3776

ACTION ON INTE[illegible]
OR FINAL FIELD TEAM REPORT
Date 29 OCT 1956

Referred to:

~~1. Mr. Mistendorf~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. ~~Docket Control Mails and Files~~
5. ~~Jim Terry Collins~~ Division
6. Docket Control Mails and Files

Note comments in report regarding:

1. I is crossed with King and Harshman. Oil
2. Field drillers not equipped to drill
3. gamma ray logs. Can be drilled successfully by
4. others.

RJ

and take appropriate action.

- - - - - - - -

Action taken by Division:
FEJ comment noted
WBA
10/30/56

Robert E. Adams

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

RECEIVED
OCT 29 1956

October 25, 1956

Memorandum

To: DMEA Operating Committee, Interior Building, Washington 25, D. C.

WSM

From: Executive Officer, DMEA Field Team, Region IV

Subject: Interim Report on joint Field Team inspection
Project Contract Idm-E893
Contrabando dome, Lajitas, Presidio County, Texas
Big Bend Mining, Inc., Box 269, Abilene, Texas
Docket DMEA-3776 (mercury-uranium)

The Interim Geologic Report by Robert U. King, USGS, Denver, submitted to me October 11, 1956, covering this project inspection on which I accompanied him September 14, is forwarded herewith in the original and three copies.

My comments and observations are added here as follows:

I am completely in accord with the two recommendations made in Mr. King's report, and substantially so with the suggestion by Mr. Faick, concurred in by Mr. King, that the target strata (Georgetown limestone) as specified in the Contract be reached, if reasonably practicable by reoccupying and deepening hole No. 5-6 or 5-7 nearest the top of the Contrabando Dome structure.

I, too, am in sympathy with any efforts to relieve this Operator of any undue costs in connection with the requirement to core drill into the target strata. The essential preliminary verification of the stratigraphic column, now evidently can be most easily and comprehensively attained by deepening one of these holes in the relatively undisturbed area indicated in the top of the dome. Such would seem to be merely a necessary prerequisite, however, for planning to reach the prime objective of this exploration project contract which was to penetrate the Georgetown limestone in a zone of major structural disturbance. Only there can sufficient reservoirs of porosity be expected which might have encouraged manto-like ore depositions of the minor mercury mineralization evidenced in the dike outcrops and/or relatively tight fractures therein. I think no change in that original objective is justifiable. Therefore, I believe that upon adequate deepening, preferable of hole No. 5-6, the core would reveal the expected useful relatively normal stratigraphic section to the target strata. Then with completion of drilling angle hole No. 8-5,

reportedly now in progress under Amendment No. 2, all the available data should be used in a reconsideration of the advisability of likewise deepening holes No. 9-2 and 9-4 both of which seem to be strategically located with regard to known fractured zones. On their down dip, fractured mercury-bearing Georgetown limestone might be encountered in its postulated position below the Contrabando sill-like intrusive.

Of course, the highest hopes are held for success in drilling the angle hole No. 8-5 which is believed to be directed most properly toward the intersection of the target strata with the most favorable known mercury mineralized fracture and dike intruded zone on Contrabando dome. Regardless of whether we are lucky enough to hit the bulls eye with that single angle hole, or merely indicate a definite target zone, a mercury deposit cannot be "reasonably delineated and sampled" with the drilling of only one hole, so "Stage II" drilling might have to be approved upon its completion, or failing there, perhaps upon the suggested completion of either hole No. 9-2 or No. 9-4 on the two other admittedly less favorable-appearing inferred ore-bearing structures. All other areas certainly now appear hopeless in view of what data has been obtainable.

The Operator finally negotiated a 60-day recess under its lease from the landowners of sections 105 and 109, which permitted the long-recommended move to drill angle hole No. 8-5 on the State-owned section 108 mineral rights. Thus under Mr. Kendrick's personal Guaranty in lieu of Owner's Consents to Lien, he is not in danger of lease cancellation and becoming liable for royalty to the Government on possible production of some subsequent lessee of those two privately owned sections.

The geophysical survey which he wanted to try during that recess in hopes of indicating the thickness of the Contrabando laccolith or sill-like mass, reportedly proved unsuccessful at the onset.

According to the latest word from the Project Supervisor, a new diamond driller from Colorado has been employed, the week of October 15 was spent moving and converting the drill rig and 40-foot mast for drilling the angle hole, delivery of AX-size drill rods, core barrels, and diamond bits ~~were~~ was obtained to use henceforth whenever igneous rocks are encountered, and drilling of angle hole No. 8-5 is started.

Maps of areas No. 1 and No. 7 which presumably are acceptable, were received from the Operator on September 24 in accordance with my June 5 letter of request following my June 1 conference with Messrs. Harshman and MacLaren in the Denver Offices of the Geological Survey.

The Operator's September MF-104 Report was received October 15 covering the drilling of hole No. 5-8 to 508 feet in depth (in the igneous sill below 451 feet) and deepening of hole No. 9-2 from 612 to 655 feet in another unsuccessful attempt to penetrate the igneous sill there. Unapproved copies of this September Report as well as that for July,

received from the Operator on August 16, and for August, received September 10, were furnished you and the Denver Office of the Geological Survey. The July, 1953, MF-104 Report was approved today in the amount of $3,914 but approvals of the Operator's August and September Reports continues to be withheld to assure that all the holes are drilled to depths deemed geologically essential in so far as possible, and to assure rendition of the Operator's Final Reports if the project is terminated upon completion of the mine presently unfinished holes.

Clinton C. Knox

CCK/enn

Clinton C. Knox

encl. (4)

cc: DMEA Op. Com. (3)
Harshman, USGS, Denver (2) w/4 c. King Rep.
3776 file

IN REPLY REFER TO:
MINERALS TECHNOLOGY
DIVISION

RECEIVED
OCT 15 1956
BUREAU OF MINES
JOPLIN, MO.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

October 11, 1956

RECEIVED
OCT 29 1956

Memorandum

To: C. C. Knox CCK.
Executive Officer, DMEA Field Team, Region IV
Through: E. N. Harshman EWH

From: Robert U. King

Subject: DMEA Docket 3776, Idm-E 893 (Mercury), Big Bend Mining, Inc., Contrabando Dome, Presidio County, Texas
INTERIM GEOLOGIC REPORT

INTRODUCTION

The Contrabando Dome project, 5 miles north-northwest of Lajitas, Presidio County, Texas, was visited on September 14, 1956, in conjunction with other DMEA examinations in the area. Mr. C. C. Knox, Executive Officer, Region IV DMEA, and company officials, Messrs. Kendrick and Whittiker, accompanied the writer. Previous DMEA geologic examinations include those by D. R. MacLaren and J. N. Frick of the U. S. Geological Survey.

The purpose of this interim examination was to check progress on the contract, and to study the possibility of termination and/or recess of the project, due to the inability of the operator to reach the major objective set up for the exploration project, namely, to explore for mercury in the lower Cretaceous Georgetown limestone.

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OCT 29 1956

GEOLOGY

On September 14 drilling was in progress on hole no. 5-8 (no. 8, site 7, sec. 105); it had reached a depth of 369 feet. Recovered core for the interval from 150-369 feet consisted of alternating massive and thin-bedded gray shale and limestone of the Eagle Ford formation. The rock is veined with calcite and at intervals the bedding is jumbled, giving the appearance of a collapse breccia. By October 3, 1956, the hole had reached 508 feet, presumably in the same formation. Based on normal projection from nearby drill holes (5-7 and 5-6), rhyolite should have been encountered at a depth of about 200 feet. Inasmuch as the maximum thickness of the Eagle Ford formation in the immediate area is about 450 feet, it is expected that this hole if continued would intersect the rhyolite within the next 100 feet.

Drill hole 9-4 previously logged (Interim Geological Report, July 27, 1956) to a depth of 360 feet was bottomed at 537 feet in unaltered rhyolite porphyry. The rhyolite porphyry is a light gray, aphanitic to fine-grained dense rock. Microscopic examination of core samples shows that the upper 50 feet represents a chill zone. Phenocrysts of quartz and feldspar (sanidine?) about 0.1 inch in diameter occur sparingly in an aphanitic to microcrystalline groundmass. The lower 130 feet is coarser textured and contains phenocrysts of quartz, feldspar, and hornblende scattered through a fine-grained crystalline groundmass. It has much the appearance of a fine-grained granite.

Plotting of all the holes with respect to location and collar elevation, as submitted by the operator, indicates that the rhyolite porphyry is a sill-like mass and in general flat-lying with local offsetting in the vicinity of faults and sink structures. Results of drilling hole no. 5-8 indicate that the sill may have been dropped 200 to 300 feet by collapse in a sink, or by normal offset in a graben. The geologic map by Thompson (open file report, May 31, 1950) shows such a graben trending southwesterly in the vicinity of the location of hole no. 5-8.

CONCLUSIONS

Although the exploration accomplished to date has yielded only negative results in respect to mercury mineralization in the upper Cretaceous sedimentary rocks and in the near surface faulted areas, it is repeated here for emphasis that the major objective of the contract was to explore for mercury in the lower Cretaceous Georgetown limestone. To date, apparently because of the operator's inability to drill through the rhyolite porphyry - a common igneous rock type drilled successfully in many metal mines - the objective has not been reached.

The operator states that he is planning to explore on his own account using geophysical techniques to help determine more

precisely the attitudes of the bedded rocks, igneous sills and dikes, and depth of the lower contact of the igneous sill; a recess has been allowed the operator for this purpose (Monthly Report, Region IV Field Team, October 3, 1956, C. C. Knox).

The deepening and completion of at least one Stage I hole to penetrate the igneous sill obviously would provide needed control for such geophysical exploration.

RECOMMENDATIONS

It is recommended (1) that any request by the operator to terminate the contract be denied, unless satisfactory evidence is submitted that the igneous sill is so thick as to make exploration beneath it impracticable, or that mercury mineralization is not likely to occur in the Georgetown (Devils River) limestone below the sill; and (2) that no additional Stage II drilling be approved until at least one Stage I hole is completed through the igneous sill. The writer concurs with a suggestion by J. N. Faick, U. S. Geological Survey (Oral communication October 2, 1956), that such an attempt might best be made by reoccupying hole no. 5-6 or 5-7 because the geology is less complex, and the sill was encountered at shallower depth in these two holes than at other drill sites.

Robert U. King

Robert U. King
Geologist

3776

ACTION ON INTER[illegible]
OR FINAL FIELD TEAM REPORT
Date 8-6

Referred to:

1. ~~Mr. [illegible]~~
2. ~~Mr. [illegible]~~
3. ~~Mr. [illegible]~~
4. Docket Control Mails and Files
5. _____ Division
6. Docket Control Mails and Files

Note comments in report regarding:

1. Disappointing results
2.
3.
4.

and take apropriate action.

- - - - - - - - - -

Action taken by Division:

Robert E. Adams

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

P. O. BOX 431
JOPLIN, MISSOURI

RECEIVED
AUG - 6 1956

August 3, 1956

Memorandum

To: DMEA Operating Committee, Interior Building, Washington 25, D. C.

From: C. C. Knox, DMEA Field Team, Region IV

Subject: Interim Report of project inspection - Contract Idm-E893
Contrabando dome, Lajitas, Presidio County, Texas
Big Bend Mining, Inc., Box 269, Abilene, Texas
Docket DMEA-3776 (mercury-uranium)

Introduction and Summary:

During my recent 10-day trip on DMEA examinations in Oklahoma and Texas, I spent all time available from my other assignments in the Texas Big Bend region with John Faick (USGS-Tucson) on the Field Team's monthly inspection of the subject project from July 19 through 22. I concur entirely with the opinions given in his report of this examination forwarded herewith, as I did with those in his report of June 26 furnished you after his first inspection there. The generally discouraging outlook presented by all the project results to date was discussed in detail with Mr. Faick, and with the Operator's representatives present at the project throughout our examinations: Messrs. P. S. Kendrick, President; L. C. Whittiker, Project Supervisor; and, J. R. Johnson, Diamond Driller.

Briefly, I was convinced that it would be logical, even from the Government's vantage to urge the Operator to make a final all-out effort at least to reach the projects' objective in some carefully selected sites where worthwhile ore depositions yet are inferred in the face of the admittedly negative project results to date. Therefore, under Amendment No. 2 (advance reasoning and copy furnished you August 1), based on justifications in previous Field Team correspondence and Interim Reports, provisional approvals were given for the three holes yet to be drilled in changed locations. Thus, a preliminary test at depth will be made of the three areas evidenced on the surface as having the most significant mineralization, alteration and structural disturbances. If this final effort fails to reach project objectives, the Contract should be terminated promptly by mutual consent, or for failure to achieve results.

Since my previous inspection of the project, reported May 16, only 1,480 feet had been diamond drilled under "Stage II" of the Contract in holes No. 9-3, No. 5-6, No. 5-7, and No. 9-4. Drilling of the latter was in progress in igneous rock at 450 feet in depth on the close of our project inspection. No significant mineralization was detected in the

cores from any of the six holes drilled to date. Drilling progress likewise has been discouraging and at terrific cost; according to the drilling sub-contractor, Kendrick Oil Co., far in excess of $10 per foot for the direct operational drilling costs alone.

In a telephone call to me on the morning of July 30, Mr. Kendrick explained that drilling of hole No. 9-4 in progress at 520 feet in depth had encountered "unaltered fine-grained granite" like that found virtually impossible, or at least impractical, to penetrate in each of five widespread holes previously drilled under this project Contract.

Conclusions:

1. Evidently the previously inferred laccolith underlying the Contrabando dome area is much thicker and more extensive, but less altered and fractured than the large rhyolite sill exposed at the eastern extremity of the dome, or those of like composition in relation with some mercury ore deposits as at Study Butte and Mariscal mines.

2. The initial exploratory drilling at depth should have been confined to a few areas with the most significant mineralization, alteration and structural deformation where sizeable avenues of porosity most likely existed during the ascension of hot solutions, including: (a) the area at the so-called Shoemaker underground mine workings in the southwest part of section 108; (b) southeasterly from there along the line of discontinuous igneous outcrops, to the west of which no baked strata outcrops have been noted, drilling of the area at the open-pit in section 109 (Site 1) should be comprehensively concluded; and, (c) and the "sink" structure referred to as Site 7 in section 105.

3. Apparently the mercury mineralization reported on the fault and intersecting fracture zone mapped at the igneous outcrop where hole No. 9-4 was drilled, if present, could not be found with the drilling of only that one hole.

Recommendations:

1. I concurred with the recommendations in the attached report by Faick, and upon the formal July 25 request of the Operator, gave provisional approval for drilling a hole in each the section 108 site and section 105 site, as specified, subject to the enactment of proposed Amendment No. 2, tendered the Operator on August 1.

2. I gave the Government's approval for drilling a "Stage II" hole at Site 1 in the meantime, as formally requested by the Operator July 27, somewhat as suggested in my May 16 Interim Report.

3. I reiterated that the Operator should continue making every effort to employ the services of a competent consulting mining geologist for reviewing the project work by completion of "Stage I" work.

4. Unless favorable results are achieved by drilling the three

holes now tentatively approved under the proposed Amendment No. 2, this project Contract should be terminated promptly thereafter.

Work Completed (7-22-56):

Bulldozing: - 46 hours on about 4 miles of roads and 7 drilling sites.

Diamond Drilling: -

Hole No.	T.D.	Cement Redrill	Ream Case	Remarks
9-1	700'	82'	21'	igneous rock 630 to 700'
9-2	596'	--	40'	" " 580 to 596'
9-3	578'	50'	45'	" " (342 to 384', 413 to (470', and 538 to 578'
5-6	216'	80'	--	" " 175 to 216'
5-7	395'	25'	27'	" " 340 to 395'
9-4	450'	(in progress 7-22-56)		" " 360 to 450'

It became necessary for the Operator to replace Mr. Oscar Reynolds, Diamond Driller, so the project drilling was recessed from May 25 to June 4, when Mr. James R. Johnson, just returned to Dallas from a diamond drilling project in Venezula, was employed through the Joy Mfg. Co. at $3 per hour, $4.50 over 40 hours per week, and has drilled the last three holes. Progress, however, has continued to be as discouraging as before, but Mr. Johnson apparently is very competent and dependable with broad experience under sponsorship of the Joy Co.

Core recovery continues to be very good and few unusual difficulties have been encountered in the sedimentary and porous altered sections of the igneous rock (one thin silicified shale strata reportedly wore out two diamond bits). In every hole, when the unaltered fine-grained section of the igneous laccolith (?) was reached, no type of bit was found to make satisfactory progress. Two bits were used on the last 3 feet of hole No. 5-6. Cost of resetting the NX-size bits runs from $150 to $175 apiece. Bit resetting plants are so far behind on work orders that it has been taking about 3 weeks before each is returned to the job. This particular fine-grained igneous rock rapidly wears the bortz setting on the inside of the bit so that the core wedges therein blocking further rotation and progress.

No significant mineralization has been detected in cores from the drilling to date and no samples have been assayed.

The Operator's MF-104 Reports covering the first two months work on the project (April and May - the first three holes) have been approved in full.

Clinton C. Knox

Clinton C. Knox
Mining Engineer

CCK/enn
encl. (4)
cc: DMEA Op. Com. (3)
Harshman, USGS, Denver
Faick, USGS, Tucson
3776 file - Knox

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AUG 1 1956
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JOPLIN, MO.

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GEOLOGICAL SURVEY
DENVER, COLORADO

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Box 4126 University Station
Tucson, Arizona

July 27, 1956

MEMORANDUM

To: Mr. C. C. Knox, Executive Officer, DMEA Field Team, Region IV

From: J. N. Faick Through: E. N. Harshman

Subject: Interim Geological Report, DMEA 3776, Contract Idm E893 (Mercury) Contrabando Dome, Presidio County, Texas

INTRODUCTION

The interim report which follows is based upon a field examination made by the writer and C. C. Knox during the period July 19-22, and is intended to supplement the writer's interim report submitted June 26. The examiners were accompanied in the field by L. C. Whittiker, project manager, and by P. S. Kendrick, President, Big Bend Mining Company. The purpose of the visit was to re-evaluate the project, study the results of the work completed, and to determine whether further work is justified. During the examination logging of diamond drill core was completed as of July 22, some of the pertinent geological features were re-examined, and some geological sketching was done in the vicinity of the Shoemaker prospect near the southwest corner of Section 108, Block 341, as shown on Fig. 1 of the writer's interim report submitted June 26.

RESULTS OF DIAMOND DRILLING

The completed holes are illustrated on the attached figure 2, and the logs of hole 4, area 4, section 109, and hole 7, area 14, section 105, are attached as an appendix to this report. Drill results of these holes are given below:

Hole 7, Area 14, Section 105

Location: N. 26° E. approximately 4000 feet from the southwest corner of section 105.

Purpose: To be collared within 5 feet of a fault and drilled vertically through all formations, including the upper part of Georgetown limestone.

Results: The hole started near the base of Austin and penetrated Eagle Ford from 43 to 340 feet, thence passed into rhyolitic igneous rocks and was stopped in the rhyolite sill at a depth of 395 feet. Many calcite veinlets were intersected in the Eagle Ford and abundant disseminated pyrite was found in the upper part of the rhyolite. Core slightly brecciated and cemented with calcite from 178 to 180, and from 325 to 326.

Interpretation: This core contains numerous narrow calcite veinlets, a couple of minor breccia zones, and abundant pyrite in the upper part of the rhyolite. The Eagle Ford beds dip at angles of only a few degrees. For practical purposes the hole is of little value to the project.

Hole 4, Area 4, Section 109

Location: About 220 feet S 39° W from the northwest corner of section 109, and about 1100 feet N 63° E from hole 3.

Purpose: Contract requires this hole to be drilled to a depth of 505 feet or bottomed in Georgetown limestone for the purpose of exploring this favorable formation.

Results: The hole apparently started near top of Eagle Ford but no core was obtained in the first 15 feet. From 15 to 35 feet core was mottled in appearance, apparently due to bleaching by hydrothermal solutions that penetrated a breccia zone. Abundant calcite veins in upper part of Eagle Ford. Fault penetrated at 151-167, has an indicated dip of 80 degrees. Igneous intrusive rhyolite penetrated from 124 to 151, 213 to 235, and below 360 feet. Hole incomplete. The relative position of hole No. 4 on the Contrabando Dome and the probable displacement due to faulting makes this one of the best places to attempt to penetrate through the rhyolitic sill; therefore the operators will continue to drill the hole in an effort to penetrate the favorable Georgetown limestone below the sill. Drilling results now available indicate that about 130 feet of Eagle Ford, and all of the Buda and Del Rio probably remain below the sill, and these will have to be penetrated to reach the Georgetown.

Drilling of holes 4 and 7 confirm the impressions obtained from the other holes as mentioned on pages 8-11 in the writer's June 26 report. Inspection of Fig. 2 shows a marked similarity between holes 1 and 2, between 3 and 4, and between 6 and 7; however, notable differences exist between these three pairs of holes. These differences are easily accounted for by the relative position of the holes with respect to structural features of the dome. Although the holes drilled have yielded important lithologic, stratigraphic, and structural data, they failed to find ore, and geologic conditions indicate the holes remaining in Stage I will not find ore unless the locations of the holes are amended to permit drilling of the most favorable areas on the dome.

POSSIBLE MODIFICATION OF THE PROJECT

Two of the areas that the writer considered most favorable for exploration, as mentioned on pages 12, 13 and 16 of the June 26 report, are:

a) The area of the dike-fault intersections at the Shoemaker prospect in the Southwest corner of Section 108.

b) The sink area or breccia pipe near area 7 between areas 9 and 18.

The operators also believe these are the best remaining areas for exploration and are preparing to request an amendment to the contract to permit preliminary drilling of these areas, after completing hole 4 to the Georgetown if possible. Two holes, or about 1800 feet of drilling, remain to be drilled in Stage I and the applicants will request permission to drill one vertical hole in the

sink area and one inclined hole near the Shoemaker prospect. Neither of these holes is provided for in the original contract; therefore the amendment to the contract is required. The writer and Mr. Knox devoted considerable time to an examination of the Shoemaker prospect area and helped the applicant select a drill site and establish an acceptable bearing and angle for the hole. The hole will be drilled due east at an angle of -60 degrees from the selected site and the drill section is to be a few tens of feet north of the Shoemaker adit. The objective of the hole is the favorable Georgetown limestone near the contact with a rhyolite dike or plug which has intruded the limestone. If this limestone has not been completely obliterated by the igneous intrusion, or displaced beyond reasonable drilling limits, then it is an extremely favorable place to look for significant amounts of ore. Factors that make this area appear favorable are:

1. Pronounced deformation by folding and faulting.
2. Close proximity to igneous dikes or plug-like intrusions of rhyolite that contain appreciable amounts of cinnabar and possibly other mercury minerals.
3. Moderate to strong bleaching, alteration, and mineralization (calcite and limonite) of the Eagle Ford formation that overlies the target area.
4. Reported production of a few flasks of quicksilver from the prospects.

The sink or breccia pipe at area 7 was not examined during this visit but was examined by the writer, accompanied by Mr. Whittiker, on June 14. This breccia area appears favorable for exploration because of the presence of abundant calcite that forms veins and masses in the breccia, and because of the presence of limonite that

probably formed by oxidation of pyrite. As important ore bodies have been found in similar brecciated and mineralized areas, it seems desirable to explore the large sink at area 7.

The writer believes these two areas should be explored for geological reasons given above; therefore will recommend approval of an amendment to the contract to permit exploration of these areas if requested by the operators. The two areas are discussed in slightly greater detail in the June 26 report.

SUPPLEMENTARY DATA

Core samples of the rhyolite were selected from hole 1 at a depth of 638 ft., hole 2 at 588 ft., hole 3 at 460 feet, and hole 3 at 540 ft. The samples were submitted July 9 to LaMar G. Evans, U. S. Bureau of Mines, for determination of the metallic minerals in the core, and to determine if copper or mercury was present in the rhyolite. Microscopic examination of the light colored porphyries from the four core drill samples reveals that they are similar in mineral composition and texture and all contain minute grains of disseminated pyrite. Spectroscopic tests on a heavy mineral concentrate prepared from each of the 4 samples failed to show more than a trace of copper. The willemite screen and ultra-violet light test for mercury also failed to reveal its presence, and no other significant minerals were noted in the samples.

In an effort to relate the results of core drilling to known geological conditions on the Contrabando Dome, and to evaluate the character of a structural contour map prepared for the Big Bend

Mining Company, by E. W. Armstrong, the writer constructed two sections (not submitted herewith) through holes 1, 2, 3, and 4. The sections are incomplete because topography is not available; however, the sections reveal significant errors in mapping or interpretation. According to Armstrong's report (page 1), his "map is based on a limestone bed 194 feet below the top of the Eagle Ford section." According to my sections and drill results the position of the limestone bed used as a marker bed is in the Austin limestone from 75 to 100 feet above the top of the Eagle Ford, and is not 194 feet below the top of the Eagle Ford, as stated. This discredits Armstrong's map, which, however, apparently shows surface locations of travetine deposits, faults and igneous intrusions with reasonable accuracy. It is doubtful if the map accurately portrays the structure of the Contrabando Dome.

I previously suggested discarding certain drill cores from the project, and permission to do so was granted the operator by Mr. Knox, in his letter of July 11, 1956. I now believe we can safely discard all the core from holes 9-1, 9-2, 5-6, 5-7, and the upper 225 feet of hole 9-3. I want the operator to store and preserve the core in hole 9-3 below 225 and all the core from hole 9-4 until Stage I of the project is completed.

RECOMMENDATIONS

I believe the Shoemaker prospect in the southwest corner of Section 108, and the sink or breccia pipe at area 7, Section 105 are both worthy of further exploration, and recommend that one Stage I hole be drilled in each of these areas. Reasons for this recommendation are given on pages 3 and 4 of this report, and on pages 12 and 13 of my report dated June 26.

