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

1201 N. Division St.
Spokane 2, Washington
December 9, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Docket No. DMEA 3143 (cobalt-copper), Calera Mining Company, Blackbird Mine, Lemhi County, Idaho, Contract No. Idm-E645

The inspection was made December 4, 1954 by A. L. Service and V. Z. Johnson who were accompanied by the Operator's geologist, Richard Cribbs. Snow made chains necessary on conventional vehicles to get to the mine.

Stage I of the contract is almost completed; surface trenching was exceeded in September and 8,576½ feet of diamond drilling has been completed in 21 holes. The contract provides for 8,700 feet of diamond drilling but the 123½ feet which remain cannot reach the targets to be explored.

Stage I of the project has been successful. The Operator's geologist has estimated possible ore in three zones with work units about as follows:

Black Tail zone (Extension of Brown Bear)	1,250 ft. trench 2,955½ ft. diamond drilling	90,000 T/100' depth	0.80% Co 2.0 % Cu
Old Gold Zone	4,250 ft. trench 4,099 ft. diamond drilling	30,000 T/100' depth	0.42% Co 0.70% Cu
Indian Quartz or Dandy Zone	Little trenching 1,003 ft. diamond drilling	Questionable	

Underground diamond drilling is recommended as the next step to explore the Indian Quartz zone. Mine openings on the 6850 and 7100 levels would make it feasible to crosscut, by diamond drilling, the zone indicated by trenches 540, 580 and 587, as well as surface holes 45 and 47—all near coordinates 15,500 N, 5,500 E. The near surface results to

date indicate a wide zone that is weakly mineralized; however, further exploring at depth might show higher copper cobalt concentration. A few holes from underground stations would give more information about this zone before undertaking or abandoning the proposed 7100 crosscut.

Underground work, Stage II, was advanced 180 feet in the 7400 northwest drift since the inspection of November 3, 1954. Two switching stations were used to shorten the length of tram. Heavy timbering was required along with 32 feet of spiling near coordinates 17,800 N and 3000 E as this northwest drift enters a broken mineralized zone. Dilution and delay in assay returns were the reasons for not sending the muck as ore although samples of the muck assayed 0.40% Co and 0.93% Cu through a 60-ft. interval of the above advance.

The entire drift has been well timbered for a permanent haulage level and the drainage ditch has been improved. The cross sections are still large - 9x11 feet.

The total contract units completed to November 1, 1954 are about as follows:

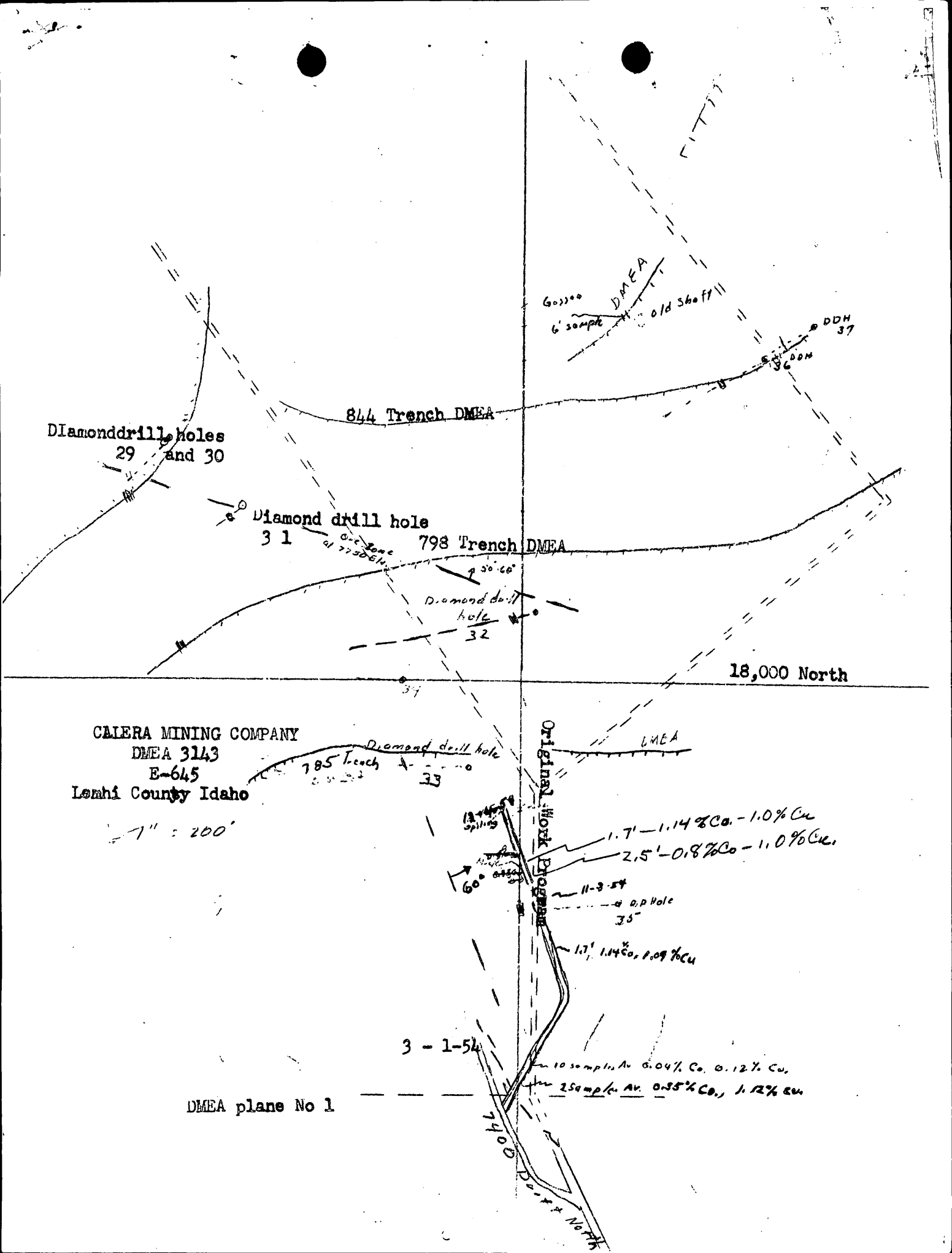
Drift	435 feet
Crosscut	220 "
Normal timbering	650 "
Heavy "	70 "
Spiling	70 "
Framing	148 sets
Diamond drilling, Stage I	8576½ feet
Diamond drilling, Stage II	98 "
Assays, Stage I	2300
Assays, Stage II	150
Reaming, Stage I	370 feet

The workmanship is good, and the rate of advance is improving.

V. Z. Johnson

V. Z. Johnson

Orig. & 3 cys—Wash.
USGS (2)
DMEA
M/D
AD
VZJ/he


DMEA
Gossan
6' sample
old shaft
DDH 37
DDH 36
844 Trench DMEA
Diamonddrill holes
29 and 30
Diamond drill hole
31
798 Trench DMEA
Diamond drill hole
32
18,000 North
CALERA MINING COMPANY
DMEA 3143
E-645
Lemhi County Idaho
1" = 200'
785 Trench
Diamond drill hole
33
DMEA
Original Work Program
1.7' — 1.14 %Co. - 1.0% Cu
2.5' - 0.8 %Co - 1.0 %Cu.
11-3-54
35
1.7' 1.14 %Co, 0.09 %Cu
3 - 1-54
10 samples Av. 0.04% Co. 0.12% Cu.
25 samples Av. 0.55% Co., 1.12% Cu
DMEA plane No 1
7000
Datum No 7000

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 6 1954

November 30, 1954

Memorandum

To: DMEA Field Team, Region II

From: Howard B. Nickelson, Geologist, U. S. Geological Survey

Subject: Interim Inspection, Docket No. DMEA-3143 (cobalt-copper), Calera Mining Company, Blackbird Mine, Lemhi County, Idaho, Contract No. Idm-E645.

The property was visited on November 22, 1954, accompanied by Mr. Don Kellum, geologist, Geological Survey.

The project was discussed with Mr. Richard Cribbs, chief geologist, and the examiners visited the DMEA drift. Mr. Cribbs stated that the DMEA surface work has been completed. The drift is being worked 3 shifts per day; average advance is 10 feet per day. The drift is following a fault and is timbered in order to hold the heavy ground.

Distribution:
DMEA (orig. & 3)
USBM (2)
USBM(AD)
Docket
Nickelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~

1201 N. Division St.
Spokane 2, Washington
November 15, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Docket No. DMEA 3143 (cobalt-copper), Calera Mining Company, Blackbird Mine, Lemhi County, Idaho, Contract No. Idm-E645

The inspection was made on November 3, 1954 with Messrs. Whitley and Cribbs, engineer and geologist, respectively, for the Operator.

Some surface trenching at the Operator's expense has been continued after that provided in the DMEA contract was completed in September 1954. The Operator has completed about all the surface diamond drilling scheduled under Stage I of the contract. During October, holes S-45, S-46 and S-47 were drilled to test the more favorable outcrops on the Indian Quartz claim. These holes were drilled with inclinations of -44° to -54° with depths of 532 feet, 479 feet, and 547 feet, respectively. Drilling indicated wide, mineralized zones but the concentrations of ore minerals are insufficient to be classified as ore. Detailed logs and location sketches are being prepared by the Operator who now is dubious of the feasibility of the proposed 1200-ft. crosscut from coordinates 15020 N, 4760 E on the 7100 level. Surface hole No. 48 had been drilled 190 feet from near coordinates 5000 E, 17950 N to test the mineralization below trench No. 735. Probably one more hole will be drilled in this garnet-schist zone, most of which will be at the Operator's expense.

The project crosscut on the 7400 level was turned to drift about 157 feet in a N. 20° W. direction since the inspection of October 4, 1954. Regular timber sets were placed at 5½-ft. centers through the 8x10-ft. cross section during the period. The face at the date of this inspection was in a shear zone where spiling and doubling-up sets may be required.

At 318 feet in this project heading 2½ feet of 0.8% copper and 1.0% cobalt was exposed, and at 333 feet in this heading 1.7 feet of 1.14% cobalt and 1.04% copper was found. An attached sketch shows the relation of the present face to surface exploration.

Three shifts are employed in the project drift where advance is somewhat hindered by the large timber sets being used as well as by the long tram and poor ventilation.

The total contract units completed to date are as follows:

Drift	256 feet
Crosscut	220 feet
Normal timbering	450 "
Heavy timbering	50 "
Spiling	50 "
Framing	100 sets
Diamond drilling, Stage I	7700 feet
Diamond drilling, Stage II	98 feet
Assays, Stage I	1600
Assays, Stage II	86
Reaming, Stage I	1000 feet
Trenching	864 hours

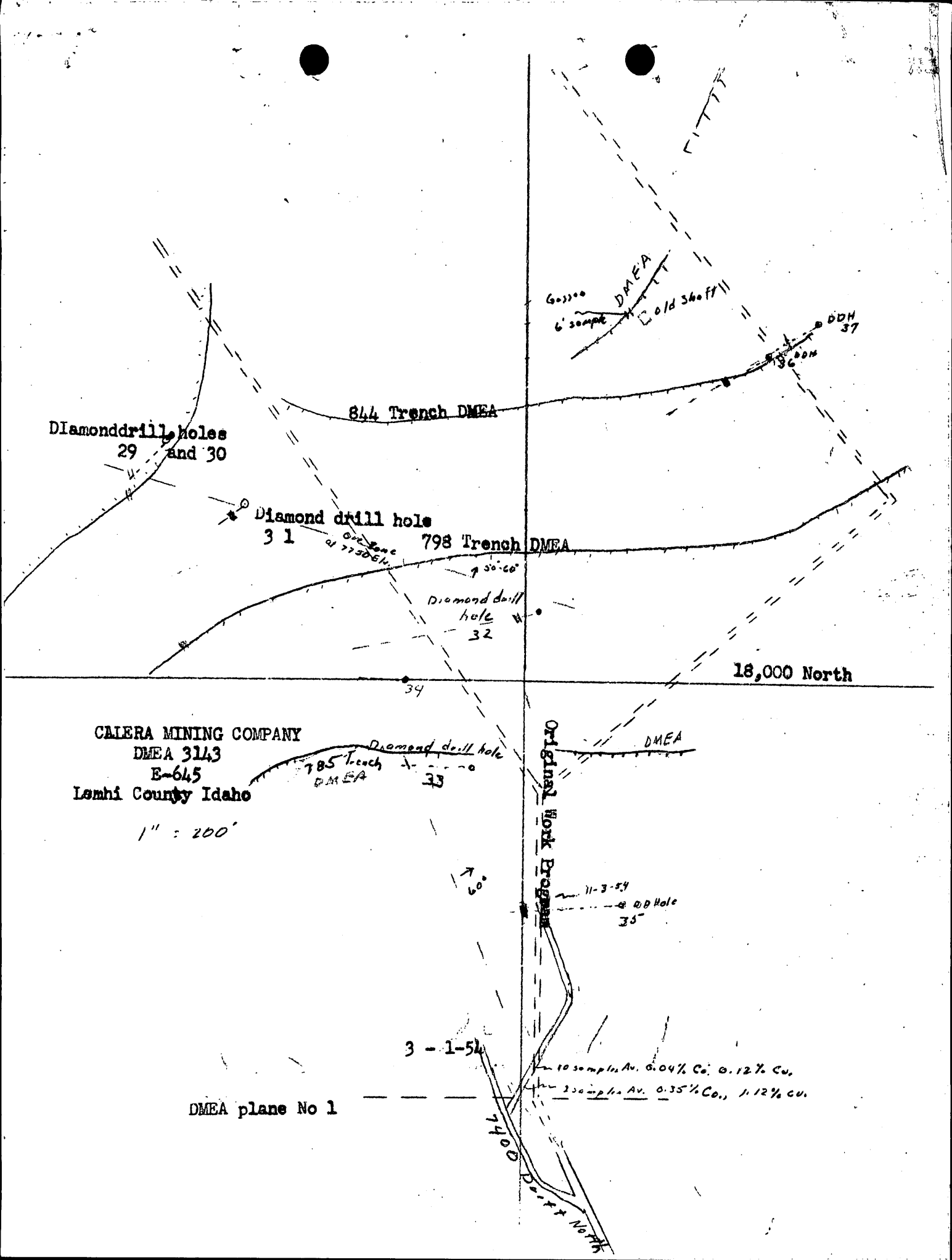
Stage I trenching and diamond drilling are nearly completed.

The workmanship and core recovery are good. Engineering and geologic supervision are thorough.

V. Z. Johnson

V. Z. Johnson

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
AD
VZJ/he


DMEA
Gossan
6' sample
Old 340 ft
DDH 37
36 DDH
844 Trench DMEA
Diamonddrill holes
29 and 30
Diamond drill hole
31
Ore zone at 7750 Elv.
798 Trench DMEA
50°-60°
Diamond drill hole
32
18,000 North
34
CALERA MINING COMPANY
DMEA 3143
E-645
Lemhi County Idaho
1" = 200'
785 Trench
DMEA
Diamond drill hole
33
DMEA
Original Work Program
60°
11-3-54
DD Hole
35
3 - 1-54
10 samples Av. 0.04% Co. 0.12% Cu.
3 samples Av. 0.35% Co., 1.12% Cu.
DMEA plane No 1
7400 Drift North

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~

NOV 8 - 1954

1201 N. Division St.
Spokane 2, Washington
October 13, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, Bureau of Mines

Subject: Routine inspection report, Docket No. DMEA 3143 (cobalt-copper), Calera Mining Company, Blackbird Mine, Lemhi County, Idaho, Contract Idm-E645

The inspection was made on October 4, 1954 with Mr. Cribbs, geologist for the project.

Surface diamond drilling on the Indian Quartz claim has been started to establish a target for the proposed 7100 crosscut northeast, Stage II of the contract. Hole No. S-44, the first hole on the Indian Quartz claim, was at 461 feet with 75 to 100 feet remaining to cut the target zone. A broken zone was encountered between 229 and 234 feet in Hole S-44, drilled SW at about -45°. Surface indications have not been too favorable on the Indian Quartz claim. Core recovery has been satisfactory, about 75%.

The northeast crosscut on the 7400 level, the authorized crosscut in Stage II of the contract, has been advanced a total of 218 feet in a north 32° east direction to cross a broken zone, but is now being directed northward toward the ore zone outlined by surface drilling. Timbers were required and placed in an 8x10-ft. excavated cross section. No spiling was required for September's advance.

A measuring point, USBM tag No. 177, was placed at 132 feet in the northeast crosscut. Timber sets at 5½-ft. intervals were at 212 feet or about 6 feet from the face on the date of this inspection.

Three shifts are employed at the face but a cycle has not been established. The cross section and timber sets are large so that a round is missed on the shift which places timbers. The workmanship is good, but the Operator does not appear to be doing the crosscutting for the agreed unit cost of $35.53/ft. for excavation, plus $7.00/ft. for timber and about $2.50/ft. for timber framing.

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
AD
VZJ/he

V. Z. Johnson
V. Z. Johnson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D. C.~~

1201 N. Division St.
Spokane 2, Washington
September 27, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Docket No. DMEA 3143 (cobalt-copper), Calera Mining Company, Blackbird Mine, Lemhi County, Idaho, Contract Idm-E645

The inspection was made on September 11, 1954, with Mr. Cribbs, geologist for the project.

Trenching (the first item in Stage I of the contract) has been completed, 2187 feet of diamond drilling from the surface had been done, and 131 feet of crosscut had been advanced since the inspection of May 29, 1954.

Trenching for a total of 864 hours has exposed only a few new gossans that were not known very early during the project. The past month's trenching was done in the so-called Hanging Wall or Indian Quartz zone, Operator's coordinates 5500 E, 1600 N. Some copper and cobalt mineralization is present, but the area does not appear to be favorable for ore bodies. The Operator's geologist is preparing logs of all trenches.

Two ore structures have been indicated by the surface diamond drilling. Holes S-38 and S-39 cut the north structure at points about 160 feet apart along its dip with 5 feet of 0.83% Co with 0.19% Cu, and 7 feet of 0.45% Co with 2.08% Cu. Assay returns are not available for holes S-40, S-41 and S-42 which were drilled to extend the same zone.

The northwest drift on the 7400 level was abandoned in bad ground and a N. 30° E. crosscut has been advanced 131 feet from near the same point from which the drift was started. Car samples from an ore zone crosscut at about 30 feet assayed 0.35% Co and 1.12% Cu, and where crosscut at 60 feet the car samples assayed 0.04% Co and 0.12% Cu.

Spiling and heavy timbers were required for about 21 feet of the advance (30 to 51 feet in the crosscut). The cross section is about 8x10 feet to allow 8-ft. posts and 6-ft. caps.

Total contract units completed and accepted as of the August 1954 invoice are as follows:

Drift	105 feet
Crosscut	98 "
Normal timbering	185.3 "
Heavy timbering	49.5 "
Spiling	49 "
Framing	51 sets
Diamond drilling, Stage II	98 feet
Diamond drilling, Stage I	5265.5 "
Assays, Stage I	1212
Assays, Stage II	59
Reaming, Stage I	582 feet
Trenching	834½ hours

The workmanship is good and underground progress is improving.

V. Z. Johnson

V. Z. Johnson

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
AD
VZJ/he

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

1201 N. Division St.
Spokane 2, Washington
July 9, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Docket No. DMEA 3143 (cobalt-copper), Calera Mining Co., Blackbird mine, Lemhi County, Idaho, Contract Idm-E645

The inspection was made on July 5, 1954 with Mr. Cribbs, the Operator's geologist.

Eighty-seven hours of trench bulldozing was done during June to complete an additional 500 feet or more of trench on the Old Gold claim and also in the area about 500 feet north of the project 7400 drift. The overburden in the latter area was about 14 feet thick, requiring considerable bulldozing to reach bedrock. A trench depth of only 2 to 5 feet was required to expose bedrock on the Old Gold claim.

There were no strong oxidized zones exposed by this month's excavation.

During the period, surface diamond drill holes Nos. S33, S34, S35, S36 were completed and hole No. S37 was at 150 feet so that a total of about 1,540 feet was drilled since the last inspection. A total of 3,113 feet has been diamond drilled from the surface to date.

Diamond drill hole No. 35 had a compound core-sludge sample taken at 369 to 373 feet on the minus 59° incline which assayed 0.53% cobalt and 1.22% copper. The attached sketch shows the location of this sample in relation to the 7400 drift north and proposed north crosscut. Hole No. 34 drilled into the same zone was barren, which suggests irregular pods of ore and the necessity for numerous drill holes.

Diamond drill holes Nos. 36 and 37 intersected cobalt mineralization which assayed 0.26% and 0.21%, respectively, under the gossans exposed near the old prospect shaft.

Detailed logs and assays are submitted with the Operator's monthly reports.

Total contract units completed to date are as follows:

Drift	105 feet
Normal timber	95.3 "
Heavy timber	28.5 "
Spiling	28 "
Framing	33 sets
Underground diamond drilling	98 feet
Surface " "	3113 "
Trenching	669 hours
Assays	450

The workmanship and engineering supervision is good.

Self-potential surveys are being made over the geo-chemical highs to limit surface trenching.

V. Z. Johnson

V. Z. Johnson

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
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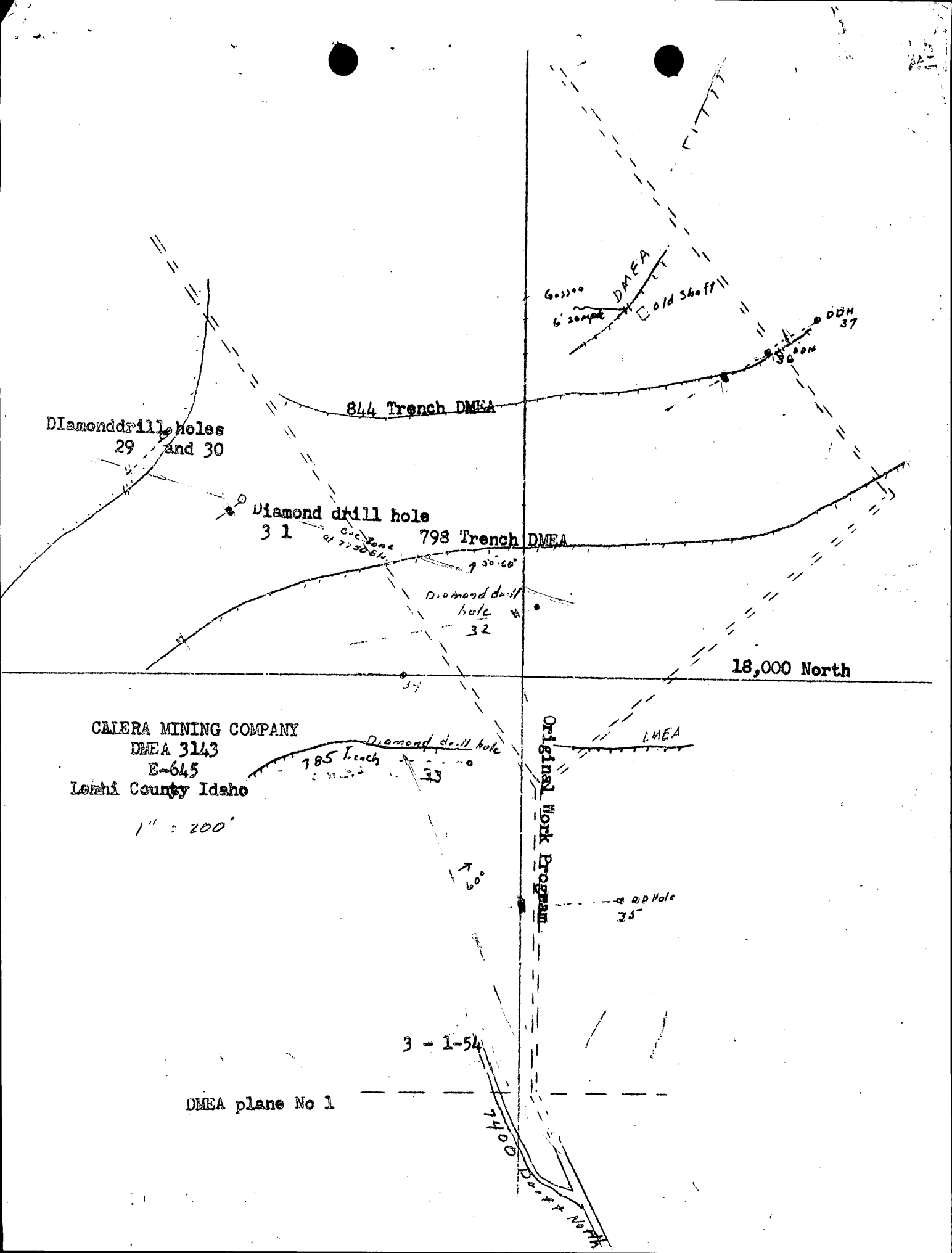
VZJ/he


DMEA
Old Shaft
DDH 37
DDH 36
844 Trench DMEA
Diamonddrill holes
29 and 30
Diamond drill hole
31
798 Trench DMEA
Diamond drill hole
32
18,000 North
CALERA MINING COMPANY
DMEA 3143
E-645
Lemhi County Idaho
1" = 200'
Diamond drill hole
785 Trench
33
Original Work Program
LMEA
D.D Hole
35
60°
3 - 1-54
DMEA plane No 1
7400 Point North

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : DMEA Field Team, Region II DATE: June 6, 1954

FROM : V. Z. Johnson, Mining Engineer, Bureau of Mines

SUBJECT: Routine inspection, Calera Mining Co., Blackbird Mine, Lemhi County, Idaho. Contract Idm-E645, Docket No. DMEA-3143 (cobalt-copper)

The inspection was made on May 29, 1954 with Mr. Cribbs, geologist. The project trenching area is now nearly bare of snow.

About 1,000 linear feet of bulldozer trench has been completed since the inspection of May 9, 1954. Two diamond drill stations and about 795 feet of diamond drilling was completed during the period to develop what appears to be two ore zones, as suggested on the accompanying sketch. Hole No. 33 now in progress may provide sufficient information to direct the most feasible direction for advancing headings on the 7400 level which have been suspended in heavy ground.

The trenching for the period was completed in the areas of geochemical highs in the garnetized schists north of the old shaft at 18600 North and 3200 East. One strong gossan was exposed which seems to have been the structure which encouraged the prospect shaft. A 6-foot sample, V.J. 13, was taken in the quartz exposed at this point.

Cores with specimens of cobalt minerals were cut in each hole drilled; and the sludge assays were good. Assays and logs are being prepared to accompany the operator's monthly report.

Total contract units completed to date are as follows:

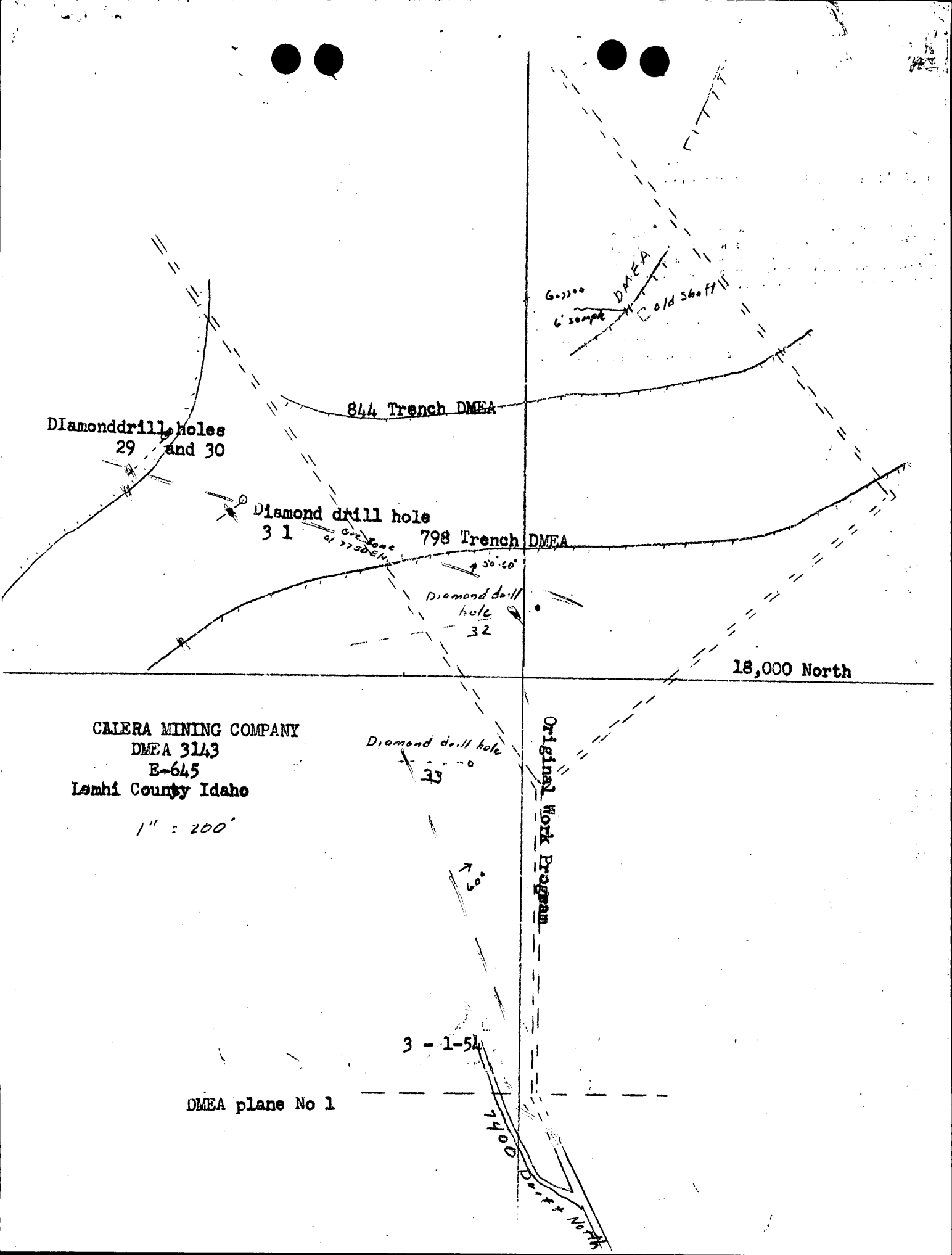
Drift	105 feet
Norman timber	95.3 feet
Heavy timber	28.5 feet
Spiling	28 feet
Framing	33 sets
Diamond Drilling	1573 feet
Trenching (2,800 ft.)	475 hours
Assays	80

Core recovery will average about 60 percent. Supervision and project workmanship are satisfactory.

V. Z. Johnson

V. Z. Johnson

VZJ:mp
cc: Orig. & 3 cys Wash.
USGS 2
DMEA
Md
AD
VZJ


DMEA
Old Shaft
844 Trench DMEA
DIamonddrill holes
29 and 30
Diamond drill hole
3 1
798 Trench DMEA
Diamond drill
hole
32
18,000 North
CALERA MINING COMPANY
DMEA 3143
E-645
Lemhi County Idaho
1" = 200'
Diamond drill hole
33
Original Work Program
60°
3 - 1-54
DMEA plane No 1
7400 North

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

1201 N. Division St.
Spokane 2, Washington
May 24, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Calera Mining Co., Blackbird mine, Lemhi County, Idaho, Contract Idm-E645, Docket No. DMEA 3143 (cobalt-copper)

The inspection was made on May 9, 1954 with Mr. Nickelson, geologist for the U.S.G.S., and Mr. Cribbs, the Operator's geologist.

About 1200 linear feet of bulldozer trench has been completed since the inspection of April 5, 1954, and 680 feet of diamond drilling in three holes was completed during the period. The locations of the completed trenches and drill holes are shown on the attached sketch.

Operator's logs indicate that the ore zone from 90 to 200 feet below surface is about 35 feet wide in the richer core where there are assays of 3.9% cobalt and 4.9% copper surrounded by a lower grade zone. Holes 29, 30 and 31 are drilled to determine the attitude of what is thought to be one ore lens. Trenching to the east has not been encouraging to date; however, when melting snow no longer makes the banks unsafe to sample, more definite information may be had concerning cobalt enrichment which is not always easily recognized.

Dozer trenching has been done to bedrock. Diamond drill core recovery is about 50%, which is satisfactory because the sludge is carefully saved and sampled.

Total contract units completed to date are as follows:

Drift	105 feet
Normal timber	95.3 "
Heavy timber	28.5 "
Spiling	28 "
Framing	33 sets
Diamond drilling	778 feet
Trenching (1720 feet)	357 hours
Assays	71

Underground work will be started in a few weeks when the most feasible direction for the 7400 north drift and other work can be determined.

V. Z. Johnson

V. Z. Johnson

Orig. & 3 cys - Wash.
USGS (2)
DMEA
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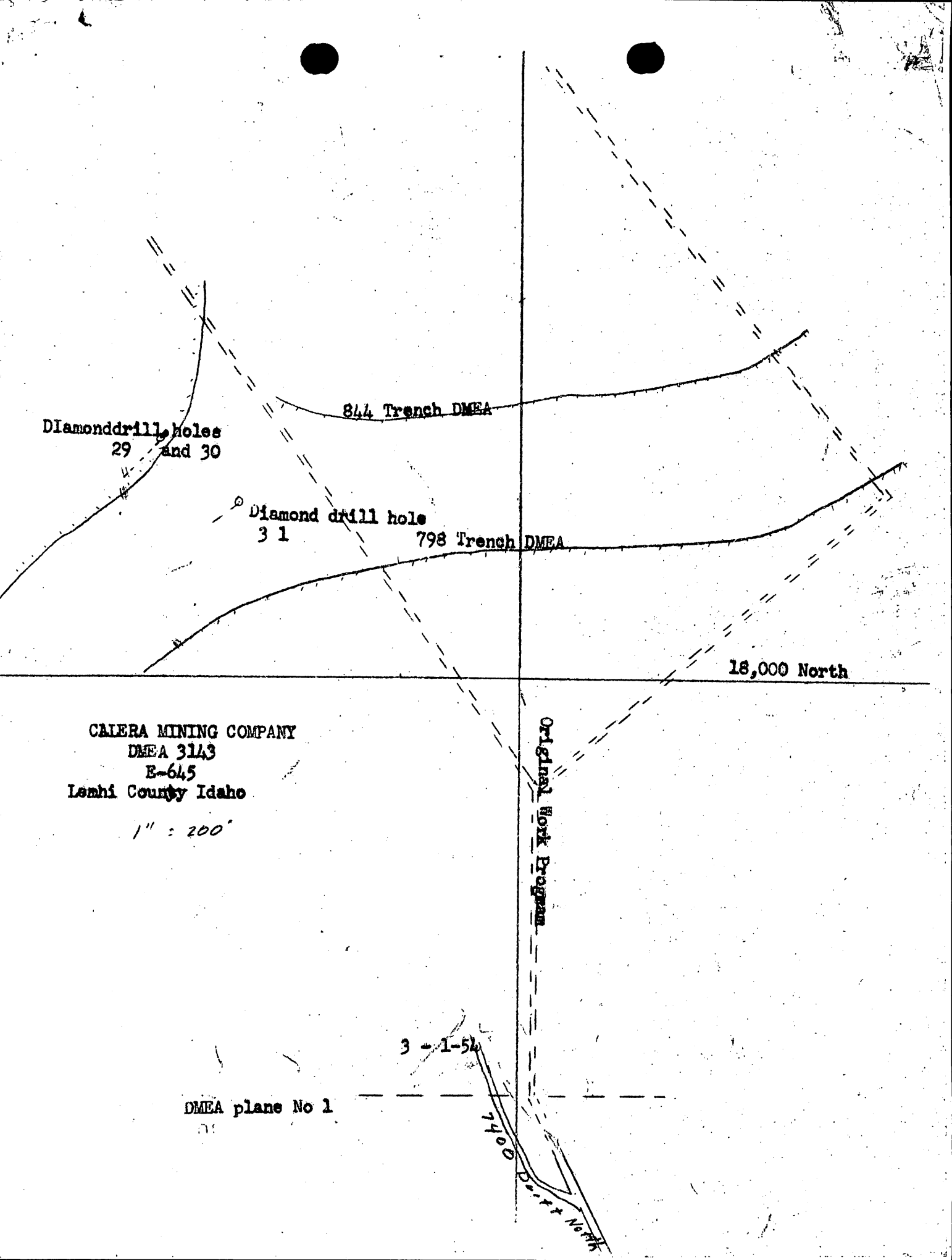

844 Trench DMEA
DIamonddrill holes
29 and 30
Diamond drill hole
3 1
798 Trench DMEA
18,000 North
CALERA MINING COMPANY
DMEA 3143
E-645
Lemhi County Idaho
1" : 200'
Original Work Program
3 - 1-54
DMEA plane No 1
7400 Drift North

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

1201 N. Division St.
Spokane 2, Washington
April 15, 1954

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 20 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Calera Mining Co., Blackbird Mine, Lemhi County, Idaho, Contract Idm-E645, Docket No. DMEA 3143 (cobalt-copper)

The inspection was made on April 5, 1954 with Mr. Cribbs, the Operator's geologist. There was four feet of snow in the project area.

About 520 linear feet of trench had been completed since the inspection of March 11, 1954. Trenching is done by D-7 caterpillar bulldozer, operating on two shifts. It has been necessary to trench to an average depth of 12 feet for bedrock that has not been disturbed by creep. Occasional segments of trench are 14 feet deep. Mr. Cribbs was asked to minimize depths between geochemical highs so that the hours of bulldozing allowed under the subject contract would not be exhausted in one area.

The gossan reported at co-ordinates 2420 E, 18040 N in the previous inspection report is the strongest exposure to date. A log of the trench being prepared by the Operator will give an analysis on this gossan and other patches of oxides, arsenides, and sulfides which are now exposed. The attached sketch gives the approximate location of the trenching.

There was no underground excavation completed during the period. Several timber sets that were placed in the northwest drift during February's advance have been reinforced with stulls and spreaders to keep this drift open. Larger posts (12x14 inch) which were placed near the face of the drift have not broken.

During the period, two diamond drill holes were completed nearly normal to the northwest drift, as is shown by the accompanying sketch. The hole to the west is 28 feet deep, penetrating broken schist in which about 25% of the core was recovered. There were a few specks of sulfides in these cores. The hole to the east is 70 feet deep, penetrating the shear zone. The rock is badly broken and there were no ore minerals recognized in the cuttings or sludge. There was no core recovery - caving at the hole's collar prevented the seal necessary to reverse the water's flow. The Operator uses reverse circulation whenever possible.

The explanation for no ore minerals in the cuttings from the hole to the east is that the ore bodies usually occur in pods and this hole was in a barren portion of the fault.

The above diamond drilling results and the high timbering costs which were experienced during February have caused the Operator to delay drifting. He is anxious to have more of the surface trenching and drilling completed so that the costly underground excavation can be located to the best advantage. A diamond drill subcontractor is scheduled to commence work at the property about April 20, 1954.

Total contract units completed to date are as follows:

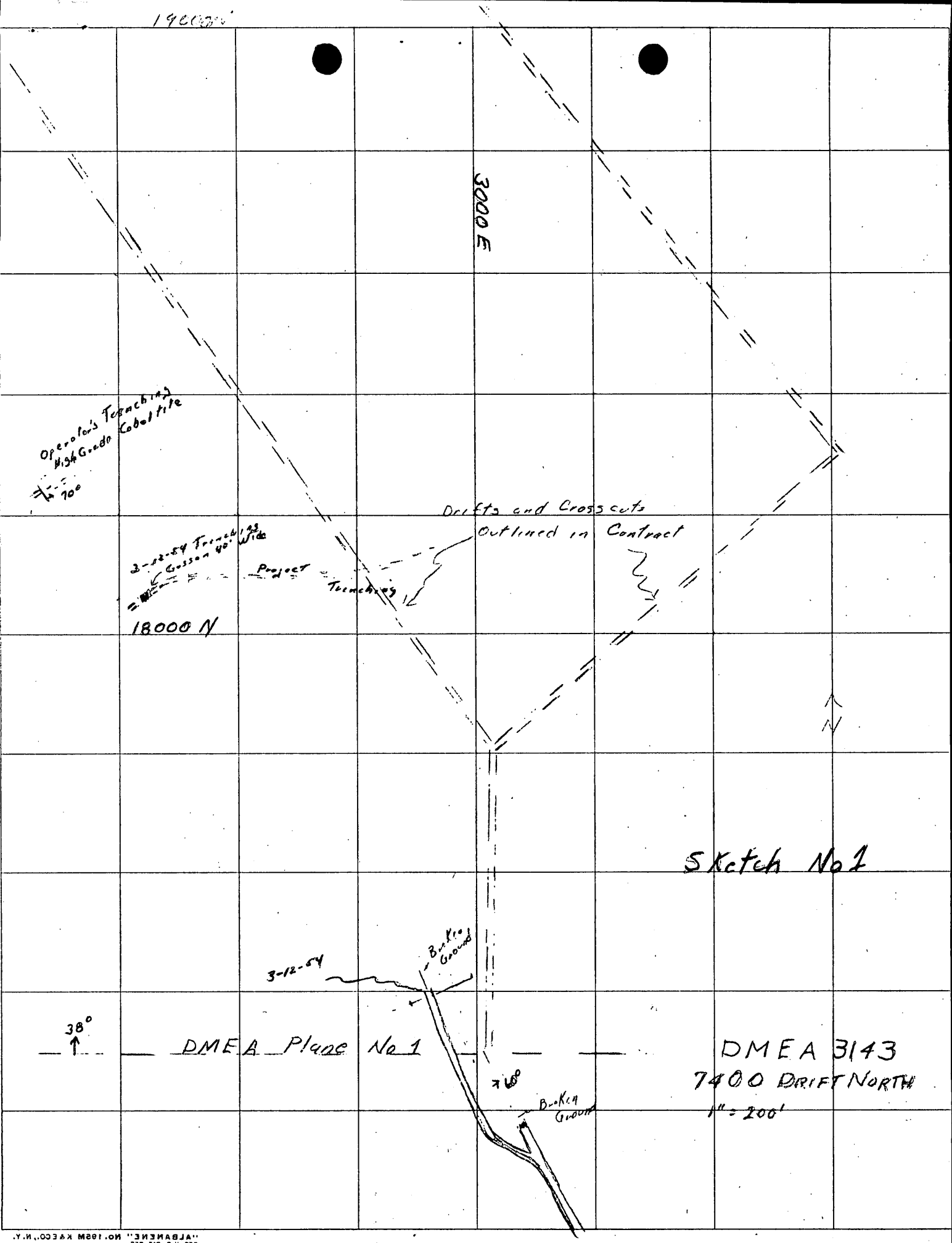
Drifting	117 feet
Trenching (600 ft.)	230 hours
Spiling	30 feet
Normal timbering	98 feet
Heavy timbering	30 feet

The workmanship is satisfactory.

V. Z. Johnson

V. Z. Johnson

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
AD
VZJ/he


3000 E
Operator's Trenching
High Grade Cobaltite
70°
Drifts and Crosscuts
Outlined in Contract
3-12-54 Trenching
Gossan 40' Wide
Project
Trenching
18000 N
N
Sketch No 1
3-12-54
Broken Ground
38°
DMEA Plane No 1
76°
Broken Ground
DMEA 3143
7400 DRIFT NORTH
1" = 200'

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

1201 N. Division St.
Spokane 2, Washington
March 18, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Calera Mining Co., Blackbird Mine, Lemhi County, Idaho, Contract Idm-E645, Docket No. DMEA 3143 (cobalt-copper)

The inspection was made on March 11, 1954 with Mr. Cribbs, geologist.

Stage I, surface trenching, has been started. About 30 hours of bulldozing has resulted in about 80 linear feet of trench, 3 to 15 feet deep, in a gossan that had been noted as a geochemical high at coordinates 2420 E, 18040 N. The gossan is about 40 feet wide. The minerals present are mostly iron oxides with some quartz and arsenide stains. The relation of the gossan to underground work is indicated on an attached sketch No. 1.

Underground exploration on the 7400 level encountered broken faulted rock about 20 feet from the project's starting point, which retarded the past month's progress although the Operator had three shifts at the face during most of the month. This drift had advanced 104 feet since the inspection of February 3, 1954. Ninety-eight feet of timbering was placed during the period, and of this timber 30 feet required spiling and 30 feet was doubled up or required booms and cribbing to be classed as heavy timbering. The attached sketch No. 2 indicates the structural features which made this timbering necessary.

Although the drift has been driven in the footwall of an ore zone, 21 samples averaged 0.02% cobalt and 0.07% copper. Attached is a copy of the Operator's sample data.

At his own expense the Operator drilled a 50-foot hole in advance of the present face and intends drilling two holes normal to the drift under the DMEA project. The Operator believes these holes may indicate better ground conditions for excavation and will request a change of plan in the near future. Elsewhere in the mine the Operator has found it advantageous to abandon numerous headings, and there are indications that the project drift may not be satisfactorily located; for example, it may be better to immediately crosscut the ore zone and drift in the footwall. Underground excavation is now held up pending the results of diamond drilling.

Total contract units completed to date are as follows:

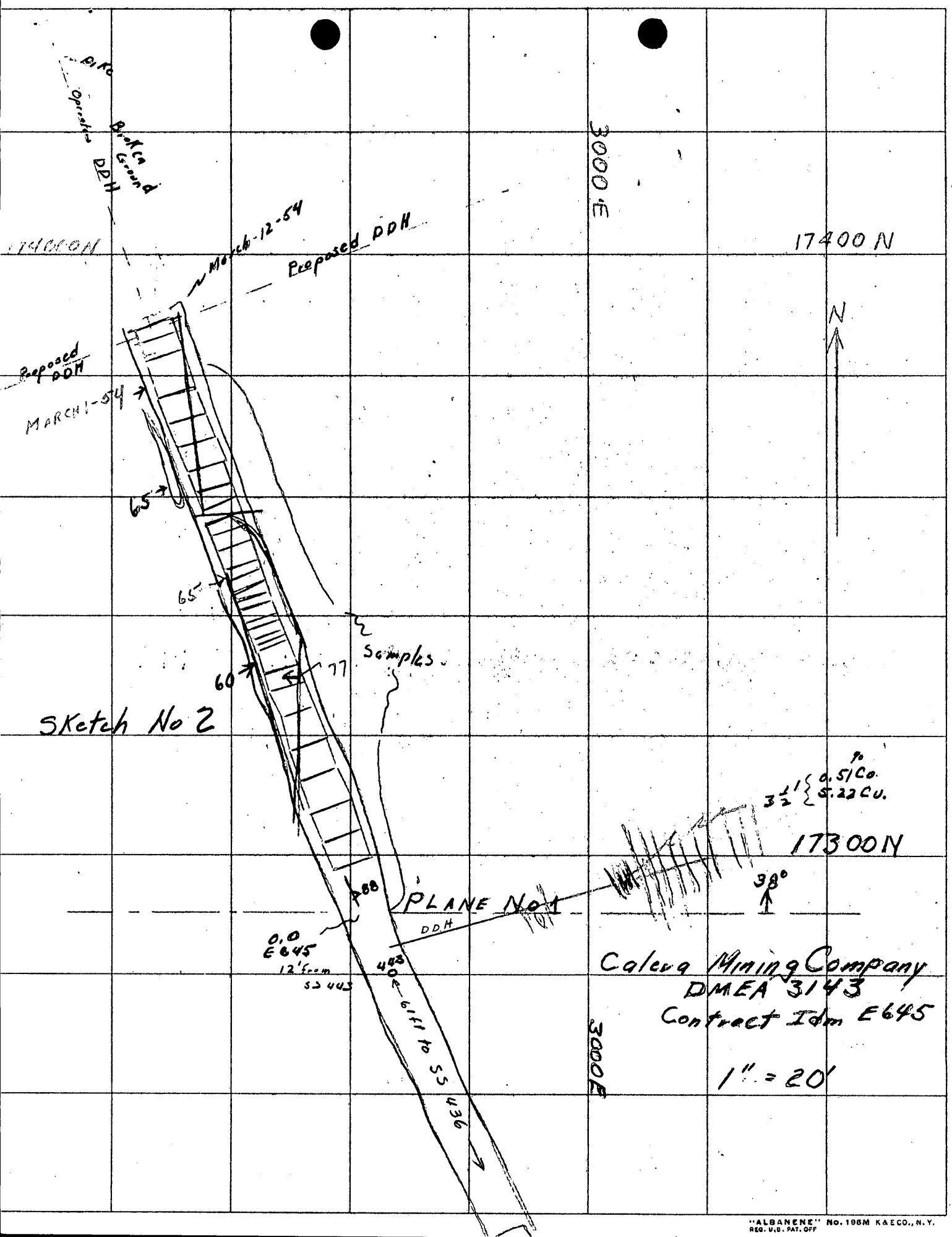
Drifting	117 feet
Trenching	30 hours
Spiling	30 feet
Normal timbering	98 feet
Heavy timbering	30 feet

Project workmanship is satisfactory. Blocking is difficult on the damp schist. Posts now in use are about 10 inches in diameter and larger posts (12 to 14 in.) were recommended to Mr. Soderberg, mine superintendent.

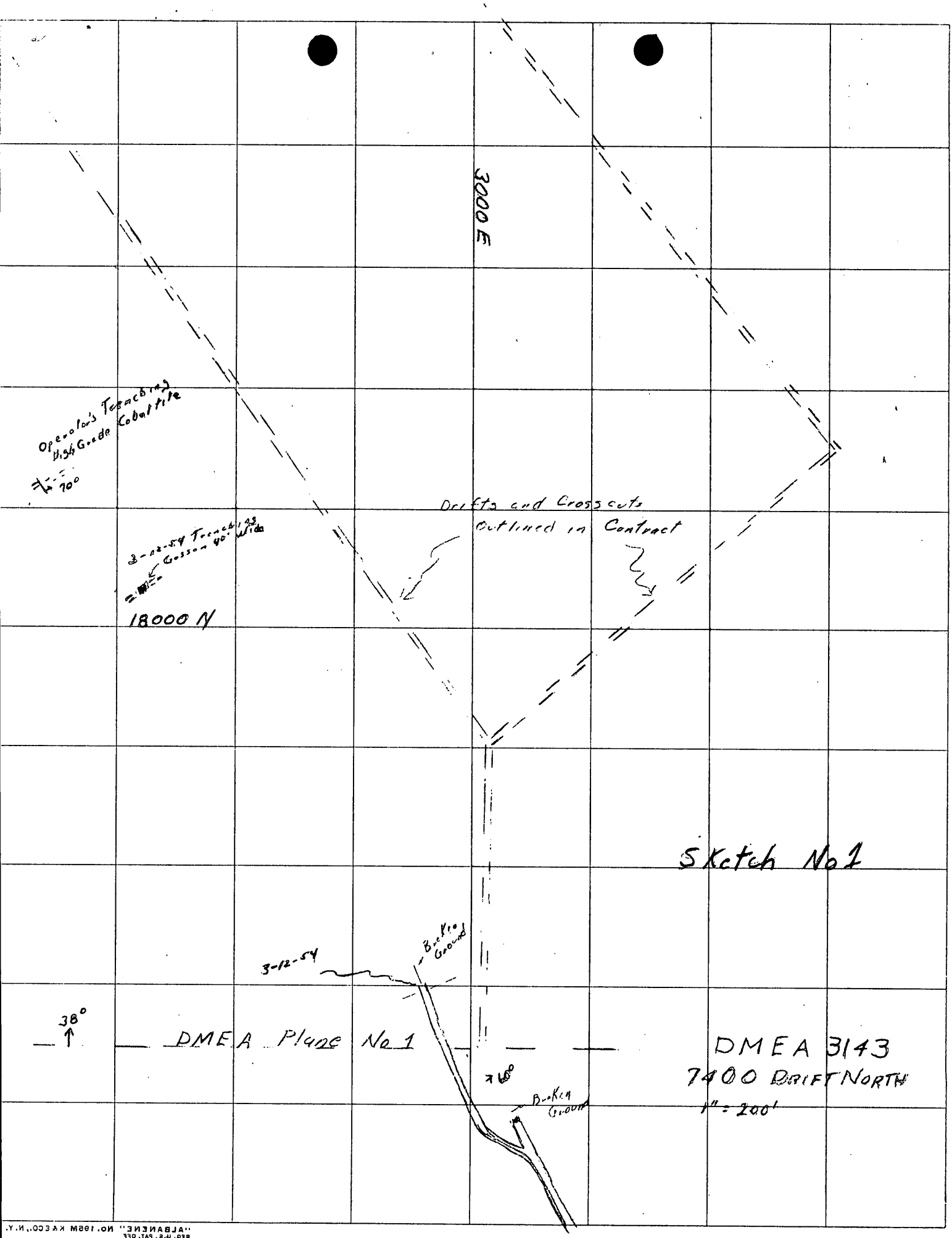
V. Z. Johnson

V. Z. Johnson

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
AD
VZJ/he



"ALBANENE" No. 198M K&E CO., N.Y.
REG. U.S. PAT. OFF


3000 E
Operator's Trenching
High Grade Cobaltite
70°
Drifts and Crosscuts
Outlined in Contract
3-12-54 Trenching
Gossan 90' wide
18000 N
Sketch No 1
3-12-54
Backing Ground
38°
DMEA Plane No 1
70°
Backing Ground
DMEA 3143
7400 DRIFT NORTH
1" = 200'

Calera Mining Co
DMEA 3143
7400 Drift

Operators Samples

Sample Number	Location From	Location To	Kind	Width Ft.	% Co.	% Cu
25713	5543+72	76½	muck	4½	.03	.04
26211	+76½	86		9½	01	.10
26212	+86	96		10	.01	Tr
25726	+96	104		8	.01	.04
25727	+104	106½		2½	.02	.09
26263	+106½	5543+49		4	Tr	.03
26280	5543+49	56		7	.02	.17
26326	+56	63		7	.04	.07
26049	+63	70½		7½	Tr	Tr
25851	+70½	76		5½	.05	Tr
25896	+76	80½		4½	.03	.08
26357	+80½	82		1½	.03	.13
26370	+82	85		3	.03	.33
26406	+85	88½		3½	.03	.11
26425	+88½	90½		2	.09	.07
26509	+90½	92½		2	.01	Tr
26526	+92½	96		2½	.03	.07
26536	+96	99½		3½	.01	.03
26621	+99½	101½		2	.03	.09
26628	+101½	103½		2	.04	.16
26637	+103½	107		3½	.05	.13

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

1201 N. Division St.
Spokane 2, Washington
February 19, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: V. Z. Johnson, Mining Engineer, U. S. Bureau of Mines

Subject: Initial inspection, Calera Mining Co., Blackbird Mine, Lemhi County, Idaho, Contract Idm-E645, Docket No. DMEA 3143 (cobalt-copper)

The inspection was made on February 3, 1954 in company with Mr. Soderberg, the mine foreman.

Stage I, surface trenching and diamond drilling, of this contract, dated December 9, 1953, will not be undertaken during the winter months. The contract allows a drift and crosscut on the 7400 level to be advanced under Stage II prior to completing Stage I. It is stipulated that this drift start at coordinates 17290 N and 3025 E on the Brown Bear Claim where Plane No. 1 cuts the 7400 level and be driven north. Project work north of this plane started on February 1, 1954.

Underground development during the processing of the contract indicates deviations from the above specifications are necessary. The Operator encountered a wide fault zone with strong copper and cobalt mineralization while driving to the point at which Government participation was proposed. It was impractical to advance in the mineralized zone itself so that the drift was advanced in the footwall of this structure, as is shown on attached tracing of Operator's map. Plane No. 1, which is the boundary between DMEA and Operator's workings, was reached about 60 feet west of the point where the contract specified the participation drift should start; and at the time of this inspection about 13 feet of advance had been completed in a north 25° W. direction instead of to the north as stated in the contract.

The attached sketch shows some favorable samples taken from core and cuttings in this faulted zone by drilling at the Operator's locations and at his expense. The Operator requested permission to continue drifting in the footwall, following the general trend of this structure, and that he receive Government participation in diamond

drill holes, on 100-foot centers, to be drilled near horizontal and crosscutting the zone. This procedure will be less expensive than drifting as specified under the contract because the footwall drift will not require the heavy timbering that retarded the Operator's advance in this zone. A contract amendment to permit this location of drift and attendant diamond drilling should be prepared if the Operator's above proposal appears to violate the subject contract.

