DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 3423

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.

This document has been recorded as

Exploration Assistance

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.

Cys to USBM, USGS, & Reg.

Routing Slip

To:	600	Date	7/26/54
To:	Oper Com	Date	8-16-54
To:	Oper Com	Date	1-18-55
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	

DO NOT DETACH

CONTROLLED DOCUMENT

Docket Copy
Surname:
Houk
Selfridge
Munson

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

600

FEB 9 1955

Mr. A. B. J. Hammett
509 Victoria National Bank
Building
Victoria, Texas

Re: Docket No. DMEA-3423 - Diamonds
Hammett Diamond Mine
(Kimberlite Mine)
A. B. J. Hammett
Pike County, Arkansas

Dear Mr. Hammett:

Reference is made to your letter of January 25, 1955, on the subject application.

Your comments on the Defense Minerals Exploration Administration program have been carefully noted. This office did not interpret your letter of November 30, 1954, to Mr. Clinton C. Knox as a request for withdrawal of your application, therefore, we continued to process it to completion. Under the rules and regulations on which Government exploration assistance is granted, your program failed to qualify because the geologic probability of making a significant discovery was not considered sufficiently favorable to justify Government participation and not because of insufficient reserves as you have indicated.

The denial of your application for exploration assistance should not be considered as a condemnation of your property any more than an approval of a Defense Minerals Exploration Administration contract could be interpreted as a Government endorsement of your property.

To our knowledge no Defense Minerals Exploration Administration field team report has been released to any property owner and no exception to this rule has been made by the Washington office. These reports are made for the confidential use of the Government and are not for public distribution.

We regret that any misunderstanding has arisen in connection with your application.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

LGHouk:gad 2/7/55
Copy to: Admr. R. File
Docket
Field Team, Region IV
Mr. Chandler, 3518
Mr. Kiilsgaard, 5222
Mr. Houk

A. B. J. HAMMETT
509 VICTORIA NAT'L BANK BLDG.
TELEPHONE 322x Hi 5-1662
VICTORIA, TEXAS

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB - 1 1955

January 25, 1955

The U. S. Department of the Interior
Defense Minerals Exploration Administration
Washington, D. C.

Attention: Mr. Mittendorf
Administrator

Re: Docket DMEA 3423 - Diamonds
Hammett Diamond Mine, (Kimberlite Diamond Mine), A. B. J. Hammett
Pike County, Arkansas

Dear Mr. Mittendorf:

I have just received your letter of January 19 which is a rather disappointing letter in several respects. First of all, in my letter of November 30 to Mr. Clinton Knox, I made it crystal clear that I was not interested as of that date in any DMEA, Government participation in my project from the standpoint of Exploritory work, and that, in itself automatically cancelled my earlier application to the Department.

In view of my letter of November 30 and its contents, the second and third paragraphs of your letter of January 19, which, in a sense is a recorded sabotage and condemnation of this property; was entirely unwarranted, uncalled for and unjustified.

Mr. Knox was advised of my desire to not participate in any manner at all wherein your program was concerned because of the extreme amount of red tape and cost to a legitimate mining man in Administrative expenses in order to procure some assistence on additional exploration work. It was further stated and made clear that I had intended to work from our original core drilling and our information which we have on this prpperty and is known to us as far as these deposits are concerned and that what I had decided, was an operation of production at this time rather than experimental work such as your Exploritory work covers.

This seems to be sort of a usual pattern that has been followed many times in offices in Washington, D. C. A record is made condemning a good piece of property upon which a Government employ or his staff have never made an examination, that would justify their statements.

The only time that the Government has ever been asked to step onto this property by me was at the time Mr. Knox visited it with me in the Fall of 1954 and as I recall his personal attitude, statements, and opinion of this property at the time he visited it certainly was a complete reverse to anything that you have indicated to me in your letter and at that time it was Mr. Knox's intention to proceed with formal papers for further Mineral Exploration on another part of this property if I

so desired. And here again, I wish to point out that in my letter of November 30, I definitely rejected any Exploritory assistence that had been applied for and that, in itself, made it entirely unnecessary for your office to put into your file a letter and an article denying this assistence and for the reasons you state.

With regards to your last paragraph, it is true that the report made by Mr. Knox upon this personal piece of property was confidential and for the use of the Government. However, I know where such reports have been made by the Government in this same area and have been released to the property owners and I therefore cannot understand why you would choose to make an exception in my case. I would further ask your good office by just what method you arrive at whether there are sufficient reserves or not in a piece of property when you have never drilled one hole in it which is the purpose of the DMEA's function.

So far I have not been able to contact anyone occupying a desk in Washington, D.C. or an Engineer, private or Government who have X-ray eyes and have been able to determine the extent of deposits such as the function of your Administration is to determine through actual work and physical operations. I have spent a great deal of my time in Washington, D. C. and am fairly well acquainted with representatives who, I am sure, will agree whole heartedly with me on this matter. I might add that your letter of January 19 in reply to mine of November 30 required no answer from you whatsoever other than an acknowledgement that I had withdrawn my application and was a direct contradiction to the information given me in your office in Washington, D.C. which was the basis upon which I spent the time and money to prepare the material which your office required with the original application.

I will be very much interested in finding out, which I intend to make it part of my business to do, just why such confliction in as important a type of Exploritory work as this should be thought of in the manner disclosed by your letter of January 19.

Yours very truly,

A. B. J. Hammett

A. B. J. Hammett

ABJH:pk

Docket Copy
Surname:
Houk
Chandler
Newcomb
Hedges
Selfridge
Johnson

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

600

JAN 19 1955

Mr. A. B. J. Hammett
509 Victoria National Bank
Building
Victoria, Texas

Re: Docket No. DMEA-3423 - Diamonds
Hammett Diamond Mine
(Kimberlite Mine)
A. B. J. Hammett
Pike County, Arkansas

Dear Mr. Hammett:

Reference is made to your application for exploration assistance at the subject property and your letter of November 30, 1954, to Mr. Clinton C. Knox, Executive Officer of Region VI.

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

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

The results of the field team examination are confidential for the use of the Government only and are not released to property owners. 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

LGHouk:gad 1/12/55
Copy to: Admr. R. File
Docket File
Operating Committee
Field Team, Region ~~VI~~ IV
Mr. Kiilsgaard, 5222
Mr. Chandler, 3518
Mr. Houk

R.L.S.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

January 12, 1955

Memorandum

To: Administrator

From: Nonmetallic Minerals Division

Subject: A denial of exploration assistance and summary report.

By: Lawrence G. Houk

1. Docket No. DMEA-3423 - Diamonds
Property: Hammett Diamond Mine (Kimberlite Mine)
Pike County, Arkansas

Applicant: A. B. J. Hammett
509 Victoria National Bank Building
Victoria, Texas

Application - Form MF-103 received July 23, 1954.
Work proposed: Rebuild some of the roads to clear away existing undergrowth. To erect small area of chain link fence. Some rough buildings erected. Pumps, pipe, motors, washing equipment, tools, will be provided as well as rehabilitation of old buildings. Core drilling and reopening of old pits.

Amount requested $20,000.00
No contract: Application denied.

2. Comments:

The application does not present a clear program for exploration of the property. The applicant did not understand the nature of the exploration assistance program and after discussions with Mr. Clinton C. Knox of the Field Team states he is disappointed and slightly confused by the program. He, no doubt, expected being set up in business by the Government. Mr. Hammett indicates in his letter of November 30, 1954, that he may start a washing and mining operation. The Field Team Report recommends denial. (1) Insufficient data were obtainable to support a contract. (2) Field Team's examination failed to reveal geologic possibilities of a worthwhile discovery. (3) Applicant did not make a definite proposal or indicate any suggested more definite practicable plan that would be acceptable. (4) Applicant stated that he would not allow samples to be removed from the property for testing.

Recommendations:

The Nonmetallic Minerals Division concurs in the field team's recommendation to deny the application. The Geological Survey and the Bureau of Mines are in agreement.

IN REPLY REFER TO:

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

Defense Minerals Administration
RECEIVED
JAN 14 1955

January 13, 1955

Re: DMEA-3423
Hammett Mine
Pike Co., Ark.
Diamond

Memorandum

To: L. G. Houk, Defense Minerals Exploration Administration

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

Subject: Review of Field Team examination report

The Field Team's recommendation for denial is well justified on basis of facts presented in their report.

The present application should be denied and no further consideration made of this property until more favorable evidence is presented in a new and more complete application.

E. L. Newcomb
E. L. Newcomb

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 4 1955

P. O. Box #431
Joplin, Missouri

December 30, 1954

Airmail

The DMEA Operating Committee
Department of the Interior
Washington 25, D. C.

Re: Docket DMEA-3423 (diamonds)
Hammett (Kimberlite) Mine
Pike County, Arkansas

Dear Sirs:

With reference to your August 16 letter concerning the cited docket, transmitted herewith are the original and three copies of my report of a field examination with a denial to the applicant recommended.

Sincerely yours,

Clinton C. Knox

Clinton C. Knox
Executive Officer
DMEA Field Team, Region VI

CCK/vks

Encl. (4)

cc: DMEA Op. Com (3)
Mr. Laurence
3423 file

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
P. O. BOX 431
JOPLIN, MISSOURI

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 31 1954

December 31, 1954

REPORT OF FIELD EXAMINATION

Hammett (Kimberlite) Diamond Mine
Pike County, Arkansas

By Clinton C. Knox
Mining Engineer
Application Docket DMEA-3423 (diamonds)
A.B.J. Hammett
509 Victoria National Bank Building
Victoria, Tex.

Introduction, Summary, and Conclusions

In response to the August 16 referral from the DMEA Operating Committee, the subject application was reviewed and deemed unworthy of further consideration. Later, however, a field assignment in southeastern Oklahoma, afforded an opportunity for this writer to arrange returning via Murfreesboro, Arkansas, where the day of October 25 was devoted to discussing the subject application, and examining the property with the applicant. Obviously he had become quite unfamiliar with the area so employed a local jeep-driver to take us to the property which finally was found after much driving and searching along the dim muddy forest trails.

No records, written statements, or credible recollections were made available concerning the actual data on the prospecting and exploratory drilling reportedly done there years ago, or concerning the value and physical volume of the diamonds believed to have been produced during the obviously small amount of mining that was done there.

The total surface area of intrusive periodotite (hard-bank"), periodotite breccia ("yellow or blue ground"), and volcanic breccia-tuff included in this so-called Kimberlite plug,

could not be determined by this examination, but evidently might include all the 92 acres described in the application. This writer was convinced, however, that some of the 50,000 diamonds reportedly produced in Arkansas during the past 50 years probably came from the few shallow Kimberlite (Bird-Kean) diggings in the predominant weathered "yellow ground" exposures in a 10-acre area centered around the old house indicated on the applicant's sketch map. The weathered "yellow ground" deposits apparently are the only rock type in these Arkansas periodotite plugs on which hopes for a successful commercial mining operation can be held. On the basis of the comparable yardages that have been excavated and treated, this Kimberlite "yellow ground" deposit reasonably might be assumed to have been as productive as that at the more extensively operated mines of the Prairie Creek diamond area.

Any amount of project work that possibly could be justified on the subject property in the forseeable future, could not complete even preliminary exploration of the above-mentioned most favorable-appearing 10 acres. This applicant does not appear to have the necessary qualifications, however, to plan and carry out a comprehensive exploration program.

Undoubtedly diamonds have been found, and more can be found yet at the Kimberlite mine but a geologic probability that a discovery could be made there which would contribute materially to the defense program, could not be determined by this examination or from known geologic facts.

Recommendation

Denial of the application is recommended on the following grounds:

1. Insufficient data was obtainable in support of the application.

2. The field examination failed to reveal a definite geologic probability that a worthwhile discovery would result from any sort of an exploration project.

3. The applicant did not present any plan for the exploration proposal or indicate that any suggested more definite practicable plan would be acceptable to him.

4. The applicant stated that he would not permit any samples to be removed from the property or any diamond recovery testing or sample analyses to be made elsewhere than on the property, under his direct supervision.

Property, Location, and Accessibility

The 80-acre diamond mining property which the applicant stated is now the total extent of his ownership and control in the area, includes all of the S/2 of NW/$\frac{1}{4}$ of section 14, T. 8 S., R. 25 W., Pike County, Ark. It is about 3 miles airline, due east of the village of Murfreesboro.

Since the more direct access roads to the property apparently have been abandoned, the examination trip had to be made by traveling the recently improved road southeasterly from Murfreesboro 5 miles through the Prairie Creek diamond area along the Little Missouri River, and then after turning off northerly on a narrow logging road for about 3 miles, a dim forest trail was found which led about 1/2 mile west to the old house on the applicant's property.

Except for the remains of the old house, a well, and some indications of the few test pits and shallow trenches (as indicated on the applicant's sketch map), little evidence was found in the heavy undergrowth of any prospecting or mining ever having been done in that hilly, heavily wooded tract which like all the surrounding area, so quickly reverts to the original virtual jungle.

The Applicant

The applicant appeared to have financial means and is said to be successful in his various fields of business, but made no claims to have ever conducted a mining exploration or commercial mining operation.

This writer was convinced, however, that the applicant had had some sort of interest in this Kimberlite (Bird-Keen) property, and had been instrumental in conducting some of the preparatory work, along with some desultry, small-scale, excavating and sluicing that reportedly was done there in 1942. Also he pointed out some of the land lines that he had cleared in 1948.

The applicant stated that the Arkansas Geological Survey had offered to do all the necessary technical consulting work on the proposed exploration project and lend an auger drill for use thereon. He also stated that an experienced operator, whose name he was yet not at liberty to divulge, tentatively had been employed to be in charge of the proposed project work.

The Applicant's Proposal and Suggested Alternatives

The applicant presented no plan for the proposed exploration of the property and his vague requests in the application were mostly for items of a mining development and production nature. The small amount requested to be allocated for exploration purposes only, would have been inadequate for any comprehensive exploration program on any part of the property. He considered all those extraneous items, including clearing the land, fencing it, building living and project office quarters, the washing and recovery plant, etc., were necessary and allowable, since he intended to safeguard, treat, and obtain the results of the samples entirely on the property. Since adequate information could not be obtained for evaluating the proposal, the examination was deemed advisable.

Although this writer is not qualified to set up an exploration program and analytical sample testing methods for diamontiferous deposits, during the examination, he did urge the applicant to present a detailed exploration plan, and a tentative agreement with some reliable concern which could properly treat and analyze the samples to the mutual satisfaction of the applicant and the Government. The applicant stated that permission would not be given for removal of any samples from the property.