Diamond drill hole No. 7, Area 14, Sec. 105

Interval in feet	Formation	Description
0- 43	Austin	L Gy Massive ls.
43-136	Eagle Ford	Th bd. Very D Gy, Bl sh. Very limy. ∠ 82° at 45 ft., ∠ 84° at 75 ft., ∠ 86° at 100 ft., 6" clay bed at 130 ft. Occasional calcite veinlets. Becomes lighter colored below 110 ft.
136-138	" "	Clay bed.
138-196	" "	Alternating L and D Gy. Th. Bd. limy shale. Calcite veinlets 1/8" thick at 150 ft. ∠ 15° on veinlets. Bd ∠ 77° at 170 ft. Brr cemented with calcite from 178-180.
196-240	" "	Sl shaly from 196 to 200. Sl Brr at 222. Very small folds at 202, 223, 240. Several high-angle calcite veinlets, Ls. fragments in shaly matrix at 234 ft. ∠ 86° at 225 ft.
240-308	" "	Black, laminated limy shale, ∠ 82° at 265 ft. ∠ 88° at 292 ft. Occasional light bands. Core becomes slightly bleached at lower end of run. Local calcite.
308-331	" "	Bl. shaly ls. or limy shale. Numerous thin high angle veinlets of calcite. Calcite at 325-326 on steep fracture and in breccia zone. Leached and corroded at 313-315 ft.
331-340	" "	M-L Gy Blch Eagle Ford. About 10% dark bands. ∠ 84° at 338 ft. Abundant tiny calcite veinlets.
310-395 (Bott)	Igneous	Igneous rock, probably sill of rhyolite, like in hole 9-1, 9-2, etc. Clay-like and chalky alteration. Abu. diss. pyrite. Intensity of alteration and amount of pyrite decreases with depth and rock becomes very much harder.

Diamond Drill Hole No. 4, Area 4, Sec. 109

Interval in feet	Formation	Description
0- 15	No core	
15- 35	Eagle Ford	M and L Gy mottled Shaly Ls, with light colored veinlets cutting M Gy Ls. Mottled effect apparently due to bleaching by hydrothermal solutions. 1/4" - 1/2" calcite or aragonite (?) veins on bedding planes at 30-31 ft. associated with limonite. Some disseminated pyrite is altered to limonite. Bd ∠ 80° at 34 ft.
35- 48	" "	Very dark, or black limy shale. Several high angle calcite veinlets, ∠ 80° at 46 ft.
48- 77	" "	D-M Gy limy shale. Sl brecciated. Abundant irregular calcite veinlets. Estimated 20% calcite. Carbonaceous material on bedding planes.
77-124	" "	D-M Gy Limy shale. ∠ 74° at 86 ft. ∠ 75° at 96 ft., ∠ 77° at 116 feet. Calcite veins at 112 and 118 ft., ∠ 20° Vertical styolites (?) at 99 ft, 106-108. Sample of styolite at 99 ft.
124-151	Igneous	Upper 6-8 ft. is brecciated and contains fragments of altered Eagle Ford. Altered. Sample at 133 gives yellow halo, when tested with H Cl, probably from diss. pyrite.
151-213	Eagle Ford	Bl limy shale. Occasional 6" thick bleached zone. Considerably brecciated and sheared from 151 to 171. Only 2 ft. of core (20% recovery) from 151-161. 80% recovery from 161-167. Some solution of Ls at 161-162. ∠ of shear 10° at 164. Bd 45° at 171 ft. Bd 60° at 179 ft. Bd 66° at 204 ft.
213-235	Igneous	Brecciated. Probably auto-breccia. Some calcite cement or calic alteration (?) around some rounded breccia fragments. About 1 ft. of Eagle Ford at 230 ft.
235-305	Eagle Ford	D Gy th bedded limy shale. Abundant calcite veinlets. Sl brr at 246-248, 262-263. Several small faults at 266-267. Visible pyrite in several places in this run. ∠ 65° at 286 ft.
305-360	" "	Dn Bl limy shale. Th bd. Numerous calcite veinlets on beds and high angle fractures at ∠ 18°. Bd 70° at 347 ft. Sl brr at end of run.
360 (incomplete)	Igneous	F Gr. D Gy. Sill? Ztz. fds. phenocrysts. No diss. py. Probably same igneous rock as found in other holes. Rhyolite.

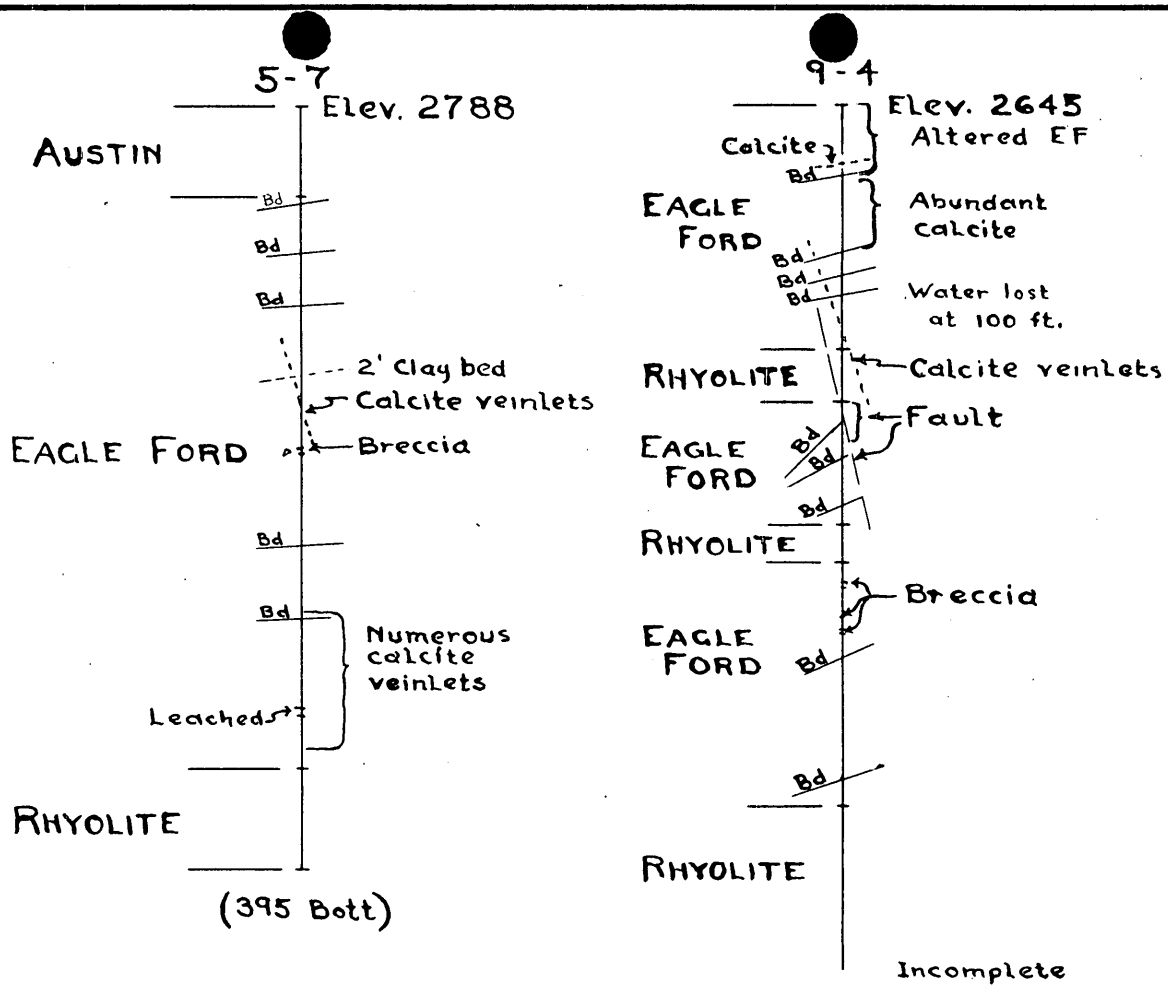

5-7
Elev. 2788
AUSTIN
Bd
Bd
Bd
2' Clay bed
Calcite veinlets
EAGLE FORD
Breccia
Bd
Bd
Numerous calcite veinlets
Leached
RHYOLITE
(395 Bott)
9-4
Elev. 2645
Altered EF
Calcite
Bd
EAGLE FORD
Abundant calcite
Bd
Bd
Bd
Water lost at 100 ft.
RHYOLITE
Calcite veinlets
Fault
EAGLE FORD
Bd
Bd
Bd
RHYOLITE
Breccia
EAGLE FORD
Bd
Bd
RHYOLITE
Incomplete

Fig 2

3776

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT

Date 9-12

Referred to:

1. ~~Mr. McCombs~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. Docket Control Mails and Files
5. _____ Division
6. Docket Control Mails and Files

Note comments in report regarding:

1. Interesting report.
2.
3.
4.

and take appropriate action.

- - - - - - - -

Action taken by Division:

Robert E. Adams

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

Airmail
Spec. Del.

RECEIVED
JUL 1 1956

July 10, 1956

Mr. John N. Faick, Geologist
U. S. Geological Survey
Box 4126, University Station
Tuscon, Arizona

Re: DMEA-3776 (mercury-uranium)
Big Bend Mining, Inc.
Contrabando dome, Presidio County, Tex.
Project Contract Idm-E893

Dear Mr. Faick:

Thanks for your Interim Report on the June 10-15 inspection of the cited project, received a week ago through Mr. Harshman's office in Denver. I believe it gives very good coverage, and that he and I are in concurrence with your recommendations, so I am forwarding the original and three copies with copies of this letter to the Washington Office of DMEA, as required there.

As suggested in my telephone memo of June 27, and in view of the proposals for modifications in this exploration program, a joint Field Team inspection of the project by you and me is desirable soon. Therefore, if possible for you to make the arrangements at this late date, I would like to meet you at the Holland Hotel in Alpine on Wednesday evening July 18. Otherwise, please let me know soon, and I will try to set a later date that will meet with your requirements. I hope we can spend at least three days in that region because I recently assisted in preparing applications which should be "in the mill" soon on mercury properties there of the Dow Chemical Company and Brown & Root, Inc., which I believe we should also see on this tentatively planned trip.

Admittedly, I suggest the date of July 18 to meet you in Alpine for my convenience because I have arranged to meet Mr. Stafford (A.E.C.) for a Field Team examination at Pawnee, Oklahoma, on July 16. Thence, I could confer with Mr. Kendrick of Big Bend's Office in Abilene, Texas, the evening of July 17, and plan to drive to Alpine by the next evening. If you cannot come to Alpine then, however, I will return to Joplin after the Pawnee examination, and try to arrange the Texas trip later at your convenience.

I have received no word regarding this project work since that June 27 phone call from Mr. Whittiker but believe our inspection there next week would be timely. I will notify Big Bend of our plans this

coming Friday, if I hear nothing from you to the contrary.

Sincerely,

CCK/enn

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

cc: DMEA Op.Com.(2) w/4c. Interim Report
Harshman, USGS, Denver
3776 file

RECEIVED
MINERALS TECHNOLOGY
DIVISION
JUL 2 1956
BUREAU OF MINES
JOPLIN, MO.
C.C.K.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
JUL 13 1956

MINERAL DEPOSITS
DMEA
IN REPLY REFER TO:
RECEIVED
JUN 29 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

Box 4126 University Station
Tucson, Arizona

June 26, 1956

MEMORANDUM

To: Mr. C. C. Knox, Executive Officer, DMEA Field Team, Region IV

From: J. N. Faick JNF Through: E. N. Harshman ENH

Subject: Interim Geological Report, DMEA 3776, Contract Idm E893 (Mercury) Contrabando Dome, Presidio County, Texas

INTRODUCTION

On June 1, 1956 E. N. Harshman requested by telephone that I make an inspection of the above subject project for the purpose of making an appraisal of the project results obtained to date, and for determining on future course of action. Don McLaren briefly discussed the project with me at the same time, and on June 8 I discussed it by phone to a greater extent with C. C. Knox. I arrived in Alpine during the early afternoon of June 10, and spent the remainder of the day with L. C. Whittiker, project manager, who subsequently spent considerable time with me in the field. We arrived at the project about noon on June 11, and I remained there until nearly noon June 15. During this interval we inspected the surface geology at the Chisos mine, and the Fresno mine, and inspected the surface and underground workings at the Lone Star mine. The remainder of the time was devoted to examining pertinent geological features of the project area and to logging the core of the completed holes. The findings of the writer are presented in this interim report, which, for the sake of completeness, repeats some data previously submitted to DMEA by other writers.

GEOLOGY

The project area lies 3 or 4 miles north of the Rio Grande River, near Lajitas, an isolated community about 30 miles southeast of Presidio, Texas. It is in the Terlingua district, in which significant quicksilver deposits have been found widely scattered in a district of several hundred square miles in extent. This district is underlain by a thick series of Cretaceous formations that are intruded by Tertiary igneous rocks, and in places are covered by Tertiary volcanics. The Cretaceous stratigraphic section, which is greatly generalized to conform to local usage, is as follows:

Formation	Approximate Thickness in feet	Description
Austin	500	Buff or tan impure limestones and marly shales, generally thin-bedded. Tend to be thick-bedded or massive near base. Dark gray where baked by igneous activity.
Eagle Ford	500	This formation is frequently called Boquillas Flags. It is dark gray to black thin-bedded limy shales, and in places contains many thin beds of gray limestone. A few thin clay beds are present in the formation. In many places it contains small amounts of hydrocarbons.
Buda	80	Medium to light gray dense, nodular, pure limestone. Locally contains small deposits of mercury.
Del Rio	120	Dark gray to black shale, reportedly sandy at base. Reportedly forms impervious cap rock over many mercury deposits.
Georgetown	100 ?	Moderately bedded, locally brecciated coarse-grained, locally cavernous limestone. This is the most favorable host rock for mercury ore.
Edwards	900 ?	Georgetown is gradational into Edwards without distinctive formational break. Edwards is massive, dense, compact gray limestone with low degree of porosity. This is considered an unfavorable host rock for ore.

This stratigraphic section is important because the favorable Georgetown limestone is the only formation likely to contain significant deposits of mercury, and this formation in the area being explored is covered by erosional remnants of overlying beds at least as high as the lower part of the Austin.

Many small, widely scattered, travertine deposits occur throughout the district. These are important because they are believed to be genetically related to the quicksilver deposits, and travertine and quicksilver ores occur in close proximity in many places.

Igneous intrusive rocks are abundant in the area. These form dikes, sills, laccoliths ? and numerous small pipe-like masses resembling plugs, or round dike-like intrusives that crop out along or near a few major vertical or steeply dipping faults. Extrusive volcanic rocks are present throughout most of the district but are not present in the area being explored.

In its broader aspect the district geology is surprisingly simple; however, the formations mentioned above are deformed by broad open folds, domes, and by steeply-dipping faults. In general the beds dip from 1° to 10°, but in a few intensely deformed areas these may be very steep or nearly vertical. Local doming of the sediments apparently has been caused by intrusion of sills and laccoliths. The gentle folds are cut by 2 systems of steeply-dipping faults--one strikes N 40° W and the other strikes N 60°-80° E.

The Contrabando Dome (fig. 1), now being explored by this project, DMEA 3776, is a locally well-known quaquaversal structure situated a few miles north of the Lajitas. The dome is circular in

plan, is about $2\frac{1}{2}$ miles in diameter, with Austin limestone exposed at the surface. The beds dip from 5° to 12° on the eastern, northern and southern sides and are slightly steeper on the western side. In a small area on the southwest side of the dome the beds are considerably deformed, apparently by faulting and by igneous intrusions, the beds in this area locally dip as much as about 45° to the southwest, away from the center of the dome.

The dome is cut by several well-defined high-angle faults and by minor shear and fracture zones. These structures apparently correspond to the regional fault pattern mentioned on page 3. Several rhyolitic dikes and plugs have been intruded along or near some of these faults.

ORE DEPOSITS

Cinnabar is the principal ore mineral in the quicksilver deposits in the Terlingua district; however, native mercury, calomel and several rare minerals, are also found. These occur associated with calcite, pyrite, clay, and hydrocarbon compounds. Ore bodies occur as veins, mantos, pipe-like and chimney-like bodies in limestone, clay and intrusive igneous rocks. Apparently mantos were the most productive deposits; however, considerable ore has been produced from breccia pipes. Presumably these formed in solution cavities in limestone which were filled or partly filled by clay or limestone fragments, or other rubble that have fallen from the roofs and walls of the cave. Calcite fills the voids in the rubble, and where accompanied by cinnabar forms excellent ore.

Several geologic features that appear to be genetically related to ore, and that may be used as guides to ore, are as follows:

1. Lithology; the most favorable host rock is the upper 100 feet of the Georgetown-Edwards ls, with the overlying Del Rio acting as an impervious cap.

2. Folds; history of production indicates that most of the ore has been produced from anticlinal folds or domes.

3. Faults; considerable ore has been found along high-angle fractures and faults,

4. Breccias; breccia pipes and rubble filled solution caverns in limestone have yielded significant quantities of ore.

5. Calcite is always associated with the quicksilver, and pyrite (or limonite) is often present in minor amounts; therefore it is expected that outcrops containing these minerals are worthy of prospecting even if visible cinnabar is not present.

6. Many, or possibly all, of the intrusive igneous rocks reveal traces of quicksilver by the Willemite screen test, and cinnabar is visible in some of the intrusives. Probably zones near the intrusives are the most favorable for exploration.

7. The travertine deposits supposedly are genetically related to ore deposits, and are abundant in some of the most productive areas; therefore, generally they are considered to be guides to ore, or at least to favorable areas for prospecting.

Most of the previously discovered ore bodies seem to be localized in zones where the favorable Georgetown limestone has been broken by pronounced folding and flexing of the beds or by faulting, or by both folding and faulting. The zones that reveal the most ground preparation by structural disturbance are the most likely to contain ore, and broad, open, gentle folds, such as are found on most of the Contrabando Dome are least likely to contain significant bodies.

THE EXPLORATION PROJECT

Most of the Contrabando Dome lies in sections 104, 105, 108 and 109 in Block 341, T. C. Ry. Co. Survey, Presidio County, Texas. The operator's contract with DMEA provides for exploration of parts of Sections 109 and 105 by drilling vertical diamond drill holes about 500 feet deep or sufficiently deep to penetrate into the Georgetown limestone. The contract provides for exploration by drilling in 3 stages; however, only Stage I drilling is in progress. Stage I allows for preparation of roads and drill sites, and for drilling holes at areas 1, 2, 6, 11, 14 and 18, as shown on Fig. 1.

By June 15, 1956 four holes had been completed. These are holes 1 and 2 in area 1, section 109; hole 3, area 3, section 109; and hole 5, area 6, section 105. At this time a hole is being drilled at area 14, section 105, and the operator was requesting permission to drill a hole at area 4, section 109. The available core from these holes was logged by the writer, and the logs are given in the appendix of this report and on Fig. 2. Presently available results of the drilling are given below.

Hole 1, Area 1, Section 109

Location: 150 ft. N. 65° W. of the open cut.

Purpose: To explore all formations down to and including the upper part of the Georgetown-Edwards limestone close to and below an igneous dike-like intrusion.

Results: The hole started near base of Austin, and passed through Eagle Ford, Buda and 27 ft. of Del Rio, thence penetrated 70 ft. of rhyolitic intrusive rock and was bottomed at a depth of 700 ft. Only traces of calcite and pyrite found. Fault breccia penetrated from 44 to 60 feet. No significant metamorphism.

Interpretation: Results inconclusive but disappointing because hole failed to accomplish its purpose. Georgetown limestone was not reached, nature of igneous rock, i. e. whether dike or sill, was not determined, no significant mineralization was found. Reason for breccia in upper part of hole is not known.

Hole 2, Area 1, Section 109

Location: 100 feet S. SW. of open cut.

Purpose: Same as Hole 1, above.

Results: Hole started near base of Austin, penetrated Eagle Ford, Buda, and 25 ft. of Del Rio, thence penetrated 17 feet of rhyolitic rock and stopped at a depth of 596 feet. Core is almost identical to core from hole No. 1; however, the core is not brecciated in the upper part and the Eagle Ford is about 20 ft. thinner than in hole 1.

Interpretation: Essentially the same as hole 1, above. Hole No. 2 apparently barely missed a small breccia pipe, and may have been more effective if it had been drilled at an angle to intersect the breccia.

Hole 3, Area 2, Section 109

Location: S. 21° W. 90 ft. from the smaller of 2 igneous intrusions localized along a major fault, about 1200 feet southeast of hole No. 2. (This hole was to be drilled on the north side of the fault and within 5 feet of it.)

Purpose: To explore the intersection of the fault with the Georgetown-Del Rio contact near the cinnabar-bearing igneous intrusions.

Results: This hole started in Austin, thence penetrated 266 feet of Eagle Ford, below which was found a complex assemblage of igneous rock and breccia (see Log and Section Fig. 2). The core contains a small amount of pyrite and calcite, but no visible mercury mineralization. The last 40 feet of the hole was in rhyolitic igneous rock. Del Rio was not found.

Interpretation: The complex breccia in this core may represent either a fault or a breccia pipe. Some of the igneous rock is brecciated and recemented by itself as in an autolith or a diatreme. Eagle Ford is strongly brecciated in the lower part of the hole. Fragments believed to be Buda limestone were found in the breccia in the stratigraphically expectable position. Del Rio was cut out either by faulting or by the rhyolite in the bottom of the hole. The logical interpretation of this hole is that it penetrated a wide fault zone into which the igneous rocks were intruded. For exploration purposes this is the best hole drilled thus far.

Hole 5, Area 6, Section 105

Location: At the center of a sink-hole or breccia pipe.

Purpose: To explore a breccia pipe as deep as the upper part of the Georgetown limestone.

Results: The hole passed through a few feet of Austin, and about 150 feet of Eagle Ford and bottomed in rhyolite, at a depth of 216 feet. The beds are nearly horizontal and undisturbed. A few thin calcite veinlets were penetrated.

Interpretation: This hole missed the sink-hole or breccia pipe it was intended to explore, and also missed the northeasterly trending fault in the same area. The rhyolite intrusive was found high in the Eagle Ford, about 160 feet below its top.

Impressions from drilling results

The 4 drill holes completed thus far provide useful geological data as follows:

1. The holes reveal general stratigraphic and structural conditions that exist on the dome:

2. Slight stratigraphic variations are indicated; the Eagle Ford ranges from about 415 to 445 feet thick and the Buda is about 100 feet thick:

3. The holes show that most or all of the dome is underlain at shallow depths by igneous rocks probably of a sill-like nature:

4. The holes show that in areas drilled these sill-like bodies lie above the favorable Georgetown limestone, which is deeper than previously thought:

5. Most or all of the igneous rocks are weakly mineralized with disseminated pyrite and rare calcite, but calcite is the most abundant mineral on faults and fractures in the sediments:

6. These holes reveal that most or all of the igneous rocks on the dome and the faults that cross it, and presumably the folds and flexures, are as old as or older than the ore; therefore it is geologically feasible to have ore deposits on the dome.

Of the 4 holes completed thus far, hole 3, area 3, section 109, is by far the most interesting, because it penetrated a significant part of the stratigraphic section, considerable breccia and sufficient evidence of mineralization to allow making a few pertinent observations. The breccia in this hole contained, in order of abundance, fragments of Eagle Ford black slate (Boquillas flags), and Buda limestone. Some unidentified fragments are probably Austin, rather than Edwards or Georgetown. The breccia cement or matrix is reworked shale and minor amounts of recrystallized limestone, with little or no introduced material. Some introduced carbonate appears in hole 3 at a depth of about 382 to 385, and this contains minor disseminated pyrite and one breccia fragment of massive pyrite about 1/2 inch across. At a depth of 516 feet thin calcite veinlets in fragments of Eagle Ford are older than the breccias, and are displaced by post breccia movement. Igneous material from 352 and 362 appears to be auto-breccia, i. e. brecciated and recemented by itself during intrusion. Some igneous material cements brecciated Eagle Ford. Thin veinlets of calcite and pyrite are found in the brecciated sedimentary rocks and in the rhyolite; therefore it is assumed that structural deformation and intrusion of the rhyolite preceded mineralization, but was followed by later movement of a slight extent. As most of the rhyolite contains disseminated pyrite and trace amounts of quicksilver, it is assumed that the quicksilver is genetically related to the intrusive rock in the Contrabando Dome.

An important feature of the igneous sill or laccolith that underlies Contrabando Dome, as revealed by drilling, is that the sill appears to cut across the beds at a low angle; in general it rises from southwest to the northeast. The cores of holes 9-1 and 9-2 are nearly identical and here the top of the sill is in the Del Rio, about 25 feet below the base of the Eagle Ford, but in hole 5-6 the top of sill is about 160 feet below the top of the Eagle Ford section. In hole 9-3 the stratigraphic position of the sill is not known because of the fault, but indications are that the sill is considerably above the Del Rio; therefore higher than in holes 9-1 and 9-2.

IMPRESSIONS OF THE PROJECT

Now that 4 holes have been drilled into the Contrabando Dome, we know that the project, as far as DMEA is concerned, is a comparatively long-range "wildcat", as pointed out in previous reports. The principal deterrent to exploration of the dome is that most of it lacks the pronounced structural deformation produced by pronounced folding and faulting that has been responsible for localization of some ore bodies in other parts of the district. In general, broad open folds such as are found over most of the Contrabando Dome are less likely to contain ore than abrupt folds or flexures. Another deterrent, which, of course, was impossible to foresee, is the fact that the dome is apparently underlain at a shallow depth by a rhyolitic sill or laccolith. The thickness of this sill is as yet unknown, but it will be necessary to drill through it in order to reach the favorable Georgetown limestone unless

places can be found where the Georgetown is above the sill, or places where the sill is absent. If the sill cuts across the beds, as suggested by drilling, conceivably it might extend below the Georgetown to the west or southwest of the Contrabando Dome. Possibly the sill may pinch out toward the east or northeast side of the dome, or may in some way be influenced by faulting.

If we accept the factors listed on page 5 as being the best guides to ore, then it is obvious that only hole 9-3 has been effective exploration and the other holes were ineffective except that they revealed significant stratigraphic data. To be more effective, drill holes will have to be directed toward specific targets and will have to reach the favorable Georgetown limestone. Possibly some means can be found to do this by modifying the present program; otherwise the program may have to be terminated at the end of Stage I.

Holes remaining to be drilled under Stage I of the contract are a hole now being drilled at area 14, and 2 holes to be drilled at areas 11 and 18. I do not believe these holes will find ore or will provide adequate information by which ore can be found. In my opinion these holes are not located in zones that might be considered geologically favorable for ore, if the factors listed on page 5 are the best acceptable guides. Of these 3 holes, the proposed hole in area 11 appears best because it is on a prominent fault along which there are a number of igneous intrusives and considerable quicksilver has been detected by making willemite screen and panning tests along the fault. However, I do not recommend drilling a hole at area 11 because it would yield results almost identical to hole 9-3 in area 3, and with hole 4, which will be drilled soon.

BASIS FOR POSSIBLE MODIFICATION OF THE PROJECT

It is my belief that the Contrabando Dome exploration project can be improved by the selection of new areas for exploration, but of course there is no assurance that changes in the program will result in a discovery. I believe that drilling results can be greatly improved by drilling inclined holes to supplement the vertical holes now being drilled, and if extensive drilling is done it may be advisable to employ other methods of drilling.