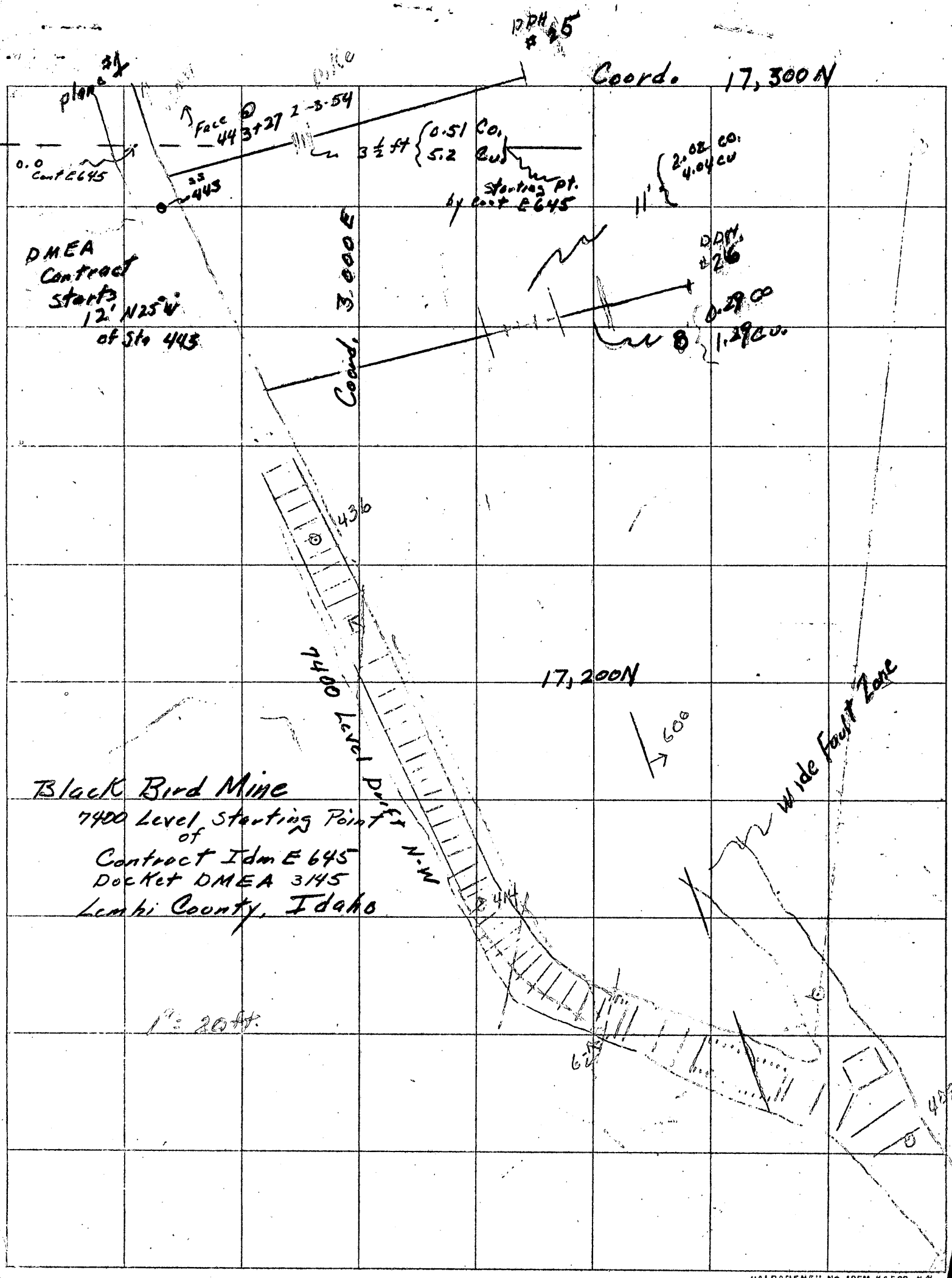
The project drift is being advanced by two shifts of three men each and is scheduled to complete a round-out round-in cycle per shift. Four to five feet are advanced in each round with 7'x7½' cross section untimbered or 7½'x8½' where timbered, requiring 26 holes drilled by jackleg.

The workmanship is satisfactory.

V. Z. Johnson

V. Z. Johnson

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
AD
VZJ/he



"ALBANENE" No. 195M K&E CO., N.Y.
REG. U.S. PAT. OFF.

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

Month of December, 1954 Docket No. DMEA 3143 Contract No. Idm-E645
Operator's Name Calera Mining Company Minerals Cobalt & Copper
Address Cobalt, Idaho
Contract Amount, $407,340.00 Government Participation: 70 % Amount, $285,138.00

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~~ Spiling	980.00	1,680.00	2,660.00			
Heavy ~~Drilling~~ Timber	343.00	703.50	1,046.50			
~~Raising~~ Trenching		10,262.59	10,262.59			
~~Crosscutting~~ Framing	60.28	772.68	832.96			
Drifting	1,883.36	23,737.38	25,620.74			
Normal Timber	343.00	4,559.10	4,902.10			
(2) ~~[illegible]~~:						
Core ~~[illegible]~~ Drilling Stage 2		331.46	331.46			
Core Drilling Stage 1		59,692.44	59,692.44			
~~[illegible]~~						
(3) ~~Operating Metallurgical Sampling~~						
Reaming ~~[illegible]~~ Stage 1		2,862.50	2,862.50			
~~[illegible]~~						
~~[illegible]~~						
~~[illegible]~~						
(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~~ Stage 11	21.00	441.00	462.00			
~~[illegible]~~						
Sampling & Analysis- Stage 1		6,582.00	6,582.00			
(8) Contingencies (specify):						
TOTALS	3,630.64	111,624.65	115,255.29	3630.64	111,624.65	115,255.29

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

Date January 4, 1955 Payee Calera Mining Company

Per [signature] Title [signature]

*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:

$2541 45

Signature [signature]
(Authorized Certifying Officer)

Date 1-19-55 Vou. No. 1404

(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. E645 in accordance with the terms of the contract.

Signature /s/ Alfred R. Service Title Mining Eng Date 1-18-55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /s/ Stephen W Zoldoff Title Mining Engr Date 1-18-55

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-R1151.1
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 6 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1954 Docket No. DMEA 3143 Contract No. Idm-2645
Operator's Name Calera Mining Company Minerals Cobalt & Copper
Address Cobalt, Idaho

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	Ft.	1,883.36	53	25,620.74	721	35.535	6,000	35.535
Timbering	Ft.	343.00	49	4,902.10	700.3	7.00	5,000	7.00
Timbering	Ft.	343.00	49	1,046.50	149.5	7.00	750	7.00
Spiling	Ft.	980.00	49	2,660.00	133	20.00	500	20.00
Framing	Ft.	60.28	11	832.96	152	5.48	1,150	5.48
Stage II	Ea.	21.00	7	462.00	154	3.00	5,900	3.00
Drilling Core Stage II	Ft.			331.46	98	3.3822	10,500	3.3822
Auger								
Stripping								
Trenching	Hrs.			10,262.59	864	11.878	864	11.878
Drilling Core Stage 1	Ft.			59,692.44	8,576½	6.96	8,700	6.96
Assaying Stage 1	Ea.			6,582.00	2,194	3.00	3,100	3.00
Reaming - Stage 1	Ft.			2,862.50	1,145	2.50	1,700	2.50
TOTAL DISTRIBUTED COSTS		3,630.64		115,255.29				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		3,630.64		115,255.29				

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 January 4, 1955 Operator Calera Mining Company
Per [signature] Title [signature]

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.

REMARKS:

(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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

January 3, 1955

DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
RECEIVED
JAN 4 1955

8/17/55

Mr. H. A. Heisenbottom
Bureau of Mines - Region 4
Defense Field Team
South 324 Howard Street
Spokane, Washington

Re: Project No. D.M.E.A. 3143
Contract No. Ide-8043

Dear Mr. Heisenbottom:

We enclose herewith, the maps and assays covering the advance of the Defense Project No. 3143, for the month of December, 1954.

During the month, work was carried on only in Stage II of the project and consisted of the driving from the surface of the 1507 Drift Level. The reading continued to indicate that a badly fractured schistose material that required the driving of spilling on both sides and the back of the drift. In order to give these capacities to the employees, this work was carried on only by a day-shift crew. A total of eleven sets of spiled drift timber were placed.

Traces of Cobalt and Copper mineralization were found by the assaying of the seven samples that were taken.

Very truly yours,

CALERA MINING COMPANY
BLACKBIRD DIVISION

E. R. Meagher, Manager

Suggested to Al W — that this looked like one shift operation in 3-shift ground

WSM
1-28-55

Enclosure

ASSAY RECORD

CALERA MINING CO.

Chute Sect. DMEA #3143

Level 7400

Working 7400 DRIFT NORTH

DECEMBER, 1954

Date	Sample Number	Location From	Location To	Kind	Wth.	% Co	% Cu	Oz. Au		REMARKS
12/1	X3510	~~DS17+35~~ 35½	-45	muck	6½	02	02			
12/3	X3512	45	-51	"	6	02	10			
12/7	X4039	+51	-54	"	3	02	03			
12/20	X3516	+62	71½	"	9½	01	Tr			
12/23	X4041	71½	80½	"	9	01	Tr			
12/27	X3517	80½	86	"	5½	Tr	Tr			
12/30	X3518	86	95	"	9	Tr	Tr			

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Department of the Interior
Defense Minerals Administration
RECEIVED
DEC 3 1954

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of November, 1954 Docket No. DMEA 3143 Contract No. Idm-E645
Operator's Name Calera Mining Company Minerals Cobalt & Copper
Address Cobalt, Idaho
Contract Amount, $ 407340.00 Government Participation: 70 % Amount, $285138.00

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
~~Heavy Independent~~ ~~Short Form~~ Spiling	700.00	980.00	1680.00			
Timber	357.00	346.50	703.50			WBM
Core Drilling Stage 11		331.46	331.46			
~~Bulldozing~~ Trenching		10262.59	10262.59			
Normal ~~Crosscutting~~ Timber	1400.00	3159.10	4559.10			
Drifting	6964.86	16772.52	23737.38			
Framing	219.20	553.48	772.68			
(2) ~~Labor and Supervision~~:						
Core ~~Labor~~ Drilling-Stage 1	6208.32	53484.12	59692.44			
leaming ~~Supervision~~ Stage 1	277.50	2585.00	2862.50			
~~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~~ Stage 11	96.00	345.00	441.00			
Liability Insurance						
Sampling & Analysis Stage 1	528.00	6054.00	6582.00			
(8) Contingencies (specify):						
TOTALS	16750.88	94873.77	111624.65	16750.88	94873.77	111624.65

I certify that the above bill is correct and just and that payment therefor has not been received.
Date Dec. 3/54 *Payee Calera Mining Company
By [signature] Title [signature]

*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:

$ 11725.62

Signature [signature]
(Authorized Certifying Officer)

Date 12/16/54 Vou. No. 1375
(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. E 645 in accordance with the terms of the contract.

Signature 1st Verdo Z Johnson Title Mining Engr. Date 12/14/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 1st Stephen W Zoldok Title Mining Engr. Date 12/14/54

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-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 3 1954

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of November 1954 Docket No. DMEA 3143 Contract No. Idm-E645

Operator's Name Calera Mining Company Minerals Cobalt & Copper

Address Cobalt, Idaho

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting Normal	Ft.	6964.86	196	23737.38	668	35.535	6000	35.535
Crosscutting Timbering	Ft.	1400.00	200	4559.10	651.3	7.00	5000	7.00
Raising Heavy Timbering	Ft.	357.00	51	703.50	100.5	7.00	750	7.00
Shafts Spiling		700.00	35	1680.00	84.	20.00	500	20.00
Winzes Framing		219.20	40	772.68	141.	5.48	1150	5.48
Drilling: Core Assay Stage 11		96.00	32	441.00	147.	3.00	5900	3.00
Drilling Core Stage 11	Ft.			331.46	98	3.3822	10500	3.3822
Auger								
Stripping								
Trenching	Hrs.			10262.59	864	11.878	864	11.878
Drilling Core Test Pits Stage 1	Ft.	6208.32	892	59692.44	8.576½	6.96	8700	6.96
Assay Stage 1	Ea.	528.00	176	6582.00	2194	3.00	3100	3.00
Roads and Trails								
Reaming Stage 1	Ft.	277.50	111	2862.50	1145	2.50	1700	2.50
TOTAL DISTRIBUTED COSTS		16750.88		111624.65				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		16750.88		111624.65				

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 Dec. 3, 1954 Operator Calera Mining Company

Per [signature] Title [signature]

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)

9641.26 = $49.18
196

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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1954

gs
8/17/55

December 3, 1954

Mr. H. A. Weissenborn
Executive Office - Defense
D.M.E.A. Field Team
South 15th Avenue Street
Spokane, Washington

Dear Mr. Weissenborn:

We enclose herewith the copy and diamond drill logs covering the activities of the D.M.E.A. Project No. 3143 for the month of November, 1954.

The work of driving the 7400 Drift North continued to be problematic due to three drift breaks. Total advance in the heading amounted to 191 feet for the month, all of which was in a fresh carry ground and required the standing of drift timber. Heavy ground necessitated the driving of spiling in 35 feet of this advance. Thirty eight sets of timber were placed in the 7400 Drift North, and two sets were placed in the 7/7/53 and 7/7/47 Ore Transfer Stations.

A total of 36 samples for sampling were taken from the mineralized exposures.

Surface Diamond Drilling was conducted during the first part of the month. Hole S-48 and S-49 were drilled in the Garnet Schist to intersect a zone that contained Sebultite at the surface. No ore was intersected in the holes.

Very truly yours,
Calera Mining Company
Blackbird Division

R. H. Douglas, Manager

x, 2 6/shift
7.8 1/1 day

ASSAY RECORD

CALERA MINING CO.

Chute Sect. _____ Level 7400

DAILY #3143 Working 7400 DRIFT NORTH

NOVEMBER, 1954

Date	Sample Number	Location From	Location To	Kind	Width	% Cu	% Cu	Oz. Au		REMARKS
11/1/54	X3778	0592	[illegible]		7	03	10			
11/2	X3779	[illegible]	[illegible]		6	07	13			
11/3	X3780	[illegible]	[illegible]		6	08	15			
11/3	X3782	42	49		7	08	20			
11/4	X3783	49	[illegible]		4½	04	[illegible]			
11/4	X3784	52	58		4½	05	[illegible]			
11/5	X3785	[illegible]	[illegible]		5	01	[illegible]			
11/5	X3786	63	70		7	02	03			
11/8	X4034	70	76		6	02	[illegible]			
11/8	[illegible]	76	[illegible]		6	Tr	Tr			
11/9	X3787	80	[illegible]		5	01	Tr			
[illegible]	[illegible]									
11/10	X3789	87	95½		8½	02	[illegible]			
11/11	X3790	95½	102		6½	12	01			
11/12	X3791	102	108		6	01	01			
11/13	X4036	108	120		12	24	116			
11/14	X3793	120	126½		6½	01	05			
11/15	X3794	126½	[illegible]		6	07	10			
11/16	X3795	136½	[illegible]		3½	65	2.36			
11/17	[illegible]	[illegible]	145		5	19	18			
11/18	X3797	[illegible]	[illegible]		6	64	79			
11/18	X3798	151	157		6	18	47			
11/18	X3799	157	162½		5½	26	30			
11/19	X3800	162½	170		7½	23	63	36½	197	60% 0.40% Co, 0.93% Cu
11/19	X3501	170	178		8	22	82			
11/22	X3502	178	186		8	12	77			
11/23	X3504	186	192		5	29	37			
11/23	X3505	191	195		4	03	Tr			
11/27	[illegible]	[illegible]	[illegible]		2	[illegible]	14			
[illegible]	X3506	[illegible]	[illegible]		6	[illegible]	[illegible]			
[illegible]	X3508	[illegible]	[illegible]		4½	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]							[illegible]
[illegible]	[illegible]	[illegible]	196	[illegible]	1	[illegible]	3.33			3 FROM LEFT RIB, 5 FROM RIGHT RIB

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R.E. CRIBBS
Date NOVEMBER, 1954

Hole No. S-48 Mine
Level SURFACE
Location
Bearing S 61 W Dip -45 Length 452
Latitude of Collar 17,650 N Departure of Collar 7,931½ E Elevation 7,753½

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
11-1-54		24-34						NX MASSIVE GRAY DIKE. SCHISTOSE
		24-29				5	28	QUARTZITE WITH NARROW GARNET SCHIST
		29-34				5	90	BANDS ABOUT 15° TO CORE. 32-34
		34-69						SCHISTOSE QUARTZITE WITH HIGHLY
		34-39				5	66	CONTORTED GARNET SCHIST BANDS 0-30
		39-44				5	48	TO CORE. BLACK RECTANGULAR
		44-49				5	50	METACRYSTS AT 37'. VERY MINOR LIMONITE
		49-54				5	28	IN QUARTZITE AT 37½ AND 50.
		54-59				5	34	
		59-64				5	54	
		64-69				5	90	
		69-79						SCHISTOSE QUARTZITE WITH NARROW
		69-74				5	56	CONTORTED SCHIST BANDS MOSTLY 30-50° TO CORE.
		74-79				5	92	STRUCTURE LOW ANGLE TO CORE 74-76 AND AT 78.
								MINOR LIMONITE IN FRACTURES 72½-76. MINOR
								QUARTZ STRINGERS 75-76.
		79-104						SCHISTOSE QUARTZITE WITH NARROW
		79-84				5	54	HIGHLY CONTORTED SCHIST BANDS CONTAINING
		84-89				5	94	VERY MINOR GARNETS AND MOSTLY 70-80° TO
		89-94				5	98	CORE. STRUCTURE 0-45° TO CORE 93½-96,
		94-99				5	60	101-104. MINOR QUARTZ STRINGERS
		99-104				5	94	83-85, 100-104, LIMONITE IN FRACTURES
								90½-94.
		104-146½						SCHISTOSE QUARTZITE WITH NARROW
		104-109				5	94	HIGHLY CONTORTED SCHIST BANDS CONTAINING
		109-114				5	82	A FEW SMALL GARNETS. STRUCTURE
		114-119				5	86	VARIES FROM HIGH TO LOW ANGLE TO
		119-124				5	94	CORE. MINOR QUARTZ STRINGERS.
		124-129				5	30	
		129-132				3	73	
		132-137				5	80	
		137-142				5	96	
		142-146½				4½	76	
11/8/54		146½-154						BX HIGHLY CONTORTED SCHIST ALTERNATING WITH
		146½-149				2½	4	BANDS OF SCHISTOSE QUARTZITE 0-30° TO CORE.
		149-154				5	76	MINOR QUARTZ STRINGERS
		154-173						SCHISTOSE QUARTZITE WITH MINOR CONTORTED SCHIST
		154-159				5	10	BANDS VARYING FROM HIGH TO LOW ANGLE TO CORE.
		159-163				4	70	DARK DIKE WITH SMALL CAVITIES, 170-172. LIMONITE
	X2100	163-168	TR	TR		5	98	STAINED, MINOR CALCITE STAINS, AND LIMONITE STRINGERS
	X2101	168-173	TR	02		5	60	AT LOW ANGLE TO CORE 168, 170, 172-173. A FEW
								SMALL BLACK RECTANGULAR METACRYSTS AT 165

Hole No. S-48

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 2
By
Date

Hole No. S-48 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
11/8/54	X2102	173-178½	Tr	Tr		5½	64	SCHIST WITH BANDS OF SCHISTOSE QUARTZITE VARYING FROM HIGH TO LOW ANGLE TO CORE.
		178½-191						MODERATELY FRACTURED SCHISTOSE QUARTZITE
	X2103	178½-186½	Tr	Tr		8	20	WITH NARROW SCHIST BANDS 0-50° TO CORE. A FEW
	X2104	186½-191	Tr	Tr		4½	56	GARNETS AT 190½. MINOR FAULT AT 191.
		191-202						SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE
	X2105	191-196	.02	.03		5	46	WITH NARROW GARNET SCHIST BANDS 0-90° TO
	X2106	196-202	.03	.04		6	40	CORE. LIMONITE IN FRACTURES AND STAINING
								QUARTZITE 192½-201½. GREENISH TO BROWNISH GRAY DIKE 196½-197½. WHITE ASTHOMALITE PHENOCRYSTS AT 198. FAULTED 192½, 196-197½. CORE FRACTURED.
		202-218						FRACTURED SCHISTOSE QUARTZITE WITH
	X2107	202-207	Tr	Tr		5	72	NARROW SCHIST BANDS VARYING FROM 45-80°
	X2108	207-212	Tr	Tr		5	74	TO CORE. FAULTED SCHIST 202½-203, 210-212.
	X2109	212-218	Tr	Tr		6	30	
		218-254½						MODERATELY FRACTURED SCHISTOSE QUARTZITE
	X2110	218-225½	Tr	Tr		7½	63	WITH SOME NARROW SCHIST BAND 50-80°
	X2111	225½-235	Tr	Tr		9½	62	TO CORE. LIMONITE STAINED AND LIMONITE
	X2112	235-240	Tr	Tr		5	22	IN FRACTURES AT 230, 234-235. MINOR
	X2113	240-245	Tr	Tr		5	82	NARROW QUARTZ STRINGERS 246-247.
	X2114	245-250	.01	Tr		5	72	
	X2115	250-254½	Tr	Tr		4½	56	
	X2116	254½-256	Tr	Tr		1½	67	QUARTZOSE SCHIST WITH MINOR QUARTZ STRINGERS.
		256-270						AX SCHISTOSE QUARTZITE, ALTERNATING
11/9	X2131	256-264	Tr	Tr		8	73	WITH SCHIST BANDS 30-45° TO CORE. MINOR
	X2132	264-270	Tr	Tr		6	22	CHLORITE 256-257 AND QUARTZOSE BIOTITE CHLORITE
								SCHIST WITH QUARTZ STRINGERS 269-270.
		270-287						MODERATELY FRACTURED QUARTZOSE
	X2133	270-279	.07	.03		9	6	BROWN BIOTITE CHLORITE SCHIST MOSTLY AT
	X2134	279-283	.08	.03		4	60	HIGH ANGLE TO CORE. MINOR QUARTZ
	X2135	283-287	.08	.19		4	23	STRINGERS 270-279.
	X2136	287-292½	Tr	Tr		5½	55	FROM 287-287½ SAME AS ABOVE 30° TO CORE. AFTER 287½ SCHISTOSE QUARTZITE ALTERNATING WITH NARROW SCHIST BANDS AT LOW ANGLE TO CORE. MINOR QUARTZ STRINGERS.
	X2137	292½-298	.02	Tr		5½	51	FRACTURED SCHISTOSE QUARTZITE AND SCHIST WITH QUARTZ STRINGERS. MINOR LIMONITE AND BLACK OXIDE AT 294½.

Hole No. S-48

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. S-48 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
11/9/54		298-319						MODERATELY FRACTURED BROWNISH COLORED SCH. CLOSE QUARTZITE WITH NARROW CONTORTED SCHIST BANDS. CHLORITE-BLACK BIOTITE SCHIST 298-300. BLACK COARSE SCHIST AT 307. BROWN MICA CHLORITE SCHIST 310-311. MINOR QUARTZ STRINGERS. LIMONITE STAINED AND ELECTRONITE IN FRACTURES 307-313.
	X2138	298-304	.03	.08		6	40	
	X2139	304-309	.04	.17		5	24	
	X2140	309-313	.13	.81		4	28	
	X2141	313-319	.01	.03		6	13	
	X2142	319-324	.05	.19		5	18	FRACTURED COARSE BLACK MICA-CHLORITE SCHIST AND SCHISTOSE QUARTZITE.
		324-339						FRACTURED SCHISTOSE QUARTZITE AND CONTORTED SCHIST BANDS. CHLORITE-HORNBLENDE(?) SCHIST 326-332. PECULIAR HORNBLENDE(?) SCHIST AT 337. MINOR QUARTZ STRINGERS.
	X2143	324-334	Tr.	.03		10	24	
	X2144	334-339	.01	Tr		5	12	
	—	339-344	—	—		5	0	NO CORE.
	X2145	344-354	Tr	Tr		10	20	FRACTURED SCHISTOSE QUARTZITE WITH NARROW SCHIST BANDS ABOUT 60° TO CORE.
	X2146	354-359	.02	.03		5	22	FRACTURED REGRED SCHISTOSE QUARTZITE ALTERNATING WITH CHLORITE SCHIST. PARTLY LIMONITE STAINED.
	X2147	359-364	.03	Tr		5	30	FRACTURED AND FAULTED SCHISTOSE QUARTZITE AND SCHIST. MINOR QUARTZ-CHLORITE MINERALIZATION.
	X2148	364-368	.01	.03		4	23	FRACTURED SCHISTOSE QUARTZITE. FAULTED AND LIMONITE STAINED 367-368.
		368-384						SCHISTOSE QUARTZITE WITH GARNET SCHIST BANDS FROM 0-30° TO CORE. BROWN SCHISTOSE DIKE(?) ABOUT 60° TO CORE 382½-384. GREEN 0.194 METACRYSTS 381½-382½. LIMONITE IN FRACTURES 374-375.
	X2149	368-374	Tr	.05		6	37	
	X2150	374-379	Tr	.01		5	52	
	X2151	379-384	.02	Tr		5	84	
	X2152	384-386	.01	Tr		2	90	SCHISTOSE QUARTZITE. GREEN RECTANGULAR METACRYSTS 384-384½. VERY MINOR CHALCOPYRITE.
	X2153	386-389½	.02	.02	NIL	3½	37	FRACTURED BROWN SCHISTOSE DIKE, QUARTZ-HORNBLENDE(?) WITH MINOR CHALCOPYRITE 386-386½. QUARTZ-CHLORITE MINERALIZATION 387½-388½.

Hole No. S-48

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. S-48 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
11/9/54		389½-399½						GREEN QUARTZ MINERALIZATION WITH STRINGERS
	X 2154	389½-391	.66	.73	NIL	1½	80	OF SMALL DIAM GREEN VLS. AND SOME
	X 2155	391-393½	.04	.55	NIL	2½	44	CHALCOPYRITE, PYRITE, AND COBALTITE. SMALL
	X 2156	393½-395	.03	.02	NIL	1½	60	BROWN MICA DIKES AT 390, 398. GRAYISH GREEN
	X 2157	395-399½	.02	TR	NIL	4½	49	DIKE WITH MINOR CHALCOPYRITE IN 390½, 398-397.
		399½-414						SCHISTOSE QUARTZITE WITH NARROW
	X 2158	399½-404	.02	TR		4½	49	GARNET SCHIST BANDS VARYING FROM HIGH TO
	X 2159	404-407½	TR	TR		3½	31	LOW ANGLE TO CORE. BROWN SCHISTOSE DIKE
	X 2160	407½-414	TR	TR		6½	42	WITH SMALL LIGHT COLORED SPOTS 410-411½.
		414-436						SCHISTOSE QUARTZITE WITH NARROW CONTORTED
		414-419				5	64	SCHIST BANDS 0-40° TO CORE AND CONTAINING
		419-424				5	82	A FEW GARNETS. BROWN SCHISTOSE DIKES
		424-429				5	74	SEVERAL INCHES WIDE AT 415, 415½, 417, 428,
		429-436				7	79	430½. BROWN SCHISTOSE DIKE 429-430 IS 50-80° TO CORE. STRUCTURE TRENDS ABOUT 50° TO CORE 431-436.
		436-452						SCHIST, QUARTZITE SCHIST, AND MINOR
		436-444				8	95	SCHISTOSE QUARTZITE 0-60° TO CORE. SOME
	X 2172	444-448	.24	.17		4	58	QUARTZ-CHALCOPYRITE-COBALTITE ~~MINERALIZATION~~
	X 2173	448-452	TR	TR		4	58	MINERALIZATION 445-446.

Hole No. S-48

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-48 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
11/3/54		0-12	—	—		12	100%	
	X2074	12-19	Tr	Tr		7		
	X2075	19-29	.03	.01		10		CASED TO 28'
	X2076	29-34	.03	.09		5		
	—	34-44	—	—		10		
	X2077	44-49	.02	.14		5		
	X2078	49-54	.01	Tr		5		
	X2079	54-59	.01	.04		5		
	X2080	59-64	.03	Tr		5		
	X2081	64-69	.04	.05		5		
	X2082	69-74	.04	.04		5		
	—	74-79	—	—		5		No water 74-79
	X2083	79-84	.04	.02		5		
	X2084	84-89	.04	.03		5		
	—	89-149	—	—		60		No water. Cased to 146½, cased to 148'
	X2085	149-154	Tr	Tr		5		
	X2086	154-159	Tr	Tr		5		
	X2087	159-162	Tr	Tr		3		
11/4/54	—	162-256	—	—		94		No water.
	X2088	256-264	.03	.02		8		Cased to 256
	X2089	264-270	.07	.04		6		
	X2090	270-279	.16	Tr		9		
11/5	X2091	279-283	.12	.04		4		
	X2092	283-292½	.02	.20		9½		
	X2093	292½-298	.07	.04		5½		
	X2094	298-304	.04	.08		6		
	X2095	304-309	.07	.18		5		
	X2096	309-313	.06	.13		4		No water after 311
	—	313-407½	—	—		94½		
11/9	X2117	407½-414	.02	.06		6½		
	X2118	414-419	.06	.12		5		
	X2119	419-424	.05	.03		5		
	X2120	424-429	.05	.09		5		
	X2121	429-436	.02	.03		7		
	X2122	436-444	.04	.05		8		
	X2123	444-452	.03	.09		8		

Hole No. 5-48

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1

DIAMOND DRILLING RECORD

By R.E. GRIBES

Date NOVEMBER 1954

Hole No. S-49 Mine Level SURFACE

Location

Bearing S 64 W Dip -49 Length 480

Latitude of Collar 17,757½ N Departure of Collar 4,732½ E Elevation 7,807

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
11/10/54		24-44						NX SCHISTOSE QUARTZITE ALTERNATING WITH
		24-29				5	26	BAND GRADING INTO QUARTZOSE SCHIST
		29-34				5	10	10-50° TO CORE. DARKLAR QUARTZITE
		34-39				5	44	FRAGMENTS ENCLOSED IN CORE 29-39.
		39-44				5	10	VERY MINOR QUARTZ STRINGERS
		44-54				10	0	NO CORE.
		54-69						SCHISTOSE QUARTZITE ALTERNATING
		54-59				5	16	WITH BAND GRADING INTO QUARTZOSE SCHIST
		59-64				5	34	STRUCTURE AS 60° TO CORE AFTER 64. DARKER
		64-69				5	38	QUARTZITE FRAGMENTS ENCLOSED IN CORE
								54-64. LIMONITE IN FRACTURES 59-62.
								VERY MINOR QUARTZ STRINGERS.
		69-74				5	0	NO CORE
		74-84						SCHISTOSE QUARTZITE ALTERNATING
		74-79				5	62	WITH BANDS GRADING INTO QUARTZOSE SCHIST
		79-84				5	22	A FEW FRAGMENTS OF BROWN TO BLACK
								MICA DIKE AT 81.
		84-94						COARSE GRAINED SCHISTOSE QUARTZITE
		84-89				5	28	ABOUT 45° TO CORE. FRAGMENTS OF
		89-94				5	36	DARK BROWN TO BLACK MICA DIKE AND
								COARSE BLACK SCHIST 84-87½.
		94-119						MASSIVE SOFT COARSE GRAINED
		94-99				5	30	GREENISH GRAY DIKE PARTLY LIMONITE
		99-104				5	8	STAINED. A FEW FRAGMENTS OF
		104-108½				4½	20	SCHISTOSE QUARTZITE AT 94 AND 119.
		108½-111½				3	43	CORE GROUND UP 99-104.
		111½-114				2½	12	
		114-119				5	34	
11/11		119-137						BX FRACTURED WHITE QUARTZITE WITH
		119-121½				2½	60	LIMONITE IN FRACTURES. A FEW FRAGMENTS
		121½-126				4½	47	OF DIKE SIMILAR TO ABOVE 119-119½.
	X 2124	126-130½	.02	.03		4½	18	
		130½-133½				3	3	
		133½-137				3½	6	
		137-150						FROM 137-138 WHITE QUARTZITE. FROM 138
		137-140				3	70	142½ SHEARED LIMONITE STAINED COARSE GRAINED
		140-145				5	72	GREENISH GRAY DIKE. FROM 142½-150
		145-150				5	56	FRACTURED SCHISTOSE QUARTZITE WITH CONTORTED
								GARNET SCHIST BANDS. MINOR LIMONITE IN
								FRACTURES 142½-143½. FRACTURED 142½-145.

Hole No. S-4

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2
By
Date

DIAMOND DRILLING RECORD

Hole No. 5-49 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
11/14/54		150-173						FRACTURED SCHISTOSE QUARTZITE.
		150-153				3	17	LIMONITE STAINED 154-155, 157½-158½. FAULT
		153-155				2	35	WITH WHITE CLAY LIKE MATERIAL 150-158.
	X 2190	155-162	Tr	Tr		7	31	FAULT GOUGE AT 160, 171½.
		162-167				5	6	
		167-170½				3½	20	
		170½-173				2½	30	
		173-175½				2½	48	FRACTURED SCHISTOSE QUARTZITE AND SCHIST
		175½-190						FRACTURED SCHISTOSE QUARTZITE - BLACK
	X 2191	175½-180	Tr	Tr		4½	40	SCHIST (DIKE?) AT 181. BLACK SCHISTOSE DIKE
	X 2192	180-185	.04	.02		5	36	186-187. QUARTZITE SPOTTED AT 185½ AND
	X 2193	185-190	Tr	Tr		5	46	LIMONITE STAINED 185½-186. FAULT 180½-181.
		190-201						MODERATELY FRACTURED SCHISTOSE QUARTZITE
		190-195				5	82	WITH A FEW NARROW SCHIST BAND ABOUT
		195-196				1	70	20° TO CORE. DARK SPOTS ABOUT 1/16" DIAMETER
		196-201				5	34	192-193½.
11/17		201-206				5	20	AX SCHISTOSE QUARTZITE ABOUT 90° TO CORE
		206-212				6	45	SILICIFIED SCHISTOSE QUARTZITE WITH
								ABOUT 5% LIMONITE IN FRACTURES. MAY
								HAVE CONTAINED MINOR SULFIDES BEFORE
								LEACHING
		212-275						SCHISTOSE QUARTZITE 50-80° TO CORE.
		212-214½				2½	68	A FEW NARROW SCHIST BANDS 222-225 AND
		214½-217				2½	68	WITH MINOR GARNETS 260-275. A FEW
		217-224				7	84	FRAGMENTS OF DARK GREEN SCHIST (DIKE?) AT
		224-234				10	51	212½. VERY MINOR QUARTZ STRINGERS. A FEW
		234-244				10	61	QUARTZ-LIMONITE STRINGERS 215-216. A BLACK
		244-254				10	91	BLADED MINERAL IN QUARTZ STRINGERS 220-221.
		254-259				5	84	QUARTZ-LIMONITE-MALACHITE(?) STRINGERS 249-250.
	X 2216	259-264	.01	Tr		5	84	PARTLY LIMONITE STAINED 253½-262. MINOR QUARTZ
	X 2217	264-269	Tr	.06		4	25	CHALCOPYRITE-CONTAINING STRINGERS 272½-274.
	X 2218	269-275	.03	.11		7	99	MODERATELY FRACTURED 212-217.
		275-286						SCHISTOSE QUARTZITE WITH SEVERAL NARROW
	X 2219	275-280	.08	.17		5	74	GARNET SCHIST BANDS ABOUT 45° TO CORE.
	X 2220	280-286	.01	.05		8	89	SOFT GREENISH GRAY DIKE 276-277. SOFT DARK
								GREENISH GRAY FINE GRAINED DIKE 281-282. LIMITED
								RECTANGULAR MEGACRYSTS 280½-281. GREEN QUARTZ
								IN GRAY QUARTZ 275½-276. SLIGHTLY WITH
								LIMONITE IN FRACTURES 277½-279½, 280½-281.
								FAULT GOUGE 277-277½.

Hole No. 5-49

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-49 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From – To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
11/12/54		288-305						SCHISTOSE QUARTZITE WITH NARROW
	X2221	288-295	.01	Tr		7	71	CONTORTED GARNET SCHIST BANDS MOSTLY
	X2222	295-301	Tr	Tr		6	92	0-45° TO CORE. MINOR QUARTZ STRINGERS.
	X2223	301-305	Tr	Tr		4	88	
	X2224	305-311	.03	.17		6	55	SCHISTOSE QUARTZITE WITH NARROW
								SCHIST. BANDS ABOUT 20° TO CORE. QUARTZ-
								LIMONITE STRINGERS 305-309 AND MINOR
								QUARTZ- CHALCOPYRITE MINERALIZATION 309-311.
	X2225	311-319	.06	.55		8	50	SCHISTOSE QUARTZITE WITH NARROW
								CONTORTED SCHIST BANDS. STRUCTURE AT LOW
								ANGLE TO CORE 311-315. QUARTZ-LIMONITE
								STRINGERS WITH MINOR CHALCOPYRITE,
								CHALCOCITE AND PYRITE MOSTLY 317-319.
		319-334						MODERATELY FRACTURED QUARTZOSE SCHIST
	X2226	319-329	.15	1.13		10	34	AND SCHISTOSE QUARTZITE WITH ABOUT 20%
	X2227	329-334	.19	1.30		5	88	QUARTZ CHALCOPYRITE PYRITE CHALCOCITE-CHLORITE
								MINERALIZATION.
		334-354½						SCHISTOSE QUARTZITE ALTERNATING
	X2228	334-339	Tr	Tr		5	88	WITH NARROW CONTORTED SCHIST BANDS
	X2229	339-349	Tr	Tr		10	93	MOSTLY ABOUT 40° TO CORE. MINOR QUARTZ
	X2230	349-354½	Tr	.01		5½	48	STRINGERS. MODERATELY FRACTURED 346-354½.
	X2231	354½-361	.23	.12		6½	14	FRACTURED QUARTZOSE SCHIST WITH
								ABOUT 30% QUARTZ MINERALIZATION.
		361-389						SCHISTOSE QUARTZITE WITH NARROW
	X2232	361-369	Tr	Tr		8	66	CONTORTED SCHIST BANDS NEARLY PARALLEL
	X2233	369-374	.01	.13		5	18	TO CORE EXCEPT FROM 364-369. A FEW
	X2234	374-379	Tr	Tr		5	36	GARNETS IN SOME OF SCHIST BANDS. DARK
	X2235	379-389	.02	.03		10	33	~~GREENISH BROWN~~ BROWNISH GREEN DIKE WITH
								~~WITH~~ MANY SMALL CAVITIES 365-366½.
								HIGHLY FRACTURED 369-374.
	X2236	389-397	Tr	.03		8	39	FRACTURED CONTORTED QUARTZOSE SCHIST
								ALTERNATING WITH BANDS OF SCHISTOSE
								QUARTZITE MOSTLY AT HIGH ANGLE TO CORE.
		397-419						FRACTURED SCHISTOSE QUARTZITE WITH
	X2237	397-404	.01	Tr		7	37	NARROW CONTORTED SCHIST BANDS 0-50°
	X2238	404-410	.01	.08		6	53	TO CORE. MINOR QUARTZ- CHALCOPYRITE
	X2239	410-416½	.01	Tr		6½	37	STRINGERS 397-416.
	X2240	416½-419	Tr	Tr		2½	52	

Hole No. 5-49

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7
By
Date

DIAMOND DRILLING RECORD

Hole No. 5-49 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
11/17/54		419-436						MODERATELY FRACTURED SCHISTOSE
	X 2241	419-425½	.01	TR		6½	49	QUARTZITE WITH NARROW GARNET SCHIST
	X 2242	425½-429	TR	TR		3½	51	BANDS 45-80° TO CORE. DIARK GREEN
	X 2243	429-436	.04	.20		7	50	SCHISTOSE DIKE WITH SMALL CAVITIES
								427-428. MINOR QUARTZ CHALCOPYRITE
								STRINGERS. ABOUT 20% QUARTZ CHLORITE
								CHALCOPYRITE MINERALIZATION 434-436
	X 2244	436-443	.06	TR		7	24	FROM 436-438 QUARTOSE CHLORITE
								SCHIST. FROM 438-443 QUARTOSE SCHIST AND
								SCHISTOSE QUARTZITE. CORE FRACTURED.
	X 2245	443-449	.32	.24		6	32	FRACTURED SCHISTOSE QUARTZITE
								WITH MINOR QUARTZ-CARBONATE-CHALCOPYRITE
								STRINGERS.
	X 2246	449-459	TR	TR		10	23	FRACTURED AND FAULTED GARNET SCHIST
								AND SCHISTOSE QUARTZITE.
		459-480						FRACTURED SCHISTOSE QUARTZITE
	X 2247	459-465	.14	.08		6	18	WITH NARROW CONTORTED GARNET SCHIST
	X 2248	465-471	.05	TR		6	25	BANDS. MINOR QUARTZ-CHALCOPYRITE
	X 2249	471-480	.02	TR		9	64	STRINGERS. A 6" BROWN SCHISTOSE DIKE
								AT 473½. CORE GROUND UP 470-471.

Hole No. 5-49

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-49 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
11/9/54	—	0-29	—	—		29	Surface	
	X2097	29-34	Tr	Tr		5		CASED TO 32'
	X2098	34-39	Tr	Tr		5		
	—	39-49	—	—		10		CASED TO 49'
	X2099	49-52	.01	Tr		3		
	—	52-119	—	—		67		CAVING
	X2124	119-126	Tr	Tr		7		CASED TO 119.
	—	126-130½	—	—		4½		No water
	X2125	130½-137	Tr	Tr		6½		CASED TO 130
	X2126	137-140	Tr	Tr		3		
	X2127	140-145	.01	Tr		5		
	X2128	145-150	Tr	Tr		5		
	X2129	150-153	.01	Tr		3		
	X2130	153-155	Tr	Tr		2		
11/10	—	155-162	—	—		7		No water
	X2161	162-167	Tr	Tr		5		CASED TO 162'
	X2162	167-170½	Tr	Tr		3½		
	X2163	170½-173	Tr	Tr		2½		
	X2164	173-175½	Tr	Tr		2½		
	X2165	175½-180	.01	Tr		4½		
	X2166	180-185	.09	Tr		5		
	X2167	185-190	.07	Tr		5		
	X2168	190-195	.02	Tr		5		
	X2169	195-201	.02	Tr		6		CASED TO 201'
	X2170	201-206	.01	Tr		5		
	X2171	206-212	.03	Tr		6		CASED TO 211'
11/11	X2172	212-214½	.01	Tr		2½		
	X2176	214½-224	Tr	.03		9½		
	X2177	224-234	.01	Tr		10		
	X2178	234-244	.01	Tr		10		
	X2179	244-254	.03	.17		10		
	X2180	254-264	.05	.13		10		
	X2181	264-268	.11	.33		4		
	X2182	268-275	.12	.28		7		
	X2183	275-280	.12	.35		5		
	X2184	280-288	.05	.12		8		
	X2185	288-295	.05	.09		7		
	X2186	295-301	.04	.09		6		
	X2187	301-305	.04	.03		4		
	X2188	305-311	.02	.15		6		
	X2189	311-319	.09	.18		8		

Hole No. 5-49

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-49 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
11/11/54	X2194	319-329	.13	.64		10	Sl. oxs	
	X2195	329-339	.17	.66		10	"	
11/12	X2196	339-349	.16	.45		10		
	X2197	349-354½	.13	.40		5½		
	X2198	354½-361	.12	.26		6½		
	X2199	361-369	.06	.26		8		
	X2200	369-374	.08	.21		5		
	X2201	374-379	.08	.18		5		
	X2202	379-389	.11	.46		10		
	X2203	389-397	.05	.14		8		
	X2204	397-404	.05	.34		7		
	X2205	404-410	.06	.19		6		
	X2206	410-416½	.04	.14		6½		
	X2207	416½-425½	.05	.11		9		
	X2208	425½-429	.03	.05		3½		
11/13	X2209	429-436	.04	.11		7		
	X2210	436-443	.08	.14		7		
	X2211	443-449	.11	.08		6		
	X2212	449-459	.05	.04		10		
	X2213	459-465	.05	.10		6		
	X2214	465-471	.05	.05		6		
	X2215	471-480	.04	.04		9		

Hole No. 5-49

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 22 1954

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of October, 1954 Docket No. DMEA 3143 Contract No. Idm-E645
Operator's Name Calera Mining Co. Minerals Cobalt & Cooper
Address Cobalt, Idaho
Contract Amount, $ 407,340.00 Government Participation: 70% Amount, $ 285,138.00

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 Contractors: ~~Short Form~~ Spilling		980.00	980.00			
Heavy ~~Drilling~~ Timber		346.50	346.50			
Core Building Stage II		331.46	331.46			
Crosscutting Trenching		10,262.59	10,262.59			
Normal ~~Drifting~~ Timber	1,085.00	2,074.10	3,159.10			
	5,436.85	11,335.67	16,772.52			
(2) Labor and Supervision: Framing	158.92	394.56	553.48			
~~Labor~~						
Core Supervision Drilling stage	17,579.44	45,904.68	53,484.12			
Technical Services Reaming						
(3) Operating Mat'ls. and Supplies: Stage	1 795.00	1,790.00	2,585.00			
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 stage II	93.00	252.00	345.00			
Liability Insurance						
Sampling & Analysis						
Stage I	1,689.00	4,365.00	6,054.00			
(8) Contingencies (specify):						
TOTALS	16,837.21	78,036.56	94,873.77	16837.21	78036.56	94,873.77

(maybe fuels separately)

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

Date Nov. 4, 1954 *Payee Calera Mining Company
Per [signature] Title Owner

*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:

$ 11786.05

Signature [signature] (Authorized Certifying Officer)

Date 11/18/54 Vou. No. 1357

(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. E 645 in accordance with the terms of the contract.

Signature 1.51 Verdo Z Johnson Title Mining Engr Date 11/15/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 1.51 Stephen W Zoldok Title Mining Engr Date 11/15/54

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.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 22 1954

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of October 195 4 Docket No. DMEA 3143 Contract No. Idm-E645
Operator's Name Calera Mining Company Minerals Cobalt & Copper
Address Cobalt, Idaho

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	Ft.	5,436.85	153	16,772.52	472	35.535	6000	35.535
~~Crosscutting~~ Normal Timbering	Ft.	1,085.00	155	3,159.10	451.3	7.00	5000	7.00
~~Raising~~ Heavy Timbering	Ft.			346.50	49.5	7.00	750	7.00
~~Shafts~~ Spiling	Ft.			980.00	49.0	20.00	500	20.00
~~Winzes~~ Framing	sets	158.92	29	553.48	101	5.48	1150	5.48
~~Drilling, Core~~ Assay Stage 1	Ea.	93.00	31	345.00	115	3.00	5900	3.00
~~Churn~~ Drilling Core Stage 1	Ft.			331.46	98	3.3822	10500	3.3822
~~Auger~~								
Stripping								
Trenching	Hrs.			10,262.59	864	11.878	864	11.878
~~Test Pits~~ Drilling Core, Stage 1	Ft.	7,579.44	1089	53,484.12	7684½	6.96	8700	6.96
~~Roads and Trails~~ Assay Stage 1		1,689.00	563	6,054.00	2018	3.00	3100	3.00
~~Reaming Stage 1~~		795.00	318	2,585.00	1034	2.50	1700	2.50
TOTAL DISTRIBUTED COSTS		16,837.21		94,873.77				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		16,837.21		94,873.77				

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 Nov. 4, 1954 Operator Calera Mining Company
Per [signature] Title [signature]

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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 22 1954

8/17/55

=145

ASSAY RECORD

CALERA MINING CO.

Chute Sect. _____ Level 7400

DMEA #3143 Working 7400 DRIFT NORTH

OCTOBER, 1954

Date	Sample Number	Location From	Location To	Kind	Wth.	% Co	% Cu	Oz. Au		REMARKS
10/3/54	X4024	Δ495 +8½	-13½	muck	5	01	Tr			
10/4	X3758	+13½	18	"	4½	03	Tr			
10/5	X3759	18	24	"	6	01	Tr			
10/6	X3760	24	29	"	5	01	02			
10/9	X3761	29	34	"	5	03	Tr			
10/11	X4025	34	38	"	4	01	Tr			
10/12	X3762	Δ495+38 Δ501+4	-43½ -19½	"	5½	02	Tr			
10/13	X4026	Δ501 +19½	-25	"	5½	03	13			
10/14	X3763	+25	30	"	5	01	Tr			
10/15	X3764	30	35	"	5	01	Tr			
10/15	X3765	35	40½	"	5½	01	04			
10/16	X4027	40½	45	"	4½	01	02			
10/17	X3766	45	51	"	6	01	03			
10/18	X3767	51	56½	"	5½	02	02			
10/19	X3768	56½	60	"	3½	03	05			
10/20	X3769	60	64½	"	4½	06	Tr			
10/21	X3770	64½	72	"	7½	02	02			
	—	72	78			—	—			
10/22	X3771	78	82	"	4	09	08			
10/26	X3772	82	89	"	7	16	40			
10/26	X3773	89	95½	"	6½	33	27			
10/27	X4029	95½	106	"	10½	08	09			
10/28	~~X4030~~	~~106~~	~~112~~		~~6~~	~~08~~	~~37~~			
10/28	X3774	106	112	"	6	27	20			
10/29	X3775	112	118½	"	6½	09	03			
10/29	X3776	Δ501 -1	124½ +5	"	6	06	03			
10/30	X4031	Δ507 +5	-11	"	6	05	26			
10/30	X4033	Δ507+11	-17½	"	6½	01	08			
10/31	X3777	17½	23	"	5½	06	12			
10/26	6164A	Δ501 +89		CHIP	2.5	80	100			LEFT FACE
10/28	6981 2A	Δ501+106		"	5.0	14	01			FACE LEFT TO RIGHT
	9817B			"	1.7	14	109			
	9817C			"	3.8	05	04			

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R.E. GRIBBS
Date October, 1954

Hole No. S-46 Mine
Level Surface
Location
Bearing S 56½° W Dip -45 Length 479
Latitude of Collar 15,991 Departure of Collar 5,858E Elevation 2,669

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
10/15/54		0-20						NX SCHISTOSE QUARTZITE WITH
		0-13				13	6	MINOR NARROW SCHIST BANDS 20-60° TO
		13-18				5	36	CORE.
		18-20				2	20	
		20-29						FRAGMENTS OF SCHISTOSE QUARTZITE.
		20-24				4	13	LIMONITE STAINED AT 21½'. FAULT GOUGE
		24-29				5	14	22-24, 26-25½'.
		29-49						FRAGMENTS OF SCHISTOSE QUARTZITE
		29-34				5	10	AT LOW ANGLE TO CORE. MINOR
		34-39				5	8	LIMONITE STAINS AT 33'. A QUARTZ
		39-44				5	6	STRINGER IN SCHIST AT 48½'.
		44-49				5	8	
		49-56						BX MODERATELY FRACTURED SCHISTOSE
		49-52				3	37	QUARTZITE WITH A FEW NARROW SCHIST
		52-56				4	48	BANDS 30-60° TO CORE.
		56-62						MODERATELY FRACTURED QUARTZITE
		56-58½				2½	64	AND SCHISTOSE QUARTZITE. MINOR LIMONITE
		58½-62				3½	31	IN FRACTURES 57-58½'.
		62-67				5	36	
		67-72				5	10	FRACTURED SCHISTOSE QUARTZITE AND
								QUARTZOSE SCHIST.
		72-82						MODERATELY FRACTURED SCHISTOSE
		72-77				5	60	QUARTZITE WITH A FEW NARROW SCHIST BANDS
		77-82				5	48	ABOUT 35° TO CORE. MINOR QUARTZ STRINGERS.
		82-87				5	44	SCHISTOSE QUARTZITE. SOFT SCHIST AT 87'.
		87-109						MODERATELY FRACTURED SCHISTOSE
		87-91				4	68	QUARTZITE WITH SOME HIGHLY CONTORTED, VERY
		91-94½				3½	89	NARROW SCHIST BANDS. A 2" SCHIST BAND AT
	X 1879	94½-99	.01	Tr		4½	49	92½' HAS SMALL CHLORITE SPOTS (ALTERED
	X 1878	99-104	Tr	.02		5	48	GARNETS?). SCHIST 98½-96, 101-102½'.
	X 1879	104-109	.01	Tr		5	38	MINOR QUARTZ AND CARBONATE STRINGERS. SOME
								QUARTZ AND LIMONITE MINERALIZATION 91-92'.
		109-125						FROM 109-116 SCHISTOSE QUARTZITE 60
		109-114				5	38	-90° TO CORE. A 3" SCHIST BAND WITH A
		114-119				5	30	FEW SMALL GARNETS AT 112'. FROM 116-
		119-122				3	17	125 FAULT GOUGE AND FRAGMENTS OF
		122-125				3	17	SCHISTOSE QUARTZITE. LIMONITE IN FRACTURES
								AND STAINING QUARTZITE 116-122. MINOR
								QUARTZ MINERALIZATION 122-125'.

Hole No. S-46

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 2
By
Date

Hole No. 5-46 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
10/12/54		120 135						FRACTURED WHITE QUARTZ. MINOR AMOUNTS IN SMALL CRUMBS.
		125-129				4	15	
		129-130				1	100	
		130-135				5	4	
		135-138½				3½	69	MODERATELY FRACTURED SCHISTOSE QUARTZITE AT HIGH ANGLE TO CORE. A FEW SMALL GARNETS. LIMONITE STAINED AND WITH MINOR QUARTZ STRINGERS 136½-138½. A QUARTZ FRAGMENT AT 135'.
		138½-143½				5	38	HIGHLY FRACTURED SCHISTOSE QUARTZITE AND WHITE QUARTZ. QUARTZ MAY BE CAVE MATERIAL.
		143½-155						MODERATELY FRACTURED SCHISTOSE QUARTZITE
		143½-149				5½	36	WITH A FEW NARROW GARNET SCHIST
		149-155				6	20	BANDS ABOUT 60° TO CORE.
		155-199½						FRACTURED SCHISTOSE QUARTZITE AND
		155-160				5	34	MINOR GARNET SCHIST. MINOR LIMONITE
		160 165				5	40	IN FRACTURES. BEFORE 160'. VERY HIGHLY
		165-170				5	54	FRACTURED 172-178'.
		170-176				2	75	
		176-177				5	14	
	X1880	177-179½	.04	Tr		2½	28	
		199½-193½						MODERATELY FRACTURED WHITE QUARTZ
	X1881	179½-184½	.05	.03	.06	5	54	A FEW SOLUTION CAVITIES PARTLY FILLED WITH
	X1882	184½-188	.01	.08	Nil	3½	34	HEMATITE. LIMONITE STAINED SCHIST AND
	X1883	188-193½	Tr	Tr		5½	7	SCHISTOSE QUARTZITE. 190-193½'.
		193½-200				6½	5	FIRST PART OF CORE FRACTURED
								LIMONITE STAINED SCHISTOSE QUARTZITE AND
								WHITE QUARTZ. LAST HALF IS PART GOUGE.
		200-223						FRACTURED SCHISTOSE QUARTZITE
		200-205				5	12	AND MINOR SCHIST. MINOR QUARTZ
		205-210				5	26	MINERALIZATION. 213-223'. MINOR
		210-213				3	13	LIMONITE IN FRACTURES. 205-211'.
		213-218				5	40	
		218-223				5	46	
10/15	X1890	223-228	Tr	.02		5	26	FRACTURED SCHISTOSE QUARTZITE WITH
								MINOR QUARTZ MINERALIZATION. ALTERNATES
								WITH AND GRADES INTO CHLORITE SCHIST MOSTLY
								226-228'.
	X1891	228-231	.59	.24		3	63	MODERATELY FRACTURED SILICIFIED
								SCHISTOSE QUARTZITE. GOOD COBALTITE STRINGERS.
								& VEINS CORTED WITH LIMONITE AND HEMATITE.