This writer also questioned that the 6-inch open-auger-type power-drill which the applicant stated he had arranged to borrow from the Arkansas Geological Survey, would satisfactorily explore the deposit. The hard fragments of unweathered periodotite breccia found discarded at the previously worked trenches indicates that the predominant sticky, clay-like, weathered "yellow ground" surface mantle might not extend very deep in most places, and probably not exceed 40 feet in depth anywhere. Since the slight topographic depression believed to mark this so-called Kimberlite plug, lies at the head of an easterly branching ravine from Prairie Creek (see Caddo Gap topog sheet), erosion could be expected to have more nearly kept pace with weathering than at the Prairie Creek diamond mining area, 3 miles to the south and some 200 feet lower, in the valley of the Little Missouri River. That small auger drill could not be expected to penetrate the unaltered periodotite, and probably would not recover sufficient sample of such weathered material as could be drilled, to be representative of the tenor of the shallow part of the deposit, even in the previously mentioned most favorable appearing 10 acres lying in the slight topographic depression.

This writer suggested the obtaining of a large preliminary bulk sample by cutting a trench with a bulldozer, shovel loader, or back-hoe shovel, through the slight ridge on the west side of the old

house. Then, if justifiable, additional sufficiently large samples of the weathered "yellow ground" probably best could be obtained by using a large bucket drill (see Bureau of Mines' R. I. 4549). Finally a deep test might be justified in which large-bore cable-tools likely could be used to obtain sufficient sample for determining the economic feasibility of recovering diamonds from the unweathered periodotite breccia at depth. If all that exploratory work indicated the possibility for a commercial operation, then the size and depth of the deposit to be explored would appear virtually unlimited.

The applicant agreed to give consideration to these suggestions and to the eventual presentation of some such definite project proposal, to be supplemented by a map showing plans, and a realistic cost estimate.

Judging from his November 30 letter to this writer, however, the applicant has abandoned all plans for a DMEA exploration project.

Clinton C. Knox

Clinton C. Knox
Mining Engineer

CCK/vks

cc: DMEA Op. Com (3)
Mr. Laurence
Mr. Knox
3423 file

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

P. O. Box #431
Joplin, Missouri

December 23, 1954

Mr. A. B. J. Hammett
509 Victoria Nat'l. Bk. Bldg.
Victoria, Texas

Re: Docket DMEA-3423 (diamonds)
Hammett (Kimberlite) Mine
Pike County, Ark.

Dear Mr. Hammett:

This is to acknowledge your letter of November 30. I regret this delay due to other pressing assignments which also have prevented completion of my report to be submitted to Washington, covering my examination of your property with you on October 25. Admittedly, my delay on completing that report, prior to receiving your letter, was with expectations that you might present necessary details for an exploration project proposal on about 10-acres of the most favorable-appearing part of your property, as we discussed there. I gathered from your letter, however, that instead you are contemplating withdrawal of your application.

I assure you that since becoming acquainted with you and your property, so that I now understand more clearly the particular problems confronting you, I am in sympathy with your viewpoint as a potential producer of strategic industrial diamonds. I deeply regret your expressed disappointment in the extent of assistance which I outlined as might be approved to meet some of those problems under the limitations of the Defense Minerals Exploration Program.

I plan to complete and submit my report to Washington next week, but since work by the Bureau of Mines and Geological Survey members of the Field Team on such examinations and reports authorized on applicant's properties, is done in a consulting capacity for the Government, at the request of DMEA, we are not at liberty, as you requested, to release copies of reports to any individual. I am sending a copy of this and your letter to the DMEA office in Washington tonight, in case that it should feel free to send you a copy of my report.

Incidently, referring to our conversation about Government mining loans, I noticed in the December issue of the

Engineering and Mining Journal, just received, that the Small Business Administration has recently approved some loans to mining concerns, which as I previously told you I believed had never been done before. Likewise, as I previously stated, I understand that any Government agency would be given access to reports or other information in the DMEA files.

I enjoyed visiting you and your property and hereby want to express my appreciation for your time and effort, and that of the guide with a jeep that you engaged, who was able to take us to the old Kimberlite diggings (after some wandering over the various dim jungle trails).

With the Season's Greetings, I remain

Very sincerely yours,

Clinton C. Knox
Executive Officer
DMEA Field Team, Region VI

CCK/vks

cc: DMEA Op. Com (w/c)
Mr. Laurence, U.S.G.S. Knoxville (w/c)
3423 file

C
O
P
Y

A. B. J. Hammett
509 Victoria Nat'l Bank Bldg
Victoria, Tex.

November 30, 1954

Mr. Clinton C. Knox
U.S. Dept. of the Interior
P. O. Box 431
Joplin, Missouri

Subject: Docket DMEA-3423 (diamonds)
Hammett-Kimberlite Mine
Pike County, Arkansas

Dear Mr. Knox:

I have intended to write you several times since our visit on the subject property last month, but have been extremely busy and am just now getting around to it.

I enjoyed meeting you and appreciated your time spent with me in looking over the property. I presume you have already sent in your report with respect to your visit, and since this report was on a private piece of property entirely owned by myself, I presume you do not have any objections to sending me a copy of your report or asking the Department in Washington to forward a copy to me.

After our visit, I can frankly tell you that I was certainly disappointed as well as slightly confused with the type of so-called assistance that is offered under the program, and I have a feeling of dread when it comes to thinking about being involved with such a deal as you outlined. I also was considerably amused as well as somewhat disgusted with the information I have recently received from the Bureau of Federal Supply. Here we are with officials in Washington going on record to tell a person how important it is to this Administration to have a stockpile of stragetic materials, especially Industrial diamonds and describe all of the elements pertaining to our risk and future security where such a product is involved and then to learn that the Bureau of Federal Supply has been stripped of all of its authority and buying power and that the divisions which have been set up for mining and the handling of mining matters and materials which we tax payers have spent millions of dollars to create, cannot function now because - all of this important matter has been turned over to the Agricultural Department, of all people, and they are now engaged in a process of trading surplus butter and eggs and other types of surplus material they have for Industrial diamonds. Now, of course, there is only a slight fly in the ointment and that is, I am advised I will have to be a foreigner or go to Europe and thereby make a deal for some surplus butter or something else and in turn black market it for twentyfive times the amount that the Government would normally pay for Industrial Diamonds for stockpiling purposes, etc.--

If an American Citizen, taxpayer, mine owner, has any chance of survival against such a practice as this, I am at a loss to know what it would be, and combined with the proposition you outlined, I would say that whoever is doing the planning in Washington on these matters and whoever is listening to such planning is really getting the treatment.

I think possibly I will reopen my property on a small scale and start a washing and mining operation independent of the hazards and obstacles that my own country seems to feel would stop me rather than encourage me to continue with such a development.

With my very best regards to you and thanking you to send me a copy of your report, I am

Very sincerely yours,

ABJH/pk

/s/ A. B. J. Hammett

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 22 1954

October 20, 1954

AIR MAIL

Messrs. Ralph L. Erickson and Laurence V. Blade
Geologists, U. S. Geological Survey
c/o C. E. Wilson, Wilson's Spring
Hot Springs, Arkansas

Re: Docket DMEA-3423 (diamonds)
Hammett (Kimberlite) mine
Pike County, Ark.

Dear Sirs:

With reference to Mr. Erickson's telephone call to me on September 23, Mr. A. B. C. Hammett of Victoria, Texas, has agreed to meet me for a discussionof the application at the office of his attorney, Mr. Lindle Hile, in Murfreesboro on next Monday morning, October 25. Presumably the applicant'S property will be visited or examined, if found justifiable, also that day.

I intend to arrive in Murfreesboro Sunday night after expected completion of a manganese property examination at Bromide, Okla., on which Don MacLaren, Geologist from your Denver office is to be the Survey member of the Field Team. Therefore, since I am to be in that part of the Region, Monday appeared to be the most logical time to request Mr. Hammet t to meet me on the subject field referral. Based upon the information I have been able to dig up on the subject property, I certainly hesitate to say that a geological examination is warranted at this time or might ever reveal any thing of signifigance. I sincerely would welcome your collaboration that day, however, if at this late date, you could possibly arrange to come to Murfreesboro.

During the telephone call yesterday from Harshman and MacLaren of the USGS Denver Office, Pete Beroni also spoke briefly to me concerning another Field Team matter in Oklahoma, and I tenatively agreed to meet him at Murfreesboro or Hot Springs before returning to Joplin that Monday night or the next day, to review material for a ~~report~~ Field Team report that he is writing. Therefore, in case you decide that a geologic examination of the Hammett property is not warranted, I may have the opportunity of meeting you anyhow at Hot Springs.

Sincerely yours,

Clinton Knox
Executive Officer
DMEA Field Team, Reg. VI

cc:
DMEA Op. Com. (2), Wash.
Mr. Laurence, Knoxville
Mr. Koschmann, Denver
3423 file

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

P. O. Box #431
Joplin, Missouri

OCT 11 1954

October 8, 1954

Mr. A. B. J. Hammett
509 Victoria Nat'l. Bank Bldg.
Victoria, Texas

Re: Docket DMEA-3423 (diamonds)
Hammett(Kimberlite) Mine
Pike County, Ark.

Dear Mr. Hammett:

Referring to your September 14 letter, a trip has been scheduled for me to examine applicants' properties in southeastern Oklahoma on October 23 and 24, so I would be pleased to meet you in Murfreesboro, Arkansas, on Monday, October 25.

I would like to take that opportunity to discuss your application with you, and to visit the subject property if you could arrange to accompany me then.

Please let me know well beforehand how that proposed meeting would fit into your busy schedule.

Very sincerely yours,

Clinton C. Knox
Executive Officer
DMEA Field Team, Region VI

CCK/vks

cc: DMEA Op. Com (2)
Robert A. Laurence, Knoxville, Tenn.
Messrs. R. L. Erickson and L. V. Blade, DMEA Field Team
Region VI., c/o U. S. Geol. Survey-Gen.Del., Hot Springs, Ark.
3423 file

COPY: DMEA, Washington

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
[redacted]

P. O. Box #431
Joplin, Missouri

September 16, 1954

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region VII
Room 13, Postoffice
Knoxville 2, Tenn.

Re: Docket No. DMEA-3423 (Diamonds)
A. B. J. Hammett
Hammett (Kimberlite) Diamond Mine
Pike County, Arkansas

Dear Mr. Laurence:

This is another in reply to your letter of September 2 with regard to the above-cited field referral.

I find that this office received only one copy of the voluminous application which, however. presented insufficient information pertaining to the requested DMEA loan. I presumed that you had received copies of the subject application, reviews by the Commodity Group, and Washington correspondence. I now notice indicated thereon that copies evidently were made for Mr. Koschmann. I understood that his Denver Office of the Geological Survey was to serve on this Field Team's work only in Kansas, Oklahoma, and Texas. Therefore copies of all material in this docket file, except the application, are enclosed herewith for your information.

Supplementing my remarks in a September 3 letter to the applicant, the enclosed copy of which I believe you will find self-explanatory, I think the pertinent information given in the application can be summarized to your satisfaction in these few words:

On the proposed project to cost $20,000 at the old Kimberlite diamond mine property embracing 80 acres, the S/2 of NW/4 section 14, T. 8, R. 25, only an estimated $2,000 was for "some core drilling, bulldozing, and dragline work" to be let to an independent contractor. Aside from some part of $5,000 to be allowed for labor, supervision, and consultant's fees in connection with the actual exploratory work, the balance was requested for clearing all the dense underbrush from the peridotite outcrops, building a chain-link fence for plant protection, construction of living, engineering, and mill quarters, installation of a washing and diamond recovery plant, rental and/or purchase of equipment, and other things which cannot be construed as exploration work.

On the basis of an investigation of a much more comprehensive application a year ago (Docket DMEA-3087, diamonds - John Q. St. Clair), covering the neighboring, virtually identical deposit of the Arkansas diamond mines (Prairie Creek Diamond Area), it appears questionable that $20,000 would afford accomplishing a comprehensive exploratory core drilling program at the Kimberlite deposit.

I am anticipating a field referral possibly in a month, on a manganese application in southeastern Oklahoma. Then if this applicant for a diamond exploration has made some reasonable efforts to furnish the required supporting data, and you and I agree that a Field Team examination is justifiable, I will make the examination or assist one of your men there at that time. In my opinion, however, the above-mentioned St. Clair application which was denied for exploration in the Prairie Creek Area presented a much more favorable opportunity to investigate Arkansas diamond potentialities.

I realize that the potentiality of those peridotite pipes is primarily a geological problem and from the standpoint of the Survey it may be important to obtain some deep drill hole data there. I will be pleased to go along with any recommendations, suggestions, or opinions you wish to offer.

When a reply to my September 3 letter is received from the applicant, I will forward a copy to you immediately.

Sincerely yours,

Clinton C. Knox
Executive Officer
DMEA Field Team, Region VI

CCK/vks

Encl (6)

cc: DMEA (2)
3423 file

COPIES DMEA (2)
Mr. Laurence

C
O
P
Y

A. B. J. HAMMETT
509 Victoria Natl Bank Bldg.
Telephone 322
Victoria, Texas

September 14, 1954

Mr. Clinton C. Knox
Executive Officer DMEA
Field Team Region VI
P O Box 431
Joplin, Missouri

Subject: Docket DMEA 3423 "Diamonds"
Hammett Mine
Pike County, Arkansas

Dear Mr. Knox:

I have just returned from the West Coast and your letter of September 3rd was on my desk. I have several other trips planned throughout the next months, however, if you will advise me possibly a week or ten days in advance of your contemplated visit to the subject property, I will be very happy to arrange my schedule to meet with yours. As a partial reply to your question under Item 3 (a), the 80 acres of land is owned outright by me and is all of the acreage that I own. At one time I did have a claim on the adjoining 40 acres that have been known to contain some deposits of peridotite. The main thing that I am concerned with is the basic 80 acres that contains the bulk of the known deposit and is substantial enough for a long term operation.

4 (b) This portion of information was taken from United States Government material and also from a report made several years ago by a mining engineer (deceased) and former partners of the property. I do not know the yardages of the material and this information combined with other information such as the logs, etc., if in my possession would eliminate the necesssity of any exploratory work by the Department of the Interior. All of the records, logs, and engineering data were destroyed together with other effects in the fire referred to in my report.