The area I like best is in section 108, about 1000 feet northwest of area 20, at a point where northwesterly and northeasterly trending dikes and faults intersect. This may be the old Shoemaker (?) prospect, as it has been explored by a short adit, a shallow winze and a few small open cuts. Cinnabar can be seen in some of the dike material, and it is said a little quicksilver was produced from the dike. Here the strata reveal the most intense deformation of any on the Contrabando Dome, and dips appear to be about 45 degrees. Material that might be Eagle Ford or possibly Del Rio was penetrated by the winze. If the Georgetown is not cut out by igneous intrusives it probably is within reasonable drilling distance as metamorphosed lower Austin beds and possibly Eagle Ford beds crop out in the area. The favorable zone is ideally situated for drilling inclined holes from a deep arroyo on the west side of the prospects. I consider this area to be very favorable because of (1) relatively intense structural deformation, (2) proximity of igneous rocks, (3) presence of cinnabar in the igneous rocks, (4) relatively shallow stratigraphic depth to the Georgetown if it is not cut out by igneous intrusions.

Another area that appears to be worthy of exploration is a northwesterly trending sink area or breccia pipe near area 7 between areas 9 and 18 shown on the map. In this area the collapse breccia is cemented in part by considerable amounts of vein calcite, and some limonite (probably derived from pyrite) is also found in the breccia mass. As calcite and pyrite are often associated with the quicksilver, and as ore has frequently been found by prospecting stringer veins of calcite, it appears that this area is worthy of exploration. It is possible that the sink may have formed along a system of joints or fractures that form a link between two of the main northeasterly trending faults. As any ore is most likely to be found along the margins of the breccia pipe it should be explored by inclined holes, as well as one or two vertical holes.

A third area that has some merit is at area 4 where the next vertical hole is to be drilled, a short distance south of the location originally selected. From data presented on Armstrong's map this area appears to be very favorable. Here a prominent northeasterly trending fault, which is the same fault as penetrated by hole 9-3, is intersected by a fracture zone which was partly explored by holes 9-1 and 9-2. The prominent fault is also intersected by northwesterly trending faults and fractures which enter the area from the southwest or hanging-wall side. Structural contours shown on Armstrong's map indicate that this area is more deformed than most parts of the dome. Furthermore, the area was intruded by an igneous plug, reported to contain trace amounts of mercury, and several travetine deposits are nearby. There is some

brecciation in the area, and a few calcite veins with small amounts of limonite. These factors give the area a promising aspect. Vertical hole No. 4 will be drilled here, but results probably will not be conclusive unless supplemented by inclined holes.

I suspect area 1 near the open cut also deserves further exploration (with inclined holes) but I believe this is impractical until we obtain a better geological map of it and obtain more precise information on the thickness of the underlying sill.

OPERATOR'S PROPOSED MODIFICATION OF PROGRAM

During the course of my conversation with Mr. Whittiker, who represents the operator, I endeavored to find out what he thought of the project and what he would like to do to finish Stage I. His suggestions follow:

1. Complete hole 5-7, area 14, section 105, which is now in progress.

2. Drill hole 9-4 in section 109, to the proposed contract depth of 505 feet or to bottom in Georgetown. Location to be moved from 50 to 100 feet south of present location. Permission to drill this hole has been granted. It is a promising hole for reasons given on page 13.

3. Change location of hole 5-8 in area 18, section 105, to sink area about 1000 feet southeast of area 18, or near area 7. Proposed depth of hole is 800 feet and it is to be drilled in SE center of sink area to avoid penetrating walls of sink. Hole will be drilled to Georgetown, unless a thick sill makes it impractical to drill to this depth. I think this is a good hole but believe it should be supplemented by inclined holes.

4. Whittiker proposes to move hole 5-5 from area 11 to 700 feet farther northeast. He wants to drill on south side of major fault to cut top of Georgetown near the fault. I am opposed to this hole because I believe it is outside of the best areas and will not give much more information than was obtained from holes 9-3, or will be obtained from hole 9-4, which is to be drilled next.

Whittiker does not want to deepen any of the present holes to penetrate through the sill under Stage I but might be willing to do it under Stage II. He now believes any ore found below the sill will be too deep for economic recovery. In this respect his proposals are inconsistent in that he is willing to drill holes 5-7, and 5-5 for information but objects to deepening any of the present holes to obtain information relative to the thickness of the sill.

WRITER'S SUGGESTIONS REGARDING PROJECT

As mentioned on pages 12 and 13 the writer believes there are 3 areas in which exploration may be justified, and it is possible that additional drilling may be desirable near holes 1 and 2 in section 109. I believe both vertical and inclined holes are required to adequately test these target areas and at least 2 holes will be required in each area. Usually the first hole yields only enough structural and stratigraphic data to make it possible to intelligently direct the other holes and if holes are grouped so as to explore the best target areas they might result in a discovery being made.

Although exploration of the Contrabando Dome is more-or-less wildcatting, it seems to me that it is to the Government's interest to continue the project at least to the end of Stage I, possibly with slight modifications.

As mentioned on pages 12 and 13, I suggest exploration at (a) area 4, (b) the sink or breccia pipe near area 7 between 18 and 9, (c) the dike and fault intersection 1000 feet northwest of area 20. Possibly additional drill holes would be justified at area 1 and area 6. By all means we should endeavor to obtain more information relative to the thickness of the sill and its stratigraphic position. I think we

should try to drill a couple of holes through it, possibly by deepening holes 9-1 and 5-6.

The drilling completed has yielded good stratigraphic data on all the rocks above the sill. We may want to re-examine the breccias, faults and igneous rocks in the core and the operator should continue to store these cores. The cores that contain only normal undisturbed Austin, Eagle Ford and Buda can now be discarded so the boxes can be re-used. I think it is safe to discard the first 550 feet of hole 9-1, the first 500 feet of hole 9-2, the first 225 feet of hole 9-3, and the first 150 feet of hole 5-6. The remaining cores should be stored at least until stage I is completed. I do not believe the cores are important enough to justify permanent storage.

Drilling conditions on the Dome are excellent and the Nx holes being drilled yield nearly 100 percent core. Nx core probably is not necessary, and Ax drilling should give very satisfactory results at a lower cost to the operator.

CONCLUSIONS AND RECOMMENDATIONS

In this writer's opinion only a few places on the Contraband Dome, as explained on pages 12 and 13, qualify for Government participation in exploration. The three places which the writer believes most likely to result in a discovery of ore are:

a) The area of the dike-fault intersection about 1000 feet northwest of area 20,

b) The sink area or breccia pipe near area 7 between areas 9 and 18,

c) The faulted, fractured and brecciated area at 4.

Part "c" above will be partly explored by the next hole drilled; therefore parts "a" and "b" provide the next logical exploration targets. Exploration of these targets has not been provided; therefore it will be necessary to amend the contract in case it is desired to drill these areas. I recommend that these 2 areas be explored by drilling, providing a suitable program can be worked out with the operator. Possibly more exploration can be done at area 1, but this should not be undertaken until we can determine the thickness of the sill. I do not recommend drilling for manto deposits beneath the sill except in areas of greatest deformation, because if such deposits exist they are likely to be comparatively deep, small in size, and difficult to locate.

APPENDIX

DRILL LOGS

Abbreviations used in the following logs are as follows:

L	= light	Bd pl	= bedding plane
M	= medium	Bnds	= bands
D	= dark	Fa	= fault
Bl	= black	Brr	= breccia
Gy	= gray	Abu	= abundant
Blch	= bleached	Sl	= slight
alt	= altered	Ls	= limestone
Th	= thin	Ig	= igneous
Tk	= thick	diss	= disseminated
Mass	= massive	py	= pyrite
Dn	= dense	qtz	= quartz
Bd	= bed or bedded	frags	= fragments
		sh	= shale

Explanation:

Apparent dip of beds as given in logs is the acute angle measured between the side of the core and the bedding plane.

Diamond drill hole No. 1, Area 1, Section 109
Contrabando Dome, Presidio Co., Texas
Big Bend Mining Co., Inc.
DMEA 3776
Logged by J. N. Faick

Interval in feet	Formation	Description
0- 32	Austin	L Gy Mass Th Bd Ls.
32- 35	"	Breccia, 1/2" calcite vein on fa @ 35'. Acute ∠ 50°.
35- 44	"	D Gy, Sl Thin Bd Ls. Possibly Boquillas Flags (Eagle Ford).
44- 51	?	Fa Brr, contains large L & D Gy frags of Ls in dark shaly matrix.
51- 58	?	About 50% brecciated. Remainder probably is Eagle Ford.
58- 77	Eagle Ford	D Gy Shaly beds. Probably Eagle Ford. Brr @ 63 ft., 69-70, 71 ft. ∠ 65° on Bd @ 65 ft.
77-168	" "	Bl Sh. Th Bd. Acute ∠ 60° at 90 ft. ∠ 65° @ 160 ft. Abu very thin light colored partings on Bd pl. Possibly Blch shale or calcite.
168-182	" "	Abu 50% L Gy limestone. Massive in places. Significant? 1 ft. clay at 176.
182-215	" "	Banded light and dark gray bedded shale. Very limy to 50%. L Gy like previous interval. ∠ 50° @ 190', ∠ 60° @ 215'.
215-313	" "	Interbedded L & D Gy shaly Ls. Amount of L Gy material decreases gradually toward end of run. ∠ 70° at 232', ∠ 68° @ 300'.
313-373	" "	Calcite stringers @ 358', ∠ 32°, also ∠ 0° (vert.). Trace oil seep with veins. Core is black shale, numerous thin L Gy partings.
373-464	" "	Bl Shale. Occasional L Gy partings. 1 ft. clay bed @ 424-425. ∠ 80° @ 390'. ∠ 78° @ 458'.
464-490	" "	Bl shale. Numerous scattered L Gy. partings. ∠ 76° @ 490'.
490-509	" "	Bl Shale with great increase in number and thickness of L Gy Limy partings. These form about 50% of core at end of run.

Diamond drill hole No. 1, Area 1, Section 109 Continued

Interval in feet	Formation	Description
509-530	Buda Ls	L Gy Dn Mass Ls. Numerous prominent styolites. Ls gets darker toward end of run. May be due to increase of dark insol. material with styolites. Rounded nodular structures in places.
530-562	" "	M-D Gy mass. Ls. Sl nodular. Numerous styolites. Considerable black shaly material. Possibly residue from solution of Ls; but is very limy.
562-603	" "	L-M Gy Dn Ls. Similar to 509-530.
603-617	Del Rio	Bl Shale, with occasional nodules and bands of L-M Gy Ls. 1/16" veinlets of calcite on bedding @ 605-608. No Hg or U_3O_8 when tested with willemite screen and geiger counter (Whittiker tests).
617-630	" "	Black shale with many L Gy Ls bands or partings like in Eagle Ford. Several high angle calcite-pyrite veins @ 615-625, ∠ 10°, ∠ 25°. Some fossils. Bd ∠ 78° @ 625'.
630-700 (Bott)	Igneous	Laccolith? Rhyolite? F Grained Qtz phenocrysts. Abu diss py. Sample at 638'.

Diamond drill hole No. 2, Area 1, Section 109

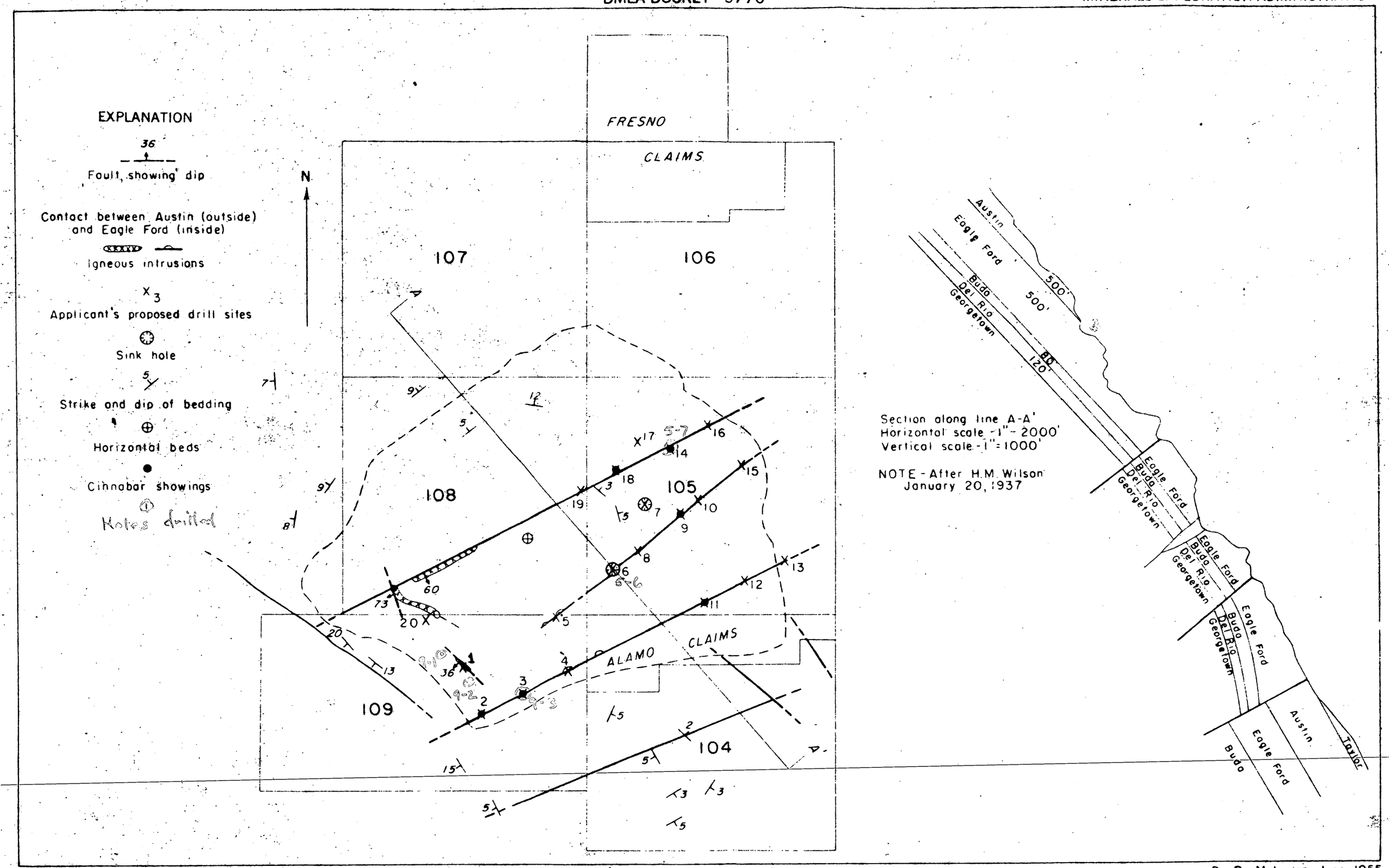
Interval in feet	Formation	Description
0- 30	Austin ?	L-M Gy Dn Ls. Massive. Sl Brr. Scattered veinlets of calcite and ankerite? Sl Shaly at 14' ∠ 65°. This may be Eagle Ford. If Austin then some of Eagle Ford is missing.
30-459	Eagle Ford	Bl Sh with numerous L Gy Bnds on Bds. 374-5 Clay alt zone. ∠ 75° @ 390', ∠ 80° @ 350', ∠ 68° @ 380', ∠73° @ 312', ∠ 68° @ 278', ∠ 68° @ 225', ∠ 68° @ 192', ∠ 66° @ 172', ∠ 68° @ 140', ∠ 65° @ 115', ∠ 55° @ 74', ∠ 50° @ 60', ∠ 46° @ 40'. This core is identical to Eagle Ford in #1. Numerous very thin Limy partings in upper parts. These appear to get thicker and more numerous with depth. Transition from light to dark takes place at depth of about 120 ft.
459-555	Buda	L Gy Dn Massive Ls. Numerous Styolites and irregular D Gy Buda. Like that in Hole #1.
555-579	Del Rio	Bl Shale. Sl Brr at base. Numerous Lt Gy partings or beds. Thin calcite stringers on bedding planes. Bedding ∠ 78° @ 550 ft.
579-596 (Bott)	Igneous	L Gy Quartzose. Abu Diss Py. Sample at 588'.

Diamond drill hole No. 3, Area 3, Section 109

Interval in feet	Formation	Description
0- 31	Austin	L Gy Dn mass ls. Th bd at base. Gradational into Eagle Ford. Bd ∠ 65° @ 35'.
31-297	Eagle Ford	Slightly lighter color than typical Eagle Ford. Th Bd, D Gy Bl, Shaly ∠ 70° @ 75'. 1/4" - 1" calcite veins above 50 ft. ∠ 67° @ 135', ∠ 71° @ 189 ft. Occasional calcite veinlets 1/16" thick cross bedding @ ∠ 18° with core. Bd ∠ 70° @ 235'. Vugs lined with calcite @ 235. ∠ 60° @ 260'. 1" py on bd @ 246'. 3" py and calcite @ 252'.
297-308	Igneous	L gy F Gr. Sl Brr.
308-321	Breccia	Fragment of Eagle Ford and possibly Buda cemented with limy material, recrystallized Ls. Igneous material also acts as cement. Is this a diatrene? Breccia pipe?
321-338	Igneous	L Gy Mass, F Gr. Rhyolite.
338-342	Eagle Ford	Bl Sh. Fossils. Limy partings. ∠ 52° 1/2" calcite vein @ 338.6'.
342-352	Igneous	L Gy mass F Gr. Rhyolite Ig is auto-breccia. Diss py.
352-363	Breccia	Eagle Ford Bl Sh, and Buda frags cemented with igneous material highly altered by calcification. Igneous is auto-breccia, i.e. brecciated during emplacement, and cemented by similar material. Diss py.
363-383	Igneous	L Gy-white rhyolite.
383-418	Breccia	Mostly reworked Bl Sh of Eagle Ford Frags of Buda? Edwards? Amt of L Gy ls increases toward end of run.
418-469	Igneous	Rhyolite. Diss pyrite in upper part. 1/2" thick calcite-pyrite vein @ 430'. Pyrite cut by calcite veinlets. ∠ 38° with core.
469-538	Breccia	Bl Shale and L Gy Ls frags. Eagle Ford, Buda and Edwards (?) represented. Some Limy cement. No igneous material. Traces of pyrite and calcite @ 485' appear to be introduced into breccia. Pyrite fragments at 486. At 516 thin calcite veinlets in Eagle Ford are cut by faults in breccia.
538-578 (Bott)	Igneous	Rhyolite. Sparse diss pyrite. Also some pyrite on fractures.

Diamond drill hole No. 5, Area 6, Section 105

Interval in feet	Formation	Description
0- 10	No Core	
10- 16	Austin ?	M Gy Dn Massive Ls.
16- 28	Eagle Ford	D Gy Dn shaly beds. Moderately brecciated. Cemented with 1/16" thick calcite veinlets.
28-177	" "	Black shaly beds. Blacker than in holes 1, 2 and 3. Beds ∠ 87° @ 50', ∠ 87 @ 166'. Shale becomes darker below about 75'.
177-216 (Bott)	Igneous	Rhyolite, Calcic alteration in upper part. Abu diss pyrite in upper part. 1/16" calcite veinlet containing diss py from 198 to 200. Nearly vert. i.e. parallel to core.



D. R. McLaren June 1955

FIGURE 1 -PLAN AND SECTION SHOWING GEOLOGY CONTRABANDA DOME, TERLINGUA MERCURY DISTRICT, PRESIDIO COUNTY, TEXAS

2000 1000 0 2000 Feet

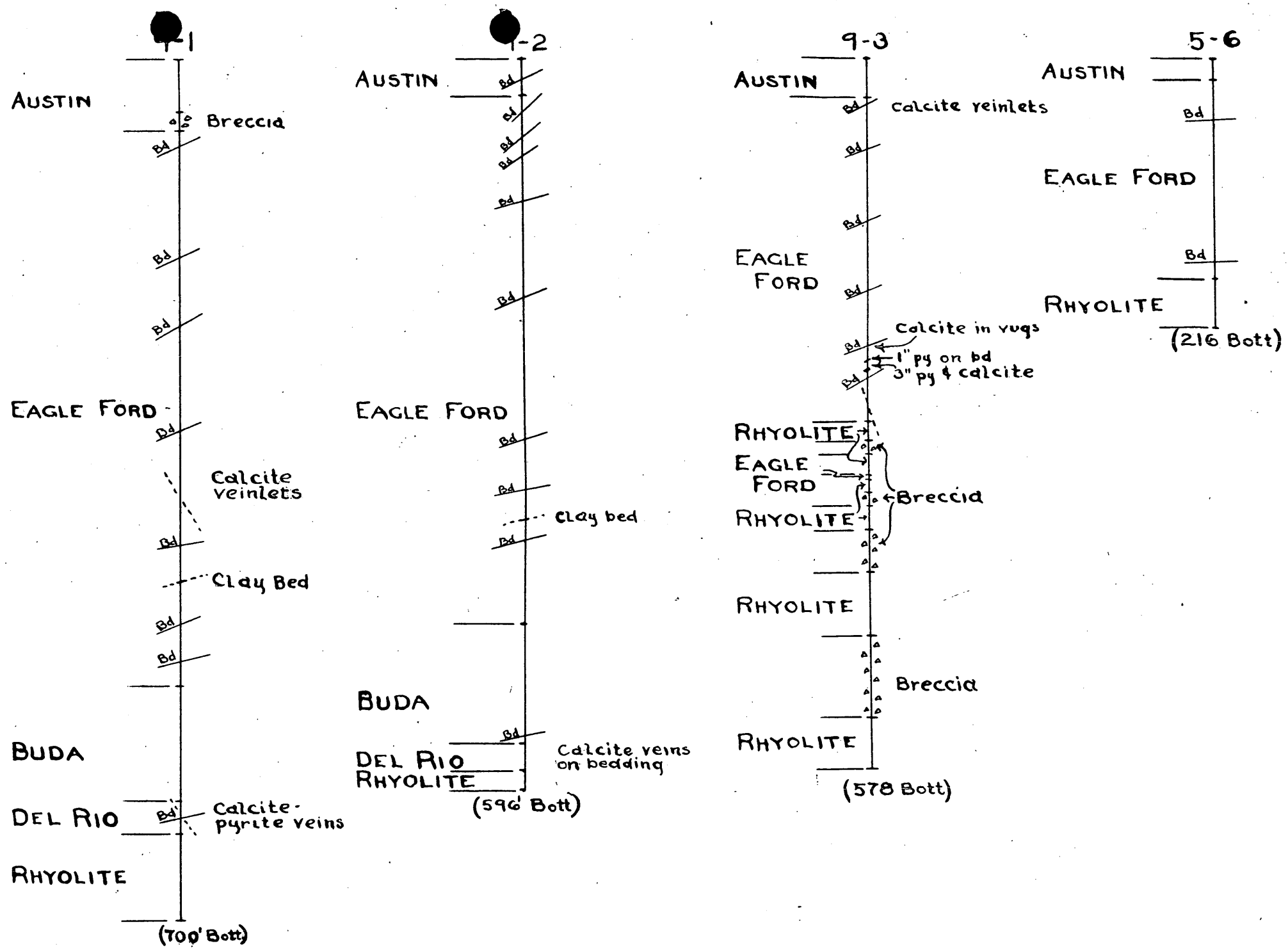


FIG 2
DRILL HOLE SECTIONS
DMEA 3776

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

RECEIVED
MAY 21 1956

May 16, 1956

Memorandum

To: DMEA Operating Committee, Interior Bldg., Washington 25, D. C.

From: C. C. Knox, DMEA Field Team, Region IV

Subject: Interim Report of project inspection - Contract Idm-E893
Contrabando Dome, Lajitas, Presidio County, Texas
Big Bend Mining, Inc., Box 269, Abilene, Texas
Docket DMEA-3776 (mercury-uranium)

On a 10-day trip to the Terlingua mercury mining district of Texas, I inspected the cited project on May 2 with the Operator's representatives Messrs. P. S. Kendrick, President, L. C. Whittiker, Project Supervisor, and Oscar Reynolds, Driller. Preparatory to leaving the district, I also spent the afternoon of May 6 in the Operator's camp at Lajitas examining the drill hole cores with Mr. Whittiker.

By then the cores from the drilling of hole No. 9-3, in progress at 156 feet in depth, were available in the camp storage shed in addition to those from holes 9-1 and 9-2, drilled to 700 and 596 feet, respectively. No mercury or uranium mineralization was detected.

The geologic puzzle presented by the cores of those first two holes leaves both the Operator and myself with considerable consternation; steep-dipping fractures, calcite veinlets, and tiny bedding slips evident in the cores from hole 9-3 indicated that it may conform more nearly to the previous geologic prognostications. It appeared to me, however, that 30 to 70 feet of Austin limestone is present at the collars of all three holes which with the 10 to 35° dips noted on the bedding planes throughout all the cores together with the intrusive sill or laccolith evidenced at 580 to 630 feet in the first two holes, indicates that the target strata lies much deeper than we had anticipated. I approved discontinuance of drilling the first two holes on the supposition that both happened to be in down-faulted blocks throughout their entire depths; stratigraphically both appeared to be virtually identical; and thus did not bracket the indicated cinnabar-making structure at the open pit in Area 1 to furnish the reconnaissance data desired from this Stage I drilling there. Those first two holes are left in good condition to resume drilling if and when warranted. Possibly drilling of at least a shallow hole first should be approved somewhere between the open pit and the sludge sump recently excavated by the Operator (see my attached Sketch Map of Area 1). It appeared to me that the major fault displacement in that area is along the north wall of the open pit but several more or less parallel subsidiary fracture

zones obviously are present between there and the 'fracture zone' shown on the Armstrong map near hole 9-2.

As mentioned above, hole 9-3 cores of Austin limestone and the upper part of the Eagleford flags indicate proximity to the fault in Area 2 so that hole might penetrate the fault to bottom in the raised fault block on the north. Bulldozing of the roads and drilling sites for the Stage 1 work was virtually completed; no heavy rains had come to obliterate that work.

Returning through Abilene on the evening of May 8, I held a summary conference there with Mr. Kendrick and again instructed him on preparing the MF-104 and 104-A Forms for the first month of the project work (April, - project road building and preparing of drilling sites actually was started March 14; diamond drilling, March 23).