Hole No. 5-46

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 3
By
Date

Hole No. S 46 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
10/13/54	X1892	231-235	.02	.24		4	53	FRACTURED CHLORITE SCHIST WITH MINOR QUARTZ MINERALIZATION. PARTLY LIMONITE STAINED.
	X1893	235-237½	Tr	.04		2½	88	FROM 235-236½ QUARTZ CARBONATE MINERALIZATION WITH VUGS PARTLY FILLED WITH LIMONITE. FROM 236½-237½ CHLORITE SCHIST
	X1894	237½-242	.03	.23		4½	24	FRACTURED LIMONITE STAINED SCHISTOSE QUARTZITE, IMPURE CHLORITE SCHIST 239½-240.
		242-250						FRACTURED SCHISTOSE QUARTZITE.
	X1895	242-245	Tr	.02		3	40	SOME HAIR CHECKING PARALLEL TO CORE.
	X1896	245-250	Tr	Tr		5	18	
	X1897	250-255	.08	.09		5	30	FRACTURED SCHISTOSE QUARTZITE WITH NARROW SCHIST BANDS AT HIGH ANGLE TO CORE. SOME QUARTZ LIMONITE STAINGERS WITH MINOR COBALTITE.
	X1898	255-258	Tr	Tr		3	67	FRACTURED SCHISTOSE QUARTZITE AT HIGH ANGLE TO CORE WITH MINOR QUARTZ CHLORITE MINERALIZATION.
	X1899	258-262	Tr	Tr		4	43	FRACTURED ARGILLITE AND SCHISTOSE QUARTZITE ABOUT 70° TO CORE. MINOR QUARTZ STAINGERS.
		262-273						MODERATELY FRACTURED SCHISTOSE QUARTZITE AND ARGILLITE VARYING FROM HIGH TO LOW ANGLE TO CORE. CONTAINED QUARTZ STAINGERS AND QUARTZ CHALCOPYRITE CHALCOPYRITE-MALACHITE MINERALIZATION AT 271.
	X1900	262-265½	Tr	.04		3½	77	
	X1901	265½-269	Tr	Tr		3½	46	
	X1902	269-273	.05	.98		4	18	
		273-280						FRACTURED SCHISTOSE QUARTZITE WITH NARROW QUARTZ CHALCOPYRITE STAINGERS
	X1903	273-276	.07	.64		3	23	
	X1904	276-280	.22	1.18		4	30	
	X1905	280-283	.32	1.03		3	50	FRACTURED SCHISTOSE QUARTZITE AND SCHIST WITH ABOUT 20% QUARTZ CHALCOPYRITE COBALTITE MINERALIZATION.
10/13		283-302						FRACTURED CONTORTED SCHISTOSE QUARTZITE AND SCHIST. SOME QUARTZ CHALCOPYRITE PYRITE MINERALIZATION 283-289.
	X1906	283-289	.23	1.73		6	45	
	X1907	289-294	.02	.27		5	28	
	X1908	294-298	.02	.33		4	15	
	X1909	298-302	.15	.45		4	23	
		302-316						MODERATELY FRACTURED SCHISTOSE QUARTZITE WITH MINOR CONTORTED SCHIST BANDS. MINOR QUARTZ CHALCOPYRITE COBALTITE STAINGERS.
	X1910	302-306	.04	.07		4	78	
	X1911	306-310	.04	.33		4	75	
	X1912	310-316	.01	.13		6	87	

Hole No. S 46

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 8
Dip
Date
Level

Hole No. [illegible] Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.	%	% C.R.	Geology and Remarks
2/10/54		316-334						MODERATELY FRACTURED CONTORTED
	X1913	316-324	.01	Tr		8	74	ARGILLITE AND SCHISTOSE QUARTZITE WITH
	X1914	324-334	.03	.03		10	85	FRACTURE ZONES. CONTACT WEAK. FOLIATION
								IN 30°.
10/21/54		334-344						CONTORTED SCHISTOSE QUARTZITE MOSTLY AT
	X 1922	334-339	.14	.14		5	74	LOW ANGLE TO CORE. ABOUT HALF ARGILLITE.
		339-344				5	72	334-338'. GRAY DIKE WITH MINOR SMOKE
								CAVITIES 341½-343. QUARTZ CHALCOPYRITE
								PYRITE MINERALIZATION AT 336'. MODERATELY
								FRACTURED 339-344'.
		344-370						FRACTURED SCHISTOSE QUARTZITE.
		344-349				5	12	MINOR SHALY PYRITE. 344.
		349-354				5	14	
		354-360				6	13	
		360-365				5	10	
	X1928	365-370	.01	Tr		5	13	
	X1929	370-375	.02	Tr		5	6	FAULT ZONE
	X1930	375-380	.02	.02		5	8	BROKEN SCHIST WITH QUARTZITE
								MISCELLANEOUS.
		380-390						FRACTURED SCHISTOSE QUARTZITE WITH
	X1931	380-385	.02	Tr		5	24	SOME WHITE SCHIST BANDS AS WELL
	X1932	385-390	.01	Tr		5	40	ANGLE TO CORE. FAULT ZONE AT 385'.
		390-404						SCHISTOSE QUARTZITE WITH MINOR
	X1933	390-397	.01	Tr		7	76	SCHIST BANDS MOSTLY AT HIGH ANGLE TO
	X1934	397-403	.03	.03		6	86	CORE. CONTACT 402-404'. BROWN
	X1935	403-414	.02	.10		9	67	SCHISTOSE DIKES 408½-409, 412-412½, 414
	X1936	414-420	.02	.08		8	90	436. VERY FINE CARBONATE STRINGERS
	X1937	420-429	Tr	Tr		9	96	427-429'. VERY MINOR QUARTZ
	X1938	429-439	.02	Tr		8	87	CHALCOPYRITE STRINGERS. MODERATELY
	X1939	439-449	.01	Tr		5	94	FRACTURED 344-400, 408-410, 431-436
	X1940	449-459	.01	.05		10	95	
	X1941	459-469	.01	Tr		10	90	
	X1942	469-479	Tr	Tr		10	100	

Hole No. [illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-46 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
10/11/54		0-13				13	SLUDGE	
	X1806	13-18	Tr	Tr		5	"	
	X1807	18-24	Tr	.01		6	"	CASED TO 21'
	X1808	24-29	.04	Tr		5	"	
	X1809	29-34	Tr	Tr		5	"	
	—	34-49	—	—		15	"	CASED TO 49'. NO WATER 34-49
	X1810	49-52	Tr	Tr		3	"	
	X1811	52-58½	.02	Tr		6½	"	INTERMITTENT WATER 53-58
	—	58½-91	—	—		32½	"	NO WATER. CAVE AT 67'. ~~[illegible]~~
	X1812	91-94½	.01	.09		3½	"	CASED TO 91'
	X1813	94½-99	.02	.05		4½	"	
	X1814	99-104	.12	Tr		5	"	
	X1815	104-109	.04	Tr		5	"	
	X1816	109-114	.04	Tr		5	"	
	X1817	114-119	.05	.10		5	"	
	X1818	119-125	.04	.31		6	"	
	X1819	125-129	.06	.21		4	"	CAVE VERY LITTLE WATER
	X1820	129-135	.06	.19		6	"	" " CASED TO 133'
	X1821	135-138½	.05	.15		3½	"	
	X1822	138½-142½	.02	.15		4	"	
10/12	X1823	142½-149	.02	Tr		6½	"	
	X1824	149-155	.03	.06		6	"	
	X1825	155-160	.05	.02		5	"	
	X1826	160-165	.04	.03		5	"	
	X1827	165-170	.06	Tr		5	"	
	X1828	170-177	.04	.04		7	"	NO WATER 170½-172
	—	177-193½	—	—		16½	"	NO WATER
10/15	X1841	193½-200	.05	.17		6½	"	
	X1842	200-205	Tr	.02		5	"	
	X1843	205-210	Tr	.04		5	"	
	X1844	210-218	Tr	Tr		8	"	
	X1845	218-223	.01	.07		5	"	
10/17	X1854	223-228	.05	.08		5	"	
	X1855	228-231	.11	.19		3	"	
	X1856	231-235	.05	.27		4	"	
	X1857	235-237½	.05	.24		2½	"	
	—	237½-283	—	—		45½	"	NO WATER
	X1858	283-289	.14	1.22		6	"	POOR SLUDGE RECOVERY CASED TO 283'.
	X1859	289-294	.16	.81		5	"	" " " "
	X1860	294-298	.22	1.36		4	"	" " " "
	X1861	298-302	.17	.56		4	"	" " " "

Hole No. 5-46

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-46 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
10/11/54	X1862	302-306	.09	.47		4	[illegible]	POOR SAMPLE RECOVERY
	X1863	306-310	.27	.70		4		
	X1864	310-316	.24	.54		6		
	X1865	316-324	.09	.34		8		
	X1866	324-334	.02	.12		10		
	X1867	334-344	.04	.08		10		
	X1868	344-349	.04	.09		5		
	X1869	349-354	.04	.12		5		
	X1870	354-360	.03	.05		6		
	X1871	360-365	.01	.02		5		
	X1872	365-370	.02	.12		5		
	X1873	370-375	.11	2.32		5		
	X1874	375-380	.08	.30		5		
	X1875	380-385	.08	.16		5		
	X1876	385-390	.04	.14		5		
10/13/54	X1885	390-397	.02	.06		7		
	X1886	397-405	.06	.11		8		
	X1887	405-414	.01	.08		9		
	X1888	414-422	.14	.04		8		
		422-429	-	-		7		
	X1889	429-439	.06	.23		10		
		439-449	-	-		10		

Hole No. 5-46

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R.E. CRIBBS
Date OCTOBER 1954

Hole No. S-47 Mine
Level SURFACE
Location
Bearing S 81° W Dip -54° Length 471
Latitude of Collar 15,429½ N Departure of Collar 5,665½ E Elevation 7697

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
10/22/54		5-25						FRACTURED LIMONITE STAINED SCHISTOSE
		15-20				15	8	QUARTZITE. BLACK SCHIST CONTAINING SMALL
		20-25				5	24	CAVITIES AT HIGH ANGLE TO CORE 18-19, 20-22.
								QUARTZ MINERALIZATION 20-20½'.
		25-39½						SCHISTOSE QUARTZITE WITH LIMONITE IN
		25-28				3	17	FRACTURES AND PARTLY LIMONITE STAINED.
		28-31				3	13	STRIKE AT 40 TO 20° TO CORE. FIRST
		31-36				5	36	INTERCALATED PEGMATITE 31-31½'. FRACTURED
		36-41				5	68	GRAY DIKE WITH SMALL CAVITIES 36½-37½,
		41-45½				7½	72	43½-47½'. BROWN TO GREEN DIKE 54½-58,
		45½-48				4½	31	58½-59½'. MINOR QUARTZ STRINGERS. MINOR
		48-53				5	58	BLACK OXIDE IN FRACTURES 38½-40½.
		53-59½				6½	86	FAULT GOUGE 65-66½, 43½-44.
		59½-68						SCHISTOSE QUARTZITE ABOUT 20° TO CORE.
		59½-63				3½	94	SCHISTOSE AND PARTLY LIMONITE STAINED
		63-68				5	82	61½-62, 63½-64'.
		68-87						SCHISTOSE QUARTZITE WITH NARROW
		68-73				5	48	CONTORTED SCHIST BANDS UP TO SEVERAL
		73-78				5	58	INCHES WIDE AND 45-80° TO CORE. FIRST
		78-82				4	33	INTERCALATED 69-70'. MINOR QUARTZ
		82-87				5	90	STRINGERS.
10/23/54		87-128½						SCHISTOSE QUARTZITE WITH HIGHLY
		87-92				5	84	CONTORTED BANDS OF SCHIST MOSTLY ABOUT
		92-97				5	84	20° TO CORE BUT ALSO NEARLY PARALLEL
		97-101				4	90	TO CORE. MINOR LIMONITE CONTORTED NARROW
		101-106				5	72	QUARTZ STRINGERS. MINOR LIMONITE
		106-110½				4½	40	IN FRACTURES 96-98 AND SOME LIMONITE
		110½-116				5½	56	STRINGERS 115-116½'. MINOR QUARTZ-
		116-119				3	77	CHALCOCITE CHALCOPYRITE STRINGERS
	X2000	119-121½	.02	.04		2½	80	123-125½'.
	X2000	121½-123	.07	.09		1½	95	
	X2001	123-126½	.17	.28		3½	91	
	X2002	126½-128½	Tr	Tr		2	35	
		128½-139						BX SCHISTOSE QUARTZITE ALTERNATING WITH
	X2003	128½-134	.07	Tr		5½	64	BANDS OF SCHIST ABOUT 80° TO CORE. DARK BROWN
	X2004	134-139	.03	.32		5	62	SCHISTOSE DIKE WITH SMALL LIMONITE SPOTS 134½-135½'. MINOR QUARTZ-LIMONITE MINERALIZATION. LIMONITE IN FRACTURES AND PARTLY STAINED 134-137'. HIGHLY FRACTURED 133-134.

Hole No. S-47

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2

By

Date

DIAMOND DRILLING RECORD

Hole No. D-47 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
10/27/54	X 2005	139-144	.07	.22		5	54	ALTERNATING BANDS OF QUARTZOSE SCHIST AND SCHISTOSE QUARTZITE, ABOUT 80° TO CORE. MANY SMALL GARNETS AND WHITE PSEUDOMORPHS AFTER HORNBLENDE(?). MINOR QUARTZ-LIMONITE STRINGERS. HIGHLY FRACTURED WITH POSSIBLY SOME BROWN DIKE MATERIAL 143-144'.
		144-160½						SCHISTOSE QUARTZITE ALTERNATING WITH
	X 2006	144-149	Tr	Tr		5	86	NARROW SCHIST BANDS UP TO SEVERAL INCHES
	X 2007	149-154	.05	Tr		5	52	WIDE AND ABOUT 80° TO CORE. MINOR QUARTZ-
	X 2008	154-157½	.07	.60		3½	95	LIMONITE STRINGERS. SEMI MINOR LIMONITE IN
	X 2009	157½-160½	Tr	Tr		3	80	FRACTURES. SOMEWHAT BRECCIATED 144-145'.
								SOME QUARTZ-CHALCOPYRITE-CHALCOCITE(?)
								COBALTITE-LIMONITE MINERALIZATION IN SEIS 1'. HIGHLY
								FRACTURED 152-154 AND MODERATELY FRACTURED 160'
		160½-229						SCHISTOSE QUARTZITE WITH NARROW
		160½-165½				5	94	SCHIST BANDS ABOUT 80° TO CORE. FINELY
		165½-170				4½	100	INTERCHANGED 162-164½. ALSO A SCHISTOSE DIKE
		170-173				3	83	WITH SMALL CHLORITE SPOTS 176½-177 AND SMALL
		173-177				4	100	CAVITIES IN QUARTZITE FOR 1 FOOT ON BOTH SIDES.
		177-182				5	100	WHITE RECTANGULAR METACRYSTS 177-177½.
		182-187½				5½	89	GREENISH GRAY MASSIVE DIKE 180-182½.
		187½-191½				4	90	[redacted], MINOR QUARTZ-LIMONITE STRINGERS.
		191½-197				5½	89	FRACTURED 208-212½. ALSO MODERATELY FRACTURED
		197-200				3	93	187-194, 202-205.
		200-205				5	74	
		205-210				5	98	
		210-213½				3½	69	
		213½-218½				5	26	
		218½-224				5½	71	
10/28	X 2020	224-229	Tr	.08		5	32	
		229-237						MODERATELY FRACTURED SCHISTOSE QUARTZITE
	X 2021	229-234	.36	.24		5	66	ALTERNATING WITH SCHIST BANDS ABOUT 80° TO CORE.
	X 2022	234-237	.17	.30		3	87	CHLORITE SCHIST 229½-230½ CONTAINS CHALCOPYRITE-
								CHALCOCITE-COBALTITE-MALACHITE(?) MINERALIZATION.
								A LESSER AMOUNT OF SIMILAR MINERALIZATION
								THROUGHOUT CORE.

Hole No. D-47

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-47 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
10/28/54		237-263½						SCHISTOSE QUARTZITE ALTERNATING WITH SCHIST BANDS ~~[illegible]~~ 60° 80° TO CORE. MINOR CHLORITE. SCHIST BANDS 258-261'. BROWN GRAY MASSIVE DIKE 244½-248½, 250-255'. MINOR QUARTZ-LIMONITE STRINGERS. MINOR LIMONITE IN FRACTURES. FAULT GOUGE 249½-250. FRACTURED 244-251, 253-254½, 256½-263'.
	X2033	237-242	.01	.04		5	86	
		242-247				5	100	
		247-251				4	100	
		251-254½				3½	83	
		254½-258				3½	80	
10/29	X2033	258-261	Tr	Tr		3	43	
	X2034	261-263½	Tr	.03		2½	68	
		263½-282						MX MODERATELY FRACTURED SCHISTOSE QUARTZITE WITH MINOR CONTORTED SCHIST BANDS. STRUCTURE LOW ANGLE TO CORE 263½-277 AND HIGH ANGLE TO CORE 277-282. MINOR QUARTZ-CHALCOPYRITE PYRITE MINERALIZATION 274-277.
	X2035	263½-274	Tr	Tr		10½	39	
	X2036	274-282	.01	Tr		8	71	
		282-295						SCHISTOSE QUARTZITE WITH NARROW SCHIST BANDS MOSTLY ABOUT 80° TO CORE. & SOME CHLORITE MINERALIZATION AND ABOUT 30% QUARTZ-CHALCOPYRITE-PYRITE-COBALTITE MINERALIZATION. FAULT GOUGE 289½-290. FRACTURED 283½-286, 290-291.
	X2037	282-285½	1.20	.58		3½	49	
	X2038	285½-291	.12	.07		5½	40	
	X2039	291-295	.19	1.11		4	100	
		295-333						SCHISTOSE QUARTZITE ALTERNATING WITH SCHIST BANDS ABOUT 80° TO CORE. BROWN DIKE WITH SMALL CARBONATE SPOTS 323-331. SOME QUARTZ-CHALCOPYRITE-PYRITE MINERALIZATION MOSTLY 301½-308½'.
	X2040	295-298	Tr	Tr		3	100	
	X2041	298-301½	.04	.77		3½	100	
	X2042	301½-308	.06	.77		6½	100	
	X2043	308-318	.02	.20		10	66	
	X2044	318-324	Tr	Tr		6	77	
	X2045	324-333	.10	.03		9	51	
		333-378						SCHISTOSE QUARTZITE WITH MINOR NARROW CONTORTED SCHIST BANDS. BROWN DIKE WITH CARBONATE SPOTS 343½-347½, 351½-378. SOME QUARTZ-PYRITE-CHALCOPYRITE MINERALIZATION 338-341.
	X2046	333-338	Tr	Tr		5	58	
	X2047	338-347	.02	Tr		9	73	
	X2048	347-356½	Tr	Tr		9½	54	
	X2049	356½-363	.06	Tr		6½	80	
	X2050	363-368	.09	.02		5	86	
	X2051	368-378	.01	Tr		10	58	
	X2056	378-383	.01	.06		5	44	MODERATELY FRACTURED QUARTZITE. LIMONITE IN FRACTURES.
		383-398						SCHISTOSE QUARTZITE WITH VERY MINOR NARROW CONTORTED SCHIST BANDS. MINOR QUARTZ-CARBONATE-CHALCOPYRITE-PYRITE MINERALIZATION 389-398.
	X2057	383-388	Tr	.04		5	35	
	X2058	388-391½	.04	Tr		3½	40	
	X2059	391½-398	Tr	Tr		6½	12	

Hole No. 5-47

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-47 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C. R.	Geology and Remarks
10/24/54		398 408						SCHISTOSE QUARTZITE AND SCHIST WITH
	X2060	398-401	.30	.06		3	53	SOME QUARTZ-CHALCOPYRITE MINERALIZATION
	X2061	401-408	.17	.18		7	19	SOFT OLIVE-GREEN FINE GRAINED DIKE
								398½-406 QUARTZITE BLEACHED AT 408'.
								CORE FRACTURED.
	X2062	408-414	.09	.02		6	70	MODERATELY FRACTURED HIGHLY FOLDED
								AND CONTORTED SCHIST AND SCHISTOSE QUARTZITE.
								VERY MINOR QUARTZ-PYRITE-CHALCOPYRITE
								MINERALIZATION.
		414-428						MODERATELY FRACTURED SCHISTOSE
	X2063	414-418	.13	.30		4	65	QUARTZITE WITH NARROW CONTORTED SCHIST
	X2064	418-423	.50	.49		5	32	BANDS. QUARTZ-CHALCOPYRITE-PYRITE-
	X2065	423-428	.11	.12		5	26	COBALTITE MINERALIZATION 414-423.
		428-461						FROM 428-430, 441-443 MODERATELY
	X2066	428-434	.03	TR		6	25	FRACTURED SCHISTOSE QUARTZITE. FROM 430-434
	X2067	434-438	.06	.02		4	13	HIGHLY FRACTURED SOFT FINE GRAINED OLIVE GREEN
	X2068	438-444	.10	.02		6	18	DIKE ALTERNATING WITH SCHISTOSE QUARTZITE.
	X2069	444-449	.11	TR		5	16	FROM 434-438 FRACTURED GREEN, SOMEWHAT
	X2070	449-454½	.12	.14		5½	24	SCHISTOSE, DIKE, FROM 438-441, 443-452, 454½-
	X2071	454½-461	.12	.32		6½	63	455 SOFT FINE GRAINED OLIVE GREEN
								DIKE. FROM 452-454½, 455-461 SCHISTOSE
								QUARTZITE WITH A FEW NARROW SCHIST
								ISLANDS MOSTLY ABOUT 70° TO CORE AND
								WITH SOME QUARTZ-PYRITE CHALCOPYRITE
								MINERALIZATION AND CARBONATE STRINGERS.
		461-471						SCHISTOSE QUARTZITE WITH NARROW
	X2072	461-468	.05	.04		7	76	CONTORTED SCHIST BANDS. MINOR QUARTZ
	X2073	468-471	.02	TR		3	70	STRINGERS.

Hole No. 5-47

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 5
By
Date:

Hole No. 5-48 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
9/20/54	X1915	10-15	.02	Tr		5	20/30	CASED TO 10'
	X1916	15-20	.04	.06		5		
	X1917	20-25	.02	Tr		5		CASED TO 21'
	X1918	25-31	.06	Tr		6		
	X1919	31-36	.01	Tr		5		
	X1920	36-41	.01	Tr		5		
	X1921	41-43½	.01	.09		2½		
	X1922	43½-48	.05	.03		4½		
	X1923	48-53	.01	Tr		5		
	X1924	53-58	.03	.05		5		
	X1925	58-63	.02	.06		5		
	X1926	63-68	.02	.03		5		
10/21	X1943	68-73	.04	Tr		5		
	X1944	73-78	.04	.05		5		
	X1945	78-82	.01	.06		4		
	X1946	82-87	Tr	Tr		5		
	X1947	87-92	Tr	Tr		5		
	X1948	92-97	.01	.05		5		
	X1949	97-101	Tr	.04		4		
	X1950	101-106	Tr	Tr		5		
	X1951	106-110½	Tr	Tr		4½		
	X1952	110½-116	Tr	.03		5½		
	X1953	116-121½	.01	.03		5½		
	X1954	121½-126½	.10	.12		5		
	X1955	126½-128½	.06	.05		2		
	X1956	128½-134	.03	.02		5½		CASED TO 130'
	X1957	134-139	.01	.18		5		
	X1958	139-144	.08	.17		5		
	X1959	144-149	.04	.05		5		
	X1960	149-154	.02	.03		5		
	X1961	154-157½	.07	.43		3½		
10/22	X1962	157½-160½	.04	.09		3		
	X1963	160½-165½	.01	.10		5		
	X1964	165½-170	Tr	Tr		4½		
	X1965	170-173	.01	Tr		3		
	X1966	173-177	.01	Tr		4		
	X1967	177-182	.03	.11		5		
	X1968	182-187½	.03	.02		5½		
	X1969	187½-191½	.02	Tr		4		
	X1970	191½-197	.02	.04		5½		
	X1971	197-200	Tr	.03		3		

Hole No. 5-48

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. S-47 Line

Level

Location

Bearing Dip

Length

Latitude of Collar Departure of Collar

Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
10/22/54	X1972	200-205	.01	Tr		5	Surface	
	X1973	205-210	.01	.06		5	"	
	X1974	210-213½	.02	.08		3½	"	
	X1975	213½-218½	.02	.04		5	"	
	X1976	218½-224	.01	.07		5½	"	
	X1977	224-229	.02	.14		5	"	
	X1978	229-234	.06	.16		5	"	
	X1979	234-237	.06	.40		3	"	
	X1980	237-242	.03	.16		5	"	
10/26	X1984	242-247	.04	.42		5	"	
	X1985	247-251	.05	.92		4	"	
	X1986	251-254½	.02	.58		3½	"	
	X1987	254½-258	.03	.52		3½	"	
	X1988	258-261	.06	.35		3	"	
	X1989	261-263½	.01	.25		2½	"	
	X1990	263½-274	.26	.10		10½	"	Casing to 265
	X1991	274-282	.09	.38		8	"	
	X1992	282-285½	.29	.84		3½	"	
	X1993	285½-291	.26	.69		5½	"	
	X1994	291-298	.23	.60		7	"	
	X1995	298-308	.18	.70		10	"	
	X1996	308-318	.14	.49		10	"	
	X1997	318-324	.16	.45		6	"	
	X1998	324-333	.05	.05		9	"	
10/27	X2010	333-338	.04	.04		5	"	
	X2011	338-347	.05	.04		9	"	
	X2012	347-356½	.01	Tr		9½	"	
	X2013	356½-363	.08	.14		6½	"	
	X2014	363-368	.04	.04		5	"	
	X2015	368-378	.05	.05		10	"	
	X2016	378-383	.04	.05		5	"	
	X2017	383-388	.12	.09		5	"	
	X2018	388-391½	.05	.02		3½	"	
	X2019	391½-398	.06	.04		6½	"	
10/28	X2024	398-408	.06	.07		10	"	
	X2025	408-414	.05	.10		6	"	
	X2026	414-418	.04	Tr		4	"	
	X2027	418-423	.08	.11		5	"	
	X2028	423-428	.12	.12		5	"	
	X2029	428-434	.06	.07		6	"	
	X2030	434-438	.11	.14		4	"	

Hole No. S-47

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No.
By
Date

Hole No. S-47 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From --- To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
10/20/54	X2031	438-444	.13	.23		6	SLUDGE	
	X2032	444-449	.11	.20		5	"	
10/24	X2053	449-454½	.07	.09		5½	"	
	X2053	454½-461	.11	.17		6½	"	
	X2054	461-468	.09	.14		7	"	
	X2055	468-471	.09	.03		3	"	

Hole No. S-47

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1

DIAMOND DRILLING RECORD

By R.E. CRIBBS

Date SEPTEMBER, 1954

Hole No. S-43 Mine Level SURFACE

Location 844 TRENCH

Bearing S 60 W Dip -44½° Length 404

Latitude of Collar [illegible]33½ N Departure of Collar 4,057 E Elevation 2867½

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au	Ft	% C.R.	Geology and Remarks
10/13/54		0-52						NX MODERATELY FRACTURED SCHISTOSE QUARTZITE. QUARTZOSE BIOTITE SCHIST AT HIGH ANGLE TO CORE 36½-37½'. A ¼" QUARTZ BIOTITE STRINGER QUARTZ ½" ON UPPER SIDE AND 5° TO CORE 35-36½'. A ¼" QUARTZ QUARTZ STRINGER 45° TO CORE AT 45' AND SIMILAR STRINGER AT HIGH ANGLE TO CORE 49-50'.
		52-54				2	4	
		54-59				5	18	
		59-64				5	20	
		64-68				4	65	
		68-73				5	30	
		73-77				4	38	
		77-80				3	37	
		80-84				4	10	
		84-87						BX MODERATELY FRACTURED SCHISTOSE QUARTZITE, BLEACHED ORE. BROWN MICA AND WHITE SCHISTOSITY AT HIGH ANGLE TO CORE 62-67'. MINOR GREENISH STAIN ON FRACTURES 57.65' AND MINOR SIDERITE IN FRACTURES 62-65'. POSSIBLE FAULT 52'.
		87-92				5	36	
		92-96				5	32	HIGHLY FRACTURED SCHISTOSE QUARTZITE. MINOR QUARTZ MINERALIZATION AND GREENISH STAINS.
		96-101						MODERATELY FRACTURED SCHISTOSE QUARTZITE WITH SCHISTOSITY MOSTLY AT HIGH ANGLE TO CORE. FRACTURES 97-99½, 104½, 141, 146 CONTAINS SMALL CHLORITIZED ZONES ALTERED TO BROWN MICA. A FEW SMALL FRACTURES AT 113-115½' AND A [illegible] BAND OF QUARTZOSE GARNET SCHIST AT 131½'. MINOR LIMONITE IN FRACTURES 131½-141, 146-152-160 AND A GREEN MINERAL ALONG FRACTURES 138-141'. MINOR QUARTZ STRINGERS AT 78½'. MINOR FAULT AT 104½'. FRACTURES 86-88, 91-93, 120-123½, 147-150, 166-167'.
		101-104				3	40	
		104-109				3	28	
		109-114				5	42	
		114-121				7	66	
		121-127				6	72	
		127-130				3	53	
		130-134				4	48	
		134-138				4	63	
		138-141½				3½	54	
		141½-146½				5	60	
		146½-151				4½	49	
		151-153½				2½	26	
		153½-157				4½	36	
		157-162				5	62	
		162-167				5	49	

Hole No. S-43

Hole No. 5-45

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No.
By
Date

Hole No. S-43 Mine
Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	% Co.	% Cu.	Oz. Au.	Fe	% C. R.	Geology and Remarks
10/1/64		270-329						AX Schistose quartzite 45-90° [illegible]
		[illegible]-275				5	92	[illegible] alternating with some bands [illegible]
		[illegible]-280				[illegible]	[illegible]	[illegible] side of quartzose [illegible]
		[illegible]-285½				[illegible]	63	[illegible] schist. [illegible]
		[illegible]-289				[illegible]	67	at 320 [illegible] chlorite schist
		289-298				9	100	[illegible] 32[illegible] [illegible] in fractures
		298-308				10	7?	[illegible] 308, 3[illegible]
	X1267	[illegible]-318	Tr	Tr		10	76	
	X1268	318-323	Tr	Tr		5	46	
	X1269	323-[illegible]	Tr	.06		6	30	[illegible] garnet - [illegible] schist [illegible]
	X1020	32?-334	.16	.37		5	50	
								some chalcopyrite and minor [illegible]
	X1271	334-[illegible]	.29	.39		5	74	Garnet schist [illegible] quartz [illegible]
								30° [illegible] and
								minor [illegible] cobaltite and
								[illegible] 329-339. From
								334-336 [illegible]
		[illegible]	.02	.05		7	9?	[illegible]
								[illegible]
								[illegible]
								[illegible]
								[illegible]
								[illegible] 37[illegible]
		[illegible]						[illegible] at [illegible]
		[illegible]	Tr	Tr		8	91	[illegible] chloritoid [illegible]
		[illegible]				[illegible]	52	[illegible] garnet
		[illegible]				10	97	[illegible]
								[illegible]
		[illegible]				10	94	[illegible]
		37?-3[illegible]				9	100	[illegible] garnet [illegible]
								[illegible]
								[illegible]
		[illegible]	7					[illegible]
		[illegible]				9	9?	[illegible]
		[illegible]	[illegible]			7	[illegible]	[illegible]

Hole No. S-43

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-43 Mine

Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	% C.R.	Geology and Remarks
9/15/54		0-20			2½	Quartz	Cased to 20'
	X1570	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	X1572	29-34	Tr	Tr	5		
	X1573	34-38	Tr	Tr	4		
	X1574	[illegible]	Tr	Tr	2		
	X1575	[illegible]	Tr	Tr	4		
	X1576	[illegible]	Tr	Tr	5		Cased to 52'
	X1577	[illegible]	Tr	Tr	[illegible]		
	X1578	[illegible]	Tr	Tr	[illegible]		
	X1579	[illegible]	Tr	Tr	5		
	X1580	[illegible]	Tr	Tr	5		
	X1581	[illegible]	Tr	Tr	6		
	X1582	[illegible]	Tr	Tr	4		
	X1583	[illegible]	Tr	Tr	6		
	X1584	88-92	Tr	Tr	4		Cased to 92'
	X1585	[illegible]	Tr	Tr	4		
	X1586	[illegible]	Tr	Tr	5		
	X1587	[illegible]	Tr	Tr	3		
	X1588	[illegible]	Tr	Tr	5		
	X1589	[illegible]	Tr	Tr	5		
	[illegible]	[illegible]	Tr	Tr	7		
	[illegible]	[illegible]	Tr	Tr	6		
	[illegible]	[illegible]	Tr	Tr	7		
	[illegible]	[illegible]	Tr	Tr	4		
	[illegible]	[illegible]	Tr	Tr	3½		
	[illegible]	[illegible]	Tr	Tr	5		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	151-154½	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	4½		
	[illegible]	[illegible]	Tr	Tr	5		
	[illegible]	[illegible]	Tr	Tr	[illegible]		
	[illegible]	[illegible]	Tr	Tr	[illegible]		

Hole No. [illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 5
By
Date
Level

Hole No.
Mine
Bearing
Inclination of Hole
Diameter of Hole
Length
Elevation

Feet	Sample No.	Depth				Geology and Remarks

Hole No. 5

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By E. E. Coombs
Date September, 1954

Hole No. 544 Mine
Location 798 Trench
Bearing S 61½ W Dip 60° Length 461
Latitude of Collar 18,805 N Departure of Collar 3,688 E Elevation 7866

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
10/6/54		0 - 27						NA Schistose quartzite with some
		0-25				25	4	garnet schist bands.
		25-27				2	65	
		27-37						Quartzose garnet schist. See stress
		27-31				4	13	quartzite 22-29'.
		31-37				6	18	
		37-42				5	0	No core
		42-45				3	40	Greenish brown dike. Schistose
								quartzite with small garnets 42-45'.
		45-50						~~Greenish brown core. Schistose~~
		45-48				3	10	~~[illegible]~~ Schistose quartzite and
		48-50				2	45	garnet schist.
		50-53				3	37	Ex fractured schistose quartzite.
		53-55				2	0	No core.
		55-68						Fractured schistose quartzite with
		55-57				2	65	45° to core. Limonite stained 62-64'.
		57-62				5	12	Highly sheared rock (crushed a large
		62-68				6	30	zone) contains a brownish dike zones
								64-68'.
		68-81						Fractured schistose quartzite with
		68-72				4	28	garnet schist bands. Highly sheared zone
		72-77				5	18	core. Garnet schist 72½-81'. Very
		77-81				4	53	highly fractured 68-70' and also be crushed
								material.
		81-85½						Fractured garnet schist. Greenish
		81-86				5	40	brown schistose dike with small garnet
		86-85½				2½	32	zone 85-[illegible]. Schist is sheared 86-85½'.
		85½-9				2½	60	Green schist with small streaks
								of limonite and green mineral
								possibly dike.
		91-95				4	36	Fractured quartzose garnet schist
								with small streaks of carbonate(?).
								Front at 93½'.
		95-99				4	65	Fractured schistose quartzite and
								garnet schist. Greenish colored schistose
								dike? with small core spots 95½-97'.
		99-104				5	48	Fractured garnet schist. Fractured
								102-104'.

Hole No. 544

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 2
By
Date
Level

Hole No. 5-44 Mine

Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
6/44		0-123						QUARTZOSE GARNET SCHIST. ANGULAR
		104-109				5	82	FRAGMENTS OF QUARTZITE IN CORE 105-108½.
		109-114				5	84	GARNET SCHIST 111-114. FRACTURED 104-105,
		114-118				4	73	108½-109, 114-123.
		118-123				5	44	
		123-139½						QUARTZOSE GARNET SCHIST ALTERNATING
		123-127				4	23	WITH AND BANDING WITH SCHISTOSE
		127-131½				4½	73	QUARTZITE. FRACTURED 123-127, 133½-135'
		131½-135				3½	66	
		135-139½				4½	67	
		139½-145				5½	58	QUARTZOSE GARNET SCHIST. FRACTURED
								AND FRACTURED 144-145'.
		145-150				5	38	FRACTURED GARNET SCHIST.
		150-158						MODERATELY FRACTURED GARNET SCHIST
		150-153				3	67	AND QUARTZOSE GARNET SCHIST. FRAGMENTS
		153-158				5	90	OF GREENISH DIKE AT 152½'.
		158-161				3	80	SCHISTOSE QUARTZITE ALTERNATING
								WITH BANDS OF GARNET SCHIST AT
								HIGH ANGLE TO CORE. CHLORITOID
								METACRYSTS AT 159½.
		161-179						MODERATELY FRACTURED SCHISTOSE
		161-163				2	80	QUARTZITE. A BAND OF GARNET SCHIST OCC
		163-168				5	48	IN CORE AT 178'. MINOR YELLOW
		168-170				2	85	AND GREEN STAINS ON FRACTURES.
		170-174				4	68	
		174-179				5	96	
		179-194						SCHISTOSE QUARTZITE WITH A FEW
		179-184				5	60	NARROW SCHIST BANDS AT A HIGH ANGLE TO
		184-189				5	98	CORE. CHLORITOID METACRYSTS AT 186'. CHLORITE
		189-194				5	62	SCHIST WITH SMALL GARNETS AND LIMONITE
								SPOTS 182-188'. GREENISH DIKE? AT 188 AND
								CARBONATE SPOTS IN QUARTZITE 186-188½'.
								FRACTURED 188-189½, 193-194'.
		194-197				3	93	MODERATELY FRACTURED QUARTZITE.
		197-200½				3½	66	MODERATELY FRACTURED QUARTZITE. FRACTURED
								BRECCIATED AND HEALED WITH MALACHITE AND
								LIMONITE. ABOUT 40% QUARTZ MINERALIZATION
								198½-200½.
		200½-202½				2	40	FRACTURED SCHISTOSE QUARTZITE.

Hole No. 5-44

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. S-44 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From – To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
10/6/54		202½-205				2½	56	MODERATELY FRACTURED SCHISTOSE QUARTZITE WITH NARROW GARNET SCHIST BANDS 60-90° TO CORE. QUARTZ AND MINERALIZATION 202½-203. FRACTURED 204½-205'.
		205-210				5	62	QUARTZOSE GARNET-CHLORITOID SCHIST. FRACTURED 208-210.
		210-214				4	43	FRACTURED GARNET SCHIST AND SCHISTOSE QUARTZITE. SOME CHLORITE IN SCHIST. A 1" BAND OF ACTINOLITE REPLACING QUARTZITE AT 212'. FAULTED 213-214'.
		214-222						FRACTURED SCHISTOSE QUARTZITE. SMALL
		214-216½				2½	64	FAULTS AT 216, 217. SHEARED CHLORITE SCHIST
		216½-222				5½	20	AT 222'.
		222-229						FRACTURED SCHISTOSE QUARTZITE. SOME
	X1774	222-225	.14	TR		3	50	FRAGMENTS OF QUARTZ-SHEARED PYRITE
	X1775	225-229	.00	.31		4	15	CORAZITE MINERALIZATION AT 227'.
		229-239						MINOR FRACTURED SCHISTOSE QUARTZITE
	X1776	229-234	.11	.01		5	32	AND MINOR SCHIST. A BAND OF CHLORITE
	X1777	234-239	.09	.17		5	36	SCHIST 90° TO CORE AT 231' AND MINOR CHLORITE THROUGHOUT CORE. LIMONITE IN FRACTURES AND REPLACING QUARTZITE 230-232'.
		239-258						SCHISTOSE QUARTZITE WITH A FEW
		239-244				5	86	NARROW BANDS OF GARNET-CHLORITOID
		244-248				4	75	SCHIST AT HIGH ANGLE TO CORE. FRACTURED
		248-253				5	56	243½-248, 251-253½.
		253-258				5	36	
		258-269						SCHISTOSE QUARTZITE WITH MINOR
		258-263				5	32	FOLDED NARROW BANDS OF GARNET-
		263-269				6	78	CHLORITOID SCHIST. FRACTURED 263-263½.
		269-285						SCHISTOSE QUARTZITE WITH A FEW
		269-279				10	100	NARROW GARNET-CHLORITOID SCHIST BANDS.
		279-285				6	100	STRUCTURE AT HIGH ANGLE TO CORE. 269-275 AND 20-40° TO CORE FROM 280-285'.
		285-309						SCHISTOSE QUARTZITE INTERBEDDED WITH FOLD
		285-294				9	94	GARNET AND CHLORITE SCHIST BANDS UP TO A
		294-299				5	82	FOOT WIDE. GREENISH BROWN SCHISTOSE DIKE
		299-309				10	53	WITH SMALL CAVITIES 285-286. VERY MINOR QUARTZ STRINGERS. MODERATELY FRACTURED 300-309'.

Hole No. S-44

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. S-44 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
10/6/54		309-314				5	30	Greenish brown schistose dike(?) with small cavities.
		314-319				5	30	Chlorite schist. Dike similar to above 314-319'.
		319-325				6	17	Dark green schist with greenish brown schistose dike(?) 322-325'. Tourmaline schist with quartz-limonite mineralization 319-320'. Minor quartz stringers.
		325-332				7	24	Fractured and somewhat silicified schistose quartzite.
		332-343						Moderately fractured white quartz.
		332-335				3	43	Tourmaline(?) schist 339½-341½'.
		335-338				3	57	
		338-343				5	26	
		343-355						Moderately fractured schistose quartzite.
		343-344½				5½	45	At high angle to core. Chlorite schist 344½-345 and minor chlorite in quartzite. Limonite mineralization 348½-348½'.
		344½-355				6½	25	
		355-369						Fractured schistose quartzite at high angle to core.
		355-360				5	18	
		360-364				4	13	
		364-369				5	36	
		369-378						From 369-370½ schistose quartzite. From 370½-374 chlorite schist. From 374-378 bands of chlorite schist in dark green schist and schistose quartzite. Fractured. Pyrite at 377'.
		369-373				4	100	
		373-378				5	72	
		378-407						Moderately fractured schistose quartzite and some chloritic quartzose schist.
		378-383				5	100	
		383-391				8	100	Minor quartz stringers and very minor limonite in fractures 398-403½'. Highly fractured 397-399'.
		391-399				8	56	
		399-407				8	93	
		407-461						Moderately fractured schistose quartzite with some dark green schist bands. Structure mostly at high angle to core 407-413 and contorted 413-461'. At 2" brown schistose dike at 407½'.
		407-417				10	84	
		417-425½				8½	69	
		425½-434				8½	92	
		434-439				5	68	
		439-444				5	74	
		444-454				10	100	
		454-461				7	76	

Hole No. S-44

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 5
By
Date

Hole No. 5-44 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
8-7-54	—	0-2.5	—	—		75	50-60	Cased to 2.0'
	X1430	2.5-32	Tr	Tr		7		
	X1431	32-37	Tr	Tr		5		
	X1432	37-42	Tr	Tr		5		
	X1433	42-45	Tr	Tr		3		
	X1434	45-47	Tr	Tr		2		
	X1435	47-50	Tr	Tr		3		Cased to 50'
	X1436	50-55	Tr	Tr		5		
	X1437	55-62	Tr	Tr		7		
	X1438	62-68	Tr	Tr		6		
	X1439	68-72	Tr	Tr		4		
	X1440	72-77	Tr	Tr		5		
	X1441	77-81	Tr	Tr		4		
	X1442	81-86	.02	Tr		5		
	X1443	86-91	Tr	.01		2½		
	X1444	91-95	Tr	Tr		2½		
	X1445	95-99	Tr	Tr		4		
	X1446	99-104	Tr	Tr		4		
	X1447	104-109	Tr	Tr		5		
	X1448	109-114	Tr	Tr		5		
	X1449	114-118	Tr	Tr		4		
	X1450	118-123	Tr	Tr		5		
	X1451	123-128	Tr	Tr		4		
	X1452	128-133	Tr	Tr		4½		
	X1453	133-135	Tr	Tr		3½		
	X1454	135-139½	Tr	Tr		4½		
	X1455	139½-144	Tr	Tr		5½		
	X1456	144-145	Tr	Tr		5		
	X1457	145-150	Tr	Tr		5		
	X1458	150-153	Tr	.04		3		
	X1459	153-158	.01	Tr		5		
	X1460	158-163	Tr	Tr		5		
	X1461	163-168	.03	.03		5		
	X1462	168-172	Tr	Tr		2		
	X1463	172-174	Tr	Tr		4		
	X1464	174-179	Tr	.02		5		
	X1465	179-184	.01	Tr		5		
	X1466	184-189	.01	.01		5		
	X1467	189-194	Tr	Tr		5		
	X1468	194-200½	.02	Tr		6½		
	X1469	200½-205	.05	.02		4½		

Hole No. 5-44

DIAMOND DRILLING RECORD

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 8
By
Date
Level

Hole No. 44 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Fr	% C.R.	Geology and Remarks
8/1/54	X1503	205-210	.02	.02		5	Good	
8/2/54	X1504	210-214	.04	.08		4		
	X1505	214-218	.02	.06		2½		
	X1506	218-222	.13	.11		5½		
	X1507	222-225	.07	.06		3		
	X1508	225-229	.16	.09		4		
	X1509	229-234	.23	.38		5		
	X1510	234-239	.08	.05		5		
	X1511	239-244	.04	.04		5		
	X1512	244-249	.01	.06		4		
	X1513	249-253	.01	.11		5		
	X1514	253-258	.03	.03		5		
	X1515	258-263	.03	.04		5		
	X1516	263-269	.01	Tr		6		CASED TO 263'
8/10	X1538	269-274	.01	.12		5		
	X1539	274-279	.01	.18		5		
	X1540	279-285	.03	.14		6		
	X1541	285-289	Tr	Tr		2		
	X1542	289-294	Tr	Tr		5		
	X1543	294-299	Tr	Tr		5		
	X1544	299-304	.02	Tr		5		
	X1545	304-309	.01	Tr		5		
	X1546	309-314	.01	Tr		5		
	X1547	314-319	.02	.01		6		
	X1548	319-325	Tr	Tr		7		
	X1549	325-330	.01	Tr		2		
	X1550	330-335	.05	.01		3		
	X1551	335-340	.01	.01		3		
	X1552	340-345	Tr	Tr		5½		
	X1553	345-350	Tr	Tr		4½		
9/10	X1554	350-355	Tr	Tr		5		
	X1555	355-360	Tr	Tr		4		
	X1556	360-364	Tr	.03		5		
	X1557	364-369	Tr	Tr		4		
	X1558	369-374	.02	Tr		5		
	X1559	374-379	.02	.05		5		
	X1560	379-384	.01	.03		4		
	X1561	384-389	.02	Tr		3		
	X1562	389-394	.03	.18		3		
	X1563	394-399	.01	Tr		10		
	X1564	399-404	.01	Tr		8½		

Hole No. 44

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1

DIAMOND DRILLING RECORD

By

Date

Hole No. S-44 Mine Level

Location

Bearing Dip Length

Bearing of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
[illegible]	X1565	425 - 434	.04	Tr			Sample	
[illegible]	X1566	434 - 439	.01	.04				
[illegible]	X1567	439 - 444	Tr	Tr		5		
[illegible]	X1568	444 - 454	Tr	Tr		16		
[illegible]	X1569	454 - 461	Tr	.01				

Hole No. S-44

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No.
By R. E. Graves
Date September, 1954

Hole No. S-45 Mine Level Surface
Location
Bearing Due N Dip -44° Length 532
Latitude of Collar 15,124 Departure of Collar S 531 W Elevation 7,260

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
9/27/54		0-12				12	3	NX FRAGMENTS OF SCHISTOSE QUARTZITE AND QUARTZ.
		12-33½						SCHISTOSE QUARTZITE WITH NARROW
		12-18				6	12	COVERED NARROW SCHIST SEAMS MOSTLY
		18-23				5	20	PARALLEL TO CORE. BXIW PIECES OF BROG
		23-28½				5½	44	FOLDS AT HIGH ANGLE TO CORE. MINOR
		28½-33½				5	32	QUARTZ STRINGERS AT LOW ANGLE TO CORE.
		33½-37				3½	14	FRAGMENTS OF SCHISTOSE QUARTZITE
		37-47						FRACTURED SCHISTOSE QUARTZITE WITH
		37-42				5	16	SOME NARROW SCHIST BANDS BOTH AT
		42-47				5	8	HIGH AND LOW ANGLE TO CORE.
		47-53						FRAGMENTS OF SCHISTOSE QUARTZITE
		47-50				3	10	WITH SOME LIMONITE MINERALIZATION.
		50-53				3	7	
		53-62½						BXI FRACTURED SCHISTOSE QUARTZITE
		53-55				2	20	WITH SOME SCHIST BANDS STRIKING
		55-58				3	7	60° TO CORE FROM 60-62½'. MINOR
		58-60				2	10	LIMONITE 53-55'.
		60-62½				2½	16	
		62½-77						FRACTURED SCHISTOSE QUARTZITE.
		62½-64				1½	27	MINOR QUARTZ STRINGERS AT LOW
		64-69				5	24	ANGLE TO CORE 62½-69'.
		69-72				3	20	
		72-75				3	33	
		75-77				2	30	
		77-80				3	23	HEAVILY FRACTURED SCHISTOSE QUARTZITE
								AND SCHIST.
		80-85				5	30	FROM 80-84 FRACTURED QUARTZITE WITH
								WITH SMALL QUARTZ. FROM 84-85 SCHISTOSE
								QUARTZITE 70° TO CORE.
9/28		85-93						FRACTURED SCHISTOSE QUARTZITE WITH
		85-88				3	77	MINOR COLORED BANDS OF SCHIST. BOTH AT
	X1749	88-93	.01	.02		5	40	HIGH AND LOW ANGLE TO CORE. MINOR
								QUARTZ STRINGERS. MINOR LIMONITE IN
								FRACTURES AT 89'.
		93-94½				1½	0	NO CORE
		94½-109½						SCHISTOSE QUARTZITE WITH SOME NARROW
	X1750	94½-98½	Tr	.05		4	30	SCHIST BANDS 45-90° TO CORE FROM 94½-109½ AND
	X1751	98½-103	.01	.04		4½	32	NEARLY PARALLEL TO CORE BELOW 109½. MINOR
	X1752	103-107½	Tr	.02		4½	40	LIMONITE IN FRACTURES 98½-100½. MACHINE BROKE
	X1753	107½-110½	.11	.34		3	80	FRACTURE 107½-109'. FRACTURED 94½-109'.

Hole No. S-45

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-45 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
		110½-124						SCHISTOSE QUARTZITE WITH
9/28/54	X1759	110½-113½	.04	.03		3	20	NARROW UNFOLIATED SCHIST BANDS OF LOW
		113½-115½				2	30	ANGLE TO CORE. FRACTURED 110½-114.
		115½-120				4½	44	MINOR LIMONITE ON FRACTURES TO 121'.
		120-124				4	53	
		124-128½				4½	76	SCHISTOSE QUARTZITE WITH NARROW
								SCHIST BANDS ABOUT 60° TO CORE.
								LIMONITE IN FRACTURES 125-128½. MINOR
								FRACTURED 122½-128½'.
10/7	X1760	128½-133	Tr	.10		4½	40	CONTORTED SCHISTOSE QUARTZITE
								WITH NARROW QUARTZ STRINGERS AND
								GREEN STAINS ON FRACTURES.
	X1761	133-136	Tr	.04		3	50	FRACTURED SCHISTOSE QUARTZITE.
								SOME QUARTZ-LIMONITE MINERALIZATION
								135½-136'.
	X1762	136-141	.10	.26		5	20	FRACTURED SCHISTOSE QUARTZITE
								AND SCHIST WITH ABOUT 30% QUARTZ
								LIMONITE MINERALIZATION, AND MINOR
								MALACHITE AND GREEN STAINS.
	X1763	141-145½	Tr	.08		4½	58	CONTORTED QUARTZOSE SCHIST
								ALTERNATING WITH BANDS OF SCHISTOSE
								QUARTZITE. MINOR QUARTZ-LIMONITE
								MINERALIZATION.
		145½-173						CONTORTED SCHISTOSE QUARTZITE WITH
		145½-147½				2	80	A FEW NARROW SCHIST BANDS. SOME GRAPHITIC
		147½-152				4½	87	ARGILLITE OR QUARTZOSE SCHIST 145½-146½,
		152-154				2	100	149½-151. STRUCTURE MOSTLY AT 40° TO
		154-158				4	70	ANGLE TO CORE EXCEPT 80-90° TO CORE 147-148½, 152-158, 169-170. MINOR QUARTZ-LIMONITE
		158-163				5	58	STRINGERS AT 153'. SOME QUARTZ-MALACHITE?
		163-169				6	73	LIMONITE STRINGERS 163-168½'. FRACTURED
		169-173				4	93	153-154, 157-159'.
		173-185						CONTORTED SCHISTOSE QUARTZITE AND
		173-175				2	35	QUARTZOSE SCHIST. MOSTLY AT LOW ANGLE TO
	X1792	175-180	.02	.08		5	78	CORE. FINE IRREGULAR QUARTZ-LIMONITE
	X1793	180-185	.03	.06		5	52	STRINGERS. MINOR LIMONITE-MALACHITE
								STRINGERS 175½-176. FRACTURED AND
								STAINED WITH QUARTZ-LIMONITE MINERALIZATION
								182-185'. FRACTURED 175-175'.

Hole No. 5-45

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 3
By
Date
Level

Hole No. S-45 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	% Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
10/4/54		185-195						SCHISTOSE QUARTZITE MOSTLY 50-60° TO CORE.
	X1794	185-190	Tr	Tr		5	80	LIMONITE ON FRACTURES 192-194½'.
		190-195				5	48	
		195-199				4	58	QUARTZOSE SCHIST AND SCHISTOSE QUARTZITE LIMONITE ON FRACTURES AND QUARTZ STRINGERS 192-199'. HIGHLY SHEARED DARK SCHIST (DIKE?) 198-198½'.
		199-204				5	96	CONTORTED SCHISTOSE QUARTZITE WITH FINE IRREGULAR QUARTZ-BIOTITE STRINGERS.
		204-213½						SCHISTOSE QUARTZITE ALTERNATING WITH
		204-208½				4½	80	SCHIST BANDS 5-90° TO CORE. MINOR
		208½-213½				5	74	QUARTZ STRINGERS.
		213½-241½						PARTLY FRACTURED SCHISTOSE QUARTZITE
		213½-218½				5	64	AND QUARTZOSE SCHIST REPLACED IN PART
		218½-223½				5	30	BY FINE LIMONITE. MINOR QUARTZ STRINGERS.
		223½-227				3½	49	BRECCIATED 233-240½ AND HIGHLY FAULTED
		227-231				4	33	AND FRACTURED 240½-241½. LIMONITE
		231-237½				6½	62	STAINED GRAY SCHISTOSE DIKE? 233-236'.
		237½-241½				4	75	
		241½-245				3½	31	FRACTURED SCHISTOSE QUARTZITE
		245-269						SCHISTOSE QUARTZITE WITH SOME NARROW
		245-249½				4½	96	SCHIST BANDS. STRUCTURE HIGHLY CONTORTED
		249½-255				5½	60	BUT MOSTLY 60-90° TO CORE. SOME QUARTZ
		255-259½				4½	73	LIMONITE MINERALIZATION 246-247, 248½-249,
		259½-265				5½	85	267-268'.
		265-269				4	95	
10/8		269-299						AX MODERATELY FRACTURED SCHISTOSE
		269-276				7	89	QUARTZITE CONTORTED ALTERNATING WITH AN EQUAL AMOUNT
		276-282				6	75	OF SCHIST BANDS UP TO A FOOT WIDE. MINOR
	X1795	282-289	.03	.05		7	96	QUARTZ STRINGERS. MINOR QUARTZ LIMONITE
	X1796	289-299	Tr	.15		10	81	MINERALIZATION 276½, 285-289, AND SOME QUARTZ-CHALCOPYRITE-CHALCOCITE(?) MINERALIZATION AT 298½'. FAULT AT 290'.

