driven core drill mounted on a Ford 1½-ton truck, a Ford 1½-ton truck

with tank for water hauling, and a Ford 6-cyl. ½-ton pickup.

The only building on the property is a small portable tool shed, and there are no living facilities except for a small house trailer owned by the applicant.

APPLICANT'S PROPOSED EXPLORATION

Exploration, as proposed in the application, is confined to 22 of the 31 claims included in the property and is to be by core drilling. The applicant proposes to drill 44 holes, 200 feet in depth, or a total of 8,800 feet at the locations as shown on the claim map submitted with the application. Road building to some of the drill sites and drill site preparation with dozer is also included in the proposed work.

The drilling is to be done by the applicant with their own drill and at no charge to the government for use of the equipment. The dozer work is to be done with rented equipment, the dozer operator being paid by the applicant.

As shown in Exhibit F of the application, the grand total or amount of loan applied for is $23,918.00. The cost estimate also shows a total of $46,813.00; however, from this amount the applicant has deducted the $22,925.00, the value of equipment that he is to furnish for the project at no cost to the government. Therefore, the loan actually is $23,918.00.

The matter of rental or use-allowance for applicant-owned equipment was discussed and the applicant was informed that he could include the equipment in the cost on a rental or on a use-allowance basis, which usually is made at a monthly rate of 1/60 of the present value of the equipment. However, the applicant stated he would furnish the equipment

at no cost to the government.

Applicant's Cost Estimate

6 (a)	Independent Contracts	None	None
6 (b)	Supervision, 1000 hrs. @ $2.50 per hr.	$2,500.00	
	Driller, 1000 hrs. @ $3.00 per hr.	3,000.00	
	Driller helper, 1000 hrs. @ $2.00 per hr.	2,000.00	
	Labor (cat operator, truck driver and bookkeeper) 1000 hrs. @ 5.70	5,750.00	
			13,250.00
(c)	Operating Materials & Supplies		
	Diamond bits	3,710.00	
	Fuel oils and greases	1,964.75	
	Water	56.25	
	Misc. Tools	42.00	
			5,773.00
(d)	Operating Equipment		
	Cat - rental	2,000.00	
	Drill Rig	12,000.00*	
	Trucks (2)	5,000.00*	
	Air Compressor	4,300.00*	
			23,300.00
(e)			None
(f)	Tool Shop	625.00*	
	Trailer House	1,000.00*	
			1,625.00
(g)	Repairs	1,000.00	
	Analytical Costs	35.00	
	Workmen's Compensation	200.00	
	Payroll Taxes	260.00	
			1,495.00
(h)	Contingencies		1,400.00
TOTAL			$46,843.00
	Less $12,000.00*		
	5,000.00*		
	4,300.00*		
	1,625.00*		
			-22,925.00
			$23,918.00
	Government participation @ 75%		17,938.50

* Equipment to be furnished at no cost to the government.

Exploration Proposed by Examining Team

In the opinion of the examining team, the applicant's proposed drilling program is "wild cat" drilling or purely prospecting. The holes are too widely scattered and the spacing on and around anomalous areas is too great to be considered exploratory drilling. Thus far the drilling done by the applicant has been confined to surface anomalies and the results obtained have been almost entirely negative. Therefore, any further exploration of surficial anomalous areas on the property under a DMEA program is not warranted.

In this part of the Edgemont district, the stratigraphic intervals most favorable for uranium mineralization appear to be near the base of the Fall River, Fuson and Lakota, the formations (in sequence from upper to lower) of the Inyan Kara group. On the basis of the occurences of mineralization, and mainly on the production record of six of the properties located within a 2.5 mile radius of the Starlite and Johnson Claims (as mentioned in the section under geology), the basal Lakota sandstone is, at least locally, the most favorable of these intervals. Nothing is known, however, about the mineralization of this interval within claim boundaries. Any program of exploration would have to be based almost entirely on the projection (over a considerable distance) of the mineralized sediments from the properties referred to above, into the area included by the Starlite and Johnson claims, and would be purely "wild catting". Also relatively deep drilling will be required to reach the objective; from 350 to 450 feet in the western and 250 to 300 feet in the eastern part of the property. Owing to the lack of sufficient information for logical planning and the high cost of exploration, it is believed that exploration

of this interval should be deferred until additional geological information is available.

Locally the stratigraphic intervals in the Fall River sandstone and Fuson formation may be less favorable for exploration than the interval in the Lakota, if the comparison of favorability is made only on the production of ore from the three intervals. It is believed, however, that some exploration of the Fall River and Fuson intervals based on the following information is justified.

The many small deposits and radioactive anomalies that are found widely distributed within a 2.5 mile radius of the property indicate that sedimentary and chemical conditions were generally favorable for the deposition of uranium. With a favorable sedimentation and chemical environment for deposition on a small scale, it can be assumed that larger deposits could have been formed under these same conditions. Also, in addition to the uranium occurences and anomalous areas in the Fall River sandstone both on and off the property, a poorly-defined, major facies change in this formation may have provided a favorable milieu for ore deposition. The formation changes from a thick massive channel sandstone southwest of the claims to a thin-bedded mudstone, siltstone and sandstone northeast of the claim. Evidence at major deposits in the Black Hills and on the Colorado Plateau suggests that similar facies changes have been a controlling factor in the localization of uranium.

As stated, some exploration is warranted and it is believed that the favorable intervals at the base of the Fall River sandstone and Fuson formation can best be explored under the modified, two-stage drilling program outlined below.

Stage I

As shown on figures 2 and 2A, twenty one holes in two lines designated A-B and C-D, with 10 and 11 holes respectively, are to be drilled under this stage.

Line A-B is designed to evaluate the facies change in the Fall River sandstone and to obtain a check on the relationship of mineralization to this change. Line C-D parallels and is down dip from the favorable outcrop in the Fall River sandstone and, at a depth of 200 feet, the holes should also intercept the favorable interval of the Fuson formation.

Holes are to be spaced on 200-foot centers and drilled to a depth of 200 feet. Three holes in each line or 6 holes, Nos. 1, 5, 9, 13, 17 and 21 are to be core drilled BX size or larger, and the remaining 7 in line A-B and 8 in line C-D are to be drilled non-core, using air for sample recovery.

The six core drill holes are for a check on lithologic logs of non-cored holes and to permit more exact examination of the favorable stratigraphic intervals.

Stage I drilling is to be completed entirely and the results evaluated before any offset or Stage II drilling is started.

Stage II (Offset drilling)

It is estimated that 10 holes for line A-B and 11 for line C-D, or a total of 21 offset holes, will be adequate for this stage of the program. Spacing for offset holes around mineralized holes of Stage I will, ofcourse, be dependent on the results of Stage I. The minimum spacing, however, is to be no less than 50 feet. Offset holes are to be drilled non-coring, the samples to be recovered by air.

Summary of Proposed Drilling

Stage I

	Non-Core Holes		Core Holes	
	No. of Holes	Footage	No. of Holes	Footage
Line A-B (Depth 200 ft.)	7	1400	3	600
Line C-D (Depth 200)	8	1600	3	600
Total Stage I	15	3000	6	1200
Stage II (Offset Drilling)				
Offset Holes For Line A-B	10	2000	----	----
Offset Holes For Line C-D	11	2200	----	----
Total Stage II	21	4200	----	----
Total Stage I and II	36	7200	6	1200

It is suggested that the following be made a specific part of the contract as an annex or exhibit.

1. Radiometric and lithologic logs are the responsibility of the operator and copies of the logs are to be submitted with the operator's monthly report. The holes for which no log is submitted with the monthly operator's report shall be disallowed until the log is submitted.

2. Cuttings from all air-blast or non-core holes are to be sampled at 2-foot intervals, and placed in properly marked sacks.

3. Cores are to be stored in core boxes properly marked and protected from weather. (This has not been the practice in the past. Cores were layed out on the ground.)

4. All cuttings and cores are to be available for examination by the government.

5. Samples with a radioactivity intensity of 2000 counts per second or .10 percent equivalant uranium are to be assayed chemically. Sample interval

for core samples with the above grade or intensity shall be 1 foot.

Estimated Costs

The following estimate is based on the assumption that non-core and core drilling will be carried on simultaneously, and that the average drilling footage per shift for non-core holes will be 200 feet and for core holes 30 feet. On this basis, the time required to complete all drilling of Stage I and Stage II is estimated at 2 months, and with an additional one half month allowed for the final report, the contract should be completed within 2½ months from the time drilling is started.

Independent Contracts			
Non-core Drilling	7200 feet @ 1.25 per ft.	$ 9,000.00	
Core Drilling	1200 feet @ 2.25 per ft.	2,700.00	
Bull Dozer	1 day @ $100.00 per day	100.00	
Total, Independent Contracts			$11,800.00
Labor, Supervision and Consultants			
Labor, Sampler @ $260.00 per mo. for 2 months		$ 520.00	
Supervision (part time) @ $550.00 per mo. for 1 mo.		550.00	
Geologist-Engineer (part time) @ $600.00 per mo. for 1 month		600.00	
TOTAL, Labor, Supervision and Consultants			$ 1,670.00
Operating Materials and Supplies			
Gas, oil and misc. for field assistant's car-estimated mileage for 2½ mos. 1700 miles @ .05¢		$ 85.00	
Sample Sacks, 8,000 @ $10.00 per M		80.00	
Core Boxes, 50 @ $2.10 ea.		105.00	
TOTAL, Operating Materials and Supplies			$ 270.00

Operating Equipment

None (Applicant states equipment to be furnished at no charge)

TOTAL, Operating Equipment	----------	----------

Rehabilitation and Repairs

None	----------	----------

New Buildings and Improvements

None	----------	----------

Miscellaneous

Clerical Services - 2½ months at $50.00 per mo.	$ 125.00	
Payroll taxes, FICA @ 2% of $1,120.00	22.40	
Compensation & Liability Insurance (Exclusive of Supervisor, the applicant) Minimum premium for all others	50.00	
Chemical Analyses (estimated) 10 samples for 21 holes or 210 samples @ $5.00	1,050.00	
TOTAL, Miscellaneous		$ 1,247.40
Contingencies, 10% of $2,150.00 (rounded)	$ 215.00	
TOTAL, Contingencies		215.00
GRAND TOTAL		$15,202.40

The unit costs summarized below are calculated separately for non-core and core drilling and the items above, except as noted, have been prorated on the basis of 75% to non-core and 25% to core drilling. Also, the expenditure allowed for dozer work and chemical analyses are included as separate unit costs.