That monthly report was received by this Field Team Office May 14, along with the previously requested copy of the extension agreement with the landowners, dated February 28, and the lease on section 108 obtained from the State of Texas April 9, in accordance with the contract. My inspection of the project work, the diamond driller's daily reports, and the time record of the bulldozer operator thereon substantiated the Operator's unit cost claims in its April MF-104 Report (one of the Washington copies is forwarded herewith and the fifth copy along with a copy of this memo report, are being sent to the Denver Office of the Geological Survey for requested review and suggestions regarding my approval of this Operator's April MF-104 Report).

Recommendations:

1. Wherever the indicated Contrabando dome igneous sill or laccolith is encountered at a reasonable depth in one of the Stage 1 drill holes, I advised the Operator to drill through it to bottom the hole in the upper Georgetown limestone strata or to 100 feet therein if justifiable.

2. Unless favorable results are indicated by drilling hole 9-3, I advised skipping the hole 9-4 location at least for the time since it is based on the same sort of geologic premise (as was hole 9-1 with respect to hole 9-2).

3. I advised moving the proposed hole No. 5-6 location about 200 feet southeasterly to a more favorable-appearing point nearer the rim of the indicated large sink structure instead of the previously designated center thereof.

4. The Operator was advised to employ the services of a competent consulting mining geologist for a review of the project work at least by completion of Stage 1 drilling.

5. The Field Team should approve discarding the drill hole cores as soon as examined by a geologist of the Geological Survey and the Operator's logs thereon are found acceptable to the Government. why?

6. The Geological Survey Member of the Field Team should inspect the project, report and make recommendations thereon as soon as such a

trip can be justified by this and other DMEA examination work that may become necessary shortly in western Texas.

7. Unless serious objections are raised immediately, I plan to approve the Operator's First Monthly Report (April) with an admonition that more precise hole locations and logs will be required with its Final Report.

Work Completed (5-6-56):

Bulldozing: - 46 hours on about 4 miles of roads and seven drilling sites.

Diamond drilling: -

Hole No. 9-1 - 700 feet plus 82 feet cementing and redrilling and 21 feet reamed and cased.

Hole No. 9-2 - 596 feet plus 40 feet reamed and cased.

Hole No. 9-3 - in progress at 156 feet in depth.

Equipment and Personnel:

The drilling is being done under a subcontract with the Kendrick Oil Co. of Abilene, Texas, which obtained delivery of a new Joy HD-22 drill rig for this job complete with F61 Ford truck mount and equipment for coring with an NX-size bit. It features a 40-foot derrick, hydraulic movement of the entire drill back on the truck platform to clear the deck for pulling and standing the rods in 30-foot sections in the derrick, and a powerful pump. To date it is equipped only to drill vertical holes.

Mr. Oscar Reynolds, expert serviceman and diamond driller of the Joy Mfg. Co. came with the rig from Michigan City to demonstrate its uses and train a drilling crew. Such men as they have been able to employ to date, however, do not appear to have the necessary aptitude to become good drillers so Mr. Kendrick decided it would be profitable to retain Mr. Reynolds as the driller throughout the job or at least as long as Joy can be induced to let him stay. Mr. Reynolds explained to me that slow progress to date was due delays in obtaining necessary tools, materials, supplies and water hauling equipment, training men, and organizing the camp and project; no unusual difficulties had been experienced on the drilling. Because of porosity of the surface rocks, a large steel lining for the sludge pit had to be built for water conservation which is important there.

Comments:

In recent surveying, staking, and bulldozing of the site for hole No. 5-6 in Area 6, the Project Supervisor found a pile of discarded diamond drill hole cores. Further search revealed two inclined casings protruding from the ground nearby. During my conference with Mr. and Mrs. Bledsoe, the Landowner's, at their home in Big Bend National Park on the morning of May 6, they recalled that a Mr. Dennison had attempted to diamond drill three holes in section 105 about 1939. One in the northeast part of the section and one at the center of the sink in Area 6 reportedly had to be

abandoned at shallow depths; the other at the center of Area 6 is believed to have reached about 400 feet in depth and evidently bottomed in igneous rock. Failing to reach the target with any of those holes, Mr. Dennison's lease then was rescinded by Messrs. Homer Wilson and Harris Smith, the Landowners at that time.

Therefore, I advised drilling hole No. 5-6 about 200 feet to the southeast in but nearer the southeastern rim of the indicated large sink structure.

Mr. Kendrick, evidently a long-time successful 'Wildcat' oil field operator, never has evidenced complete confidence in the advice of engineers and geologists; since reportedly being charged about $3,000 for the report and map by Mr. Escar W. Armstrong, Consulting Geologist of Abilene, as submitted to DMEA in January, 1956, he obviously has become less enthusiastic about such professional advice. According to information from other sources in Abilene, that report and map, along with the sales efforts of Mr. George Fry, Vice-President of Big Bend Mining, also failed to sell any shares of stock in this Contrabando dome venture. Anyhow, Messrs. Armstrong and Fry no longer are connected with the project operations which received my endorsements.

As I have tried to show on the attached prints of my Sketch Map of Area 1, obviously structure and bedding cannot be projected there reliably even 100 feet. My check of the hole locations and collar elevations there with a Brunton and tape indicates that the location of hole 9-2, given by Mr. Whittiker in the log in his narrative report, is slightly in error but likely of no significance. Mr. Whittiker, Project Supervisor, is a good observer and has a very good layman's knowledge of the geology and stratigraphy of the area, but he has failed to record in his written logs with the April MF-104 Report many of the seemingly unimportant details he pointed out to me when we examined the cores together. He appears to be a good project supervisor and very conscientious but, of course, inexperienced in preparing reports such as required on these project contracts.

Mr. Kendrick tentatively had arranged for Mr. W. D. Burcham, a veteran Terlingua mining geologist and engineer, to log the cores and prepare the periodic reports but he became critically ill. I was assured that a search is underway for another such competent professional man but doubt that any can be found in that region who has the necessary time available.

Clinton C. Knox

CCK/enn

Clinton C. Knox
Mining Engineer

encl.
cc: DMEA Op.Com.(3)
Harshman,USGS,Denver
3776 file
Knox

Form 17
58

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WORK COMPLETED ANALYSIS

After final audit or review report is received, prepare original only and file in official docket

Operator: Big Bend Mining, Inc.		Actual Cost	
State: Presidio County, Texas		Agreed Unit Cost 132.000.00	
Final Report of Audit	Commodity: Mercury	Docket No. DMEA-3776	
Final Report of Review $35,780.75		Contract No. Idm-E893	

Operation	Authorized by Contract and Amendments		Completed		Net cost after sale of Government Property
	Units	Cost	Units	Cost	
Drifting & Crosscutting					
Raising					
Shafts					
Winzes					
Drilling (Specify) Diamond Drilling	18,000'	$126.000	5,333'	$34,846	
Surface Excavation					
Underground Excavation					
Roads and Trails		3,920		918.75	
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify) Analysis		2,080		16.00	
Totals		$132.000		$35,780.75	* $35,780.75

* Net cost total must agree with final report of audit or review.

Prepared by Thos. L. Chapman Date 4/7.58

TLC

31390

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 21 1957

DATE	INITIALS	CODE
6/21	C	220
6/25	CLC	400

June 18, 1957

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

Re: DMEA-3776 (mercury)
Big Bend Mining, Inc.
Contrabando dome
Presidio County, Texas
Project Contract Idm-E893

Dear Sirs:

Furnished herewith is your other copy of the cited Operator's MF-104 Report covering the project work approved for last December-January with the voucher data of the Finance Officer posted thereon.

One copy of this MF-104 Report, which covers the final work done on this project, was forwarded to you May 15, 1957 for use of the DMEA Auditor in preparing the final Report of Review. This case is therefore closed with the exception of submitting our joint final Field Team report which is in preparation.

Sincerely yours,

Clinton C. Knox

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

encl. 2

cc: DMEA Op.Com.
King,USGS,Denver
3776 File

DIVISION OF ADMINISTRATION

206 Federal Building
Bartlesville, Oklahoma

June 17, 1957

RECEIVED
MINERALS TECHNOLOGY
DIVISION

JUN 18 1957

BUREAU OF MINES
JOPLIN, MO.

Memorandum

To: Clinton C. Knox

From: Cora A. Bailey

Subject: Payment MF-104, Contract IDM-E-893, December 1956, January 1957 and final.

Payment of the December 1956, January 1957 and final MF-104 of Contract IDM-E-893 was made on Bureau Voucher no. 4.-18, D. O. Voucher no. 77763, June 13, 1957, in the amount of $2,331.00.

Cora A. Bailey

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 21 1957

DATE	INITIALS	CODE
6/25	PLC.	400

Form MF-104 (Rev.)
(April 1952)

3rd copy - Vouch

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

(gal copy filed to vouch. 5-15-57 CGK.

OPERATOR'S MONTHLY REPORT AND VOUCHER

3770

Month of December 1956 & January 1957 Docket No. DMEA Idm-D893

Operator's Name Big Bend Mining, Inc. Contract No. Mercury & Uranium

Address Box 269, Abilene, Texas Minerals

Contract Amount, $ 132,000.00 Government Participation: 75 % Amount, $ 99,000.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:	2676.00	29322.00	31998.00			
Drilling	-0-	893.75	893.75			
Cementing Redrill	-0-	1256.00	1256.00			
Reaming Cross-cutting Casing	432.00	1160.00	1592.00			
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	-0-	16.00	16.00			
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
Bulldozing transport	-0-	25.00	25.00			
(8) Contingencies (specify):						
TOTALS	3108.00	32672.75	35780.75			

RECEIVED MINERALS TECHNOLOGY DIVISION FEB 6 1957 BUREAU OF MINES JOPLIN, MO.

RECEIVED JUN 27 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date February 4, 1957 *Payee Big Bend Mining, Inc.

Per [signature] Title President

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 2,331.00

Signature (Authorized Certifying Officer)

Date 6-13-57 Vou. No. 40-18

(See other side)

D.O. Voucher No. 77763

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm-E893 in accordance with the terms of the contract.

Signature John W. Chester Title Mining Engineer Date May 30, 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Clinton C. Knox Title Executive Officer Date June 6, 1956

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1956 & January 195 7 Docket No. DMEA 3776 Contract No. Idm-E893

Operator's Name Big Bend Mining, Inc. Minerals Mercury and Uranium

Address Box 269, Abilene, Texas

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Ft.	2676.00	448	31998.00	5333	6.00	18000	6.00
Cement & ~~Ream~~ Redrill	Ft.	-0-	-0-	1256.00)	1424)	2.00	9000)	2.00
Ream & ~~Ruger~~ case	Ft.	432.00	216	1592.00)	)		)	
~~Sampling~~ Sample Analysis	smpl	-0-	-0-	16.00	4	4.00	1360	4.00
Trenching								
Test Pits								
Roads and Trails								
Bulldozing	Hr.	-0-	-0-	893.75	71	12.50	300	12.50
TOTAL DISTRIBUTED COSTS		3108.00		35755.75				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Bulldozer transport		-0-	-0-	25.00				170.00
TOTAL COSTS		3108.00	-0-	35780.75				132000.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date February 4, 1957 Operator Big Bend Mining, Inc.

Per [signature] Title President

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

RECEIVED JUN 21 1957 D.M.E.A.

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

DRILL RECORD

Kendrick Oil Co.
Box 269
Abilene, Texas

Hole No. 5-6 Area 6 Re-entered and deepened

Land Big Bend Mining, Inc. Bledsoe et al

Date: From 11/23/56 to 1/17/57

Location of Hole 1000' N. & 750' E of SW cor. of Sec.105,Blk 341,TC Ry.Sur.Presidio Co.Tex. in E. rim of supposed sink as indicated by Wilson map

Struck Water at — 0 — Stands at — 0 — Elevation 2627

Casing Used 216'

FORMATION	TOP	BOTTOM	REMARKS
Igneous Rock	216	662	Gray, fractured with veinlets of calcite & pyrite. See attached report of L.C.Whittiker for further classification.

Hole 5-6 re-entered and deepened from 216 to 662.
After completing Hole 8-5 on Nov.22, 1956 we were ordered, via telephone, by Mr. Robert U. King, acting Exec. Officer, DMEA Field Team, Region IV and confirmed by his letter to us dated Nov. 26, 1956 to re-occupy hole 5-6 Area 6 and for the purpose of penetrating the igneous "sill".
We reentered hole 5-6 Nov. 23rd cleaned up hole set 216 feet of 2" casing and started coring with AX bbl. On 12/11/56 rods were dropped in hole at 387 feet necessitating a fishing job. The rig was shut down for the holidays. Another driller was put on the job on 1/7/57, fish recovered and on 1/17/57 hole was bottomed at 662 feet in hard igneous rock and by agreement with Mr. Clinton C. Knox, Executive Officer, DMEA field team, the hole was abandoned.
Reference is made to June 1956 report for data on first 216 feet of 5-6. From 216 feet to 662 feet 21 AX diamond core bits were used. or an average of 21¼ feet per bit. It took 186 hours rig time which was less than 236 feet per hour. The formation was extremely hard igneous with fractures and veinlets of calcite and pyrite.
Willemite screen was run on cores for mercury with negative results. All cores were checked with Geiger counter and no radiation was detected.
The deepening of 5-6 to 662 feet completes State 1 of the captioned contract with no indication of cinnabar or uranium present on Contrabando Dome, [redacted].

Driller: N. L. Hancock - from 216' to 387'
Driller: W. G. Freeman - from 387 to 662'

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 21 1957
DATE INITIALS CODE

KENDRICK OIL CO.

By B. Kendrick, Pres.

PROGRESS REPORT ON EXPLORATION PROJECT CONTRACT

NO. TDR - 8893. DOCKET NO. DMEA - 3776.

Dec 1956 and Jan. 1957

CONTRABANDO DOME PRESIDIO CO., TEXAS, BIG BEND MINING, INC.

Report on Reentry of Drill Hole, 5 - 6

Section 105 From 216' to 662' - AW Core

216' - 247'
Hard light grey igneous rock, vertical and high angle, fracture, some pyrite dissemination, white calgareous material with pyrite crystals on fracture faces.

247' - 281'
Hard light grey igneous rock, occasional vertical fracture, bottom section grading into mottled greenish grey spots resembling fine grained granitic rock, occasional feldspar phenocryst, some spotty pyrite dissemination, white calcareous material with pyrite crystals on fracture faces.

281' - 294'
Light greenish grey mottled granitic rock, hard and dense, occasional high angle and vertical fracture, white calcareous material with pyrite on fracture faces.

294' - 326'
Light greenish grey mottled granitic rock with occasional brownish spots, spotty pyrite dissemination, green tinted calcareous material with pyrite crystals on fracture faces, hardness decrease.

326' - 334'
Light greenish grey to brownish mottled granitic rock, vertical and high angle fracture pyrite crystals on fracture faces.

334' - 366'
Light grey mottled igneous with redish brown spots, high and low angle fracture. Pyrite on fracture faces.

366' - 397'
Light grey mottled igneous, occasional brownish spot some pyrite present, high angle fracture broken and blocky, bottom section shows some porosity filled with white calcareous material, green tinted calcareous material noted on fracture faces.

ORIGINAL FILE COPY
DMEA
DEC 31 1957
CRYSTALS

397' - 425'
Light grey igneous rock with mottled spots, some porosity noted filled with white calcareous material, hardness decrease. Uniform with little fracture some pyrite present.

425' - 445'
Light grey igneous rock with mottled spots, calcite veinlets with pyrite cementing vertical fracture, some porosity filled with white calcareous material, hardness decrease.

445' - 479'
Light grey igneous rock porosity increase, white calcareous material on vertical fracture and filling porosity, hardness decrease, some pyrite present.

479' - 500'
Light grey porus igneous rock, consistant hard and soft spots, white calcareous material filling porosity, some pyrite crystals noted on high angle fracture.

500' - 518'
Light grey porus igneous rock, vertical fracture white calcareous material filling porosity and with pyrite crystals on fracture faces.

518' - 541'
Light grey igneous rock softer and porus, vertical fracture, fractures and porosity filled with white calcareous material spotty pyrite dissemination.

541' - 569'
Light grey igneous rock pronounced vertical fracture, broken, pyrite crystals on fracture faces, hardness increase some porosity.

569' - 592'
Light grey igneous rock with high angle fracture, hardness decrease, pyrite on fracture faces, slightly porus.

592' - 594'
Light grey igneous rock vertical fracture filled with calcite and pyrite,

594' - 619'
Light grey igneous rock, vertical fracture, hard and soft spots pyrite on fracture faces, slightly porus.

619' - 632'
Light grey igneous rock occasional vertical fracture hardness increase, pyrite on fracture faces.

632' - 662'
Light grey igneous rock, uniform, slightly porus hardness increase.

This drill hole was reentered November 26, 1956 and bottomed January 17, 1957, AW core was taken from 216' to 662', estimated core recovery 95%. No shows of Uranium or Mercury where encountered except for minute traces of Mercury tested with Willemite Screen.

J. C. WHITTIKER

Hole 5-6 Elev. 2666

Breccia 31'

Eagle Ford 144'

Shale

Ryolite

487'

T. D. 662'

Scale 1" - 100'

150' 5-6

1000'

SW cor. Sec. 10

Scale 1" - 1000'

ORIGINAL FILE COPY
DMEA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

June 6, 1957

ORIGINAL FILE COPY
DMEA
RECEIVED JUN 10 1957

DATE	INITIALS	CODE
6-10	C	220
6/10	[illegible]	800
6/12	WSM	400

Mrs. Cora A. Bailey
Fiscal Officer
Bureau of Mines, Region IV
206 Federal Building
Bartlesville, Oklahoma

Re: DMEA-3776(Mercury)
Big Bend Mining, Inc.
Presidio County, Texas
Project Contract Idm-E893

Dear Mrs. Bailey:

Transmitted herewith is the original of the subject Operator's Final(December-January) MF-104 Report approved by me in the claimed amount of $3,108.00.

As indicated in the DMEA Auditor's Report of Review sent you May 31, payment of the Government's 75 percent on this voucher will close this account.

A copy of this Operator's Final Report was furnished you with a copy of my May 17 letter to DMEA recommending its acceptance.

The fifth copy of this December-January MF-104 Report was furnished the Survey Member of the Field Team February 6 and the complete second copy was forwarded to Washington May 15, while its other copy is being held here pending receipt of your voucher data to be posted thereon.

Sincerely yours,

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

encl. 1

cc: DMEA Op.Com.(2)
King,USGS,Denver
3776 file

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

June 7, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 10 1957

DATE	INITIALS	CODE
6-10	C	220
6/10	[illegible]	800
6/11	WSM	400

Mr. P. S. Kendrick, President
Big Bend Mining, Inc.
Box 269
Abilene, Texas

Re: DMEA-3776(mercury)
Contrabando Dome Project
Presidio County, Texas
Contract Idm-E893

Dear Mr. Kendrick:

This is to advise that I approved your Final(December-January) MF-104 Report today in the claimed amount of $3,108.00. With the Government's participation payment on that amount, the subject account will be settled.

Please let me know if you do not receive the final check within a reasonable time.

With best personal regards, I am,

Sincerely yours,

CCK/jd

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

cc: DMEA Op.Com.(2)
Finance Officer, Bartlesville
King, USGS, Denver
3776 file

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

3rd Copy. Work. MF-104A and Report Sent to Wash. 1-4-57 CCK

Original

Month of November, 1956 Docket No. DMEA 3776 Contract No. IDM-E893

Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium

Address Box 269, Abilene, Texas

Contract Amount, $ 132,000.00 Government Participation: 75 % Amount, $ 99,000.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~[illegible]~~ Short Form } Contracts:						
Drilling	4212.00	25110.00	29322.00	✓	✓	✓ CCK
Bulldozing	-0-	893.00	893.00	—	893.75	893.75
Cement Cross & Cutting Redrill	-0-	1256.00	1256.00			
Ream Drill & Case	568.00	592.00	1160.00			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	-0-	16.00	16.00	—	✓	✓
Payroll Taxes						
Liability Insurance						
Bulldozer Transport	-0-	25.00	25.00	—	✓	✓
(8) Contingencies (specify):						
TOTALS	4780.00	27892.00	32672.00	4780.00	27,892.75	32,672.75

RECEIVED MINERALS TECHNOLOGY DIVISION DEC 10 1956 BUREAU OF MINES ROLLA, MO.

RECEIVED MAR 24 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 12/7/56 *Payee Big Bend Mining, Inc.

Per _____ Title President

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 3,585.00

Signature _____
(Authorized Certifying Officer)

Date 3-15-57 Vou. No. 4-13
(See other side)

D.O. No. 56923

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. dm-E893 in accordance with the terms of the contract.

Signature Clinton C. Knox Title Mining Engineer Date February 25, 1957

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Clinton C. Knox Title Executive Officer Date March 8, 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

RECEIVED
MINERALS TECHNOLOGY
DIVISION
DEC 10 1956
BUREAU OF MINES
JOPLIN, MO.

Budget Bureau No. 42-R1151.2

3rd Copy - Work.
MF-104 Cleared by F.T.
Pending F.T. approval
GGK.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of November 1956 Docket No. DMEA 3776 Contract No. IDM-E893

Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium

Address Box 269, Abilene, Texas

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting	-0-	-0-						
Crosscutting	-0-	-0-						
Raising	-0-	-0-						
Shafts	-0-	-0-						
Winzes	-0-	-0-						
Drilling: Core	ft.	4212.00	702	29322.00	4887	6.00	18000	6.00
Cement Chk & Redrill	ft.	-0-	-0-	1256.00	1208	2.00	9000	2.00
Ream & Case	ft.	568.00	284	1160.00				
Sample Analysis	smpl	-0-	-0-	16.00	4	4.00	1360	4.00
Trenching	-0-	-0-						
Test Pits	-0-	-0-						
Roads and Trails	-0-	-0-						
Bulldozing	Hr.	-0-	-0-	893.75	71½	12.50	300	12.50
TOTAL DISTRIBUTED COSTS		4780.00		32647.75				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Bulldozer Transport		-0-	-0-	25.00	GGK			
TOTAL COSTS		4780.00		32672.75				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 12/7/56 Operator Big Bend Mining, Inc.

Per _____ Title President

NOTE.—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.

(Instructions on reverse)

REMARKS:

(For Government use only)

RECEIVED JAN 7 1957 D.M.E.A.

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

DRILL RECORD

Kendrick Oil Co.
Box 269
Abilene, Texas

RECEIVED JAN 7 1957 D.M.E.A.

Hole No. 8-5 Date from 10-22-56 to 11-22-56

Big Bend Mining Inc.
Land: Bledsoe et al Location of Hole: 720 ft. East and 865 ft. North from Southwest cor. of Sec. 108, Blk. 341, T C Ry. Survey, Presidio County, Texas
Near so-called Shoemaker underground mine workings.

Struck Water At: None Stands at: None Casing Used: 284 feet

Shale	0	12	Dark, bentonetic, some hematite and calcite beds dip 65°.
Shale	12	20	Dark, hematite and calcite present. Beds dip 65°.
Shale	20	32	Black w/lime strks, calcite & altered pyrite. Beds Dip 65°.
Shale	32	100	Hard dark with grey and black strks. throughout section. Same calcite and pyrite seams. Dips 65°.
Shale	100	116	Same as above except occasional high angle fractures
Shale	116	136	Same as above except occasional slip break and breccia spots. Dip 65o.
Shale	136	234	Same as above except no breccia.
Lime	234	245	Buda with some high angle fracture. Some pyrite disseminated.
Igneous Rock	245	702	Grey, with occasional coloring, calcite and pyrite veinlets.
			See Core classification on Progress Report by L. C. Whittiker Attached.

Set 20 feet of 4 1/2" Casing.
" 364 feet of 2 3/8" casing - NX hole to 364. Set 364 feet of 2 3/8" due to Bentonite, and material falling in hole. Reduced hole to AX at 364. The igneous rock was very difficult and expensive to drill.

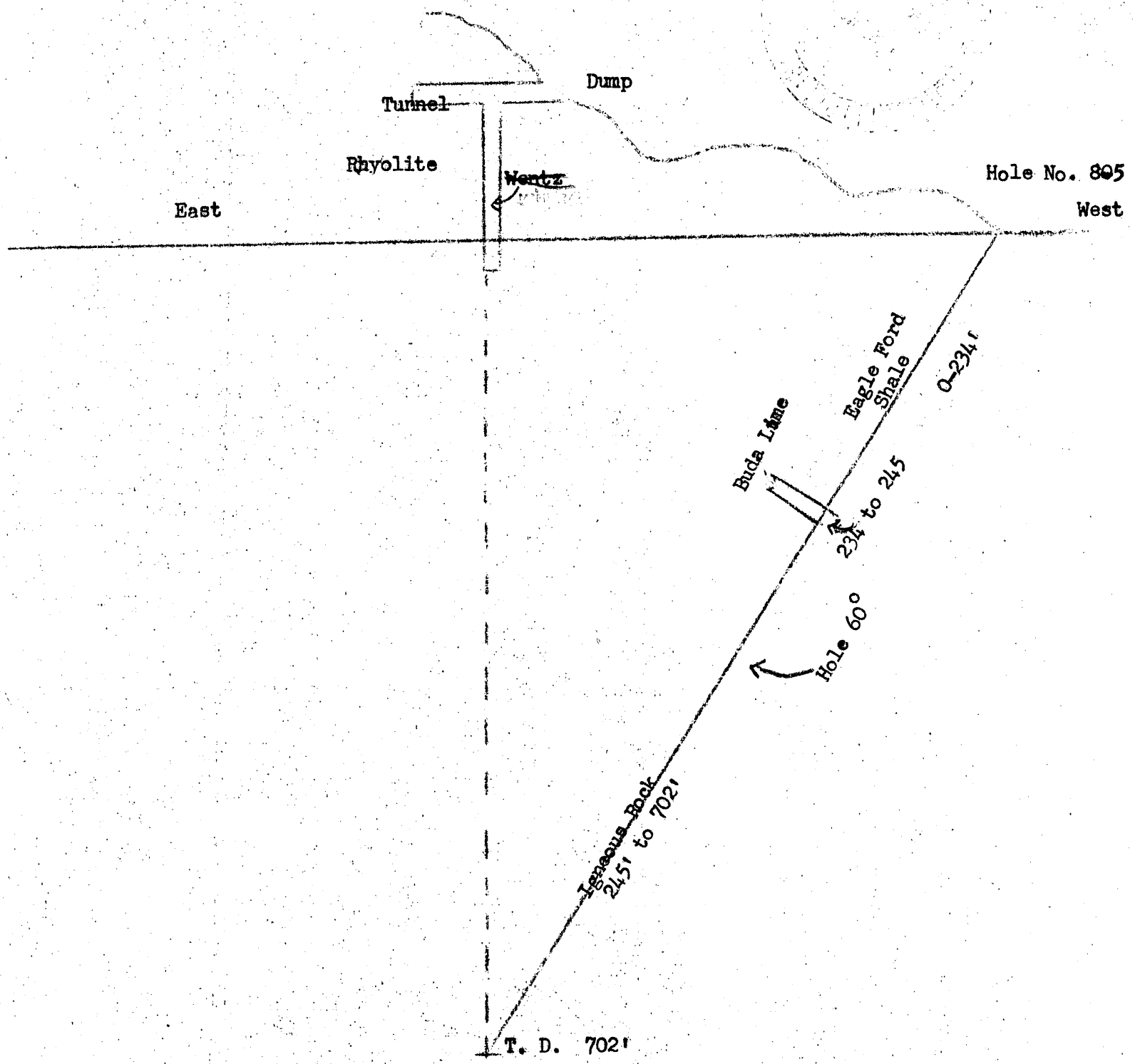
Contractor: Kendrick Oil Co.
Driller: W. L. Hancock

I certify that the above statements are true and correct to the best of my knowledge and belief.
Date: December 7, 1956

KENDRICK OIL CO.