Hole No. S-45

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 4
By
Date

Hole No. S 45 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
10/8/54		299-335						MODERATELY FRACTURED SCHISTOSE QUARTZITE
	X1297	299-304	.05	1.00		5	78	WITH BROWN NARROW CONTORTED SCHIST BANDS.
	X1298	304-306	.19	1.23		2	75	SCHISTOSE QUARTZITE IS SOFT 324-335'.
	X1299	306-314	.10	.12		8	56	DARK BROWN SCHISTOSE DIKE WITH SMALL CAVITIES
	X1300	314-317	.04	.18		3	23	AND LIMONITE SPOTS. ENCLOSED MALACHITE
	X1301	317-320	.03	.09		3	33	301½-302. DARK GREEN FINE GRAINED [illegible]
	X1302	320-324	.05	.10		4	25	DIKE 306-309½. BROWN SCHISTOSE DIKE WITH
	X1303	324-325	1.21	1.27		1	100	SMALL CARBONATE GRAINS 312½. QUARTZ-CARBONATE
	X1304	325-330	Tr	Tr		6	100	CHALCOPYRITE (?) [illegible] VEIN.
	X1305	330-339	.01	Tr.		9	66	APPARENTLY AT WHICH DIKE TO CORE 305½-306.
								PER 324-335'. MINOR QUARTZ CHALCOPYRITE
								STRINGERS 304-305½, 314-317, 315½-325'. MINOR
								CARBONATE IN [illegible] AND STRINGERS CORE
								325-339
		339-359						SOFT MODERATELY FRACTURED SCHISTOSE
		339-349				10	51	QUARTZITE WITH [illegible] BROWN SCHIST BANDS
		349-354				5	48	WHERE AT WHICH DIKE TO CORE. VERY MINOR
		354-359				5	94	QUARTZ STRINGERS [illegible] 348'. MINOR MODERATELY
								FRACTURED [illegible]
		359-389						MODERATELY FRACTURED QUARTZITE
		359-369				10	63	ALTERNATE WITH A FEW [illegible] SCHIST BANDS
		369-376				7	87	MINOR LIMONITE [illegible]. BROWN DIKE
		376-384				8	65	DIKE WITH [illegible] 368½-370. DARK
		384-389				5	64	BROWN BLACK DIKE WITH SMALL CAVITIES, [illegible]
								LIMONITE STRINGERS 370½-378. DARK BROWN
								SOFT BLACK DIKE [illegible] 383-389
								IS REDDISH BROWN [illegible] SCHISTOSE
								[illegible]
								[illegible]
								[illegible] SCHIST
								[illegible]
								[illegible] QUARTZITE
		389-396½						
		389-393				4	78	
		393-396½				3½	[illegible]	
		396½-401½	[illegible]	Tr.		5	[illegible]	
								[illegible]
								[illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 5
By
Date
Level

Hole No. 5-45 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
10/4/54		401½-419						SCHISTOSE QUARTZITE AND CONTORTED
	X1830	401½-407	.03	.12		7½	83	SCHIST BANDS. SMALL QUARTZ-CHALCOPYRITE
	X1831	407-414	.08	.07		5	98	PYRITE-COBALTITE STRINGERS. CARBONATE(?)
	X1832	414-419	.04	.04		5	74	STRINGERS. CORE 2" WIDE AT 407½'. MINOR
								CHLORITE WITH QUARTZ-SULFIDE STRINGERS
								AT 413'. FRACTURED 401½-410.
		419-433						SCHISTOSE QUARTZITE WITH NARROW
	X1833	419-423	Tr	.02		4	88	SCHIST BANDS ABOUT 80° TO CORE. VERY MINOR
	X1834	423-429	.04	.04		6	22	QUARTZ-CHALCOPYRITE-PYRITE STRINGERS
	X1835	429-433	.03	.01		4	58	AND CARBONATE(?) STRINGERS.
		433-462						SCHISTOSE QUARTZITE VERY NARROW
	X1836	433-438	.04	.02		5	62	SCHIST BANDS MOSTLY AT HIGH ANGLE TO
	X1837	438-444	.23	.21		6	65	CORE. FINE GRAINED MYLONITIZED CONTORTED
	X1838	444-449	Tr	Tr		5	78	QUARTZITE AND SCHIST AT [redacted] 438, 442.
	X1839	449-454	.05	.07		5	82	QUARTZ-PYRITE-CHALCOPYRITE STRINGERS MOSTLY
	X1840	454-462	.03	Tr		8	8	438-444'. MINOR CARBONATE STRINGERS. BELOW 452½'
10/15		462-491						SCHISTOSE QUARTZITE WITH NARROW BANDS
		462-472				10	87	OF SCHIST. STRUCTURE CONTORTED 462-468,
		472-482				10	90	472-480, 456-491 AND ABOUT 80° TO CORE.
		482-491				9	93	468-472, 480-486. MINOR QUARTZ
								STRINGERS. QUARTZ MINERALIZATION WITH
								VERY MINOR CARBONATE, PYRITE, AND CHALCOPYRITE
								AT 475½'. MINOR CHALCOPYRITE AT 486'.
		491-532						SCHISTOSE QUARTZITE WITH A FEW
	X1846	491-493½	.12	Tr		2½	80	NARROW CONTORTED SCHIST BANDS. MINOR
	X1847	493½-496	.01	Tr		2½	84	QUARTZ-CHALCOPYRITE-PYRITE, AND
	X1848	496-503	.02	Tr		7	56	CARBONATE STRINGERS. 2" OF QUARTZ-
	X1849	503-511½	.01	Tr		8½	36	CHLORITE MINERALIZATION AT 493½'. SOME
	X1850	511½-517	.01	Tr		5½	80	CONTORTED QUARTZ-CHALCOPYRITE STRINGERS
	X1851	517-524	.12	Tr		7	67	UP TO SEVERAL INCHES WIDE 514-532.
	X1852	524-532	.54	.08		3	37	
	X1853	532-532	.07	.22		5	50	

Hole No. 5-45

DALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 6
By
Date
Hole No. [illegible] Mine
Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From – To	Assay Value Pd Con.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
9/22/54	X1654	[illegible]	Tr	.41		12	[illegible]	CASED TO 12'
	X1655	[illegible]	.02	.25		6		
	X1656	[illegible]	Tr	.15		5		
	X1657	20-23½	Tr	.15		5½		
	X1658	23½-27½	Tr	.32		5		
	X1659	27½-33½	.01	.13		3½		
	X1660	33½-37	.02	.22		5		
	X1661	37-42½	.02	.25		5		
	X1662	42½-47	.14	.15		6		CASED TO 53'
	X1663	47-53	.06	.28		2		
	X1664	53-55	Tr	Tr		5		
	X1665	55-60	Tr	Tr		4		
	X1666	60-64	Tr	Tr		5		
	X1667	64-69	Tr	.03		3		
	X1684	69-72	Tr	.06		3		
	X1685	72-75	Tr	Tr		5		
	X1686	75-80	.01	.02		5		
	X1687	80-85	.03	.13		8		CASED TO 93'
	X1688	85-93	.08	.22		5½		
	X1689	93-98½	.04	.11		4½		
	X1690	98½-103	.03	.12		4½		
	X1691	103-107½	.11	.37		3		
9/24	X1692	107½-110½	.01	Tr		3		
	X1693	110½-113½	Tr	.07		6½		
	X1694	113½-120	.02	.06		4		
	X1695	120-124	.02	.06		4½		
	X1696	124-128½	Tr	.07		4½		
	X1697	128½-133	.01	.17		3		
	X1698	133-136	.08	.20		5		
	X1699	136-141	.02	.31		5½		
	X1700	141-145½	.01	.15		6½		
	X1701	145½-154	.04	.30		2		
	X1702	154-158	.02	.14		4		
	X1703	158-163	.02	.30		3		
	X1704	163-167	.02	.36		6		
	X1705	167-172½	.02	.16		5½		
	X1706	172½-175	Tr	.07		4½		
9/27/54	X1707	175-180	.02	.19		5		
	X1708	180-185	.08	.08		[illegible]		
	X1709	185-190	.01	Tr		5		
	X1710	190-195	.01	.09		5		

Hole No. [illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-45 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
9/24/54	X1711	195-199	.04	.24		4		
	X1712	199-204	.01	.20		5		
	X1713	204-208½	.02	.05		4½		
	X1714	208½-213½	.02	.14		5		
	X1715	213½-218½	.02	.06		5		
	X1716	218½-223½	Tr	.09		5		
	X1717	223½-227	.02	.09		3½		
	X1718	227-231	.04	.29		4		Lost some water 227-231. Some core
	X1719	231-233½	.03	.09		2½		
	X1720	233½-237½	.05	.12		4		
	X1721	237½-241½	.05	.13		4		
	X1722	241½-245	.02	.19		3½		
	X1723	245-249½	.02	.08		4½		
	X1724	249½-255	.02	.16		5½		
	X1725	255-259½	.01	.02		4½		
	X1726	259½-264½	.03	.08		5		
	X1727	264½-269	.03	.04		4½		Cased to 269'
	X1728	269-276	.04	.05		7		
	X1729	276-282	.01	Tr		6		
	X1730	282-289	.06	.06		7		
	X1731	289-299	.03	.26		10		
	X1732	299-306	.10	1.11		7		
	X1733	306-314	.07	.48		8		
	X1734	314-320	.05	.14		6		
	X1735	320-324	.04	.16		4		
	X1736	324-330	.11	.27		6		
	X1737	330-339	.03	.09		9		
	X1738	339-349	Tr	Tr		10		
	X1739	349-354	.01	.07		6		
	X1740	354-359	Tr	.03		5		
	X1741	359-369	.01	.06		10		
	X1742	369-376	.02	Tr		7		
	X1743	376-384	.03	.11		8		
	X1744	384-389	.04	.09		5		
	X1745	389-393	.05	.15		4		
	X1746	393-396½	.04	.10		3½		
	X1747	396½-401½	.05	.16		5		
	X1748	401½-409	.08	.19		7½		
9/28	X1753	409-414	.08	.13		5		
	X1754	414-419	.05	.15		5		
	X1755	419-423	.04	.02		4		

Hole No. 5-45

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 8

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-45 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.E.	Geology and Remarks
9/28/54	X 1756	423-429	.06	.08		6	2.00%	CAVING
	X 1757	429-433	.05	.02		4	"	" CASED TO 430'
10/10	X 1778	433-438	.23	.23		5		
	X 1779	438-444	.15	.22		6		
	X 1780	444-449	.02	Tr		5	"	
	X 1781	449-454	.06	Tr		5	"	
	X 1782	454-462	.05	Tr		8	"	
	X 1783	462-472	.02	Tr		10		
	X 1784	472-482	.03	Tr		10		
	X 1785	482-491	.01	.02		9	"	
	X 1786	491-496	.08	.02		5		
	X 1787	496-503	.04	Tr		7	"	
	X 1788	503-511½	.01	Tr		8½	"	
	X 1789	511½-517	.18	.14		5½	"	
	X 1790	517-524	.15	.11		7	"	
	X 1791	524-530	.17	.10		8	"	

Hole No. 5-45

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

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

Defense Minerals Administration
RECEIVED
OCT 29 1954

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

Month of September, 1954 Docket No. DMEA 3143 Contract No. Idm-E645
Operator's Name Calera Mining Company Minerals Cobalt, & Copper
Address Cobalt, Idaho
Contract Amount, $407,340.00 Government Participation: 70 % Amount, $285,138.00

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 Contractor~~ Spiling		900.00	900.00			
~~Short Form~~ Heavy Timber		346.50	346.50			WSM
Core Drilling stage 11		331.46	331.46			
~~Bulldozing~~ Trenching	350.40	9,912.19	10,262.59	350.40		
Normal ~~Crosscutting~~ Timbering	777.00	1,297.10	2,074.10	777.00		
~~Drifting~~	4,122.06	7,213.61	11,335.67	4,122.06		
Framing	115.08	279.48	394.56	115.08		
(2) ~~Labor and Supervision:~~						
Core ~~Labor~~ Drilling, stage1	9,256.80	36,647.88	45,904.68	9,256.80		
~~Supervision~~ Reaming						
~~Technical Services~~ stage 1	335.00	1,455.00	1,790.00	335.00		
(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~~ stage 11	75.00	177.00	252.00	75.00		
~~Liability Insurance~~						
~~Sampling & Analysis~~						
stage 1	729.00	3,636.00	4,365.00	729.00		
(8) Contingencies (specify):						
TOTALS	15,760.34	62,276.22	78,036.56	15,760.34	62,276.22	78,036.56

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

Date Oct. 5, 1954 *Payee Calera Mining Company

Per [signature] Title [signature]

*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:

$ 11032 24

Signature [signature]
(Authorized Certifying Officer)

Date 10/28/54 Vou. No. 1322

(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. E645 in accordance with the terms of the contract.

Signature 1S/ Verdo J. Johnson Title Mining Engr. Date 10/19/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 1S/ Stephen W. Zoldok Title Mining Engr. Date 10/19/54

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.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 29 1954

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of September 1954 Docket No. DMEA 3143 Contract No. idm-E645
Operator's Name Calera Mining Company Minerals Cobalt & Copper
Address Cobalt, Idaho

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								
Norman Timbering	Ft.	4,122.06	116	11,335.67	319	35.535	6000	35.535
Crosscutting								
Heavy Timbering	Ft.	777.00	111	2,074.10	296.3	7.00	5000	7.00
Raising								
Spiling	Ft.			346.50	49.5	7.00	750	7.00
Winzes								
Framing	Ft.			980.00	49.0	20.00	500	20.00
Assay Stage II	Sets	115.08	21	394.56	72.	5.48	1150	5.48
Drilling Core								
Drilling Core Stage II	Ea.	75.00	25	252.00	84	3.00	5900	3.00
Auger	Ft.			331.46	98	3.3822	10,500	3.3822
Stripping								
Trenching								
Drilling Core, stage 1	Hrs.	350.40	29½	10,262.59	864	11.878	864	11.878
Assay Stage 1	Ft.	9256.80	13.30	45,904.68	6,595½	6.96	3,700	6.96
Reaming Stage 1	Ea.	729.00	243	4,365.00	1,455	3.00	3,100	3.00
	Ft.	335.00	134	1,790.00	716	2.50	1,700	2.50
Total Distributed Costs		15,760.34		78,036.56				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		15,760.34		78,036.56				

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 October 5, 1954 Operator Calera Mining Company

Per [signature] Title [signature]

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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

RECEIVED
BUREAU OF MINES
OCT 18 1954
SPOKANE, WASH.

October 2, 1954

gcl
8/17/55

Mr. A. E. Weissenborn
Executive Office - Region 2
Double Field Bldg.
South 157 Howard
Spokane 4, Washington

Re: Project No. D-Spo. 3143
Contract No. IDI-2645

Dear Mr. Weissenborn:

We enclose herewith the maps and diamond drill logs covering the activities of the Blackbird Project No. 3143 for the month of September, 1954.

Trenching continued during the month on the hanging wall zone. Work was done on 6 trenches, exposing approximately 1200 feet of bedrock. Several pods of mineralization were found. ± 40'/ea

Work on the 7400 Drift North was continued with the advance amounting to 114 feet for the month. The standing of drift timber continued and 21 sets were stood. The direction of the 7400 Drift North has been changed to a N22°W bearing.

Diamond drilling was completed in the Garnet Schist north of the Brown Bear zone. Only three of the seven holes drilled in this area intersected mineralization of ore grade. Drilling is now in progress on the Indian Charts Claim east of the Chicago zone.

Very truly yours,

CALERA MINING COMPANY
Blackbird Division

[illegible] Douglas, Manager

Encl.
Enclosure

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 29 1954

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R. E. Cribbs
Date August 1954

Hole No. S-41 Mine Level Surface
Location
Bearing S 58½° W Dip -43½ Length 730
Latitude of Collar 19,400 N Departure of Collar 3,168 E Elevation 8008

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
8/23/54		5-18						NX Schistose quartzite with minor
		5-13				8	11	quartzose garnet schist. About 30% quartz-
		13-18				5	6	limonite mineralization 13-18'.
		18-28						Garnet-chloritoid schist with a few
		18-23				5	18	narrow bands of schistose quartzite mostly
		23-28				5	44	at high angle to core. Some limonite 18-19'.
		28-38						Schistose quartzite. Some quartzose
		28-33				5	22	garnet-chloritoid schist 35-38'.
		33-38				5	48	
		38-40				2	0	No core
		40-50						Contorted schistose quartzite with
		40-42				2	30	chloritoid metacrysts
		42-47				5	18	
		47-50				3	23	
		50-67						BX Schistose quartzite alternating with
		50-53				3	73	some quartzose garnet schist. Chloritoid
		53-56				3	90	metacrysts 50-56, 64-66. Partly brecciated
		56-60				4	40	and healed with limonite 61-64½. Soft
		60-63				3	87	greenish dike 59½-61'. Fault at 58'.
		63-67				4	68	Fractured 52-53, 57-63.
		67-71				4	100	Schistose quartzite with a few
								chloritoid metacrysts. Fractured 70-71'.
		71-90						Schistose quartzite with highly contorted
		71-76				5	36	bands of garnet schist. Chloritoid
		76-80				4	50	metacrysts. A few very narrow contorted
		80-85				5	60	bands of chlorite schist 76-80'. Some very
		85-90				5	18	irregular quartz stringers 76-82. Most of
								core is fractured.
		90-100						Moderately fractured schistose quartzite
		90-95				5	74	with some quartzose garnet schist.
		95-100				5	64	Chloritoid metacrysts.
		100-109½						Moderately fractured schistose quartzite
		100-103½				3½	71	with contorted bands of garnet schist
		103½-105				1½	100	mostly at low angle to core. Chloritoid
		105-109½				4½	42	metacrysts.
		109½-113				3½	66	Garnet-chloritoid schist. A ½"
								quartz stringer at low angle to core
								at 111'. Quartzose chlorite schist with
								some brown biotite 112-112½.

Hole No. S-41

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 2
By
Date
Level

Hole No. S-41 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	C. R.	Geology and Remarks
8/20/54		113-143						SCHISTOSE QUARTZITE WITH CONTORTED
		113-117				4	28	BANDS OF GARNET SCHIST MOSTLY AT HIGH
		117-121				4	45	DIPS TO CORE. CHLORITOID PORPHYROBLASTS. FINE
		121-125				4	70	GRAINED GREENISH GRAY DIKE 125½-135½.
		125-129½				4½	84	IRREGULAR QUARTZ STRINGERS 125½-132. FRACTURED
		129½-133				3½	89	AND FRACTURED 135½-138 WITH SMALL CARBONATE
		133-138				5	80	SPOTS AND QUARTZ-LIMONITE STRINGERS. MALACHITE
		138-143				5	100	ON FRACTURES AT 135½. SMALL FAULT AT 118'.
								MODERATELY BRECCIATED 113-125, 131-133, 136-138
Aug. 21		143-[illegible]						SCHISTOSE QUARTZITE WITH CONTORTED
	X154	143-148	[illegible]	[illegible]		[illegible]	95	[illegible]
	X1648	148-151	[illegible]	.46		[illegible]	94	[illegible]
	X1649	151-156½	[illegible]	[illegible]		[illegible]	100	[illegible]
	X1650	156-160	[illegible]	[illegible]		[illegible]	84	[illegible]
	X1651	160-165	[illegible]	[illegible]		[illegible]	60	[illegible]
		165-[illegible]				[illegible]	68	[illegible]
								[illegible]
		[illegible]-185						[illegible]
		[illegible]-[illegible]				[illegible]	24	[illegible]
		[illegible]-190				[illegible]	[illegible]	[illegible]
		190-195				5	[illegible]	BRANCHES 133-165.
		195-200						FROM 195-198 CONTORTED [illegible]
		198-[illegible]				[illegible]	90	[illegible]
		[illegible]-[illegible]				5	90	[illegible]
		[illegible]-205				[illegible]	48	[illegible]
		200-[illegible]						MODERATELY BRECCIATED [illegible]
		[illegible]				3	[illegible]	[illegible]
		[illegible]				[illegible]	99	[illegible]
		[illegible]				[illegible]	[illegible]	[illegible]
		[illegible]				4	[illegible]	[illegible]
		[illegible]				4	[illegible]	[illegible]
		[illegible]				[illegible]	[illegible]	[illegible]
		[illegible]				[illegible]	[illegible]	[illegible]
		[illegible]				[illegible]	[illegible]	[illegible]
		[illegible]				[illegible]	[illegible]	[illegible]
		230-233				[illegible]	1	[illegible]
		[illegible]					[illegible]	[illegible]
		238-[illegible]				[illegible]	38	[illegible]

Hole No. S 41

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 3
By
Date

Hole No. S 41 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
1-84		243-248						Sericite quartzite and chlorite schist. Minor
		243-245½				3½	51	[illegible]
		245½-248				2½	60	[illegible]
								[illegible]
		248-270						Moderately fractured schist
		248-251				3	43	[illegible]
		251-256				5	38	schist. [illegible]
		256-259½				3½	9	[illegible]
		259½-264				4½	47	[illegible]
		264-266				2	15	[illegible]
		266-270				4	43	
		270-313						Fx. Moderately fractured schist
		270-271½				1½	13	quartzite with chloritoid [illegible]
		271½-274				2½	32	Minor quartzose sericite schist [illegible]
		274-278				4	78	285-291, 307-308, 312-313. [illegible]
		278-279½				1½	47	with minor [illegible]
		279½-283				3½	34	277½-278½.
		283-287				4	40	
		287-[illegible]				3	45	
		289-[illegible]				5	66	
		[illegible]-296½				2½	40	
		296½-300				3½	45	
		[illegible]				1½	16	
		305-308				3	10	
		[illegible]				6	20	
		[illegible]				8	43	
		313-315				2	0	No core.
		315-318				3	37	Sericite quartzite with chloritoid [illegible]
		318-320				2	75	[illegible]
		320-321				1	50	[illegible]
		321-324				3	50	[illegible]
		[illegible]				[illegible]	96	
		[illegible]				[illegible]	88	
	X163[illegible]	[illegible]-344	[illegible]	.03		10	98	
	X 63[illegible]	344-351½	[illegible]	[illegible]		7½	100	
2-65		351½-364½						Continued sericite quartzite with
	X1468	351½-355½	[illegible]	[illegible]		8	81	chloritoid [illegible]
	X1663	355½-364½	[illegible]	.03		5	94	[illegible] narrow bands of [illegible] schist
								@ 90° to core.

Hole No. S 41

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No.
By
Date

Hole No. 5
Mine
Level
Location
Bearing
Dip
Length
Latitude of Collar
Departure of Collar
Elevation

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.	% C. R.	Geology and Remarks
2/23/.4		364-38					FROM 364'-367' [illegible]
	X1670	364-370	[illegible]	[illegible]		15	[illegible]
	X1671	370-375	[illegible]	[illegible]		58	[illegible]
	X1672	[illegible]	[illegible]	[illegible]		80	[illegible]
	X1673	378-380	[illegible]	1.11		60	[illegible]
	X1674	380-385	[illegible]	1.26	5	50	[illegible]
		385-395					[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	5	96	[illegible]
	X1676	[illegible]	[illegible]	[illegible]	5	40	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]		10	[illegible]
	X1678	[illegible]	[illegible]	[illegible]	1	45	[illegible]
	X1679	[illegible]	[illegible]	.92		28	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	42	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]		24	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	38	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]		30	[illegible]

Hole No. 5

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 5
By
Date
Level

Hole No. 5-41 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
8/9/54	—	0-18				18		
	X1257	18-23	Tr	.03		5		
	X1258	23-28	Tr	.02		5		Cover to 28'
	X1259	28-33	Tr	.01		5		
	X1260	33-38	Tr	Tr		5		
	X1261	38-42	Tr	Tr		4		
	X1262	42-47	Tr	Tr		5		
	X1263	47-50	Tr	Tr		3		Cover to 50
	X1264	50-56	.02	Tr		6		
	X1265	56-60	Tr	Tr		4		
	X1266	60-67	Tr	Tr		7		
8/10	X1267	67-71	.01	.02		4		
	X1268	71-76	Tr	.07		5		
	X1269	76-80	.02	.10		4		
	X1270	80-85	.02	.11		5		
	X1271	85-90	.01	.12		5		
	X1272	90-95	.01	.04		5		
	X1273	95-99	Tr	.03		4		
	X1274	99-104½	Tr	.03		4½		
	X1275	104½-109½	Tr	.07		6		
	X1276	109½-113	Tr	.14		3½		
	X1277	113-117	.01	.21		4		
	X1278	117-121	.01	.13		4		
8/11	X1285	121-125	.01	.24		4		
	X1286	125-129½	.01	.05		4½		
	X1287	129½-133	Tr	.09		3½		
	X1288	133-138	Tr	.14		5		
	X1289	138-143	.01	.22		5		
	X1290	143-148	.02	.40		5		
	X1291	148-151½	Tr	1.00		3½		
	X1292	151½-156½	.01	.50		5		
	X1293	156½-162	.01	.55		5½		
	X1294	162-167	.02	.51		5		
	X1295	167-172	Tr	.11		5		
	X1296	172-175	Tr	.07		3		
8/12	X1297	175-180	Tr	.04		5		
	X1298	180-185	Tr	.07		5		
	X1299	185-190	.04	.02		5		
	X1300	190-195	Tr	.04		5		
	X1301	195-200	Tr	.01		5		
	X1302	200-205	Tr	.01		5		

Hole No.

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 6
By
Date

Hole No. 5-41 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
8/12	X1303	205-210	Tr	Tr		5	Sands	
	X1304	210-214	Tr	.03		4	"	
	X1305	214-218	Tr	.03		4	"	
	X1306	218-222	Tr	.03		4	"	
8/16	X1307	222-226	Tr	.11		4	"	
	X1308	226-230	Tr	.05		4	"	
	X1309	230-233	.01	.03		3	"	
	X1310	233-237	.01	.02		4	"	
	X1311	237-242	Tr	.03		5	"	[illegible] 237-240
	X1312	242-248	Tr	Tr		6	"	
	X1313	248-256	Tr	Tr		8	"	
	X1314	256-259½	Tr	Tr		3½	"	
	X1315	259½-264	Tr	.03		4½	"	
	X1316	264-270	Tr	Tr		6	"	Caved to 270
	X1317	270-274	Tr	Tr		4	"	
	X1318	274-278	.01	Tr		4	"	
	X1319	278-283	Tr	Tr		5	"	
	X1320	283-287	Tr	Tr		4	"	
	X1321	287-291	.01	Tr		4	"	
8/17	X1322	291-296½	Tr	Tr		5½	"	
	X1323	296½-300	Tr	Tr		3½	"	
	X1324	300-305	.01	Tr		5	"	
	X1325	305-308	Tr	.02		3	"	
	X1326	308-313	.01	.07		5	"	
	X1327	313-318	Tr	Tr		5	"	
	X1328	318-320	Tr	.02		2	"	
8/18	X1329	320-324	Tr	.02		4	"	
	X1330	324-329	Tr	Tr		5	"	
	X1331	329-334	.01	Tr		5	"	

Hole No. 5-41

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 29 1954

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R.E. CRIBBS
Date August, 1954

Hole No. S-42 Mine
Level SURFACE
Location B44 TRENCH
Bearing S58-W Dip -45½° Length 530
Latitude of Collar 18,435N Departure of Collar 2,763½E Elevation 7896½

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
8/15/54		0 15				15	0	NX. SCHISTOSE QUARTZITE IN HIGH GRADE TO GOOD. BROKEN WITH BANDS OF GARNET SCHIST.
		15-23						
		15-18				3	13	VERY SOFT WEATHERED GARNET SCHIST.
		18-23				5	16	
		23-24				1	0	NO CORE.
		24-28				4	2	GARNET SCHIST WITH QUARTZ MINERALIZED AND GREEN MINERAL IN FRACTURES.
		28-31				3	10	FAULT BRECCIA WITH HEMATITE STAIN.
		31-35				4	0	NO CORE
		35-38				3	20	FRACTURED AND FAULTED SCHISTOSE QUARTZITE WITH SOME HEMATITE STAIN.
		38-58						ALTERNATING BANDS UP TO SEVERAL INCHES WIDE OF SCHISTOSE QUARTZITE AND QUARTZOSE SCHIST 50-60° TO CORE. HEAVY MINERALIZATION HEMATITE IN FRACTURES 30-40 ... 50'.
		38-42				4	16	
		42-46				4	28	
		46-52				5	50	
		52-58				5	32	
		58-62				4	45	TX. HEAVILY FRACTURED SCHISTOSE QUARTZITE BLACK QUARTZ AND HEMATITE 58-60. MINERALIZATION GARNET 61-62.
		62-64				2	65	MODERATELY FRACTURED SCHISTOSE QUARTZITE WITH MINERALIZATION ... GARNET BANDS.
		64-66						FROM 64-64½ [illegible] TO CORE. BETWEEN 64½ [illegible] SCHISTOSE QUARTZITE WITH SOME BANDS OF SCHIST 50-60° TO CORE. [illegible]
		66-70				4	65	
		70-83						[illegible] SCHISTOSE QUARTZITE. [illegible] 70-78'.
		70-74				4½	56	
		74-77				3½	60	
		77-77½				½	44	
		77½-83				5½	40	
		83-100						SCHISTOSE QUARTZITE WITH SOME NARROW BANDS OF SCHIST ABOUT 60° TO CORE. [illegible] 95-96'. [illegible] 96-99. [illegible] 95-98. [illegible] 88-91, 97-101.
		83-88				5	40	
		88-91				3	90	
		91-96				5	86	
		96-101				5	36	
		101-104½				3½	14	
		104½-107				2½	40	

Hole No. S-42

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No.
By
Date

Hole No. Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.		% C. R.	Geology and Remarks
[illegible]		[illegible]						[illegible]
		[illegible]				[illegible]	67	[illegible]
		[illegible]				[illegible]	64	[illegible]
		[illegible]				[illegible]	32	[illegible]
		[illegible]				4	43	[illegible] SCHIST AND SCHISTOSE QUARTZITE MOSTLY ABOUT 80° TO CORE. [illegible]
		122-126						FRACTURED SCHISTOSE QUARTZITE WITH [illegible]
		[illegible]				5	48	[illegible]
		[illegible]				[illegible]	56	[illegible] SCHIST MODERATELY [illegible]
		132-135				[illegible]	49	AT HIGH ANGLE TO CORE [illegible] 135, 140-142'.
		135-138				[illegible]	56	[illegible] NEARLY PARALLEL TO CORE 145 [illegible].
		138-141				3	70	[illegible] 2" QUARTZ LIMONITE STAINED AT 193'.
		141-146				5	72	
		146-150				4	75	MODERATELY FRACTURED SCHISTOSE QUARTZITE. [illegible] QUARTZITE 149-150'. [illegible] 1" [illegible] DIA. [illegible] WITH SMALL [illegible] SPOTS AT 146½'. FAULTED AT 146½'.
		150-154½				4½	31	[illegible] SCHISTOSE QUARTZITE. [illegible]
		154½-159						MODERATELY FRACTURED SCHISTOSE
		159-163				5	48	QUARTZITE WITH SOME [illegible]
		163-166				3½	49	SCHIST MOSTLY ABOUT 80° TO CORE. [illegible]
		166-169				5	46	169-170' QUARTZITE IS [illegible]
		[illegible]				4½	26	[illegible] FROM 40° TO 80° TO CORE. SOME
		[illegible]				2½	80	[illegible] CONTAINED QUARTZITE [illegible]
		[illegible]				4	63	[illegible] AT 170'. [illegible] 174-176'. FAULTED
		[illegible]				[illegible]	88	[illegible] 18½'.
		183-185½				2½	100	
		185-188				4½	56	
8	[illegible]	[illegible]	[illegible]	.03		2½	19	HIGHLY FRACTURED SCHIST AND SCHISTOSE QUARTZITE. FAULTED AND LIMONITE STAINED [illegible]
		193½-200						HIGHLY FRACTURED SCHISTOSE QUARTZITE. [illegible]
	[illegible]	[illegible]	[illegible]	[illegible]		3½	14	[illegible]
	[illegible]	197-200	[illegible]	.03		[illegible]	[illegible]	[illegible]
	[illegible]	200-204	.02	.13		[illegible]	80	SCHISTOSE QUARTZITE WITH MARKED SCHIST BANDS [illegible] 80° TO CORE. [illegible]

Hole No. [illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. [illegible] Mine

Level

Location

Bearing

Dip

Length

Latitude of Collar

Departure of Collar

Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
[illegible]		204 208				4	15	[illegible]
								[illegible]
								[illegible]
		208-218						[illegible]
		208-212				[illegible]	50	[illegible]
		212-214				[illegible]	60	[illegible]
		214-216				[illegible]	75	[illegible]
		216-219				[illegible]	77	[illegible]
		219-223				4	23	[illegible]
		[illegible]				[illegible]	52	[illegible]
		[illegible]				[illegible]	93	[illegible]
		[illegible]				[illegible]	10	[illegible]
		[illegible]				[illegible]	20	[illegible]
		[illegible]				4	30	[illegible]
		[illegible]				3	13	[illegible]
		[illegible]				[illegible]	80	
		[illegible]				[illegible]	94	
		[illegible]				3	43	
		[illegible]				[illegible]	31	
		[illegible]				[illegible]	2	
		[illegible]				[illegible]	23	
		[illegible]				[illegible]	32	
		268-298						
		[illegible]				[illegible]	78	
		[illegible]				4	50	
		[illegible]				[illegible]	82	
	X1425	285-292	[illegible]	[illegible]		9	40	
	X1426	292-298	.01	.03		6	42	
	X1427	[illegible]	[illegible]	.14		[illegible]	20	
	X1428	303-305	.02	.40		[illegible]	27	
		305-310						
	[illegible]	310-313	[illegible]	.01		4	[illegible]	
	[illegible]	313-320	.03	.08		4	68	
		313-320						
	X1431	[illegible]	.05	.21		[illegible]	72	
	X1432	[illegible]	[illegible]	[illegible]		[illegible]	24	

Hole No. 5-[illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 7
By
Date

Hole No. 5-[illegible] Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
9/8/49		320-343						Siliceous quartzite with narrow bands of schist 60-80° to core. From 216-337
	X1483	320-325	.16	.14		5	31	mostly chlorite quartzite with narrow
	X1484	325-329	.20	.18		4	70	zones large to core. Brown dike from
	X1485	329-330	[illegible]	[illegible]		1	[illegible]	2" wide at 322 and 326. Brown dike with
	X1486	330-335	.09	.17		5	90	large carbonate spots. [illegible] 333½
	X1487	335-340	.09	.09		5	95	334½. Quartz mineralization with some
	X1488	340-343	.03	.07		3	90	chalcopyrite, pyrite, cobaltite, bismuth, and
								carbonate mostly 320-321, 325½-330, 332½-333
								337½-339½.
		343-378						Schistose quartzite with narrow semi
	X1489	343-348	.13	.12		5	90	bands up to several inches widening to
	X1490	348-354	.02	.13		6	97	high angle to core. Quartz-pyrite-chalcopyrite
	X1491	354-358½	Tr	Tr		4½	100	mineralization at 349, 350, 361-361½, 364½-365
	X1492	358½-362½	.07	.29		4	100	and some scattered stringers of same
	X1493	362½-369	.06	.22		6½	100	at 367½-369. Fractured 342-344½.
	X1494	369-372½	.06	.18		4½	100	
	X1495	372½-378	.14	.16		5½	100	
		378-395½						Schistose quartzite alternations with
	X1496	378-383	.17	.61		4	85	narrow bands of schist 60-80° to core. Massive
	X1497	383-388	.06	.27		2	87	pyrite quartz chalcopyrite mineralization
	X1498	388-395½	.02	.02		5½	100	381½-382½, 387-388 and quartz pyrite chalcopyrite
								carbonate stringers throughout core.
		395½-421						Moderately fractured schistose quartzite
	X1499	395½-400½	.09	.03		5	52	with some narrow bands of schist mostly
	X1500	400½-404½	.39	.50		3	53	about 60° to core. Very minor quartz pyrite
	X1501	404½-409	.01	.04		5½	73	chalcopyrite stringers. Minor copper in
	X1502	409-416	.04	.08		7	70	fractures at 407'.
	X1503	416-421	.04	.40		5	74	
	X1504	421-427	Tr	.22		6	63	Moderately fractured quartzose schists
								2½" brown dike 2. at 426½.
		427-448						Schistose quartzite with a few bands of schist
	X1505	427-431	.18	.02		4	90	strike 45° to core to 431, 30° to core 431-434, parallel 434-443, and 60-80° to core under 443. Some chalcopyrite mineralization at 427
	X1506	431-435	.02	.16		5	100	and minor small quartz chalcopyrite
	X1507	435-441	.02	.04		5	100	chalcopyrite stringers 430-440. Some copper
	X1508	441-448	.05	.14		7	100	in fractures 443-448. Moderately
								fractured 427-441.

Hole No. 5-[illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

By

Date

DIAMOND DRILLING RECORD

Hole No. [illegible] Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C. R.	Geology and Remarks
9/6/54		444-494						FRACTURED SCHISTOSE QUARTZITE WITH CONTORTED BANDS OF SCHIST. [illegible] CONTAINS [illegible] BIOTITE CHALCOPYRITE [illegible] STRINGERS [illegible] AFTER 465. COMMON [illegible] FROM 472-476. [illegible] WITH CAVITIES 484-486'.
	[illegible]	448-451	.04	.19		3	40	
	[illegible]	451-458	.1	.09		7	40	
	[illegible]	458-465	.30	.21		7	31	
	[illegible]	465-473	.34	.12		8	30	
	[illegible]	473-478	.35	.15		5	26	
	[illegible]	478-481	1.65	2.01		3	14	
	[illegible]	481-484	.56	.41		3½	24	
	X1545	484-488	1.64	1.05		4½	63	
	X1546	488-490	.66	.12		4	48	
	X1547	490-494	.78	.20		4	33	
								SCHISTOSE QUARTZITE WITH NARROW BANDS OF SCHIST. [illegible] ABOUT 20% QUARTZ - CHALCOPYRITE - PYRITE - [illegible] MINERALIZATION. [illegible] 494-495'.
		494-495						SCHISTOSE QUARTZITE WITH ABOUT 50% QUARTZ - CHALCOPYRITE - CHALCOPYRITE - PYRITE - [illegible] MINERALIZATION.
	X1548	495-500	1.42	6.41		5	81	
	X1549	500-505	.12	.70		5	32	
		505-510						FRACTURED SCHISTOSE QUARTZITE. SOME QUARTZ - PYRITE - CHALCOPYRITE STRINGERS 511-515'.
	X1550	510-515	.13	.39		4	30	
	X1551	515-520	.03	.12		5	26	
	X1552	520-524	.06	.44		4	28	
								CONTORTED SCHISTOSE QUARTZITE WITH QUARTZ - CHALCOPYRITE - PYRITE STRINGERS. FRAGMENTS OF BROWN QUEST 522-528'.
	X1553	524-528	[illegible]	[illegible]		4	28	
								SCHISTOSE QUARTZITE CONTAINS ABOUT 5% PYRITE - QUARTZ CHALCOPYRITE MINERALIZATION.

Hole No. [illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 6
By
Date
Level

Hole No. 5-42
Mine
Location
Bearing
Dip
Length
Latitude of Collar
Departure of Collar
Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
8/22/54	—	0-15	-	-		15	Surface	
	X 1332	15-18	.04	Tr		3		Casing T=16'
	X1333	18-23	.05	Tr		5		
	X1334	23-24	.01	Tr		1		
	X1335	24-28	.01	Tr		4		
	X1336	28-35	Tr	.03		7		
	X1337	35-38	Tr	.03		3		
	X1338	38-43	Tr	.01		5		
	X1339	43-48	Tr	Tr		5		
	X1340	48-53	Tr	.12		5		
	X1341	53-58	Tr	.05		5		Casing to 58'
8/23/54	X1342	58-62	Tr	.03		4		
	X1343	62-66	Tr	Tr		4		
	X1344	66-70	.02	.21		4		
	X1345	70-75	Tr	.05		5		
	X1346	75-83	Tr	Tr		8		
	X1347	83-88	Tr	.05		5		
	X1348	88-96				8		
	X1349	96-101	Tr	Tr		5		
	X1350	101-107	Tr	.02		6		
	X1351	107-113	.01	.09		6		
	X1352	113-118	.03	.14		5		
	X1353	118-122	.01	.02		4		
	X1354	122-127	Tr	Tr		5		
	X135[illegible]	127-133	.01	.02		5		
8/24	X1356	133-138	Tr	Tr		5		
	X1357	138-146	Tr	Tr		8		
	X1358	146-150	.03	Tr		4		
	X1359	150-154½	Tr	Tr		4½		
	X1360	154½-159½	Tr	Tr		5		
	X1361	159½-163	Tr	.07		3½		
	X1362	163-168	Tr	.03		5		
	X1363	168-172½	Tr	Tr		4½		
	X1364	172½-179	Tr	Tr		6½		
	X1365	179-183	.01	.51		4		
	X1366	183-190	Tr	.08		7		
	X1367	190-193½	.04	.27		3½		
	X1368	193½-200	.11	.16		6½		
	X1369	200-204	.07	.20		4		
	X1370	204-208	.05	.21		4		
	X1371	208-212	.02	.09		4		

Hole No. 5-42

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-42 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
8/25/54	X1372	212-216	.01	.07		4	SLUDGE	
	X1373	216-223	.09	.32		7	"	
	X1374	223-229½	.02	.23		6½	"	
	X1375	229½-234	Tr	.05		4½	"	
	X1376	234-238	Tr	Tr		4	"	
	X1377	238-246	.01	.14		8	"	
	X1378	246-252½	Tr	.07		6½	"	
	X1379	252½-256	.01	.04		3½	"	
	X1380	256-264½	Tr	.01		8½	"	
	X1381	264½-268	Tr	Tr		3½	"	CASED TO 268'
8/26	X1382	268-272½	.03	.05		4½	"	
	X1383	272½-276½	Tr	Tr		4	"	
	X1384	276½-283	.01	.14		6½	"	
	X1385	283-292	.02	.53		9	"	
	X1386	292-298	.12	.75		6	"	
	X1387	298-302	.26	7.48	X	4	"	
	X1388	302-309	.13	5.54		7	"	
	X1389	309-313	.04	.63		4	"	
8/27	X1390	313-320	.08	.41		7	"	
	X1391	320-325	.03	.41		5	"	CASING 322-326
	X1392	325-329	.08	.10		4	"	
	X1393	329-335	.19	.22		6	"	
	X1394	335-343	.36	.46		8	"	
	X1395	343-348	.57	.27		5	"	
	X1396	348-354	.54	.48		6	"	
	X1397	354-358½	.33	.20		4½	"	
	X1398	358½-362½	.33	.23		4	"	
	X1399	362½-369	.35	.14		6½	"	CASED TO 368'
	X1400	369-373½	.40	.18		4½	"	
	X1401	373½-379	.36	.19		5½	"	
	X1402	379-383	.46	.51		4	"	
	X1403	383-390	.59	.30		7	"	
	—	390-395½	-	-		5½	"	NO SLUDGE
	X1404	395½-400½	.31	.18		5	"	
	X1405	400½-403½	.41	.19		3	"	
	X1406	403½-409	.33	.43		5½	"	
	X1407	409-416	.15	.31		7	"	
	X1408	416-421	.13	.60		5	"	
	X1409	421-427	.06	.13		6	"	
	X1410	427-431	.10	.13		4	"	
	X1411	431-436	.12	.36		5	"	

Hole No. 5-42

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. S-42 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar.. Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C. R.	Geology and Remarks
8/23/54	X1411	436 441	.1	.37		5	[illegible]	
	X1412	441 448	.11	.34		7	[illegible]	
	X1414	448 451	.11	[illegible]		3	[illegible]	
	X1415	451 - 458	.10	.64		7	[illegible]	
	X1416	458 465	[illegible]	.98		7	[illegible]	
	X1417	465 473	.1	[illegible]		8	[illegible]	
	X1418	473 476	.33	.43		5	[illegible]	
	X1419	478 481	.32	.40		4	[illegible]	
	X1420	481 - 486½	.52	.55		5½	[illegible]	
	X1421	486½ - 490	.55	.61		3½	[illegible]	
	X1422	490 494	[illegible]	.46		4	[illegible]	
	X1423	494 498	.51	1.08		4	[illegible]	
	X1424	498 506	1.26	2.51		8	[illegible]	
	X1425	506 511	.32	.51		5	[illegible]	
	X1426	511 515	.21	.51		4	[illegible]	
	X1427	515 520	.14	.38		5	[illegible]	
	X1428	520 524	.12	.31		4	[illegible]	
	X1429	524 530	.20	.42		6	[illegible]	

Hole No. S-42

ASSAY RECORD

CALERA MINING CO.

Chute Sect. ____ Level 7400

DMEA # 3143 Working 7400 DRIFT NORTH

SEPTEMBER, 1954

Date	Sample Number	Location From	Location To	Kind	Wth.	% Co	% Cu	Oz. Au		REMARKS
8/26/54	X4002	Δ483 +78	88	MUCK	10	Tr	02			
8/27	X3752	+88	90	"	2	06	13			
8/30	X4003	90	94½	"	4½	16	09			
8/31	X4004	94½	99	"	4½	11	10			
9/1	X4005	Δ484 +15	20	"	5	17	13			
9/2	X3753	20	24	"	4	34	06			
9/3	X3754	24	29	"	5	30	04			
9/4	X4006	29	34½	"	5½	07	Tr			
~~9/5~~	~~X4007~~			"						
9/7	X4008	34½	41	"	6½	14	30			
9/8	X4009	41	46½	"	5½	07	05			
9/9	X3755	46½	51½	"	5	02	02			
9/10	X4010	51½	56½	"	5	03	07			
9/13	X4011	56½	61½	"	5	12	17			
9/14	X4012	61½	68½	"	7	Tr	Tr			
9/15	X4013	68½	71	"	2½	17	41			
9/16	X4014	71	73	"	2	34	18			
9/18	X4015	73	79	"	6	02	Tr			
9/19	X4016	79	83½	"	4½	03	02			
9/20	X4017	83½	89½	"	6	Tr	01			
9/21	X3756	89½	95	"	5½	03	14			
9/22	X4018	95	100	"	5	01	Tr			
9/23	X4019	100	105	"	5	03	Tr			
~~9/24~~	~~X4020~~			"						
9/27	X4021	105	111½	"	6½	02	02			
9/28	X4022	111½	120	"	8½	01	Tr			
9/29	X4023	Δ485 +3	8½	"	5½	02	04			

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53

Defense Minerals Administration
RECEIVED
SEP 27 1954

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of August, 1954 Docket No. DMEA 3143 Contract No. idm-B645
Operator's Name Calera Mining Company Minerals Cobalt and Copper
Address Cobalt, Idaho
Contract Amount, $ 407,340.00 Government Participation: 70 % Amount, $ 285,138.00

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) [redacted] Spiling	420.00	560.00	980.00	420.00		WSM
[redacted] Heavy Timber	147.00	199.50	346.50	147.00		
Core Drilling Stage II	-	331.46	331.46			
[redacted] Trenching	1,164.04	8,748.15	9,912.19	1164.04		
Formal Timber [redacted]	630.00	667.10	1,297.10	630.00		
Drifting	3,482.43	3,731.18	7,213.61	3482.43		
Framing	98.64	180.84	279.48	98.64		
(2) [redacted]						
Core [redacted] Drilling Stage I	8,247.60	28,400.23	36,647.88	8247.60		
[redacted] Reaming						
[redacted] Stage I	340.00	1,115.00	1,455.00	340.00		
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
tial Rehabilitation and Repairs						
ew Bldgs., Improvements, etc.						
Miscellaneous:						
[redacted]						
Sampling and Analysis						
[redacted] Stage II	36.00	141.00	177.00	36.00		
[redacted]						
Sampling & Analysis Stage I	618.00	3,018.00	3,636.00	618.00		
(8) Contingencies (specify):						
TOTALS	15,183.71	47,092.51	62,276.22	15183.71	47092.51	62276.22

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

Date August 4, 1954 Payee Calera Mining Company

Signature [illegible] Title [illegible]

*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:

$ 10628 60

Signature [illegible]
(Authorized Certifying Officer)

Date 9/23/54 Vou. No. 1290

(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. E645 in accordance with the terms of the contract.

Signature (S) Verda Z Johnson Title Mining Engr Date 9/14/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature (S) Stephen W Zoldok Title Mining Engr Date 9/15/54

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.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 27 1954

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

Month of August 1954 Docket No. DMEA 3143 Contract No. idm-E645
Operator's Name Calera Mining Company Minerals Cobalt and Copper
Address Cobalt, Idaho

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	Ft.	3,482.43	98	7,213.61	203	35.535	6000	35.535
Normal Timbering	Ft.	630.00	90	1,297.10	185.3	7.00	5000	7.00
Crosscutting								
Heavy Timbering	Ft.	147.00	21	346.50	49.5	7.00	750	7.00
Raising								
Shafts Spiling	Ft.	420.00	21	980.00	49.0	20.00	500	20.00
Winzes Framing	Sets	98.64	18	279.48	51.0	5.48	1150	5.48
Assay Stage II	Ea.	36.00	12	177.00	59.	3.00	5900	3.00
Drilling, Core								
Drilling Core Stage II	Ft.	-	-	331.46	98	3.3822	10500	3.3822
Chain								
Auger								
Stripping								
Trenching	Hrs.	1,164.04	98	9,912.19	834½	11.878	864	11.878
Drilling Core Stage I	Ft.	8,247.60	1185	36,647.88	5265½	6.96	8700	6.96
Test Pits								
Assay Stage I	Ea.	618.00	206	3,636.00	1212	3.00	3100	3.00
Roads and Trails								
Reaming Stage I	Ft.	340.00	136	1,455.00	582	2.50	1700	2.50
TOTAL DISTRIBUTED COSTS		15,183.71		62,276.22				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		15,183.71		62,276.22				

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 4, 1954 Operator Calera Mining Company
Per [signature] Title [signature]

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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

September 2, 1954

gcl
8/17/55

Mr. A. E. Weissenborn
Executive Office - Region 2
D.M.E.A. Field Team
South 157 Howard
Spokane 4, Washington

Re: Docket No. D.M.E.A. 3143
Contract No. Idn-E645

Dear Mr. Weissenborn:

We enclose herewith the maps and diamond drill logs covering the activities of the D.M.E.A. Project No. 3143 for the month of August, 1954.

At the first of the month, trenching was started on the Indian Quarts zone and continued in this area most of the month exposing approximately 2,100 feet of bed rock. Several small zones of cuddification were found by this operation.

98 hrs
± 21 hrs

Diamond drilling was done in three surface holes, namely S-40, S-41, S-42. The S-42 incompleted. Several zones of mineralization were intersected by this diamond drilling. Total diamond drilling for the month amounted to 1,185 feet.

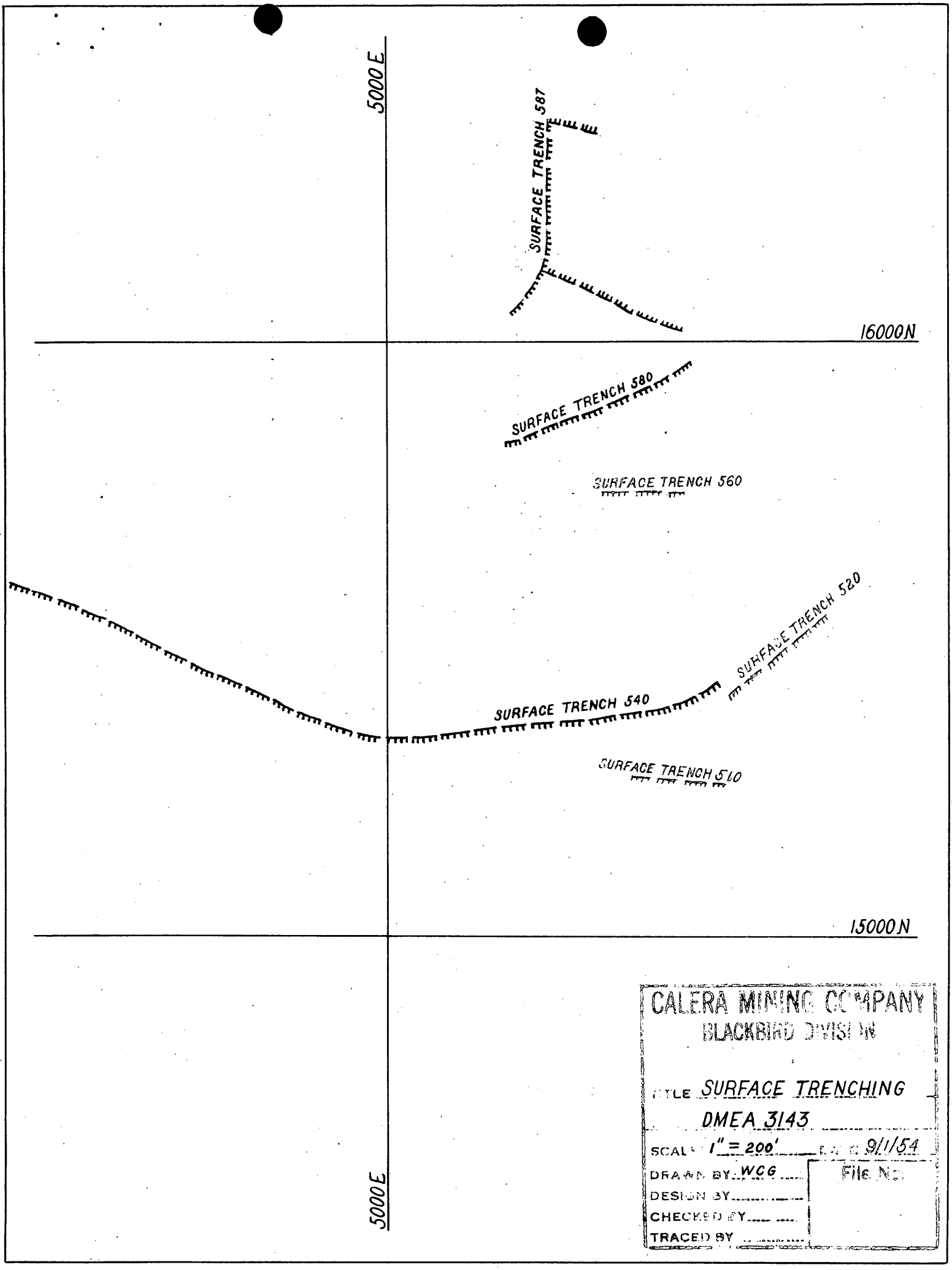
The driving of the 7400 Drift was resumed and this heading was advanced 98 feet on the D.M.E.A. account. In an effort to find firmer ground this drift was turned on a N.30°E. bearing at a point 125 feet from the old face. A 20 scale geological map of this work is enclosed.

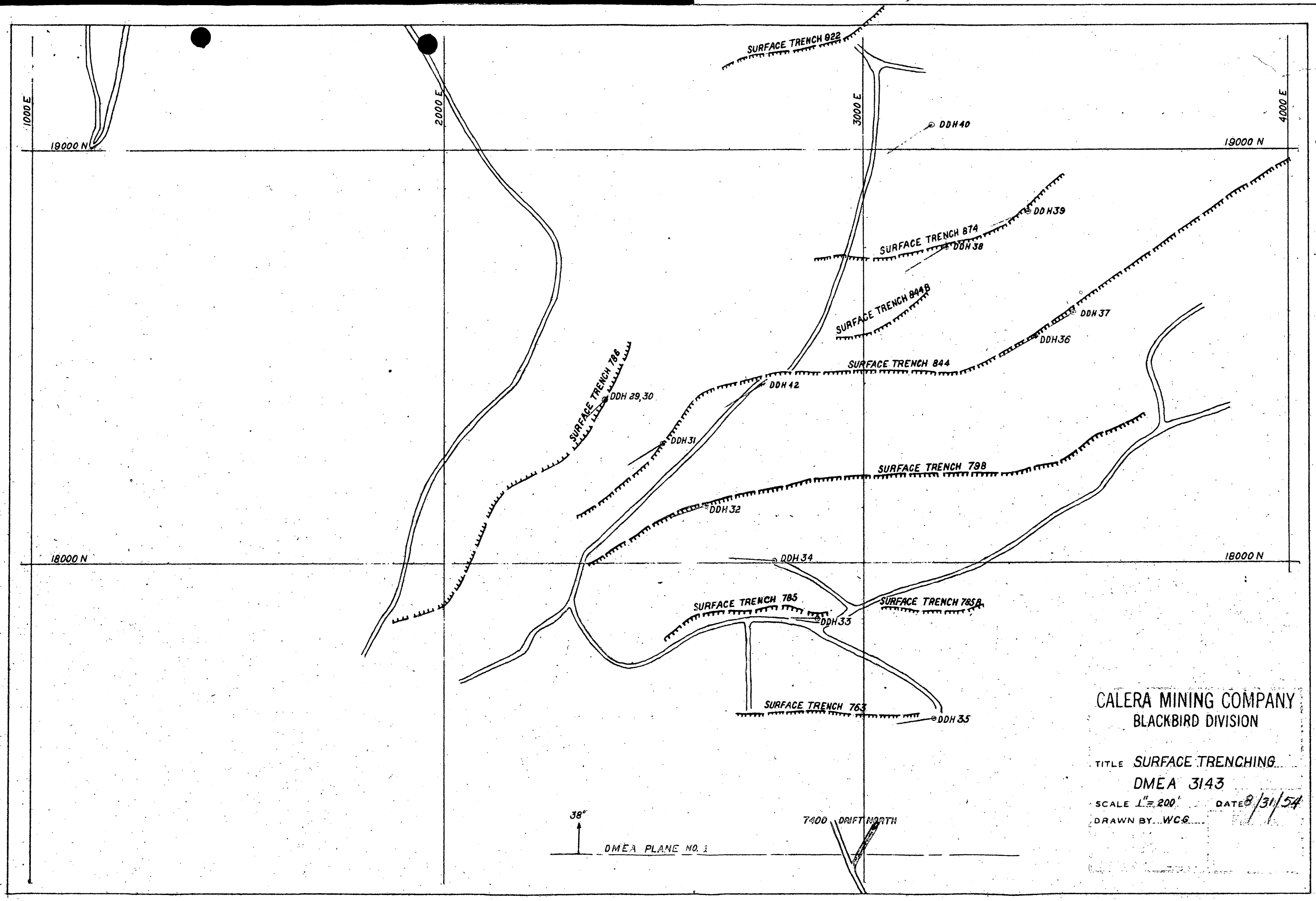
Very truly yours,

CALERA MINING COMPANY
BLACKBIRD DIVISION

E. E. Douglas, Manager

EED:abd
Enc: Duro


5000E
SURFACE TRENCH 587
16000N
SURFACE TRENCH 580
SURFACE TRENCH 560
SURFACE TRENCH 520
SURFACE TRENCH 540
SURFACE TRENCH 510
15000N
5000E
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE TRENCHING
DMEA 3143
SCALE 1" = 200'
DATE 9/1/54
DRAWN BY WCG
DESIGN BY
CHECKED BY
TRACED BY
File No.