Non-Core Drilling

(75% of total expenditures)		Cost Total	Cost Per ft.
Independent Contracts			
Drilling 7200 feet		$ 9,000.00	1.250
Labor Supervision Consultants		1,252.50	.174
Operating Materials & Supplies			
Oil, Gas & Misc., 75% of 85.00	63.75		
Sample Sack	80.00	143.75	.020
Operating Equipment			

		Cost Total	Cost Per ft.
Rehabilitation & Repairs		------	------
New Bldgs. & Improvements		------	------
Miscellaneous			
Clerical Services, 75% of 125.00	$93.75		
Payroll Taxes, 75% of 22.40	16.80		
Compensation & Liability Ins., 75% of 50.00	37.50	148.05	.020
Contingencies 75% of 215.00		161.75	.022
		$10,705.55	1.486

Use $1.49 per feet

Core Drilling
(25% of Total Expenditures)

Independent Contracts			
Drilling 1200 feet		$ 2,700.00	2.250
Labor, Supervision & Consultants 25% of 1,670.00		417.50	.348
Operating Material and Supplies			
Gas, Oil and Misc. for Pick-up, 25% of $85.00	$ 21.25		
Core Boxes	105.00	126.25	.105
Operating Equipment		------	------
Rehabilitation & Repairs		------	------
New Buildings & Improvements		------	------
Miscellaneous			
Clerical Services, 25% of 125.00	$ 31.25		
Payroll Taxes, 25% of 22.40	5.60		
Comp. & Liab. Ins., 25% of 50.00	12.50	49.35	.041
Contingencies 25% of $215.00		53.75	.045
		$3,346.85	$2.789

Use $2.79 per foot

Summary of Unit Cost

Item	Units Total	Units $ Unit	Total Expanditory	
Non-core Drilling	7,200	1.49	$10,728.00	
Core Drilling	1,200	2.79	3,348.00	
Dozer Work	day	100.00	100.00	
Chemical Analyses	210	5.00	1,050.00	
			$15,226.00	
Government Participation @ 75%				$11,419.50

CONCLUSIONS

The applicant's proposed drilling program is not adequate for exploration of the many widely scattered areas which apparently have been selected on the basis of surface anomalies or proximity to these anomalies. As previous drilling by the applicant was confined to surficial anomalies and the results were negative, it is believed that the results of the present program which appear to be designed to further test surficial anomalies and those areas in which it is assumed there may be deposits related to these anomalies, would also be negative. The proposed drill holes are too widely scattered and too few in any particular area to actually explore an area. Based on the geologic data given in the section of this report on geology, it is believed that exploration under the proposed modified two-stage drilling program, which is designed to explore the favorable stratigraphic intervals of the Fall River sandstone and Fuson formation in the western part of the property along lines A-B and C-D, is warranted.

The applicant, while capable of supervising actual drilling operations, would require the services of either a geologist or an engineer in order to properly analyze drilling results and obtain the maximum geologic information from the drilling.

RECOMMENDATIONS

Exploration under the modified two-stage drilling program, as outlined in the section of the report entitled "Exploration Proposal by Examining Team", is recommended.

A short form contract on a unit cost bases is also recommended.

It is suggested that the contract include an annex or exhibit with the specific provisions concerning the details as to logging, sampling methods, handling of cores and cuttings, and time in which the drilling data are to be submitted.

12-28-55 [illegible]

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

224 New Customhouse
Denver 2, Colorado

December 23, 1955

Mr. Emmet Isaacs
1006 Farlow
Rapid City, South Dakota

Re: Docket DMEA 3796 (Uranium),
Starlite and Johnson claims,
Fall River County, South Dakota

Dear Mr. Isaacs:

Enclosed are the original and five copies of Form MF-203, Owner's Consent to Lien, all copies of which are to be signed by Jesse M. Johnson and Lenore E. Johnson and returned to this office.

Upon receipt of the executed copies of the attached Owner's Consent to Lien, we will continue to process your application.

Very truly yours,

E. N. Harshman

E. N. Harshman
Acting Executive Officer, DMEA
Field Team, Region III

Enclosures
HMC:ab
cc: Docket
Sec. Op. Comm. (2)
Harshman
Binyon
Chron.

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

224 New Customhouse
Denver 2, Colorado

December 23, 1955

Mr. Emmet Isaacs
1006 Farlow
Rapid City, South Dakota

Re: Docket DMEA 3796 (Uranium),
Starlite and Johnson claims,
Fall River County, South Dakota

Dear Mr. Isaacs:

Enclosed are the original and five copies of Form MF-203, Owner's Consent to Lien, all copies of which are to be signed by Jesse M. Johnson and Lenore E. Johnson and returned to this office.

Upon receipt of the executed copies of the attached Owner's Consent to Lien, we will continue to process your application.

Very truly yours,

E. N. Harshman

E. N. Harshman
Acting Executive Officer, DMEA
Field Team, Region III

Enclosures
HMC:ab
cc: Docket
Sec. Op. Comm. (2)
Harshman
Binyon
Chron.

12-28-55 ym

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

RECEIVED
DEC 28 1955

December 23, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

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

Subject: Docket DMEA 3796 (Uranium), Isaacs and Martin, Starlite and Johnson claims, Fall River County, South Dakota

Enclosed are two copies of a note from the subject applicant and two copies of a corrected map of the Johnson Lease.

E. N. Harshman

E. N. Harshman

Enclosures

M. I. L. Uranium, Inc.

PHONE FI 2-8128 1006 FARLOW AVENUE

RAPID CITY, SOUTH DAKOTA

RECEIVED
NOV 20 1955
Dept. of Interior
Bureau of Mines
Rapid City,
South Dakota

DMEA
Date Rec'd.

DEC 20 1955

BUREAU OF MINES
Denver, Colorado

RECEIVED

DEC 27 1955

Herewith is a correct map of the Johnson Lease showing an additional claim Johnson No. 8A which we believe males all of the descriptions legal. Johnson No. 8Aclaim is Recorded in Book 38, Misc., Page 628 in the Register of Deeds Office in Fall River County, Hot Springs, South Dakota.

Isaacs & Martin

Emmet Isaacs

By: Emmet Isaacs

JOHNSON LEASE

Section 35, Township 8S, Range 3E,
Fall River County, South Dakota

Scale = 100 Ft. to 1/8 inch.

NOV 29 1955
Dept. of Geology
School of Mines
Rapid City,
South Dakota

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

December 23, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

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

Subject: Docket DMEA 3796 (Uranium), Isaacs and Martin, Starlite and Johnson claims, Fall River County, South Dakota

Enclosed are two copies of a note from the subject applicant and two copies of a corrected map of the Johnson Lease.

E. M. Harshman

E. M. Harshman

Enclosures

M. I. L. Uranium, Inc.

PHONE FI 2-8128 1006 FARLOW AVENUE

RAPID CITY, SOUTH DAKOTA

DMEA
Date Rec'd.

DEC 20 1955

BUREAU OF MINES
Denver, Colorado

RECEIVED
NOV 20 1955
Dept. of Interior
Bureau of Mines
Rapid City,
South Dakota

RECEIVED
DEC 27 1955

Herewith is a correct map of the Johnson Lease showing an additional claim Johnson No. 8A which we believe males all of the descriptions legal. Johnson No. 8A claim is Recorded in Book 38, Misc., Page 628 in the Register of Deeds Office in Fall River County, Hot Springs, South Dakota.

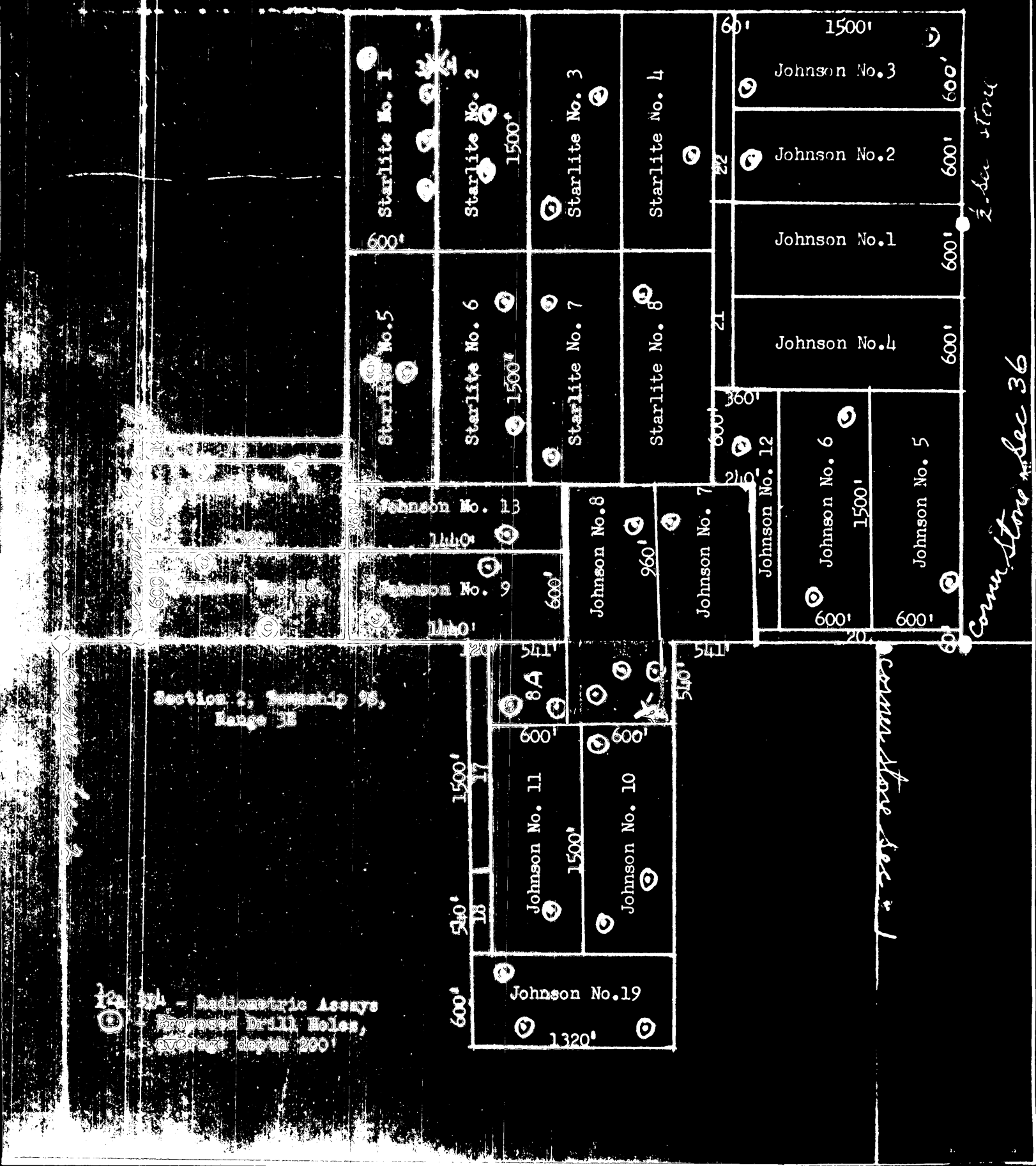
Isaacs & Martin

Emmet Isaacs

By: Emmet Isaacs

JOHNSON LEASE

Section 35, Township 8S, Range 3E, :
Fall River County, South Dakota : Scale - 100 Ft. to 1/8 Inch.
:



11-25-55 [illegible]

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

November 23, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: E. O. Binyon

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3796 (Uranium), Starlight and Johnson claims, Fall River County, South Dakota

On July 8, 1955 the applicant wrote this office in the hope of expediting the examination of the subject property.