By _____

Hole No. 8-5


Dump
Tunnel
Rhyolite
Wentz
East
Hole No. 805
West
Eagle Ford Shale
0-234'
Buda Lime
234 to 245
Hole 60°
Igneous Rock
245' to 702'
T. D. 702'

PROGRESS REPORT ON EXPLORATION PROJECT CONTRACT

NO. IDM - E893. DOCKET NO. DMEA - 3776.

DMEA

CONTRABANDO DOME PRESIDIO CO., TEXAS, BIG BEND MINING, INC.

Report on 60° Angle Drill Hole No. 8-5

Section 108 From 0 to 702'

0 - 12' - Soft dark bentonetic shale, some hematite and calcite. Beds dip 65°.

12'- 20' - Firm dark shale, hematite and calcite present. Beds dip 65°.

20'- 32' - Black shale with lime streaks, calcite and altered pyrite. Beds dip 65°.

32'- 44' - Firm dark grey shale with grey lime streaks, some calcite and pyrite. Beds dip 65°.

44'- 50' - Compact dark shale with lime streaks, calcite and pyrite present occasional bentonite seam. Beds dip 65°.

50'- 63' - Hard dark shale with lime streaks. Some calcite and pyrite. Beds dip 65°.

63'- 70' - Hard grey to light grey shale with lime streaks. Calcite present. Beds dip 65°.

70'- 86' - Hard black shale with light grey lime streaks. Some calcite replacing lime streaks. Beds dip 65°.

86'- 100' - Hard grey to black shale with lime streaks. Calcite and pyrite present. Beds dip 65°.

100'- 116' - Hard dark grey shale with lime streaks. Calcite and pyrite replacing lime streaks on bedding plane. Occasional high angle fracture filled with calcite veinlets. Some pyrite dissemination in shale and lime. Beds dip 65°.

116'- 136' - Dark grey shale with pronounced lime beds and limy streaks. Calcite veinlets on high angle fractures. Some pyrite replacing lime streaks on bedding plane. Occasional slip break and breccia spots. Beds dip 65°.

136'- 156' - Dark grey to black shale with lime streaks. Calcite and pyrite replacing lime streaks on bedding plane. Minute calcite veinlets cementing high angle fractures. Occasional slip break. Beds dip 65°.

156'- 186' - Dark grey shale with lime streaks. Calcite replacing lime streaks. Pyrite with calcite veinlets cementing vertical and high angle fractures. Beds dip 65°.

186'- 193' - Dark grey to black shale with lime streaks. Weak vertical fracture. Calcite and pyrite replacing lime streaks on bedding planes. Beds dip 65°.

193'- 215' - Grey shale with lime streaks. Minute calcite veinlets cementing high angle fractures. Calcite with pyrite replacing lime streaks on bedding plane. Beds dip 65°.

215'- 234' - Light grey lime with shale streaks. Some lime beds entirely replaced with calcite. Minute calcite veinlets cementing weak vertical fractures. Occasional slip break. Beds dip 65°.

234'- 245' - Light grey compact massive lime. (Buda) with occasional shale streaks. High angle fracture. Some pirite disseminated.

245'- 256' - Slightly porus light grey igneous rock highly fractured. White calcareous material with pyrite crystals coating fracture faces. Porosity partially filled with white calcareous material.

256'- 275' - Light grey porus igneous rock. Vertical and high angle fracture. Well developed pyrite crystals on fracture faces.

275'- 283' - Light grey to blueish grey igneous rock. Hardness increase. Weak vertical fracture. Some pyrite dissemination.

283'- 294' - Light grey to Blueish grey mottled igneous rock grading into granitic. Hardness increase. Occasional isolated feldspar phenocryst. Weak high angle fracture. White calcareous material with pyrite crystals on fracture faces.

294'- 302' - Mottled light grey to blue grey granitic rock. Occasional brownish spots. Isolated feldspar phenocrysts. Vertical fracture strong. Pyrite with white calcareous material coating fracture faces. Very hard. Some pyrite dissemination.

302'- 306' - Light grey mottled granitic rock with greenish tint. Light vertical fracture. Small isolated iridescent feldspar crystals. Green tinted calcareous material with pyrite coating fracture faces. Some pyrite disseminated. Very hard, blocky, and difficult to core.

306'- 342' - Mottled light blueish grey granitic rock with isolated iridescent feldspar phenocrysts. Some pyrite dissemination. High angle fracture. Pyrite on fracture faces. Very hard.

342'- 372' - Light greenish grey mottled granitic rock. High angle fracture. Pyrite on fracture faces with green tinted calcareous material. Very hard.

372'- 410' - Light greenish grey mottled granitic rock. High angle fracture. Pyrite in fractures. Occasional feldspar phenocryst. Very hard.

410'- 474' - Greenish grey mottled granitic rock. Occasional brownish spot. Small isolated feldspar phenocrysts. White calcareous material with pyrite coating fracture faces. Very hard.

474'- 537' - Light grey to blueish grey mottled granitic rock. High angle fracture. White calcareous material with pyrite on fracture faces. Very hard.

537'- 595' - Mottled greenish grey granitic rock. Occasional redish spot. High angle fracture. Green tinted calcareous material with pyrite on fracture faces. Hardness decreases slightly. Some porosity.

595'- 657' - Mottled greenish grey to light grey spots granitic. Vertical fracture. Green tinted calcareous material on fracture and in porosity. Hardness decrease. Small isolated feldspar phenocrysts. Some pyrite dissemination.

657'- 702' - Light grey igneous rock. Some porosity noted. Hardness decrease. White calcareous material with pyrite coating. Vertical fracture faces.

This drill hole was started October 22, 1956 and bottomed at 702' November 22, 1956 with no shows of mercury or uranium except for minute traces of mercury in the igneous section.

NX core was taken to a depth of 264'. Balance of core was cut with AW equipment.

Estimated core recovery 88%.

L. C. WHITTIKER

P. S. Mercury tests were made with Willemite screen.

Moved on Hole 5-6 to deepen - 11/23/56.

RECEIVED
JAN 17 1957
D.M.E.A.

January 14, 1957

RECEIVED
MINERALS TECHNOLOGY
DIVISION
JAN 15 1957

BUREAU OF MINES
JOPLIN, MO.

MEMORANDUM

To: Clinton C. Knox

From: Cora A. Piper

Subject: Payment IF-104's, Contract No. IDI-3-693.

Payment of M-F-104's Contract IDI-3-693 for August and September, 1956 was made on Bureau Voucher #4.-11, D.O. Voucher #41014, January 10, 1957 in the amount of $5,815.31. (August $3,116.81 and September $2,698.50)

Cora A. Piper
Fiscal Officer

3rd Copy - Wash.

Form MF-104 (Rev.) (April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

MF-104A & Receipt sent to Wash. 1-4-57 C.C.K.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of Sept. 6 105 Docket No. DMEA 3716 Contract No. IDM-E893

Operator's Name Big Bend Mining Inc. Minerals Mercury & Uranium

Address Box 269, Abilene, Texas

Contract Amount, $ 132,000.00 Government Participation: 75 % Amount, $ 99,000.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:	3306.00	21804.00	25110.00	—	—	89,305.25
Drilling	-0-	893.75	893.00			
Bulldozing	-0-					
Cement & Redrill Crosscutting	268.00	988.00	1256.00			
Drifting Ream & Case	24.00	568.00	592.00			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	-0-	16.00	16.00	—		
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
Bulldozer Transport	-0-	25.00	25.00	—		
(8) Contingencies (specify):						
TOTALS		24,294.75	27,892.00	0.00	24,294.75	27,892.00

RECEIVED JAN 17 1957 D.M.E.A.

RECEIVED MINERALS TECHNOLOGY DIVISION OCT 15 1956 BUREAU OF MINES JOPLIN, MO.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date Oct. 13, 1956 *Payee Big Bend Mining, Inc.

Per [signature] Title President

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 2,698.50

Signature (Authorized Certifying Officer)

Date 1-10-57 Vou. No. 4-11 (See other side)

D.O. Vou. No. 41014

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Um-E593 in accordance with the terms of the contract.

Signature Clinton C. Knox Title Mining Engineer Date Oct. 25, 1956

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Clinton C. Knox Title Executive Officer Date Jan. 3, 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

3rd Copy - Wash.
MF-164 retained by F.T. Pending Finance Off. Certification

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of Sept. 195 6 Docket No. DMEA 3776 Contract No IDM-E893

Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium

Address Box 269, Abilene, Texas

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting	0							
Crosscutting	0							
Raising	0							
Shafts	0							
Winzes	0							
Drilling: Core	ft.	3306.00	551	25110.00	4185	6.00	18,000	6.00
Cement & Churndrill	ft.	268.00	134	1256.00	924	2.00	9,000	2.00
Ream & Auger	ft.	24.00	12	592.00				
Electric Sample Analysis	Sample	-0-	-0-	16.00	4	4.00	1,360.00	4.00
Trenching								
Test Pits								
Roads and Trails								
Bulldozing	Hr.	-0-	-0-	893.75	71½	12.50	300.00	12.50
Total Distributed Costs		3598.00		27867.75				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Bulldozer transport		-0-	-0-	25.00				170.00
Total Costs				27892.75				132000.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date Oct. 13, 1956 Operator Big Bend Mining, Inc.

Per H. Kendrick Title President

Remarks:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

RECEIVED JAN 7 1957 D.M.E.A.

RECEIVED
MINERALS TECHNOLOGY
DIVISION
OCT 15 1956
BUREAU OF MINES
JOPLIN, MO.

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

DRILL RECORD

Kendrick Oil Co.
Box 269
Abilene, Texas

RECEIVED JAN 7 1957 U.M.E.A.

Big Bend Mining, Inc. Hole 5-8
Land: Bledsoe et al Date from: Aug. 24, 1956 to Sept.20,1956.
Location of Hole: 2750 ft. N. 27° East from SW corner Sec. 105, Blk. 341, TC Ry. Co.Sur.
Presidio County, Texas (Contrabando Dome) Elev. 2666'
Struck Water at: None Stands at: None Casing used: 12 feet

Breccia	0	349	See Progress Report by L. C. Whittiker
Shale	349	451	" " " " "
Igneous	451	508	" " " " "

NX diamond cored - 96% recovery. Total depth 508 feet. Hole open and capped. Set 12' of 4" casing. Lost circulation 168-194'. Cemented 194-60'. Drilled out cement with circulation back 100%.

Breccia material broken and fractured causing blocking in the core barrel making frequent trips necessary.

Igneous became progressively harder with depth making bit costs very expensive.

Cores classified by L. C. Whittiker. Drillers - James R. Johnson and U. L. Hancock.

Contractor: Kendrick Oil Co. Driller: James R.

I certify that the above log and statements are true and correct to the best of my knowledge and belief.

P. S. Kendrick

RECEIVED JAN 7 1957 U.M.E.A.

PROGRESS REPORT ON EXPLORATION PROJECT CONTRACT

No. IDM. - E893. Docket No. DMEA - 3776.

Contrabando Dome Presidio Co., Tex., Big Bend Mining, Inc.

Report on Drill Hole No. 5-8 - From 0' to 508'.

0 - 12' - Broken light buff weathered lime, surface beds collapse breccia.

12' - 20' - Light buff lime breccia, calcite and hemitite present.

20' - 25' - Light buff lime breccia with shale and bentonite streaks, some calcite and pyrite.

25' - 35' - Light buff lime and shale breccia with calcite and pyrite.

35' - 47' - Shale and light grey lime breccia, calcite increase, some pyrite.

47' - 63' - Shale and lime breccia with opaque calcite.

63' - 71' - Dark shale and lime breccia with calcite and pyrite.

71' - 84' - Dark shale and lime breccia with bentonite seams, calcite and pyrite present.

84' - 102'- Lime and dark grey shale breccia, calcite and pyrite.

102' - 123'- Shale and lime breccia with calcite and pyrite.

123' - 140'- Dark shale and lime breccia with calcite and pyrite.

140' - 151'- Shale and lime breccia with calcite and pyrite filling voids in breccia.

151' - 154'- Soft light grey bentonite bed with well developed pyrite crystals.

154' - 166'- Lime and shale breccia with calcite and pyrite filling voids and slip breaks.

166' - 179'- Shale and lime breccia, some vertical beds adjacent to horizonal, calcite filling voids and slipbreaks.

179' - 194' - Lime and shale breccia, pyrite veinlets on high angle fractures, calcite filling voids.

194' - 221' - Lime and shale breccia, calcite filling voids, pyrite veinlets in fractures.

221' - 239' - Shale and Lime breccia, opaque white calcite filling voids in breccia, some pyrite present.

239' - 250' - Shale and lime breccia with calcite and pyrite.

250' - 267' - Shale and lime breccia, calcite and pyrite filling voids and slipbreaks.

267' - 277' - Dark shale with lime streaks, breccia diminishes, beds consolidated, dip 15°, calcite veinlets in vertical fracture, some pyrite present.

277' - 297' - Predominant dark shale breccia with bentonite seams, calcite and pyrite present in breccia voids, poor core recovery.

297' - 325' - Dark shale breccia with limy streaks calcite in vertical fractures, bentonite seams. Poor core recovery.

325' - 335' - Dark grey shale breccia, occasional open vug lined with calcite crystals, calcite veinlets in vertical fractures and slipbreaks. Some pyrite present.

335' - 349' - Dark shale breccia with lime streaks. Very little calcite.

349' - 367' - Apparent bottom of breccia zone, beds consolidate, Dip 15° calcite veinlets in vertical fracture occasional slip break, no pyrite.

367' - 391' - Dark shale, undisturbed beds except for minute vertical fractures filled with calcite, beds dip 15°.

391' - 411' - Dark shale with lime streaks, calcite with pyrite in minute veinlets in high angle fractures. Beds dip 15°.

411' - 431' - Dark shale with lime streaks calcite veinlets in vertical fractures. Beds dip 15°.

431' - 451' - Dark shale with lime streaks, small amounts of calcite and pyrite. Bed dip 15°.

451' - 478' - Light grey porus ignedus rock with vertical fracture, white calcareous material coating fracture faces with pyrite crystals.

478' - 495' - Light grey igneous rock, porosity decrease, white calcareous material with pyrite coating vertical fracture faces, hardness increase.

495' - 508' - Grey close graine igneous rock, no fracture, hardness increase very difficult to cut with diamond bit.

This drill hole was started August 24, 1956 and bottomed at 508' September 20, 1956 with no shows of uranium or mercury.

L. C. WHITTIKER

L. C. Whittiker

5-8

Surface El. 2666'

Breccia

349'

349'

102'

15°

Eagle Ford Shale

451'

57'

Igneous

T. D. 508'

RECEIVED JAN 7 1954 D.M.E.A.

DRILL RECORD

Kendrick Oil Co.
Box 269
Abilene, Texas

RECEIVED JAN 7 1957 D.M.E.A.

Hole 9-2 Area 1, Stage 1 (Deepened)

Big Bend Mining, Inc.
Land: Bledsoe et al

Sept. 21, 1956 to Sept. 28, 1956

Igneous	612	655	Hard and tough with some fracturing small amount of pyrite and calcite in seams.

9-2 was re-entered on Sept. 21, 1956 and stopped Sept. 28, 1956. The hole was left in good shape. It was taking a diamond bit every 7 or 8 feet and we shut down to try to find some way to drill this igneous with less expense.

NX diamond cored - 98% recovery.

Total depth 655 feet - hole open and capped.

Contractor: Kendrick Oil Co.

Core classified by L. C. Whittiker

Driller: W. L. Hancock

I certify that the above log and statements are true and correct to the best of my knowledge and belief.

P. B. Kendrick

P. B. Kendrick

SUPPLEMENTAL PROGRESS REPORT FOR
SEPTEMBER, 1956
No. IDM- E893 Docket No. DMEA-3776
Additional Drilling On Hole 9-2 Area 1

After completing hole 5-8, Stage 1, Area 7, rig was moved over hole 9-2 Stage 1 area 1 and same was deepened 43 feet to a total depth of 655 feet where drilling was stopped due to extreme difficulty in coring. This hole will be re-entered and drilled deeper in the event field team deems it advisable.

Formation:

612 - 655' Igneous with some fracturing. Very dense and pyritic.

Drilling began 9-21-56 and bottomed 9-28-56.

No shows of mercury or uranium.

P. S. Kendrick

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

2nd Copy. Use this.

Other two copies of report filed to supply. 9-26-56

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of August, 1956 Docket No. DMEA 3776 Contract No. Idm-2893

Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium

Address Box 269, Abilene, Texas

Contract Amount, $ 132,000.00 Government Participation: 75 % Amount, $ 99,000.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~Independent~~ Short Form Contracts:						
Drilling	3672.00	18,132.00	21,804.00			
Bulldozing	318.75	575.00	893.75			
Crosscutting						
Cement & ~~Diamond~~ Redrill	-0-	988.00	988.00			
Ream & Case	124.00	444.00	568.00			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	PSK 16.00	—	16.00	PSK		
Payroll Taxes						
Liability Insurance						
Bulldozer Transport	25.00	None	25.00			
(8) Contingencies (specify):						
TOTALS	PSK ~~4,139.75~~ 4,155.75	20,139.00	PSK ~~24,278.75~~ 24,294.75			

RECEIVED MINERALS TECHNOLOGY DIVISION SEP 10 1956 BUREAU OF MINES JOPLIN, MO.

RECEIVED JAN 17 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 9/7/56 *Payee Big Bend Mining, Inc.

Per [signature] Title President

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 3,116.81

Signature
(Authorized Certifying Officer)

Date 1-10-57 Vou. No. 4-11
(See other side)

D.O. Vou. No. 41014

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm-E893 in accordance with the terms of the contract.

Signature Clinton C. Knox Title Mining Engineer Date Oct. 25, 1956

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Clinton C. Knox Title Executive Officer Date Jan. 3, 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

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Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

2nd Copy - Wash.
MF-104 held in F.T. Office - Joplin
Pending approval
.CCK

RECEIVED
SEP 27 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of August 195 6 Docket No. DMEA 3776 Contract No. Idr-7893

Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium

Address Box 269, Abilene, Texas

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting	-0-							
Crosscutting	-0-							
Raising	-0-							
Shafts	-0-							
Winzes	-0-							
Drilling: Core	ft.	3,672.00	612	21,804.00	3634	6.00	18,000	6.00
Cement & Rex Bedrill	ft.	None	None	988.00	778	2.00	9,000	2.00
Ream & Roger Case	ft.	124.00	62	568.00				
~~Stripping~~ Sample analyses	each	PBK 16.00	4	PBK 16.00	4	4.00	1,360	4.00
Trenching								
Test Pits								
Roads and Trails								
Bulldozing	Hr.	318.75	25½	893.75	71½	12.50	300	12.50
TOTAL DISTRIBUTED COSTS		~~4134.75~~ PBK		~~24253.75~~ PBK				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		None		None				
Initial Rehabilitation and Repairs		None		None				
New Buildings, Improvements, etc.		None		None				
Bulldozer Transport		25.00		25.00				170.00
TOTAL COSTS		~~4159.75~~ PBK		~~24278.75~~ PBK			PBK	~~363.00~~

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 9/7/56 Operator Big Bend Mining, Inc.

Per [signature] Title President

REMARKS: Bulldozing 132.00-9 about 2 miles of roads to and drilling sites at hole locations No. 8-5, 9-9, and 5-8. PBK

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

RECEIVED
MINERALS TECHNOLOGY DIVISION
SEP 10 1956
BUREAU OF MINES
JOPLIN, MO.

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc.". The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

PROGRESS REPORT ON EXPLORATION PROJECT
Contract No. Idm-E893 Docket No. DMEA-3776
Contrabando Dome - Presidio County, Texas
Big Bend Mining, Inc.

Report on Drill Hole 9-9 Area #1, Stage 2

Drilling began on drill hole #9-9 July 31, 1956 and terminated August 24, 1956. Vertical hole with collar elevation of 2610 located 1200 feet S. and 2955 feet West of NE corner of Section 109. Drilling started with 3 7/8 rock bit which was replaced after 6 feet of drilling with a diamond core bit, NX core was taken from 6' to 612', estimated core recovery 96%. Formations penetrated were as follows:

0	6'	Broken surface altered lime
6	12'	Light grey lime and shale streaks, vertical fracture, calcite veinlets, cementing fracture, beds dip 15°.
12	15'	Grey altered lime, calcite on bedding plane, some oxidation staining, beds dip 15°.
15	17'	Light grey lime, broken, cemented with minute calcite veinlets, beds dip 15°.
17	19'	Medium light grey broken igeneous vertical fracture cemented with calcite veinlets.
19	43'	Light grey broken igneous, high and low angle fracture, brown & yellow staining on fracture faces, shows mercury vapor on screen test.
43	66'	Porous, medium dark grey mottled igneous rock, high & low angle fracture cemented with calcite and white calcareous material.
66	82'	Porous, light grey mottled igneous rock, vertical & high angle fracture white calcareous material disseminated in porosity.
82	92'	Light grey igneous breccia with shale and lime fragments, white calcareous material cementing breccia, some pyrite present. Isolated cinnabar crystals occur from 84' to 84' 8".
92	109'	Light grey porous igneous rock with small vugs lined with calcite, small breccia spots, pyrite present.
109	126'	Dark grey compact shale with lime streaks, breccia spots and slip breaks, beds dip 60° calcite seams on bedding plans and fractures
126	136'	Dark grey compact shale and lime streaks gradual bed dip change from 60° to 45°. Weak vertical fracture and slip breaks, calcite veinlets cementing breaks and fractures, small amount of pyrite present.
136	151'	Dark grey compact shale and lime streaks, weak vertical fracture, bed dip change from 45° to 30°, calcite veinlets on fractures, very little pyrite.
151	183'	Dark grey compact shale and lime streaks, no fracture except for occasional slip break, calcite seams on bedding planes and slips, beds dip 30°, no pyrite.
183	242'	Dark grey compact shale and lime streaks, occasional high angle fracture, and slip break, calcite seams on bedding plane, beds dip 25°.

242 293' Medium light grey shale with light grey lime streaks, calcite seams on bedding plance, weak vertical fracture, beds dip 20°.

293 406' Medium light grey shale with light grey lime streaks, weak vertical fracture, occasional bentonite seam from 1/2 inch to 6 inches, pyrite in bentonite beds dip 20°.

406 462' Grey to dark grey shale and lime streaks, bentonite seams on bed plane no fracture, beds dip 15°.

462 558' (Buda Lime) Light grey compact lime with shale seam breaks, some pyrite, occasional stylite parting, excellent core recovery, medium hard, weak high angle fracture.

558 568' Del Rio shale, dark grey (compact) shale with light grey limey streaks, weak vertical fracture calcite veinlets on fractures, beds dip 10°.

568 612' Light grey porous igneous rock, medium hard, vertical and high angle fracture, pyrite, present on fracture faces, hardness increases near bottom of this section.

This hole was bottomed at 612' all cores were checked with a Geiger Counter and no radiation was detected. A small show of cinnabar present from 84' to 84' 8". Willemite screen tests were run on cores with fairly good results in the top section of igneous material.
The following attached assays for mercury were run on the igneous rock.

No. 1 - 84' to 84' 8"

No. 2 - 85' to 87'

No. 3 - Random sample from 66' to 92'

No. 5 - Random sample from 19' to 43'

D. C. Whittiker

DRILL RECORD

Kendrick Oil Co.
Box 269
Abilene, Texas

RECEIVED
SEP 27 1956

BIG BEND MINING, INC.

Hole No. 9-9 Area 1, Stage 2

Land Bledsoe, et al

Dates From 7/31/56 to 8/24/56

Location of Hole 1200' South and 2955' West of NE cor. Sec. 109, Blk. 341, T C Ry. Sur.
Presidio County, Texas (Contrabando Dome)

Elevation 2510

Level of Water at -0- Stands at -0- Casing Used 62 feet NX

Lime & Shale	0	17	Broken and altered probably Austin
Rock	17	109	Igneous, some breccia, calcite and pyrite
Shale	109	462	Eagle Ford with lime shells
Lime	462	558	Buda
Shale	558	568	Del Rio
Rock	568	612	Igneous. Gets progressively harder with depth with considerable pyrite which makes it difficult to core.

NX diamond cored - 96% recovery.

Total depth 612 feet. Hole open and capped.

Reamed and set 62 feet of NX vasing - lost circulation and shattered material falling in off wall.

Formations were baked and very hard. Brittle and fractured making coring difficult and expensive.