DDH 41
SURFACE TRENCH 822
1000 E
2000 E
3000 E
4000 E
19000 N
DDH 40
DDH 39
SURFACE TRENCH 874
DDH 38
SURFACE TRENCH 844B
DDH 37
DDH 36
SURFACE TRENCH 844
DDH 42
SURFACE TRENCH 786
DDH 29,30
DDH 31
SURFACE TRENCH 798
DDH 32
18000 N
DDH 34
SURFACE TRENCH 785
SURFACE TRENCH 785B
DDH 33
SURFACE TRENCH 763
DDH 35
38°
DMEA PLANE NO. 1
7400 DRIFT NORTH
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE TRENCHING
DMEA 3143
SCALE 1" = 200'
DATE 8/31/54
DRAWN BY WCG

ASSAY RECORD

CALERA MINING CO.

Chute Sect.

Level 9400

DMEA #3143

Working 9400 DRIFT NORTH

AUGUST, 1954

Date	Sample Number	Location From	Location To	Kind	Wth.	% Co	% Cu.	Oz. Au	REMARKS
8/17/54	7542A	D483+	21-26	MUK	5	36	84		
8/17	5546A	+	31-36	"	5	33	1 39		
8/18	9912A	+	36-41	"	5	04	TR		
8/19	8766B	+	41-45	"	4	01	Tr		
8/20	9913A	+	45-49	"	4	04	10		
8/21	9919A	+	49-56	"	7	09	63		
8/22	9921A	+	56-62½	"	6½	01	Tr		
8/23	X4201	+	62½-67	"	4½	02	Tr		
8/24	4744A		67-72	"	5	01	14		
8/17	9907A	D483+	20½-24½	CHIP	4	33	6 60		
8/23	9943A	+	62½	"	3.5	05	14		L. FACE
8/23	9923B	+	62½	"	6	02	04		R. FACE

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R.E. Gaines
Date June 2, 1954

Hole No. 5-39 Mine Level Surface
Location 874 Trench
Bearing N 5° W Dip -44½° Length 401
Latitude of Collar 18,852N Departure of Collar 3,390E Elevation 7961½

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
6/4/54		0-50						NX Schistose quartzite mostly at high angle to core. Black schist dike with small carbonate spots and cavities at 21' and 23-25'. Dark green schistose dike with small carbonate spots and cavities 45½-46½, 47½-48½'. Core broken, grooving, signs of fracture. Minor fault at 38' is 20° to core. Minor limonite in fractures 44-45'.
		0-5				5	16	
		5-9				4	13	
		9-14				5	54	
		14-18				4	53	
		18-21				3	47	
		21-25				4	35	
		25-28				3	17	
		28-30				2	80	
		30-34				4	23	
		34-37				3	70	
		37-39				2	100	
		39-42½				3½	26	
		42½-45				2½	76	
		45-50				5	54	
		50-54				4	55	BX Fractured quartzite
		54-59				5	30	Fractured schistose quartzite and quartzose garnet schist. Minor quartz-carbonate mineralization
		59-62½				3½	54	Fractured schistose quartzite with narrow contorted garnet schist bands. Limonite stained 59-60.
		62½-66				3½	49	From 62½-64½ schistose quartzite with some narrow garnet schist bands. Quartz mineralization with minor yellow-green stain. From 64½-66 quartzose garnet schist.
		66-80						Schistose quartzite alternating with and grading into some quartzose garnet schist up to several feet wide. Brecciated 73-82½. Brown dike 82-82½ with green rhombic rock. Fractured 68-69, 72½-78½, 83-86. Limonite in fractures 81-82.
		66-69				3	60	
		69-74				5	100	
		74-77½				3½	74	
		77½-83				5½	89	
		83-86				3	77	
		86-89				3	97	Alternating quartzite and schistose quartzite mostly at high angle to core. Limonite in fractures. Green schistose dike 86½-87. Core faulted and fractured.
		89-92				3	50	Highly fractured schistose quartzite and quartz mineralization.
		92-99						Schistose quartzite alternating with a few bands of quartzose garnet schist. Highly fractured with fault gouge 94-95'. Minor limonite in fractures 98-99'.
		92-95½				3½	100	
		95½-99				3½	100	

Hole No. 5-39

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2

DIAMOND DRILLING RECORD

By

Date

Hole No. S-39 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
7/30/64		99-101				2	60	Highly fractured schistose quartzite.
		101-109						Fractured schistose quartzite with
		101-104				3	97	several very narrow garnet schist bands
		104-109				5	36	throughout core. Very minor
		~~109-114~~				~~5~~		limonite on fractures.
		109-114				5	88	Schistose quartzite with several very
								narrow garnet schist bands or and
								quartz core. Sometimes discolored and
								veined with limonite.
8/2		114-129						Schistose quartzite alternating with
		114-117				3	97	bands grading into some quartzose
		117-122				5	98	garnet schist. Fractured fractures
	X1169	122-126	Tr	Tr		4	55	filled with minor limonite 118-120'.
	X1170	126-129	.01	Tr		3	97	Fractured 118-125, 127½-129.
	X1171	129-132	.04	.20		3	60	Moderately fractured schistose quartzite
								with some narrow contorted bands of
								garnet schist. Quartz, chalcopyrite, sphalerite
								chalcocite mineralization.
	X1172	132-137	Tr	.02		5	86	Quartzose garnet schist moderately
								fractured 132-135½. Fracs 132-132'.
		137-168						Moderately fractured schistose quartzite
		137-140				3	100	alternating with and grading into a
		140-144				4	95	little quartzose garnet schist, mostly
		144-149				5	88	137-142. A 1" black schistose dike at 144'.
		149-152				3	77	Fractured and faulted greenish grey
		152-155				3	83	dike with moderate iron and limonite
		155-158				3	93	147-149'. A 1" quartzose chlorite garnet
		158-162				4	68	schist with quartz mineralization at 159'.
		162-165				3	43	
		165-168				3	40	
		168-173				5	56	Fractured schistose quartzite with
								bands of garnet schist up to 6 inches
								wide core.
		173-178				5	100	Schistose quartzite. Garnet schist 173-174½
								contain a few scattered chloritoid porphyroblasts.

Hole No. S-39

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-39 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
3/2/57		178-207½						SCHISTOSE QUARTZITE WITH BANDS OF
		178-183				5	66	GARNET SCHIST UP TO SEVERAL FEET WIDE
		183-187				4	100	AND UP TO SEVERAL FEET APART. STRUCTURE
		187-193				6	68	30-60° TO CORE. EXCEPT 202½-203½ WHERE
		193-196				3	97	GARNET SCHIST IS PARALLEL TO CORE. GRAYISH BLACK
		196-199				3	93	SCHISTOSE DIKE 202½-203½ WITH MINOR MALACHITE
		199-202½				3½	66	ENCRUSTED METALLICS 183½-184½, 193-195,
		202½-207				5	88	197-200'. A ¼" VEIN AT 40° TO CORE AT 185½.
								FRACTURED 185½-186½, 195-196.
		207½-226						FROM 207½-210½ GARNET SCHIST CONTAINING
		207½-212				4½	100	MALACHITE METALLICS, AND SCHISTOSE QUARTZITE
		212-214				2	100	PARALLEL TO CORE. AT 210½ SCHISTOSE QUARTZITE
	X1213	214-217	Tr	Tr		3	23	WITH GARNET SCHIST BANDS UP TO SEVERAL
	X1214	217-220	Tr	.01		3	52	INCHES WIDE AND UP TO 2 FOOT APART. AND
	X1215	220-226	.21	.59		6	77	30-60° TO CORE. A 2" BAND OF MALACHITE SCHIST
								AT 224½ CONTAINS MODERATE MALACHITE
								MINERALIZATION AND GOOD CONTACTS GRADE.
								ENCRUSTED METALLICS 220-222½. FRACTURED
								218-223, 225-226. FRAGMENTS OF BLACK DIKE
								FROM CAVE AT BEGINNING OF EXTRA RUN.
	X1216	226-231	Tr	Tr		5	36	FRACTURED SCHISTOSE QUARTZITE AND
								GARNET SCHIST. VERY MINOR QUARTZ MALACHITE
								MINERALIZATION.
		231-239						FRACTURED SCHISTOSE QUARTZITE AND
	X1217	231-232	.09	2.64		1	100	GARNET SCHIST. GOOD QUARTZ-MALACHITE-CHALCO-
	X1218	232-235	.07	2.18		3	33	MINERALIZATION WITH MINOR CHALCOPYRITE AND
	X1219	235-239	.01	.23		4	58	CHALCOCITE.
	X1220	239-243	Tr	.30		4	38	FRACTURED SCHISTOSE QUARTZITE AND
								GARNET SCHIST. TRACE QUARTZ MINERALIZATION.
	X1235	243-246	.01	1.41		3	73	AX FROM 243-245½ GREY DIKE WITH
								CARBONATE SPOTS. FROM 245½-246 GARNET SCHIST
								WITH CHALCOPYRITE, CHALCOCITE, MALACHITE(?)
								MINERALIZATION. CORE FRACTURED.
		246-254						FRACTURED SCHISTOSE SCHISTOSE QUARTZITE
	X1236	246-250	.09	.82		4	23	WITH MINOR CHALCOPYRITE, CHALCOCITE, CARBONATE
	X1237	250-254	Tr	.27		4	8	AND MALACHITE(?)
	X1238	254-258	Tr	.14		4	75	SCHISTOSE QUARTZITE WITH BANDS OF
								GARNET SCHIST. BRECCIATED IN PLACES AND
								FILLED WITH LIMONITE.

Hole No. 5-39

CALERA MINING COMPANY
SLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-39 Mine

Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From – To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
[illegible]		258-264				6	85	ALTERNATING CONCORTED BANDS OF SCHISTOSE QUARTZITE AND GARNET SCHIST. CHLORITOID METAMORPHISM. SOME IRREGULAR QUARTZ STRINGERS.
		264-269						SCHISTOSE QUARTZITE CONTAINING CHLORITOID METAMORPHISM. SOME QUARTZOSE GARNET SCHIST 290-294'. BECOMES WITH A PINKISH COLOR 265½-268 AND DARKER BECOMES 274-279. FRACTURED 270-279, 283-289.
		269-274				5	30	
		274-279				5	22	
		279-284				5	14	
		284-289				5	26	
		289-294				5	42	
		294-299				5	34	
		299-302						MODERATELY FRACTURED. SCHISTOSE QUARTZITE. GREENISH GRAY. DIKE 298-300 WITH NARROW SMALL CAVITIES. A 1" SCHIST SEAM AT 299'.
		302-307				3	23	
		307-312				5	36	
		312-317						SCHISTOSE QUARTZITE WITH CHLORITOID METAMORPHISM. QUARTZOSE GARNET SCHIST AT 307 AND 311½'. CHLORITE-CHLORITOID GARNET SCHIST 313-315. FRACTURED 302½-306, 309-311 AND. MODERATELY FRACTURED 311-312. MINOR MALACHITE INTERGROWTH AT 315.
	5-1181	302½-307	.10	.15		6½	37	
	5-1182	307-312	.11	.03		5½	57	
	5-1183	312-317	.07	.16		4½	41	
		317-322						FROM 317-319½ SCHISTOSE QUARTZITE WITH MINOR CHLORITOID METAMORPHISM. LIMONITE-MALACHITE PLANTGROWTH 318½-319½. FROM 319½-322 CHLORITE SCHIST ABOUT MASSIVE REPLACED BY QUARTZ W. A MINOR LIMONITE AND GREEN STAINS. CORE MODERATELY BROKEN.
	5-1184	317-319½	.02	.51		2	30	
	5-1185	319½-322	.01	.19	Nil	3	40	
		322-327						QUARTZ MINERALIZATION WITH COBALTITE AND CHALCOPYRITE. MINOR CHLORITE SCHIST AT HIGH ANGLE TO CORE.
	5-1186	322-327	.11	3.17	Nil	3	63	
	5-1187	327-331	.10	1.53	Nil	4	85	
	5-1188	331-336	.04	.03	Nil	5	72	SCHISTOSE QUARTZITE WITH MINOR QUARTZ STRINGERS. MINOR DRUSY GREEN MINERAL IN FRACTURES. LIMONITE-MALACHITE MINERALIZATION AT 335½.
		336-340						
	5-1189	336-340	.01	.20		6	32	
	5-1190	340-343	.02	.24		3	63	SCHISTOSE QUARTZITE. ALTERNATE WITH GARNET SCHIST 334-337, 340-346. CHLORITE-GARNET SCHIST 343-345½. CHLORITOID METAMORPHISM AT 335, 343-345. A 1" BLACK SCHISTOSE DIKE WITH SMALL WHITE AND GREEN SPOTS AT 340½. FRACTURED 334-342.
	5-1191	343-350	TR	TR		5	44	

Hole No. 5-39.

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-39 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
8/6/54		348-383						Schistose quartzite. A few garnet
	X1242	348-351	Tr	Tr		3	67	schist zones at high angle to core 355,
	X1243	351-356	Tr	.06		5	96	356, 378, 379-380. Quartzose garnet
	X1244	356-361	Tr	Tr		5	66	schist 371-372½, 377-377½. Chloritoid
	X1245	361-366	Tr	Tr		5½	91	metacrysts 342-349, 353½, 358-361, 365-372,
	X1246	366-370½	Tr	Tr		4	98	372½-380, 383. Other quartz. Lamination
	X1247	370½-377½	Tr	Tr		7	80	mineralization 377½-382½.
	X1248	377½-383	.01	.01		5½	87	
	X1249	383-388½	Tr	Tr			91	Quartzose garnet schist. Alternates
								with some schistose quartzite 386-388.
								Chloritoid metacrysts 383-386. Some
								quartz-sericite-chlorite
								mineralization at 385½.
		388-401						From 388-388½ schistose quartzite.
	X1250	388-390	.02	.02		2	100	From 388½-394 gray dike. About 2" of
		390-397				7	96	black schistose dike on each side of gray
		397-401				4	63	dike. From 394-401 schistose quartzite
								with a band of garnet schist 36° to core
								at 395½. Chloritoid metacrysts
								397½-401. Fractured 389-390.

Hole No. 5-39

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-39 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Fe	% C.R.	Geology and Remarks
7/21/54	X1011	5-9	Tr	Tr		4	Severe	
	X1012	9-14	Tr	Tr		5		
	X1013	14-18	.01	Tr		4		
	X1014	18-21	Tr	Tr		3		Casco to 21'
7/22	X1026	21-25	Tr	Tr		4		
	X1027	25-28	.01	.01		3		
	X1028	28-34	Tr	Tr		6		
	X1029	34-39	.05	Tr		5		
	X1030	39-45	Tr	Tr		6		
	X1031	45-50	.01	Tr		5		Casco to 50'
	X103	50-54	.01	Tr		4		
	X1033	54-59	Tr	Tr		5		
	X1034	59-62½	Tr	Tr		3½		
	X1035	62½-66	Tr	.01		8½		
	X1036	66-74	Tr	Tr		8		
	X1037	74-77½	Tr	Tr		3½		
	X1038	77½-83	Tr	Tr		5½		
	X1039	83-86	Tr	Tr		3		
7/23	X1059	86-92	.01	Tr		6		
	X1060	92-99	Tr	Tr		7		
	X1061	99-104	Tr	Tr		5		
	X1062	104-109	.01	Tr		5		
	X1063	109-114	Tr	Tr		5		
	X1064	114-122	Tr	Tr		8		
	X1065	122-126	Tr	Tr		4		
	X1066	126-129	.14	.33		3		
	X1067	129-132	.11	2.28		3		
	X1068	132-137	.02	.28		5		
7/26	X1085	137-144	.01	.14		7		
	X1086	144-152	Tr	.05		8		
	X1087	152-155	.01	.10		7		
	X1088	155-158	.02	.04		3		
	X1089	158-162	.01	.05		4		
	X1090	162-165	.01	.07		3		
	X1091	165-168	Tr	.08		3		Some crush
	X1092	168-173	.02	.13		5		
	X1093	173-178	.01	.16		5		
	X1094	178-183	Tr	.12		5		
	X1095	183-187	Tr	.12		4		
	X1096	187-193	.01	.19		6		
	X1097	193-199	Tr	.19		6		

Hole No. 5-39

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-39 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
7/26/54	X1098	199-202½	Tr	.18		3½	Scarce	Some Cave
	X1099	202½-207½	.03	.22		5		
	X1100	207½-212	.01	.18		4½		
	X1101	212-214	.02	.12		2		
	X1102	214-217	.02	.18		3		
	X1103	217-220	.01	.08		3		
	X1104	220-226	.03	.28		6		
	X1105	226-231	.01	.13		5		
	X1106	231-232	.02	.55		1		
	X1107	232-235	Tr	.52		3		
	X1108	235-239	.02	.37		4		
	X1109	239-243	.05	.46		4		Cased to 243
	X1110	243-246	.02	.20		3		
	X1111	246-250	.03	.26		4		
	X1112	250-254	.10	.24		4		
	X1113	254-258	.02	.11		4		
	X1114	258-264	.02	.09		6		
	X1115	264-269	.02	.10		5		
	X1116	269-274	.01	.28		5		
	X1117	274-279	Tr	Tr		5		
	X1118	279-284	Tr	Tr		5		
	X1119	284-289	.01	.01		5		
	X1120	289-294	Tr	Tr		5		
	X1121	294-297½	Tr	Tr		3½		
	X1122	297½-302½	Tr	Tr		5		
	X1123	302½-306	Tr	Tr		3½		
	X1124	306-309	.01	Tr		3		
	X1125	309-312½	.02	Tr		3½		
	X1126	312½-317	.02	.03		4½		
7/27	X1127	317-322	.04	.22		5		
	X1128	322-329	.19	2.87		7		
	X1129	329-331	.43	.68		5		
	X1130	331-337	.10	.54		3		
	X1131	337-340	.02	.54		3		
	X1132	340-343	.11	.82		3		
	X1133	343-348	.01	.09		5		
	X1134	348-351	.03	.22		3		
	X1135	351-356	.01	.06		5		
	X1136	356-361	.01	.07		5		
	X1137	361-366½	.03	.07		5½		
	X1138	366-371½	.10	.05		4		

Hole No. 5-39

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 8

DIAMOND DRILLING RECORD

By

Date

Hole No. E-39 Mine

Level

Location

Bearing Dip

Length

Latitude of Collar Departure of Collar

Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
2/27/54	X1139	370-372½	.04	.07		7	[illegible]	
2/28	X1140	372½-383	.07	.14		52	"	
	X1141	383-385	.09	.21		5	"	
	X1142	385-390	.05	.11		2	"	
	X1143	390-397	.03	.05		7	"	
	X1144	397-401	.05	.04		9	"	

Hole No. E-39

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1
By R. E. Ferris
Date August, 1954

DIAMOND DRILLING RECORD

Hole No. 5-40 Mine
Level Surface
Location
Bearing S-55W Dip -58½° Length 430
Latitude of Collar 18,060N Departure of Collar 3,618 Elevation 8,000

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
8-9		2-58						NX. Schistose quartzite alternating
		2-6½				4½	18	with and grading into a small amount
		6½-9				2½	64	of quartzose garnet schist. Garnet
		9-13				4	95	schist 26-28 and 30'. Chloritoid micaceous
		13-17				4	65	14-35'. Gray dike with some small
		17-23				6	78	carbonate spots 39½-43'. A few quartz
		23-28				5	66	limonite stringers about 70° to core
		28-33				5	66	30-38'. Faults at 52½, 53½'.
		33-38				5	90	
		38-43				5	74	
		43-48				5	80	
		48-53				5	60	
		53-58				5	92	
		58-60				2	95	Schistose quartzite and quartz.
								Faint at 59'.
		60-85½						BX. Moderately fractured schistose
		60-64½				4½	67	quartzite alternating with and grading into
		64½-69½				5	58	a small amount of quartzose garnet schist.
		69½-72½				3	73	Reddish black schistose inc? 60-62'. Green
		72½-75½				3	63	dike? 72½-75½. Some quartz-limonite
		75½-80				4½	91	mineralization 72½-73'. Minor amount
		80-82				2	65	in fractures 61-64, 70-71'.
		82-85½				3½	77	
8-10		85½-99½						Schistose quartzite 60-80° to core
		85½-90½				5	98	alternating with some quartzose garnet
		90½-95½				5	100	schist. Small chloritoid? metacrysts at 98½'.
		95½-99½				4	90	
		99½-103				3½	74	Schistose quartzite alternating with
								quartzose garnet schist. Some quartz
								limonite mineralization 100½-103.
								Fractured quartzite. Dark green gray
		103-111						dike 107-110. Very minor limonite stains
		103-104				1	100	blows. Fractures 104-107. Fractured
		104-107				5	62	103-104', 107-110½.
		107-111				2	100	

Hole No. 5-40

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2

By: [redacted]

Date

DIAMOND DRILLING RECORD

Hole No. S-40 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
8/10/54		111-145						MODERATELY FRACTURED SCHISTOSE QUARTZITE
		111-115				4	58	ALTERNATING WITH A SMALL AMOUNT OF QUARTZOSE
		115-119				4	68	GARNET SCHIST. GARNET SCHIST 122-123'.
		119-124				5	58	A FEW SCATTERED CHLORITOID METACRYSTS 114,
		124-128				4	65	124-133½, 140-145'. MINOR LIMONITE IN
		128-132				4	85	FRACTURES 118-120'. FRACTURE PARALLEL TO CORE
		132-135				3	80	121-124'. FRACTURED 118-119, 132-135, 136-140'.
		135-140				5	50	
		140-145				5	66	
		145-149				4	48	SHEARED AND FRACTURED SCHISTOSE QUARTZITE
								WITH SOME SMALL CHLORITOID METACRYSTS.
		149-151				2	40	FRACTURED SCHISTOSE QUARTZITE.
		151-154				3	0	NO CORE
		154-163						MODERATELY FRACTURED SCHISTOSE QUARTZITE.
		154-157				3	27	FIRST CRACKIN AND SOUGE 157½-161½.
		157-162				5	32	
		162-163				1	30	
		163-170½						SCHISTOSE QUARTZITE WITH CHLORITOID
		163-165				2	80	METACRYSTS. A QUARTZ STRINGER AT 166½'.
		165-167				2	80	MODERATELY FRACTURED 167-170½'.
		167-170½				3½	49	
		170½-180½						MODERATELY FRACTURED SCHISTOSE
		170½-173				2½	84	QUARTZITE WITH CONTORTED BANDS OF GARNET
		173-176½				3½	77	SCHIST SEVERAL INCHES WIDE. CHLORITOID
		176½-180½				4	55	METACRYSTS 170½-175. QUARTZ-LIMONITE-CHLORITE
								VEIN 175-176'. A QUARTZ STRINGER AT 179½'.
		180½-206½						SCHISTOSE QUARTZITE WITH CHLORITOID
		180½-185½				5	58	METACRYSTS. NARROW BANDS OF GARNET SCHIST,
		185½-188				2½	44	MOSTLY AT HIGH ANGLE TO CORE 189-192½,
		188-193				5	80	205-206½'. A 2" BROWNISH GREEN SCHISTOSE
		193-198				5	56	DIKE WITH SMALL CAVITIES AT 195'. QUARTZ
		198-200				2	95	LIMONITE MINERALIZATION 200½-201. VERY
		200-203				3	97	MINOR LIMONITE IN FRACTURES 194-196.
		203-206½				3½	97	FRACTURED 186-188, 191-193, 195-198½, 201-203.
		206½-218						SCHISTOSE QUARTZITE WITH CONTORTED BANDS
		206½-208½				2	75	OF GARNET SCHIST UP TO SEVERAL EGG AT ATT.
		208½-213				4½	98	A FEW CHLORITOID METACRYSTS IN THE MORE
		213-218				5	94	SCHISTOSE ROCK. QUARTZ-LIMONITE STRINGERS
								216-218. FRACTURED 208-208½, 212½-218.

Hole No. S-40

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No.
By
Date
Level

DIAMOND DRILLING RECORD

Hole No. S-40 Mine
Location
Bearing Dip
Latitude of Collar Departure of Collar

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	
8/10/54		218-223				5	98	[illegible]
								[illegible]
								[illegible]
		223-230						[illegible]
		223-228				5	40	[illegible]
		228-230				2	20	[illegible]
		230-234				4	48	[illegible]
								[illegible]
		234-244						[illegible]
		234-237				3	47	[illegible]
		237-240				3	50	[illegible]
		240-244				4	35	[illegible]
		244-246				2	70	[illegible]
								[illegible]
		246-262½						[illegible]
		246-249				3	73	[illegible]
		249-251				2	85	[illegible]
		251-253				2	100	[illegible]
		253-255				2	80	[illegible]
		255-260				5	36	[illegible]
		260-262½				2½	28	[illegible]
		262½-264½				2	55	[illegible]
								[illegible]
		264½-267				2½	84	[illegible]
								[illegible]
		267-271				4	25	[illegible]
								[illegible]
		271-276						[illegible]
		271-273				2	10	[illegible]
		273-276				3	20	[illegible]
		276-284						[illegible]
		276-280				4	48	[illegible]
		280-284				4	45	[illegible]
								[illegible]
		284-289½						[illegible]
		284-286				2	90	[illegible]
		286-289½				3½	11	[illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. S-40 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
8/10/54		289½-316						MODERATELY FRACTURED SCHISTOSE
		289½-293½				4	30	QUARTZITE ALTERNATING WITH AND
		293½-295½				2	55	GRADING INTO QUARTZOSE GARNET SCHIST
		295½-299½				4	45	A FEW ABOVE CHLORITOID METACRYSTS 295½-306.
		299½-305				5½	29	BRECCIATED AND EMPLOSION QUARTZITE FRAGMENTS
		305-310				5	84	307½-310. MINOR QUARTZ MALACHITE? LIMONITE
		310-314				4	53	MINERALIZATION 296, 299. VERY MINOR MALACHITE
		314-316				2	100	ON FRACTURES 300-306, 310-314. A SMALL FAULT
								AT 290 AND FAULT GOUGE AT 315½. FRACTURED
								289½-295½, 313-314½.
		316-339						SCHISTOSE QUARTZITE WITH NARROW BANDS
		316-318				2	90	OF GARNET SCHIST UP TO SEVERAL FEET
		318-322				4	100	APART AND 60-80° TO CORE. SOME CHLORITOID
		322-325				3	93	METACRYSTS 323-336. SILICA CAPPING WEATHERED
		325-329				4	93	SCHISTOSE CORE 318½-319½, 320-321½. MINOR
		329-334				5	100	BLACK OXIDE 328-330. LIMONITE STAINED ALONG
		334-339				5	100	FRACTURES 316-318, 319½-320, 321½-322, 326-328,
								331-331½, 335-337. BRECCIATED AND HEALED WITH
								HEMATITE? 322-325, 329½-330. FAULT AT 336'.
		339-354						SCHISTOSE QUARTZITE WITH NARROW BANDS
		339-344				5	100	OF GARNET SCHIST UP TO SEVERAL INCHES
		344-349				5	100	WIDE AND UP TO SEVERAL FEET APART ABOUT
		349-354				5	100	60° TO CORE. CHLORITOID METACRYSTS 348-354.
								SOME GRAPHITE SCHIST 343½-344. MINOR
								QUARTZ STRINGERS 350½-352½.
		354-384						SCHISTOSE QUARTZITE WITH NARROW BANDS
	X 1279	354-359	Tr	Tr		5	98	OF GARNET-~~[illegible]~~ CHLORITOID SCHIST UP
	X 1280	359-364	Tr	Tr		5	96	TO SEVERAL INCHES WIDE AND UP TO SEVERAL
	X 1281	364-369	Tr	Tr		5	100	FEET APART ABOUT 70° TO CORE. MODERATELY
	X 1282	369-374	Tr	.01		5	92	BRECCIATED AND HEALED WITH MINOR HEMATITE
	X 1283	374-379	Tr	Tr		5	90	AND LIMONITE 354-356½, 360½-362. QUARTZ
	X 1284	379-384	.01	.04		5	69	LIMONITE STRINGERS 371½-374, 378-379.
8/17/54		384-408						SCHISTOSE QUARTZITE. GARNET SCHIST BANDS
		384-389				5	58	AT 401, 405½. CHLORITOID METACRYSTS 386-388,
		389-395				6	77	392-395, 397-398, 402-406. MODERATELY
		395-400½				5½	100	FRACTURED 386-389, 394-395, 398-403. FAULT
		400½-403				2½	84	AT 386.
		403-408				5	100	
		408-413				5	72	SCHISTOSE QUARTZITE WITH BANDS
								OF CHLORITE SCHIST MOSTLY AT A HIGH
								ANGLE TO CORE.

Hole No. S-40

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. S-40 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C. R.	Geology and Remarks
8/27/54		413-422						CHLORITE SCHIST. RECROSSING WITH BANDED BANDS OF SCHISTOSE QUARTZITE
		413-418				5	100	
		418-422				4	83	
		422-427				5	88	SCHISTOSE QUARTZITE WITH CONTORTED BANDS OF CHLORITE SCHIST
		427-430				3	80	SCHISTOSE QUARTZITE WITH MINOR LIMONITE IN FRACTURES

Hole No. S-40

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. S-40 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Fr	% C. R.	Geology and Remarks
7/30/54	—	0-60	—	—		60	Good	
	X1145	60-64½	.01	Tr		4½		Cased to 60'
	X1146	64½-69½	.01	Tr		5		
	X1147	69½-72½	Tr	Tr		3		
	X1148	72½-80	.05	Tr		7½		
	X1149	80-82	.01	Tr		2		
	X1150	82-85½	.01	Tr		3½		
	X1151	85½-90½	.01	Tr		5		
	X1152	90½-95½	Tr	Tr		5		
	X1153	95½-99½	Tr	Tr		4		
	X1154	99½-103	.02	Tr		3½		
	X1155	103-109	Tr	Tr		6		
	X1156	109-113	Tr	Tr		4		
8/2	X1157	113-119	Tr	Tr		6		
	X1158	119-124	Tr	Tr		5		
	X1159	124-128	Tr	Tr		4		
	X1160	128-132	Tr	Tr		4		
	X1161	132-135	Tr	.04		3		
	X1162	135-140	Tr	.01		5		
	X1163	140-145	Tr	Tr		5		
	X1164	145-151	Tr	Tr		6		
	X1165	151-157	Tr	Tr		6		
	X1166	157-162	Tr	.02		5		
	X1167	162-167	Tr	Tr		5		
	X1168	167-173	Tr	.05		6		
8/3/54	X1173	173-176½	Tr	.07		3½		
	X1174	176½-180½	.01	.02		4		
	X1175	180½-185½	.01	Tr		5		
	X1176	185½-193	.01	Tr		7½		
	X1177	193-198	Tr	Tr		5		
	X1178	198-203	.01	.02		5		
	X1179	203-208½	Tr	.07		5½		
	X1180	208½-213	.05	.17		4½		
8/4/54	X1189	213-218	.04	.03		5		
	X1190	218-223	Tr	.09		5		
	X1191	223-228	Tr	.07		5		
	X1192	228-234	Tr	.07		6		
	X1193	234-240	Tr	.07		6		
	X1194	240-244	.01	.10		4		
	X1195	244-246	Tr	.02		2		
	X1196	246-251	Tr	.09		5		

Hole No. S-40

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. S-40 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
8/4/54	X1197	251-255	.01	Tr		4	[illegible]	
	X1198	255-260	.02	.17		5	"	
	X1199	260-264½	Tr	.05		4½	"	
	X1200	264½-271	Tr	.24		6½	"	
8/5/54	X1201	271-276	.01	.20		5	"	Cased to 271'
	X1202	276-280	Tr	.07		4	"	
	X1203	280-284	Tr	.12		4	"	
	X1204	284-289½	.01	.27		5½	"	
	X1205	289½-294½	.01	.10		4	"	
	X1206	294½-299½	Tr	.15		6	"	
	X1207	299½-305	Tr	.09		5½	"	
	X1208	305-310	Tr	.02		5	"	
	X1209	310-314	Tr	Tr		4	"	
	X1210	314-318	Tr	Tr		4	"	
	X1211	318-322	.01	.02		4	"	
	X1212	322-329	Tr	Tr		7	"	
8/6	X1221	329-334	.02	.03		5	"	
	X1222	334-339	.01	Tr		5	"	
	X1223	339-344	Tr	Tr		5	"	
	X1224	344-349	Tr	Tr		5	"	
	X1225	349-354	Tr	.01		5	"	
	X1226	354-359	Tr	.03		5	"	
	X1227	359-364	.30	.14		5	"	
	X1228	364-369	Tr	.06		5	"	
	X1229	369-374	.03	.06		5	"	
	X1230	374-379	.16	.04		5	"	
	X1231	379-384	.05	.10		5	"	
	X1232	384-389	Tr	Tr		5	"	
	X1233	389-395	Tr	Tr		6	"	
	X1234	395-400	.01	.03		5	"	
8/7	X1251	400-408	Tr	.02		8	"	
	X1252	408-413	Tr	Tr		5	"	
	X1253	413-418	Tr	Tr		5	"	
	X1254	418-422	Tr	Tr		4	"	
	X1255	422-427	.07	Tr		5	"	
	X1256	427-430	.06	.15		3	"	

Hole No. S-40

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

August 23, 1954

Memorandum

To: DMEA Field Team, Region II

From: Howard B. Nickelson, Geologist, U. S. Geological Survey

Subject: Docket No. DMEA-3143 (cobalt-copper), Calera Mining Company, Blackbird Mine, Lemhi County, Idaho, Contract No. Idm-E645

Mr. Cribbs, company geologist, was contacted on August 5, 1954, and the recent work was discussed. He stated the crosscutting operations had again begun on the 7100 level.

The drilling is still continuing. The inspector was pressed for time and did not make an examination of the property. The geologic data are well explained in the operator's progress reports.

Distribution:
DMEA (Orig. & 3)
USBM (2)
Docket
Nickelson

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

Month of July 1954 Docket No. DMEA 3143 Contract No. Idm-E645

Operator's Name Calera Mining Company Minerals Cobalt and Copper

Address Cobalt, Idaho

Contract Amount, $ 407,340.00 Government Participation: 70 % Amount, $ 285,138.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY (WBM): Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Contractors:						
Short Form						
Drilling						
Bulldozing						
Framing						
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						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
Spiling		560.00	560.00			
Heavy Timber	-	199.50	199.50			
Core - Stage II	-	331.46	331.46			
Trenching	795.83	7,952.32	8,748.15	795.83	7952.32	8748.15
Normal Timber	-	667.10	667.10			
Bulldozing	-	3,731.18	3,731.18			
Framing	-	180.84	180.84			
Core Drilling-Stage I	7,419.36	20,980.92	28,400.28	7419.36	20980.92	28400.28
Remaining Stage I	393.75	721.25	1,115.00	393.75	721.25	1115.00
Sampling & Analysis Stage II	-	141.00	141.00			
Sampling & Analysis Stage I	1,086.00	1,932.00	3,018.00	1086.00	1932.00	3018.00
Totals	9,694.94	37,397.57	47,092.51	9694.94	37397.57	47092.51

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

Date Aug. 3, 1954 *Payee Calera Mining Company

Per [signature] Title [signature]

*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:

$ 6786 46

Signature MJP
(Authorized Certifying Officer)

Date 9/23/54 Vou. No. 1290
(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. 6645 in accordance with the terms of the contract.

Signature /S/ Verda L. Johnson Title Mining Eng. Date 9/14/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W. Zaldok Title Mining Eng. Date 9/15/54

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
Approval expires 6-30-53.

Bureau of Mines
Bureau Minerals Administration
SEP 27 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of July 1954 Docket No. DMEA 3143 Contract No. idm-E645
Operator's Name Calera Mining Company Minerals Cobalt and Copper
Address Cobalt, Idaho

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	Ft.	-	-	3,731.18	105	35.535	6000	35.535
Crosscutting	Ft.	-	-	667.10	95.3	7.00	5000	7.00
Raising	Ft.	-	-	199.50	28.5	7.00	750	7.00
Shafts	Ft.	-	-	560.00	28.0	20.00	500	20.00
Winzes	Sets	-	-	180.84	33.0	5.48	1150	5.48
Drilling Core	Ea.	-	-	141.00	47	3.00	5900	3.00
Churn	Ft.	-	-	331.46	98	3.3822	10500	3.3822
Auger								
Stripping	Hrs.	795.83	67	8748.15	736½	11.878	864	11.878
Trenching	Ft.	7,419.36	1066	28,400.28	4080½	6.960	8700	6.960
Test Pits	Ea.	1,086.00	362	3,018.00	1006	3.00	3100	3.00
Roads and Trails	Ft.	393.75	157½	1,115.00	446	2.50	1700	2.50
Normal Timbering								
Heavy Timbering								
Spiling								
Framing								
Assay - Stage II								
Drilling Core - Stage II								
Drilling Core-Stage I								
Assay - Stage I								
Reaming - Stage I								
TOTAL DISTRIBUTED COSTS		9,694.94		47,092.52				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		9,694.94		47,092.51				

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 3, 1954 Operator Calera Mining Company

Per [signature] Title [signature]

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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

August 6, 1954

GCS
8/17/55

Mr. A. E. Wolesenborn
Executive Office - Region 2
D.M.E.A. Field Team
South 157 Howard Street
Spokane 4, Washington

Ref Docket No. D.M.E.A. 3143
Contract No. idm-E645

Dear Mr. Wolesenborn:

We enclose herewith the reports covering the activities of the D.M.E.A. Project No. 3143 for the month of July, 1954.

Trenching continued intermittently during the month. A trench approximately 1,100 foot long east of the Chicago zone was nearly completed.

Surface diamond drilling continued in the garnet schist. The holes drilled in this area have all intersected a highly siliceous zone that contains low-grade cobalt and copper mineralization. The zone strikes about N30W and dips about 55° to the NE.

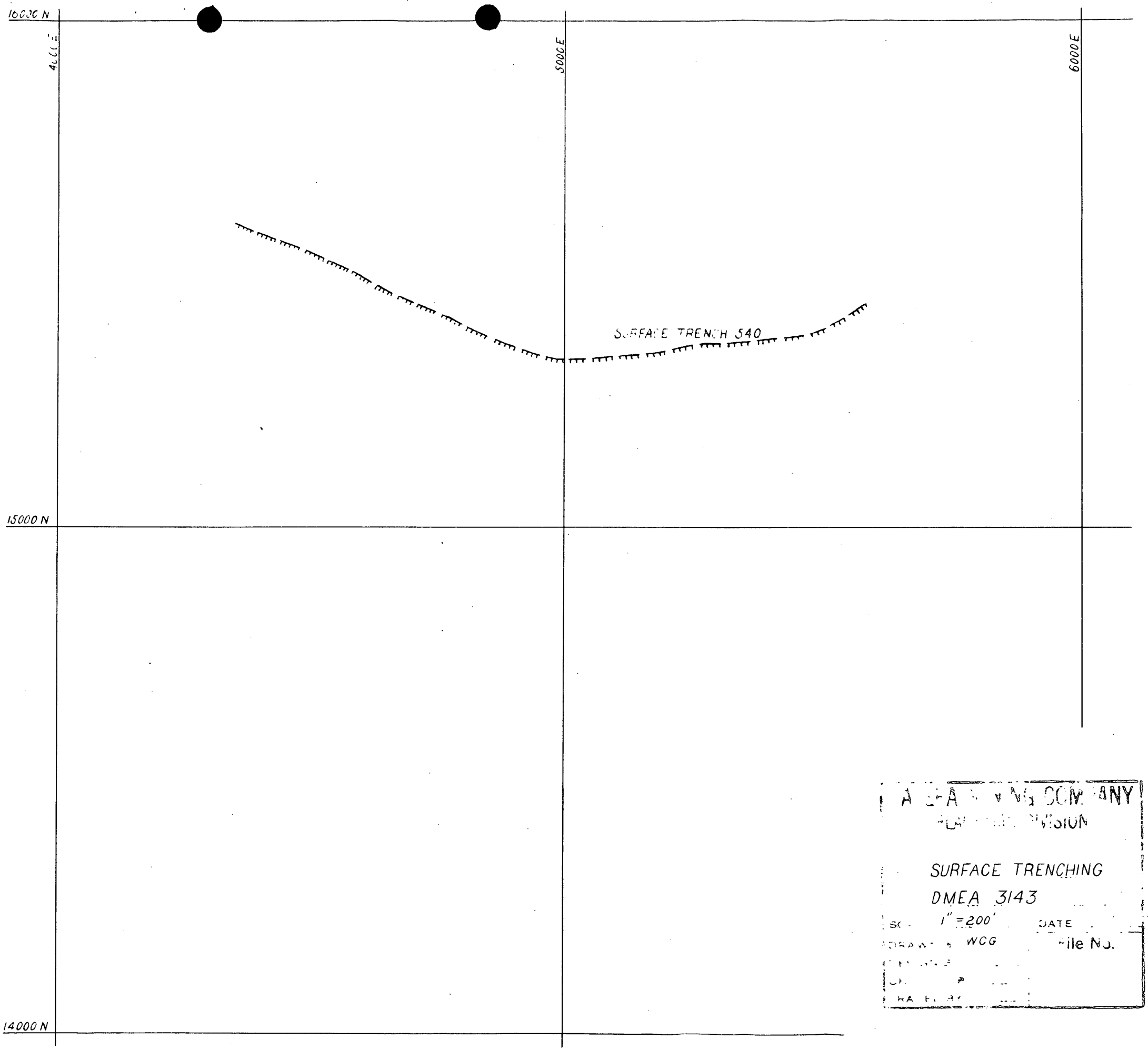
The 7400 Drift North was started at the end of the month on a line N30E from the 17,290N coordinate. There was no advance north of the D.M.E.A. boundary.

Very truly yours,

CALERA MINING COMPANY
BLACKBIRD DIVISION

E. B. Douglas, Manager

EBD:mg
Enclosure


16000 N
4000 E
5000 E
6000 E
SURFACE TRENCH 540
15000 N
14000 N
SURFACE TRENCHING
DMEA 3143
1" = 200'
WCG

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R. E. Gibbs
Date June, 1954

Hole No. S-34 Mine Level Surface
Location
Bearing N 88 W Dip -58½° Length 350
Latitude of Collar 18,003 N Departure of Collar 2,790 E Elevation 2799

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
Started		0-24				24	2	AX Fragments of Sericitic Quartzite, Possibly a little black lime [illegible].
		24-46½			22½	1		Fragments of sericitic quartzite and schist.
		46½-50			3½	14		Brecciated quartzite and schist with some small carbonate veins. Poor core recovery.
		50-54½			4½	4		BX Sericitic quartzite fragments with minor limonite and fractures.
		54½-59						Moderately mineralized fragments of sericitic quartzite and schist up to 50% limonite. Best 4' [illegible] 54½-59.
		54½-57			2½	80		
		57-59			2	45		
		59-62			3	30		Fractured quartzite, partly brecciated and mineralized with limonite. Basal schist with some small carbonate veins at 59½.
		62-63½						Fragments of quartzose sericitic and quartzite. Minor limonite on fractures.
		62-65			3	10		
		65-67½			2½	29		
		67½-70½			3	0		No core.
		70½-72			1½	67		Moderately mineralized sericitic quartzite and schist with minor limonite on fractures.
		72-80½						Moderately fractured sericitic quartzite with narrow bands of schist up to several inches wide at about 60° to core.
		72-74½			2½	100		
		74½-76½			2	100		
		76½-80½			4	90		Minor shearing 76-80.
		80½-84½			4	98		From 80½-82½ [illegible] as above. From 82½-84½ fractured and quartzite sheared sericitic quartzite and schist with minor limonite stains.
		84½-88½						Sericitic quartzite with narrow schist zones up to several inches wide dip 50-70° to core. Fractures as 86½ and
		88½-89½			3	90		
	X851	89½-94	.02	.01	4½	98		
	X852	94-96½	.02	.01	2½	100		Moderately fractured quartzite with some quartz-carbonate mineralization at 86½-88½ and minor limonite. Broad mineralization 102½-104½.
	X853	96½-100½	.01	.01	4	100		
	X854	100½-104½	.01	.01	4	100		
	X855	104½-107	.01	.01	2½	96		From 104½-105½ fractured sericitic quartzite with some quartz-carbonate mineralization. From 105½-106½ quartz-carbonate vein. From 106½-107 quartzite schist with some [illegible] and [illegible] limonite mineralization.

Hole No. S-34

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2

By

Date

Level

DIAMOND DRILLING RECORD

Hole No. D-39 Mine

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
2/2/54	X866	102-112	.08	.07		5	92	PRETERMINING BAND OF QUARTZOSE AND SCHIST ABTS 1" WIDE. STRINGERS VARIES FROM 45° TO VERT DOWN 102 TO NEAR PRODUCE MAT MODERATE SHEARING AFTER 110'. SOME QUARTZ PRODUCE MINERALIZATION 112'.
		112-117½						NARROW CONTORTED BANDS OF SCHIST PRODUCE LOW-ANGLE TO CORE IN INTERVAL
	X867	117-123	.09	.12		1½	100	
	X868	123½-127½	.07	.02		4	85	SCHISTOSE QUARTZITE. IRREGULAR QUARTZ STRINGER.
		127½-128						FRACTURED SCHISTOSE QUARTZITE WITH
		128-131				3½	72	NARROW BANDS OF SCHIST 45-20° TO CORE. MINOR
		131-134				3	60	QUARTZ-BROWN MICACEOUS SCHIST. MINOR
		134-135				1	100	SHEARING.
		135-137				2	100	BROWN SCHISTOSE DIKE WITH SOME
		137-139½				2½	84	CARBONATE SPOTS. 0½" QUARTZ STRINGER AT 135½. FRACTURED SCHISTOSE QUARTZITE AND SCHIST.
								CARBONATE SPOTS IN QUARTZITE NEAR DIKE. QUARTZ-PYRITE-CHALCOPYRITE MINERALIZATION 137½.
		139½-141						MODERATELY FRACTURED SCHISTOSE QUARTZITE
		141-143				2	100	WITH SOME NARROW SCHIST BANDS 60° TO
		143-145				1½	100	CORE. ½" OF PURE GRAPHITE INTERCALATED
	X869	145-147	.10	.03		2	75	SCHIST AND QUARTZITE AT 145. QUARTZ MINERALIZATION
								WITH YELLOW AND RED OXIDES AND SOME
								CHALCOPYRITE 143-145.
	X870	147-149	.05	.17		4	28	FIRST HALF OF CORE IS FRACTURED
								SCHISTOSE QUARTZITE, LAST HALF IS BROWN
								BROWN DIKE.
	X871	149-151	.10	.02		5	83	GREENISH BROWN SCHISTOSE DIKE WITH BROWN
								50% SMALL CARBONATE SPOTS.
		151-153½						FRACTURED MODERATELY BRECCIATED SCHISTOSE
	X872	153-155	.09	.03		2	80	QUARTZITE OBSERVATION WITH SOME DIKE
	X873	155-157½	.14	.19		1½	100	SIMILAR TO ABOVE. QUARTZ-PYRITE
								MINERALIZATION FROM 155-157½
2/3/54		157½-159½						FRACTURED SCHISTOSE QUARTZITE WITH
	X877	159½-161	.02	.02		2½	100	NARROW SLIGHTLY CONTORTED SCHIST BANDS UP
	X878	161-163½	.04	.02		3½	32	TO 60° WITH CORE AND DOWN 50° TO CORE.
								FRAGMENTS OF BROWN DIKE 155½-157. SEE 159½.
								(PRETIMED?) ALL R QUARTZ-CHALCOPYRITE
								MINERALIZATION SEEN.

Hole No. D-39

CALERA MINING CORP.
BLACKWOOD [illegible]

DIAMOND DRILLING RECORD

Hole No. 5-37 Mine

Location

Bearing Dip

Latitude of Collar Departure of Collar

Date	Sample No.	Depth From → To	Assay Values % Co.	% Cu.	Oz. Au	[illegible]	[illegible]
7/3/54		151½-158½					
	x879	151½-154	.05	Tr		[illegible]	100
	x880	154-155½	.12	.11		[illegible]	[illegible]
	x881	155½-158½	.07	[illegible]		[illegible]	[illegible]
		158½-163					
	x882	158½-163	.02	Tr		4½	[illegible]
	x883	163-168	.08	.04		5	[illegible]
	x884	168-175	.05	.09		7	[illegible]
		175-182					
	x885	175-180	.03	.08		[illegible]	[illegible]
	x886	180-185	.05	.08		5	[illegible]
7/5	x896	185-190	.05	Tr		5	[illegible]
	x897	190-192	.03	Tr		2	[illegible]
	x898	192-195	.22	.10		3	5
	x899	195-200	.08	.26		5	[illegible]
	~~x900~~	~~200-205~~					
	x900	200-205	.06	.20		5	[illegible]
		205-210					
	x901	205-208	.04	.86		3	[illegible]
	x902	208-210	.06	.53		2	[illegible]
		210-226					
7/9	x903	210-214	.05	.10		[illegible]	100
	x904	214-221½	.39	.70		[illegible]	[illegible]
	x905	221½-226	.03	.12		[illegible]	[illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 4
By
Date
Level

Hole No. 5-34 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
7/8/54	X 906	226-231½	.04	.49		5½	20	AX MODERATELY FRACTURED SCHISTOSE QUARTZITE WITH MINOR QUARTZ CHALCOPYRITE MINERALIZATION.
	X 907	231½-236	.05	.36		4½	67	MODERATELY FRACTURED SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE WITH NARROW CONTORTED SCHIST BANDS ABOUT 60° TO CORE. IRREGULAR QUARTZ-CHALCOPYRITE-PYRITE STRINGERS, MOSTLY 232-234'.
	X 908	236-242 236-240 240-242	.04	.74		4 2	53 35	SCHISTOSE QUARTZITE WITH NARROW CONTORTED SCHIST BANDS ABOUT 60° TO CORE. MINOR QUARTZ-CARBONATE-CHALCOPYRITE MINERALIZATION. MODERATELY FRACTURED 236-237, 240-242'.
		242-245 245-250				3 5	17 4	FRACTURED QUARTZITE AND SCHIST. FRAGMENTS OF BROWN DIKE WITH SOME CARBONATE SPOTS.
		250-253				3	50	HIGHLY SHEARED 250-253 WITH ELEMENTS OF BROWN DIKE. FROM 251-253 FRACTURED AND BRECCIATED SCHIST AND QUARTZITE WITH QUARTZ MINERALIZATION AND MINOR CHALCOPYRITE AND PYRITE.
		253-259 253-255 255-257 257-259 259-261				2 2 2 2	55 75 100 75	SCHISTOSE QUARTZITE WITH NARROW CONTORTED BANDS OF SCHIST MOSTLY ABOUT 60° TO CORE. MINOR QUARTZ-CHALCOPYRITE MINERALIZATION. FRACTURED FINE GRAINED INTERCALATED SCHIST AND QUARTZITE ABOUT 70° TO CORE.
		261-275 261-265 265-266½ 266½-270 270-275				4 1½ 3½ 5	75 100 34 40	SCHISTOSE QUARTZITE, MODERATELY BRECCIATED IN PLACES, WITH NARROW CONTORTED SCHIST BANDS ABOUT 70° TO CORE. VERY MINOR IRREGULAR QUARTZ CHALCOPYRITE PYRITE MINERALIZATION. FRACTURED 273-275'.
	X 909	275-279	.05	.77		4	63	MODERATELY FRACTURED BROWN SCHISTOSE DIKE WITH SOME SMALL CARBONATE SPOTS.
	X 910	279-282	.01	.01		3	50	MODERATELY FRACTURED BROWN SCHISTOSE QUARTZITE. MINOR QUARTZ MINERALIZATION.

Hole No. 5-34

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

By

Date

DIAMOND DRILLING RECORD

Hole No. S-34 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
11/2/81		282-292						MODERATELY FRACTURED SCHISTOSE
	X 911	282-285	.03	.02		3	52	QUARTZITE, BRECCIATED IN PLACES, WITH SOME
	7 512	285-292	.03	.01		7	43	NARROW CONCORDANT SCHIST BANDS ABOUT
								60° TO CORE. MINOR QUARTZ-CHALCOPYRITE
								PYRITE MINERALIZATION.
		292-295				3	7	FRAGMENTS OF SCHISTOSE QUARTZITE
		295-300						BRECCIATED SCHISTOSE QUARTZITE WITH
		295-298½				3	33	SOME NARROW SCHIST BANDS 60° TO
		298-300½				2½	80	CORE. MINOR QUARTZ-VERY PYRITE =
		300½-305½				5	18	CHALCOPYRITE MINERALIZATION. FRACTURED
		305½-308				2½	48	295-298½ AND 300-305½.
		308-313						VERY HIGHLY FRACTURED SCHIST AND
		308-310				2	25	SCHISTOSE QUARTZITE
		310-313				3	30	
		313-320						BRECCIATED SCHISTOSE QUARTZITE
		313-316				3	55	WITH SOME HIGHLY CONCORDANT
		316-320				4	46	NARROW SCHIST BANDS. MINOR
		320-323				3	33	FRACTURED 321-324½ AND MODERATELY
		323-324½				1½	40	FRACTURED 313-321.
		324½-328				3½	100	
		328-340						HIGHLY CONCORDANT QUARTZOSE SCHIST
		328-331				3	97	WITH SEVERAL BANDS OF BRECCIATED
		331-340				9	53	SCHISTOSE QUARTZITE. SEVERAL INCHES
								WIDE. VERY MINOR QUARTZ-PYRITE
								CHALCOPYRITE MINERALIZATION.
		340-346½				6½	38	MODERATELY FRACTURED SCHISTOSE
								QUARTZITE FROM 80° TO CORE. A 2"
								BROKEN SCHISTOSE DIKE AT 342.
		346½-350				3½	17	FRACTURED SCHISTOSE QUARTZITE.