Your weekly report dated November 14, 1955 states "No work was done on the Report of Examination on docket DMEA 3796 (Uranium), Isaacs and Martin, Starlite and Johnson claims, Fall River County, South Dakota. Mr. Emmet Isaacs called at this office November 9, 1955 to discuss irregularity in the location of the Johnson No. 7 and No. 8 claims. Another claim is to be located and a new claim map is to be submitted."

We do not like to keep inactive dockets open for an indefinite period, and if the applicant is having difficulties in obtaining valid title, it is possible that he is no longer interested in the exploration project. Will you please ascertain from the applicants how much more time will be required to get their application in proper form for you to complete your Report of Examination.

W. M. Traver

By J. W. Townsend
J. W. Townsend

HMC:ab
cc: Sec. Op. Comm. (2)

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

November 23, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: E. O. Rizzon

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3796 (Uranium), Starlight and Johnson claims, Fall River County, South Dakota

On July 8, 1955 the applicant wrote this office in the hope of expediting the examination of the subject property.

Your weekly report dated November 14, 1955 states "No work was done on the Report of Examination on docket DMEA 3796 (Uranium), Lemmes and Martin, Sterlite and Johnson claims, Fall River County, South Dakota. Mr. Ernest Lemmes called at this office November 9, 1955 to discuss irregularity in the location of the Johnson No. 7 and No. 8 claims. Another claim is to be located and a new claim map is to be submitted."

We do not like to keep inactive dockets open for an indefinite period, and if the applicant is having difficulties in obtaining valid title, it is possible that he is no longer interested in the exploration project. Will you please ascertain from the applicants how much more time will be required to get their application in proper form for you to complete your Report of Examination.

W. M. Traver

By J. W. Lemmond
J. W. Lemmond

HMC:ab
cc: Sec. Op. Comm. (2)

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

RECEIVED
JUL 15 1955

224 New Customhouse
Denver 2, Colorado

July 11, 1955

Mr. Emmet Isaacs
1006 Farlow Avenue
Rapid City, South Dakota

Re: Docket No. DMEA-3796 (Uranium),
Starlight & Johnson Claims,
Fall River County, South Dakota

Dear Mr. Isaacs:

This will acknowledge receipt of your letter dated July 8, 1955 requesting information on your recent application for DMEA aid.

A field examination of your property is scheduled for July 13, 1955. Reports of examination will be written by both the engineer and geologist examiners. These reports will be forwarded to the DMEA Washington Office who will advise you of their appropriate action.

The date you might expect final action on your application is uncertain to predict, but you may be assured that your application will be processed in its proper turn.

Very truly yours,

W. M. TRAVER.

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:pw

cc: Subject
Chron
Binyon
Harshman
Sec.Op.Comm. (2)

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

RECEIVED
JUL 15 1955

224 New Customhouse
Denver 2, Colorado

July 11, 1955

Mr. Emmet Isaacs
1006 Farlow Avenue
Rapid City, South Dakota

Re: Docket No. DMEA-3796 (Uranium),
Starlight & Johnson Claims,
Fall River County, South Dakota

Dear Mr. Isaacs:

This will acknowledge receipt of your letter dated July 8, 1955 requesting information on your recent application for DMEA aid.

A field examination of your property is scheduled for July 13, 1955. Reports of examination will be written by both the engineer and geologist examiners. These reports will be forwarded to the DMEA Washington Office who will advise you of their appropriate action.

The date you might expect final action on your application is uncertain to predict, but you may be assured that your application will be processed in its proper turn.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:pw

cc: Subject
Chron
Binyon
Harshman
Sec.Op.Comm. (2) ✓

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

RECEIVED
JUN 13 1955

224 New Customhouse
Denver 2, Colorado

June 9, 1955

Memorandum

To: E. O. Bingon (w/brochure)
N. P. Cuppels

From: Field Team, Region III

Subject: Docket DMEA-3796 (Uranium), Isaacs and Martin (Starlite and Johnson claims), Fall River County, South Dakota

Enclosed are copies of the subject application for a loan of $46,843.00, referral from the Chairman of the Operating Committee, lease, supplemental data furnished by the applicant, and memoranda to E. W. Ellis from R. D. Trace, USGS and S. S. Crawford, USBM, members of the Uranium Commodity Committee.

The application, poorly prepared, can probably best be cleared by field examination and suitable covering reports. It should be referred to the Hot Springs office of the AEC and bids from three drill contractors should be requested if a project is recommended. This office will arrange for Owner's Consent to Lien forms in the event you suggest a contract.

W. M. TRAVER
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

WMT:pw

cc: Subject
Chron
Sec.Op.Comm. (2)
Harshman

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

RECEIVED
JUN 13 1955

224 New Customhouse
Denver 2, Colorado

June 8, 1955

Memorandum

To: E. O. Binyon (w/brochure)
N. P. Cuppels

From: Field Team, Region III

Subject: Docket DMEA-3796 (Uranium), Isaacs and Martin (Starlite and Johnson claims), Fall River County, South Dakota

Enclosed are copies of the subject application for a loan of $46,843.00, referral from the Chairman of the Operating Committee, lease, supplemental data furnished by the applicant, and memoranda to E. W. Ellis from R. D. Trace, USGS and J. E. Crawford, USBM, members of the Uranium Commodity Committee.

The application, poorly prepared, can probably best be cleared by field examination and suitable covering reports. It should be referred to the Hot Springs office of the AEC and bids from three drill contractors should be requested if a project is recommended. This office will arrange for Owner's Consent to Lien forms in the event you suggest a contract.

W. M. TRAVER

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

WMT:pw

cc: Subject
Chron
Sec.Op.Comm. (2)
Harshman

Surname 700

Ching
Ellis
Selfridge
Johnson

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

6-6-55
Ave

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

JUN - 3 1955

Re: Docket No. DMEA-3796 (Uranium)
Isaacs and Martin
Starlight and Johnson Claims
Fall River County, South Dakota

Dear Mr. Traver:

The subject application is being referred to you for investigation, a field examination if warranted, and recommendation. A copy of the application was retained by you.

Enclosed are two copies each of the following documents:

1. Letter dated May 18, 1955, from Applicant in reply to ours of May 6.

2. Three radiometric assay reports covering four samples.

3. Photostat of claim map showing location of the proposed drill holes.

4. Memorandum, dated May 26, 1955, from R. D. Trace regarding the application.

5. Memorandum, dated May 27, 1955, from John E. Crawford regarding the application.

In the event the Field Team recommends a contract please secure the latest Owner's Consent to Lien forms signed by Jesse M. Johnson and Lenore L. Johnson.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Enclosures

APPROVED:

J. H. Hedges (JHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

MChing:am
6-1-55
cc to: Admr. Reading File
Operating Committee
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Ching

RGh.

Surname 700

Ching
Ellis
Kullgaard
Hedges
Selbridge
Johnson

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

6-6-55 CM.

JUN - 3 1955

Isaacs and Martin
c/o Mr. Emmett Isaacs
1006 Farlow Street
Rapid City, South Dakota

Re: Docket No. DMEA-3796 (Uranium)
Starlight and Johnson Claims
Fall River County, South Dakota

Gentlemen:

The application for assistance in exploring the subject property in Fall River County, South Dakota, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred to the Executive Officer of Region III at the following address:

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

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

C. O. Mittenden

Administrator

MChing:am
6-1-55
cc to: Admr. Reading File
Docket
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

R.C.S.

5/31/55 gla

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

May 27, 1955

Memorandum

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

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

Subject: Application for assistance, DMEA Docket 3796, Isaacs & Martin, Starlight and Johnson Claims, Fall River County, South Dakota, review of supplemental information.

I have reviewed the supplemental information supplied by Isaacs & Martin, Starlight and Johnson Claims, DMEA Docket 3796; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission. The supplemental information and application for assistance are attached.

We suggest that the application and supplemental information be referred to the Field Team for examination and report, and that the Field Team be requested to discuss the information with C. C. Towle, Atomic Energy Commission, Denver, Colorado.

John E. Crawford
John E. Crawford

Attachments

5/31/55 gla

IN REPLY REFER TO:

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

May 26, 1955

Re: DMEA-3796
Isaacs & Martin
Starlight & Johnson
claims
Edgemont District
Fall River Co., S. Dak.
$46,843 - Uranium

Memorandum

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

From: R. D. Trace, U. S. Geological Survey

Subject: Review of application

The applicant proposes to drill 8,800 feet in 44 holes, presumably for uranium in the Lakota formation. The applicant apparently has some uranium mineralization on his property, as evidenced by his radioactivity assays and his two-ton stockpile.

The application is still incomplete but I doubt that you could get much more information unless you refer the application to the Field Team.

R D Trace

R. D. Trace

5/20/55 gla

MAY 20 1955

1006 Farlow Ave.
Rapid City, S. D.
May 18, 1955

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

Re: Docket No. DMEA-3796 (Uranium)
Starlight and Johnson Claims
Fall River County, South Dakota

Gentlemen:

Relative to your letter under date of May 6, 1955, we are enclosing photostatic copies of the Claims which show the Radiometric assay locations, also the proposed drill holes.

1. Under 5 (b) of the application "Exhibit D", the proposed drill holes are located on each claim, with an average of 200 feet per hole, or a total depth of 8800 feet.

2. Under Estimate of Costs "Exhibit F", the cost of equipment and buildings, owned by us, to be included as part of the project cost and will be supplied by us.

3. Radiometric Assays: The locations are indicated on the map where each sample was secured, these are selected specimens taken from the best showings on the outcrops.