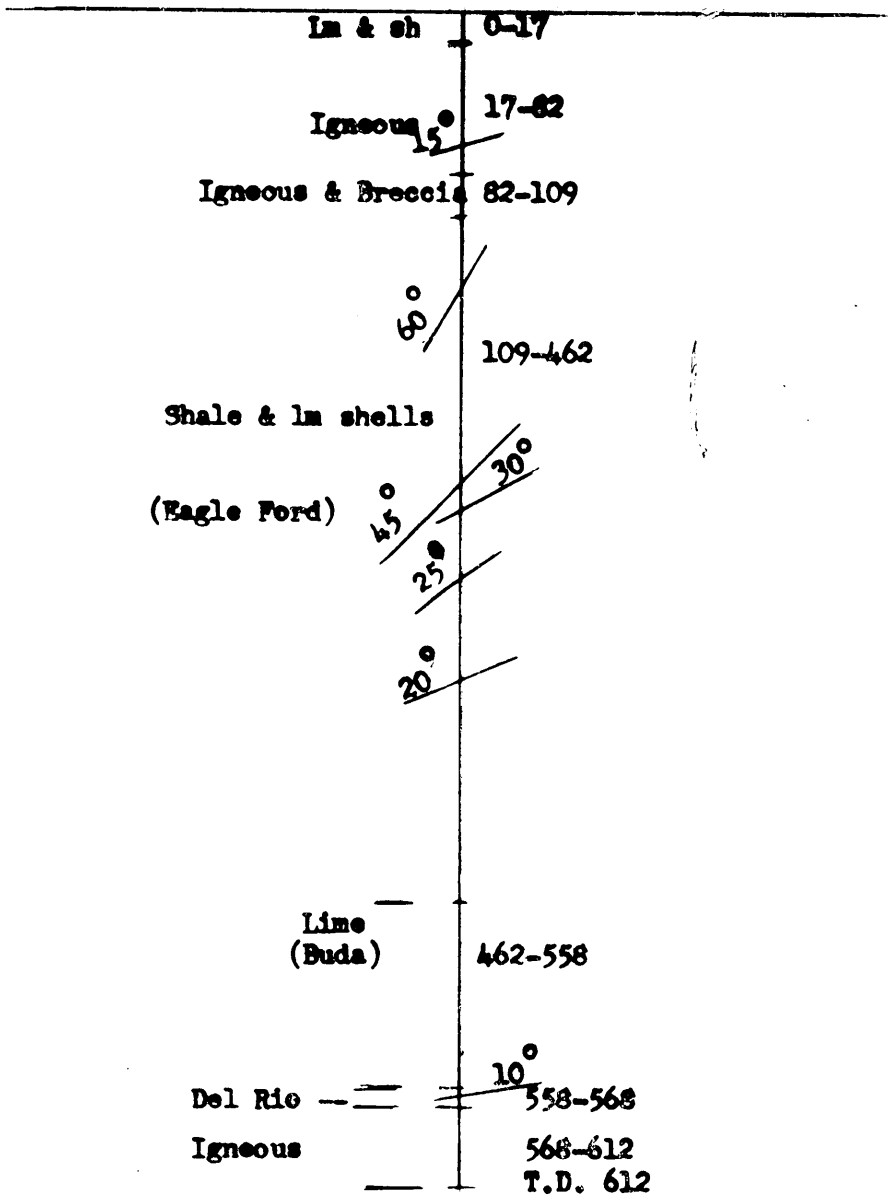
Contractor: Kendrick Oil Co.

Cores classified by L. C. Whittiker.

Driller: James R. Johnson

I certify that the above log and statement is true and correct to the best of my knowledge and belief.

P. S. Kendrick


Lm & sh
0-17
Igneous
15°
17-82
Igneous & Breccia
82-109
60°
109-462
Shale & lm shells
(Eagle Ford)
45°
30°
25°
20°
Lime
(Buda)
462-558
10°
Del Rio
558-568
Igneous
568-612
T.D. 612

GEO. L. DICKINSON—President
GEO. G. DICKINSON—Vice-President
ROBERT L. DICKINSON—Vice-President
DR. I. A. HANCOCK, Ph. D.—Consulting Chemist

DICKINSON LABORATORIES, INC.

ASSAYERS — CHEMISTS — METALLURGISTS
UMPIRES
WATER ANALYSIS
PHONE 2-3564 — P. O. BOX 7003
1300 WEST MAIN ST. EL PASO, TEXAS

CERTIFICATE OF ASSAY

ASSAYED FOR: Lab No. 70633

ADDRESS:

MARKED:

Gold Ozs. per ton	Silver Ozs. per ton	% Lead	% Copper	% Zinc	% Silica	% Calcium Fluoride	Effective Units	% Manganese	% Iron

ASSAYER

CHARGES
SUBSIDIARY
Texas Testing Laboratories

GEO. L. DICKINSON—PRESIDENT
GEO. G. DICKINSON—VICE-PRESIDENT
ROBERT L. DICKINSON—VICE-PRESIDENT
DR. J. A. HANCOCK, PH. D.—CONSULTING CHEMIST

DICKINSON LABORATORIES, INC.

ASSAYERS — CHEMISTS — METALLURGISTS
UMPIRES
WATER ANALYSIS
PHONE 2-9264 — P. O. BOX 7006
1300 WEST MAIN ST. EL PASO, TEXAS

RECEIVED
SEP 27 1956

Aug. 29, 1956.

CERTIFICATE OF ASSAY

ASSAYED FOR: Mr. L. C. Whittiker, Lab No. 10035

ADDRESS: Alpine, Texas.

MARKED: Samples for Kendrick Oil Co.

Gold Ozs. per ton	Silver Ozs. per ton	% Lead	% Copper	% Zinc ~~xxx~~ Mercury	% Silica	% Calcium Fluoride	Effective Units	% Manganese	% Iron
		#1		0.04					
		#2		0.00					
		#3		0.03					
		#5		0.03					

$16.00

ASSAYER

IES:
atories • Cottonseed Oils • Physical Testing • Farm Service Laboratory • Soil and Water Analyses

400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

November 7, 1956

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

Re: DMEA-3776 (mercury)
Big Bend Mining, Inc.
Contrabando dome, Presidio County, Tex.
Project Contract Idm-E893

Dear Sirs:

Forwarded herewith are your two copies of the MF-104 Monthly Voucher with the Finance Officer's data posted, and one copy of the rest of that report by the cited Operator on the July project work. The other was sent to you September 25.

Sincerely yours,

CCK/enn

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

encl.(2)
cc: DMEA Op.Com.
3776 file

MF 104
July

2nd Copy - Wash.

rest of this copy of report filed to Wash. 9-25-56 C.C.R.

MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of July, 1956 Docket No. DMEA 2776 Contract No. 14-8893

Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium

Address Box 269, Abilene, Texas

Contract Amount, $ Government Participation: 75 % Amount, $ 99,000.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) [redacted] Short Form } Contracts:						
Drilling	3,222.00	14,910.00	18132.00			
Bulldozing	-0-	575.00	575.00			
Crosscutting						
[redacted] Cement Medrill	670.00	313.00	983.00			
Drifting [redacted] & Gase	22.00	422.00	444.00			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	3914.00	16225.00	20139.00			

RECEIVED
MINERALS TECHNOLOGY DIVISION
AUG 16 1956
BUREAU OF MINES
JOPLIN, MO.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date Aug. 14, 1956 *Payee Big Bend Mining, Inc.

Per [signature] Title President

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 2,935.50

Signature
(Authorized Certifying Officer)

Date 11-1-56 Vou. No. 4-7
(See other side)

D.O. Vou. # 26986

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. dm-E893 in accordance with the terms of the contract.

Signature Clinton C. Knox Title Mining Engineer Date Oct. 25, 1956

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Clinton C. Knox Title Executive Officer Date Oct. 25, 1956

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Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

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Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

2nd Copy Work. MF-104 held in F.T. Office - Joplin Pending approval CCK.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

RECEIVED SEP 27 1956

Month of July 195 6 Docket No. DMEA 3776 Contract No. Ida-2093
Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium
Address Box 269, Chilton, Texas

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	ft.	3222.00	537	18132.00	3022	6.00	18000	6.00
Cement Chips & Rod Mill	ft.	670.00	335	958.00	716	2.00	9000	2.00
Pour & Form cast	ft.	22.00	11	44.00				
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Building	lb.	-0-	-0-	575.00	46	12.50	200	12.50
Total Distributed Costs		3914.00		20139.00				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs								

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date August 14, 1956 Operator Big Bend Mining, Inc.
Per [signature] Title President

Remarks:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

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MINERALS TECHNOLOGY
DIVISION

AUG 16 1956

BUREAU OF MINES
JOPLIN, MO.

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

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GPO 872894

DRILL RECORD

Kendrick Oil Co.
Box 269
Abilene, Texas

BIG BEND MINING, INC.

Hole No. 9-4 Area 3

Land Bledsoe et al

Dates From 6-26-56 to 7-30-56

Location of Hole 1860 ft. S. and 1440 ft. W of NE cor. Sec. 109, Blk. 341, T.C.Ry.Sur. Presidio County, Texas

Elevation 2645

Struck Water at None Stands at -0- Casing Used 11' of 4"

Shale	0	124	Eagle Ford, black limy with numerous cacite veins and some pyrite limonite.
Rock	124	151	Igneous sill.
Shale	151	213	Eagle Ford. Brecciated and sheared from 151 to 171 feet. Fault zone?
Rock	213	235	Igneous Sill.
Shale	235	305	Eagle Ford. Some calcite veins and dissemination of pyrite.
Shale	305	360	Eagle Ford.
Rock	360	537	Igneous. Soft and porous at top, Grading into fine grained and granite like formation at bottom - very hard and dense.

NX Diamond cored 537 feet bottom of hole.

Set 11 feet of 4" casing which was left in hole and capped. Hole left open to bottom.

Lost circulation	11	13	Cement & Redrill	6 feet
" "	13	105	" "	93 "
" "	13	326	" "	236 "
			Total	~~335 feet~~

This hole 9-4, and holes 9-3, 5-6 and 5-7 were exceptionally hard to drill due to so much fracturing, crevases, baked lime and shale which made them very hard, and the igneous rock got progressively harder in all holes with depth into the igneous until it drilled like granite.

The bit cost on holes 9-3, 9-4, 5-6 and 5-7 was out of all proportion to ordinary drilling - one truck was kept busy most of the time hauling water for holes 9-3 and 9-4 due to water loss.

Contractor: Kendrick Oil Co.
Cores classified by L. C. Whittiker
Driller, James R. Johnson

I certify that the above log and statement is true and correct to the best of my knowledge and belief.

P. S. Kendrick

PROGRESS REPORT ON EXPLORATION PROJECT CONTRACT
No. Idm- E 893. Docket DMEA-3776

Contrabando Dome, Presidio County, Texas
Big Bend Mining, Inc.

Report on Drill Hole No. 9-4 From 0 to 537'

0 - 124' Eagle Ford formation, black limy shale with numerous calcite veinlets. Some pyrite and limonite.

124 - 151' Igneous sill.

151 - 213' Eagle Ford. Brecciated and sheared from 151 to 171'. Probably fault zone.

213 - 235' Igneous sill.

235 - 246' Hard shale, compact, limy streak; dark grey, beds dip 30°, pyrite present on bedding planes and vertical fractures.

246 - 262' Compact dark grey hard shale with lime streaks, strong vertical fracture cemented with calcite veinlets.

262 - 274' Dark grey shale with lime streaks, hard and soft spots, calcite and pyrite on bedding planes, weak vertical fracture filled with minute calcite veinlets, beds dip 30°.

274 - 286' Dark grey shale with lime streaks, broken, hard and soft spots, vertical fracture filled with calcite, some breccia spots and slip breaks, pyrite present, beds dip 30°.

286 - 292' Hard dark grey shale with lime streaks vertical fracture filled with calcite veinlets, small amounts of pyrite present, beds dip 30°.

292 - 326' Hard dark grey shale with lime streaks, vertical fracture filled with calcite in size from veinlets to 1/3 in. in width, some pyrite present, beds dip from 25° to 30°.

326 - 347' Hard dark grey shale with lime streaks, at 327'. 1' of finely brecciated shale & lime with abundant pyrite, weak vertical fracture cemented with calcite veinlets, beds dip 25° to 30°.

347 - 354' Hard dark grey shale with pronounced lime streaks, calcite veinlets up to 1/2 in. in width cementing vertical fracture, some replacement of lime with calcite on bedding planes, beds dip 30° plus.

354 - 360' Soft to hard dark shale and lime streaks, some breccia with calcite cementation, pyrite present, beds dip 30°.

360 - 369' Dark grey mottled igneous rock with vertical fractures filled with calcite veinlets, top 4' shows brecciation with shale and lime fragment, color changes to predominant light grey at 367', some pyrite present on fracture faces.

369 - 390' Light grey igneous rock slightly porous, broken with vertical fracture, pyrite present on fracture faces.

390 - 412' Light grey igneous rock, high vertical fracture, broken, slightly porous, good core recovery, hardness increase

412 - 448' Light grey igneous, this section shows very little fracture, relatively hard 100% core recovery, no mineralization.

448 - 460' Light grey igneous rock, hard, difficult to cut with diamond bit, very blocky, some vertical fracture with pyrite present.

460 - 486' Light grey igneous rock, very little fracture hardness increase, no mineralization except for calcareous material coating fracture faces.

486 - 506' Light grey igneous, compact extremely hard and difficult to cut, vertical fracture, white calcareous material coating fracture faces, no mineralization.

506 - 537' Fine grained granetic rock mottled light pink and grey extremely hard and difficult to cut, vertical fracture, no mineralization.

This drill hole was bottomed at 537', July 30, 1956, with no shows of mercury or uranium, except for traces of mercury on Willemite screen tests in igneous rock.

Estimated NX. Core recovery 92%.

LC Whittiker By PBK

L. C. Whittiker

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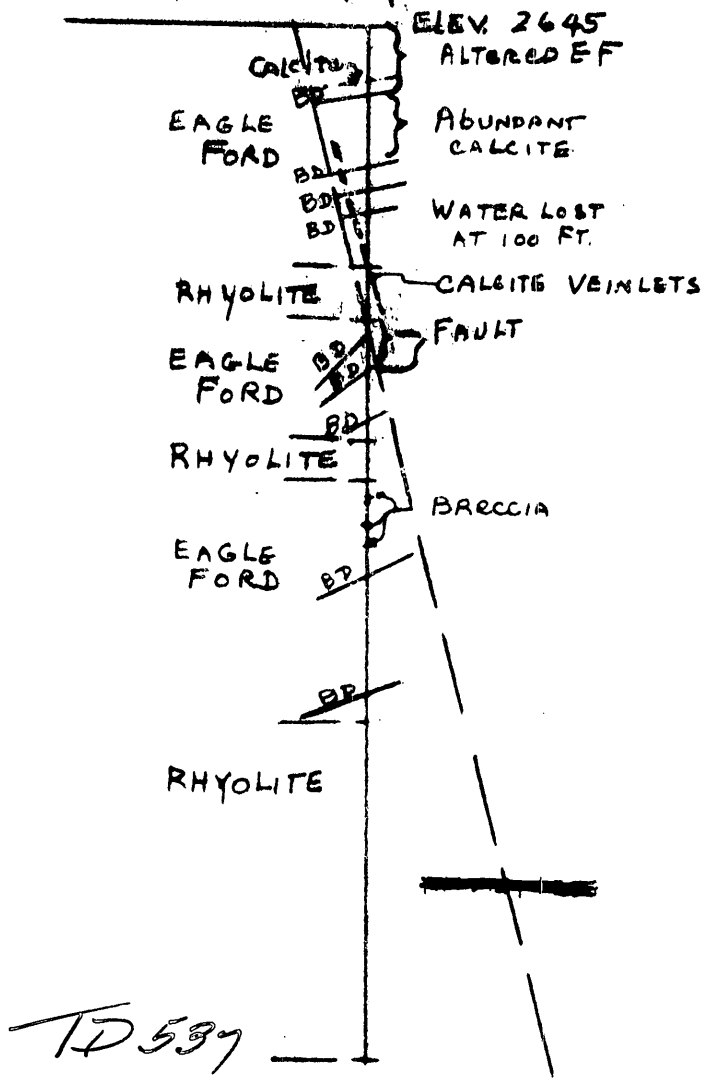
9-4



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SEP 27 1956

September 10, 1956

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MINERALS TECHNOLOGY
DIVISION

SEP 11 1956

BUREAU OF MINES
JOPLIN, MO.

Memorandum

To: Clinton C. Knox

From: Cora A. Piper

Subject: Payment MP-104, Contract IMI-E-893

Payment of MP-104 (June 1956) Contract IMI-E-893, Big Bend Mining, Inc. was made on Bureau Voucher #4.-4, B. C. Voucher #14584 September 7, 1956 in the amount of $2,947.50.

Cora A. Piper

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

400

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SEP 27 1956

September 25, 1956

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

Re: DMEA-3776 (mercury)
Big Bend Mining, Inc.
Contrabando dome, Presidio County, Tex.
Project Contract Idm-E893

WBM

Dear Sirs:

Forwarded herewith are your two copies of the MF-104 Monthly Report by the cited Operator covering the June project work. The voucher data of the Finance Officer are posted on each.

Also enclosed for your immediate information is one copy each of this Operator's Monthly Reports for July and August excepting the MF-104 vouchers on which Field Team approval yet is being withheld.

Also forwarded herewith are three copies each of three sketch maps received yesterday from this Operator which pertains to holes number 9-1, 9-2, 9-9, 5-6, and 5-8, which I believe will be self-explanatory when related to the respective Monthly Reports covering each of those holes.

Sincerely yours,

CCK/enn

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

encl.(14)
cc: DMEA Op.Com.
Harshman,USGS,Denver-Airmail,w/3 copies of maps
3776 file

MF-104's
June 1956
July (a) "
Aug (a) "

2nd Copy - Wash.

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

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UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of June 1956 Docket No. DMEA 3776 Contract No. IDM-E893

Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium

Address

Contract Amount, $ 132,000.00 Government Participation: 75 % Amount, $ 99,000.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~Independent~~ Short Form Contracts:						
Drilling	3666.00	11244.00	14910.00	✓		
Bulldozing	-0-	575.00	575.00	—		
Crosscutting						
~~Drilling~~ Cementing & drlg. out	54.00	264.00	318.00	✓		
Reaming & Case	210.00	212.00	422.00	✓		
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	3930.00	12,295.00	16225.00	3930.00	✓	✓

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JUL 30 1956
BUREAU OF MINES
JOPLIN, MO.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 7/14/56 *Payee Big Bend Mining, Inc.

Per [signature] Title President

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 2,947.50

Signature
(Authorized Certifying Officer)

Date 9-7-56 Vou. No. 4-4
(See other side)

D.O. Vou. # 14584

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm-E893 in accordance with the terms of the contract.

Signature Clinton C. Knox Title Mining Engineer Date August 3, 1956

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Clinton C. Knox Title Executive Officer Date August 28, 1956

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R012.2

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UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 1956 Docket No. DMEA 3776 Contract No. IDM-E893
Operator's Name Big Bend Mining, Inc. Minerals Mercury & Uranium
Address Box 269, Abilene, Texas

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Ft.	3666.00	611	14910.00	2485	6.00	18000	6.00
Cement & Chem Redrill	Ft.	54.00	27	318.00	370	2.00	9000	2.00
Ream & Over Case	Ft.	210.00	105	422.00				
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Bulldozing	Hr.	-0-	-0-	575.00	46	12.50	300	12.50
Total Distributed Costs		3930.00		16225.00				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Bulldozer Transport		None		None				170.00
Total Costs								132000.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 7/14/56 Operator Big Bend Mining, Inc.

Per [signature] Title President

Remarks:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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BUREAU OF MINES
JOPLIN, MO.

DRILL RECORD

Kendrick Oil Co.
Box 847
Abilene, Texas

Hole No. 5-6 Area 6

BIG BEND MINING, INC.

Land Bledsoe, et al Dates From 5-23-56 to 6-8-56

Location of Hole 1000' N & 750' E of SW cor. of Sec. 105, Blk. 34, T C Ry. Sur. Presidio County, Tex. in E. rim of supposed sink as indicated by Wilson map. Elevation

Struck Water at None Stands at -0- Casing Used 25'

Rock & Shale	0	10	Loose rock & black shale.
Shale	10	16	Black, calcareous, dense and petroliferious in places.
Breccia	16	31	Fragments of gray limestone and black shale, cemented with calcite.
Shale	31	175	Black, dense, light gray calcareous streaks and some calcite filled vertical fractures.
Igneous Rock	175	216	Acidic grades from a frothy, white, porous light weight rock on top to a dense gray non-porous rock on bottom. Pyrite filled vertical fractures are present in this rock.

Lost circulation 10' to 20' set 25 feet NX casing at 25 feet. No more trouble with water loss.

Used two bits last 3 feet extremely hard. It was determined that no sink existed at this location and hole completed at 216 feet.

Cemented 13' 6" of 4" casing and capped.

KENDRICK OIL CO.

By [signature]

DRILL RECORD

Kendrick Oil Co.
Box 269
Abilene, Texas

BIG BEND MINING, INC.

Hole No. 5-7 Area 14

Land Holder et al

Dates From 6/8/56 to 6/26/56

Location of Hole 1900' E and 1350' S of NW cor., Sec.105 Blk.341, TC Ry. Sur., Presidio Co., Texas.

Elevation

Water at None Sands at -0- Casing Used 80 ft.

Limestone	0	43	Massive Austin.
Shale	43	136	Eagle Ford. Some calcite veinlets.
Clay	136	138	Clay bed.
Shale	138	308	Eagle Ford. Occasional calcite veinlets. Beds are nearly flat.
Shale	308	340	Eagle Ford. Black limey. Containing numerous calcite veinlets.
Rock	340	395	Igneous, abundant disseminated pyrite in upper part.

No material water loss after setting 80 ft. of NX casing.

This hole was bottomed at 395 for the reason formation did not indicate an ore body present in the ~~area.~~ Location

Cemented 10 ft. 4" casing and capped.

KENDRICK OIL CO.

By P. Kendrick

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SEP 27 1956
JUL 30 1956
BUREAU OF MINES
JOPLIN, MO.

July 27, 1956

Mr. Clinton C. Knox
Defense Minerals Exploration Admin.
Box 431
Joplin, Missouri

Re: APPLICATION to drill
Hole 9-9, Stage 2,
Docket No. DMEA 3776
Contract No. IDM-E893

Dear Mr. Knox:

This is a request to drill hole No. 9-9, Stage 2, area 1 captioned contract. Location of hole to be 87 feet North 18° West from hole 9-2 Stage 1, Area 1 in North central part of Section 109 as indicated by Wilson map.

Justification: The open pit to the NE of the proposed hole is reported to have produced several flasks of mercury. Pieces of rock can be picked up now on the dump which contain considerable sprinkling of cinnabar, and cinnabar can be seen in the rock in the open pit. We think these showings justify additional drilling to determine if the fracturing in this igneous body becomes more pronounced with depth thereby becoming a host rock for commercial quantities of cinnabar. Of if possibly it could form a trap for the accumulation of cinnabar.
Holes 9-1 and 9-2, Area 1, unfortunately did not give us any information as to what caused the deposition of cinnabar in this igneous body or if it had deposition of cinnabar in commercial quantities.

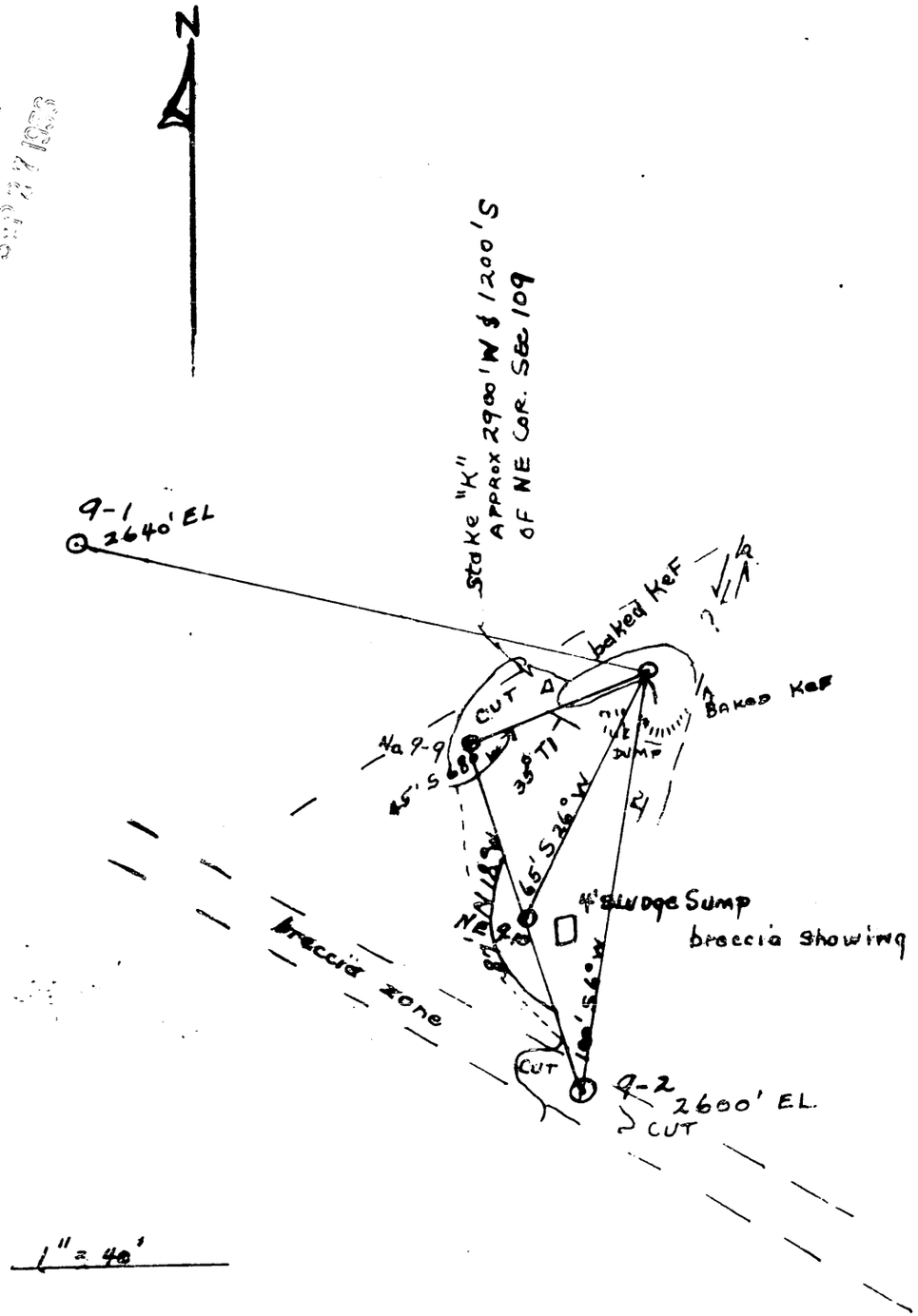
A sketch showing relative location of proposed hole to holes 9-1 and 9-2 Stage 1, area 1 is attached.