3 (c) As mentioned in the preceding paragraph, if I were in possession of this information regarding drill holes, logs, and recoveries at various levels, I would not need this Government assistance at this time. The original engineering information contained in Government files, and in our engineers report, I believe showed that there had been a definite outcropping of this peridotite in a total of 92 acres.

5 (b) You are correct on the proposed work and that it will actually consist wherein exploratory, drilling, test-pitting, trenching, clearing, and road building to be of a minimum and will include the main work on the sites of the old workings.

5 (d) The State of Arkansas in their letter of July 6th, a copy included with my application, will furnish Geologic and Engineering basic assistance together with others with whom I have not as yet made definite committments.

6 (a) and (b) The $2,000.00 is only a partial estimated cost. Part of the balance of this work is to come out of money appropriated under Item 6 (b) and personal funds.

6 (a) (b) (c) (d) (e) and (f) are items which I intend to break down in proper form after I learn whether or not this Government assistance is available for this project and I also intended to do this work with your cooperation so that the breakdown would be satisfactory for the purpose intended.

Since this valuable property is now under one ownership and I am perfectly willing to make expenditures for the conduct of a good operation on this property together with the world-wide conditions that exist and especially the position the United States is in when it comes to a supply of Industrial Diamonds, I believe that this is a very opportune time to make an exploration project on this property and to back it up with a source of supply for this country in the event of another emergency which is probable and quite possible. With a source of supply of Industrial Diamonds right here in the United States, the value to our country could be tremendous and I believe you will agree it would be much better for the Government to be doing business here at home with its patriotic people rather than to be depended upon our enemies and those who have favorable leanings toward our enemies as is the case with our present foreign producers of Industrial Diamonds and that source of supply and operation could be cut off very suddenly.

Yours very truly,

ABJH;pk

/s/ A. B. J. Hammett

COPY: DMEA OPERATING COMMITTEE

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

P. O. Box #431
Joplin, Missouri

September 3, 1954

Airmail

Mr. A. B. J. Hammett
509 Victoria National Bank Bldg.
Victoria, Texas

Re: Docket DMEA-3423 (diamonds)
Hammett Mine
Pike County, Ark.

Dear Mr. Hammett:

Your application for a DMEA project contract was referred to me for field appraisal. Other urgent assignments, however, will prevent me from making the trip to examine your property during the week of September 6, as suggested in your August 23 letter to Washington. I will advise you as soon as possible when I can schedule meeting you at the property.

In the meantime, to be better prepared for that examination, I would appreciate receiving all the additional pertinent data you might be able to obtain, or any useful information you can recall, especially with respect to the following questions which have occurred to me while reviewing your application:

Please refer to your copy of the application

under item 3 (a), is the 80-acre tract that you described all the land you possess or control that may be benefitted by the proposed exploration? The sketches you submitted indicate that you also own the adjoining NW¼ of SW¼ of that section14, and that the deposit also extends into that as well as the tract designated as property of the American Diamond Co.

4 (b) that portion of past Arkansas diamond production which reasonably can be attributed to your property, is not clear to me. The yardages of the material was not stated from which you mentioned recovering 1/10 to 37/100 carats per yard during pilot plant operations from 1932 until the fire.

4 (c) Is there any possibility that you can obtain copies of the logs of the holes drilled there, and the recoveries indicated at the various level intervals, especially of the 900-foot hole you mentioned? Do I understand correctly that that peridotite outcrop is 92 acres in area?

5 (b) Of all the project work you proposed, I expect that only the actual exploratory drilling, test-pitting, and/or trenching with the very minimum of clearing and road building to those sites, and comprehensive engineering and geologic interpretations, could be construed as exploration under existing DMEA regulations. Please send me a sketch map and cross sections to indicate your tentative locations of the proposed project work as related to present mine workings and geologic features.

5 (d) Among the recommendations required in my reports concluding examination of applicant's properties, is that concerning the experience and background of the person (or persons) charged with the supervisory, geologic, and engineering aspects of the proposed project, particularly with respect to the engineering and geologic consultants you have in mind and the fees, they may charge as you provided for under 6 (b). Likewise, particularly in the exploration for diamonds, please mention the person or firm who will make the recovery analyses, and describe the method you expect to be used.

6(a) Comprehensive exploration of the potential deposit you described to cost only an estimated $2,000 for the proposed core drilling, bulldozing, and dragline work, seems questionable. I suggest that you submit a careful estimate of the costs, broken down for detailed preparation of the proposed project contract so that it can be drafted acceptable to you if approved in Washington.

6(b) Likewise, please include an itemized schedule of numbers, classes and rates of wages, salaries or fees for the necessary labor, supervision, and engineering and geologic consultants.

6(c) An itemized list as required.

6(d) An itemized list of the three categories required: (1) to be rented; (2) to be purchased; (3) owned by you.

6(e) Please furnish a detailed list showing the costs, etc.

6(f) Please furnish a detailed list showing the costs of the buildings which would be needed for exploration work only.

6(g) A detailed list is required showing the cost of repairs, maintenance, analytical work, accounting, worken's compensation, insurance, payroll taxes, etc.

Please do not hesitate to contact me for any assistance or suggestions that I might be able to give in preparing the foregoing supplementary information which I believe would be to your advantage to submit at this time.

Very sincerely yours,

Clinton C. Knox
Executive Officer
DMEA Field Team, Region VI

CCK/vks

cc: DMEA (2)
3423 file

A. B. J. HAMMETT
509 VICTORIA NAT'L BANK BLDG.
TELEPHONE 322
VICTORIA, TEXAS

August 23, 1954

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

Re: Docket No. DMEA-3423 - Diamonds
Hammett Diamond Mine (Kimberlite Mine)
Pike County, Arkansas

Gentlemen:

Thank you for your letter of August 16th with reference to the subject matter.

If Mr. Clinton C. Knox, of the DMEA Field Team, Joplin, Missouri will contact me, I will be very glad to make an appointment to meet Mr. Knox on the property at some date in the near future. I have just returned from the West Coast and will be very busy in my office for the next ten or twelve days, however, if Mr. Knox could arrange his schedule about the week of the 5th or 12 of September, I believe that would allow me ample time to take care of matters here.

I will be looking forward to word from your regional office and you may be assured that full co-operation will be given the members of your Field Team during the contemplated examination.

Yours very truly,

A. B. J. Hammett

A. B. J. Hammett

ABJH:pk

cc: Mr. Clinton C. Knox, Post Office Box 431, Joplin, Missouri

Docket Copy
Surname:
Houk
Martin
Johnson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

Mr. Clinton C. Knox
Executive Officer, DMEA
Field Team, Region VI
Post Office Box 431
Joplin, Missouri

Subject: Docket No. DMEA-3423 -
Diamonds - A.B.J. Hammett
Hammett Diamond Mine (Kimberlite Mine)
Pike County, Arkansas

Dear Mr. Knox:

Please review the subject application and arrange for a field examination if you deem it necessary.

Please determine, if possible, the value and physical volume of production, drill logs, and acreage of the peridotite breccia. The possibilities of making a significant discovery to the principal determination to be made and should be based upon known geologic facts.

Copies of memoranda from the Geological Survey, dated July 26, 1954, and from the Bureau of Mines, dated August 11, 1954, are enclosed for your information.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (245)

Approved:

D. M. Larrabee (245)
Member, Geological Survey

J. H. Hedges (245)
Member, Bureau of Mines

Enclosures 4

LGHouk:gad 8/13/54
Copy to: Admr. R. File
Docket
Operating Committee
Mr. Albert H. Koschmann
Mr. Chandler, 3518
Mr. Newcomb, 5227
Mr. Houk

Docket Copy
Surname:
Houk
Martin
Farrater
Hedges
Johnson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

AUG 1 - 1954

Mr. A. B. J. Hammett
509 Victoria National Bank Bldg.
Victoria, Texas

Re: Docket No. DMEA-3423 - Diamonds
Hammett Diamond Mine (Kimberlite Mine)
Pike County, Arkansas

Dear Mr. Hammett:

Your application for assistance in exploring the subject property has been reviewed by the Nonmetallic Minerals Division of the Defense Minerals Exploration Administration and has been referred to Mr. Clinton C. Knox, Executive Officer, DMEA Field Team, Region VI, Post Office Box 431, Joplin, Missouri, for further consideration and possibly a field examination.

The Regional Office will contact you at an early date if an examination is to be made. Any assistance that you may give the members of the field team during the examination will be appreciated.

Sincerely yours,

C. O. Mittendorf
Administrator

LGHouk:gad 8/13/54
Copy to: Admr. R. File
Docket
Operating Committee
Mr. Albert H. Koschmann, Region 4
Field Team, Region VI
Mr. Chandler, 3518
Mr. Newcomb, 5227
Mr. Houk

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

August 11, 1954

Memorandum

To: Mr. Lawrence G. Houk, Chief, Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Commodity Specialist, Construction and Chemical Materials Branch

Subject: Application of Mr. A. B. J. Hammett, Docket No. 3423, for aid in exploration for diamonds

The property under consideration comprises the S. W. $\frac{1}{4}$, and the S. E. $\frac{1}{4}$, of the N. W. $\frac{1}{4}$ of Section 14, Township 8, Range 25, Pike County, Arkansas, with a total area of 80 acres, and lies about 2 miles northeast of the property of the Arkansas Diamond Company, which is located in Section 21 of the same township. While the existence of a diamond-bearing Kimberlite pipe on this property has been reported in the geological literature, it apparently has not been thoroughly explored.

It is now proposed to spend $20,000 exploring the deposit. We doubt that a thorough evaluation of the property can be made for $20,000.

While the prospect of developing a commercial source of diamonds from this property does not seem favorable, it is suggested that the field team be asked to visit it, and report its reaction to this application. We also suggest that, if the report is favorable, the field team be asked to submit its observations on how the deposit should be sampled and evaluated.

Henry P. Chandler

Henry P. Chandler

? [illegible] get
4 copies [illegible]

IN REPLY REFER TO:

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

July 28, 1954

Memorandum

REVIEW OF APPLICATION DMEA-3423 (diamonds)

To: L. G. Houk, Defense Minerals Exploration Administration
From: E. L. Newcomb, U. S. Geological Survey
Applicant's name and address: A. B. J. Hammett, Victoria, Texas
Name of property: Hammett Diamond Mine (Kimberlite Mine)
Location of property: Near Murfreesboro, Pike County, Arkansas
Summary of applicant's proposal: $20,000 requested --
Independent contracts for core drilling, bulldozing, dragline excavation -- $2,000
Remainder for supervision, equipment, supplies, buildings, etc.
Sources of information on applicant's property:
U.S.G.S. Bull. 540, p. 534-546
U.S.G.S. Bull. 735, p. 271-322
U.S.B.M. R. I. 4549
Comments:
1. Past production from the Kimberlite Mine limited to a very few stones (80% of district production from Arkansas mine).
2. The applicant's proposal is vague and is not supported by adequate data.
3. Most of the requested funds are to be used for mine operation, equipment and supplies. Not for exploration purposes.
4. Of all the diamond properties in the Pike County area, this property shows the least promise of producing a significant quantity of diamonds.

RECOMMENDATION: A field referral is not warranted. Unless the applicant presents more substantiating data and a feasible exploration project, I recommend the application be denied.

E. L. Newcomb

E. L. Newcomb

July 26, 1954

Mr. A. B. J. Hammett
509 Victoria National Bank Bldg.
Victoria, Texas

Subject: DMEA-3423
Re: Exploration Assistance
Hammett Diamond Mine

Dear Sir:

The receipt of your application dated July 15, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3423 and referred to the Non-Metallic Minerals Division.

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

Sincerely yours,

A. B. J. HAMMETT
509 VICTORIA NAT'L BANK BLDG.
TELEPHONE 322
VICTORIA, TEXAS

July 15, 1954

United Stated Department of the Interior,
Defense Minerals Exploration Administration,
Attention, Mr. Johnson, Room 4624
Washington, D. C.

Subject: Application for aid, in an Exploration project, known as "The Hammett Diamond Mine" located in Pike County, Arkansas

Dear Mr. Johnson:

I am enclosing herewith the application blanks which you recently gave me when I visited your office and believe that they are properly executed.

The information submitted on the subject matter, together with references to other material, contained in the Bureau's files relating to the Diamond deposits in Arkansas, will I am sure provide ample information for your department.

I and many others believe that our property offers one of the best prospects for proving a commercial production, of any of the properties in this area and it is further believed that with world conditions as they are, that it is most essential such a prospect as we have be developed if possible, as a source of supply for our National Security and Defense.

I, nor any of my former partners or those who prospected this property years ago have ever received any Federal aid although we would have had the opportunity to have this property completely examined by the Government in 1943 had it not been for the serious illness of one of the owners, our mining engineer, who had actually mined and produced diamonds from this property was in the U. S. Army and came out of the war blind and myself an Officer in the Navy of the U. S. having gone on active duty early in 1942 was not available for such an exploritory project.

We have spent much of our own money over the years, much work and effort and have lost much as the result of the war and our years of absence in the Armed Services overseas. Today there is a market for our product and it is needed by our Government as a stock pile item. The state of Arkansas, Department of Geology and Conservation is likewise interested in this good project and will assist in Geological, testing, and report work as well as other ways where they can be of help to get this valuable property in production.

One of the main stumbling blocks of past planned operations was the constant bickering of partners. This is and has been true of many projects that otherwise would have been successful. Today this property is owned solely by myself and it is the first time in Arkansas History that one of these Diamond Mine properties was so owned and available for a sound operation. There is no promotion or stock for sale to anyone, and the assistance I am applying for is purely for the real exploration of the property, rehabitilation of the necessary buildings which were lost by fire and deterioration over the years of the war while in the service of the United States, such rehabitilation is necessary to the conduct of a proper examination and further exploratory, and recovery work.

It was my understanding when I visited you, that such an application as I am filing, for a small amount of assistance, could probably be proccessed in a matter of a few weeks. I would greatly appreciate this type of co-operation and processing as I will have much to do after I am assured of this Government assistance.

Thanking you for your attention to this application and for the information and courtesy extended me when I visited your office on April 2nd, 1954, I am.