4. Nearby properties producing uranium ore: The Edgement Mining Co. are located 2 miles north of these claims and have mined a considerable amount of uranium ore.

Hoping this imformation will be of value inprocessing our application, and that we will receive a favorable reply in the near future.

Sincerely yours,
Emmet Isaacs
Isaacs & Martin

Exhibit "C"

NOV 2 4 1954

U. S. ATOMIC ENERGY COMMISSION
Hot Springs Sub-Office

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 2 9 1955

Dear MR. ISAACS,

The results of radiometric ~~[illegible]~~ assay of your samples recently submitted to this office are listed below.

HSO No.	Your No.	Radiometric ~~[illegible]~~ % U_3O_8	% V_2O_5
52-14	ISAACS #2	.24	
52-15	ISAACS #3	.12	

Yours very truly,

John W. King

Exhibit "C"

NOV 4 1954

MR. ISAACS,

46-16	ISAACS #1	.21	

John W. Kemp

Exhibit "C"

DEC 7 1954

U. S. ATOMIC ENERGY COMMISSION
Hot Springs Sub-Office

Dear MR. ISAACS,

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 29 1955

The results of radiometric ~~[illegible]~~ assay of your samples recently submitted to this office are listed below.

HSO No.	Your No.	Radiometric ~~[illegible]~~ % U_3O_8	% V_2O_5
57-04	ISAACS #4	.16	

Yours very truly,

John W. King

JOHNSON LEASE
Range 3E,
Scale - 100 Ft. to 1/8 inch.
Starlite No. 1
Starlite No. 2
Starlite No. 3
Starlite No. 4
Starlite No. 5
Starlite No. 6
Starlite No. 7
Starlite No. 8
Johnson No.3
Johnson No.2
Johnson No.1
Johnson No.4
Johnson No. 13
Johnson No. 9
Johnson No. 8
Johnson No. 7
Johnson No. 12
Johnson No. 6
Johnson No. 5
Johnson No. 11
Johnson No. 10
Johnson No.19
1500'
600'
960'
1320'
540'
360'
240'
20'
22
21
17
16
Corner Stone sec. 1
Corner Stone sec 36
Radiometric Assay
Proposed Drill Holes
average depth 200'

Surname 700

Ching
Ellis
Johnson

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

Isaacs & Martin
c/o Mr. Emmett Isaacs
1006 Farlow
Rapid City, South Dakota

MAY - 6 1955

Re: Docket No. DMEA-3796 (Uranium)
Starlight and Johnson Claims
Fall River County, South Dakota

Gentlemen:

In reviewing your application for exploration aid we find the information supplied by you unclear or incomplete in certain respects and request that you supply the following additional information:

1. Under 5 (b) of the application (your Exhibit "D"), show the location and number of the proposed drill holes on the claim map and list the approximate depth of the holes as well as the total footage you wish to drill.

2. Under Estimate of Costs (your Exhibit "F"), it is noted that you have deducted the cost of equipment and buildings owned by yourselves. Does this mean that you will supply these items without cost to the project and that the estimated total cost of the project is $23,918.00? For your information, if a project is approved, any equipment owned by the applicant which is necessary in exploring the property may be used and considered a part of the project cost based on the present value of said equipment. This allowable cost is usually on a 60-month depreciation basis, i.e., the present value divided by 60 will be the amount allowed each month as a part of the over-all cost of the project.

3. With reference to the four radiometric assays attached to the application, please indicate on the map the location from which each sample was taken and describe the manner in which the samples were taken; i.e., were they representative channel samples taken across an ore zone, grab samples of material mined, or selected specimens from the best showings on the outcrops.

4. What nearby properties are producing uranium ore. Indicate their location with respect to your property and the amount of production, if known.

R.C.S.

In supplying additional information please include four copies of the claim map showing the locations of proposed drill holes, place where the samples were procured, together with any other pertinent information you may have.

We shall continue to process your application upon receipt of the supplemental information requested above.

Sincerely yours,

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

MChing:am
5-6-55
cc to: Admr. Reading File
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210,GSA
Code 700
Mr. Ching
DMEA Field Team, Region III(2)

57/10/55 gla

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

224 New Customhouse
Denver 2, Colorado

May 5, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3796 (Uranium), Isaacs & Martin, Fall River County, South Dakota

Reference is made to our memorandum of April 25, 1955 regarding the mining lease which should have accompanied the subject application.

Enclosed is the mining lease which was corrected and returned to this office by the subject applicant.

W. M. Traver

W. M. Traver

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

224 New Customhouse
Denver 2, Colorado

May 5, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3796 (Uranium), Isaacs & Martin, Fall River County, South Dakota

Reference is made to our memorandum of April 25, 1955 regarding the mining lease which should have accompanied the subject application.

Enclosed is the mining lease which was corrected and returned to this office by the subject applicant.

W. M. TRAVER

W. M. Traver

Copy of original

DMEA
Date Rec'd.
APR 25 1955
BUREAU OF MINES
Denver, Colorado

MINING LEASE

THIS AGREEMENT AND LEASE MADE This 20th day of October, 1954, between JESSE M. JOHNSON and LENORE E. JOHNSON of Edgemont, South Dakota, of the first part, hereinafter called the "Lessors", and Emmet Isaacs, 1006 Farlow, Rapid City, South Dakota, and G. F. Martin, 1525 Pierce Street, Sioux City, Iowa, of the second part, hereinafter called the "Lessees".

WITNESSETH, That for and in consideration of the rents, royalties, covenants and agreements hereinafter expressed to be paid, kept and performed by the Lessees, the Lessors has granted, let and demised, and by these presents does grant, let and demise unto the Lessees all of the right, title and interest of the Lessors in and to the following described mining property and premises, situated in the unorganized Mining District, County of Fall River, State of South Dakota, to-wit:

Johnson #1, Johnson #2, Johnson #3, Johnson #4, Johnson #5, Johnson #6, Johnson #7, Johnson #8, Johnson #9, Johnson #10, Johnson #11, Johnson #12, Johnson #13, Johnson #14, Johnson #15, Johnson #16, Johnson #17, Johnson #18, Johnson #19, Johnson #20, Johnson #21, Johnson #22; Starlite #1, Starlite #2, Starlite #3, Starlite #4, Starlite #5, Starlite #6, Starlite #7, and Starlite #8, in Section 35, Township 8 South, Range 3 East, B.H.M., and Section 2, Township 9 South, Range 3 East, B.H.M.

TO HAVE AND TO HOLD the demised premises unto the Lessees, with the right to mine, extract and remove ore therefrom and to sell and dispose of the same as hereinafter provided for the term of Three (3) years, commencing at Noon on the 20th day of October, 1954, and ending at Noon on the 20th day of October, ~~1954~~ 1957, subject to the terms and conditions of this agreement listed in paragraph number two below, unless sooner forfeited of determined through the violation of any of the terms, conditions, covenants or agreements hereinafter against the Lessees expressed of reserved. J.M.J. L.E.J.

The Lessees, for and in consideration of the demise of said premised, hereby covenants and agrees with the Lessors as follows:

1. To enter upon said premises on the first day of the term hereof, and to work the same in a thorough and minerlike manner so as to take out the greatest amount of ore possible, with due regard to the development and preservation of said premises as a workable mining property and to the unworked ground for future continued mining operations, and to the other covenants hereinafter expressed.

2. At the expiration of this lease said lessees shall have the privilege of renewing the same for additional Three (3) year periods on the same terms and conditions of this lease.

3. To repair and replace all old timbering upon the demised premises wherever it may become necessary and to well and sufficiently timber said mine and mining premises wherever proper and necessary in accordance with good and safe mining practices.

4. To keep and hold as the property of the Lessors all cross and parallel lodes, spure or mineral deposits of every kind and nature that may be uncovered, disclosed or discovered on or within the demised premises by the Lessees, or by any person employed by, through or under the Lessees, or by any person in privity with such Lessees, with the privilege to the Lessees of working the same as part and parcel of the demised premises.

5. To at all times keep the drifts, shafts, tunnels and all other workings on the demised premises thoroughly drained and clear of loose rock and rubbish; to stow no waste under ground without the written consent of the Lessors; and to properly care for all dumpings and tailings and prevent their accumulation upon any part of the demised premises remaining unworked.

6. To do no underhand stoping below the bottom of any working level or winze; to do no stoping or breaking of ore rock within _____ feet of any working shaft; to make all shafts at least three and one-half (3½) feet by seven (7) feet in the clear, all drifts and tunnels at least six (6) feet high by three and one-half (3½) feet wide in the clear, and all winzes and raises at least three

and one-half (3½) feet by seven (7) feet in the clear.

7. To allow the Lessors, and his agents, from time to time and at any time, to enter upon and into all parts of the demised premises for the purpose of inspection, survey, taking ore samples or otherwise; and to give to the Lessors such assistance as may be necessary or proper to accomplish any such inspection, survey, sampling or otherwise.

8. To keep true and accurate record showing all ore taken from said premises and from which part thereof, the disposition thereof, the amount received therefrom, and a record of all assays of ore taken from said premises, together with complete maps of all developments as the work progresses; said accounts, records and maps shall be open to the inspection of the Lessors, or his agents, at all times during ordinary business hours, and the Lessors shall have the privilege of making extracts therefrom or copies thereof.

9. To make no assignment of this lease, or any interest hereunder, nor to sublet the whole or any part of the demised premises, without the written consent of the Lessors first had and obtained, and to allow no party not in privity with the parties hereto to take or hold possession of the demised premises, or any part thereof, under any pretext whatsoever.

10. To promptly pay for all labor, material and supplies to be done for, or furnished to, the Lessees, or any person or persons under him or in privity with him upon said premises; and if any lien be filed, or if the Lessees shall become insolvent or bankrupt, or make make an assignment for the benefit of creditors, or if any part of the payroll, or any other indebtedness incurred in connection with the operations of the Lessees shall remain unpaid for a period of thirty (30) days after the same shall become due and payable, the Lessors may, at his election, declare a forfeiture of this lease, as hereinafter provided.

11. To indemnify and save harmless the Lessors from any all

liability for any accident, injury or loss to any property, or to any party or parties whatsoever, arising out of, or incurred in connection with the operation or mining of the demised premises for any reason whatsoever. To carry a proper amount of workman's compensation insurance for the purposes aforesaid, and to comply with all of the rules and regulations of any public or governmental authority having supervision or jurisdiction over the demised premises and the operations thereon.

12. To pay, or cause to be paid, during the term hereof, any and all additional taxes assessed upon the demised premises, by reason of their added improvements thereon, and the ores mined and shipped therefrom, beginning with the taxes for the year 1956; to do all necessary work to keep claims in legal compliance with mining laws governing project.