Hole No. S-34

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6
By
Date
Level

DIAMOND DRILLING RECORD

Hole No. S-34 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C. R.	Geology and Remarks
6/8/54	—	0-46½				46½	SLOUGH	CASE 46½
	X504	46½-50	TR	.03		3½		CASE 50'
	X505	50-54½	.01	TR		4½		
	X506	54½-62	TR	.02		7½		
	X507	62-70½	TR	TR		8½		
	X508	70½-74½	TR	.05		4		
	X509	74½-80½	.02	TR		6		
	X510	80½-84½	.02	.09		4		
	X511	84½-92	.03	.27		5½		
	X512	92-96½	TR	.03		4½		
	X513	96½-102½	.13	.02		6		
	X514	102½-112	.37	.04		9½		LOST WATER 106-108 CAMERA FROM 108
	X515	112-117½	.05	.02		5½		
	X516	117½-124	.05	.04		6½		
	X517	124-130½	.03	.05		6½		
	X518	130½-139	.07	.04		8½		
	X519	139-144	.07	.02		5		
	X520	144-147	.19	.15		3		
	X521	147-151½	.17	.12		4½		
	X522	151½-154	.12	.10		2½		
	X523	154-163	.08	.14		9		
	X524	163-168	.04	.13		5		
	X525	168-175	.06	.12		7		CONTAINS CAVE MATERIAL
	X526	175-180	.05	.06		5		
	X527	180-185	.03	.04		5		
	X528	185-190	.04	.01		5		
	X529	190-195	.05	.02		5		
	X530	195-200	.04	.08		5		
	X531	200-205	.04	.09		5		
	X532	205-210	.07	.08		5		
	X533	210-214	.05	.04		4		
6/10/54	X534	214-221	.05	.12		7		
	X535	221-226	.03	.09		5		CASED 226'
	X536	226-231½	.06	.42		5½		
	X537	231½-236	.07	.77		4½		
	X538	236-240	.03	.43		4		
	X539	240-245	.05	.41		5		
	X540	245-250	.03	.13		5		
	X541	250-255	.06	.27		5		
	X542	255-262	.04	.41		7		
	X543	262-266½	.02	.09		4½		

Hole No. S-34

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-34 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
6/10/54	X544	266½-275	.05	.12		8½	2.06	
	X545	275-279	.04	.13		4		
	X546	279-285	.15	.51		6		
	X547	285-292	.02	.04		7		
	X548	292-298	.03	.05		6		
	X549	298-305	.03	.04		7		
	X550	305-313	.04	.05		8		
	X551	313-320	.04	.03		7		
	X552	320-328	.06	.03		8		
6/11/54	X553	328-331	.03	.02		3		
	X554	331-340	.04	.01		9		
	X555	340-346½	.07	.02		6½		
	X556	346½-350	.03	.02		3½		

Hole No. 5-34

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By [illegible]
Date [illegible]

Hole No. S-36 Mine
Level [illegible]
Location 844 FRENCH
Bearing S 56 E° Dip -52° Length 900'
Latitude of Collar 18,588 N Departure of Collar [illegible] E Elevation 7,932.6

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	%	% C.R.	Geology and Remarks
7/13/54		0-10				10	20	NX SCHISTOSE QUARTZITE WITH GARNET SCHIST BANDS UP TO AN INCH WIDE DIP 25° TO CORE
		10-13				3	23	QUARTZITE. QUARTZ FRAGMENT AT 10'.
		13-15				2	55	SCHISTOSE QUARTZITE WITH SEVERAL GARNET SCHIST BANDS UP TO 1/2" WIDE 25° TO CORE.
		15-20				5	78	FROM 15-16' IS SCHISTOSE QUARTZITE, BREAKING AT 16'. CHLORITE SCHIST WITH SMALL QUARTZ 16-18' GRADING INTO SCHISTOSE QUARTZITE FROM 19-20'.
		20-25				5	66	SCHISTOSE QUARTZITE WITH A FEW GARNET SCHIST BANDS AT LOW ANGLE TO CORE. NARROW BLACK VEIN NEARLY PARALLEL WITH CORE 20-21' CONTAINS MOSTLY CARBONATE. BANDS UP TO 1/8" WIDE.
		25-30				5	22	QUARTZITE FRAGMENTS
		30-35				5	34	SCHISTOSE QUARTZITE WITH A FEW NARROW GARNET SCHIST BANDS AT 65° TO CORE. A 1" FAULT BRECCIA AT 34'.
		35-40				5	32	MODERATELY FRACTURED SCHISTOSE QUARTZITE ABOUT 60° TO CORE
		40-50						SCHISTOSE QUARTZITE WITH A FEW NARROW GARNET SCHIST BANDS 80° TO CORE. SCATTERED 1/2" WHITE VEINLETS AT 48'.
		40-45				5	48	
		45-50				5	30	
		50-61						BX QUARTZITE. SCHISTOSE QUARTZITE WITH NARROW GARNET SCHIST BANDS 0° TO CORE. SCATTERED 1/2" WHITE VEINLETS AT 48'. MODERATELY FRACTURED 50-52½' AND 55-61'.
		50-52½				2½	36	
		52½-56				3½	83	
		56-58½				2½	72	
		58½-61				2½	100	
		61-68½						SCHISTOSE QUARTZITE 80° TO CORE. FRACTURED 64-65', 67½-68½' WITH 1/2" MEDIANITE 66-66½'.
		61-65				4	58	
		65-68½				3½	46	
		68½-76						FRACTURED SCHISTOSE QUARTZITE WITH A FEW BANDS OF GARNET SCHIST AND RED COATINGS ON FRACTURES. MOSTLY 68½-70½'. QUARTZITE 72½-74'.
		68½-70½					35	
		70½-72½					50	
		72½-74½					65	
		74½-76				1½	73	

Hole No. S-36

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No
By
Date

Hole No. [illegible] Mine
Level
Location
Bearing
Dip
Length
Latitude of Collar
Departure of Collar
Elevation

Date	Sample No.	Depth From - To	Assay Value % Co.	Cu.	Oz. Au.	% C.R	Geology and Remarks
[illegible]		[illegible]				[illegible]	[illegible]
		[illegible]				63	[illegible]
		[illegible]				99	[illegible]
		[illegible]				[illegible]	[illegible]
		108					MOSTLY ORTHOCLASE GRANITE SHEET
		23 96				23	MOSTLY [illegible]
		[illegible]				[illegible]	WITH [illegible]
		[illegible]				87	[illegible]
							[illegible]
							[illegible]
							[illegible]
							[illegible]
		[illegible]				43	[illegible]
							[illegible]
		[illegible]					[illegible]
						34	[illegible]
		[illegible]			6	[illegible]
		[illegible]				[illegible]	[illegible]
		[illegible]				[illegible]	[illegible]
							[illegible]
		[illegible]				80	[illegible]
							[illegible]
							[illegible]
		[illegible]				61	[illegible]
		[illegible] 155				[illegible]	[illegible]
		[illegible]					[illegible]
		[illegible] 164					[illegible]
		[illegible]				[illegible]	[illegible]
		[illegible] 164				8	[illegible]
							[illegible]
							[illegible]

Hole No. [illegible]

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No 3

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-26 Mine

Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	% C. R.	Geology and Remarks
7-26-57		164-173					[illegible]
		164-166				75	[illegible]
	X917	166-171	.02	.39	[illegible]	85	QUARTZITE [illegible]
	X918	171-175	.01	Tr	4	65	GARNET [illegible] 60° [illegible]
	X926	175-178	Tr	Tr	3	67	[illegible]
							MINOR CHALCOPYRITE [illegible]
							[illegible] 166-16[illegible] [illegible]
	X919	178-182½	.33	2.01	[illegible]	[illegible]	SOMEWHAT BRECCIATED QUARTZITE
							WITH GOOD QUARTZ-COBALTITE MINERALIZATION
							[illegible]
	X[illegible]	[illegible]	.16	.67	[illegible]	5[illegible]	[illegible] DIKE WITH SMALL [illegible]
							SPOTS.
	A[illegible]	[illegible]-182½	.01	Tr.	[illegible]	10	[illegible]
							AT HIGH ANGLE TO CORE.
	[illegible]	182½-191	.02	.34	[illegible]	70	[illegible] QUARTZITE [illegible] 80° [illegible]
							CORE. [illegible]
							CHALCOCITE [illegible] 191. [illegible]
							[illegible]
							186½-187½.
		191-204					[illegible]
	X[illegible]	191-196	.01	.48	5	34	[illegible]
	X[illegible]	196-199	.01	[illegible]	[illegible]	10	CHALCOPYRITE [illegible]
	X[illegible]	199-204	.02	.61	[illegible]	32	STRINGERS AT 193 AND 201'.
7-26		204-215					QUARTZITE. SOME GARNET SCHIST AT
	X948	204-208	Tr	.03	4	38	206, 211½, AND 214'. FRACTURED WITH MINOR
	X949	208-211	Tr	Tr.	3	63	SHEARING. 204½' 10° AND 211½ 214. A ½" QUARTZ
	X950	211-215	.03	.46	4	40	CHALCOCITE SEAM AT 213'.
		215-224					QUARTZITE GARNET SCHIST ALTERNATING WITH
	X951	215-221	.02	.09	6	50	CHLORITE SCHIST 80° TO 60° TO CORE. MOST OF
	X952	221-224	.03	Tr	3	100	CORE HAS BEEN BROKEN PARALLEL WITH THE
							SCHISTOSITY. SOME ½" BLUISH MALACHITE AT
							221½'. ~~[illegible]~~ CONTORTED QUARTZ
							STRINGERS IN CHLORITE 221-224, AND MINOR
							COBALTITE [illegible] IN 222½'.
	X953	224-[illegible]	.04	.95	[illegible]	70	[illegible] SCHISTOSE QUARTZITE. ~~WITH~~ A
							FEW [illegible] GARNET SCHIST BANDS [illegible] TO
							CORE 224-225'. [illegible] 225-[illegible] IS ABOUT
							90% QUARTZ MINERALIZATION WITH MINOR
							CHALCOPYRITE, CHALCOCITE, COBALTITE, MALACHITE,
							AND YELLOW-GREEN STAINING IN CHLORITE SCHIST IN QUARTZ.

Hole No. 5-26

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No.
By
Date

Hole No. 536 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
7/16/54	X 954	229-233	.18	.33		4	55	SCHISTOSE QUARTZITE WITH SEVERAL NARROW GARNET SCHIST BANDS. ABOUT 30% QUARTZ MINERALIZATION WITH VERY MINOR SULFIDES. AT [illegible] OF BLACK AND BROWN SCHIST (DIKE?) AT [illegible].
		[illegible]						SCHISTOSE QUARTZITE WITH NARROW
	X [illegible]	233-236	TR	TR		2	90	GARNET BANDS [illegible] 20° TO CORE. [illegible]
	X 956	236-241	TR	TR		5	90	[illegible] MODERATELY [illegible] QUARTZITE
	X 957	241-243	TR	.03		2	100	[illegible]-241 WITH MINOR LIMONITE ALONG FRACTURES
	X 958	243-245	.05	.04		2	100	SCHISTOSE QUARTZITE. ANGULAR FRAGMENTS OF QUARTZITE IN BLACK SCHIST 244-244½. QUARTZ [illegible] VEIN 243-244 CONTAINS SOME NARROW STRINGERS OF CHLORITE SCHIST. [illegible] ALONG SHEAR AT 241. MINOR LIMONITE THROUGHOUT CORE. FRACTURE 244½-245.
		[illegible]						MODERATE. [illegible] SCHISTOSE QUARTZITE
	X 959	245-250	TR	TR		5	82	WITH BANDS OF GARNET SCHIST ABOUT [illegible] FOOT
	X 960	250-253	TR	TR		[illegible]	100	APART [illegible] ABOUT 70° TO CORE. MINOR LIMONITE [illegible]. SECOND AND DIKE WITH SOME CHLORITE AND SMALL CAVITIES 245-246. FRACTURED 250-252'.
		[illegible] 261						SCHISTOSE QUARTZITE WITH VERY NARROW
	X 961	253-257	TR	TR		4	100	HIGHLY CONTORTED BANDS OF GARNET SCHIST
	X 962	257-261	.06	TR		4	80	
	X 963	261-265	.04	TR		4	35	MODERATELY FRACTURED SCHISTOSE QUARTZITE
	X 964	265-271	.10	.11		6	100	SCHISTOSE QUARTZITE WITH [illegible] CONTORTED BANDS OF GARNET SCHIST. CHLORITE AND CHALCOPYRITE IN BANDS OF GARNET SCHIST 261-267. [illegible] SCHIST (DIKE?) WITH A [illegible] BLACK [illegible] PHENOCRYSTS 267-268. QUARTZ CHALCOPYRITE MINERALIZATION AT 268'. FRACTURED 267-271'.
	X 965	[illegible]	TR	TR		4	88	SCHISTOSE QUARTZITE WITH NARROW GARNET SCHIST BANDS ABOUT 80° TO CORE. MINOR LIMONITE IN FRACTURES 271-274.
7/19/54		[illegible] 89						AT SCHISTOSE QUARTZITE, MODERATELY
		275-280				5	84	BRECCIATED IN PLACES, WITH GARNET SCHIST
		280-285				5	64	BANDS UP TO [illegible] CORE INCHES. [illegible] AND [illegible]
		285-289				4	75	TO [illegible] FOOT APART. [illegible] HIGH [illegible]
		[illegible]						CORE. LARGE SCHISTOSE DIKE WITH [illegible] 286-289'.
						[illegible]	65	[illegible] FRACTURED SCHISTOSE QUARTZITE.

Hole No. 536

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 6
By
Date

Hole No. 5-36 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
7/19/57		291-307						SCHISTOSE QUARTZITE 291-292'. FROM 292-307'
		291-296				5	60	QUARTZITE ALTERNATING WITH CHLORITE SCHIST.
		296-299				3	43	OPEN THE CHLORITE SCHIST BRANCHES TO SPRUE
		299-301				2	35	INTO THE QUARTZITE. FROM 295-297 IS
		301-304				3	27	MOSTLY CHLORITE SCHIST. STRUCTURE VARIES FROM
		304-307				3	77	HIGH ANGLE TO NEARLY PARALLEL TO CORE
								297-298'. MODERATELY FRACTURED 295-299, 302-305.
		307-308½				1½	53	MODERATELY FRACTURED QUARTZITE.
		308½-338						SCHISTOSE QUARTZITE MOSTLY AT HIGH
		308½-315				6½	82	ANGLE TO CORE. CHLORITE SCHIST 326-328;
		315-320				5	62	AND ALTERNATING WITH AND GRADING INTO
		320-329				9	39	QUARTZITE 310-314, AND 319-326'. SOME QUARTZ
		329-333				4	38	AND LIMONITE MINERALIZATION 324-338, AND
		333-338				5	32	MINOR QUARTZ AT 314'. MODERATELY
								FRACTURED 324-338.
		338-341½				3½	14	FAULT BRECCIA.
		341½-353						SCHISTOSE QUARTZITE, BROKEN IN PLACES,
		341½-345				3½	74	AND ABOUT 80° TO CORE. SOME CONTORTED QUARTZ
		345-348				3	100	STRINGERS. CHLORITE IN QUARTZITE 345-347.
		348-353				5	62	MINOR LIMONITE MINERALIZATION. FRACTURED
								343-345, 352-353. FAULT BRECCIA 341½-342 AND
								FAULT AT 351'.
		353-375						SCHISTOSE QUARTZITE WITH BANDS OF
		353-360				7	96	GARNET SCHIST UP TO SEVERAL INCHES WIDE
		360-364				4	50	AND UP TO 15 FEET ABOUT AT HIGH
		364-367				3	60	ANGLE TO CORE. VERY MINOR PYRITE
		367-370				3	33	QUARTZ STRINGERS. SOME SMALL WHITE
		370-375				5	48	METACRYSTS 356-357. FRACTURED AND LIMONITE
								STAINED 360-364. FRACTURED 370-375. FAULT
								AT 373'.
		375-400						SCHISTOSE QUARTZITE MOSTLY ABOUT
		375-380				5	74	80° TO CORE. QUARTZ-LIMONITE MINERALIZATION
		380-385				5	88	384½-385. FRACTURED 390-391 AND
		385-391				6	67	MODERATELY FRACTURED 383-390.
		391-400				9	74	

Hole No. 5-36

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 6
By
Date
Level

Hole No. S-36 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C. R.	Geology and Remarks
6/23/54	X 680	0-10	Tr	.05		10	Sludge	
	X 681	10-20	Tr	.06		10	"	
	X 682	20-30	.01	Tr		10	"	
	X 683	30-35	.01	Tr		5	"	
	X 684	35-40	.01	Tr		5	"	
	X 685	40-45	.02	Tr		5	"	
	X 686	45-50	.01	.02		5	"	
	X 687	50-56	.01	Tr		6	"	CASED TO 50'
6/24	X 712	56-61	.02	.02		5	"	
	X 713	61-65	.02	.01		4	"	
	X 714	65-70½	.03	.02		5½	"	CAVE FROM 67' ↓
	X 715	70½-76	.05	.03		5½	"	
	X 716	76-80	.02	.02		4	"	
	X 717	80-85	Tr	Tr		5	"	
	X 718	85-90	.02	.04		5	"	
	X 719	90-96	Tr	Tr		6	"	CASED TO 90'
	X 720	96-101½	.02	.08		5½	"	
	X 721	101½-108½	Tr	Tr		7	"	
	X 722	108½-115	.01	Tr		6½	"	
	X 723	115-120	Tr	.03		5	"	
	X 724	120-126	Tr	Tr		6	"	
6/25	X 741	126-130	.02	.01		4	"	
	X 742	130-135½	Tr	.02		5½	"	
	X 743	135½-140	.01	.03		4½	"	
	X 744	140-145½	.02	.02		5½	"	
	X 745	145½-151	Tr	.02		5½	"	
	X 746	151-155	Tr	.01		4	"	
	X 747	155-158	.02	.10		3	"	
	X 748	158-164	.02	.09		6	"	
	X 749	164-171	.02	.24		7	"	
	X 750	171-178	.05	.28		7	"	
	X 751	178-185½	.21	.49		7½	"	
	X 752	185½-191	.05	.27		5½	"	
	X 753	191-196	.03	.19		5	"	
	X 754	196-204	.03	.19		8	"	
	X 755	204-208	.02	.19		4	"	
6/26	X 756	208-215	.05	.24		7	"	
	X 757	215-221	.05	.19		6	"	
	X 758	221-229	.03	.28		8	"	
	X 759	229-233	.19	.59		4	"	
	X 760	233-236	.07	.27		3	"	

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-36 Mine

Level

Location

Bearing Dip

Length

Latitude of Collar Departure of Collar

Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
6/26/54	X761	236-241	.05	.19		5	SLUGHE	
	X762	241-245	.04	.15		4	"	
	X763	245-250	.06	.12		5	"	
	X764	250-256	.04	.09		6	"	
	X765	256-261	.11	.09		5	"	
	X766	261-265	.08	.17		4	"	
	X767	265-271	.14	.24		6	-	
6/2[illegible]	X[illegible]	[illegible]	.0[illegible]	.0[illegible]		4	"	
	[illegible]	275-280	.0[illegible]	.07		[illegible]	"	CASE[illegible]
	X[illegible]	280-285	.0[illegible]	[illegible]		[illegible]		
	X[illegible]	285-291	.0[illegible]	.08		6		
	X[illegible]	291-296	.0[illegible]	.18		5	"	
	X[illegible]	296-301	.0[illegible]	.15		5		
	X[illegible]	301-307	.0[illegible]	.18		6	"	
	[illegible]	307-315	.01	[illegible]		[illegible]	"	
	X[illegible]	315-320	[illegible]	.18		[illegible]	"	
	[illegible]	[illegible]-329	[illegible]	[illegible]		9	"	
[illegible]	X[illegible]	[illegible]	.0[illegible]	[illegible]		[illegible]		
	[illegible]	[illegible]	[illegible]	.01		[illegible]		
	X[illegible]	[illegible]				[illegible]		
	[illegible]	[illegible]	.0[illegible]	[illegible]		[illegible]	-	
	[illegible]	[illegible]	.0[illegible]	.0[illegible]		[illegible]		
	X[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
	X[illegible]	[illegible]-360	.0[illegible]	[illegible]		[illegible]		
	X[illegible]	[illegible]	.0[illegible]	[illegible]		[illegible]		
	X[illegible]	[illegible]	.0[illegible]	[illegible]		6		
	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
	[illegible]	375-380	[illegible]	.04		[illegible]		
	X[illegible]	[illegible]	[illegible]	.06		[illegible]		
	X[illegible]	[illegible]	.02	.04		5		
	X[illegible]	[illegible]	.02	.01		4		

Hole No. 5-36

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1

DIAMOND DRILLING RECORD

By R.E. GRIEBS

Date JULY, 1954

Hole No. S-37 Mine

Level SURFACE

Location 8th TRENCH

Bearing 55°W

Dip -59°

Length 405

Departure of Collar 3,492'E

Elevation 7,922

Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
0-6½						NX FRAGMENTS OF SCHISTOSE QUARTZITE
0-3				3	27	ABOUT 80° TO CORE, GREEN DIKE? WITH SMALL
3-6½				3½	40	CARBONATE SPOTS 2½-3'.
6½-10				3½	6	SAME WITH MINOR GARNETS.
10-24½						ALTERNATING BANDS OF GARNET SCHIST
10-14½				4½	42	AND SCHISTOSE QUARTZITE SEVERAL INCHES WIDE
14½-19½				5	54	AND ABOUT 80° TO CORE. GREENISH BROWN DIKE?
19½-24½				5	52	WITH SMALL CARBONATE SPOTS 18½-20'. MINOR
						SHEARING AT 18½'.
24½-49						SCHISTOSE QUARTZITE WITH A FEW
24½-29½				5	32	NARROW GARNET SCHIST BANDS 80° TO CORE. GREEN
29½-34				4½	73	SCHIST 2" WIDE AT 49'. FAULT AT 33'.
34-38				4	48	GREEN MICACEOUS ALGHIS FRACTURES AT 33'.
38-41				3	47	HEMATITE? IN FRACTURES 33-34½'.
41-46				5	68	
46-49				3	100	
49-60						BX SAME AS ABOVE. BROWN STAINED
49-53½				4½	78	QUARTZITE 58-59'. MINOR LIMONITE IN FRACTURES
53½-60				6½	66	53½-59'. FAULT AT 54½ AND HIGHLY
						FRACTURED (FAULT?) 59-60'.
60-65				5	40	FRACTURED QUARTZOSE GARNET SCHIST AND
						QUARTZITE. QUARTZ HEMATITE? MINERALIZATION AT 63'.
65-70				5	54	FRACTURED QUARTZOSE GARNET SCHIST
						GRADING INTO SCHISTOSE QUARTZITE.
70-75				5	32	FRACTURED SOFT EASILY WEATHERED
						SCHISTOSE QUARTZITE. (POSSIBLY DIKE?)
75-92						QUARTZOSE GARNET SCHIST ALTERNATING
75-80				5	52	WITH AND GRADING INTO SCHISTOSE QUARTZITE.
80-85				5	70	A NARROW BLACK DIKE? WITH CARBONATE XLS.
85-92				7	46	AT 84'. FRACTURED 76-80, 84-85, 86-92.
92-96				4	40	CONTORTED AND MODERATELY BRECCIATED A
						WITH SOME QUARTZOSE GARNET SCHIST.
96-106						QUARTZITE. QUARTZOSE GARNET SCHIST 96-97,
96-100				4	75	105½-106. BLUISH HEMATITE IN SCHISTOSE QUARTZITE
100-106				6	98	100-101, 105-105½. MINOR LIMONITE IN
						FRACTURES. CHLORITE SCHIST AT 97' AND
						101-102'. CHLORITE SCHIST IS 20° TO CORE AT 102
						AND CONTAINS GARNETS NEAR THE
						QUARTZITE.

Hole No. S-37

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2
By
Date

DIAMOND DRILLING RECORD

Hole No. 5-37 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
7/20/54		106-115						SCHISTOSE QUARTZITE WITH A FEW GARNET
		106-111				5	40	SCHIST BANDS. WHITE MICACRYSTS 111-115'. STRUCTURE
		111-115				4	100	70° TO CORE AT 107 TO PARALLEL AT 109 TO
								80° BETWEEN 111'. MINOR QUARTZ MINERALIZATION
								AT 109, 110'. FRACTURED 110-111.
		115-116½				1½	87	MODERATELY FRACTURED QUARTZITE.
		116½-124						ALTERNATING BANDS SEVERAL FEET WIDE
		116½-121				4½	93	OF QUARTZITE, AND SCHISTOSE QUARTZITE CONTAINING
		121-124				3	97	NARROW GARNET SCHIST BANDS 80° TO CORE.
								A ¼" BAND OF LIMONITE AT 120'. SOME ¼"
								BLUISH METACRYSTS 121½-122'. FRACTURED
								120-121, 123-124
		124-125½				1½	73	FRACTURED QUARTZITE
		125½-128				2½	96	FROM 125½-126½ QUARTZITE. FROM 126½-128
								SCHISTOSE QUARTZITE WITH NARROW GARNET SCHIST
								BANDS 80° TO CORE. A GREENISH BROWN DIKE?
								FRAGMENT AT 125½'. CHLORITE SCHIST 2" WIDE AT 128'.
7/22		128-158½						SCHISTOSE QUARTZITE ALTERNATING WITH AND
		128-130				2	70	GRADING INTO QUARTOSE GARNET SCHIST.
	X1015	130-135	Tr	Tr		5	92	STRUCTURE MODERATELY CONTORTED AND MOSTLY
	X1016	135-137	Tr	Tr		2	85	AT HIGH ANGLE TO CORE. ABOUT 20% QUARTZ
	X1017	137-142	4.80	1.45		5	84	COBBLING - CHALCOPYRITE - CHALCOCITE
	X1018	142-149	Tr	Tr		7	100	MINERALIZATION 137-140'. REMNANTS OF
	X1019	149-155	Tr	.02		6	97	QUARTZITE FRAGMENTS APPEAR THROUGHOUT CORE.
	X1020	155-158½	Tr	Tr		3½	69	~~[illegible] AT 129½'~~. GREEN TO BROWN
								SCHISTOSE DIKE WITH LARGE RHOMBIC CAVITIES
								PARTLY FILLED WITH LIMONITE 145°-150° TO
								FRACTURED 138-142.
		158½-164½						FRACTURED SCHISTOSE QUARTZITE WITH
	X1021	158½-161½	.02	Tr		3	53	MINOR QUARTZ MINERALIZATION. A GREY DIKE
	X1022	161½-164½	Tr	Tr		3	43	WITH SMALL CAVITIES 159-159½'.
	X1023	164½-167	.01	.07		2½	88	BRECCIATED SCHISTOSE QUARTZITE. MINOR
		~~167-176~~						LIMONITE ALONG FRACTURES.
		167-176						CONTORTED SCHISTOSE QUARTZITE MOSTLY
	X1024	167-172	Tr	Tr		5	100	AT A HIGH ANGLE TO CORE. MINOR QUARTZITE
	X1025	172-176	.02	Tr		4	100	FRAGMENTS IN CORE. FRACTURED 169-170, 174-174½
		~~176-185~~				~~9~~		~~FROM 176-178 SAME AS ABOVE~~

Hole No. 5-37

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

By

Date

DIAMOND DRILLING RECORD

Hole No. S-37 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
2/22/54		176-223						FROM 176-178 SAME AS ABOVE. AFTER 178
		176-185				9	91	SCHISTOSE QUARTZITE ALTERNATING WITH AND
		185-189½				4½	73	GRADING INTO QUARTZOSE SCHIST. QUARTZOSE
		189½-192				2½	52	GARNET SCHIST. 179-185, 191-192, 202-204,
		192-200				8	49	208-209, 217-221. STRUCTURE ABOUT 80° TO
		200-202				2	100	CORE 185-198 AND VARIES BETWEEN 40 AND 90°
		202-204				2	90	AFTER 198. SOFT CHLORITE SCHIST 208½-209'.
		204-209				5	70	SCATTERED BLUISH METACRYSTS 194-215,
		209-213½				4½	60	221-223'. QUARTZITE PARTLY BLEACHED 193-198'.
		213½-216				2½	76	HARD, FRACTURED 208-233, AND MODERATELY
		216-223				7	49	FRACTURED 179-180, 183-192, 201-204, 206-208.
		223-228				5	100	SCHISTOSE QUARTZITE. GARNET SCHIST 20°
								TO CORE AT 224'. MODERATELY BRECCIATED
								AND HEALED WITH LIMONITE 223-225. BROWN
								SCHISTOSE DIKE 226-227½ WITH GREEN COPPER
								MINERAL IN SMALL CAVITIES.
		228-240						QUARTZITE WITH VERY MINOR LIMONITE IN
		228-234				6	77	FRACTURES. CHLORITE-GARNET SCHIST 20° TO CORE
		234-240				6	52	229-230 AND 232'. CHLORITE IN QUARTZITE 228½-
								229, 230-230½'. MINOR MALACHITE, CUPRITE
								AND BLACK OXIDES IN FRACTURES 230-232.
								MODERATELY FRACTURED 234-238'.
		240-246						SCHISTOSE QUARTZITE AT A HIGH ANGLE
		240-243				3	100	TO CORE GRADING INTO QUARTZOSE
		243-246				3	83	GARNET SCHIST. RARE SMALL BLUISH
								METACRYSTS 240½-241. FRACTURED 245-246.
		246-262						QUARTZITE. CHLORITE-GARNET SCHIST
		246-252				6	100	NEARLY PARALLEL WITH CORE 246-246½'.
		252-256				4	65	SOMEWHAT BRECCIATED AND HEALED
		256-260				4	35	WITH LIMONITE 246½-252'. FRACTURED 253-
		260-262				2	20	260'.
		262-271						MODERATELY FRACTURED QUARTZITE.
		262-265				3	53	
2/23	X1050	265-271	Tr	Tr		6	12	
	X1051	271-278	.02	.09		8	23	CHLORITE SCHIST WITH QUARTZ MINERALIZATION
								AND MINOR COBALTITE.
		271-278	-	-		4'	0	NO CORE
	-	278-281½	-	-		3½	3	ALTERNATING NARROW BANDS OF SCHISTOSE
								QUARTZITE AND GARNET SCHIST 80° TO CORE. SOME
								QUARTZ-CHALCOPYRITE-COBALTITE MINERALIZATION.

Hole No. S-37

DIAMOND DRILLING RECORD

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4
By
Date

Hole No. 5-37 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
7/23/54		281½-287						Highly fractured schistose quartzite 60° to core. Garnet schist 283½-284.
	X1042	281½-284	.07	.10		2½	76	
	X1043	284-287	Tr	Tr		3	12	
		287-290				3	0	No core.
		290-306						Fractured schistose quartzite varying from high to low angle to core. Quartz chalcopyrite mineralization 0230'.
	X1044	290-295	.01	Tr		5	14	
	X1045	295-300	Tr	.02		5	32	
	X1046	300-303	.04	.11		3	27	
	X1047	303-306	.03	.13		3	18	
	X1048	306-310	.07	.142		4	30	
		310-313				3	0	Fractured schistose quartzite with quartz-pyrite-chalcopyrite mineralization. No core.
		313-318				5	0	
	X1049	318-322½	.03	.07		4½	16	Fragments of schistose quartzite with quartz-cobaltite mineralization. Quartz-cobaltite mineralization. Garnet-chlorite-sericite schist and chlorite schist.
	X1050	322½-326	.08	.09		3½	51	
		326-333						From drill 323 amount stained schistose quartzite. Rock 323 is fractured amount stained quartz mineralization with minor chalcopyrite and cobaltite.
	X1051	326-330	.07	.05		4	38	Fractured schistose quartzite with minor quartz stringers, pyrite, cobaltite.
	X1052	330-333	.02	.08		3	37	
	X1053	333-337	Tr	Tr		4	56	Moderately fractured quartzite with minor amount of cobaltite. Garnet schist at 3335'.
	X1054	337-341	.01	Tr		4	63	Moderately fractured schistose quartzite grading into biotite schist.
	X1055	341-342½	.06	Tr		1½	98	Moderately fractured quartzite. Chlorite schist (cut?). 342-342½, 341-344½. Brecciated and veined with amount 344-346½. Schistose quartzite. Quartzite 35' 354'. Brecciated and veined with amount 349-351.
		342½-354						
	X1056	342½-350	.01	Tr		5½	43	
	X1057	350-354	.32	Tr		4	38	
	X1058	354-357	.13	.13		3	67	Fractured chlorite schist interbedded with brecciated schistose quartzite.

Hole No. 5-37

CALUMET MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Hole No. 5-32 Mine

Location

Bearing Dip

Latitude of Collar Departure of Collar

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au	Oz. Ag	% Ni.
7/23/54	8	357 366½					
	X1069	357-360	.04	Tr			
	X1070	360-363	Tr	Tr			
	X1071	363-366½	.02	Tr		3%	
	X1072	366½ 373	.01	Tr		6%	
	X1073	373-380	.03	.13		7	58
	X1074	380-386	Tr	Tr			
		386-405					
	X1075	386-390	.23	.24		4	60
	X1076	390-395	Tr	Tr		5	26
	X1077	395-405	Tr	Tr		10	58

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6
By
Date
Level
Length
Elevation

Dip
Departure of Collar

Interval From	To	% Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
	6½-10½	.01	.09		3½	Severe	
	10-14½	Tr	.05		4½		CASED TO 14½'
	14½-19½	Tr	.08		5		
	19½-24½	Tr	Tr		5		
	24½-29½	Tr	Tr		5		
	29½-33½	Tr	Tr		4½		
	34-38	Tr	Tr		4		
	38-46	.01	Tr		8		
	46½-50	.01	Tr		4		CASED TO 49'
	50-54½	.01	Tr		4½		
	54½-60	.00	Tr		5½		
	60-65	.01	Tr		5		
	65-70	.02	.02		5		
	70-75	Tr	Tr		5		
	75-80	Tr	Tr		5		
	80-85	.02	.03		5		
	[illegible]	.01	Tr		7		
	[illegible]	.02	.01		4		
	[illegible]	.02	.03		4		
	[illegible]	.01	Tr		6		
	[illegible]	.06	.30		5		
	[illegible]	.03	.05		4		
	[illegible]	.03	.03		6		
	[illegible]	.02	.03		4		
	[illegible]	[illegible]	.02		5		
	[illegible]	[illegible]	.02		5		
	[illegible]	[illegible]	.12		7		
	[illegible]	.15	.09		5		
	[illegible]	.14	[illegible]		6		
	[illegible]	.08	[illegible]		6½		
	[illegible]	.02	[illegible]		5½		
	[illegible]	[illegible]	.03		5		
	[illegible]	.08	.12		4		
	[illegible]	.03	Tr		5		
	[illegible]	.03	.07		5		
	[illegible]	.06	[illegible]		5		
	[illegible]	.03	[illegible]		5		
	[illegible]	.05	[illegible]		4		
	[illegible]	.02	[illegible]		5		
	[illegible]	.05	.03		7		
	[illegible]	.02	[illegible]		7		

Hole No. S-37

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-37 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
7/2/54	x874	223-228	.01	.16		5	54.[illegible]	
	x875	228-234	.05	.38		6	"	
	x876	234-240	.02	.24		6	"	
7/2	x887	240-246	.02	.09		6	"	
	x888	246-250	.02	.11		4	"	
	x889	250-256	.03	.18		6	"	
	x890	256-260	.02	.08		4	"	
	x891	260-264	.03	.05		4	"	CASED TO 262'
	x892	264-271	.01	.03		7	"	
	x893	271-278	.22	.98		7	"	
	x894	278-284	.20	.88		6	"	
7/9	x895	284-290	.09	.47		6	"	
7/13/54	x913	290-295	.02	.12		5	"	
	x914	295-300	.09	.37		5	"	
	x915	300-303	.11	.46		3	"	
	x916	303-306	.16	.51		3	"	
7/14	x927	306-310	.35	.52		4	"	CASED TO 306'
	x928	310-313	.36	.98		3	"	
	x929	313-318	.56	.27		5	"	
	x930	318-322½	.29	.10		4½	"	
	x931	322½-326	.28	.72		3½	"	
	x932	326-330	.08	.08		4	"	
	x933	330-333	.11	.04		3	"	
	x934	333-337	.04	Tr.		4	"	
	x935	337-341	.06	.02		4	"	
	x936	341-346½	.12	Tr		5½	"	
	x937	346½-350	.05	Tr.		3½	"	
7/15	x938	350-354	.26	.02		4	"	
	x939	354-360	.13	.07		6	"	
	x940	360-363	.13	.06		3	"	
	x941	363-373	.14	.36		10	"	
	x942	373-380	.10	.13		7	"	
	x943	380-386	.15	.31		6	"	
	x944	386-390	.14	.31		4	"	
	x945	390-395	.04	.08		5	"	
	x946	395-400	.05	.06		5	"	
	x947	400-405	.02	Tr		5	"	

Hole No. 5-37

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R.E. Gribbs
Date July, 1954

Hole No. S-38 Mine Level Surface
Location 874 Trench
Bearing S 59 W Dip -43½° Length 236'
Latitude of Collar 18,764½N Departure of Collar 3,197E Elevation 7,983½N

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
7/2/54		0-4						NX. Fragments of brecciated schistose
		0-2½				2½	40	quartzite healed with limonite. Some
		2½-4				1½	27	bands of garnet schist to 0-2'.
		4-23						Moderately fractured schistose quartzite
		4-9				5	6	mostly at high angle to core. Some bands
		9-14				5	18	of garnet schist 10-12' and 18½-22'. ~~Brown~~
		14-17½				3½	40	~~white~~ chlorite metacrysts 12-23'.
		17½-23				5½	35	
		23-40						Garnet schist and quartzose garnet
		23-28				5	28	schist. Some bands of schistose quartzite
		28-33				5	30	interbedded with garnet schist. 40-80° to
		33-37				4	40	core 37-40'. Quartzite 35½-37'. ~~Brown~~ chlorite
		37-40				3	70	~~white~~ metacrysts 23-24', 38-40'. Minor
								shearing parallel with core 25-27'.
		40-50						Schistose quartzite with ~~brown~~ white
		40-45				5	30	metacrysts. Bands inter. quartzose
		45-50				5	40	garnet schist.
		50-54						BX. From 50-51½ moderately broken
								schistose quartzite 80° to core. From 51½-53
								garnet schist. A 2" quartz-limonite vein at
								51½'. From 53-54 fractured quartzite.
		54-60						Fractured quartzite with stringers
		54-56				2	100	mostly garnet schist bands up to ½' wide
		56-58				2	85	and about 60° to core.
		58-60				2	100	
		62-66½						Fractured schistose quartzite. Some
		60-64				4	43	quartz-limonite stringers at about 60°
		64-66½				2½	80	chlorite metacrysts 64-66½'.
		66½-72½						Moderately fractured schistose
		66½-69				2½	100	quartzite alternating with narrow
		69-72½				3½	40	bands of garnet schist up to ½' wide.
								Chlorite metacrysts in garnet schist.
								Minor quartz impregnation 68-69½.
								Fractured 68½-69.
		72½-82'						Fractured schistose quartzite. Some
		72½-75				2½	80	quartzose garnet schist at 73' and garnet
		75-79				4	53	schist 84-86½'. Limonite stringer at 73'.
		79-82				3	33	Stringers mostly at high angle to core
								but is parallel at 76½'. Chlorite
								metacrysts 72½-73, 78-82'. Fault at 85'.

Hole No. S-38

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. [illegible]

DIAMOND DRILLING RECORD

By

Date

Hole No. 538 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
[illegible]		82-117						SCHISTOSE AMPHIBOLITE ALTERNATING WITH
		82-87				5	90	AND GOOD INTO QUARTZITE. MINOR SCHIST
		87-92				5	90	83-92. SCHISTOSITY AGAIN 80° TO CORE. BUT
		92-93				1	100	FRACTURED TO 93. MARKED LACK OF
		93-98				5	100	GRAPHITIC SCHIST 91-91½. SCHISTOSITY DISTORTED
		98-102½				4½	89	82½-91½, 93-117. QUARTZ-AMPHIBOLITE MINERALIZATION
		102½-107½				5	100	TO 103½. FRACTURED 99½ TO, 101-101½,
		107½-112				4½	93	111-112, 115½-117.
		112-117				5	35	
		117-158						SCHISTOSE QUARTZITE CONTAINING SCORIFIED
		117-122				5	72	MATERIALS. MINOR SILICIFIED AND QUARTZITE
		122-127				5	50	126½-129, 138-143, 152-155. BLEACHED 135½-137½
		127-132				5	56	AND DARKER BLEACHED 152½-158. VERY MINOR
		132-137				5	100	AMOUNTS OF SULFIDES AND QUARTZ STRINGERS
		137-142				5	58	155-158. FRACTURED 117-122, 137-142,
		142-146½				4½	84	143½-146½, 148½-152, 156½-158.
		146½-149				4½	89	
		149-152				3	73	
		152-155				3	80	
		155-158				3	47	
		158-169						MODERATELY FRACTURED SCHISTOSE QUARTZITE
		158-162				4	68	WITH INCORPORATED MICASCHIST. 2 FEET
		162-165				3	67	MAXIMUM BANDS OF GRAPHITIC SCHIST 80° TO
		165-169				4	73	CORE. 162-163. SOME MINOR MINERALIZATION
								QUARTZ-AMPHIBOLITE. CHLORITE SERICITE
								AND MINOR AMPHIBOLITE IN FRACTURES. BRECCIATED
								168-169.
	X 1078	169-173½	.02	.01		4½	49	FRACTURED SCHISTOSE QUARTZITE
								DISTORTED WITH AND TRADING INTO AMPHIBOLITE
								SCHIST AT HIGH ANGLE TO CORE. BRECCIATED
								169-169½. QUARTZ MINERALIZATION WITH GREEN
								STAIN 173-173½.
	X 1079	173½-177½	.18	.79		4	58	FRACTURED QUARTZ MINERALIZATION WITH
								SOME UNREPLACED AMPHIBOLITE SCHIST. SOME
								MALACHITE AND YELLOW GREEN STAIN.
	X 1080	177½-181	.01	.10		3½	46	FRACTURED QUARTZ MINERALIZATION
								WITH YELLOW GREEN STAIN.
	X 1081	181-185	.08	.60		5	94	QUARTZ MINERALIZATION STAIN AND SOME
								ORE WITH SOME UNREPLACED AMPHIBOLITE AND
								GRAPHITIC SCHIST. GOOD COBALTITE 183½-184½.
								LIMONITE MINERALIZATION 184½-185.

Hole No. 538

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No.
By
Date

Hole No. S-38 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
2/26/84	X1082	186-190	.37	.12		4	58	FROM 186-187½ SHATTERED QUARTZITE LARGELY CHLORITE SCHIST. FROM 187½-188½ GOOD QUARTZ-COBALTITE MINERALIZATION. FROM 188½-190 BANDS OF GARNET SCHIST IN SERICITIC QUARTZITE. CORE MODERATELY FRACTURED.
	X1083	190-194½	.38	.20		4½	62	FROM 190-192 FRACTURED SERICITIC QUARTZITE WITH 1-2 FT. GARNET SCHIST BANDS. GRADES INTO BROKEN WITH MODERATE FRACTURES 191-192'. FROM 192-194½ GOOD QUARTZ-COBALTITE MINERALIZATION 70° TO CORE.
	X1084	194½-199	.02	.11		4½	53	MODERATELY FRACTURED SERICITIC QUARTZITE WITH 1 FT. SCHIST. CHLORITIZED MICACEOUS.
2-28		199-231						SERICITIC QUARTZITE WITH NARROW BANDS OF GARNET SCHIST. GENERAL FEW PARTS GOOD COBALTITE MINERALIZATION 209½-210, 223½-227. SOME CHLORITE STRINGERS AT 210', 211'. FRACTURED 199-200, 202½-209, 213-219, 223-226.
		199-204				5	46	
		204-209				5	58	
		209-214				5	100	
		214-219				5	28	
		219-223½				4½	51	
		223½-226				2½	80	
		226-231				5	86	
		231-236				5	100	MASSIVE GREENISH QTZ? WITH SMALL CARBONATE SPOTS. BROKEN QUARTZITE WITH CHLORITIZED MICACEOUS AT 231'.

Hole No. S-38

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. S-38 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
7/19/54	X 966	9-14	Tr	.04		5	Swaps	
	X 967	14-17½	.02	.10		3½	"	
	X 968	17½-23	Tr	.03		5½	"	
	X 969	23-28	.02	.24		5	"	
	X 970	28-33	.03	.13		5	"	
	X 971	33-37	Tr	.18		4	"	
	X 972	37-45	.02	.08		8	"	
	X 973	45-50	.03	.05		5	"	
	X 974	50-54	Tr	.07		4	"	CASED TO 50'.
	X 975	54-58	.01	Tr		4	"	
	X 976	58-64	.01	.13		6	"	
	X 977	64-69	.02	.02		5	"	
	X 978	69-75	.01	.01		6	"	
	X 979	75-79	Tr	.07		4	"	
	X 980	79-82	.01	.06		3	"	
	X 981	82-87	.04	.07		5	"	
	X 982	87-92	.04	.18		5	"	
	X 983	92-98	.03	Tr		6	"	CASED TO 92'.
	X 984	98-102½	.01	.04		4½	"	
	X 985	102½-107½	.01	Tr		5	"	
	X 986	107½-112	Tr	Tr		4½	"	
	X 987	112-117	.03	Tr		5	"	
	X 988	117-122	.01	Tr		5	"	
	X 989	122-127	.01	Tr		5	"	
	X 990	127-132	Tr	Tr		5	"	
	X 991	132-137	Tr	Tr		5	"	
	X 992	137-142	Tr	Tr		5	"	
	X 993	142-149	.01	Tr		7	"	
	X 994	149-155	Tr	Tr		6	"	
	X 995	155-162	.01	.29		7	"	
7/20/54	X 996	162-169	Tr	.05		7	"	
	X 997	169-173½	.01	.09		4½	"	
	X 998	173½-177½	.02	.52		4	"	
	X 999	177½-181	Tr	.28		3½	"	
	X 1000	181-186	.21	.18		5	"	
	X 1001	186-190	.10	.14		4	"	
	X 1002	190-194½	.24	.47		4½	"	
	X 1003	194½-199	.05	.17		4½	"	
	X 1004	199-204	.01	.05		5	"	
	X 1005	204-209	.03	.08		5	"	
	X 1006	209-214	.04	.13		5	"	

Hole No. S-38

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 5
By
Date

Hole No. 5-38 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
2/20/54	X1007	214-219	Tr	.05		5	[illegible]	
	X1008	219-223	Tr	.01		4		
	X1009	223-231	Tr	.13		8		
	X1010	231-236	.05	.15		5		

Hole No. 5-38

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of June, 1954 Docket No. DMEA 3143 Contract No. idm-E645
Operator's Name Calera Mining Company Minerals Cobalt and Copper
Address Cobalt, Idaho
Contract Amount, $407,340.00 Government Participation: 70% Amount, $285,138.00

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) Spiling		560.00	560.00		560.00	560.00
Heavy Timber		199.50	199.50		199.50	199.50
Drilling-Core-Stage II		331.46	331.46		331.46	331.46
Trenching	1,033.38	6,918.94	7,952.32	1033.38	6918.94	7952.32
Timber		667.10	667.10		667.10	667.10
Drifting		3,731.18	3,731.18		3731.18	3731.18
Framing		180.84	180.84		180.84	180.84
(2) Core Drilling-Stage I	9,319.44	11,661.48	20,980.92	9319.44	11661.48	20980.92
Reaming Stage I	295.00	426.25	721.25	295.00	426.25	721.25
(3)						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Sampling and Analysis Stage II		141.00	141.00		141.00	141.00
Sampling & Analysis Stage I	1,032.00	900.00	1,932.00	1032.00	900.00	1932.00
(8) Contingencies (specify):						
TOTALS	$11,679.82	$25,717.75	$37,397.57	11679.82	25717.75	37397.57

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

Date July 7, 1954 *Payee Calera Mining Company

Per [signature] Title Vice Pres

*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:

$ 8175 87

Signature MDP
(Authorized Certifying Officer)

Date 7/20/54 Vou. No. 1217
(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. E645 in accordance with the terms of the contract.

Signature /S/ Oscar Z Johnson Title Mining Eng Date 7/14/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W Zoldok Title Mining Engr Date 7/14/54

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.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 195 4 Docket No. DMEA 3143 Contract No. Idm-E645
Operator's Name Calera Mining Company Minerals Cobalt and Copper
Address Cobalt, Idaho

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	Ft.			$ 3,731.18	105	$35.535	6000	$35.535
Timbering	Ft.			667.10	95.3	7.00	5000	7.00
Heavy Timbering	Ft.			199.50	28.5	7.00	750	7.00
Raising								
Spilling	Ft.			560.00	28.0	20.00	500	20.00
Shafts								
Framing	Sets			180.84	33.0	5.48	1150	5.48
Stage II	Ea.			141.00	47	3.00	5900	3.00
Drilling Core								
Drilling Core Stage II	Ft.			331.46	98	3.3822	10500	3.3822
Shaft								
Auger								
Stripping								
Trenching	Hrs.	1,033.38	87	7,952.32	669	11.878	864	11.878
Drilling Core Stage I	Ft.	9,319.44	1339	20,980.92	3014	6.960	8700	6.960
Test Pits								
Raise Stage I	Ea.	1,032.00	344	1,932.00	644	3.00	3100	3.00
Roads and Trails								
Reaming Stage I	Ft.	295.00	118	721.25	288	2.50	1700	2.50
Total Distributed Costs		$11,679.82		$37,397.57				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		$11,679.82		$37,397.57				

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 July 7, 1954 Operator Calera Mining Company

Per [signature] Title Vice Pres

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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

July 7, 1954

gcl
8/17/55

Mr. A. E. Weissenborn
Executive Office - Region 2
D. M. E. A. Field Team
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA 3143
Contract No. idm-E545

Dear Mr. Weissenborn:

We enclose herewith the reports covering the activities of the D.M.E.A. Project No. 3143 for the month of June, 1954.

Trenching was continued with the D-7 bulldozer for a total of 87 hours of bulldozer operation. The 763 Trench was opened up and approximately 350 feet of bedrock was exposed. The overburden in the western part of this trench was found to be approximately 20 feet deep. ±4' hr

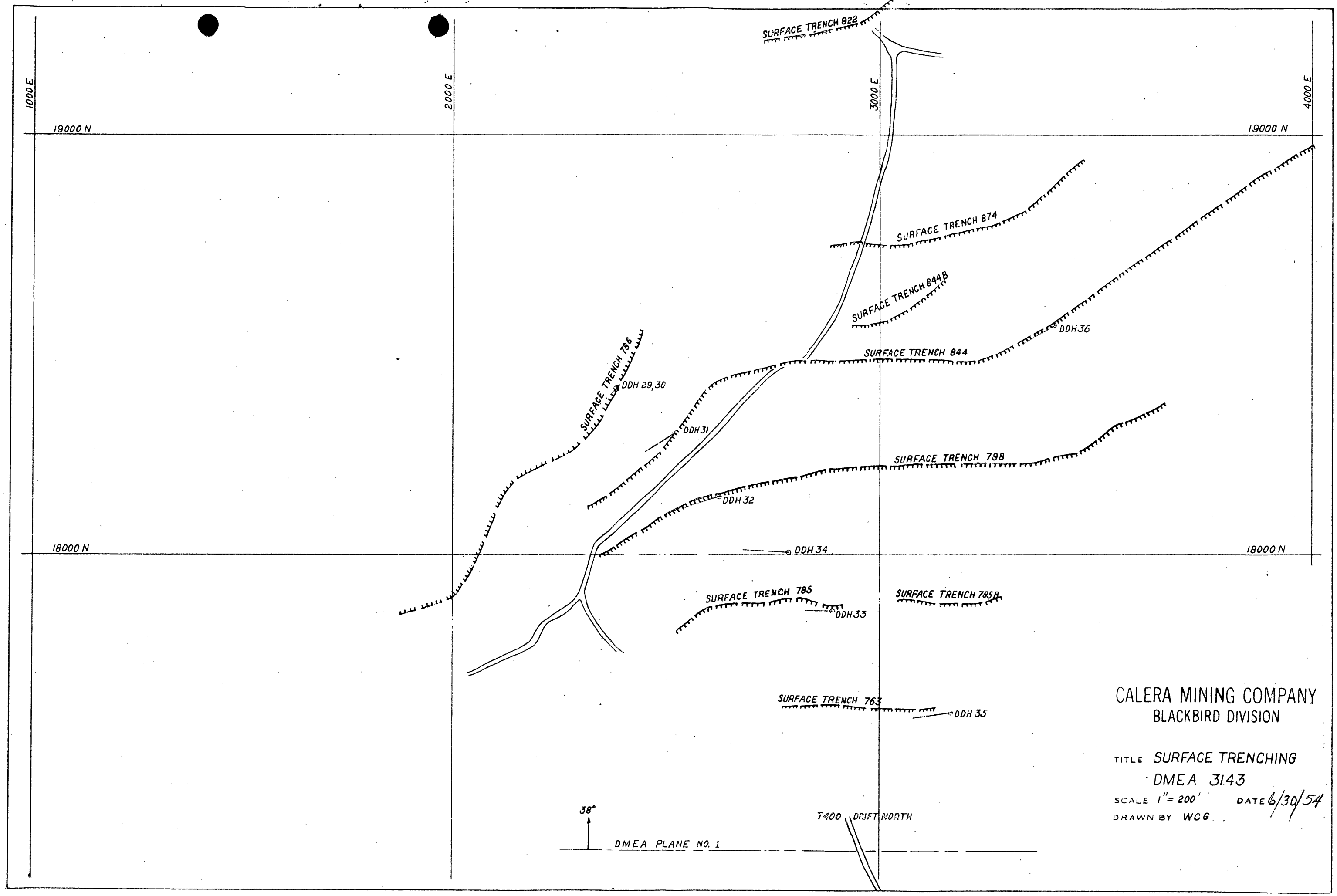
Surface diamond drilling was completed for the present in the area northeast of the Brown Bear Ore Zone and was started in the garnet schist approximately a thousand feet east of the previous drilling. The first hole in the garnet schist intersected low grade cobalt mineralization.

Very truly yours,

CALERA MINING COMPANY
BLACKBIRD DIVISION

E. B. Douglas, Manager

EBD:abd
Enclosures


1000 E
2000 E
3000 E
4000 E
19000 N
18000 N
SURFACE TRENCH 822
SURFACE TRENCH 874
SURFACE TRENCH 844B
SURFACE TRENCH 844
DDH36
SURFACE TRENCH 786
DDH 29,30
DDH31
SURFACE TRENCH 798
DDH32
DDH34
SURFACE TRENCH 785
DDH33
SURFACE TRENCH 785B
SURFACE TRENCH 763
DDH35
38°
DMEA PLANE NO. 1
7400 DRIFT NORTH
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE TRENCHING
DMEA 3143
SCALE 1" = 200'
DATE 6/30/54
DRAWN BY WCG

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1

DIAMOND DRILLING RECORD

By R.E. CRIBBS

Date MAY, 1954

Hole No. 5-32 Mine

Level SURFACE

Location 798 FEET H

Bearing S 71½ W Dip -47° Length 322½

Latitude of Collar 18,137 N Departure of Collar 2,629 E Elevation 7833½

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/24/54		0-10				10	5	NX SCHISTOSE QUARTZITE WITH NARROW SCHIST ZONES 70° TO CORE
		10-12				2	25	SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE
		12-22						SCHISTOSE QUARTZITE WITH NARROW
		12-17				5	20	SCHIST ZONES ABOUT 70° TO CORE. LAST HALF
		17-22				5	6	OF CORE 17-22 IS LIMONITE GOSSAN
		22-26½				4½	29	FINE GRAINED AND SOMEWHAT BLEACHED SCHISTOSE QUARTZITE AND SCHIST ABOUT 60° TO CORE. ABOUT 25% QUARTZ-LIMONITE MINERALIZATION. POSSIBLE FAULT 25-26½'.
		26½-31				4½	13	SCHISTOSE QUARTZITE ABOUT 60° TO CORE. FIRST PART OF CORE HAS SOME QUARTZ-LIMONITE MINERALIZATION.
		31-41½						SCHISTOSE QUARTZITE AND SCHIST ABOUT
		31-35½				4½	44	55° TO CORE. MOST OF CORE IS HIGHLY
		35½-39½				4	33	FRACTURED. A½" RIBBON OF YELLOW ALTERED
		39½-41½				2	100	ROCK AT 33'.
		41½-46				4½	71	SCHISTOSE QUARTZITE WITH MANY NARROW SCHIST ZONES UP TO ½" WIDE AND ABOUT 50° TO CORE. STRINGERS OF QUARTZ-LIMONITE MINERALIZATION 42½-44.
		46-53½				7½	35	SCHISTOSE QUARTZITE WITH QUARTZ-LIMONITE STRINGERS THROUGHOUT CORE. SOME OF CORE HIGHLY FRACTURED.
		53½-58½				5	40	FRACTURED SCHISTOSE QUARTZITE WITH SOME NARROW LIMONITE MINERALIZATION HEALING OLD FRACTURES.
	X383	58½-64½	Tr.	Tr.		6	33	HIGHLY FRACTURED SCHISTOSE QUARTZITE WITH MINOR QUARTZ-LIMONITE MINERALIZATION.
	X384	64½-66	.45	.08		1½	100	SCHISTOSE QUARTZITE WITH GOOD QUARTZ-COBALTITE - ~~[illegible]~~ MINERALIZATION AND YELLOW ARSENIC? STAINS.
	X385	66-69½	.07	Tr.		3½	97	SCHISTOSE QUARTZITE ABOUT 80° TO CORE. HIGHLY FRACTURED AT 66½'.
		69½-79½						SCHISTOSE QUARTZITE WITH SOME NARROW
	X386	69½-70½	.50	.07		1	100	SCHIST ZONES UP TO 1" WIDE AND ABOUT 80° TO
	X387	70½-73½	.16	.22		3	"	CORE. QUARTZ-PYRITE MINERALIZATION 69½-70½,
	X388	73½-75	.09	.02		1½	"	SOME LIMONITE MINERALIZATION 73½-74½'.
	X389	75-79½	.09	.15		4½	"	SOME IRREGULAR QUARTZ STRINGERS WITH MINOR LIMONITE 76-78'.