Yours very truly,

A. B. J. Hammett

A. B. J. Hammett

ABJH:pk

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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

Not to be filled in by applicant

Docket No. 3423
Metal or Mineral Diamonds
Date Received
Estimated Cost $20,000
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: A. B. J. HAMMETT
509 VICTORIA NATIONAL BANK BUILDING
VICTORIA, TEXAS
TELEPHONE NUMBER 322

(*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 S W, N W, SEC. 14, T 8, R 25, 40 ACRES
S E, N W, SEC. 14, T 8, R 25, 40 ACRES
LOCATED IN PIKE, COUNTY, STATE OF ARKANSAS

(*b*) State any mine name by which the property is known. HAMMETT DIAMOND MINE (FORMERLY KIMBERLITE DIAMOND MINE

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

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

(*e*) If you own the land, describe any liens or encumbrances on it NONE, ALL TAXES PAID

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

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

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

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

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

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

5. *The exploration project.*—State the mineral or minerals for which you wish to explore INDUSTRIAL AND GEM DIAMONDS

(*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 contact veins, ore-bearing beds, etc.

(*c*) The work will start within 90 days and be completed within 24 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Explain in detail on acompanying paper.

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 July 15, 1954

(Applicant)

By

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

"Kimberlite Diamond Nime"

"A. B. J. Hammett - Owner"

"Minerals of Arkansas"

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Diamonds"

"Over 20,000 Diamonds, one weighing in excess of 40 carats, have been found in Arkansas, the only genuine Diamond field in the American continent. Gem experts declare that brilliancy is one of the real tests of a Diamond. The harder it is, the more brilliant the stone. These experts assert that the Arkansas Diamond is one point harder than those of South Africa and Australia, hence it exceeds them in brilliancy. Near Murfreesboro, in Pike county, is the pipe of an extinct volcano. It is now filled with aggrayish green rock, called peridotite, identical in its chemical properties with that of the South African and Australian Diamond fields. The extinct volcano is about fifty-two acres in area. The first Diamonds were discovered in Arkansas in 1906 by John Huddleston, a farmer, who picked up in the road and creek bottoms some exceedingly brilliant pebbles. A foreign corporation owns this pipe of volcanic origin, has erected a large plant and made quite extensive investigation to determine the extent of the field. White, brown, yellow, canary and wine colored Diamonds have been bound there. Diamond discoveries have been reported in several other parts of Pike and in Howard, the adjoining county."

"Minerals of Arkansas" Page 147

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Diamonds"

" History and Occurrence"

The first diamonds found near Murfreesboro, which were the first found in Arkansas, were picked up on the Prairie Creek peridotite area(pl. 10) on August 1, 1906 by John W. Huddleston. Diamond mining has continued intermittently at several mines from the date of Huddleston's discovery to the present time.

Nearly all the diamonds have been found within the exposures of the peridotite at the Prairie Creek, Kimberlite, and American peridotite areas, though a very few have been found along streams where they have been washed from these areas of the Woodbine formation and 3 to 4 miles south of Corinth. The mines that have produced diamonds are the American, Kimberlite, Mauney, Ozark, and Arkansas, (See pls. 10 and 14) The diamonds at these mines have been found not only on and near the surface but also at depths of 20 feet. How much deeper the diamonds extend is not known but they probably occur at a depth much greather than that to which mining can be carried.

The yield of diamonds in carats per load of diamond-bearing material differs from place to place in the mines and with depth. This yeild as it has been determined from the great amount of work at one kine is 1 carat for 8 loads (16 cubic feet each) of diamond-bearing material.

Most of the diamonds from the Arkansas Ozark and Mauney mines have been obtained within the area or areas inwwhich the volcanic breccia is exposed. The areal distribution of the breccis at the surface of these mines is shown on Plate 10.

On the Riley plave, half a mile northeast of the Oazek mine the Tokio formation contains pebbles of peridotite and grains of altered serpentine. The matterial is possible perioditie tuff. 16 cubic feet each of material from the Tokio at that locality but found no diamonds.

(Extract from Arkansas Geological Survey's "Outlines of Arkansas' Mineral Resources, " published in 1927.

DIAMONDS

The only locality in North America where diamonds are found in the rocks in which they were formed is in Pike County, Arkansas. The diamonds occur there in dikes of volcanic rock known as peridotite, which closely resembles the material in which diamonds are found in South Africa. Four separate areas of this peridotite, which aggregate about eighty acres, have been found, all but one of which have produced diamonds.

History. Diamonds were first discovered in Arkansas on August 1, 1906, when two stones were found by John M. Huddleston near the mouth of Prairie Creek, two and one-half miles southeast of Murfreesboro, Pike County, These stones were sumbitted to the Mermod, Jaccard & King Jewelry Company, of St. Louis, Mo., for identification. Later, stones were sent to Chas. S. Stifft, jeweler, of Little Rock, Ark., for identification, who submitted them to George F. Junz, gem expert of New York City, who identified them as diamonds. Following this, Messrs. C. S. Stifft, A. D. Cohn, S. W. Reyburn of Little Rock, and J. C. Pinnix of Murfreesboro secured an option of the Huddleston property, which included about forty-nine acres of the main peridotite pipe. The remainder of the pipe was made up of the Mauney tract, including about three acres (see accompanying map). Other peridotite areas were later discovered in Sections 14 and 23 (see accompanying map) known respectively as the Kimberlite, American, and Black Lick areas.

Following this the Arkansas Diamond Company was organized, which purchased the property. The Huddleston property was then prospected and numerous pits dug and drill holes put down. In May, 1908, the company erected a small diamond washing plant at the southern edge of the area and in August, 1909, increased the size of the plant, which was operated until 1912, after which operations practically ceased until 1919, when the company was reorganized as the Arkansas Diamond Corporation with an authorized capital of $10,000,000. In 1920, a large washing plant was erected near the first one, which contained a No. 3 Gyratory crusher, an 8-foot Harginge tube mill, a rotary dryer, two washing pans, jugs, and a grease table. According to John Peay, of the Arkansas Diamond Corporation, this plant operated for a total of nine months and hauled approximately 18,000 loads of peridotite, each load containing sixteen cubic feet of material. This plant has not been in operation for some years. The Arkansas Diamond Corporation operates a small power jig from time to time.

1/ Historical data largely from U. S. Geological Survey Bulletin No. 735, "Diamond-bearing peridotite in Pike County, Arkansas," by H. D. Miser and Clarence Ross, 1923.

The Mauncy tract mentioned above and shown on the accompanying map was operated by M. M. Mauncy on a small scale for several years prior to 1912, when the Kimberlite Diamond Mining and Washing Company obtained a lease on the mine and began the erection of a washing plant three-quarters of a mile from the mine. This was completed in 1913 and was in continous operation until January 13, 1919, when the plant was burned. The plant was equipped with a concentrating pan, screens, jigs, and a grease table. The plant has not been rebuilt and the mine has not been operated since 1919.

The Austin Q. Miller tract shown on the accompanying map was the first worked by the Ozark Diamond Mines Corporation, in 1912. At that time the company constructed a washing plant near the mine and operated it for a few months. Approximately 5,000 loads, each containing sixteen cubic feet of decomposed material, were washed in the plant. In December, 1914, this plant was sold by a receiver to the Kimberlite Diamond Mining and Washing Company and was operated by that company until the first part of 1919, when the plant was burned and it has not been rebuilt. Between 800 and 900 diamonds are reported to have been recovered.

* The Kimberlite area in Section 14, which is owned by the Kimberlite Mining and washing Company, was prospected to a small extent, but no washing for diamonds has been done, although several stones have been reported to have been found on the surface there. The American area in Section 14 was originally owned by the Pike County Diamond Mining Company, which was in turn succeeded in 1914 T. B. Flournoy, who purchased the property from the receivers of this last organization. A small amount of prospecting has been done and twenty-four diamonds are reported to have been found, one of which is reported to have weighed 3-11/16 carats.

The Black Lick area in Section 23 has been little prospected and no diamonds are reported to have been found in it.

Geology. There are three general types of peridotite in the volcanic areas. There are (1) the porphyritic intrusive peridotite, (2) the volcanic breccia, and (3) the tuffs and fine grained breccias.

The porphyritic intrusive peridotite makes up much of the Prairie Creek area and also the Kimberlite area in Section 14, Township 8 South, Range 25 West. On fresh surfaces this rock is a dull green, brown or black, and is very hard, known to miners as "hardebank." The weathered rock is usually pitted and a dull gray green in color.

* The main work, prospecting, washing, and recovery on this property has beendone since 1932 and no public records of any of this work or recovery of diamonds from this property have been released or published.

Only a few diamonds have been found in this material. The volcanic breccia is composed of strongly cemented fragments composed largely of the porphritic type of peridotite, together with fragments of shale and sandstone very probably derived from deep-seated rocks. It covers a fairly large area in the Prairie Creek dike and makes up the American area, the Black Lick area, and has produced nearly all of the diamonds found. On exposure to the air the breccia weathers to a yellowish green and is known as "green ground" or "blue ground". The tuffs and fine-grained breccias occupy the smallest portion of the peridotite in the Prairie Creek district. The rocks have a bluish tinge and a medium hardness and vary considerably in texture. They contain a considerable proportion of shale and some fine-grained sandstone. No diamonds have been found in this material so far as is known.

The peridotite areas occur about six miles south of the northern edge of the Coastal Plain area of southwestern Arkansas. According to H. D. Miser, the peridotite is probably the same age as the Tokio member of the Bingen formation (Upper Cretaceous), since the lower beds of the Bingen contain fragments of peridotite. As a portion of the Bingen beds actually overlies a portion of the peridotite in the American and Black Lick areas, the age of the intrusion is not older than Bingen times.

The peridotites found in the different areas are quite similar in general character and were probably all formed during a single period of volcanic activity. It is probable that the peridotite was intruded from a great depth, penetrating deep-seated sedimentary beds including the Carboniferous and a portion of the Lower Cretaceous. After the intrusion of the peridotite, explosions took place which ejected portions of the intruded mass and carried with them some deep-seated shale and sandstone of Carboniferous age. This ejected material probably formed a crater in the Prairie Creek area with sloping sides and also eventually cemented into a peridotite breccia. A second series of explosions were perhaps responsible for the formation of the fine grained breccia and volcanic tuff.

Character of Diamonds. The following statement concerning the character of the diamonds found is taken from U. S. Geological Survey Bulletin No. 735, "Diamond-bearing Periodite in Pike County, Arkansas," by H. D. Miser and Clarence Ross:

"The diamonds that have been found range in weight from a very small fraction of a carat to many carats. Some are so small that 250 of them would be required to weigh one carat. The largest diamond, which was found in the Arkansas mine in September, 1921, weighed 20¾ carats, and one weighing 17.86 carats was found in the Arkansas mine in May, 1917. The average weight of the 3,000 diamonds that had been produced by the Arkansas mine at the end of 1920 was about 0.4 carat, but the average weight of the entire production of all the mines is probably between 0.3 and 0.4 carats.

"Most of the diamonds are white, brown, or yellow. According to Kunz and Washington there is a large proportion of white stones, for the most part of a high grade in color, brilliancy and freedom from flaws. They also say that many stones are as fine as any that have been found elsewhere, and that some of the yellow ones are of exceptional quality and color. Kunz also makes the following statement in describing several yellow, brown, and white stones from the Arkansas stones found at the Jagersfontein mine, or that were ever found in India."

The forms of most of the diamonds have not been studied, but the following paragraph, abstracted from a paper by Kunz and Washington, summarize briefly the forms of the first 140 diamonds that were found: 1/

"The most common forms are distorted hexoctahedrons--most of them elongated but others flattened--with much rounded faces. There are a few regualr and undistorted octahedrons that show slightly rounded faces, though in most of these the center is flat. Many of the edges are replaced by dodecahedrons, and some of them are further rounded by trigonal trisoctahedrons, with hexotahedrons near the apices. No cubes were seen, and tetrahexahedral and dodecahedral forms seem to be rare, except as they replace octahedral edges and angles.

The diamonds examined by W. T. Schaller were all crystals and are described as follows:

Weight, Size, and Color of Diamonds from the Arkansas Mine, Pike County, Arkansas

No.	Weight (Carats)	Maximum Length	Dimensions Width	(Millimeters) Thickness	Color
1.	11.21	24½	15	5½	Slightly smoky or brownish
2.	6.83	13½	13	5	Colorless
3.	3.30	11	7	4	Colorless
4.	2.77	14½	5½	3½	Brownish
5.	17.86	17	14	12	Yellow
6.	4.40	16	9	4	Colorless
7.	1.19	6	5	4	Yellow
8.	.91	6½	4	3½	Yellow
9.	2.50	11½	9	5	Colorless
10.	1.40	11½	6½	2½	Colorless

1/ Kunz, G. F. and Washington, H. S., Notes on the Forms of Arkansas Diamonds, Am. Jour. Sc., 4th Series, Vol. XXIV, 1907.

"The crystals seem to be rounded and distorted hexoctahedrons; the rounding faces are not typical crystal faces, but are end forms toward which the curved faces tend.

"Crystal No. 1: Probably a flattened and distorted octahedron or hexoctahedron with possibly additional forms. Several of the rounded faces have parallel octahedral-like "etch hills" or "ridges" on them.

"Crystals Nos. 2 and 3: Probably distorted flattened hexoctahedrons.

"Crystal No. 4: Elongated crystal with ends not complete; a different phase of distortion.

"Crystal No. 5: Very little distorted; essentially a rounded octahedron, the octahedral faces being replaced by the rounded faces of a hexoctahedron. Shows several solution "pits", one quite deep, in the position of the cube.

"Crystal No. 6: Suggestion of a flattened octahedral twin, but may be only a distorted form like the others.

"Crystals Nos. 7 and 8: Like crystal No. 5.

"Crystals Nos. 9 and 10: Rounded, flattened, and distorted hexoctahedrons.

"The following statement regarding the diamonds from the Mauney and Ozark Mines was furnished in 1921 by Austin Q. Millar, of the Kimberlite Diamond Mining and Washing Company.

"From a careful examination of several thousand diamonds the percentage of yield of the various grades of the mine run are: White stones, 40; yellow, 22; brown, 37; true bort, 1. The gem material of the yellow, the deep canary, is most magnificent, and the mahogany shade of the brown is equally desirable. The white gem material is matchless for purity, and about 10 per cent of the stones classed as white are of this grade.

"Because of the high luster in their rough state, a parcel of Pike County diamonds are unmatchable by a like parcel of the African stones. This quality is largely due to their extreme hardness, and as a consequence the greater brilliancy of the finished gem is the result. In both hardness and size the mine-run stones are best comparable to the Brazilian diamonds.

"Their crystallographic characteristics are distinct. As the larger proportion of the recoveries belong to the more complex forms of the isometric system, the trisoctahedron and hexoctahedron predominate more than the octahedron or dodecahedron. Rarely

are crystals recovered that present sharp, angular faces, the characteristic rounded (convexed) surfaces greatly predominating. The true bort is translucent, with a radial structure, and occurs in rounded forms.