13. To allow and pay to the Lessors, as royalty upon all ores mined, shipped or sold from the demised premises in any manner during the term hereof the following (it being expressly understood and agreed that the Lessors reserves unto himself the property and right of property in and to all ores mined and extracted from the demised premises during the term hereof), to-wit: Fourteen percent (14%) of the amount received by said lessees for such ores, including any bonus paid to said Lessees, or any other payments or benefits received by said Lessees; payments to be made to Lessors as collected by said Lessees.

All settlements to be made upon the smelter, mill or sampler net assay values, deducting therefrom only the actual cost of transportation and treatment.

14. To preserve and redeliver to the Lessors quiet and peaceable possession of the demised premises, with all drifts, shafts, tunnels and passages thoroughly clear of loose rocks and rubbish and drained, and the ground and mines ready for immediate continued working and mining, without demand or further notice, at the date of the expiration hereof, or at any time previous thereto, upon demand, upon the

termination or forfeiture hereof; and in the event of any such forfeiture, all fixed improvements, tracks and ties, and other appurtenances and material, used or installed by the Lessees on the demised premises shall thereupon revert to and become the property of the Lessors.

Upon the failure of the Lessees to keep and fulfill any and all agreements and covenants herein expressed or implied, then and in that event it shall be lawful for the Lessors, his agents or attorneys, to declare the term hereof ended and this lease null, void and of no further force or effect, and with or without notice or process of law to enter upon and take possession of the demised premises and dispossess all persons occupying the same, with or without force, or at the option of the Lessors, the Lessees and all persons found in occupation or possession may be proceeded against as being guilty of unlawful detainer.

Any notice given by the Lessors shall be deemed sufficiently served and shall be held to be binding upon the Lessees or any person holding or claiming to hold any interest in the demised premises through or under the Lessees, if the same is deposited postpaid in a United States Post Office by registered mail, addressed to the Lessees at Emmet Isaacs, 1006 Farlow, Rapid City, South Dakota, and G. F. Martin, 1525 Pierce Street, Sioux City, Iowa.

Time is of the essence of the agreement, and this lease shall be appropriately construed to include each of the above-named Lessors and Lessees, whether one or more and whether individuals, associations or corporations, and the terms and conditions hereof shall extend to, and be binding upon, the heirs, executors, administrators, successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this

Lease the day and year first above written.

Jesse M. Johnson (SEAL)

Lenore E. Johnson (SEAL)
Lessors.

Emmet Isaacs (SEAL)

G. F. Martin (SEAL)
Lessees.

STATE OF SOUTH DAKOTA)
COUNTY OF FALL RIVER) SS.

On this the 20th day of October, 1954, before me, the undersigned officer, personally appeared Jesse M. Johnson and Lenore E. Johnson, Lessors, and Emmet Isaacs and G. F. Martin, Lessees, known to me or satisfactorily proven to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same for the purpose therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Helen V. Thom
Notary Public

My commission expires:
March 16, 1957

Filed & recorded in Fall River County, Hot Springs, S.D. on the 5th day of November 1954 at 1:30 P.M.
Book # 35 M,
Page # 307, 308, 309 & 310

5/9/55 glu

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

May 6, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3796, Messrs. Emmet Isaacs and Gerald F. Martin, Star Light Claims, Pennington County, South Dakota

I have reviewed the attached application of Messrs. Isaacs and Martin, DMEA Docket 3796; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We suggest that the applicants be requested to supply additional information regarding the geology and mineralization of the Star Light Claims. Analytical data and maps have not been included in the application of Messrs. Isaacs and Martin. Unless such supporting data are supplied by the applicants, we suggest that the application be denied.

John E. Crawford
John E. Crawford

Attachment

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

May 6, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3796, Messrs. Emmet Isaacs and Gerald F. Martin, Star Light Claims, Pennington County, South Dakota

I have reviewed the attached application of Messrs. Isaacs and Martin, DMEA Docket 3796; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We suggest that the applicants be requested to supply additional information regarding the geology and mineralization of the Star Light Claims. Analytical data and maps have not been included in the application of Messrs. Isaacs and Martin. Unless such supporting data are supplied by the applicants, we suggest that the application be denied.

John E. Crawford

Attachment

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

May 6, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3796, Messrs. Emmet Isaacs and Gerald F. Martin, Star Light Claims, Pennington County, South Dakota

I have reviewed the attached application of Messrs. Isaacs and Martin, DMEA Docket 3796; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We suggest that the applicants be requested to supply additional information regarding the geology and mineralization of the Star Light Claims. Analytical data and maps have not been included in the application of Messrs. Isaacs and Martin. Unless such supporting data are supplied by the applicants, we suggest that the application be denied.

John E. Crawford

Attachment

April 29, 1955
Subject: DMEA 3796
Re: Exploration Assistance
Starlight Claims Nos.
1 thru 8 inclusive, Johnson
Claims Nos. 1 thru 22 inclus.

Isaacs & Martin
1006 Farlow
Rapid City
South Dakota

Gentlemen:

The receipt of your application dated April 20, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3796 and referred to the Rare and Miscellaneous Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

April 29, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

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

DMEA -3796 Isaacs & Martin (dba)

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

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

APR 27 1955

224 New Customhouse
Denver 2, Colorado

April 25, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Emmet Isaacs and Gerald F. Martin dba Isaacs and Martin partnership, Fall River County, South Dakota

In conjunction with the subject application forwarded to your office April 22, 1955, this is to inform you that one copy of the lease which was omitted from the application was received in this office this date.

We have noted an error in the dates of the lease and have returned it to the applicant for correction. Two copies of our letter to the applicant are enclosed. When the lease is returned, we will forward copies to your office.

W. M. Traver

Enclosures

W. M. Traver

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 29 1955

224 New Customhouse
Denver 2, Colorado

April 25, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Emmet Isaacs and Gerald F. Martin dba Isaacs and Martin partnership, Fall River County, South Dakota

In conjunction with the subject application forwarded to your office April 22, 1955, this is to inform you that one copy of the lease which was omitted from the application was received in this office this date.

We have noted an error in the dates of the lease and have returned it to the applicant for correction. Two copies of our letter to the applicant are enclosed. When the lease is returned, we will forward copies to your office.

W. M. TRAVER

Enclosures

W. M. Traver

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 28 1955

224 New Customhouse
Denver 2, Colorado

April 25, 1955

Mr. Emmet Isaacs
1006 Parlow
Rapid City, South Dakota

Re: Application for DMEA assistance

Dear Mr. Isaacs:

We acknowledge receipt of the mining lease forwarded to this office to be attached to your application for DMEA assistance. Please note the error in Paragraph 3 of subject lease; "Commencing at noon on the 20th day of October, 1954 and ending at noon on the 20th day of October, 1954".

This is evidently a typographical error but it must be corrected before we can accept it as a part of your application. Please have the correct date inserted and have same initialed by all signers of the lease after which it should be forwarded to this office and we will duplicate copies and forward the original to the Washington office.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures

RDB:pw

cc: Sec.Op.Comm. (2)
Binyon
Subject
Chron

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 25 1955

224 New Customhouse
Denver 2, Colorado

April 25, 1955

Mr. Emmet Isaacs
1006 Farlow
Rapid City, South Dakota

Re: Application for DMEA assistance

Dear Mr. Isaacs:

We acknowledge receipt of the mining lease forwarded to this office to be attached to your application for DMEA assistance. Please note the error in Paragraph 3 of subject lease; "Commencing at noon on the 20th day of October, 1954 and ending at noon on the 20th day of October, 1954".

This is evidently a typographical error but it must be corrected before we can accept it as a part of your application. Please have the correct date inserted and have same initialed by all signers of the lease after which it should be forwarded to this office and we will duplicate copies and forward the original to the Washington office.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures

RDB:pw

cc: Sec.Op.Comm. (2)
Binyon
Subject
Chron

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

224 New Customhouse
Denver 2, Colorado

April 22, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Emmet Isaacs and Gerald F. Martin dba Isaacs and Martin partnership, Fall River County, South Dakota

Enclosed are the original and two copies of the subject application for Government assistance to explore the applicant's property for uranium at an estimated cost of $46,843.00.

The application is poorly prepared. It does not include copies of the lease as stated on Form MF-103. The location of the applicant's work proposals is not shown on the claim map which is furnished with the original copy of the application only. The approximate depth of drilling and total footage requested is not stated.

W. M. Traver

Enclosures

W. M. Traver

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

Department of the Interior
Public Records Laboratory
RECEIVED
APR 25 1955

224 New Customhouse
Denver 2, Colorado

April 22, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Emmet Isaacs and Gerald F. Martin dba Isaacs and Martin partnership, Fall River County, South Dakota

Enclosed are the original and two copies of the subject application for Government assistance to explore the applicant's property for uranium at an estimated cost of $46,843.00.

The application is poorly prepared. It does not include copies of the lease as stated on Form MF-103. The location of the applicant's work proposals is not shown on the claim map which is furnished with the original copy of the application only. The approximate depth of drilling and total footage requested is not stated.

W. M. TRAVER

Enclosures

W. M. Traver

MF-103
(Revised April 1952)

DMEA
Date Rec'd. 5-3

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

APR 22 1955

RECEIVED
APR 29 1955
BUREAU OF MINES
Denver, Colorado

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. 3796
Metal or Mineral Uranium
Date Received 4-29-55
Estimated Cost $46,843
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: Emmet Isaacs, and Gerald F. Martin, d/b/a/ Isaacs & Martin Partnership, South Dakota
Emmett Isaacs-1006 Farlow, Rapid City, South Dakota
Gerald F. Martin-1525 Pierce Street, Sioux City, Iowa

(*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 attached Plat marked Exhibit "A"

(*b*) State any mine name by which the property is known. See Exhibit "A"

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

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

(*e*) If you own the land, describe any liens or encumbrances on it does not apply

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Land has been patented, location notices filed by owner

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

(*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. See Exhibit "D"

(*c*) The work will start within 1 days and be completed within 6 months from the date of an exploration project contract.

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

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: Exhibit "F"

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

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

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

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

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

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

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

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

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

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

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

☒ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper. See Exhibit "G"

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 20 Day of April, 1955

Isaacs & Martin
(Applicant)

By Emmet Isaacs

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

Exhibit "B"

Minerals Administration
RECEIVED
MAR 29 1955

(4) Physical Description

(a) Started exploration 20 October 1954, on Star Light claims one (1) thru eight(8) inclusive and Johnson claims one (1) thru twenty-two(22) inclusive. Exploration consisted of cat and dozer work. Star Light one and two and Johnson for purpose of discovery work was done by applicant. Production facilities consist of a jack hammer, air compressor, one bull dozer, two trucks, and micellaneous hand tools. Mine workings are readily accessable six and a half($6\frac{1}{2}$) miles east of Edgemont, South Dakota. Oiled highway 85A and 18 to within half($\frac{1}{2}$) mile of property; gravel road runs from oiled highway thru property east of said highway half ($\frac{1}{2}$) mile.