Hole No. 5-32

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2

DIAMOND DRILLING RECORD

By

Date

Hole No. S-32 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
5/24/54		79½-85½						SOMEWHAT BRECCIATED AND CONTORTED
	X390	79½-82½	.30	.13		3	93	SCHISTOSE QUARTZITE WITH MINOR
	X391	82½-85½	.06	Tr.		3	100	IRREGULAR QUARTZ-CHALCOCITE?-PYRITE?
								VEINLETS.
		85½-93½						CONTORTED AND SOMEWHAT BRECCIATED
	X392	85½-91½	.06	.47		6	88	SCHISTOSE QUARTZITE AND SCHIST MOSTLY AT
	X393	91½-93½	.07	.05		2	100	LOW ANGLE TO CORE. MINOR IRREGULAR
								QUARTZ-CHALCOCITE? STRINGERS. A 1" PYRITE-
								QUARTZ STRINGER AT HIGH ANGLE TO CORE AT 86'
								QUARTZ-SULFIDE MINERALIZATION 89-90' NEARLY
								PARALLEL TO CORE.
		93½-103½						SCHISTOSE QUARTZITE WITH NARROW
	X394	93½-96	.06	.09		2½	76	CONTORTED SCHIST ZONES MOSTLY 20-30°
	X395	96-100	.07	.02		4	100	TO CORE. QUARTZ-LIMONITE GOSSAN ABOUT
	X396	100-103½	Tr.	.04		3½	94	2" WIDE AT 93½ AND 96'. A 1" QUARTZ-
								SULFIDE VEIN AT 94½ AND A FEW NARROW
								QUARTZ-BIOTITE-SULFIDE STRINGERS MOSTLY AT
								HIGH ANGLE TO CORE. 95½-101'. ROCK HIGHLY
								FRACTURED 95½-96', 99-100' AND 103-103½'
								WITH SHEARING PRESENT 99-100'.
5/25		103½-105				1½	100	SCHISTOSE QUARTZITE WITH NARROW SCHIST
								ZONES NEARLY PARALLEL WITH CORE. A ½" PYRITE
								VEIN 20° TO CORE AT 104'.
		105-106½				1½	"	FRACTURED SCHIST WITH PYRITE-CHALCOCITE?
								STRINGERS AND SOME LIMONITE FRAGMENTS. CORE
								IS FRACTURED AND IS PROBABLY FAULT ZONE.
		106½-109½				3	"	SCHISTOSE QUARTZITE MOSTLY 35° TO CORE
								BUT PARALLEL AT 109½'. A NARROW SULFIDE
								STRINGER AT 107'.
		109½-123						ALTERNATING ZONES OF SCHISTOSE QUARTZITE
		109½-112				2½	"	AND SCHIST UP TO A FOOT WIDE AND VARYING
		112-116				4	"	FROM PARALLEL TO 45° TO CORE. QUARTZ
		116-123				7	"	MINERALIZATION WITH LIMONITE AND MINOR
								CHALCOCITE? 110-112½, 116-116½, 118-119. A TWO
								INCH UGLY PYRITE VEIN AT 114'. A 1" ZONE OF
								GREENISH SCHISTOSE QUARTZITE 30° TO CORE AT 113½.
5/27		123-132½				9½	"	CONTORTED ZONES OF SCHIST UP TO ½" WIDE IN
								QUARTZITE AND VARYING FROM 45° TO CORE AT 123 TO
								PARALLEL AT 123½, 30° AFTER 124½, AND 50° AFTER 13:
								SOME QUARTZ-LIMONITE MINERALIZATION IN STRINGERS
								AND OLD FRACTURES 126-132'. MODERATELY FRACTURED
								BLACK SCHIST 132-132½'.

Hole No. S-32

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3
By
Date

DIAMOND DRILLING RECORD

Hole No. S-32 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
5/29/54		132½-134				1½	67	SOME QUARTZ-CHALCOPYRITE MINERALIZATION IN QUARTZITE AND SCHIST.
		134-137				3	100	NARROW SCHIST ZONES IN QUARTZITE 30-50° TO CORE. MODERATELY FRACTURED SCHIST 136-137'.
		137-141						MODERATELY FRACTURED SCHISTOSE QUARTZITE AND SCHIST WITH QUARTZOSE SCHIST 138½-141.
		137-139				2	100	
		139-141				2	90	
5/31/54	X430	141-143	Tr	Tr		2	60	MODERATELY FRACTURED QUARTZOSE SCHIST AND QUARTZITE
	X431	143-147	.01	Tr		4	38	SCHISTOSE QUARTZITE
	X432	147-153½	Tr	.02		6½	86	SCHISTOSE QUARTZITE WITH A FEW NARROW SCHIST ZONES ABOUT 80° TO CORE. ABOUT HALF OF CORE IS HIGHLY FRACTURED.
	X433	153½-156	.01	Tr		2½	88	SCHISTOSE QUARTZITE AND SCHIST ABOUT 70° TO CORE. SOFT CRUMBLY SCHIST 155-156'.
	X434	156-158	.01	.06		2	90	FRACTURED SCHISTOSE QUARTZITE. MINOR IRON STAINS ON FRACTURES.
	X435	158-162	.03	.23		4	68	FRACTURED AND SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE WITH NARROW SCHIST ZONES ABOUT 60° TO CORE. MINOR IRON STAINS.
	X436	162-166	.04	.63		4	98	SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE AND SCHIST WITH LIMONITE STAINS ALONG FRACTURES. MINOR QUARTZ-CHALCOPYRITE-CHALCOCITE? STRINGERS.
		166-171½						SCHISTOSE QUARTZITE WITH SOME SCHIST ZONES ABOUT 80° TO CORE. FRACTURED QUARTZOSE SCHIST 167-168½. MINOR QUARTZ-CHALCOPYRITE STRINGERS. 1" SCHIST ZONE LARGELY REPLACED BY CHALCOCITE AT 169½.
	X437	166-168½	.04	.47		2½	80	
	X438	168½-171½	.04	.11		3	100	
	X439	171½-176½	.04	.13		5	66	ALTERNATING ZONES OF SCHIST AND QUARTZITE ABOUT 70° TO CORE. HIGHLY FRACTURED 171½-173½, 174½-176½. GREEN MINERAL AT 174'.
	X440	176½-178	.07	.27		1½	80	ALTERNATING ZONES OF SCHISTOSE QUARTZITE AND SCHIST. ABOUT 60° TO CORE.
	X441	178-180	.02	.15		2	80	SCHISTOSE QUARTZITE WITH QUARTZ-CHALCOPYRITE-CHALCOCITE-AZURITE? MINERALIZATION.
	X442	180-181½	.06	.50		1½	73	FRACTURED SCHIST AND SCHISTOSE QUARTZITE
	X443	181½-185½	.01	.05		4	100	SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE WITH A FEW NARROW SCHIST ZONES ABOUT 55° TO CORE. MINOR QUARTZ-CHALCOCITE MINERALIZATION. MODERATELY FRACTURED 184½-185½.

Hole No. S-32

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. S-32 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/31/54	X444	185½-193	.15	.18		7½	63	Contorted narrow schist zones in somewhat brecciated schistose quartzite. Highly fractured and contains quartz stringers. Begin 187½.
	X445	193-195½	.11	.14		2½	80	Contorted schist zones in somewhat brecciated schistose quartzite. Some quartz-chalcopyrite-pyrite mineralization throughout core. Core sheared and moderately fractured.
		195½-206½						Quartz-chalcopyrite-cobaltite-pyrite?
	X446	195½-197	.21	.20		1½	100	mineralization replacing about 50% of
	X447	197-201½	1.62	2.00		4½	100	schistose quartzite and schist. Quartzite
	X448	201½-206½	.51	2.13		5	48	almost entirely replaced 197-201½. Highly fractured 200-201½. Soft fractured schist 205½-206½.
	X449	206½-209½	.10	2.60		3	17	Schistose quartzite at high angle to core with some quartz-chalcopyrite mineralization.
6/11/54		209½-219						AX Quartzose schist sheared nearly
	X601	209½-214	.02	.02		4½	20	parallel to core 209½-214 and about 35° to
	X602	214-219	.08	.68		5	18	core 214-219. Last 2" of core is soft black schist with minor sulfides.
	X603	219-224	.08	2.97		5	10	Fragments of schist and quartzite with quartz-pyrite-muscovite? mineralization. Coarse chlorite perpendicular to quartz stringer at 219½.
	X604	224-227½	.03	.28		3½	29	Fragments of schistose quartzite with very minor quartz stringers. Last 2" of core is soft black schist.
	X605	227½-231	.04	.19		3½	31	Narrow contorted schist zones about 20° to core in brecciated quartzite. Last 2" core highly fractured schist.
	X606	231-234	.08	.78		3	60	Pyrite and minor quartz stringers in fractured quartzose schist. Last 6" of core is soft black schist.
	X607	234-237½	.07	.42		3½	31	Quartz mineralization in fractured schistose quartzite. Last half core soft black schist.
	X608	237½-240½	.04	.30		3	70	Alternating zones of contorted schist and quartzite with minor quartz-pyrite-limonite mineralization. Part of core is highly fractured.

Hole No. S-32

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-32 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
6/11/54		240½-252						NARROW SCHIST ZONES IN BRECCIATED SCHISTOSE
	X609	240½-244	.04	.64		3½	57	QUARTZITE. CHALCOCITE-LIMONITE MINERALIZATION
	X610	244-247	.01	.27		3	60	IN FRACTURES. GREEN COPPER MINERAL AT 246'.
	X611	247-252	Tr	.13		5	24	MINOR SHEARING AT HIGH ANGLE TO CORE.
								HIGHLY FRACTURED 244-247'.
		252-281½						HIGHLY FRACTURED SCHISTOSE QUARTZITE.
	X612	252-254½	.01	.36		2½	32	MINOR NATIVE COPPER AND CUPRITE AT 252½'.
	X613	254½-257½	.01	.16		3	50	BROWN SCHISTOSE DIKE WITH CARBONATE AT.
								253' AND 256-257½'. LARGE CARBONATE SPOTS
								IN QUARTZITE ADJACENT TO DIKE.
	X614	257½-262½	.15	.78		5	40	FRACTURED SCHISTOSE QUARTZITE WITH
								SOME QUARTZ-PYRITE-CHALCOCITE?-MUSCOVITE?-
								MINERALIZATION.
		262½-280						MODERATELY FRACTURED SOMEWHAT BRECCIATED
	X615	262½-267½	.12	.76		5	52	SCHISTOSE QUARTZITE WITH MINOR IRREGULAR
	X616	267½-271	.04	.04		3½	40	QUARTZ-CHALCOPYRITE-BIOTITE-CHALCOCITE
	X617	271-273	.05	.13		2	35	MINERALIZATION. STRUCTURE ABOUT 70° TO CORE.
	X618	273-276	.02	.15		3	27	A 1" QUARTZ VEIN WITH MINOR CHALCOPYRITE
	X619	276-280	.03	.12		4	23	AT 279 AND AT 275½'.
	X620	280-284	.07	.12		4	23	FRACTURED SCHISTOSE QUARTZITE. FIRST 2" OF
								CORE IS PYRITE-QUARTZ MINERALIZATION.
	X621	284-287	.10	.41		3	40	BROWN SCHISTOSE DIKE WITH SMALL CARBONATE
								XLS. LAST 5' OF CORE IS SILICIFIED SCHISTOSE QUARTZITE.
		287-302						HIGHLY FRACTURED QUARTZITE WITH
	X622	287-291	.05	.05		4	45	SOME SCHIST AT 288' AND 294½'. CORE
		291-295				4	38	SAWED FROM 290½-293.
		295-299				4	5	
		299-302				3	7	
		302-309						SOFT SCHIST SHEARED NEARLY PARALLEL
		302-305½				3½	57	TO CORE 302-304½'. FROM 304½-309 SCHISTOSE
		305½-309				3½	46	QUARTZITE ABOUT 60° TO CORE. MOST OF CORE
								MODERATELY FRACTURED AND VERY HIGHLY
								FRACTURED 302-303 AND 305½-306'.
		309-322½						FRACTURED SCHISTOSE QUARTZITE AND
		309-312½				3½	60	SCHIST. VERY HIGHLY FRACTURED 309-310'
		312½-316				3½	46	[redacted], 312½-315', AND 318-322½'.
		316-320				4	15	
		320-322½				2½	20	

Hole No. 5-32

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. S-32 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/19/54	X306	6-10	Tr	Tr		4	Sludge	
	X307	10-17	Tr	Tr		7		
	X308	17-22	Tr	.02		5		
	X309	22-26½	Tr	.02		4½		
	X310	26½-31	Tr	Tr		4½		Cased to 31
	X311	31-35½	Tr	.02		4½		
	X312	35½-39½	.01	Tr		4		
	X313	39½-44½	Tr	.05		5		
	X314	44½-50	Tr	Tr		5½		
	X315	50-58½	Tr	.02		8½		
	X316	58½-64½	Tr	Tr		8		
	X317	64½-69½	.15	.03		5		
	X318	69½-73½	.33	.09		4		
	X319	73½-79½	.13	.08		6		No water 77-78
	X320	79½-85½	.23	.23		6		
	X321	85½-91½	.08	.82		6		
	X322	91½-96	.11	1.03		4½		
	X323	96-100	.06	.10		4		
	X324	100-105	.05	.33		5		
	X325	105-110	.06	.36		5		
	X326	110-116	.03	.52		6		
	X327	116-123	.04	.36		7		
	X328	123-132½	.01	.07		9½		
	X329	132½-137	.01	.09		4½		
	X330	137-141	.01	.08		4		
	X331	141-142	.02	.09		3		
		142-166				24		No sludge
5/20	X332	166-171½	.04	.77		5½		
	X333	171½-176½	.04	.35		5		
	X334	176½-181½	.09	.64		5		
	X335	181½-185½	.04	.34		4		
	X336	185½-193	.16	.23		7½		
	X337	193-201½	.69	1.03		8½		
	X338	201½-206½	.75	3.95		5		
	X339	206½-209½	.15	.42		3		Cased to 209½
	X340	209½-214	.04	.29		4½		
	X341	214-219	.14	2.06		5		
5/21	X360	219-224	.09	2.40		5		
	X361	224-227½	.05	.71		3½		
	X362	227½-234	.07	1.35		6½		
	X363	234-240½	.10	1.14		6½		
	X364	240½-247	.03	1.00		6½		

Hole No. S-32

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-32 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Qz. Au.	Ft	% C. R.	Geology and Remarks
5/21	X365	247-252	.05	.57		5	Sludge	
	X366	252-257½	.03	1.08		5½	"	
	X367	257½-262½	.04	.79		5	"	
	X368	262½-267½	.07	.83		5	"	
	X369	267½-272½	.06	.45		5	"	
	X370	272½-280	.19	1.52		7½	"	
	X371	280-284	.32	1.46		4	"	
	X372	284-287	.12	.54		3	"	
	X373	287-291	.07	.23		4	"	
	X374	291-295	.04	.23		4	"	
	X375	295-299	.02	.12		4	"	
5/24	X376	299-302	.02	.08		3	"	
	X377	302-305½	.04	.10		3½	"	
	X378	305½-309	.01	.06		3½	"	
	X379	309-312½	.01	.02		3½	"	
	X380	312½-316	.01	.06		3½	"	
	X381	316-320	.02	.04		4	"	
	X382	320-322½	.04	.17		2½	"	

Hole No. 5-32

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1
By R. E. CRIBBS
Date JUNE, 1954
Level SURFACE

DIAMOND DRILLING RECORD

Hole No. 5-33 Mine
Location 78C TRENCH
Bearing N89W Dip -45°
Latitude of Collar 17,865 N ~~17,840 N~~ Departure of Collar 2,892 E ~~2,898 E~~
Length 330
Elevation 7,766½

Date	Sample No.	Depth From – To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
6/8/54		0-5				5	2	NX QUARTZOSE SCHIST
		5-8				3	3	QUARTZITE
		8-28						SCHISTOSE QUARTZITE WITH SCHIST ZONES
		8-10½				2½	20	UP TO AN INCH WIDE AND ABOUT 60°
		10½-13				2½	68	TO THE CORE. MINOR LIMONITE STAINS ALONG
		13-14½				1½	47	FRACTURES. A ¼" QUARTZ VEIN WITH MINOR LIMONITE
		14½-18				3½	94	40° TO CORE AND HIGH ANGLE TO STRUCTURE
		18-23				5	78	AT 17½'. RATHER FINE GRAINED SCHISTOSE
		23-28				5	56	QUARTZITE 22-25'. SMALL FAULT AT 25'.
6/13		28-33½				5½	85	BX SCHISTOSE QUARTZITE WITH NARROW
								SCHIST ZONES ABOUT 70° TO CORE. MUCH OF
								CORE MODERATELY BRECCIATED AND HEALED
								WITH LIMONITE. FAULTED 30½-32½.
		33½-48½						HIGHLY SHEARED SOFT SCHIST
		33½-38½				5	47	ALTERNATING WITH FRACTURED SCHISTOSE QUARTZITE
		38½-43½				5	24	MINOR QUARTZ-BIOTITE STRINGERS AND MINOR
		43½-48½				5	30	LIMONITE HEALING OLD FRACTURES.
		48½-54				5½	70	SCHISTOSE QUARTZITE 80° TO CORE. FIRST
								2" OF CORE IS BRECCIA HEALED WITH LIMONITE,
								LAST 2" IS FAULT.
		54-58				4	60	FRACTURED FINE GRAINED INTERCALATED
								SCHIST AND QUARTZITE. LAST HALF OF
								CORE IS HIGHLY FRACTURED AND SHEARED.
		58-63				5	80	FRACTURED SCHISTOSE QUARTZITE WITH
								SOME NARROW SCHIST ZONES AT HIGH
								ANGLE TO CORE. QUARTZ-LIMONITE MINERALIZATION
								60-60½' AND MINOR LIMONITE THROUGHOUT CORE.
		63-65½				2½	40	HIGHLY FRACTURED AND SHEARED SCHIST.
		65½-68				2½	72	HIGHLY FRACTURED AND SHEARED SCHIST
								WITH SOME QUARTZ-CARBONATE MINERALIZATION
								LAST ½' CORE IS SCHISTOSE QUARTZITE WITH SEVERAL
								QUARTZ STRINGERS.
		68-73½				5½	91	HIGHLY SHEARED SOFT QUARTZOSE SCHIST.
								SCHISTOSE QUARTZITE 68-68½ AND 73-73½'.
		73½-89½						SCHISTOSE QUARTZITE 45-60° TO CORE.
		73½-77½				4	100	SCHIST 77-79½, 82½-83½, AND 84½-85½. SCHIST
		77½-81½				4	"	IS NEARLY PARALLEL WITH CORE 77-79½' AND
	X 557	81½-85½	TR	.02		4	85	IS SHEARED AT 79' AND 85-85½'. MINOR
		85½-89½				4	33	QUARTZ STRINGERS.
		89½-93				3½	0	NO CORE.

Hole No. 5-33

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2
By
Date
Level

DIAMOND DRILLING RECORD

Hole No. S-33 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
6/13/54		93-95				2	45	MODERATELY FRACTURED SCHISTOSE QUARTZITE
		95-99				4	63	QUARTZOSE SCHIST. LAST FOOT OF CORE IS FRACTURED AND MODERATELY SHEARED.
		99-100				1	30	FRAGMENTS OF SCHIST AND QUARTZITE WITH A SMALL QUARTZ STRINGER.
		100-108				8	0	NO CORE
		108-116						AX FRACTURED SCHIST AND SCHISTOSE
		108-114				6	43	QUARTZITE. SCHIST IS SHEARED AT LOW ANGLE
		114-116				2	70	TO CORE 108-114'. POSSIBLE DIKE OR SCHIST 114½-115½. A 1" QUARTZ-BIOTITE VEIN AT 108½,
								AND MINOR QUARTZ STRINGERS IN CORE.
		116-122				6	27	FRACTURED SCHISTOSE QUARTZITE AND SCHIST. FIRST PART OF CORE HIGHLY SILICIFIED, AND LAST PART MODERATELY SHEARED.
		122-126½				4½	29	FRACTURED SCHISTOSE QUARTZITE AND SCHIST WITH MINOR QUARTZ STRINGERS. LAST 3" OF CORE IS LIMONITE-QUARTZ GOSSAN.
		126½-133½						FRACTURED AND MODERATELY SHEARED.
		126½-130½				4	13	QUARTZOSE SCHIST. MINOR LIMONITE MINERALIZATION
		130½-133½				3	47	SCHISTOSE QUARTZITE AT HIGH ANGLE TO CORE AFTER 132½.
		133½-136½				3	53	SCHISTOSE QUARTZITE ABOUT 80° TO CORE ALTERNATING WITH SOME SHEARED SCHIST. ONE INCH OF DIKE AT END OF RUN.
		136½-138½				2	20	HIGHLY SHEARED ROCK WITH SOME FRAGMENTS OF BROWN SCHISTOSE DIKE. DIKE HAS LARGE PROPORTION OF SMALL CARBONATE XLS.
6/14/54	X568	138½-143	.06	.83		4½	9	DIKE SIMILAR TO ABOVE.
	X569	143-145	.12	.63		2	70	SAME AS ABOVE
	X570	145-146½	.11	.32		1½	80	HIGHLY SILICIFIED QUARTZOSE SCHIST
	X571	146½-148½	1.45	.45		2	70	A 1" BROWN DIKE AT 146½. 146½-147 IS QUARTZ-COBALTITE-PYRITE-CHALCOPYRITE VEIN. LAST PART OF CORE IS SCHIST WITH SMALL QUARTZ-CHALCOPYRITE STRINGERS 80° TO CORE. SHEARED AND FRACTURED 148-148½.
		148½-152½						HIGHLY FRACTURED QUARTZOSE SCHIST
	X572	148½-150½	.14	.83		2	55	ALTERNATING WITH SOME SCHISTOSE QUARTZITE
	X573	150½-152½	.05	.13		2	35	150½-152½
	X574	152½-157½	.02	.42		5	78	SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE WITH SOME SMALL IRREGULAR QUARTZ-BIOTITE-CHALCOPYRITE STRINGERS. HIGHLY FRACTURED FROM 155-157½.

Hole No. S-33

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3
By
Date

DIAMOND DRILLING RECORD

Hole No. S-33 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C. R.	Geology and Remarks
[illegible]	X792	158½-161½	.01	.03		4	80	FRACTURED QUARTZITE. FAIR GROUND. [illegible] CONTAINS 158½-161½ [illegible] MALACHITE 158½ AND 161½ AND MALACHITE 158-161½.
		161½-165						FRACTURED SCHISTOSE QUARTZITE WITH A FEW NARROW CHIST ZONES, ABOUT 60° TO CORE. VERY MINOR QUARTZ STRINGERS. SOME MINOR COPPER AND CHRYSE IN FRACTURES 161½-165.
	X793	165-168	.00	.68		1½	60	
	X795	168-169½	.10	.39		2½	56	SCHISTOSE QUARTZITE WITH QUARTZ BIOTITE MINERALIZATION AND MINOR CHALCOPYRITE. FOLIATION SEMI 80° TO CORE 169½-171½. ABOUT HALF OF CORE IS MINERALIZED.
	X796	169½-171½	.02	.05		2½	63	FRACTURED SCHISTOSE QUARTZITE ABOUT 60° TO CORE. FAIR GROUND. SOFT INTERSTITIAL SCHIST AND QUARTZITE CONTAINING SMALL CHALCOPYRITE SPOTS. 169½-171½ IS QUARTZ CHALCOPYRITE MINERALIZED. MINERALIZATION 171½.
		171-182						MODERATELY FRACTURED SCHISTOSE QUARTZITE 60-90° TO CORE. MINOR QUARTZ CHALCOPYRITE MINERALIZATION AT 173' AND QUARTZ BIOTITE MINERALIZATION AT 182'.
	X799	173-174	.04	.42		1	50	
	X798	174-182	.01	.03		8	24	
	X800	182-188	.02	1.76		3	23	FRACTURED QUARTZ-BIOTITE MINERALIZATION. MINOR SULPHIDES.
4/21	X800	188-189	.02	.08		4	25	NARROW ZONES OF SCHIST 1 TO 2" WIDE IN SLIGHTLY BRECCIATED SCHISTOSE QUARTZITE ABOUT 50° TO CORE. MINOR QUARTZ BIOTITE CHALCOPYRITE STRINGERS.
	X801	189-195	.03	.11		6	72	MODERATELY FRACTURED ALTERATIONS ZONES OF CONCORTED SCHIST AND BRECCIATED BRECCIATED SCHISTOSE QUARTZITE, 30-60° TO CORE. MINOR QUARTZ BIOTITE STRINGERS.
	X802	195-200½	.04	.59		5½	18	FRACTURED SCHIST AND SCHISTOSE QUARTZITE WITH QUARTZ CHALCOPYRITE MINOR MINERALIZATION.
	—	200½-204½				4	1	FRAGMENTS OF BRECCIA WITH MINOR QUARTZ CHALCOPYRITE MINERALIZATION.
		204½-206½				2	0	NO CORE
	X803	206½-208½	.03	.19		3	60	FRACTURED SCHISTOSE QUARTZITE. LAST 2" OF CORE IS QUARTZ CHALCOPYRITE [illegible]

Hole No. S-33

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. S-33 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C. R.	Geology and Remarks
[illegible]		209½-219½						MODERATELY FRACTURED. SLIGHTLY BRECCIATED SCHISTOSE QUARTZITE WITH MINOR CHALCOPYRITE. SOME DARK 30-60° TO CORE. MINOR QUARTZ BLEBS AND CHALCOPYRITE. MINERALIZATION 209½-219½. MINOR INCLUSIONS OF [illegible] QUARTZITE. SAME. MAKE BROWN DIKE 218½-219½ WITH 10% CHALCOPYRITE. SPACE LIKE 2" OF [illegible] IS MODERATELY SHEARED.
	X 804	209½-211½	.06	.13		2	65	
	X 805	211½-215	.04	.57		3½	100	
	X 806	215-219½	.01	.01		4½	100	
	X 807	219½-224	.10	.22		4½	40	BEST HOLE OF CORE IS SHEARED BRANCHING FROM CONTACT. SOME FRACTURED SCHISTOSE QUARTZITE.
	X 808	224-226	.04	.11		2	25	MODERATELY FRACTURED SCHISTOSE QUARTZITE WITH 2" IS LARGE CHALCOPYRITE VEIN.
		226-229	—	—		3		MINOR MINERALIZATION, MODERATELY FRACTURED QUARTZITE.
	X 809	229-233	.01	.19		4	0	FRACTURED SCHISTOSE QUARTZITE. SOME QUARTZ CHALCOPYRITE. MINERALIZATION 229-230°.
	X 810	233-236	.06	.12		2	40	GOOD CORE. SOME FRACTURED SCHISTOSE QUARTZITE 234-236°.
	X 811	236-238	.11	.16		2	30	MODERATELY FRACTURED SCHISTOSE QUARTZITE WITH SOME CHALCOPYRITE. SOME BLEBS 60° TO CORE.
	X 812	238-241	.03	.03		4	25	FRACTURED SCHISTOSE QUARTZITE. MINOR CHALCOPYRITE. MINERALIZATION 241-243.
	X 813	241-243½	.02	.05		2½	56	
	X 814	243½-246½	.01	.02		3	30	
		246½-266½						SLIGHTLY BRECCIATED SCHISTOSE QUARTZITE, MOSTLY 70-80° TO CORE. MINOR FRACTURE QUARTZ CHALCOPYRITE MINERALIZATION FROM 254-266½.
	X 815	246½-250½	.03	.13		4	60	
	X 816	250½-255½	.02	.15		5	30	
	X 817	255½-260½	.14	.11		5	50	
	X 818	260½-266½	.31	.10		6	[illegible]	
	X 819	266½-271½	.10	.23		5	55	SLIGHTLY BRECCIATED SCHISTOSE QUARTZITE MOSTLY AT COMPANY TO CORE. SOME FRACTURED QUARTZ CHALCOPYRITE MINERALIZATION. MINOR FRACTURED 265-269.
		271½-275				3½	97	BRECCIATED AND HIGHLY FRACTURED SCHISTOSE QUARTZITE WITH MINOR QUARTZ CHALCOPYRITE MINERALIZATION. MINOR SULFIDES ON 271½-275. WITH SOME CHALCOPYRITE ALSO ON SURFACE. [illegible]

Hole No. S-33

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. ____
By ____
Date ____

Hole No. S-33 Mine ____ Level ____
Location ____
Bearing ____ Dip ____ Length ____
Latitude of Collar ____ Departure of Collar ____ Elevation ____

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	%	% C.R.	Geology and Remarks
[illegible]		[illegible]				4	62	[illegible]
		279-285						
		279-282				3	90	[illegible]
		282-285				3	60	[illegible]
		285-289						
		289-290				5	76	[illegible]
		290-293				3	80	[illegible]
		293-304						
		293-296½				3½	43	[illegible]
		296½-301				5	32	[illegible]
		301-304				2½	76	[illegible]
		304-308				4	45	[illegible]
		308-313½						
		308-311				3	27	[illegible]
		311-313½				2½	56	[illegible]
		313½-324						
		313½-318½				5	72	[illegible]
		318½-324				5½	84	[illegible]
		324-330				6	73	[illegible]

Hole No. S-33

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-33 Mine Level

Location

Bearing N89W Dip -45 Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/25/54	X397	15-23	.01	.02		8	5-10.6	
	X398	23-28	Tr	.02		5		CASED TO 28'
5/26	X407	28-33½	.01	Tr		5½		
	X408	33½-38½	.01	.04		5		
	X409	38½-43½	Tr	.02		5		
	X410	43½-48½	Tr	.04		5		
	X411	48½-54	Tr	.04		5½		
	X412	54-58	Tr	.05		4		
	X413	58-63	Tr	.04		5		
	X414	63-68	Tr	.04		5		
	X415	68-73½	.02	.08		5½		
	X416	73½-77½	.02	.05		4		
	X417	77½-81½	.02	.07		4		
	—	81½-85½	—	—		4		
	X418	85½-93	Tr	.07		7½		
	X419	93-99	.01	.05		6		
	X420	99-103	Tr	.07		4		
	X421	103-108	.01	.15		5		CASED TO 103
5/27	X422	108-114	.01	.16		6		
	X423	114-122	.02	.06		8		
	X424	122-126½	.01	.08		4½		
	X425	126½-133½	Tr	.05		7		
	X426	133½-138½	.01	.11		5		
	X427	138½-143	.08	.88		4½		
	X428	143-148½	.26	1.22		5½		
	X429	148½-152½	.32	1.67		4		CASED TO 150'
5/29	X470	152½-157½	.05	.28		5		
	X471	157½-161½	.06	8.20		4		VERY SMALL SAMPLES
	X472	161½-165½	.06	1.23		4		
	X473	165½-169½	.08	1.42		4		
	X474	169½-174	.04	.44		4½		
	X475	174-182	.06	1.06		8		
	X476	182-185	.13	1.11		3		
	X477	185-189	.08	1.17		4		
	X478	189-195	.07	.63		6		
	X479	195-200½	.12	6.59		5½		
	X480	200½-206	.11	5.36		5½		~~CASED TO 201~~
	X481	206-211½	.08	2.79		5½		
	X482	211½-215	.12	2.35		3½		
	X483	215-219½	.08	1.64		4½		
	X484	219½-224	.06	.42		4½		

Hole No. 5-33

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-33 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/29/54	X485	224-229	.16	1.00		5	Strong	
	X486	229-233	.08	.26		4	"	
	X487	233-237	.08	.08		4	"	WATER CAME MORRIOL
5/31/54	X488	237-241	.10	.42		4	"	CASE @ 238
	X489	241-246½	.03	.05		5½	"	
	X490	246½-250½	.09	.19		4	"	
	X491	250½-255½	.05	.13		5	"	
	X492	255½-260½	.09	.09		5	"	
	X493	260½-266½	.20	.10		6	"	
	X494	266½-271½	.08	.13		5	"	
	X495	271½-279	.06	.14		7½	"	
	X496	279-285	.02	.05		6	"	
	X497	285-290	.05	.09		5	"	
	X498	290-296½	.02	.01		6½	"	
	X499	296½-301½	.02	.02		4	"	
	X500	301½-308½	.07	.25		7	"	
	X450	308½-311	.05	.12		2½	"	
6/1	X501	311-318½	.03	.08		7½	"	
	X502	318½-324	.04	.07		5½	"	
	X503	324-330	.05	.10		6	"	

Hole No. 5-33

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R. E. CRIBBS
Date JUNE, 1954

Hole No. S-35 Mine
Level SURFACE
Location 763 TRENCH
Bearing S 87½° W Dip -58½° Length 440
Latitude of Collar 17,625½ N Departure of Collar 3,165½ E Elevation 7,682½

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
6/22/54		0-21						NX SCHISTOSE QUARTZITE 60-80° TO
		0-11				11	2	CORE. LAST 2" OF CORE COLORED BROWN BY
		11-16				5	10	LIMONITE.
		16-21				5	20	
		21-26				5	0	NO CORE
		26-41						QUARTZITE WITH NARROW BANDS OF
		26-31				5	24	SCHIST UP TO 1" WIDE AND ABOUT 70° TO CORE.
		31-36				5	38	
		36-41				5	30	
		41-45				4	60	ALTERNATING BANDS OF SCHIST AND
								QUARTZITE ABOUT 60° TO CORE.
		45-50				5	48	SLIGHTLY CONTORTED SCHISTOSE QUARTZITE.
		50-63½						BX ALTERNATING BANDS UP TO SEVERAL
		50-54				4	45	INCHES WIDE OF SCHISTOSE QUARTZITE
		54-56				2	100	AND SCHIST. ABOUT HALF OF CORE IS
		56-58				2	95	HIGHLY FRACTURED.
		58-63½				5½	44	
		63½-67½				4	83	FRACTURED ALTERNATING BANDS OF SCHIST
								AND SCHISTOSE QUARTZITE ABOUT 50° TO CORE.
		67½-71½				4	55	QUARTZITE WITH NARROW CONTORTED
								BANDS OF SCHIST 50° TO CORE, VERY MINOR
								LIMONITE IN FRACTURES. HIGHLY FRACTURED 69½-71½
		71½-76½				5	68	FRACTURED QUARTZOSE SCHIST 50° TO CORE.
		76½-82				5½	42	FRACTURED NARROW AND CONTORTED ALTERNATING
								BANDS OF SCHISTOSE QUARTZITE AND SCHIST.
								MINOR QUARTZ STRINGERS.
		82-85½				3½	80	FIRST HALF OF CORE IS CONTORTED
								SCHISTOSE QUARTZITE WITH MINOR LIMONITE IN
								FRACTURES AND QUARTZ STRINGERS. LAST HALF
								IS VERY SOFT SHEARED BLACK SCHIST.
		85½-89				3½	100	HIGHLY CONTORTED SCHISTOSE QUARTZITE AND
								MINOR SCHIST BANDS. QUARTZOSE SCHIST
								86-87½. FRACTURED 88-88½.
	X659	89-94½	.02	.06		5½	40	MODERATELY FRACTURED ALTERNATING BANDS
								OF SCHIST AND QUARTZITE ABOUT 60° TO CORE.
								SHEARED SCHIST AND POSSIBLE FAULT 90-92'. VERY
								MINOR LIMONITE IN FRACTURES.
	X660	94½-99	.01	.02		4½	78	MODERATELY FRACTURED SCHISTOSE QUARTZITE
								WITH A FEW NARROW SCHIST BANDS ABOUT 55° TO
								CORE. MINOR SHEARING AT 95½ AND HIGHLY
								FRACTURED 98-99'.

Hole No. S-35

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 2
By
Date
Level

Hole No. 5-35 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
6/22/54	X661	99-102½	.01	Tr		3½	83	MODERATELY FRACTURED ALTERNATING BANDS UP TO SEVERAL INCHES WIDE OF QUARTZITE AND SCHIST. ABOUT 60° TO CORE
	X662	102½-104	Tr	.02		1½	100	MODERATELY FRACTURED QUARTZITE WITH A FEW NARROW CONTORTED BANDS OF SCHIST. MINOR NARROW QUARTZ STRINGERS.
	X663	104-109	.01	.02		5	50	FIRST HALF OF CORE IS SCHISTOSE QUARTZITE. LAST HALF IS FINELY LAMINATED QUARTZOSE SCHIST ABOUT 75° TO CORE. MINOR QUARTZ STRINGERS. CORE IS PARTLY FRACTURED.
		109-120						SCHISTOSE QUARTZITE WITH NARROW SCHIST
	X664	109-114	Tr	.04		5	90	BANDS UP TO 1" WIDE AND 45-60° TO CORE.
	X665	114-120	.02	.06		6	75	FROM 112-113 QUARTZITE IS BRECCIATED AND NEARLY PARALLEL WITH CORE. HIGHLY FRACTURED 112½-113, 118½-119. MINOR QUARTZ STRINGERS 118-119.
	X666	120-121	.08	.32		1	80	BRECCIATED SCHISTOSE QUARTZITE HEALED WITH LIMONITE.
	X667	121-126	Tr	Tr		5	72	ALTERNATING BANDS OF SCHISTOSE QUARTZITE AND SCHIST UP TO SEVERAL INCHES WIDE. ~~[illegible]~~
	X668	126-128	Tr	.03		2	100	QUARTZOSE SCHIST. 50-60° TO CORE. VERY MINOR QUARTZ-LIMONITE STRINGERS.
		128-135½						SOMEWHAT BRECCIATED SCHISTOSE
	X669	128-132½	Tr	.02		4½	100	QUARTZITE WITH SOME NARROW SCHIST ZONES
	X670	132½-135½	Tr	.06		3	57	NEARLY PARALLEL WITH CORE. MINOR SHEARING PARALLEL WITH CORE. MINOR IRREGULAR QUARTZ-LIMONITE STRINGERS. FRACTURED 135-13
		135½-143						SCHISTOSE QUARTZITE WITH NARROW SCHIST
	X671	135½-138	Tr	.03		2½	68	BANDS UP TO 1" WIDE AND ABOUT 70° TO CORE,
		138-143				5	66	MINOR QUARTZ STRINGERS AND VERY MINOR LIMONITE IN FRACTURES.
		143-153						ALTERNATING BANDS OF QUARTZOSE SCHIST
		143-148				5	58	AND SCHISTOSE QUARTZITE UP TO SEVERAL
		148-153				5	60	INCHES WIDE AND VARYING FROM 70° TO CORE AT 143' TO 50° AT 153'.
		153-156½				3½	80	FRACTURED SCHISTOSE QUARTZITE WITH NARROW SCHIST BANDS ABOUT 80° TO CORE. MINOR LIMONITE IN FRACTURES AND VERY MINOR QUARTZ STRINGERS.

Hole No. 5-35

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. S-35 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
6/22/54		156½-177						HIGHLY FRACTURED QUARTZITE AND SCHIST.
		156½-164				7½	15	MINOR LIMONITE. STRUCTURE 70° TO CORE
		164-168				4	43	AT 172½'.
		168-172				4	13	
		172-174				2	30	
		174-177				3	23	
		177-180				3	53	HIGHLY FRACTURED SCHIST AND
								QUARTZITE
		180-183				3	50	HIGHLY FRACTURED AND SHEARED
								SCHIST-QUARTZITE BRECCIA. PROBABLE FAULT.
	x 672	183-188	Tr	.01		5	72	FRACTURED QUARTZOSE SCHIST AND SCHISTOSE
								QUARTZITE ABOUT 80° TO CORE.
		188-195						FRACTURED QUARTZITE AND SCHIST. PART
	x 673	188-191	Tr	.01		3	23	OF SCHIST IS SHEARED 188-191. VERY
	x 674	191-195	.01	.01		4	25	MINOR LIMONITE.
		195-205						FRACTURED SCHISTOSE QUARTZITE AND SCHIST
	x 675	195-200	Tr	Tr		5	60	WITH MINOR LIMONITE IN FRACTURES. A FEW
	x 676	200-205	.08	.07		5	58	SMALL QUARTZ STRINGERS AFTER 198'.
								QUARTZ-CHALCOPYRITE-COBALTITE? STRINGERS
								202-205. MINOR SHEARING AT 204'.
		205-211						FRACTURED AND FAULTED QUARTZOSE
	x 677	205-209	.05	.15		4	55	SCHIST AND QUARTZITE. SOME LIMONITE
	x 678	209-211	.01	.03		2	75	MINERALIZATION 207-211.
		211-224½						ALTERNATING BANDS OF QUARTZOSE SCHIST
		~~[illegible]~~						AND SCHISTOSE QUARTZITE UP TO SEVERAL
	x 679	211-215	.02	.01		4	98	INCHES WIDE AND ABOUT 80° TO CORE. VERY
		215-219				4	83	MINOR LIMONITE IN FRACTURES. MODERATELY
		219-222				3	100	FRACTURED 221-224½.
		222-224½				2½	68	
		224½-230				5½	85	ALTERNATING BANDS OF SOMEWHAT
								BRECCIATED SCHISTOSE QUARTZITE AND SCHIST. 60-80° TO CORE. CORE FRACTURED 228-230.
								LIMONITE IN FRACTURES 228-230.
		230-243						ALTERNATING ~~[illegible]~~ BANDS UP TO SEVERAL INCHES
		230-232				2	100	WIDE OF SLIGHTLY CONTORTED SCHIST AND
		232-235				3	97	SCHISTOSE QUARTZITE 50-80° TO CORE. STRUCTURE
	x 688	235-240	Tr	Tr		5	90	PARALLEL TO CORE AT 234½'. MINOR VERY NARROW
	x 689	240-243	.06	.70		3	97	QUARTZ STRINGERS. QUARTZ-CHALCOCITE?-PYRITE-COBALTITE?-CHALCOPYRITE STRINGERS 240-243.
								SLIGHTLY SHEARED AT HIGH ANGLE TO CORE 242-243'.

Hole No. S-35

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 4
By
Date

Hole No. 5-35 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
6/22/54	X690	243-246	.06	.50		3	33	SHEARED QUARTZOSE SCHIST WITH MINOR QUARTZ-SULFIDE MINERALIZATION.
	X691	246-249	.21	1.79		3	33	HIGHLY FRACTURED SCHIST AND SCHISTOSE QUARTZITE. ONE INCH OF LIMONITE-PYRITE CHALCOCITE MINERALIZATION AT 249'.
	X692	249-250	.54	2.01		1	100	QUARTZ-COBALTITE-CHALCOCITE VEIN
	X693	250-253	Tr	.03		3	73	FRACTURED, MODERATELY BRECCIATED SCHISTOSE QUARTZITE WITH MINOR LIMONITE IN FRACTURES.
	X694	253-257½	.01	.02		4½	50	MODERATELY FRACTURED CONTORTED NARROW BANDS OF SCHIST IN SCHISTOSE QUARTZITE ABOUT 40° TO CORE. SHEARING PARALLEL WITH BANDS.
	X695	257½-259½	.01	.03		2	55	FRACTURED AND CONTORTED SCHISTOSE QUARTZITE AT LOW ANGLE TO CORE. SOME SMALL QUARTZ-SULFIDE STRINGERS.
	X696	259½-263	.07	.20		3½	74	QUARTZOSE SCHIST AND SLIGHTLY BRECCIATED SCHISTOSE QUARTZITE SHEARED AT LOW ANGLE TO CORE. SOME QUARTZ-PYRITE-CHALCOPYRITE MINERALIZATION.
	X697	263-265½	Tr	Tr		2½	92	FROM 263-264 QUARTZOSE SCHIST AT LOW ANGLE TO CORE. FROM 264-265½ SCHISTOSE QUARTZITE ABOUT 40° TO CORE. FRACTURED AFTER 264½.
	X698	265½-272	Tr	Tr		6½	89	ALTERNATING CONTORTED BANDS UP TO SEVERAL INCHES WIDE OF SCHISTOSE QUARTZITE AND SCHIST 40-70° TO CORE. MINOR SHEARING PARALLEL WITH CORE 265½-266. MODERATELY FRACTURED 267½-268.
		272-284						AX SCHISTOSE QUARTZITE WITH NARROW CONTORTED SCHIST BANDS UP TO SEVERAL INCHES WIDE AND MOSTLY ABOUT 70° TO CORE. MODERATELY FRACTURED 274½-275½ AND 281-282.
	X699	272-275½	Tr	Tr		3½	89	
	X700	275½-281½	Tr	Tr		6	83	
	X701	281½-284	Tr	Tr		2½	48	
		284-292						FRACTURED SCHISTOSE QUARTZITE AND SCHIST. MINOR LIMONITE IN FRACTURES 286-288'.
	X702	284-286½	.01	.04		2½	28	
	X703	286½-292	.01	.14		5½	18	

Hole No. 5-35

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-35 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
8/23/54		292-315½						ALTERNATING QUARTZITE AND SCHIST
		292-297				5	46	1 INCHES WIDE OR INCONSPICUOUS
		297-301½				4½	64	SCHIST AND SANDY QUARTZITE
		301½-307½				6	27	MOSTLY ABOUT 80° TO CORE
		307½-312				4½	38	295-297, 305-312, 311-313½
		312-313½				1½	87	
		313½-315½				2	75	
		315½-324						FRACTURED SCHISTOSE QUARTZITE
		315½-320½				5	14	
	X704	320½-324	.02	.02		3½	23	
	X705	324-329	.01	.02		5	34	FRACTURED SCHISTOSE QUARTZITE
								MINOR QUARTZ STRINGERS AND
								GRAINS IN SCHIST
	X706	329-334	.07	.02		5	32	FRACTURED SCHISTOSE QUARTZITE
								AND WITH SOME CARBONATE MINERALIZATION
	X707	334-338	.12	.04		4	15	FRAGMENTS OF SCHIST OR
								SOME QUARTZ-CHALCOPYRITE
								MINERALIZATION VUGGY AND
								AT 336'.
	X708	338-340	.39	Tr		2	20	SCHISTOSE QUARTZITE
								VUGGY QUARTZ MINERALIZATION
		340-343				3	0	NO CORE.
	X709	343-349	.27	.23		6	37	HIGHLY FRACTURED SCHISTOSE
								WITH SOME QUARTZ-SULFIDE
	X710	349-353	.03	.07		4	10	FRACTURED SCHISTOSE
	X711	353-355	.18	.79		2	65	FRACTURED SCHISTOSE QUARTZITE
								IRREGULAR QUARTZ-PYRITE-CHALCOPYRITE
		355-369						MODERATELY CONTORTED
	X725	355-359	.17	.11		4	90	IN SCHISTOSE QUARTZITE MOSTLY AT 80°
	X726	359-364	.03	Tr		5	34	TO CORE. PARALLEL TO CORE AT
	X727	364-369	.07	.04		5	40	NARROW QUARTZ-BIOTITE STRINGERS
								CARBONATE-CHALCOPYRITE
								SHEARING AT 364' AND HIGHLY
		369-376½						SCHIST AND SCHISTOSE QUARTZITE
	X728	369-373	.66	1.53		4	80	REPLACED BY QUARTZ-CHALCOPYRITE
	X729	373-376½	.05	1.10		3½	100	BIOTITE-PYRITE MINERALIZATION
								IN THE SCHIST. BROWN SCHISTOSE
								372-373½ HAS CARBONATE STRINGERS
								PARTLY REPLACED BY QUARTZ-
								MINERALIZATION.

Hole No.

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-35 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
6/23/54		376½-381						SCHISTOSE QUARTZITE WITH NARROW
	X730	376½-378	.05	.42		1½	100	CONTORTED SCHIST BANDS ABOUT 70° TO CORE.
	X731	378-381	.05	.34		3	77	ABOUT 20% QUARTZ-PYRITE-CHALCOPYRITE
								MINERALIZATION. VERY HIGHLY FRACTURED 376½-377.
	X732	381-386	.03	.07		5	92	MODERATELY BRECCIATED SCHISTOSE QUARTZITE
								WITH NARROW CONTORTED SCHIST BANDS 30-80°
								TO CORE. IRREGULAR QUARTZ-PYRITE-COBALTITE-
								CHALCOPYRITE MINERALIZATION MOSTLY 381-382.
								NARROW CARBONATE STRINGERS 60° TO CORE.
	X733	386-398	Tr	.02		12	13	HIGHLY FRACTURED SCHISTOSE QUARTZITE
								AND SCHIST. BANDS 396-397. STRUCTURE
								AT HIGH ANGLE TO CORE 397-398.
	X734	398-403	.06	.05		5	42	MODERATELY FRACTURED BROWN SCHISTOSE
								DIKE WITH SOME SMALL CARBONATE XLS.
	X735	403-405	Tr	Tr		2	80	SCHISTOSE QUARTZITE 401½-403 AND ALSO IN DIKE.
								FROM 403-404 SCHISTOSE QUARTZITE. FROM
								404-405 QUARTZOSE SCHIST. STRUCTURE
								ABOUT 80° TO CORE. MINOR QUARTZ STRINGERS
		405-409				4	5	FRAGMENTS OF SCHISTOSE QUARTZITE.
	X736	409-416	Tr	Tr		7	13	SCHISTOSE QUARTZITE AND SCHIST
								MOSTLY AT HIGH ANGLE TO CORE.
		416-420				4	0	NO CORE
	X737	420-426	.05	.21		6	27	BROWN SCHISTOSE DIKE. SMALL
								CAVITIES MAY HAVE BEEN CARBONATE XLS.
								FIRST HALF OF CORE IS VERY HIGHLY
								FRACTURED AND CONTAINS MINOR QUARTZITE.
	X738	426-428½	.05	.14		2½	76	SCHISTOSE QUARTZITE WITH VERY
								MINOR NARROW QUARTZ-BIOTITE-CHALCOPYRITE
								STRINGERS.
		428½-440						VERY HIGHLY FRACTURED SCHISTOSE
	X739	428½-433	.02	.12		4½	16	QUARTZITE. MINOR QUARTZ-CHALCOPYRITE
	X740	433-440	.09	.24		7	19	MINERALIZATION 428½-433.

Hole No. 5-35

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-35 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C. R.	Geology and Remarks
6/13/54	—	0-50	—	—		50	Sludge	E.L. 80 to 50'
	X623	50-55	Tr	Tr		5		
	X624	55-58	.01	Tr		3		
	X625	58-63½	Tr	Tr		5½		
	X626	63½-67½	Tr	Tr		4		
	X627	67½-71½	.01	Tr		4		
	X628	71½-76½	.01	.02		5		
	X629	76½-82	Tr	Tr		5½		
	X630	82-89	.05	.10		7		
	X631	89-94½	.07	.07		5½		
	X632	94½-102½	.12	.10		8		
	X633	102½-109	.05	.08		6½		
	X634	109-115	.11	.14		6		
	X635	115-121	.06	.13		6		
	X636	121-126	.10	.19		5		
	X637	126-131	.06	.18		5		
6/14	X558	131-138	.08	.12		7		
	X559	138-143	.02	.08		5		
	X560	143-148	.02	.02		5		
	X561	148-153	.03	.05		5		
	X562	153-164	.01	.04		11		
	X563	164-168	.05	.09		4		
	X564	168-172	.01	.03		4		
	X565	172-177	Tr	.02		5		
	X566	177-183	.01	.04		6		
	X567	183-188	.01	.04		5		
6/15	X575	188-195	.08	.22		7		
	X576	195-200	.02	.02		5		
	X577	200-205	.15	.24		5		
	X578	205-209	.13	.17		4		
	X579	209-215	.04	.08		6		
	X580	215-219	.04	.08		4		
	X581	219-223	.04	.10		4		
	X582	223-230	.03	.05		7		
	X583	230-236	.02	.13		6		
	X584	236-243	.05	.37		7		
	X585	243-249	.08	.35		6		
6/16	X586	249-253	.24	2.15		4		
	X587	253-259½	.12	.40		6½		
	X588	259½-263	.11	.33		3½		
	X589	263-268½	.07	.17		5½		

Hole No. 5-35

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 8

DIAMOND DRILLING RECORD

By

Date

Hole No. S-35 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
6/15/54	X590	268½-275½	.13	.21		7	Sample	Casing to 273½
	X591	275½-286½	.03	.04		11		
	X592	286½-292	.05	.13		5½		
6/18	X593	292-297	.04	.06		5		
	X594	297-301½	.02	.02		4½		
	X595	301½-307½	.02	.04		6		
	X596	307½-312	.03	.07		4½		
	X597	312-320½	.02	.01		8½		
	X598	320½-324	.03	.05		3½		
	X599	324-329	.40	.21		5		
	X600	329-334	.06	.04		5		
	X638	334-338	.10	.10		4		
	X639	338-343	.10	.07		5		
	X640	343-349	.33	.33		6		
	X641	349-355	.18	.18		6		
	X642	355-359	.18	.14		4		
	X643	359-364	.01	.03		5		
	X644	364-369	.02	.04		5		
	X645	369-373	.45	1.18		4		
	X646	373-378	.13	.38		5		
	X647	378-386	.08	.18		8		
	X648	386-391	.06	.09		5		
	X649	391-396	.07	.12		5		
	X650	396-401	.08	.08		5		
	X651	401-405	.07	.07		4		
	X652	405-411	.07	.04		6		
	X653	411-416	.04	.07		5		
6/22	X654	416-420	.11	.32		4		
	X655	420-426	.10	.26		6		
	X656	426-428½	.09	.30		2½		
	X657	428½-433	.09	.23		4½		
	X658	433-440	.06	.15		7		

Hole No. S-35

Form DMEA F-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of May, 1954 Docket No. DMEA 3143 Contract No. 4 dm-8645
Operator's Name Calera Mining Company Minerals Cobalt and Copper
Address Cobalt, Idaho
Contract Amount, $407,340.00 Government Participation: 70 % Amount, $285,138.00

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) Spilling		560.00	560.00			
Heavy Timber		199.50	199.50			
Drilling—Core-Stage II		331.46	331.46			WSM
Trenching	2,672.55	4,246.39	6,918.94	2672.55		
Timber		667.10	667.10			
Drifting		3,731.18	3,731.18			
Framing		180.84	180.84			
(2) Core Drilling-Stage I	8,745.24	2,916.24	11,661.48	8745.24		
Stage I	391.25	35.00	426.25	391.25		
(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—Stage II						
Sampling and Analysis		141.00	141.00			
Payroll Taxes						
Liability Insurance						
Sampling & Analysis—Stage I	687.00	213.00	900.00	687.00		
(8) Contingencies (specify):						
TOTALS	$12,496.04	$13,221.71	$25,717.75	12496.04		

I certify that the above bill is correct and just and that payment therefor has not been received.
Date June 7, 1954 *Payee Calera Mining Company
By [signature] Title Vice 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:

$8747 23

Signature [signature] (Authorized Certifying Officer)

Date 6/23/54 Vou. No. 1194

(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. E 645 in accordance with the terms of the contract.

Signature /S/ Stephen W Zoldok Title Mining Eng Date 6/17/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W Zoldok Title Mining Eng Date 6/17/54

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.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of May 195 4 Docket No. DMEA 3143 Contract No. idm-E645
Operator's Name Calera Mining Company Minerals Cobalt & Copper
Address Cobalt, Idaho

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	Ft.			$ 3,731.18	105	$35.535	6000	$35.535
Normal Timbering	Ft.			667.10	95.3	7.00	5000	7.00
Heavy Timbering	Ft.			199.50	28.5	7.00	750	7.00
Spiling	Ft.			560.00	28.0	20.00	500	20.00
Framing	Sets			180.84	33.0	5.48	1150	5.48
Assay Stage II	Each			141.00	47	3.00	5900	3.00
Drilling Core Stage II	Ft.			331.46	98	3.3822	10500	3.3822
Auger								
Stripping								
Trenching	Hrs.	2,672.55	225	6,918.94	582½	11.878	864	11.878
Drilling Core Stage I	Ft.	8,745.24	1,256½	11,661.48	1675½	6.960	8700	6.960
Assay Stage I	Each	687.00	229	900.00	300	3.00	3100	3.00
Reaming Stage I	Ft.	391.25	156½	426.25	170½	2.50	1700	2.50
TOTAL DISTRIBUTED COSTS		$12,496.04		$25,717.75				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$12,496.04		$25,717.75				

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 June 7, 1954 Operator Calera Mining Company

Per [signature] Title Vice 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.

REMARKS:

(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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

June 3, 1954

gcb
8/17/55

Mr. A. E. Weissenborn
Executive Officer - Region 2
D. M. E. A. Field Team
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA 3143
Contract No. 16h-E645

Dear Mr. Weissenborn:

We enclose herewith the reports covering the activities of the D.M.E.A. Project No. 3143 for the month of May, 1954.

Trenching was continued with the D-7 bulldozer, for a total of 225 hours of bulldozer operation. New bedrock exposed by this work during the month amounted to 2,500 feet. The average depth of overburden removed amounted to nine feet.