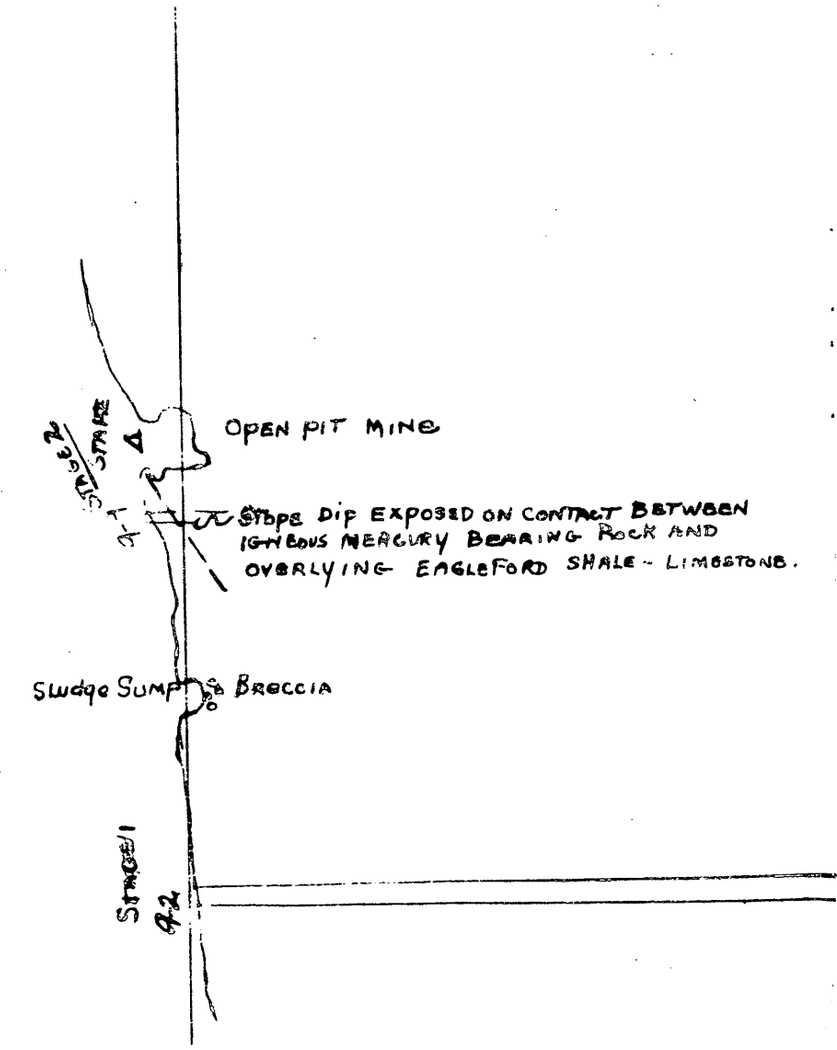
Respectfully submitted,

BIG BEND MINING, INC.

By P. S. Kendrick
P. S. Kendrick, President

PSK:vy
encl.


N
9-1
2640' EL
Stake "K"
APPROX 2900' W & 1200' S
OF NE COR. SEC 109
Baked Ref
Baked Ref
CUT
No 9-9
45' S 68° W
35' TI
JUMP
65' S 36° W
4' Sludge Sump
breccia showing
breccia zone
CUT
9-2
2600' EL.
CUT
1" = 40'


Stage 2
Stake
Open pit mine
Stope Dip exposed on contact between
igneous mercury bearing rock and
overlying Eagleford shale - limestone.
Sludge Sump
Breccia
Stage 1
9-2

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SEP 27 1956

Progress report on Exploration Project Contract No. Idm. -- E893. Docket No. DMEA -- 3776. Contrabando Dome Presidio Co., Texas, Big Bend Mining, Inc.

REPORT ON DRILL HOLE NO. 5-6, AREA NO. 6

Drilling began on drill hole no. 5-6, area no. 6, on May 23, 1956, and terminated on June 8, 1956. Vertical hole with collar elevation of 2632 feet was drilled. Drilling started with a rock bit which was replaced after 10 feet of drilling with a diamond core bit. NX core was taken from 10' to 216'. Formations penetrated were as follows:

0 to 10 -- Rock bit, NX core from there down.

10 to 16 -- Shale, black, calcareous, dense and petrolifereous in places.

16 to 31 -- Breccia, consists of fragments of grey limestone and black shale, cemented with calcite.

31 to 175 -- Shale, black, dense, light grey calcareous streaks and some calcite filled vertical fractures.

175 to 216 -- Igneous rock, acidic. Igneous rock grades from a frothy, white, porous, light weight rock on top to a dense, grey, non-porous rock on the bottom. Pyrite filled vertical fractures are present in this rock.

Drill hole was bottomed at 216' with an estimated core recovery of 98%. All cores were checked with geiger counter and no radiation was detected. A willemite screen test was run on cores for mercury with negative results except for traces in igneous rock.

L. C. Whittlesey

Progress report on Exploration Project Contract No. Idm. -- 1893. Docket No. DMEA -- 3776. Contrabando Dome, Presidio Co., Texas, Big Bend Mining, Inc.

RECEIVED
SEP 27 1956

REPORT ON DRILL HOLE 5-7, AREA NO. 14

Drilling began on drill hole no. 5-7, area 14, on June 8, 1956, and terminated on June 25, 1956. Vertical hole with collar elevation of 2384' was drilled. Drilling started with a rock bit which was replaced after 12' of drilling with a diamond core bit, NX core was taken from 12' to 395'. Formations penetrated were as follows:

0 to 12 -- Rock bit, NX core on down.

12 to 39 -- Limestone, buff colored, porous and chalky.

39 to 340 -- Shale, black, dense, light grey calcareous streaks. Calcite fillings along bedding planes and in vertical fractures which are present. A two feet bed of volcanic ash lies between 136' and 138'.

340 -- 395 -- Igneous rock, grades from frothy, white, fine grain on top to a dense medium grain, grey on the bottom. Pyrite filled vertical fractures are present in this rock.

Drill hole was bottomed at 395' with an estimated core recovery of 97%. All cores were checked with a geiger counter and no radiation was detected. A villamite screen test was run on cores for mercury with negative results except for traces in the igneous rock.

J. C. Whitten

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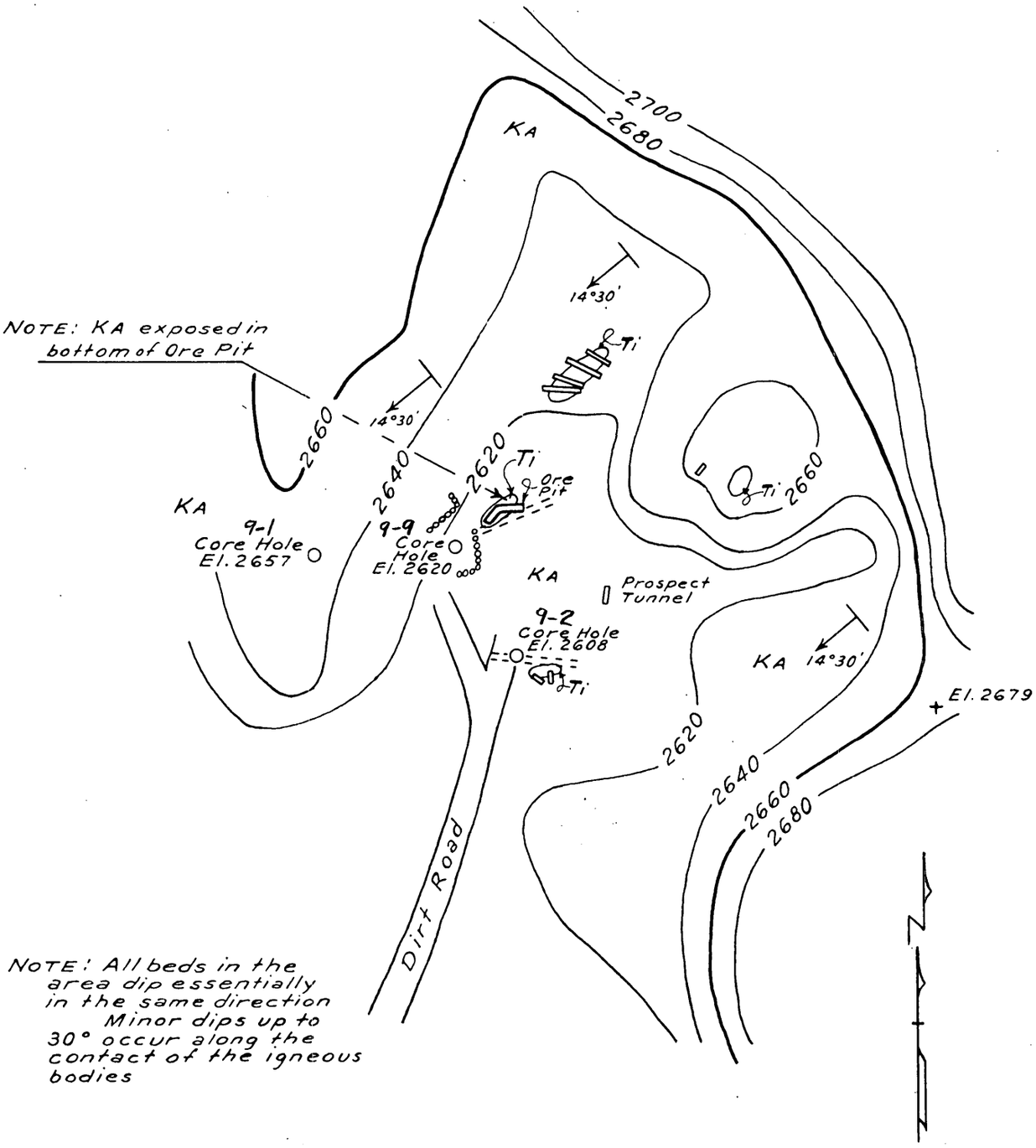
SEP 27 1956



CONTRABANDO DOME
ORE PIT AREA No 1

Presidio County, Texas

Scale: 1" = 100' Date: Sept. 19, 1956

Geol By: Jim Bell

Geographic Symbols

▭ : Prospect Ditches
O : Core Hole
ooooo : Rock Wall
+ : Elevation stake

Geologic Symbols

KA : Austin formation
Ti : Tertiary igneous
- - - - : Breccia Zone

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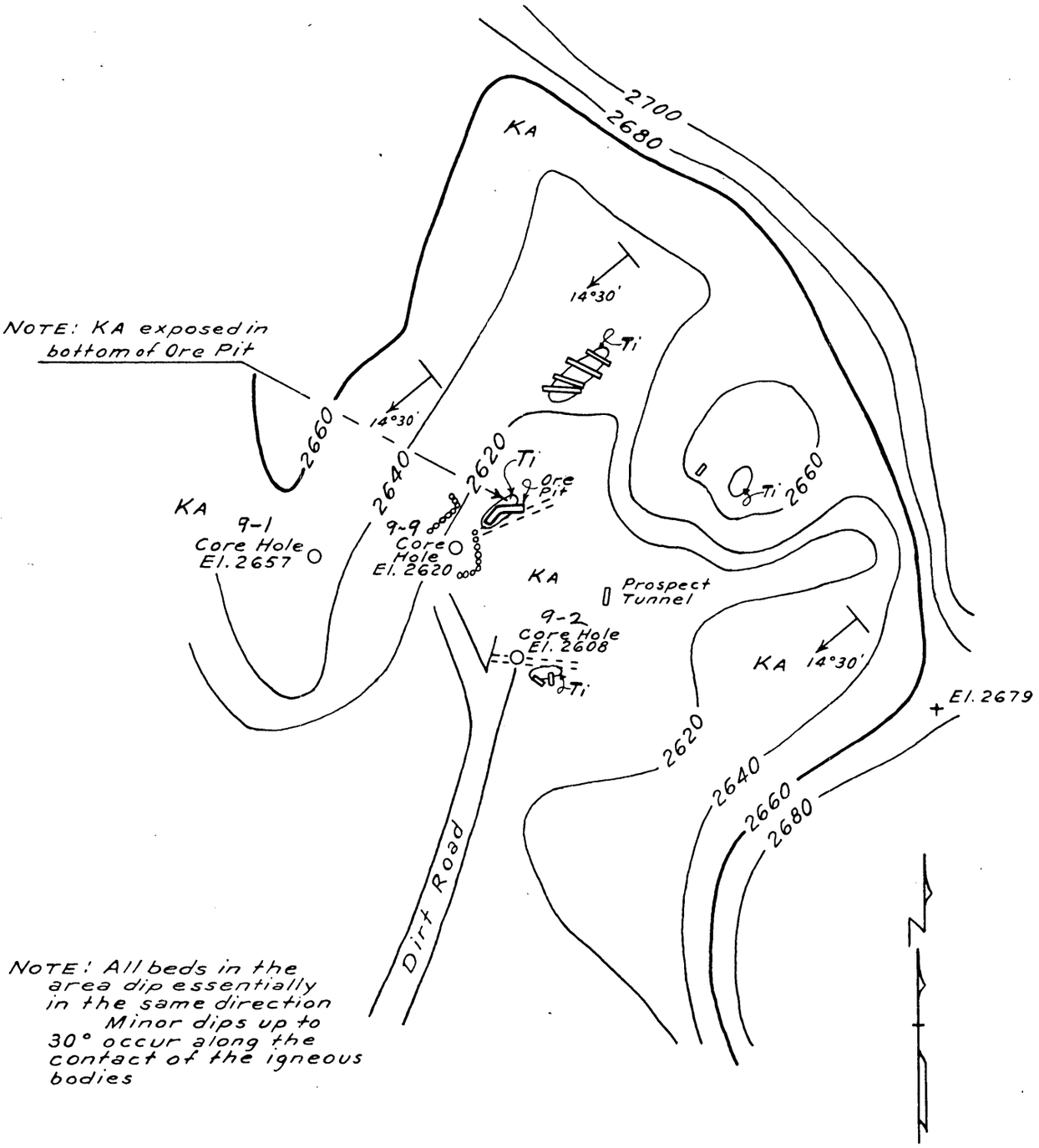

CONTRABANDO DOME
ORE PIT AREA No. 1

Presidio County, Texas

Scale: 1" = 100' Date: Sept. 19, 1956

Geol By: Jim Bell

Geographic Symbols

▭ : Prospect Ditches
O : Core Hole
ooooo : Rock Wall
+ : Elevation stake

Geologic Symbols

KA : Austin formation
Ti : Tertiary igneous
- - - - : Breccia Zone

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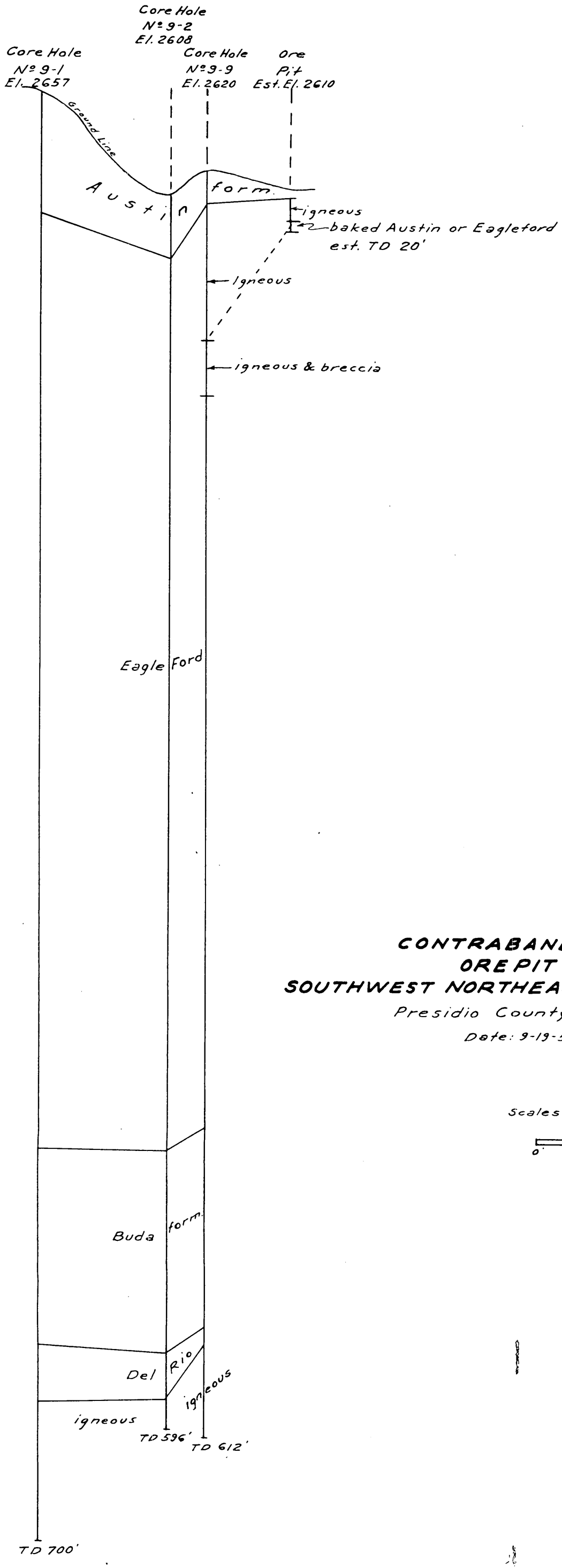
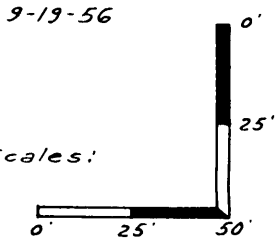
SEP 27 1956



CONTRABANDO DOME
OREPIT AREA No 1
SOUTHWEST NORTHEAST CROSS SECTION
Presidio County, Texas
Date: 9-19-56

Scales:



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SEP 24 1956
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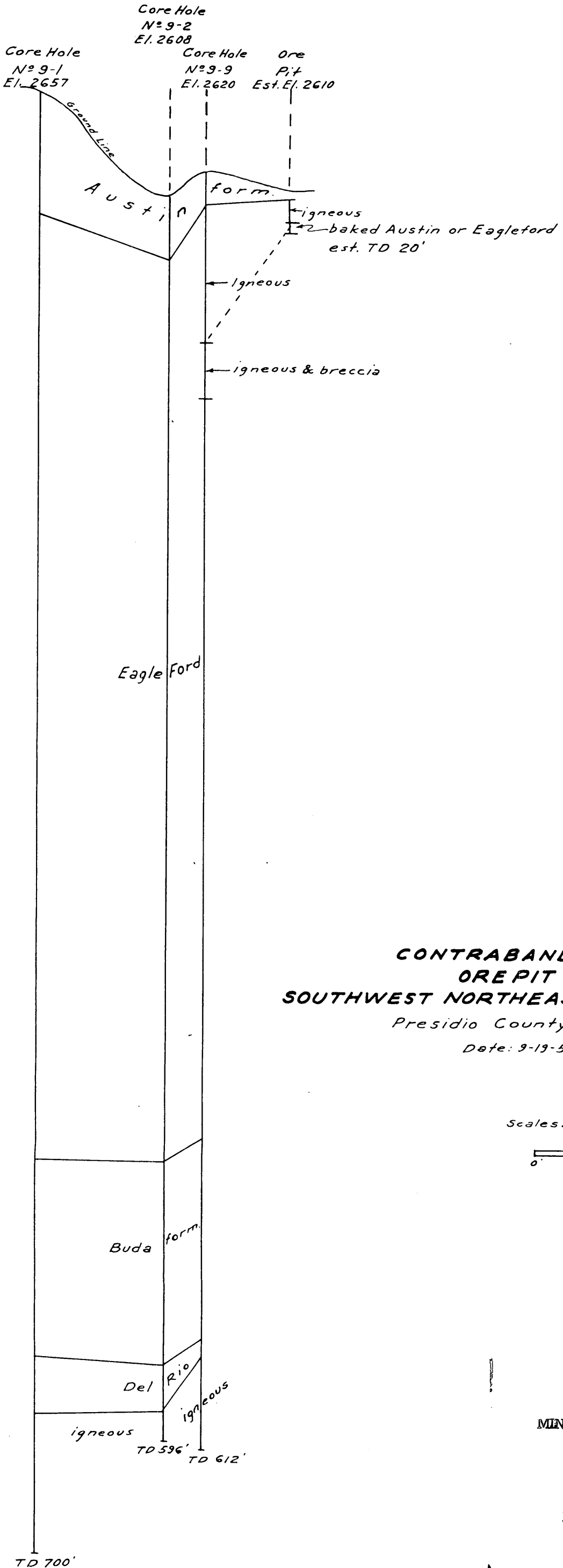
JOPLIN, MO.



CONTRABANDO DOME
ORE PIT AREA No. 1
SOUTHWEST NORTHEAST CROSS SECTION
Presidio County, Texas
Date: 9-19-56

Scales:
0' 25'
0' 25' 50'

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MINERALS TECHNOLOGY
DIVISION

SEP 24 1956

BUREAU OF MINES
JOPLIN, MO.

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

RECEIVED
JUN 20 1956

June 18, 1956

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

Re: DMEA-3776 (mercury-uranium)
Big Bend Mining, Inc.
Contrabando dome, Presidio County, Tex.
Project Contract Idm-E893

Dear Sirs:

Transmitted herewith is your copy of the cited Operator's Monthly Report for the April project work with the Finance Officer's Voucher data posted thereon. Your other copy of that report was forwarded with my Interim Report of May 16 on which you will want the above-mentioned Voucher data also posted.

Also enclosed here for your information is one of your copies of this Operator's Monthly Report for the May project work. Your other copy will be forwarded when approved by me and "Certified" by the Finance Officer. The Interim Report by John Faick, U.S.G.S., Tuscon, on his inspection of the project last week for this Field Team will be forthcoming shortly.

Sincerely yours,

CCK/enn

Clinton C. Knox
Executive Officer
Region IV

encl.3
cc: DMEA Op.Com.
Finance Off.,USBM,Bartlesville
3776 file

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

RECEIVED
JUN 20 1956

Month of May, 1956 Docket No. DMEA 3776 Contract No. IDM-E 893
Operator's Name BIG BEND MINING INC. Mineral Mercury, Uranium
Address Box 269, Abilene, Texas
Contract Amount, $ 132,000 Government Participation: 75 % Amount, $ 99,000

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~Independent~~ Short Form Contracts:						
Drilling	3,468.00	7,776.00	11,244.00			
Bulldozing	-0-	575.00	575.00			
~~Crosscutting~~ Cement and Redrill	100.00	164.00	264.00			
Drifting						
Ream and Case	90.00	122.00	212.00			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	3,658.00	8,637.00	12,295.00			

RECEIVED
MINERALS TECHNOLOGY DIVISION
JUN 11 1956
BUREAU OF MINES
JOPLIN, MO.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date June 8, 1956 *Payee BIG BEND MINING INC.

Per [signature] Title President

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$

Signature
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. ..... in accordance with the terms of the contract.

Signature ..... Title ..... Date .....

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature ..... Title ..... Date .....

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Forms MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" and "Totals Previously Reported" and "Totals to Date" columns should also be filled in.

(Instructions on reverse)

GPO 872893

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
JUN 20 1956

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of May 1956 Docket No. DMEA 3776 Contract No. IDM-E 893
Operator's Name BIG BEND MINING INC. Minerals Mercury, Uranium
Address Box 269, Abilene, Texas

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	feet	3,468.00	578	11,244.00	1,874	6.00	18,000	6.00
Cement and redrill	"	100.00	50	264.00	238	2.00	9,000	2.00
Ream and case	"	90.00	45	212.00				
Stripping								
Trenching								
Test Pits								
Roads and Trails Bulldozer	Hr.	-0-	-0-	575.00	46	12.50	300	12.50
TOTAL DISTRIBUTED COSTS		3,658.00		12,295.00				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Bulldozer transport		none		none				170.00
TOTAL COSTS								132,000

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date June 8, 1956 Operator BIG BEND MINING INC.

Per [signature] Title President

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

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MINERALS TECHNOLOGY
DIVISION

JUN 11 1956

BUREAU OF MINES
JOPLIN, MO.

RECEIVED
JUN 20 1956

Abilene, Texas
June 8, 1956

PROGRESS REPORT on Exploration Project Contract No. Idm.—E893. Docket No. DMFA —3776. Contrabando Dome Presidio Co., Texas, Big Bend Mining, Inc.

REPORT ON DRILL HOLE NO. 9—3, AREA NO. 2

Drilling began on drill hole no. 9-3, area no. 2, on May 2, 1956, and terminated on May 23, 1956. Vertical hole with collar elevation of 2616 feet was drilled at a point 90 feet S. 21° W. from the smaller of two Igneous outcrops mapped along the major fault trace, as indicated on Escar W. Armstrong map, and 2070' from E. line and 2270' from N. line of Section 109, Block 341, T. C. Ry Co. Survey, Presidio County, Texas.

The hole was drilled vertically to a depth of 578'. The first 12' was drilled with 5-5/8" rock bit and 4½" casing was cemented. From 12' to 578' was cored with NX diamond bit resulting in approximately 97% recovery. Thickness and detailed description of formations encountered in this hole are set out in detail in the attached drill record to which reference is here made.

One hundred per cent water loss was encountered at 36' and the hole mudded, and one hundred per cent water loss encountered again at 48'. The hole was reamed to 57' and that amount of NX casing set with good results.

RECEIVED
JUN 20 1956

Forty per cent water loss was encountered again at 150', but no effort was made to seal this off. From 217' to 267' one hundred per cent water loss was encountered again at which depth the hole was cemented. 50' of cement was drilled out with little result. No further effort was made to correct water loss as formation all the way down was fractured and at places very porous.

One new diamond bit was worn out in making the last 23' and the formation was getting progressively harder. 57' of NX casing were recovered and plug put in the top of $4\frac{1}{8}$" casing left in hole. The Hole was left open to bottom.

All cores were checked with a gieger counter and no radiation was detected. Willemite screen tests were run on cores for mercury minerals with negative results except for traces in Breccia material and Igneous rock.

The Breccia material referred to in the Drill Record contained considerable fragments of Buda and Georgestown Limestone.

A Kendrick

DRILL RECORD

Kendrick Oil Co.
Box 269
Abilene, Texas

RECEIVED
JUN 20 1956

Big Bend Mining Inc.

Hole No. _____

Land _____ Dates From _____ to _____

Location of Hole _____ Elevation 2616

Struck Water at _____ Stands at _____ Casing Used _____

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

All cores were checked with a gieger counter and no radiation was detected.

Willemite screen tests were run on cores for mercury minerals with negative results except for traces in Breccia material and Igneous rock.