(b) Two tons of ore stock piled to date. Ore reserves unknown. Four tests run on mine samples. See attached analysis. Exhibit "C". Records in U. S. Atomic Energy Commission, Hot Springs, South Dakota.

(c) Out cropings of ore have been found on many of the above described claims. Deposits appear to be bedded and of sedimintary character. See Exhibit "A ". Because of the out croppings encountered together with assays of samples and the fact that hearby properties ore producing ore in commercial quantitiies lead us to believe that exploration will disclose substantial bodies of ore in commercial quantitiies.

(d) Claims lie six and a half ($6\frac{1}{2}$) miles East of the ore buying station at Edgemont, South Dakota. Six (6) miles of the access road is oiled and half($\frac{1}{2}$) mile is graveled thru theproperties. Edgemont has shipping, supply and residence facilities.

(e) Man power, materials, supplies equipment, water and power are readily available from Edgemont, South Dakota and other nearby communities.

Exhibit "D"

Proposed Work

Starlight Claims No. 1. (a) Core drilling
Thru eight(8)inclusive (b) Road Building
and Johnson Claims No. 1 (c) Drilling site leveling
Thru twenty-two(22)

See attached Plat for location of out cropings.

Exhibit "E"

5 (d)

Mr. Isaacs has had thirty(30) years experience with the type of equipment to be used in the exploration project. He will also supervise the project.

Exhibit "F"

6-a. Independent contracts-None

b. Labor, supervision, consultants

Type	Number	Cost	
Common Labor	1	1.25 per hour	
Supervisor	1	2.50 per hour	
Truck Driver	1	1.25 per hour	
Cat operator	1	1.75 per hour	
Driller	1	3.00 per hour	
Drillers Helper	1	2.00 per hour	
Bookkeeper	1	1.50 per hour	
		$13.25	13,250.00

c. Operating Materials and Supplies

Type	Number	Cost	
Shovels	6	18.00	
Picks	3	12.00	
Bars	3	12.00	
Water	375,000 gals.	56.25	
Fuel	6000 gals.	1800.00	
Oil	2 bbl.	114.00	
Gun & Grease	200 #	35.50	
Trans. Grease	100 #	15.25	
Core Bits	14	$3710.00	5773.00

d. Operating Equipment

Cat rental	2000.00	
Owned by operator Drilling rig-Purchase price	12000.00	
Owned by operator-2 trucks-Purchase price	5000.00	
Owned by operator-air compressor-purchase price	4300.00	
		23300.00

e. None

f. Tool shop-Previously built	625.00	
Trailer house-owned by operator	1000.00	
		1625.00
g. Repairs maintenance	1000.00	
Analglical work	35.00	
Workments comp.	200.00	
Payroll taxes	260.00	
		1495.00
h. Contigencies	1400.00	
		1400.00

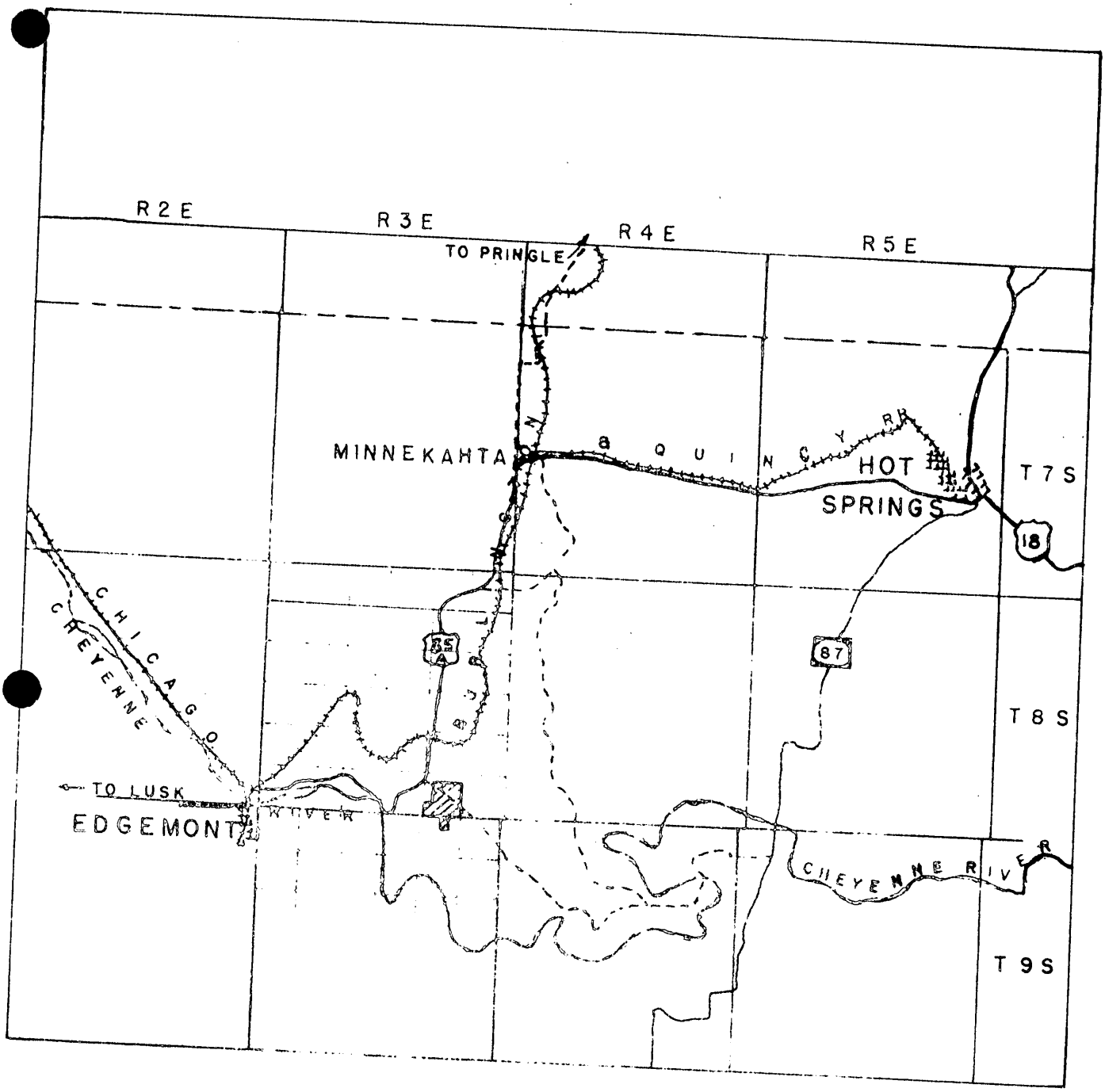
Total 46843.00

Less equipment owned by operator	21300.00
Less buildings owned by operator	1625.00
	22925.00

Grand Total---------- 23918.00

Exhibit "G"

Operator will furnish 25% of contract in cash.



SURFACED ROADS

GRAVEL "

DIRT "

AREA INCLUDED BY CLAIMS

1 0 1 2 3 4 5 MILES

Figure 1, LOCATION MAP, STARLITE and JOHNSON CLAIMS
SAACS & MARTIN, FALL RIVER COUNTY, SOUTH DAKOTA, DMEA 3796

RECEIVED
DEC 27 1985

Sec 35 Township 8 South Range 3 East

Fall River County, So. Dak.

STAR

WHITE

Sec. 34 Township

Sec. 36

Sec. 2, Township 9 S

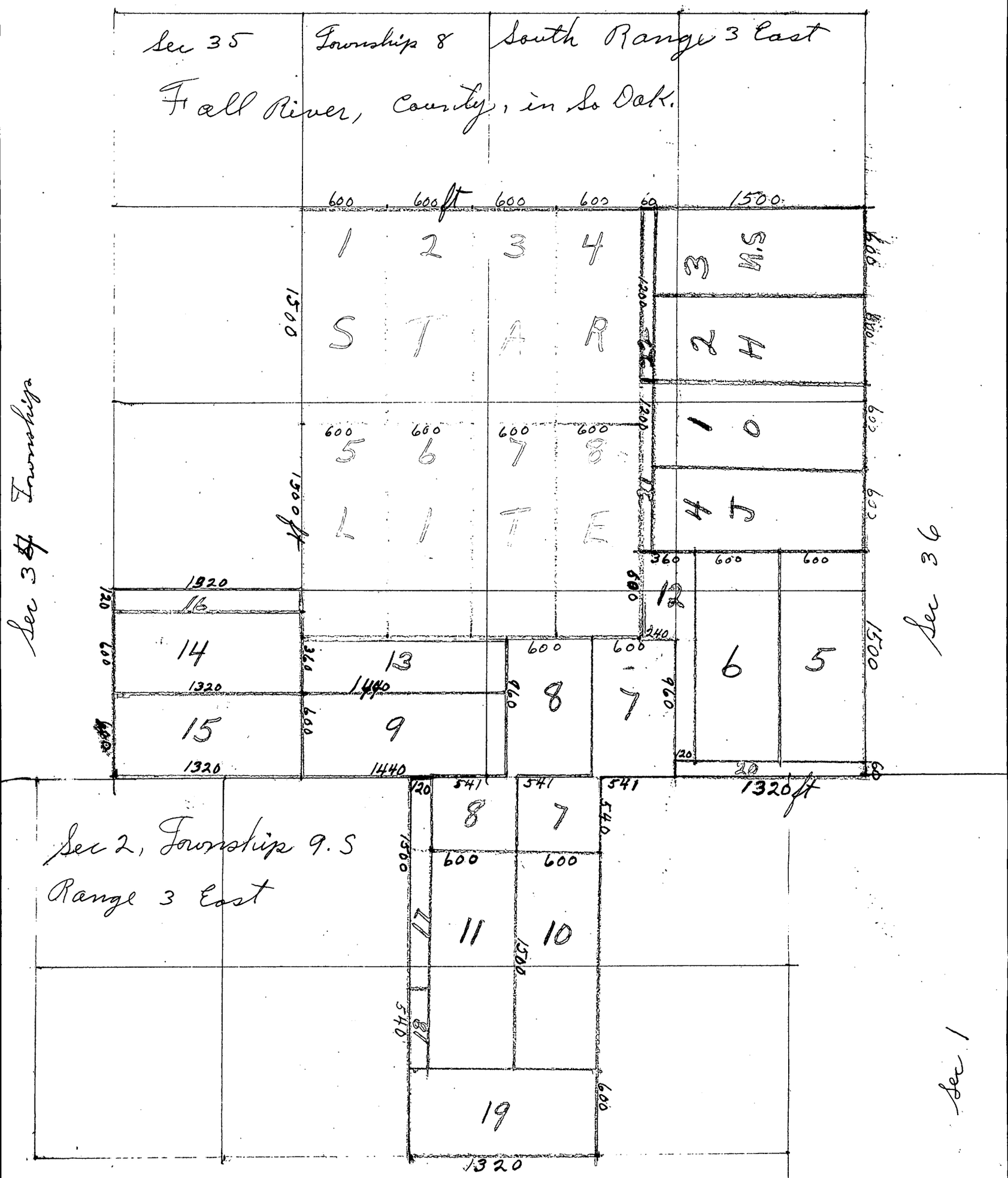
Range 3 East

Sec 1

Ore bodies

Out Croppings

Exhibit "A"