"Stones have been found with a blue or pink tinge, and occasionally a "frosted" or etched white is noticable in the recoveries.

"Fragments and fractures were much more noticable when mining was being done in surface material; but at slight depth in the undisturbed volcanic ground these features were almost entirely absent."

"Hammett Diamond Mine"

"A. B. J. Hammett - Owner"

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

PUBLISHED ARTICLES

The attached reporduction of the Arkansas Gazzette, Sunday issue, June 14, 1953 described some of the earlier history of this section of Arkansas, and while it deals particularly with one property close by, it reflects values present in this area and also reflects the corporate troubles in the past and present on these properties. Again I wish to point out that all of the troublesome partners, stock holders, etc., that have plagued the old (Kimberlite Diamond Mine) or (Hammett Diamond Mine) property in the past are extinct, and the subject property, now under one ownership, can be operated as a going business instead of a sight-seeing enterprise. Other printed references dealing with the Arkansas Diamond properties are:

"Presentation of a $3,000.00 Arkansas Diamond paperweight to President Truman"----------
"Arkansas Democrat"; June 11, 1949.

"The Gemmologist"--------"Arkansas Diamond"; February issue 1950

Continued

"Hammett Diamond Mine"

"A. B. J. Hammett - Owner"

"E. C. A" release October 20, 1949

No. 955

E. C. A. release May 31, 1950 No. 1508

Collier's Magazine, "America's only

Diamond Mine", August 25, 1951

Arkansas Democrat----------"Fabulous Cow

Pasture", July 5, 1953

Acres of Diamonds in Your Backyard

All You Have to Do Is Dig!

By Ruth Jorgenson Smock

WHEN JACOBUS JONKERS discovered the Jonkers diamond, said to be the most perfect of all the large diamonds and now valued at $1,000,000, he was paid $350,000 for it in one check. That is the bright side of diamond prospecting. The dark side is this: For 18 years before discovering this diamond, Jonkers and his large family had lived in utter poverty while he prospected.

In America, there is an easier way to find diamonds. The owners of an authentic Diamond Crater at Murfreesboro in Pike County allow public prospecting by the day for a nominal fee. The day-long prospector may use any tool he can carry onto the Crater in his hands and he may keep, free, all the diamonds he finds, up to those weighing five carats and over. On the latter, he must pay a royalty of 25% (which goes to tax) to the manager. No royalty is charged for garnets, amethysts, chalcedony, peridite or other precious stones, whatever their size, which are also present in the ground. To date, visitors from 35 different cities have found diamonds. Several have found two or more and one man found 15.

Are these gems real? This is one of the questions most frequently asked of the Howard Millars, a retired geologist and his wife, who are the managers, and co-owners with [illegible] reality a 21-carat diamond, and Mother Jacobs gave it away to a neighbor who was attracted to its odd appearance.

A second indication is its heaviness. A diamond's specific gravity is 3.51, three-and-one-half times heavier than the same volume of water. Therefore, it is considerably heavier than most other non-metallic minerals.

A third indication is whether it can be scratched. A diamond is at least 85 times as hard as the next hardest mineral, corundum, and cannot be scratched except by another diamond. It can, however, be cleaved. It is only through careful cleaving and sawing by skilled cutters that it becomes the symmetrical beauty readily recognized as a gem. Unskilled breaking of a rough can ruin its potential beauty and value.

A fourth indication is its size: The smaller your heavy dull stone, the more likely it is to be a diamond. Anything bigger than your fist is either not a diamond at all or it is the biggest diamond ever found. To date, the biggest diamond found anywhere was the Cullinan which weighed one and one-half pounds (3106 metric carats) and was discovered eighteen feet below the earth's surface by a manager of the Premier Diamond Mine in [illegible] ered with a vaseline-like compound, then running water across them. Non-diamonds will loosen easily and slip away in the water but the diamonds will stick fast.

If a one-day prospector finds a diamond, is there a market where he can sell it? Yes, Mr. Millar will readily buy it at market price. However, in the three years this attraction has been open to the public, about 1,000 diamonds have been found and most finders have preferred to keep their own quarries.

Altogether over 100,000 diamonds, not to mention other gems, have been mined in Murfreesboro since the first were discovered in 1906 by [illegible] Wesley Huddleston whose suspicions were aroused by geologists surveying in the area.

Mr. Millar, himself a former state geologist and now a consulting geologist, has the earth turned by a bulldozer at regular intervals, so that visitors will have fresh diggings. His most recent turning was this spring.

As an added attraction, Mr. Millar is establishing a Museum of Minerals and has a talented local speaker, Willis Coker, as a guide. One of his exhibits is a set of replicas of famous diamonds whose histories are related to you by Mr. Coker.

The more introspective travelers often ask Mr. Millar this question: [illegible]

"Kimberlite Diamond Mine"

"A. B. J. Hammett - Owner"

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

III. APPLICANTS PROPERTY RIGHTS

(a) The legal description of the (Hammett Diamond Mine), formerly known as the old (Kimberlite Diamond Mine), is the South West, North East section 14, Township 8, Range 25, containing 40 acres, more or less and the South East, North West section 14, Township 8, Range 25, containing 40 acres, more or less, located in Pike County, Arkansas.

IV. PHYSICAL DESCRIPTION

(a) At the present time there are no mining operations being conducted upon this land. The last operations having been in the form of clearing a considerable amount of undergrowth, reopening many of the existing pits and mine workings, reopening and building of some roads on the mine property, and some prospecting work on a certain portion of the property. This work was done by the writer in 1948, July, and approximately 15 workmen were in his employ. All costs of this work were paid by the writer, and it was his intention, at that time, to proceed with further exploritory work, however, ill health and other business matters required the writers time, and such further exploritory work has not been possible until present time.

This mine property is accessible for examination purposes, however, due to the tremendous amount of undergrowth that has accumulated from 1942 until 1948, and that which has accumulated since, would necessitate having an experienced person who is thoroughly familiar with this property to show the same for such examination purposes after August 1st, 1954.

V. THE EXPLORATION PROJECT

(a) The minerals for which I wish to further explore are Industrial and Gem Diamonds. It has been established that the production ratio of Industrial Diamonds is approximately 90%; Gem Diamonds 10%. It is believed that there are many other semi-precious stones that can be recovered which, in the past, have been completely disregarded.

"Kimberlite Diamond Mine"

"A. B. J. Hammett - Owner"

"Minerals of Arkansas"

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Concentrate Minerals Associated with The Diamonds

"A number of mimerals besides diamonds are concentrated during the treatment of the diamond-bearing material. They are hematite, limonite, barite, colorless quartz, amethyst quartz, magnetite, pyrope, almandite, schorlomite (or melantie), chromite, pyrite, diopside, and epidote. The quantity of each mineral varies somewhat from place to place, but ingeneral the most abundant have been named first and the least abundant last. A few specimens of amethyst quartz of gem quality have been found, and some of them have been cut for use in jewelry. A small number of pebbles of the dense chalcedonic varicolored novaculite that are found on the surface at the diamond mines have also been cut for this use."

"Minerals of Arkansas"

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Mining and Treatment of Diamond-Bearing Material"

"Many diamonds, probably several hundred, have been picked up by miners from the surface of the peridotite areas, especially the Prairie Creek area, but most of the diamonds that have been produced have been obtained by washing the diamond-bearing material. Different methods of mining and washing have been employed, as required by the character of the diamond-bearing material, which varies not only from one locality to another, but also with depth.

Much of the decomposed peridotite, including the surficial black soil called "black ground" and the underlying "blue ground", "yellow ground", and "green ground", is soft enough be washed for the recovery of the diamonds without being first crushed or weathered. Most of the "black ground" is very sticky, like gumbo, when it is wet, so that it disintegrates with some difficulty in the washing plants.

All the mining has been done in shallow open cuts. Hydraulic mining has been used to some extent, but most of the work has been done by hand and by means of plows and scrapers. Whenever the hydraulic method is employed, the water carries the soft weathered diamond-bearing material through a sluice trough. The concentrates from the sluice trough are then jigged by hand in small sieves or run through a small plant equipped with screens and jigs. Then the jigged concentrates are placed on smooth sheets of metal where they are carefully searched for diamonds.

Much of the material that has been mined, however, has been hauled in tramcars with a capacity of 16 cubic feet each to the washing plants. A log washer was used for a short time in the Ozark washing plant, but its use was not a success on account of the sticky nature of the "black ground" that was washed in it."

"Minerals of Arkansas"

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 806"

"Mining and Treatment of Diamond-Bearing Material"

"Washing pans of the type common in the South African diamond fields have been used successfully. A pan of this type is circular, has a flat bottom, and rests in a horizontal position. At its center is a vertical revolving shaft to which radiating arms are attached. On these arms are metal teeth that revolve and stir the diamond-bearing material that is fed into the pan. During this stirring the diamonds and associated heavy minerals gradually settle to the bottom of the pan, and the clay and other light minerals rise to the surface and flow out of the pan near its center. The concentrates thus thus obtained in the bottom of the pan are next sized and then jigged. The jigged concentrates are carefully searched for diamonds on metal-covered tables or are washed with water over a greased table. This table is covered with a thick coat of grease and is shaken rapidly from side to side by an eccentric. When the concentrates are washed across the table the grease sticks to and holds the diamonds, whereas it does not stick to the other minerals, most of which are therefore washed off the table. The grease with its included diamonds and other minerals is removed from the tables from time to time. The diamonds are then freed from the grease by coverting it into soap or by putting it into boiling water"

Department of State Lands

STATE OF ARKANSAS

CLAUDE A. RANKIN
COMMISSIONER

PERCY D. CATO
CHIEF DEPUTY

BEN RANKIN
DEPUTY

E. D. DUVALL
DEPUTY

Little Rock, Ark.

May 1, 1948

Mr. A. B. Hammett
P. O. Box 190
Santa Monica, Calif.

Dear Mr. Hammett:

During a period of approximately two years, I worked in the Arkansas Diamond Mine, located at Murfreesboro, Pike County, Arkansas. At that time there were approximately fifty employees at this mine. Stones were produced, but the quantity is unknown, but was substantial. This mine was located about 2½ miles South and West of the Old Kimberlite or Bird-Kneen Mine, and, upon at least a dozen occasions, I visited the Bird-Kneen property, and it is composed of mineral bearing peridotite (diamond- bearing dirt), the same as the Arkansas mine property and the Mooney Mine property. There was a shaft of approximately fifteen or twenty feet 8 x 8 on the Bird-Kneen property and the amount of diamonds removed from this is unknown to me, but it is diamond-bearing dirt, and with proper development, I feel sure substantial recovery of diamonds can be made.

I have learned positively from reliable sources recently that approximately 2½ acre tract of this same diamond dirt property known as the Mooney Mine was sold for $25,000.

Trusting that this information is the disired, I am

Yours very truly,

Ben Rankin

Ben Rankin

BR/11

(Mr. Rankin has refered to the subject property as the "Bird-Keen Property")

III. APPLICANTS PROPERTY RIGHTS

(b) This property was formerly known as the old (Kimberlite Diamond Mine), and reference is made to this property in all United States Government, Department of the Interior, Geological Bulletins, and the State of Arkansas, Department of Geology Bulletins as the (Kimberlite Diamond Mine).

IV. PHYSICAL DESCRIPTION

(b) The past production from this property is described in various Geological Bulletins and circulars dealing mainly with mining that was conducted in the "Pick and Shovel" days when the Diamond bearing dirt was hauled by wagon to a washing plant several miles away. The actual quantity of Diamonds recovered is not known, however, the writer has contacted responsible people who visited this project at various times, and to their knowledge at that time, state that Diamond discoveries were recovered. In 1932, when this property was taken over from the old owners, a considerable amount of prospecting, drilling, and washing was done, and a considerable quantity of Diamonds were recovered from this property, some of them having been sold in Chicago, others having been taken to Washington, D. C. Various people in the community near Murfreesboro did possess quantities of Diamonds said to have been procured from this property. Between the years of 1932 and 1942, many troubles were encountered between partners and local people who were interested only in stopping any kind of a development on this property with the result that our owners living quarters, bunkhouse, mine buildings and machinery, and shacks, together with all important

Continued

engineering records were destroyed by fire. After the fire, a considerable amount of interest was displayed by several independent companies who made attractive offers for this property. It was also the plan of the partners to rebuild the plant and start a new and modern recovery operation on this property. In 1942, when the Bureau of mines became active and interested in conducting exploritory investigations of a nearby property, my property, the former (Kimberlite Diamomd Mine) was not examined by the Government as was stated in the Bureau of Mines report No. 4549, and at that time one of the partners was seriously ill in California, another partner and the mine engineer was on active duty with the U. S. Army and I was out of the country on foreign duty with the U. S. Navy. Therefore, all of the opportunity that existed at that time for having a complete investigation made of our property was lost for the reasons as stated as well as any private operations that had been planned. By reason of Military Service, the property was allowed to rundown, fence and building deterioration, and roads and workings taken over by undergrowth. This rehabilitation work will have to be done as referred to in another paragraph.

Some of the old records on this property compiled in the early part of 1940 read as follows:

Continued

"This report covers the following described property, (The old Kimberlite Diamond Mine) and (Hammett Diamond Mine) of the 120 acres; approximately 90 acres is potential diamond bearing dirt, since the peridotite area.

In this report, the U. S. Government and State of Arkansas officals report will be used whenever possible as references. These consist of U. S. G. S. Bulletin No. 808, "Minerals of Arkansas, published by the Arkansas Bureau of Mines I. C. 6787", also report, "Diamonds of Arkansas of 1940".

DISTRIBUTION OF DIAMOND BEARING EARTH

"This discovery of Pipe, known as the Arkansas Pipe, contains about 49 acres, and is now owned as follows:

Arkansas Diamond Mines- - - - - - -	39 acres
Mauney Diamond Mines- - - - - - - - -	7 acres
Osark Diamond Mines - - - - - - - - -	3 ½ acres

The (Kimberlite Pipe) contains approximately 92 acres distributed as follows:"

(Kimberlite Diamond Mine) (Hammett Diamond Mine) - - - - -	80 acres
(American Diamond Mine) - - - - - - -	12 acres
Total	92 acres

"At the old (Kimberlite Diamond Mine) (Hammett Diamond Mine), less than one-fourth (¼) of an acre has been washed down, leaving practically the entire tract as Virgin Diamond bearing dirt.