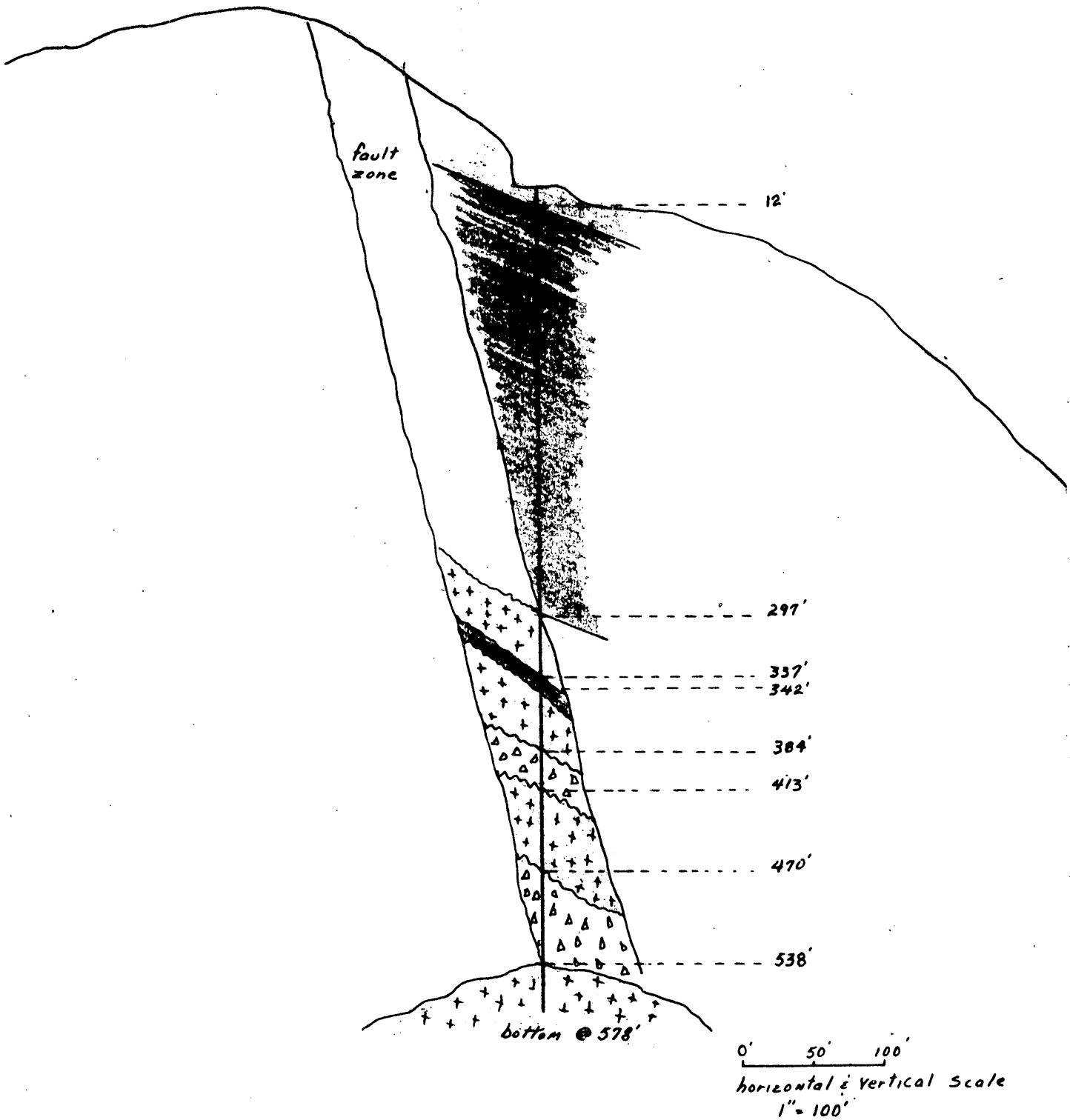
Contractor--Kendrick Oil Co.
Cores Classified by L. C. Whitaker
Driller--Oscar E. Reynolds

I certify that the above is true and correct to the best of my knowledge and belief.

L. Kendrick

June 8, 1956

9-3



black shale

breccia

igneous

limestone

L. C. Whittier

400

COPY

COPY

BIG BEND MINING, INC.
Box 269
Abilene, Texas
May 10, 1956

RECEIVED
MAY 21 1956

United States Department of the Interior
Defense Minerals Exploration Administration
Box 431
Joplin, Missouri

WSM

Attention: Mr. Clinton C. Knox
Executive Officer
DMEA Field Team, Region IV

Re: DMEA-3776 (Mercury)
Contrabando Dome Presidio
County, Texas
Project Contract Idm-E893

Dear Mr. Knox:

We have completed the drilling of holes #9-1 and 9-2 of stage 1 on Contrabando Dome and enclosed are the following:

1. Five copies - Form MF-104.
2. Five copies - Form MF-104A.
3. Five copies - progress report by L. C. Whittiker
4. One copy - drillers log for holes #9-1 and 9-2.
5. One copy - Mineral lease M-43695 dates April 9, 1956 from Commissioner General Land Office, Austin, Texas covering Sec. 108, Blk. 341, T.C.Ry. Co. Survey, Presidio County, Texas.
6. One copy - Assignment of extension contract covering the lease on Sec. 105 and 109, Blk. 341, T.C.Ry. Co. Survey, Presidio County, Texas executed by P. S. Kendrick, L. C. Whittiker and Geo. F. Fry.

Forms MF-104 and MF-104A cover total footage cored of 1296 feet, cement and re-drill 82 feet, ream and case 61 feet and bulldozer 46 hours at a total cost of $8,637.00 which amount represents 100% at contract price.

We trust you will find these in order but if there is any additional information you may need or any corrections, please let us know at once and we will give it our immediate attention.

We enjoyed your visit both at Lajitas and Abilene and hope you will be seeing us often, at least until we complete our contract on Contrabando Dome.

Yours very truly,

BIG BEND MINING, INC.

By
/s/ P. S. Kendrick, President

PSK:vv
Encls.

Aper & May

Form MF-104 (Rev.)
(April 1952)

2nd Copy Wash.

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

RECEIVED
MAY 21 1956

Month of April, 1956 Docket No. DMEA 3776 Contract No. 1DM-E 893
Operator's Name Big Bend Mining, Inc. Minerals Mercury-Uranium
Address Box 269, Abilene, Texas
Contract Amount, $ 132,000 Government Participation: 75 % Amount, $ 99,000

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY WSM		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) In[redacted] Short Form Contracts:						
Drilling	7776.00	None	7776.00			
Bulldozing	575.00	None	575.00			
[redacted]						
[redacted] cement & re-drill	164.00	None	164.00			
Ream & Case	122.00	None	122.00			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	8637.00	None	8637.00			

RECEIVED
MINERALS TECHNOLOGY DIVISION
MAY 14 1956
BUREAU OF MINES
JOPLIN, MO.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 4/10/56 *Payee Big Bend Mining, Inc.

Per Phil S. Kendrick Jr. Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$

Signature
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. ..... in accordance with the terms of the contract.

Signature ..... Title ..... Date .....

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature ..... Title ..... Date .....

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

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(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

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OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of April 1956 Docket No. DMEA 3776 Contract No. IDM-# 893
Operator's Name Big Bend Mining, Inc. Minerals Mercury-Uranium
Address Box 269, Abilene, Texas

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Feet	7776.00	1296	7776.00	1296	6.00	18,000	6.00
Cement & Churr re-drill	"	164.00	82	164.00)	143	2.00)		2.00
Ream & Case	"	122.00	61	122.00)		2.00)	9,000	
Stripping								
Trenching								
Test Pits								
Roads and Trails Bulldoze	Hr.	575.00	46	575.00		12.50	300	12.50
TOTAL DISTRIBUTED COSTS		8637.00		8637.00				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Bulldozer Transport		None		None				170.00
TOTAL COSTS								132000.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

REMARKS:

Date 4/10/56 Operator Big Bend Mining, Inc.

Per Phil S. Kendrick Jr. Title Treasurer

NOTE.—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.

(Instructions on reverse)

(For Government use only)

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INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Alpine, Texas
May 9, 1956

MAY 22 1956

Progress report on Exploration Project Contract No. Idm. -- E893. Docket No. DMEA -- 3776. Contrabando Dome Presidio Co., Tex., Big Bend Mining, Inc.

Bulldozer work started on March 14, 1956, and was in progress until the completion of four (4) miles of road and drill hole sites in project areas nos. 1, 2, 3, 6, 11, 14 and 18. The total bulldozer time was forty-six (46) hours.

REPORT ON DRILL HOLE NO. 9--1, AREA NO. 1

Drilling began on drill hole no. 9--1, area no. 1, on March 23, 1956, and terminated on April 14, 1956. Vertical hole with collar elevation of 2640 feet was drilled at 150' N 65°W of open cut as plotted on Armstrong map. Drilling started with a rock bit which was replaced after 5' of drilling with a diamond core bit. NX core was taken from 5' to 700'. Formations penetrated were as follows:

5 to 30' -- light buff to brown calcareous argillaceous brecciated limestone

30 to 93' - brecciated limestone and dark shale with showings of calcite and pyrite

93 to 509'- predominately dark to black shale with thin bedded gray lime. Petroliferous odor was present throughout this section and occasional fractures with bleeding oil were noted in cores. Calcite seams occurred along the bedding planes and numerous bentonitic clay seams are in evidence. Traces of pyrite were found.

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Drill hole was abandoned at 596' with an estimated core recovery of 98%. All cores were check with same results as drill hole 9-9. DRILLER- OSCAR E. REYNOLDS

Bedding Plane dip on both drill holes is 25 to 30° Southwest off of Dome Structure.

L. C. Whittiker

L. C. WHITTIKER

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509 to 603' - dense gray mottled limestone with stylite partings, some interbedded shale and slightly pyritic

603 to 630' - dark altered pyritic and calcareous shale

630 to 700' - porous light gray igneous rock vertical fracture, white to yellow pyrite

Drill hole was abandoned at 700' with an estimated core recovery of 98%. All cores were checked with a gieger and no radiation was detected. Willemite screed test was run on cores for mercury with negative results except for traces in igneous rock. DRILLER - OSCAR E. REYNOLDS.

DRILL HOLE NO. 9--2, AREA NO. 1

Drilling began on drill hole No. 9-2, area no. 1, on April 16th, 1956, and terminated on May 1, 1956. Vertical hole with collar elevation of 2600 feet was drilled 100' southward along road from open cut as platted on Armstrong map, drilling started with a rock bit which was replaced after 10'6" of drilling with a diamond core bit, NX core was taken from 10'6" to 596'. Formations penetrated were as follows:

0 to 10'6" - light buff to brown weathered lime

10'6" to 38' - light brown brecciated lime

38' to 459' - same as drill hole 9-1 FROM 93-509 except no bleeding oil in cores were noted.

459' to 555' - Same as drill hole 9-1 - FROM 509-603.

555 to 580' - Same as drill hole 9-1 - FROM 603-630.

580 to 596' - Same as drill hole 9-1 - FROM 630-670.

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JOPLIN, MO.
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THE STATE OF TEXAS |
COUNTY OF PRESIDIO |

WHEREAS, E. G. Bledsoe and Elizabeth Bledsoe, L.B. Horton, W. E. Yaggy, Gordon Kenley, and C. A. Duncan, as Lessors, and P. S. Kendrick, L. C. Whittiker, and George F. Fry, as Lessees, did on April 23, 1955, enter into a certain lease contract covering Surveys 105 and 109, Block 341, T. C. Ry. Co., Presidio County, Texas, reference being here made to said contract for all relevant purposes; and

WHEREAS, the said lease contract has been assigned by the said P. S. Kendrick, L. C. Whittiker, and George F. Fry, to Big Bend Mining, Inc.; and

WHEREAS, that certain provision of said lease contract with reference to the date on or before which work was to be commenced has been extended from time to time until March 23, 1956, but the last of the extension agreements was made and entered into subsequent to the date of the assignment from the said P. S. Kendrick, L. C. Whittiker, and George F. Fry to the said Big Bend Mining, Inc., and a question has been raised as to the sufficiency of said assignment to convey all of the rights held and owned by the said P. S. Kendrick, L. C. Whittiker, and George F. Fry, by virtue of said lease and extension agreements;

NOW, THEREFORE, Know All Men By These Presents, that P. S. Kendrick, L. C. Whittiker, and George F. Fry, in consideration of the premises, and for the purpose of eliminating any question as to the ownership of said lease contract, do hereby Grant and Convey unto the said Big Bend Mining, Inc., the said lease as extended, and all rights thereunder or incident thereto, upon the same terms and conditions contained in the original assignment, and the said assignment is hereby

ratified, adopted, and confirmed.

EXECUTED this 28th day of February, A.D. 1956.

P. S. KENDRICK

L. C. WHITTIKER

GEORGE F. FRY

THE STATE OF TEXAS }
COUNTY OF TAYLOR }

BEFORE ME, the undersigned, a Notary Public in and for said County and State, on this day personally appeared P. S. Kendrick, L. C. Whittiker, and George F. Fry, known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 28 day of February, A.D. 1956.

Vivian Yardley
Notary Public, Taylor County, Texas

THE STATE OF TEXAS }
COUNTY OF PRESIDIO } I, DELLA BOND, County Clerk in and for said County, do hereby certify that the foregoing instrument of writing with its certificate of authentication was filed for record in my office on the 27 day of April A. D., 1956, at 3:30 o'clock P.M. and duly recorded the 30 day of April A. D., 1956 at 9:40 o'clock A.M., in the Deed Records of said County, in Vol. 147 on page 3.

WITNESS my hand and the seal of office, at my office in Marfa, Texas.

By: _____ Deputy

Della Bond
County Clerk, Presidio County, Texas

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JOPLIN, MO.

MINERAL LEASE M- 43695

Date April 9, 1956

WHEREAS, Big Bend Mining, Inc.

of Abilene, Texas on the 9th day of April 1956,

filed in the General Land Office his application to lease, in accordance with Chapter 497, Acts 54th Legislature, 1955, Article 5421c-7, Vernon's Civil Statutes, the following described tract of land:

Sec. 108, Blk. 341, TC Ry Co Survey, Presidio County, 640 acres

NOW THEREFORE, I, J. EARL RUDDER, Commissioner of the General Land Office of the State of Texas, by virtue of the authority vested in me, do hereby lease and grant unto Big Bend Mining, Inc.

who has paid the amount of $1,280.00

the exclusive right to prospect for, produce and take out of the aforesaid area for a period of five years and as long thereafter as production in paying quantities is obtained, uranium, thorium or other fissionable materials, or gold, silver, platinum, cinnabar and other metallic ores and precious stones that may be therein, upon the following conditions, to-wit:

1. The owner of this lease shall pay to the Commissioner of the General Land Office, at Austin, Texas, for the use and benefit of the State of Texas annually in advance One Dollar ($1.00) per acre for the second year and each succeeding year thereafter during the primary term hereof which shall be payable unless production in paying quantities is being obtained and royalty being paid the State thereon.

2. When production in commercial quantities of the minerals covered by this lease is secured, the owner shall pay to the Commissioner of the General Land Office at Austin, Texas, for the use and benefit of the State of Texas one-sixteenth (1/16th) of the value of the metallic ores and precious stones, and one-sixth (1/6th) of the value of uranium, thorium or other fissionable materials produced from the area embraced herein, the amount so payable being based on the value of the production at the mouth of the mine.

3. All royalty that may become due the State shall be paid on the twentieth (20th) day of the month following the month in which the minerals, uranium, thorium or other fissionable materials were produced. The payment shall be accompanied by the sworn statement of the owner, manager, or other authorized agent showing the gross amount of production since the last report and the market value of the same, together with a copy of all checks or memoranda of the amount produced.

4. The books, accounts, records and contracts pertaining to the production, transporation, sale and marketing of the minerals, uranium, thorium or other fissionable materials, shall at all times be subject to inspection and examination by the Commissioner of the General Land Office, the Attorney General, and the Governor, or the representatives of either of them.

5. The State shall have a first lien upon all production from the area covered by this lease to secure the payment of all unpaid royalty and other sums of money that may become due under said lease.

6. A log of each core test drilled on the area covered by this lease must be filed in the General Land Office within thirty (30) days after such drilling shall have been completed or abandoned, and the correctness of such log shall be sworn to by the owner, manager or driller.

7. All development must be done in such a manner as to prevent, as far as practicable, the pollution of water. When any claim or mine is abandoned, all shafts, mines, or openings of any kind which, if left exposed, would be dangerous to human beings or livestock shall be covered or enclosed in such a manner as to remove the danger.

8. The owner of this lease may fell and remove for mining purposes any timber upon the area included herein, and shall also have the right to occupy within the limits of the lease so much of the surface as may be necessary for the development of the minerals and substances herein; and shall have the right of ingress and egress to and from the area embraced herein.

9. This lease may be assigned in quantities of not less than forty (40) acres unless there be less than forty (40) acres remaining out of the tract originally leased in which case such lesser area may be assigned. Such assignments shall be recorded in the county in which the land is located and a certified copy thereof, certified by the county clerk from his records, forwarded to the General Land Office within ninety (90) days from the date of recordation, accompanied by a One Dollar ($1.00) filing fee for each tract affected.

10. The owner of this lease may relinquish it back to the State at any time by recording the relinquishment in the county where this area is situated and filing a certified copy, certified by the county clerk, in the General Land Office within ninety (90) days after its execution, accompanied by a filing fee of One Dollar ($1.00). Such relinquishment will not have the effect of releasing the owner from any liability theretofore accrued in favor of the State.

11. If the owner of this lease should fail or refuse to make the payment of any sum due either as rental on this lease or for royalty on the production when it shall become due, or if the owner or his authorized agent should knowingly make any false return or false report concerning production, royalty, or drilling or mining as required by law and the rules and regulations adopted by the Commissioner of the General Land Office, or if the owner or his agent should refuse the proper authority access to the records pertaining to operations under this lease, or if such owner or his authorized agent should knowingly fail or refuse to give correct information to the proper authority as provided herein, the lease shall be subject to forfeiture by the Commissioner of the General Land Office.

12. When required by the Commissioner of the General Land Office, the authority of a manager or agent to act for the owner of this lease must be filed in the Land Office.

13. Forfeitures may be set aside and this lease and all rights thereunder reinstated before the rights of another intervene upon satisfactory evidence to the Commissioner of the General Land Office of future compliance with the provisions of the law and of this lease and any rules and regulations adopted relative thereto.

IN TESTIMONY WHEREOF, I have caused the Seal of the General Land Office to be affixed hereto at the City of Austin, on the 9th day of April, 19 56.

COMMISSIONER OF THE GENERAL LAND OFFICE

4-20-56

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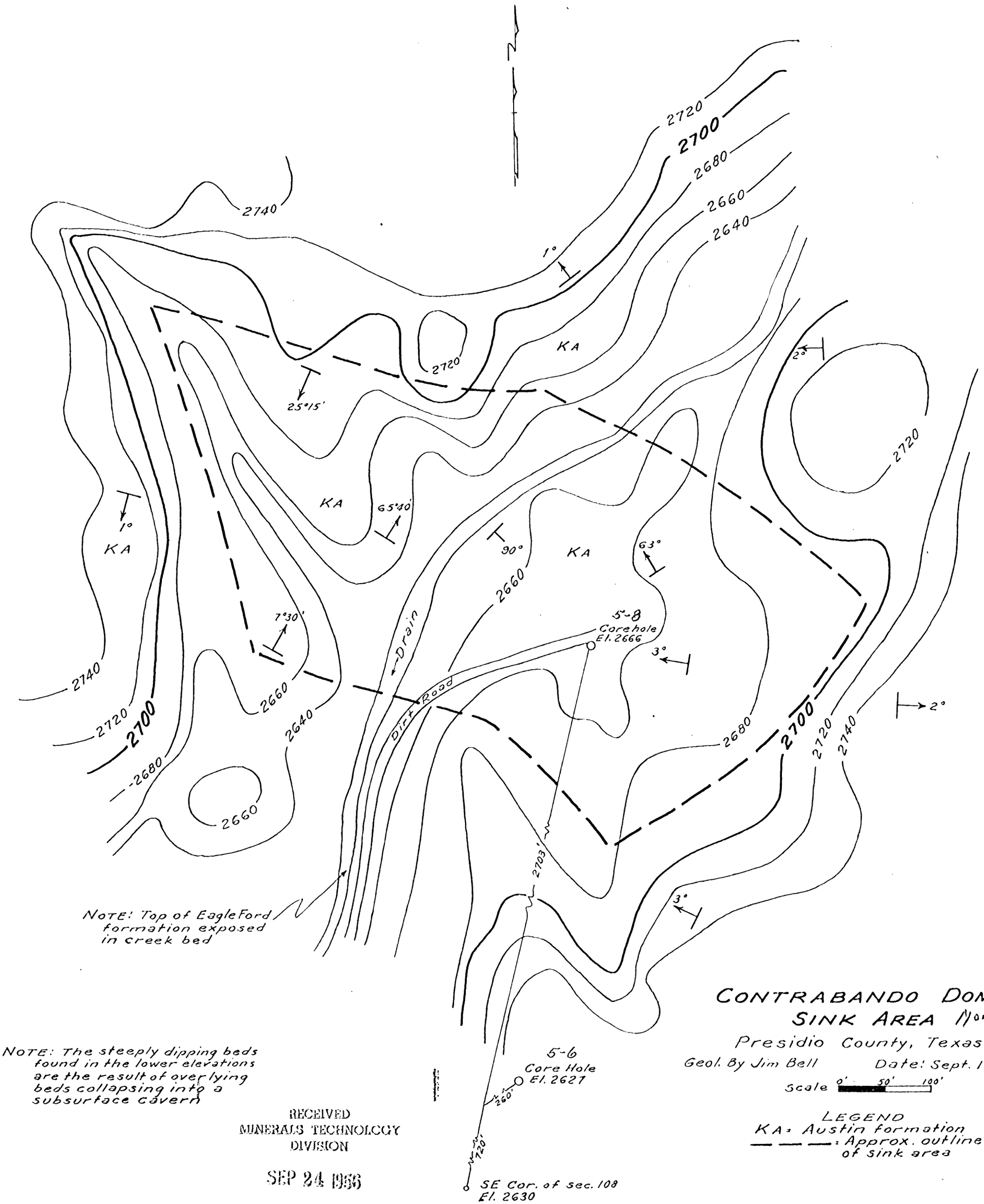
THE STATE OF TEXAS }
COUNTY OF PRESIDIO } I, DELLA BOND, County Clerk in and for said County, do hereby certify that the foregoing instrument of writing with its certificate of authentication was filed for record in my office on the 27 day of April A. D., 19 56 at 3:30 o'clock P. M. and duly recorded the 30 day of April A. D., 19 56 at 9:15 o'clock A. M., in the Deed Records of said County, in Vol. 147 on page 8 1-2.

WITNESS my hand and the seal of office, at my office in Marfa, Texas.

By: _____ Deputy

Della Bond
County Clerk, Presidio County, Texas

FILED FOR RECORD
April the 27 1956 at 3:30 o'clock P. M.
Della Bond
County Clerk, Presidio County, Texas
2.00



NOTE: The steeply dipping beds found in the lower elevations are the result of overlying beds collapsing into a subsurface cavern

CONTRABANDO DOME
SINK AREA No. 7

Presidio County, Texas

Geol. By Jim Bell Date: Sept. 19, 1956

Scale 0' 50' 100'

LEGEND
KA = Austin formation
— — — = Approx. outline of sink area

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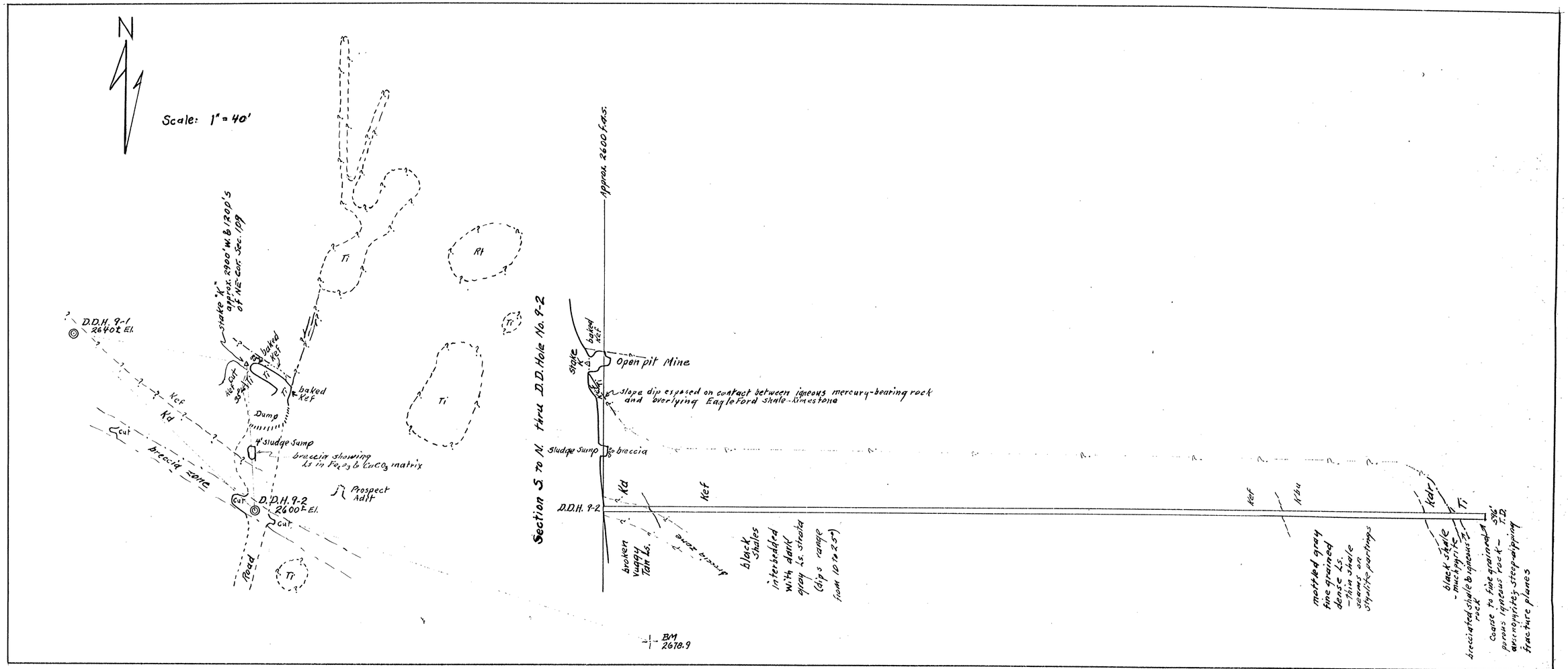

Sketch Map of Area 1, Contrabando Dome, NE/4 Sec. 109, Blk. 341, T.C. Ry. Co. Sur., Lajitas, Presidio County, Texas

Knox 4-14-56

Docket DMEA-3776 (mercury), Big Bend Mining, Inc., Project Contract Idm-E893