Sec 35
Township 8
South Range 3 East
Fall River, County, in So Dak.
STARLITE
Sec 34 Township
Sec 36
Sec 2, Township 9 S
Range 3 East
Sec 1

INDEPENDENT BINDERY CO. RAPID CITY, S. D. 17032

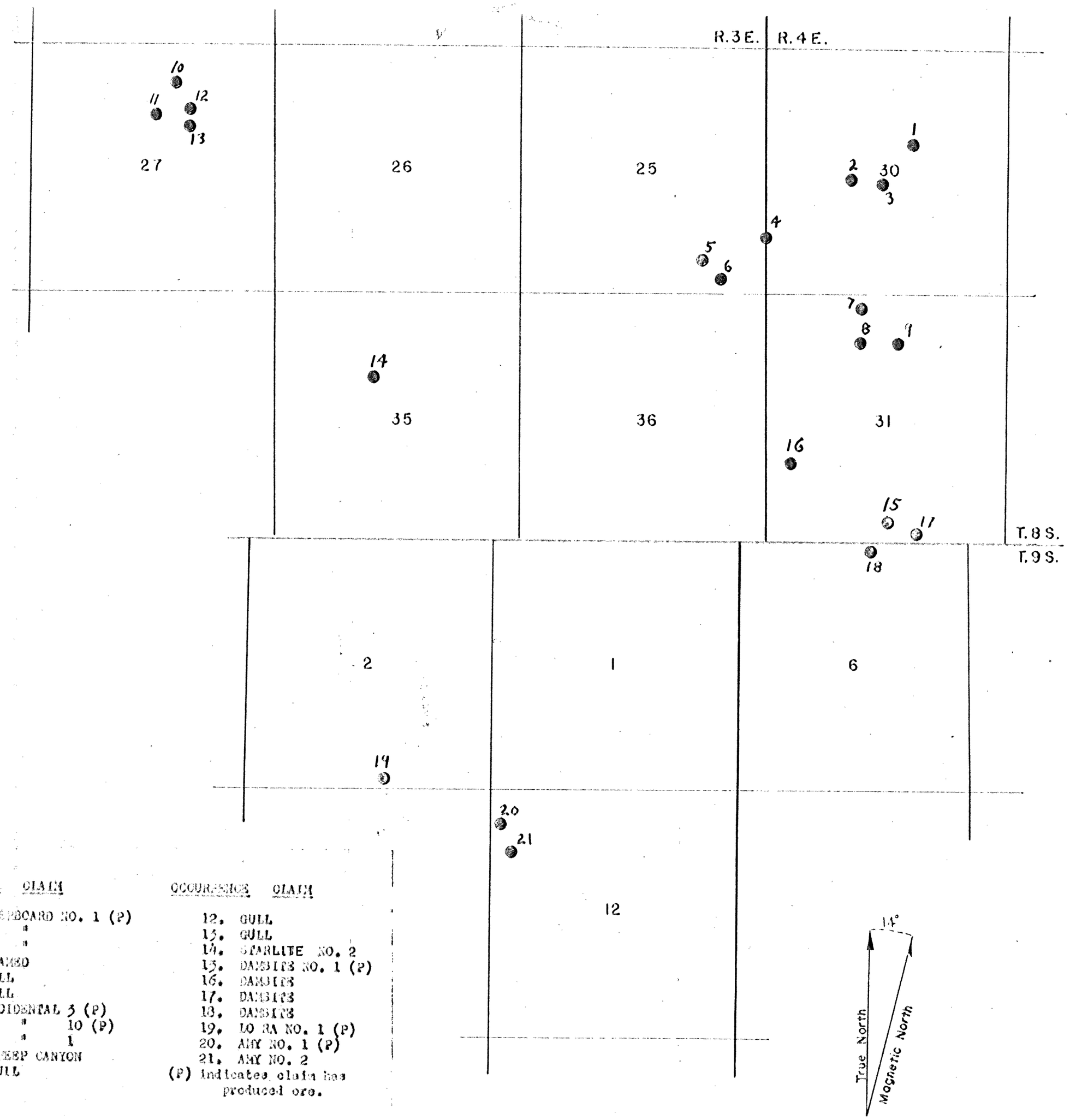
_____ COUNTY, SOUTH DAKOTA

TOWNSHIP No. _____ RANGE No. _____

(With surrounding tier of sections of adjacent townships)

36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6
12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

JOHNSON MINES
Section 35, Township 8S, Range 3E,
Bell River County, South Dakota
Scale - 100 Ft. to 1/8 inch.
Section 2, Township 9S, Range 3E
Johnson No. 1
Johnson No. 2
Johnson No. 3
Johnson No. 4
Johnson No. 5
Johnson No. 6
Johnson No. 7
Johnson No. 8
Johnson No. 9
Johnson No. 10
Johnson No. 11
Johnson No. 12
Johnson No. 13
Johnson No. 14
Johnson No. 15
Johnson No. 19
Starlite No. 1
Starlite No. 2
Starlite No. 3
Starlite No. 4
Starlite No. 5
Starlite No. 6
Starlite No. 7
Starlite No. 8
1500'
600'
1320'
1440'
360'
960'
720'
540'
180'
60'
17
16
21
22
34
Common stone sec. 1
Common stone sec. 36
½-sec stone



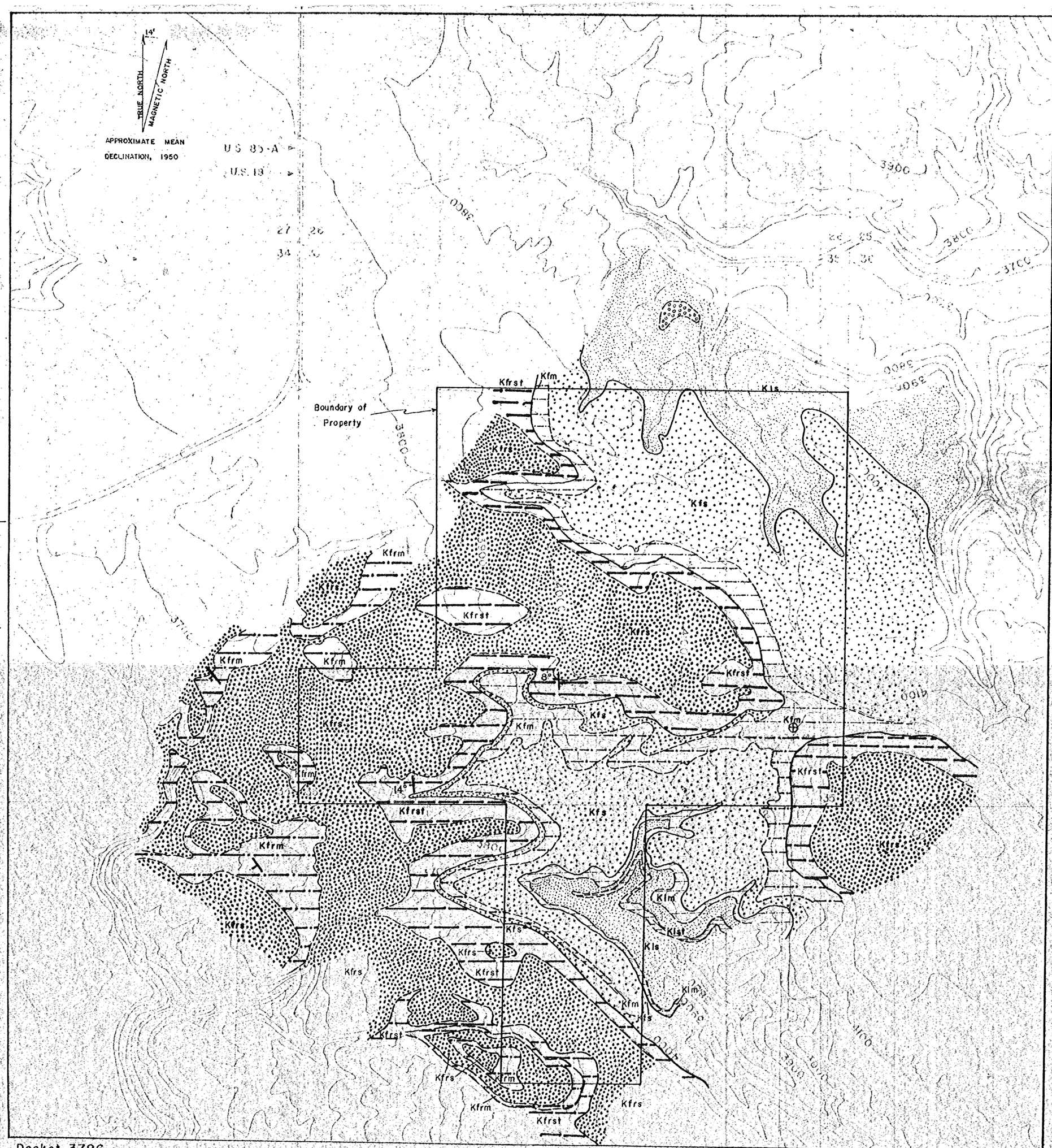
OCCURRENCE	CLAIM	OCCURRENCE	CLAIM
1.	WASHBOARD NO. 1 (P)	12.	GULL
2.	"	13.	GULL
3.	"	14.	STARLITE NO. 2
4.	UNNAMED	15.	DAMSITE NO. 1 (P)
5.	GULL	16.	DAMSITE
6.	GULL	17.	DAMSITE
7.	ACCIDENTAL 3 (P)	18.	DAMSITE
8.	" 10 (P)	19.	LO RA NO. 1 (P)
9.	" 1	20.	AMY NO. 1 (P)
10.	SHEEP CANYON	21.	AMY NO. 2
11.	GULL		

(P) Indicates claim has produced ore.