Continued

The overburden on this property varies in depth from four (4) feet to over twenty (20) feet. Throughout the ridge on which the (Hammett Diamond Mine) is located, the average depth will probably be around ten (10) feet. If this average is maintained, the entire ridge, consisting of about 30 acres, would yield about one-half (500,000) million cubic yards of washable placer dirt. The creek bottoms on both sides of this ridge would wash out probably 300,000 cubic yards, making a total of 800,000 cubic yards, without crossing over on the reverse slopes.

"My connection started in February 1932, when I obtained the property then known as (Kimberlite Diamond Mine".

My testing consisted of building small Pilot Plants, testing out various methods of handling this rock and endeavoring to overcome the "balling" tendency of the material when wet. This Pilot Plant was destroyed by fire, and all records were lost as well as my living quarters adjoining the mill. Since then, core drilling, washing of concentrate, and general prospecting has been carried out.

One hole, 6¼ inches in diameter, was drilled to a depth of 981 feet. Diamonds were recovered throughout, and the best recovery was below 600 feet.

"In my work, core drilling, washing, etc., I estimate my own recovery to be somewhere near 37/100 carats per yard of hydraulicked material over the main peridotite beds.

Continued

Recoveries in the creeks, out from this main center, varied from 1/10 to 2/10 carats. Some spot testing yeilds as high as $\frac{1}{2}$ carat per yard".

* * *

BUREAU OF MINES REPORT NO. 4549

"The American Diamond Mine Corporation, and the (Kimberlite Diamond Mine) and washing company minedd many years ago on two plugs, subquently discovered in section 14, T. 8 S, R 25 W, or about $2\frac{1}{2}$ miles North East of the Prarie Creek Mines.

"Kimberlite Diamond Mine"
"A. B. J. Hammett - Owner"

"Minerals of Arkansas"

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Production and Character"

The number of diamonds that have been found near Murfreesboro, Ark., since their discovery in 1906 is only partly known, for the mining companies have withheld from publication the complete figures of production. The production so far as known to the authors includes at least 10,000 diamonds up to the end of 1923.

The bulk of the diamonds from the mines have been held up by the mining companies, though some uncut stones have been given away or sold, and some cut stones have been sold. Cut stones were first offered to the public in 1921 by Tiffany & Co. of New York, and by the Charles S. Stifft Co. of Little Rock, Arkansas.

The diamonds that have been found range in weight fr m a very small fraction of a carat to many carats. Some are so small that 250 diamonds would be required to weigh one carat. The largest diamond, which was found in the Arkansas mine, weighed 4023 carats; another from the same mine found in September, 1921, weighed 20.25 carats; and a third stone weighing 17.86 carats was found in the Arkansas mine in May 1917. Pictures of the last mentioned diamond and mine others from Arkansas mine are shown in Plate 17, A. The average weight of the 3,000 diamonds produced from the Arkansas mine to the end of 1920 was about 0.4 carats, but the average weight of the entire production of all the mines is probably between 0.3 and 0.4.

Most of the diamonds are white, brown, or yellow. There is a large proportion of white stones, most of them of high grade in color, brilliancy, and freedom from flaws. Kunz also makes the following statement in describing several yellow, brown and white stones from the Ark. mine. "These are absolutely perfect and are equal to the finest stones found at the Jagersfontein mine, or that were ever found in India".

The following statement regarding the diamonds from the Mauney and Oxark mines was supp-

"Kimberlite Diamond Mine"

"A. B. J. Hammett - Owner"

"Minerals of Arkansas" Page 147 continue

"Geology of the De Queen and Caddo Gap"
Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Production and Character"

lied in 1921 by Austin Q. Millar, of the Kimberlite Diamond Mining & Washing Company. From a careful examination of several thousand diamonds the percentages of yield of the various grades of the mine run are: White stones 40; yellow, 22; brown, 37; true bort, 1. The gem material of the yellow, the deep canary is most magnificent, and the mahogany shade of the brown is equally desirable. The white gem material is matchless for purity, and about 10 per cent of the stones classed as white are of this grade. Their crystallographic characteristics are distinct. As the larger proportion of the recoveries belong to the more comples forms of the isometric system, the trisoctahedron and hexoctahedron predominate more than the octahedron or dodecahedron. Rarely are crystals recovered that present sharp angular faces, the characterists rounded (convexed) surfaces greatly predominating. The true bort is translucent with a radial structure and occurs in rounded forms.

Stones have been found with a blue or pink tinge, and occasionally a "frosted" or etched white is noticeable in the recoveries.

Fragments and fractures were much more noticable when mining was being done in surface material; but at slight depth in the undisturbed volcanic ground, these features were almost entirely absent."

V. THE EXPLORATION PROJECT

(b) The purposes of this exploritory work is to first rebuild some of the roads in and to the property, to clear away the existing undergrowth which has enveloped much of the property since 1942 when the war was responsible for the discontinuance of our work and the present condition that the property is now in. To refence this property, all fence posts being available on the property from hard wood, and to erect a small area of chain link fence protecting the Pilot Plant, tools, equipment, and buildings, there will have to be some rough buildings erected, the lumber being obtainable locally at the mill, and at a low price. Pumps, pipe, motors, washing equipment, tools, etc., will be provided as well as the rehabilatation of the buildings all of which were destroyed by fire just prior to World War II. Core drilling, reopening of the old pits, and the washing and hand-picking of the concentrates will be done during this period of exploration work. The former practice of having to ship concentrates to distant points for hand-picking and washing is not advisable nor practical, and in such an operation as is contemplated, it is essential that all of this work be done right on the property, and it is our intention to build the small amount of equipment necessary for this operation and conduct the same with experienced and competent help in conjunction with the state of Arkansas, Department of Geology.

BOSTON CHICAGO DETROIT NEWARK

ARTHUR A. CRAFTS COMPANY, INC.
DIAMONDS · DIAMOND TOOLS
CARBIDE METAL
TOOLS

G. JACONELLI

608 W. WASHINGTON BLVD.
CHICAGO
TELEPHONE CANAL 0268

September 13th, 1938

Mr. E.B.Bird
West Los Angeles, California.

Dear Mr.Bird:

Pursuant to our conversation regarding the Arkansas Diamonds that I supervised the cutting, I cannot emphasize too strongly the unusual fine quality of the gems that we cut from the raw material. In my thirty five years of experience in the handling of diamonds, the above stones were the finest I have seen, also the industrial diamonds that I inspected had a mark difference over the African and Congo diamonds which was greatly in their favor and it was my understanding at the time that by government test and also actual test run in one of the large industrial plants reports show the Arkansas Diamonds to be noticeably harder than the African Diamonds. We noted the same condition in the polishing of the gem stones that we shaped.

There's no doubt in my mind that the American Industries and the American Public could and would absorb any all diamonds that could be produced from an American mine. The uses of diamonds in the last thirty years has increased and become so varied that there are now uses for the very poorest to the very finest of gem stones.

Very truly yours,

Guy Jaconelli
Chicago District Manager.

Guy Jaconelli

III. APPLICANTS PROPERTY RIGHTS

(c) The (Hammett Diamond Mine), formerly known as the old (Kimberlite Diamond Mine), is owned entirely by A. B. J. Hammett of 509 Victoria National Bank Building, Victoria, Texas. Complete ownership and title have passed to A. B. J. Hammett, and was recorded in the official records of Pike County, Arkansas, City of Murfreesboro, October 23, 1952. This is the first time in the history of this property that a single ownership has existed. It is free from all claims, leins, encumbrances, and all taxes have been paid.

IV. PHYSICAL DESCRIPTION

(c) On December 15, 1948, the United States Bureau of Mines reported on the Arkansas Diamond investigation as follows:

"It was known that Pike County Arkansas contains a peridotite pipe similar to the pipes of South Africa which have produced so many Diamonds in the past. The area had caused considerable interest since its discovery. Information indicated some 50,000 Diamonds had been recovered of which about 80% were considered to be of good quality of Industrial grade".

IV. THE EXPLORATION PROJECT

(c) GEOLOGICAL FEATURES OF THIS PROPERTY, (The Hammett Diamond Mine), are thoroughly described in published articles attached hereto, from the U. S. Geological Survey Bulletin No. 808, and detailed information can be obtained from the Bureau of Mines report No. 4549, as the Geological features of the (Kimberlite Diamond Mine) property, (Hammett Diamond), and the (Prarie Creek Diamond) area are practically the same.

V. THE EXPLORATION PROJECT

(c) The owner and applicant is financially able to carry out his end of this exploration project. He has been engaged successfully in business ownership, management, organization, and exploritory work on projects for the past 35 years, and will personally supervise the contemplated operation together with competent engineers and geologists on the staff of the State Geology Department of Conservation, State of Arkansas.

A permanent residence is maintained by the applicant at 701 North Washington Street, Victoria, Texas, and a permanent business office is also operated by the applicant at 509 Victoria National Bank Building, Victoria, Texas. At the present time, the applicants main business is President of his corporation, Victoria Development Company Incorporated, which is developing and building a Multi-Million dollar suburban business center in Victoria, Texas.

"Kimberlite Diamond Mine"

"A. B. J. Hammett - Owner"

"Minerals of Arkansas" Page 110

"Geology of The De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Kimberlite Peridotite Area"

"The Kimberlite peridotite area is in a cleared tract on the crest of a low hill in the SW. ¼ NW. ¼ sec. 14, T. 8 S.R. 25 W. The map of this area (pl.14) shows by patterns only the observed and reported occurrences of the rocks. The peridotite is not revealed in natural exposures. It is covered with yellow to red surficial clay, a few inches to a few feet thick, derived largely from the weathering of the Trinity formation, which at t the surface at this locality consists of yellow, red, and brown clay. The dike that is exposed in the trench farthest east at the Kimberlite mine (fig.4) is probably an eastward continuation of the large mass of peridotite in this area. The form of the intrusion, to judge from present exposures, is that of a crescent-shaped dike which strikes northeast and has a length of at least 700 feet and a width of possibly 100 feet at the surface.

Exposures indicate that the clay of the Trinity in contact with the peridotite was metamorphosed into a vitrified clay for a few feet at least, away from the contact when the peridotite was intruded, but since then the clay has weathered so much that it is now only a little harder and lighter in color than the clay that was not metamorphosed. Many inclusions of black shale, derived from the Paleozoic shale beneath, occur in both the fresh and the disintegrated peridotite, and some of

"Minerals of Arkansas" continue - Page 111

"Geology of The De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Igneous Rocks"

them reach 2 inches in diameter. They are baked by heat from the intruding peridotite, and although they are much weathered near the surface they remain harder than the ordinary black shale, which is widely exposed in the Ouachita Mountains on the north. Veins of white barite and of yellow paligorskite with the fibers parralled to the walls of the veins cut both the fresh and the altered peridotite. The hard, unaltered peridotite, known locally as "hardebank", occurs as two small patches a few feet acroos in the southwestwardtrending trench at the west boundary of the mass. Elsewhere it has disintegrated to a soft green and yellow earth. The unaltered rock is dense, tough, porphyritic, and greenish black and is similar to the intrusive peridotite found in a part of the Prairie Creek area".

"Geology of The De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Relation of the Peridotite to the Other Igneous Rocks of Arkansas"

The peridotite in the Caddo Gap quadrangle is as has been pointed out by Williams, related in age to the other igneous rocks of Arkansas. The igneous rocks in other parts of the State consist of nephelite syenite, pulaskite, and related instrusive rocks and occur in four small areas in the eastern part of the Ouachita Mountain region and in the northwest border of the Gulf Coastal Plain. One of these areas is in the Fourche Maountain region, near Little Rock, Pulaski County; a second is near Bauxite, Saline County; a third is at Magnet Cove, Hot Spring County; and the fourth is at Potash Sulphur Springs. Garland County. In addition there are hundreds of dikes of igneous rock scattered here and there over much of the east half of the Ouachita Mountain region. Concerning these dikes Williams says:

> Outside of these four typical regions there are many dikes of igneous rock which as far as their petrographic characteristics are concerned might be associated as well with one group(region) as with another and which are, as a matter of fact, probably directly connected with none of them, although formed from the same magma from which they all derived their material.

The rocks in the dikes include tinguaite, fourchite, ouachitite, and monchiquite. Of these the monchiquite is more closely related in composition to the peridotite in the Caddo Gap quadrangle than any other, for it is composed mainly of altered olivine and augite and at some places contain much biotite.

"Minerals of Arkansas" Page 114 - continue

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Age of the Peridotite"

"The peridotite of each of the several occurrences is similar to that of the others, and although there is no surface connection between these occurrences, the similarity of the rocks makes it seem very probable that the rocks are of common origin and are connected beneath the surface. The three types of peridotite were apparently formed by three distinct volcanic outbursts, but they are so closely related that they probably represent successive stages in a single period of volcanic activity. Present evidence indicates the igneous history of the region set forth below.

First the intrusive peridotite was injected upward into the Carboniferous and Lower Cretaceous rocks. Then volcanic explosions broke up into small fragments not only much of the intrusive peridotite but also some of the shale and sandstone of Carboniferous age. In the Prairie Creek peridotite area the fragments were apprently ejected into the air and then deposited in inclined layers, which have since been hardened, becoming a breccia.

A second group of explosions probably took place, forming the tuff and closely associated fine-grained breccia of the Prairie Creek area. The distribution of these rocks and their relation to the intrusive peridotite and to the volcanic breccia apparently indicate that they are the younger."

"Geology of the De Queens and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Comparison of Arkansas and South African Rocks"

"The peridotite of Arkansas is generally believed to be similar in character and mode of occurrence to that of South Africa, and the exact points of similarity are here recorded. Wagner, who has carefully studied the South African diamond deposits, says of them:

The pipes represent deeply eroded, funnel-shaped volcanic necks of the Maar type, which appear to have been formed by the violent explosive liberation at the earth's surface of highly compressed vapors and gases, emanating from a deep-seated, ultrabasuc magma. They are occupied, as a rule by nonvolcanic detritus derived from the shattering and comminution of the rocks pierced by the explosions, by fragmentary material derived from trituration of kimberlite(peridotite) and at greater depth by solid plugs of the later rock.

Dealing first with the ralationship of pipes to fissures, we have learned that the magma in its ascent appears invariably to have been guided to within a greater or less distance of the original surface by planes of structural weakness in the earth's crust. The earliest eruptions appear to have been in the nature of mighty explosions, which resulted in blowing out of funnel-shaped apertures. The bulk of the material forcibly ejected during these outbursts no fell back into the vents, which at one stage of their history may thus have been more or less completely occupied byonon-volcanic detritus".

"Minerals of Arkansas" Page 115

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Igneous Rocks"

" The peridotite is younger than the Trinity formation, of Lower Cretaceous age, as is showen(1) by the high dip of the contacts beween the peridotite and the nearly horizontal beds of the Trinity,(2) by the metamorphism of the clay of the Trinity adjacent to its contact with the peridotite, and(3) by the occurrence in the peridotite of fragments of clay and pebbles derived from the Trinity.

The peridotite is of the same age as or older than the Tokio formation of Upper Cretaceous age. This is shown by the fact that the lower beds of the Tokio on the Riley place and on the Twin Knobs, near Murfreeboro, contain altered serpentine grains and fragments of peridotite. Although these grains and fragments were waterlaid, there is a probability that they were ejected as fragmental material from one or more near-by vents rather than washed by streams from peridotite exposures. The belief that the peridotite is not younger than the Tokio is supported by the fact that the Tokio rests upon the peridotite at the American mine and at the Black Lick.

From the foregoing facts it must be concluded that the peridotite is younger than the Trinity formation, of Lower Cretaceous age. The volcanic activity that produced the peridotite probably accompanied the down warping of the Mississippi e embayment early in the Upper Cretaceous epoch."

"Minerals of Arkansas" Page 116 continue

"Geology of the De Queen and Caddo Gap
"Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Comparison of Arkansas and South African Rocks"

"Wagner divides the diamond-bearing of South Africa into two types, both of which occur as intrusives and as volcanic breccias. One of these is a "basaltic kimberlite", rich in olivine and poor in mica, and the other is a "mica peridotite". Both types are diamond-bearing in South Africa, but the first has produced most of the diamonds.

The quotations and abstracts given above, which outline very briefly the type of eruption and describe the diamond-bearing rocks of South Africa, serve as a basis for comparison with the diamond-bearing rocks of Arkansas. In South Africa work has proceeded to great depths-3,601 feet in the Kimberlite Mine - and the geologic relations are known in considerable detail, whereas in Arkansas only the surface of the ground has been scratched. Nevertheless rather striking points of similarity between the diamond-bearing rocks of South Africa and of Arkansas are evident. The viloence of the volcanic explosions by which the South African vents were produced and the extent to which the kimberlite and country rock were shattered and mixed together in the vents have been emphasized. In Arkansas the peridotite was evidently much shattered and the explosive violence brought to the surface Paleozoic rocks that lay far beneath the surface. Injection breccias that are composed of shattered country rock mixed with a small proportion of volcanic material and that have the characteristics of dikes have been identified in both areas".

"Kimberlite Diamond Mine"
"A. B. J. Hammett - Owner"

"Minerals of Arkansas"

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Comparison of Arkansas and South African Rocks"

The relief of pressure occasioned by these earlier explosions must be assumed to have led to the ascent of the magma into the pipes, where it appears, as a rule to have given rise, by successive eruptions, to a number of distinct columns of Kimberlite (peridotite) and Kimberlite tuff.

The material that occupies the vents Wagner describes as follows:

It has been pointed out that in so far as the pipe filling is concerned, the rocks, pierced by the explosions, the kimberlite magma, and the atmosphere have all contributed.

We may divide the foreign matter of the pipes into three principal groups-rock fragments derived from the adjacent pipe walls; xenoliths (included fragments) of rock which have been brought up from below: masses of rock which to attain the position in which we now find them, must have fallen into the pipes from above. The pipe rock proper consists of kimberlite and of material derived from its brecciation, comminution, and descomposition.

The microscope reveals the fact that among the products comprehended under the general term of blue ground three main varieties may be distinguished. These are the true kimberlite tuff or kimberlite breccia, injection breccia, and decomposed kimberlite. As greater depths are attained in the mines the products we have hitherto been dealing with, as one would naturally expect, are replaced in increasing measure by "hardenbank", or kimberlite, the parent rock, to the trituration and decomposition of which they own their origin.

"Kimberlite Diamond Mine"
"A. B. J. Hammett - Owner"

"Minerals of Arkansas" Page 117

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"General Features"

"The sedimentary rocks of the Caddo Gap and De Queen quadrangles originally lay nearly horizontal. The Cretaceous strata are still nearly horizontal, but they have been tilted so that they have a low southward dip, and the Paleozoic strata are inclined at high angles, so that their edges appear at the surface.

When the Paleozoic rocks are crossed from north to south, they are found to lie in a series of anticlines and synclines, and in few places, they have suffered displacement by faults. The greater part of their folding and faulting took place near the middle of the Pennsylvanian epoch, although slight warping occurred at a much earlier time.

To aid in understanding the structure of the quadrangle the structure sections in Plate 15 are introduced. These sections represent the structure as it is inferred from the position of the beds observed at the surface, but they are on too small a scale to show all the minute structural details."

"Kimberlite Diamond Mine"

"A. B. J. Hammett - Owner"

"Minerals of Arkansas" Page 117

"Geology of the De Queen and Caddo Gap Quadrangles, Arkansas"

"U. S. Geological Survey"

"Bulletin 808"

"Structure"

"In many of the South African vents recurring volcanic activity produced compound pipes that are formed of slightly different rocks and that even bear diamonds of disimilar character. Petrographic studies have shown that in Arkansas there are at least three types of rock, only one of which carries diamonds in considerable quantity."

A. B. J. Hammett

(COPY) "Hammett Diamond Mines"

Bibliography of Diamonds

1842 Powell, W. B., "Geological Report Upon the Fourche Cove and its Immediate Vicinity." --p. 6, foot note.

1846 Shepard, C. U., "On Three New Mineral Species from Arkansas, and the Discovery of the Diamond in North Carolina." -American Journal of Science, 2nd Ser., Vol. 2, foot note on p. 253. Obtainable from American Journal of Science, New Haven, Conn.

1860 Owen, D. D., "Second Report of a Geological Reconnaissance of the Middle and Southern Counties of Arkansas, Made During the Years 1859 and 1860." --p. 32.

1889 Branner, J. C., and Brackett, R. N., "The Peridotite of Pike County, Arkansas." --American Journal of Science, 3rd Ser., Vol. 38, pp. 50-59. Obtainable from American Journal of Science, New Haven, Connecticut.

1888 Hill, R. T., "The Neozoic Geology of Southwestern Arkansas" Arkansas Geological Survey Annual Report for 1888, Vol 2. Now out of print, but may be consulted in public or scientific libraries.

1891 Branner, J. C., "Peridotite of Pike County, Arkansas." --Report of the Arkansas Geological Survey for 1890, Vol. II, pp. 377-391. Now out of print, but may be consulted in public or scientific libraries.

1906 Veatch, A. C., "Geology and Underground Water Resources of Northern Louisiana and Southern Arkansas." --U. S. Geological Survey Professional Paper 46. Now out of print, but may be consulted in public and scientific libraries.

Williams, J. F. "The Igneous Rocks of Arkansas." --Annual Report of the Arkansas Geological Survey for 1890, Vol. 2, pp. 377-391. Now out of print, but may be consulted in public or scientific libraries.

Kunz, George F., "Occurrence of Diamonds in Arkansas." --U. S. Geological Survey, Mineral Resources, 1906, pp. 1214-1251. Now out of print, but may be consulted in public or scientific libraries.

1907 Schneider, Phillip F. "A Preliminary Report of the Arkansas Diamond Fields." --Bulletin of the Arkansas Bureau of Mines, Manufactures and Agriculture for 1907. Now out of print, but may be consulted in public or scientific libraries.

(COPY)

(COPY)

1908 Kunz, George F., "Diamonds in Arkansas." --American Institute of Mining Engineers Journal, Tr. 39, pp. 169-176. Obtainable from American Institite of Mining Engineers, 9W. 39th Street, New York City.

1908 Schnieder, Phillip F., "A Unique Collection of Peridotite." --Science, N. S. Vol. 28, pp. 92-??. Obtainable from Science Press, Grand Central Terminal, New York City.

Fuller, John T., "Diamond Mining in Arkansas."--Engineering and Mining Journal, Vol. 87, pp 152-155. Obtainable from McGraw-Hill Book Company, 10th Avenue at 36th Street, New York City.

Sterrett, Douglas B., "Diamonds in Arkansas." --U. S. Geological Survey, Mineral Resources for 1909, pp. 23-25. Now out of print, but may be consulted in public or private libraries.

Harris, G. D., "Magnetic Rocks, (Peridotite Eruptives Near Murfreesboro, Arkansas)." --Science, N. S., Vol. 29, p. 284. Obtainable from Science Press, Grand Central Terminal, New York, City.

1911 Fuller, John T., "The Arkansas Diamond Field." --Engineering and Mining Journal for January 6, 1912. Obtainable from McGraw-Hill Book Company, 10th Avenue at 36th Street, New York City.

1912 Glenn, Leonides Chalmers, "The Arkansas Diamond Bearing Peridotite Area." --Geological Society of America Bulletin 23, p. 726. Obtainable from Science Press, Grand Central Terminal, New York City.

1913 Fuller, John T., "Diamond Mining in Arkansas." --Engineering and Mining Journal for January 11, 1913. Obtainable from McGraw-Hill Book Co., 10th Avenue at 36th St., New York City.

1914 Miser, H. D., "New Areas of Diamond Bearing Peridotite in Arkansas." --Bulletin of the U. S. Geological Survey No. 540. Now out of print, but may be consulted in public or scientific libraries.

Miser, H. D., "Peridotite Dikes in Scott County, Arkansas." --Bulletin of the U. S. Geological Survey No. 735-h, pp. 271-278. Now out of print, but may be consulted in public or scientific libraries.

Miser, H. D., and Ross, C. S., "Diamond Bearing Peridotite in Pike County, Arkansas." --Bulletin No. 735 of the U. S. Geological Survey. Now out of print, but may be consulted in public or scientific libraries.

(COPY)

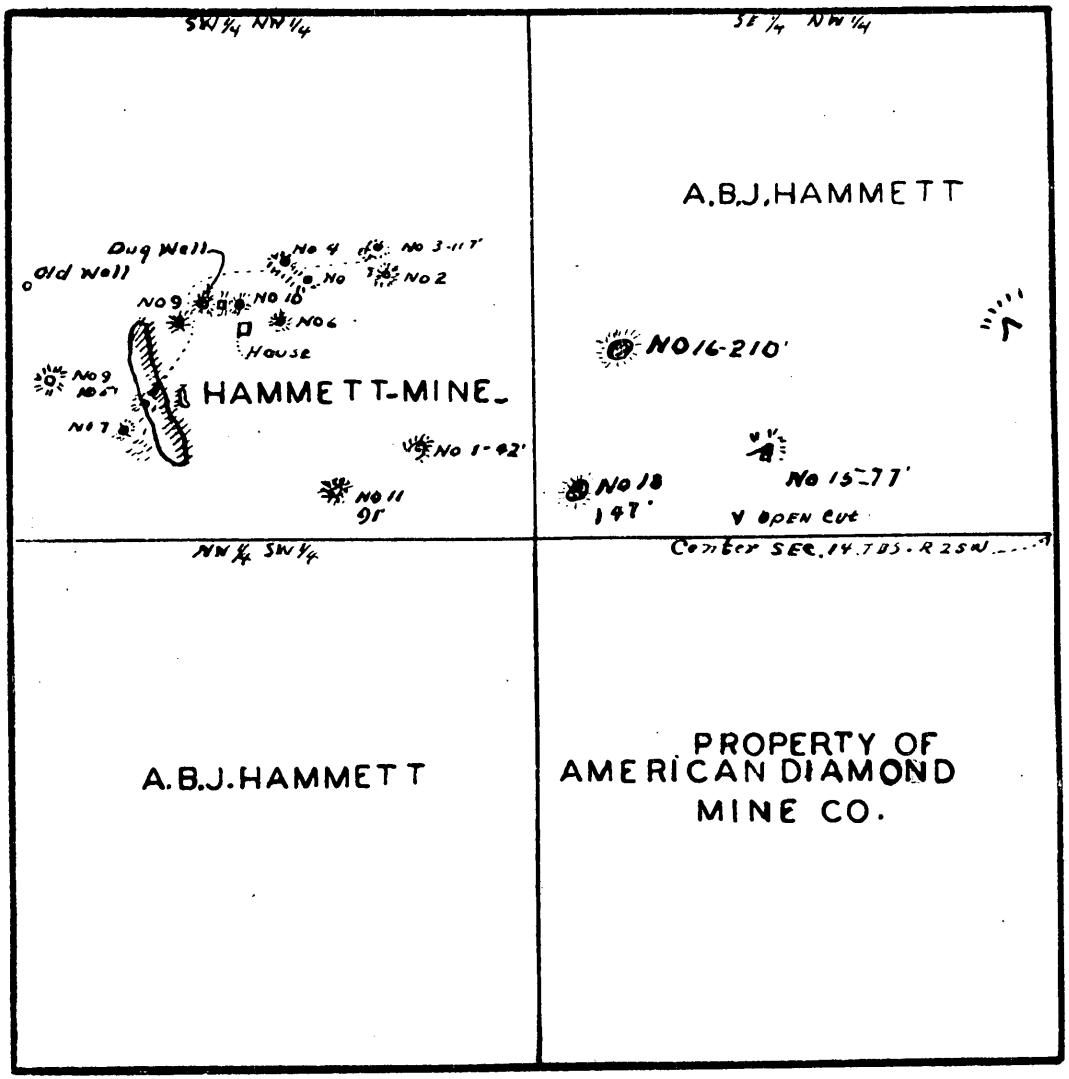
A. B. J. Hammett

"Hammett Diamond Mines"

Miser and Purduc report in the U. S. G. S. Bulletin 808, "Geology of the DeQueen and Caddo Gap Quadrangles", that the known production of diamonds from Pike County, Arkansas, prior to the end of 1923 includes at least 10,--- stones. Records of the Arkinsas Department of Revenue indicates production of 3,972.84 carats, valued at 5 dollars per carat, in the period of 1923-31. No production was reported between 1932 and 1948.

OLD KIMBERLITE DIAMOND MINE 96 Ac,

A.B.J. HAMMETT
PIKE COUNTY, ARK.