INDEX MAP OF URANIUM OCCURRENCES NEAR THE ~~STAR LIGHT~~ STARLITE CLAIMS

Docket 3796

Figure 1



MAP SHOWING THE GEOLOGY OF THE ~~STAR LIGHT~~ STARLITE AND JOHNSON CLAIMS

FALL RIVER COUNTY, S. DAK.

Scale 1:7200

Contour Interval Fifty Feet

EXPLANATION

FALL RIVER SS.

- Kfrs Sandstone
- Kfrm Mudstone
- Kfrst Siltstone

FUSON FM.

- Kfs Sandstone
- Kfm Mudstone

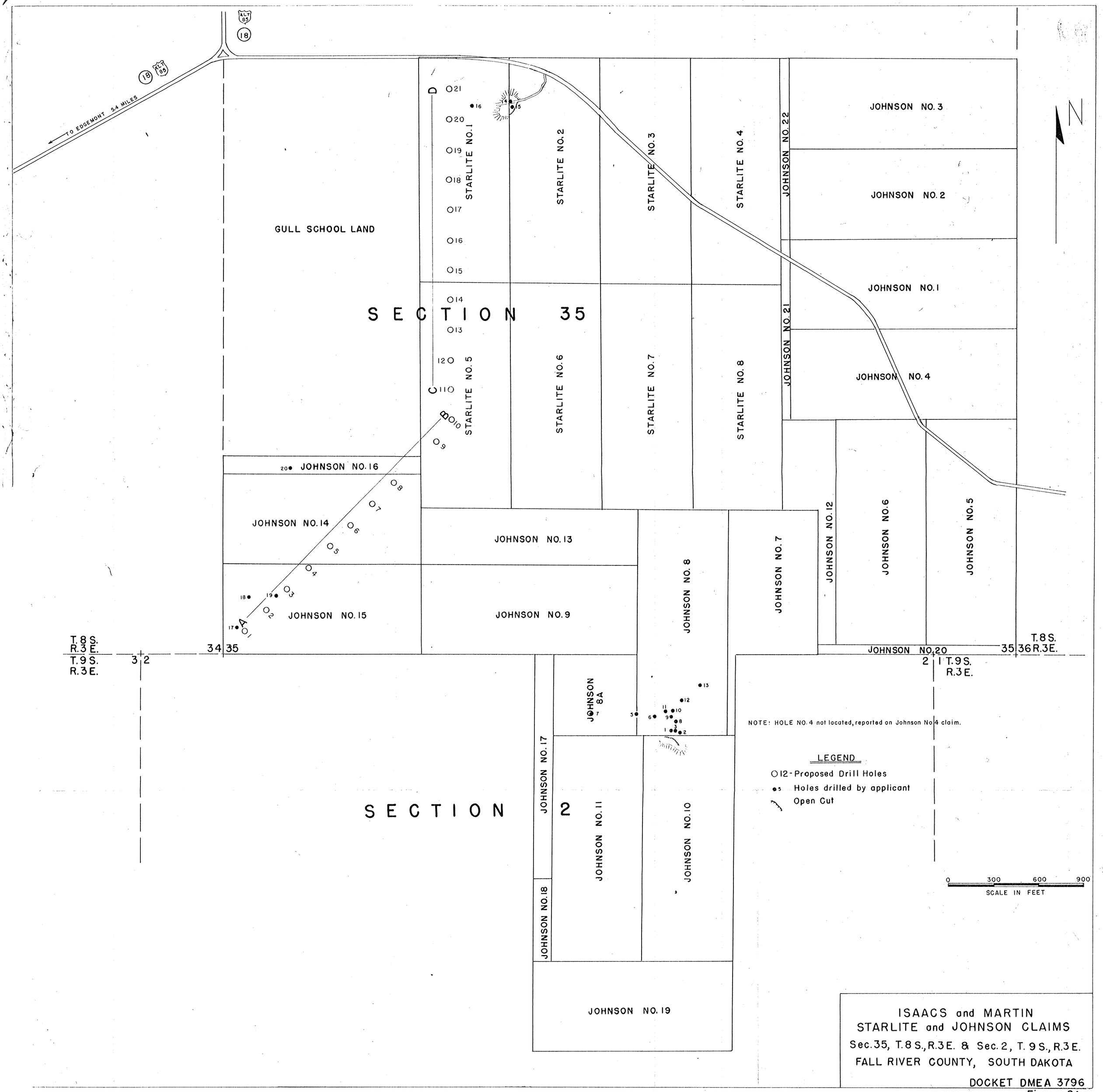
LAKOTA SS.

- Kls Sandstone
- Klm Mudstone
- Klst Siltstone

CONTACTS

- Formational
- Lithological

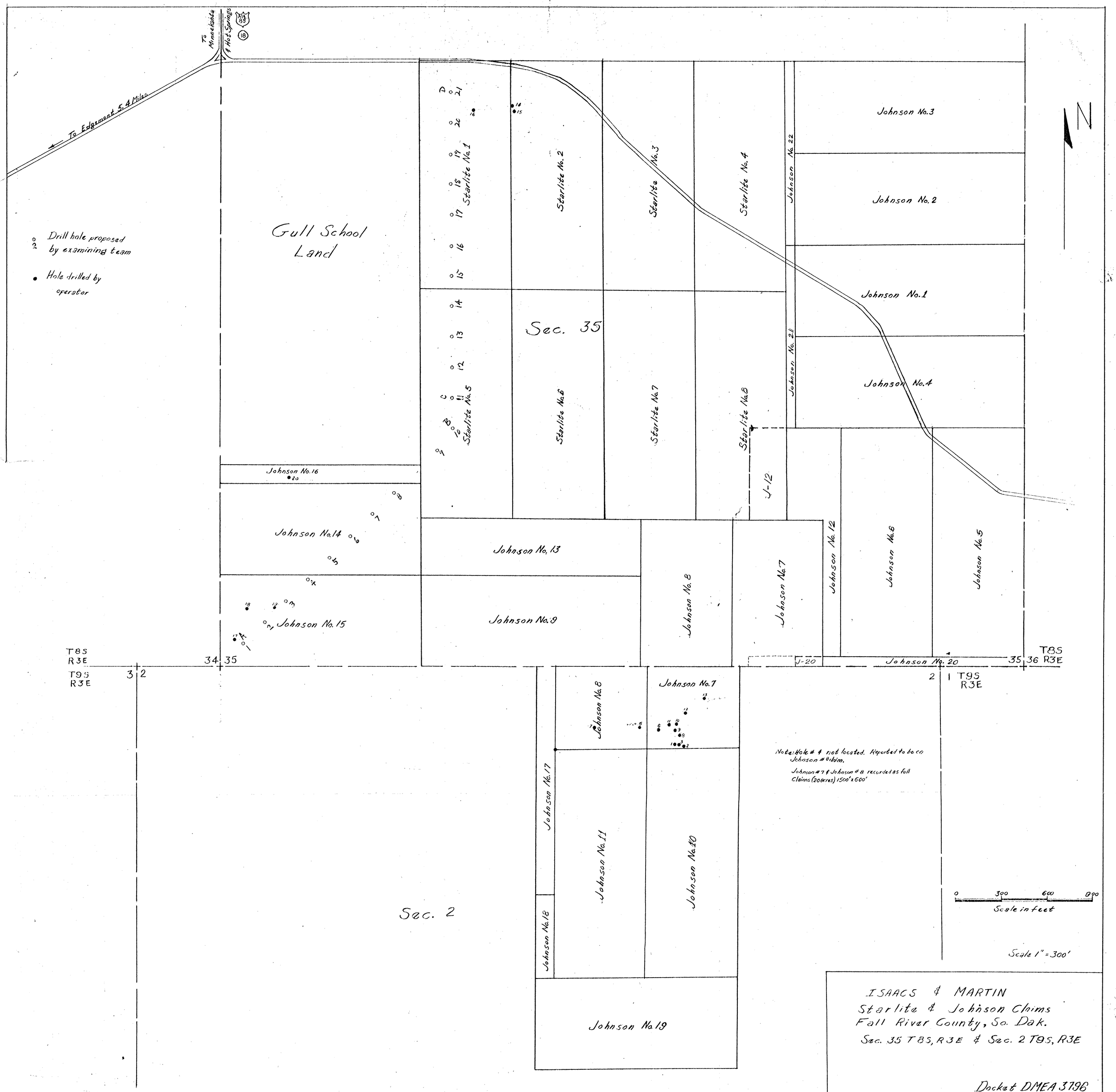
Figure 3



ISAACS and MARTIN
STARLITE and JOHNSON CLAIMS
Sec. 35, T. 8 S., R. 3 E. & Sec. 2, T. 9 S., R. 3 E.
FALL RIVER COUNTY, SOUTH DAKOTA

DOCKET DMEA 3796

Figure 2A


To Minnekahta & Hot Springs
To Edgemont 5.4 Miles
Drill hole proposed by examining team
Hole drilled by operator
Gull School Land
Starlite No. 1
Starlite No. 2
Starlite No. 3
Starlite No. 4
Starlite No. 5
Starlite No. 6
Starlite No. 7
Starlite No. 8
Sec. 35
Johnson No. 22
Johnson No. 21
Johnson No. 3
Johnson No. 2
Johnson No. 1
Johnson No. 4
J-12
Johnson No. 16
Johnson No. 14
Johnson No. 15
Johnson No. 13
Johnson No. 9
Johnson No. 8
Johnson No. 7
Johnson No. 12
Johnson No. 6
Johnson No. 5
J-20
Johnson No. 20
T8S R3E
T9S R3E
34 35
3 2
35 36 R3E
2 1 T9S R3E
Johnson No. 8
Johnson No. 7
Johnson No. 17
Johnson No. 11
Johnson No. 10
Johnson No. 18
Johnson No. 19
Sec. 2
Note: Hole # 4 not located. Reported to be on Johnson # 8 claim.
Johnson # 7 & Johnson # 8 recorded as full Claims (20 acres) 1500' x 600'
0 300 600 900
Scale in feet
Scale 1" = 300'
ISAACS & MARTIN
Starlite & Johnson Claims
Fall River County, So. Dak.
Sec. 35 T8S, R3E & Sec. 2 T9S, R3E
Docket DMEA 3796
FIGURE 2