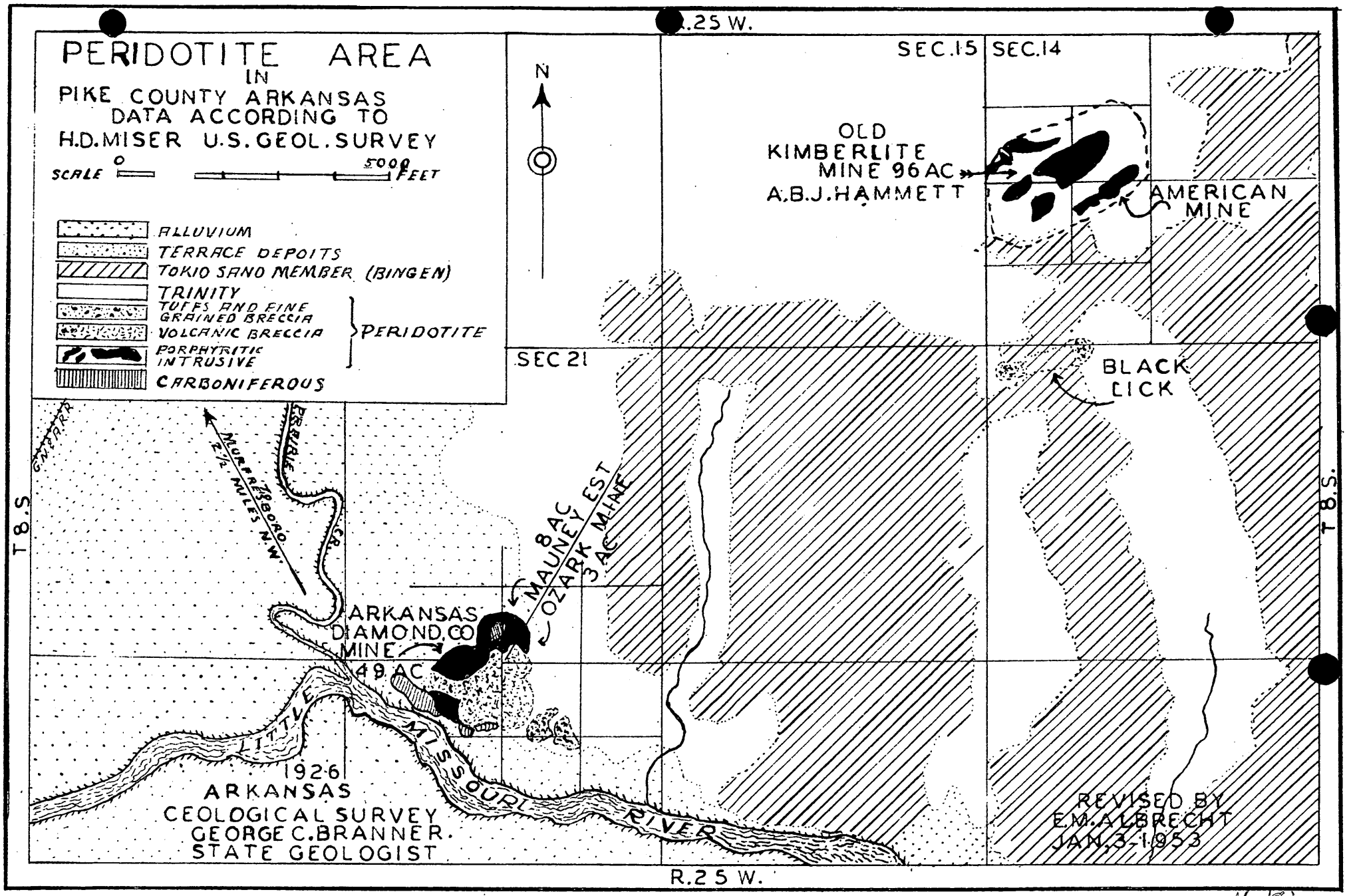
REVISED BY
E.M. ALBRECHT.
JAN-2.1953

O DRILL HOLE
□ D-PITS.
C V-CUTS + TRENCHES.

Reference
U.S. GEOLOGICAL SURVEY
BULLETIN 808 PLATE 14
DIAMOND BEARING LANDS
Scale 1" = 400"

Surveyed by A.F. ANNEN

June 1940


PERIDOTITE AREA
IN
PIKE COUNTY ARKANSAS
DATA ACCORDING TO
H.D.MISER U.S.GEOL.SURVEY
SCALE 0 5000 FEET
ALLUVIUM
TERRACE DEPOITS
TOKIO SAND MEMBER (BINGEN)
TRINITY
TUFFS AND FINE GRAINED BRECCIA
VOLCANIC BRECCIA
PORPHYRITIC INTRUSIVE
PERIDOTITE
CARBONIFEROUS
N
R.25 W.
SEC.15
SEC.14
SEC 21
OLD KIMBERLITE MINE 96 AC
A.B.J.HAMMETT
AMERICAN MINE
BLACK LICK
T 8.S
T 8.S.
MURFREESBORO 2½ MILES N.W.
MAUNEY EST 8 AC
OZARK MINE 3 AC
ARKANSAS DIAMOND CO MINE 49 AC
LITTLE MISSOURI RIVER
1926
ARKANSAS
GEOLOGICAL SURVEY
GEORGE C.BRANNER.
STATE GEOLOGIST
REVISED BY
E.M.ALBRECHT
JAN.3-1953
R.25 W.

IV. THE EXPLORATION PROJECT

(d) GEOLOGICAL FEATURE OF THIS PROPERTY, LOCATION & ACCESSABILITY, the (Hammett Diamond Mine), formerly (Kimberlite Diamond Mine) is located approximately two (2) miles North East of Murfreesboro, Pike County, Arkansas, and approximately 2.5 miles North East of the Prarie Creek Diamond area. A hard surfaced road extends from Murfreesboro State Highway No. 26 for approximately one (1) mile, and then leads on a fair country county road constructed by the C. C. C. some years ago for approximately another mile, and thereafter, approximately ½ mile of road through the woods, such road now being lumber roads, and permission has been granted for the widening of the road, and improvement of the same together with a co-opeartive program by the authorities of Pike County to improve the roads to this mining property.

The Murfreesboro-Nashville Railroad operates between Murfreesboro and Nashville, connecting with a branch of the Missouri Pacific to its main line at Hope, Arkansas. Good bus service is maintained and Murfreesboro itself is a small community of approximately 1,000 population with lumbering its main industry.

IV. THE EQUIPMENT & COST

(c) THE MINE, is available in this area at minimum labor rates, and supplies are available in Hackensack, 25 miles from the mine property, with heavier equipment available in Hot Springs, Arkansas, and Little Rock, 40 and 75 miles distant respectively. There is ample water, and ample for milling and disposal. The E. E. A. operates within ½ mile of the mining property. The E. E. A. will run a power line to this mining property as soon as power is needed. Weather conditions will permit a twelve month a year operation after the roads have been improved, and we reserve the time and buildings should be that operations can continue in the rainy season.

Arkansas RESOURCES AND DEVELOPMENT COMMISSION

STATE CAPITOL LITTLE ROCK

July 6, 1954

Mr. A. B. J. Hammett
509 Victoria National Bank Building
Victoria, Texas

Dear Mr. Hammett:

This is in reply to your letter of June 29. As I mentioned in our discussion of the previous week, our office will be very happy to give you geologic assistance on your proposed investigation of your diamond property in Pike County. If this work is undertaken in the near future, we will be able to furnish you with considerable geologic assistance including the examination and description of core and test pit samples within a short time after you have obtained the samples. We, of course, are not able to do the test drilling ourselves because of limited facilities.

Yours very truly,

Norman F. Williams
Director, Division of Geology

NFW:kh

VI. ESTIMATE OF COSTS, for this proposed work are grouped as follows, and at a later date after contact has been made with the D. M. E. A. District Representative, a detailed breakdown of these costs will be submitted, and thereafter they will be adjusted periodically as such costs may be determined.

(a) Independent contracts will probably cover some core drilling, bull-dozing, and drag-line work, and it is estimated that $2,000.00 will do the work. - - - - - - - - - - - - - - - - - - $ 2,000.00

(b) LABOR, SUPERVISION, CONSULTANTS, it is believed that the wages, salaries and fees for necessary labor supervision and engineering and Geologic consultation will not exceed $5,000.00. - - - - - - 5,000.00

(c) OPERATING MATERIALS & SUPPLIES, will include electricty, gasoline, oil, fuel, small tools, etc., and it is believed that these costs will not exceed $2,000.00. - - - - - - - - - - - - - - - - - - - 2,000.00

(d) OPERATING EQUIPMENT, will be rented where possible, some of the smaller units such as motors, gas engines, pumps, screens, classifiers, washers, etc., will be purchased or built on the property, and it is estimated that the total for all operation equipment will not exceed $5,000.00. - - - - - - - - - 5,000.00

VI. ESTIMATE OF COSTS

(e) REHABILITATION & REPAIRS, will consist of living quarters, engineering and mill quarters, tools, and machinery shed, rebuilding of fence, etc., all of rough cut lumber procured from mills at low prices, the total cost believed will not exceed$2,500.00.- $ 2,500.00

(f) NEW BUILDINGS, IMPROVEMENTS, INSTALLATION, It will be necessary to deepen a present water well, to install a chainlink fence for plant protection, to purchase wire for new fence on property, etc., with a total cost believed not to exceed $2,000.00.---------- 2,000.00

(g) MISCELLANEOUS, All items that would be classified under miscellaneous are believed to fall within a cost that will not exceed $500.00. - - - 500.00

(h) CONTINGENCIES & ITEMS, as well as added expenses not included in the above estimates are believed to be of a total that will not exceed $1,000.00.- - - - - - - - - - - - - - - - - - 1,000.00

PROJECT ESTIMATE TOTAL $20,000.00

VII. FINANCIAL

(a) I have read the regulation and proposals where in Government participation in exploration work is concerned, and I am prepared to furnish my share of the cost of this proposed project in accordance with the Government regulations.

VII. FINANCIAL

(b) I will furnish my share of the cost of this proposed project by furnishing my portion in money and if it is do desired, I will deposit the amount of money in a special bank account furnishing the D. M. E. A. with a copy of such deposits, or I will handle the matter in any other manner that may be deemed proper and in accordance with procedure.

CONCLUSIONS:

There is no question with regard to the existance of diamonds, Industrial and Gem value on this property. There is no question as to the need for such a property to be developed in the United States.
There is no question about the market for the product.
There is no question about the need by our Government for a domestic source of supply of Industrial Diamonds.
The (Hammett Diamond Mine) is a valuable, good property with enough work having been done in the past to justify a thorough exploratory project to determine the amount of this deposit and the best method of commercial operation.
It is the first time in the History of U. S. Diamond properties that a property of this kind is available for an operation under one ownership, thus, assuring complete understanding and co-operation without costly delays between all agencies in the undertaking of the proposed exploratory work.

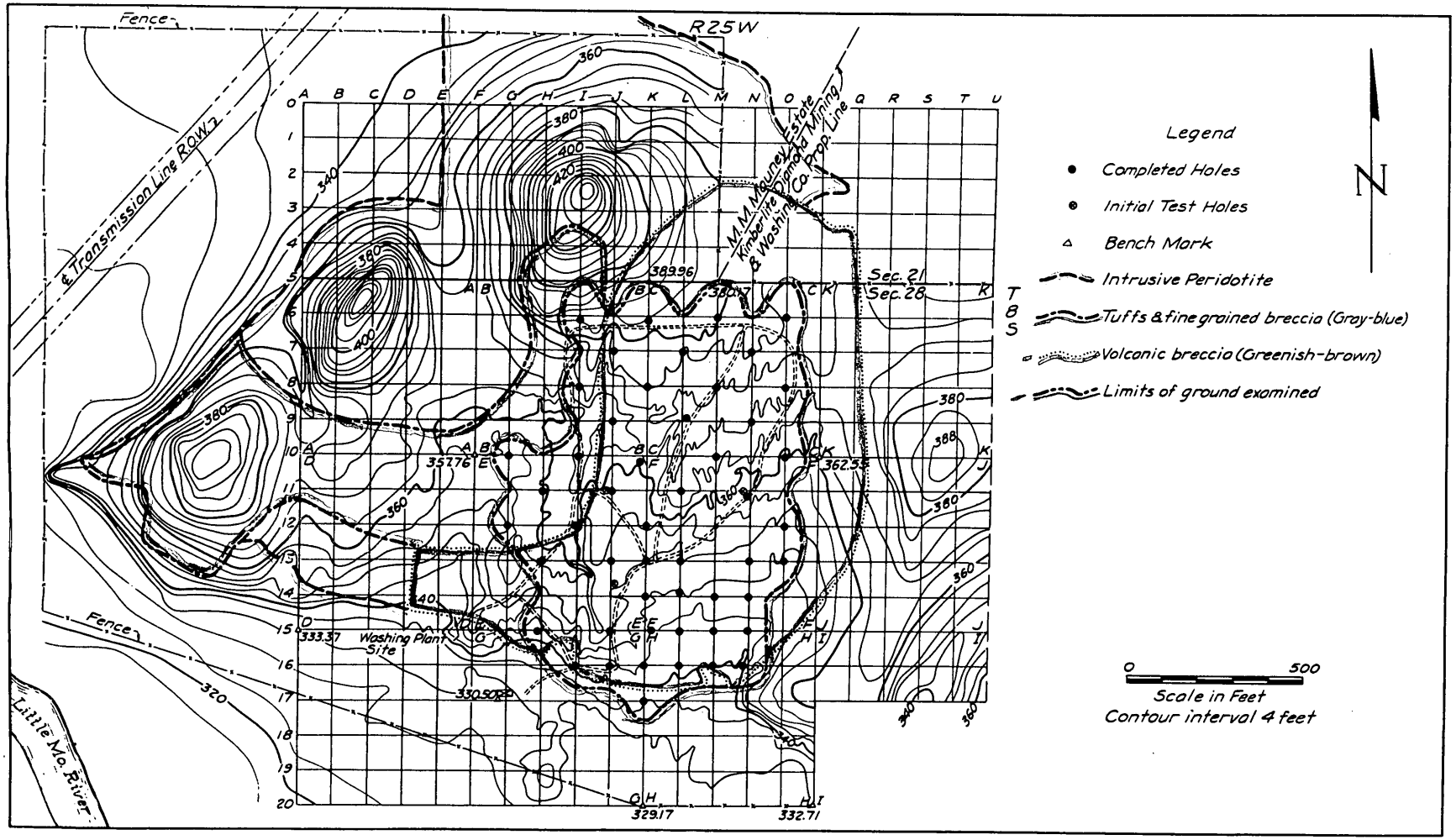


Figure 2. - Prairie Creek diamond area, topography.