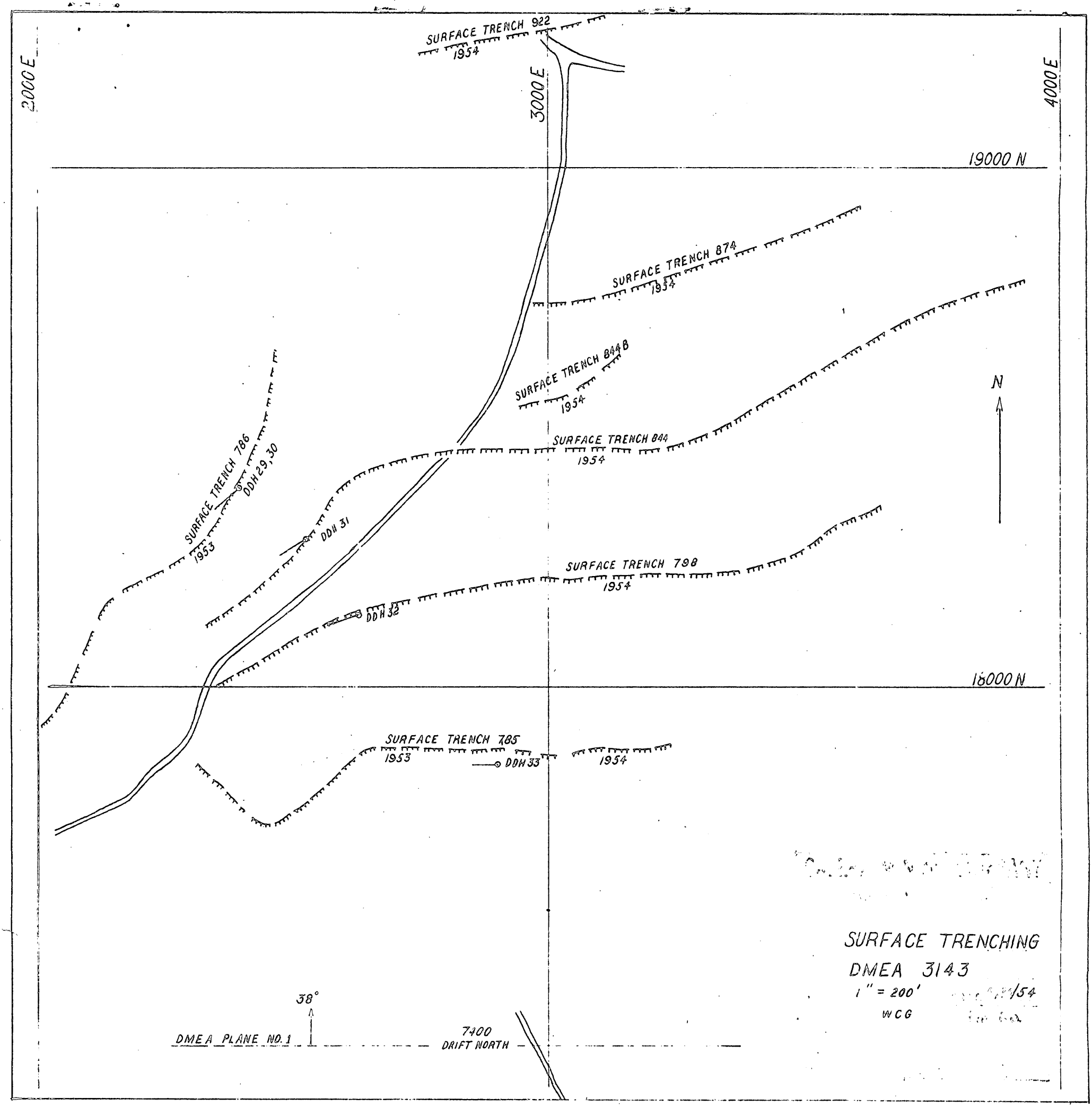
Diamond drilling was continued in the area northeast of the Front Door Ore Zone. Ore has been intersected in three of the core holes that were drilled during the month. The mineralized zone is trending approximately N45°W and appears to consist of small ore pods plunging NW. The logs of the core holes S-30 and S-31 are enclosed.

Very truly yours,

CALERA MINING COMPANY
BLACKBIRD DIVISION

E. B. Douglas, Manager

EBD:ms
Enclosures


SURFACE TRENCH 922
1954
2000 E
3000 E
4000 E
19000 N
SURFACE TRENCH 874
1954
SURFACE TRENCH 844B
1954
SURFACE TRENCH 844
1954
N
SURFACE TRENCH 786
1953
DDH 29, 30
DDH 31
SURFACE TRENCH 798
1954
DDH 32
18000 N
SURFACE TRENCH 785
1953
DDH 33
1954
SURFACE TRENCHING
DMEA 3143
1" = 200'
WCG
38°
DMEA PLANE NO. 1
7400
DRIFT NORTH

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1

DIAMOND DRILLING RECORD

By R.E. CRIBBS
Date APRIL, 1954

Hole No. 5-30 Mine
Level SURFACE
Location 786 TRENCH
Bearing S45½W Dip -60½° Length 362
Latitude of Collar 18,395 N Departure of Collar 2,390 E Elevation 7820½

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
MAY 3, 1954		0-8½						NX SCHISTOSE QUARTZITE WITH
		0-6				6	10	YELLOW STAINS AND QUARTZ LIMONITE
		6-8½				2½	16	STRINGERS 60° TO CORE. MINERALIZATION
								IS IRREGULAR AFTER 6'
		8½-12				3½	6	FRAGMENTS OF QUARTZITE, SCHIST, AND GOSSAN
		12-14½				2½	20	QUARTZOSE SCHIST WITH SOME GOSSAN
								AND YELLOW STAINING.
		14½-17				2½	0	NO CORE
		17-26						SCHISTOSE QUARTZITE ABOUT 45° TO
		17-20				3	17	CORE WITH VERY MINOR GOSSAN.
		20-22½				2½	12	
		22½-26				3½	3	
		26-30				4	0	NO CORE
		30-34½				4½	29	BX SOMEWHAT BRECCIATED QTZT
		34½-38				3½	54	QUARTZITE WITH NARROW SCHIST
								ZONES ABOUT 30° TO CORE. VERY MINOR
								QUARTZ-LIMONITE STRINGERS ALONG STRUCTURE.
		38-44				6	83	QUARTZOSE SCHIST AND SCHISTOSE
								QUARTZITE ABOUT 25° TO CORE. VERY MINOR
								IRREGULAR QUARTZ STRINGERS.
		44-52½						ALTERNATE BANDS OF SCHISTOSE
		44-49				5	86	QUARTZITE AND QUARTZOSE SCHIST FROM
		49-52½				3½	34	A FRACTION OF AN INCH TO SEVERAL INCHES
								WIDE AND VARYING FROM 45° TO CORE 44-49
								TO 30° TO CORE 49-52½. FINE GRAINED 46½-49½
		52½-55				2½	60	QUARTZITE WITH SEVERAL NARROW SCHIST
								ZONES ABOUT 30° TO CORE
		55-58½				3½	49	ALTERNATE ZONES OF SCHIST AND
								QUARTZITE ABOUT 30° TO CORE
		58½-62				3½	23	QUARTZITE WITH NARROW SCHIST ZONES
								ABOUT 30° TO CORE. MINOR NARROW
								GOSSAN STRINGERS.
		62-64				2	20	SCHISTOSE QUARTZITE
		64-70				6	0	NO CORE
		70-76						SCHISTOSE QUARTZITE ABOUT 45°
		70-74				4	75	TO CORE.
		74-76				2	10	
		76-85½				9½	0	NO CORE
		85½-91						ALTERNATING ZONES OF SCHIST AND
		85½-86½				1	30	QUARTZITE ABOUT 60° TO CORE.
		86½-91				4½	7	

Hole No. 5-30

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 2
By R.E. CRIBBS
Date
Level

Hole No. 5-30 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/3/53		91-105						SCHISTOSE QUARTZITE. STRUCTURE 60° TO CORE 100-102 AND 45° TO CORE 102-105'. A ½" QUARTZ VEIN 30° TO CORE AT 103'.
		91-95				4	5%	
		95-100				5	6	
		100-102				2	60	
		102-105				3	43	
		105-108				3	70	ALTERNATING ZONES OF QUARTZITE AND SCHIST 60-70° TO CORE.
		108-110				2	93	SCHISTOSE QUARTZITE ABOUT 70° TO CORE
		110-114						ALTERNATING ZONES OF QUARTZITE AND QUARTZOSE SCHIST UP TO AN INCH WIDE AND ABOUT 60° TO CORE.
		110-112				2	93	
		112-114				2	100	
		114-117½						SEVERAL NARROW SCHIST ZONES IN QUARTZITE, ABOUT 60° TO CORE. SOME GROUND UP SCHIST AND POSSIBLE FAULT ZONE 116-117½'.
		114-116				2	95	
		116-117½				1½	73	
		117½-127						ALTERNATING NARROW ZONES OF SCHIST AND QUARTZITE ABOUT 40° TO CORE. MINOR LIMONITE + YELLOW STAINS.
		117½-123½				6	5	
		123½-127				3½	14	
5/4/53	X178	127-129	.02	.03		2	80	FRACTURED SCHISTOSE QUARTZITE WITH SOME NARROW SCHIST ZONES 70° TO CORE.
	X179	129-133	.11	.05		4	45	FRACTURED SCHISTOSE QUARTZITE AND SCHIST 60-70° TO CORE. 4" OF GROUND UP SCHIST AT 129'.
		133-141						SCHIST AND SCHISTOSE QUARTZITE VARYING FROM 60° TO CORE 133-137' TO NEARLY PARALLEL TO CORE 137-141'. PART OF CORE HIGHLY FRACTURED.
	X180	133-137	Tr	Tr		4	43	
	X181	137-141	.01	Tr.		4	28	
	X182	141-145	.02	.69		4	53	SCHISTOSE QUARTZITE AND SCHIST ABOUT 45° TO CORE. GROUND UP SOFT SCHIST 141-141½' AND MUCH OF CORE IS HIGHLY FRACTURED. BROWN SCHISTOSE DIKE FROM 143-144' IS SHEARED 45-60° TO CORE.
	X183	145-148	.02	.09		3	47	HIGHLY FRACTURED SCHIST AND QUARTZITE WITH SOME QUARTZ-CHALCOPYRITE STRINGERS
	X184	148-155	.06	.24		7	26	FRACTURED SCHISTOSE QUARTZITE WITH MINOR QUARTZ-CHALCOPYRITE MINERALIZATION. GROUND UP SOFT SCHIST 148-149'.
	X185	155-161	.03	.07		6	17	HIGHLY FRACTURED SCHIST AND SCHISTOSE QUARTZITE
		161-165				4	0	NO CORE

Hole No. 5-30

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3
By
Date
Level

DIAMOND DRILLING RECORD

Hole No. 5-30 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
5/4/54	X186	165-168	.11	.06		3	47	SCHIST AND SCHISTOSE QUARTZITE ABOUT 60° TO CORE. MOST OF CORE IS HIGHLY FRACTURED.
	X187	168-172½	.07	.12		4½	40	SCHISTOSE QUARTZITE ABOUT 80° TO CORE, CORE HIGHLY FRACTURED 168-170. CARBONATE(?) SPOTS IN SCHIST AT 172'
	X188	172½-175	.08	.31		2½	48	SCHISTOSE QUARTZITE WITH NARROW QUARTZ-SULFIDE STRINGERS ABOUT 60° TO CORE.
5/7/54	X213	175-184	3.92	4.94		9	18	AX SCHISTOSE QUARTZITE REPLACED ALMOST ENTIRELY BY QUARTZ-CHALCOPYRITE-COBALTITE-PYRITE MINERALIZATION.
		184-195						SCHISTOSE QUARTZITE WITH VERY MINOR QUARTZ-CHALCOPYRITE STRINGERS 45-80° TO CORE.
	X214	184-186	.26	.14		2	40	
	X215	186-195	.16	.17		9	9	
	X216	195-196½	.43	.51		1½	60	QUARTZOSE SCHIST ABOUT 70° TO CORE WITH FRAGMENTS OF GOOD QUARTZ-COBALTITE MINERALIZATION.
	X217	196½-199	.06	.05		2½	32	SCHISTOSE QUARTZITE ABOUT 70° TO CORE.
	X218	199-205	1.55	2.30		6	25	SCHISTOSE QUARTZITE WITH FRAGMENTS OF GOOD QUARTZ-COBALTITE-CHALCOPYRITE MINERALIZATION.
	X219	205-208	4.61	1.80		3	27	QUARTZ-COBALTITE MINERALIZATION IN SCHIST.
		208-215						SCHISTOSE QUARTZITE.
	X220	208-213	.45	.10		5	12	
	X221	213-215	.06	.05		2	35	
	X222	215-220	.27	Tr		5	36	SCHISTOSE QUARTZITE VARYING FROM HIGH ANGLE TO CORE AT 215' TO 30° AT 220'.
		220-230						SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE. NARROW SCHIST ZONES 60° TO CORE AFTER 226'.
	X223	220-222	Tr	.03		2	55	
	X224	222-226	.03	.02		4	8	
	X225	226-230	.01	Tr		4	28	
	X226	230-235	.01	.02		5	34	HIGHLY FRACTURED SCHISTOSE QUARTZITE. MINOR GOUGE ALONG MANY OF FRACTURES. PROBABLE FAULT ZONE.
	X227	235-240	.03	.09		5	14	FRAGMENTS OF SCHISTOSE QUARTZITE
	X228	240-243	.02	Tr		3	43	ALTERNATING ZONES UP TO SEVERAL INCHES WIDE OF SCHISTOSE QUARTZITE AND SCHIST ABOUT 60° TO CORE.

175-213

Hole No 5-30

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. S-30 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
5/2/54	X229	243-247	.07	.02		4	30	SCHISTOSE QUARTZITE WITH A FEW NARROW SCHIST ZONES 60° TO CORE.
	X230	247-251½	.05	.06		4½	20	ALTERNATING ZONES OF SCHIST AND SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE UP TO SEVERAL INCHES WIDE.
	X231	251½-256	.18	.02		4½	22	FRAGMENTS OF SCHIST AND SCHISTOSE QUARTZITE.
		256-272						FRAGMENTS OF HIGHLY FRACTURED
	X232	256-259	.75	.11		3	67	SCHIST AND SCHISTOSE QUARTZITE. MINOR
	X233	259-264	.14	Tr		5	14	GOUGE ALONG SOME FRACTURES.
	X234	264-269	.12	.10		5	14	
	X235	269-272	.02	.19		3	40	
	X451	272-275½	.02	.78		3½	51	FROM 272-273 FINE GRAINED INTERCALLATED QUARTZITE AND SCHIST ABOUT 80° TO CORE. SOMEWHAT BLEACHED AND SHEARED. A ¼" QUARTZ-CHALCOPYRITE-SULFIDE VEINLET ABOUT 20° TO CORE. FRAGMENTS OF SCHIST AND QUARTZITE 273-275½'.
	452	275½-280½	Tr	Tr		5	18	ALTERNATING ZONES OF SCHIST AND SCHISTOSE QUARTZITE ABOUT 80° TO CORE. MUCH OF CORE HIGHLY FRACTURED.
		280½-287						SCHISTOSE QUARTZITE WITH SOME NARROW
	453	280½-285	.01	.07		4½	36	SCHIST ZONES ABOUT 75° TO CORE. MUCH OF
	454	285-287	Tr	.02		2	90	CORE CONSIDERABLY FRACTURED. GREEN COPPER MINERAL ALONG FRACTURE AT 283'.
	455	287-291½	.02	Tr		4½	60	ALTERNATING ZONES OF SCHIST AND QUARTZITE UP TO SEVERAL INCHES WIDE AND 70-90° TO CORE
		291½-301						SCHISTOSE QUARTZITE AND SCHIST.
	456	291½-296	.07	.53		4½	40	MODERATELY FRACTURED 291½-296 AND SCHIST
	457	296-301	.20	.04		5	38	IS SHEARED NEARLY PARALLEL WITH CORE 296-301'. VERY MINOR CUPRITE AND GREEN COPPER MINERAL 291½-296.
		301-309½						SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE
	458	301-306	.06	.19		5	24	HIGHLY FRACTURED 301-306.
	459	306-309½	.10	Tr		3½	29	
	460	309½-314½	.03	.05		5	60	ALTERNATING ZONES UP TO SEVERAL INCHES WIDE OF QUARTZITE AND SCHIST ABOUT 40° TO CORE. SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE 313-314½.

Hole No. S-30

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

5-30 Mine Level

Dip Length

Departure of Collar Elevation

Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
[illegible]	314½-319½	.01	.13		5	54	FROM 314½-317½ ALTERNATING ZONES OF SCHIST AND QUARTZITE 60-80° TO CORE. FROM 317½-319½ HIGHLY BRECCIATED QUARTZITE IN SCHIST NEARLY PARALLEL WITH CORE. VERY MINOR QUARTZ-SULFIDE MINERALIZATION.
[illegible]	319½-325	.05	.02		5½	16	SCHISTOSE QUARTZITE WITH NARROW ZONES OF SCHIST ABOUT 70° TO CORE. A 1" DIKE WITH SOME CHALCOPYRITE MINERALIZATION AT 325'.
[illegible]	325-329	.03	.26		4	60	BROWN SCHISTOSE DIKE WITH MINOR CHALCOPYRITE 325-327½. SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE 327½-329.
[illegible]	329-334	.12	.03		5	44	BROWN SCHISTOSE DIKE WITH SMALL CARBONATE SPOTS.
[illegible]65	334-339	Tr	Tr		5	74	ALTERNATING ZONES OF SCHISTOSE QUARTZITE AND SCHIST ABOUT 60° TO CORE. ABOUT 1/8" DIAMETER GREENISH CARBONATE? SPOTS AT 334'. BROWN SCHISTOSE DIKE WITH SIMILAR SPOTS 334-335.
	339-362						SCHISTOSE QUARTZITE WITH A FEW ZONES OF QUARTZOSE SCHIST 60-80° TO CORE.
[illegible]	339-345	Tr	Tr		6	45	
[illegible]	345-350	.01	Tr		5	94	
[illegible]	350-356	Tr	Tr		6	52	
[illegible]	356-362	.01	Tr		6	28	

Hole No. 5-30

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-30 Mine

Level

Location

Bearing Dip

Length

Latitude of Collar Departure of Collar

Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C. R.	Geology and Remarks
2/20/54	X 97	6-11	.01	.08		5	SLUDGE	
	X 98	11-16	.05	.13		5		
	X 99	16-21	.02	.10		5		
	X 100	21-26	Tr.	.04		5		No WATER 22½-24
	X 126	26-30	Tr.	.08		4		
	X 127	30-38	Tr.	.04		8		No WATER 34½-38
	X 128	38-44	.01	.13		6		No WATER 38-90
		44-49	—	—				No SLUDGE
	X 129	49-52½	Tr.	.03		3½		
	X 130	52½-57½	Tr.	Tr.		5		
	X 131	57½-62½	Tr.	.02		5		
	X 132	62½-70	Tr.	.06		7½		
	X 133	70-76	Tr.	.02		6		
	X 134	76-82½	Tr.	.02		6½		
	X 135	82½-91	Tr.	Tr.		8½		
	X 136	91-96	Tr.	.05		5		
	X 137	96-100	Tr.	.02		4		
	X 138	100-102	.01	.08		2		
3/1/54	X 139	102-107	Tr.	.03		5		
	X 140	107-112	.01	.03		5		
	X 141	112-117½	.01	.03		5½		
	X 142	117½-123½	.01	.02		6		
	X 143	123½-129	Tr.	.03		5½		
	X 144	129-133	.08	.10		4		
	X 145	133-138	.03	.21		5		
	X 146	138-143	.03	.36		5		
	X 147	143-148	.03	.33		5		
	X 148	148-155	.17	.69		7		
	X 149	155-161	.08	.20		6		
	X 150	161-165	.14	.46		4		
	X 151	165-168	.15	.55		3		
	X 152	168-173	.18	.60		5		
	X 153	173-175	.13	.33		2		
	X 154	175-184	1.68	5.42		9		
	X 155	184-189	.83	3.86		5		
	X 156	189-194	.36	1.97		5		
3/3/54	X 157	194-199	.57	2.30		5		
	X 158	199-204	.97	3.34		5		
	X 159	204-208	2.16	4.10		4		
	X 160	208-214	.93	2.75		6		
	X 161	214-219	.90	2.64		5		

Hole No. 5-30

175-219?
or 260

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 7

DIAMOND DRILLING RECORD

By

Date

Hole No. S-30 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT.	% C. R.	Geology and Remarks
5/3/54	X 162	219-226	.32	.92		7	SLUDGE	
	X 163	226-231	.32	.92		5	"	
	X 164	231-236	.27	.70		5	"	
5/4/54	X 165	236-240	.36	.43		4	"	
	X 166	240-245	.53	.37		5	"	
	X 167	245-250	.31	.78		5	"	
	X 168	250-255	.33	.30		5	"	
	X 169	255-260	.70	.31		5	"	
	X 170	260-265	.27	.24		5	"	
	X 171	265-270	.19	.53		5	"	
	X 172	270-275	.10	.50		5	"	
	X 173	275-280	.05	.15		5	"	
	X 174	280-285	.03	.41		5	"	
	X 175	285-290	.04	.50		5	"	
	X 176	290-295	.06	.14		5	"	
	X 177	295-300	.11	.32		5	"	
5/5/54	X 201	300-306	.14	.42		6	"	
	X 202	306-309½	.06	.28		3½	"	
	X 203	309½-314½	.11	.47		5	"	
	X 204	314½-319½	.08	.68		5	"	
	X 205	319½-325	.11	.64		5½	"	
	X 206	325-329	.06	.49		4	"	
	X 207	329-334	.08	.45		5	"	
	X 208	334-339	.09	.45		5	"	
	X 209	339-345	.07	.32		6	"	
	X 210	345-350	.07	.33		5	"	
	X 211	350-356	.10	.43		6	"	
	X 212	356-362	.10	.33		6	"	

Hole No. S-30

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R.E. CRIBBS
Date MAY, 1954

Hole No. 531 Mine Level SURFACE
Location 844 TRENCH
Bearing S57½W Dip -44½° Length 410
Latitude of Collar 18,289 N Departure of Collar 2,523 E Elevation 7853½

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/11/54		0-7				7	9	NX FIRST HALF CORE BROWN WEATHERED DIKE, LAST PART SCHISTOSE QUARTZITE 40° TO CORE.
		7-12				5	16	FIRST HALF CORE IS SCHISTOSE QUARTZITE LAST PART IS QUARTZOSE SCHIST ABOUT 20° TO CORE
		12-18						ALTERNATING ZONES OF QUARTZITE AND SCHIST UP TO AN INCH WIDE AND 70-80° TO CORE.
		12-13½				1½	40	
		13½-18				4½	9	
		18-23				5	26	QUARTZOSE SCHIST AT HIGH ANGLE TO CORE CHANGING TO BRECCIATED SCHISTOSE QUARTZITE NEARLY PARALLEL TO CORE. MANY SMALL IRREGULAR QUARTZ STRINGERS, MOSTLY AT HIGH ANGLE TO CORE.
		23-28				5	38	SCHISTOSE QUARTZITE NEARLY PARALLEL WITH CORE. FIRST AND LAST PART OF CORE CONTAIN CONSIDERABLE QUARTZ AND VUGGY LIMONITE.
		28-29½				1½	40	SCHISTOSE QUARTZITE NEARLY PARALLEL TO CORE.
		29½-42½						BX SCHISTOSE QUARTZITE.
		29½-33				3½	20	STRUCTURE ABOUT 50° TO CORE
		33-37				4	15	AFTER 33'.
		37-42½				5½	13	
		42½-48				5½	22	SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE WITH CONSIDERABLE LIMONITE CLAY? MINERALIZATION NEARLY PARALLEL WITH CORE AND TINY RUST COLORED STRINGERS AT HIGH ANGLE TO CORE.
		48-58						SCHISTOSE QUARTZITE 60-80° TO CORE. BLACK SCHIST 52½-53'. SMALL QUARTZ-LIMONITE STRINGERS AT HIGH ANGLE TO CORE FROM 48 TO 55½'.
		48-53				5	38	
		53-58				5	22	
		58-62						FRACTURED SCHISTOSE QUARTZITE. ROCK IS MORE SCHISTOSE WITH SOME LIMONITE AFTER 59½'.
		58-59				1	70	
		59-62				3	64	
		62-63½				1½	80	SCHISTOSE QUARTZITE WITH NARROW ALTERNATING BANDS OF QUARTZITE AND SCHIST 50° TO CORE. LAST HALF OF CORE IS HIGHLY FRACTURED WITH QUARTZ-LIMONITE MINERALIZATION.

Hole No. 531

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 2

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-31 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/11/54		63½-68½						SCHISTOSE QUARTZITE ABOUT 60° TO
		63½-66				2½	92	CORE WITH SEVERAL SCHIST ZONES UP TO
		66-68½				2½	96	½" WIDE. STRINGERS OF QUARTZ AND
								VUGGY LIMONITE 66-67'.
		68½-71				2½	24	MODERATELY FRACTURED SCHISTOSE
								QUARTZITE
		71-73				2	95	SCHISTOSE QUARTZITE ABOUT 60° TO CORE
								WITH SEVERAL SCHIST ZONES UP TO ½" WIDE.
								FRACTURED AND POSSIBLE FAULTS AT 72, 72½.
		73-78						FRAGMENTS OF SCHIST AND SCHISTOSE
		73-76½				3½	49	QUARTZITE. SOME SHEARING AND
		76½-78				1½	60	POSSIBLE FAULT ZONE.
		78-83						SCHISTOSE QUARTZITE WITH A FEW
		78-80½				2½	96	SCHIST ZONES UP TO 1" WIDE AND 40-60°
		80½-83				2½	64	TO CORE. FRACTURED 80-80½. SEVERAL
								IRREGULAR QUARTZ STRINGERS AT 81'.
		83-87						ALTERNATING ZONES OF SCHISTOSE
		83-85				2	100	QUARTZITE AND QUARTZOSE SCHIST VARYING
		85-87				2	80	FROM 30° TO CORE AT 83' TO 70° AFTER 85'
								FRACTURED 83-83½ AND 86-87'.
		87-91				4	63	FRACTURED SCHISTOSE QUARTZITE AND
								SCHIST MOSTLY AT A LOW ANGLE TO CORE.
		91-97						ALTERNATING ZONES OF SCHISTOSE
		91-94				3	100	QUARTZITE AND SCHIST UP TO SEVERAL
		94-97				3	90	INCHES WIDE AND 30-50° TO CORE. FINE
								GRAINED 93-95½.
		97-99				2	100	FRACTURED QUARTZITE AND SCHIST.
								MINOR IRON STAINS ALONG FRACTURES.
		99-119						ALTERNATING ZONES OF SOMEWHAT
		99-104				5	90	BRECCIATED QUARTZITE AND SCHIST UP TO
		104-107				3	100	SEVERAL INCHES THICK. SCHIST IS ABOUT 40°
		107-111				4	83	TO CORE 99-111' AND IS CONTORTED AND ABOUT
		111-115				4	95	25-40° TO CORE 111-119'. FRACTURES IRON
		115-119				4	93	STAINED 107½-111. HIGHLY FRACTURED 110-111.
								MINOR IRREGULAR QUARTZ STRINGERS 111-119.
		119-128½						ALTERNATING ZONES OF QUARTZITE AND
		119-122½				3½	80	SCHIST UP TO ½" WIDE AND 30-60° TO CORE.
		122½-125½				3	63	SOMEWHAT BRECCIATED QUARTZITE 119-119½.
		125½-128½				3	70	FRACTURED AT 120, 122-125½, AND 126½-128.
								IRON STAINS ON FRACTURES 126½-127.

Hole No. 5-31

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 3

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-31 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
5/19/54		128½-130½				2	90	FRACTURED QUARTZITE AND SCHIST WITH IRON STAINS ON SOME FRACTURES
		130½-137½						QUARTZITE WITH ZONES OF SCHIST
		130½-135½				5	40	UP TO 1" WIDE AND FROM 5-30° TO
		135½-137½				2	85	CORE. MUCH OF CORE IS MODERATELY
								FRACTURED WITH SOME IRON STAINS.
		137½-140				2½	76	FRACTURED CONTORTED QUARTZOSE SCHIST.
		140-152½						SOMEWHAT BRECCIATED QUARTZITE
		140-144½				4½	93	WITH ZONES OF CONTORTED SCHIST UP TO
		144½-148½				4	100	½" WIDE AND VARYING FROM ABOUT
		148½-152½				4	100	45° TO CORE AT 140½ TO NEARLY PARALLEL
								AT 142 AND 45° AFTER 145'. MINOR
								QUARTZ-LIMONITE STRINGERS AT 149½'.
		152½-155½						MODERATELY FRACTURED SCHIST AND
		152½-154				1½	100	QUARTZITE
		154-155½				1½	20	
		155½-174						ALTERNATING ZONES OF QUARTZITE
		155½-159½				4	98	AND SCHIST UP TO ½' WIDE AND ABOUT
		159½-165				5½	55	40-60° TO CORE. MINOR IRREGULAR
		165-169				4	100	QUARTZ STRINGERS. MINOR QUARTZ-
		169-174				5	94	LIMONITE MINERALIZATION 165½-
								166½ AND 172-173½.
		174-180						SCHISTOSE QUARTZITE WITH IRON
		174-176				2	95	STAINS ALONG SOME FRACTURES.
		176-180				4	80	HIGHLY FRACTURED 180-181 WITH SOME
								QUARTZ-LIMONITE MINERALIZATION.
		180-183				3	80	BROWNISH STAINED SCHISTOSE QUARTZITE
								WITH SMALL QUARTZ-LIMONITE STRINGERS.
								MOSTLY QUARTZ-LIMONITE MATERIAL 182½-
								183.
		183-185½				2½	80	QUARTZ-LIMONITE GOSSAN 182-184.
								SAME IN QUARTZITE AND SCHIST 184-185.
								FRACTURED SCHISTOSE QUARTZITE 185-185½.
		185½-199½						SCHISTOSE QUARTZITE, SOMEWHAT
		185½-190				4½	100	BROWNISH STAINED IN PLACES AND 60-70°
		190-194½				4½	51	TO CORE. HIGHLY FRACTURED AT 188,
		194½-199½				5	92	194, AND 197½-198½. LIMONITE STRINGERS
								HEALING OLD FRACTURES 190-192' AND 194½-
								196'.

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-31 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
5/20/54	X342	199½-205	Tr	.02		5½	78	FINE GRAINED SCHISTOSE QUARTZITE WITH NARROW SCHIST ZONES ABOUT 60° TO CORE. LIMONITE FILLS FRACTURES 202½-204. CORE HIGHLY FRACTURED 203-205'.
	X343	205-209	.24	1.16		4	43	QUARTZITE AND SCHIST WITH LIMONITE FILLING OLD FRACTURES. BROWN SCHISTOSE DIKE 207½-208½. FAULT GOUGE 206-207½. GREEN COPPER MINERALS ALONG FRACTURES 208½-209.
		209-216½						SCHISTOSE QUARTZITE ABOUT 70° TO CORE. QUARTZ-PYRITE MINERALIZATION WITH MINOR CHALCOPYRITE 211-211½. MODERATELY FRACTURED 214½-216½.
	X344	209-211	.01	.09		2	85	
	X345	211-211½	.05	1.77		½	100	
	X346	211½-214½	Tr	.02		3	87	
	X347	214½-216½	.01	.05		2	80	
	X348	216½-219½	.04	.15		3	73	SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE HEALED WITH LIMONITE, CHALCOCITE AND A GREEN COPPER MINERAL - MOSTLY FROM 217-218'. BROWN SCHISTOSE DIKE 219-219½. HIGHLY FRACTURED 218-219½.
	X349	219½-220½	Tr	.23		1	100	AX SCHISTOSE QUARTZITE WITH MINOR GREEN COPPER STAIN.
	X350	220½-224½	.01	.07		4	58	QUARTZITE WITH A FEW NARROW SCHIST ZONES 30-45° TO CORE.
		224½-252						QUARTZITE WITH ZONES OF SCHIST UP TO AN INCH WIDE AND ~~ABOUT~~ 55-80° TO CORE. MINOR LIMONITE ALONG FRACTURES AT 235'. SOME CHALCOPYRITE-CHALCOCITE MINERALIZATION AT 243'.
	X351	224½-229	Tr.	Tr.		4½	100	
	X352	229-238	Tr	.02		9	91	
	X353	238-241½	.01	.04		3½	40	
	X354	241½-247	.01	.04		5½	78	
	X355	247-249½	Tr	.01		2½	96	
	X356	249½-252	.08	.90		2½	48	
	X357	252-261	Tr	Tr.		9	92	QUARTZITE WITH CONTORTED BANDS OF SCHIST UP TO AN INCH WIDE. 20° TO CORE AT 252, 80° AT 253½, PARALLEL 256-256½ AND 60-70° AFTER 256½'.
	X358	261-269½	.02	.03		8½	91	SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE WITH A FEW ENRICHED QUARTZ-SULFIDE STRINGERS A 262' AND 264'. FINE GRAINED FINELY LAMINATED QUARTZITE AND SCHIST 264-265½.
	X359	269½-272½	Tr	Tr		3	57	MODERATELY FRACTURED SCHISTOSE QUARTZITE,

Hole No. 5-31

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-31 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C. R.	Geology and Remarks
5/21/54		272½-282½						SCHISTOSE QUARTZITE 60-80° TO CORE.
		272½-276½				4	73	SOMEWHAT BRECCIATED IN PLACES.
		276½-278½				2	100	
		278½-280				1½	47	
		280-282½				2½	88	
		282½-285½				3	100	SCHISTOSE QUARTZITE WITH A FEW NARROW ZONES OF SCHIST 50-60° TO CORE. HIGHLY FRACTURED 284½-285.
		285½-288½				3	70	SCHISTOSE QUARTZITE
		288½-297½						SCHISTOSE QUARTZITE WITH SOME SCHIST
		288½-291½				3	100	ZONE UP TO AN INCH WIDE 55° TO CORE
		291½-297½				6	93	BETWEEN 288½ AND 294 AND 60-80° TO CORE AFTER 294'. SOMEWHAT BRECCIATED 292½-293½.
		297½-301				3½	94	SCHISTOSE QUARTZITE. SEVERAL ½" SCHIST ZONES 80° TO CORE 297½-298.
		301-311						ALTERNATING ZONES UP TO ½" WIDE
		301-308				7	96	OF SCHIST AND QUARTZITE 45-60° TO CORE.
		308-311				3	100	
		311-318				7	67	NARROW SCHIST ZONES IN QUARTZITE ABOUT 80° TO CORE 311-313½. BROWN SCHISTOSE DIKE WITH SPOTS OF CARBONATE UP TO ¼" DIAMETER 313½-315½. SCHISTOSE QUARTZITE 315½-318. THE ½' NEXT TO DIKE HAS ¼" WHITE SPOTS WITH GREEN CENTERS.
		318-324				6	37	SCHISTOSE QUARTZITE VARYING FROM ABOUT 45° TO CORE AT 318 TO ABOUT 90° AT 324'.
		324-329				5	92	QUARTZITE WITH NARROW SCHIST ZONES ABOUT 90° TO CORE.
		329-332½				3½	57	QUARTZITE WITH ZONES OF SCHIST ABOUT 45° TO CORE. QUARTZ MINERALIZATION AND ROCK MODERATELY FRACTURED 331½-332½.
		332½-339						ALTERNATING ZONES OF SCHIST AND QUARTZITE
		332½-336				3½	69	ABOUT 80° TO CORE. MODERATELY FRACTURED
		336-339				3	83	337-339.
		339-346				7	30	QUARTZITE WITH A FEW SCHIST ZONES 45° TO CORE. FRACTURED SCHIST 344½-345. MINOR QUARTZ STRINGERS 339-340.
		346-349				3	87	QUARTZITE WITH CONTORTED SCHIST ZONES 60-80° TO CORE. MINOR QUARTZ STRINGERS

Hole No. 5-31

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No 6
By
Date

Hole No. 5-31 Mine
Level
Location
Bearing Dip
Length
Latitude of Collar Departure of Collar
Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
5/21/54		349-351½				2½	52	CONTORTED SCHIST AND QUARTZITE WITH IRREGULAR QUARTZ STRINGERS. HIGHLY FRACTURED 349½-351½.
		351½-352½				1	90	SCHISTOSE QUARTZITE AT HIGH ANGLE TO CORE. A ½" BLACK DIKE? WITH SMALL CARBONATE XLS AT 351½'.
		352½-355						SCHISTOSE QUARTZITE WITH SEVERAL SCHIST ZONES AT HIGH ANGLE TO CORE EXCEPT NEARLY PARALLEL WITH CORE AT 354½. MINOR IRREGULAR QUARTZ STRINGERS. QUARTZITE IS BRECCIATED AND PART OF CORE HIGHLY FRACTURED 354-357.
		352½-354				1½	80	
		354-355				1	100	
		355-357				2	65	QUARTZITE WITH 1" SCHIST ZONES ABOUT 60° TO CORE. HIGHLY FRACTURED AND SOMEWHAT SHEARED 356-357.
		357-363						SCHISTOSE QUARTZITE MODERATELY FRACTURED. MINOR NARROW QUARTZ STRINGERS.
		357-360				3	17	
		360-363				3	10	
		363-366				3	33	FRAGMENTS OF QUARTZITE AND SCHIST. SHEARING EVIDENT 364-366'.
	X399	366-371	.01	.04		5	40	SCHIST AND SOMEWHAT BRECCIATED QUARTZITE. A 1" BLACK SCHISTOSE DIKE? WITH SMALL CARBONATE XLS. AT 366'. NATIVE COPPER AT 370'. HIGHLY FRACTURED 368-371'.
		371-381½						A ½" BLACK SCHISTOSE DIKE? WITH SMALL CARBONATE XLS AT 371. HIGHLY FRACTURED AND SHEARED SCHIST 371-372'. BROWN SCHISTOSE DIKE 372-372½'. FROM 372½-381½ ARE ALTERNATING ZONES OF QUARTZITE AND SCHIST UP TO AN INCH WIDE AND 80° TO CORE. TWO INCHES OF FINELY LAMINATED FINE GRAINED ROCK AT 375'. IRREGULAR NARROW QUARTZ-BIOTITE STRINGERS WITH MINOR CHALCOPYRITE. BIOTITE IS MORE PREVALENT IN SCHIST ZONES.
	X400	371-376	.03	.38		5	76	
	X401	376-381½	.48	.21		5½	49	
		381½-391						QUARTZITE WITH SCHIST ZONES UP TO 3" WIDE ABOUT 80° TO CORE. VERY MINOR QUARTZ STRINGERS. FINELY LAMINATED 388½-389'.
	X402	381½-386	Tr	Tr		4½	78	
	X403	386-391	Tr	Tr		5	94	
		391-410						QUARTZITE WITH NARROW SCHIST ZONES MOSTLY AT HIGH ANGLE TO CORE. MINOR SMALL IRREGULAR QUARTZ STRINGERS.
	X404	391-393½	.05	.04		2½	76	
	X405	393½-400	Tr	Tr		6½	49	
	X406	400-410	Tr	Tr		10	51	

Hole No 5-31

5½' @ 48

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 7
By R. CRIBES
Date MAY, 1954

Hole No. 5-31 Mine Level
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
5/7/54	X 236	7-12	.04	.40		5	Surface	
	X 237	12-18	.02	.10		6	"	
	X 238	18-23	.05	.26		5	"	
	X 239	23-28	.05	.33		5	"	
	X 240	28-33	.01	.04		5	"	
	X 241	33-37½	.01	Tr		4½	"	
5/11/54	X 189	37½-42½	.01	.04		5	"	
	X 190	42½-48	Tr	.02		5½	"	
	X 191	48-53	.01	.03		5	"	
	X 192	53-58	Tr	Tr		5	"	
	X 193	58-62	Tr	.02		4	"	
	X 194	62-66	Tr	.01		4	"	
	X 195	66-71	Tr	.04		5	"	
	X 196	71-76½	Tr	.02		5½	"	
	X 197	76½-80½	Tr	.02		4	"	
	X 198	80½-85	Tr	.09		4½	"	
	X 199	85-91	Tr	.08		6	"	
	X 200	91-97	Tr	.04		6	"	
	X 242	97-104	Tr	.19		7	"	
	X 243	104-107	Tr	.03		3	"	
	X 244	107-111	Tr	.02		4	"	
5/12/54	X 245	111-115	.03	.08		4	"	
	X 246	115-119	.01	.13		4	"	
	X 247	119-125½	.02	.32		6½	"	
	X 248	125½-130½	Tr	.19		5	"	
	X 249	130½-135½	.02	.61		5	"	
	X 250	135½-140	Tr	.25		4½	"	
	X 251	140-144½	.02	.13		4½	"	
	X 252	144½-148½	.04	.29		4	"	
	X 253	148½-152½	.02	.11		4	"	
	X 254	152½-155½	.02	.17		3	"	
	X 255	155½-159½	.04	.12		4	"	
	X 256	159½-165	.02	.07		5½	"	
	X 257	165-169	.02	.09		4	"	
	X 258	169-174	.03	.14		5	"	
	X 259	174-180	.01	.09		6	"	
	X 260	180-183	.02	.10		3	"	
	X 261	183-190	.01	.22		7	"	
5/13/54	X 262	190-194½	.05	.26		4½	"	
	X 263	194½-199½	.02	.04		5	"	
	X 264	199½-205	.02	.13		5½	"	

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 8

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-31 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
5/13/54	X265	205-209	.05	.63		4	SLUDGE	
	X266	209-214½	.03	.52		5½	"	
	X267	214½-216½	.04	.32		2	"	
	X268	216½-220½	.03	1.92		4	"	
	X269	220½-224½	.02	.61		4	"	
	X270	224½-229	.03	.31		4½	"	
	X271	229-238	.04	.19		9	"	
5/14/54	X272	238-241½	.04	.61		3½	"	
	X273	241½-247	.03	.38		5½	"	
	X274	247-252	.06	.78		5	"	
	X275	252-261	.02	.10		9	"	
	X276	261-266	.05	.36		5	"	
	X277	266-269½	.07	1.88		3½	"	
	X278	269½-272½	.03	.16		3	"	
	X279	272½-276½	.03	.17		4	"	
	X280	276½-280	.04	.15		3½	"	
	X281	280-285½	.03	.32		5½	"	
	X282	285½-288½	.02	.14		3	"	
	X283	288½-291½	.02	.13		3	"	
	X284	291½-297½	.03	.13		6	"	
	X285	297½-301	.02	.33		3½	"	
5/15/54	X286	301-308	.03	.56		7	"	
	X287	308-318	.01	.14		10	"	
	X288	318-324	.01	.19		6	"	
	X289	324-329	.04	.28		5	"	
	X290	329-332½	.03	.09		3½	"	
	X291	332½-339	.02	.22		6½	"	
	X292	339-346	.03	.30		7	"	
	X293	346-349	.02	.17		3	"	
	X294	349-355	.01	.14		6	"	
	X295	355-363	.01	.17		8	"	
	X296	363-366	.02	.44		3	"	
	X297	366-371	.01	.56		5	"	
5/16/54	X298	371-376	.04	1.24		5	"	
	X299	376-381½	.25	2.77		5½	"	
	X300	381½-386	.08	1.03		4½	"	
	X301	386-391	.03	.71		5	"	
	X302	391-393½	.05	.64		2½	"	
	X303	393½-400	.03	.38		6½	"	
	X304	400-404½	.04	.37		4½	"	
	X305	404½-410	.02	.51		5½	"	

Hole No. 5-31

Form MF-104 (Rev. April 1953)

RECEIVED BUREAU OF MINES MAY 12 1954 SPOKANE, WASH.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

Defense Minerals Administration RECEIVED MAY 20 1954

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of April, 1954 Docket No. DMEA 3143 Contract No. idm-E645

Operator's Name Calera Mining Company Minerals Cobalt and Copper

Address Dobalt, Idaho

Contract Amount, $ 407,340.00 Government Participation: 70 % Amount, $ 285,138.00

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]~~ Spiling		560.00	560.00			
~~Short Fuse~~ Heavy Timber		199.50	199.50			WSM
Drilling-Core Stage II		331.46	331.46			
~~[illegible]~~ Trenching	3,147.67	1,098.72	4,246.39			
~~[illegible]~~ Normal Timber		667.10	667.10			
Drifting		3,731.18	3,731.18			
Framing		180.84	180.84			
(~~[illegible]~~ Stage I						
~~[illegible]~~ Core Drilling -	2,916.24		2,916.24			
~~Supervision~~ Reaming - Stage I	35.00		35.00			
~~[illegible]~~						
(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 Stage II		141.00	141.00			
Payroll Taxes						
Liability Insurance Stage I						
Sampling & Analysis	213.00		213.00			
(8) Contingencies (specify):						
TOTALS	$6,311.91	$6,909.80	$13,221.71	6311.91	6909.80	13221.71

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

Date May 4, 1954 *Payee Calera Mining Company

Per [signature] Title Vice-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:

$ 4418.34

Signature [signature] (Authorized Certifying Officer)

Date 5/14/54 Vou. No. 1155

(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. E645 in accordance with the terms of the contract.

Signature /S/ Verdo Z Johnson Title Mining Engr Date 5/13/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W Zoldok Title Mining Engr Date 5/13/54

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.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of April 1954 Docket No. DMEA 3143 Contract No. idm-E645
Operator's Name Calera Mining Company Minerals Cobalt and Copper
Address Cobalt, Idaho

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	Ft.			$ 3,731.18	105	$35.535	6000	$35.535
Crosscutting								
normal timbering	Ft.			667.10	95.3	7.00	5000	7.00
heavy timbering	Ft.			199.50	28.5	7.00	750	7.00
spiling	Ft.			560.00	28.0	20.00	500	20.00
Framing	Sets			180.84	33.0	5.48	1150	5.48
Assay Stage II	Each			141.00	47	3.00	5900	3.00
Drilling Core Stage II	Ft.			331.46	98	3.3822	10500	3.3822
Stripping								
Trenching	Hrs.	$3,147.67	265	4,246.39	357½	11.878	864	11.878
Drilling Core Stage I	Ft.	2,916.24	419	2,916.24	419	6.96	8700	6.96
Test Pits								
Assay Stage I	Each	213.00	71	213.00	71	3.00	3100	3.00
Reaming - Stage I	Ft.	35.00	14	35.00	14	2.50	1700	2.50
TOTAL DISTRIBUTED COSTS		$6,311.91		$13,221.71				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$6,311.91		$13,221.71				

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 May 4, 1954 Operator Calera Mining Company
Per [signature] Title Vice-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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

May 4, 1954

... 20 1954

8/17/55

Mr. A. E. Weissenborn
Executive Office - Region 2
D.M.E.A. Field Team
South 157 Howard Street
Spokane 4, Washington

Dear Mr. Weissenborn:

Re: Docket No. D.M.E.A. 3143
Contract No. idm-E643

We enclose herewith the reports covering the activities of D.M.E.A. project No. 3143 for the month of April, 1954.

Work with the D-7 bulldozer was continued and operated on a two-shift basis for a greater part of the month. Total time for the bulldozer operation amounted to 265 hours for April. ±7'/hr

700 ft

Bulldozer work was continued in the 798 Trench, making a total of over 1300 feet of bedrock exposed in this trench. Average depth of overburden was a little over 10 feet.

Bulldozer work was started in the 844 Trench and the 874 Trench. Overburden at the western end of the 844 Trench reached a depth of over 12 feet, whereas, the overburden along the 874 Trench averages approximately 9 feet in depth. A total of 1,120 feet of bedrock was exposed by the opening of these two trenches. Observation of the newly exposed bedrock revealed only minor mineralization.

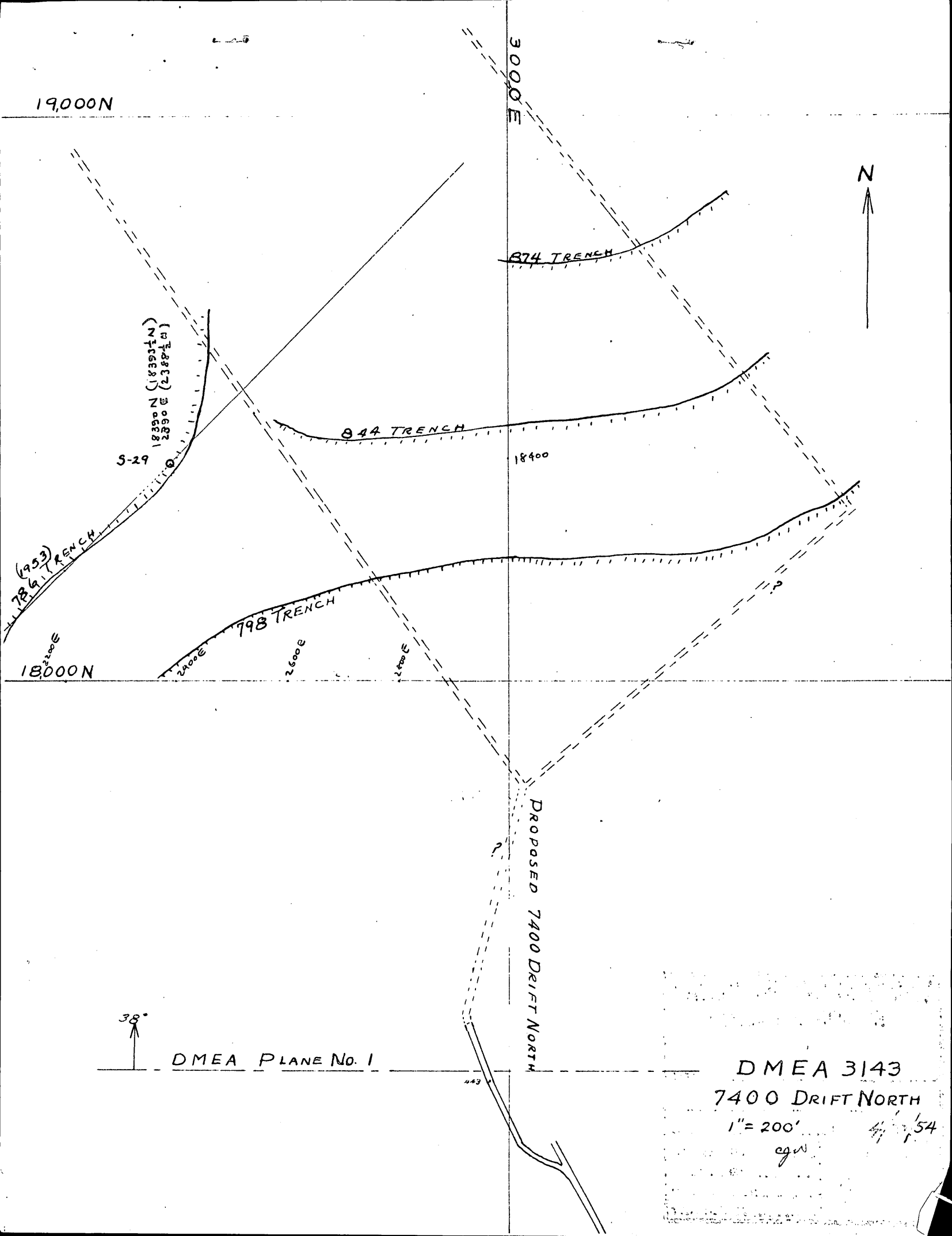
Surface core drilling was started by drilling the first hole, S-29, at a minus 45° in the 786 Trench which was dug in 1953. The results of the balanced sludge and core assays from the first hole drilled were 39 feet of 1.19% cobalt and 3.38% copper. In an effort to determine the extent and dip of the mineralized zone, another core hole, S-30, is being drilled on the same vertical plane at minus 60° dip.

Very truly yours,

CALERA MINING COMPANY
BLACKBIRD DIVISION

E. B. Douglas, Manager

EBD:abd
Encls.


19,000N
3000E
N
874 TRENCH
844 TRENCH
18400
18390 N (18393½ N)
2890 E (2388½ E)
S-29
(1953)
786 TRENCH
798 TRENCH
2200E
2400E
2600E
2800E
18,000N
PROPOSED 7400 DRIFT NORTH
38°
DMEA PLANE No. 1
443
DMEA 3143
7400 DRIFT NORTH
1" = 200'
4/1/54
cgw

OMEA #3143

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 1
By R.E. CRIBBS
Date APRIL, 1954.

Hole No. 5-29 Mine
Location 786 TRENCH
Bearing S 45½° W Dip -46° Length 251
Latitude of Collar 18,393½N Departure of Collar 2,388½E Elevation 7820½

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.	FT	% C.R.	Geology and Remarks
APRIL-1954		0-4				4	10	NX SURFACE ROCK.
		4-19						QUARTZITE WITH A FEW NARROW
		4-11				7	9	ZONES OF SCHIST ABOUT 70-80° TO
		11-14				3	10	CORE. SOME IRON STAINING 14-19'.
		14-19				5	10	
		19-24					4	SCHISTOSE QUARTZITE WITH SMALL
								AMOUNT OF IRON STAINING.
		24-28½				4½	24	QUARTZOSE SCHIST NEARLY 90° TO CORE
								FROM 24-26 AND QUARTZITE WITH NARROW
								SCHIST ZONES NEARLY PARALLEL WITH CORE
								26-28½. A VEIN OF QUARTZ AND MINOR
								GOSSAN NEARLY PARALLEL WITH CORE 24-26'.
		28½-31½				3	47	BX - QUARTZITE WITH ZONES OF
								SCHISTOSE QUARTZITE NEARLY PARALLEL TO CORE.
								SOME SOLUTION CAVITIES IN ROCK, AND A
								GREENISH MINERAL ALONG FRACTURES.
		31½-34				2½	16	SCHISTOSE QUARTZITE.
		34-44						QUARTZITE WITH NARROW SCHIST ZONES
		34-37½				3½	43	ABOUT 30° TO CORE 34-41' AND ABOUT 45°
		37½-41				3½	20	TO CORE 41-44'. (BROWN SLUDGE 41-44?)
		41-44				3	23	
		44-47½				3	0	NO CORE
		47½-49½				2	20	SMALL FRAGMENTS OF SCHISTOSE
								QUARTZITE.
		49½-67						AX SCHISTOSE QUARTZITE. ABOUT
		49½-54				4½	18	35° TO HOLE 49½-58½. SMALL AMOUNT
		54-58½				4½	29	OF IRON STAINING 54-58½. CORE FRACTURED
		58½-62				3½	20	58½-62.
		62-67				5	6	
		67-77						QUARTZITE WITH NARROW SCHIST ZONES
		67-72				5	18	NEARLY 90° TO CORE AND ABOUT AN INCH
		72-77				5	34	APART. A FEW SMALL PIECES OF GOSSAN 72-77'.
		77-88½						SCHISTOSE QUARTZITE ABOUT 80° TO CORE.
		77-81				4	43	YELLOWISH COATING ON FRACTURES 86-88½.
		81-85				4	23	(LOST PART OF WATER AT 80')
		85-86				1	20	
		86-88½				2½	20	
		88½-96						FRACTURED SCHISTOSE QUARTZITE.
		88½-91				2½	36	ABOUT 80° TO CORE 91-96'.
		91-94				3	40	
		94-96				2	45	

Hole No. 5-29

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No 2

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-29 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From -- To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
APRIL 1954		96-99				3	47	SCHISTOSE QUARTZITE ABOUT 70° TO CORE
		99-103				4	25	FRACTURED SCHISTOSE QUARTZITE
		103-106				3	93	NARROW ZONES OF SCHIST IN QUARTZITE ALTERNATING WITH NARROW ZONES OF QUARTZITE IN SCHIST 70-80° TO CORE.
		106-108				2	60	SCHISTOSE QUARTZITE
		108-111						QUARTZITE WITH NARROW SCHIST ZONES ABOUT 80° TO CORE.
		108-110				2	55	
		110-111				1	60	
		111-114				3	13	SMALL PIECES OF SCHISTOSE QUARTZITE
		114-118				4	15	QUARTZITE WITH NARROW SCHIST ZONES 80° TO CORE.
		118-123				5	20	SOMEWHAT BRECCIATED SCHIST AND SCHISTOSE QUARTZITE WITH MINOR QUARTZ MINERALIZATION. POSSIBLE FAULT ZONE.
		123-128				5	14	QUARTZITE WITH NARROW SCHIST ZONES AT HIGH ANGLE TO CORE.
	X 111	128-134½	.03	.38		6½	46	QUARTZITE INTERCALATED WITH NARROW SCHIST ZONES 60° TO CORE. FAULT WITH SHEARED BROWN (DRG?) MATERIAL AT 133'. NARROW QUARTZ-LIMONITE STRINGERS 133-134½.
	X 110	134½-138	.27	.33		3½	83	ALTERNATING SCHIST & QUARTZITE ZONES SEVERAL INCHES WIDE. NARROW STRINGERS OF QUARTZ AND A BROWN MINERAL 134½-135½. SMALL AMOUNT OF ORIGINAL QUARTZ-SULFIDE MINERALIZATION AT 137'
	X 109	138-144½	.04	.41		6½	74	FINE GRAINED SCHISTOSE QUARTZITE ABOUT 60° TO CORE. SMALL FAULT AT 141'. A ¼" CHALCOPYRITE-PYRITE-COBALTITE STRINGER AT 142½'.
	X 108	144½-150	.01	.57		5½	78	SCHISTOSE QUARTZITE ABOUT 60° TO CORE. CORE HAS BEEN LARGELY REPLACED BY QUARTZ AND SMALL STRINGERS OF CARBONATE FRACTURE WITH THE STRUCTURE 144½-145½'. QUARTZITE IS COARSER GRAINED AFTER 147½. SCATTERED QUARTZ-CHALCOPYRITE MINERALIZATION 148-150.
		150-158						ALTERNATING ZONES OF COARSE SCHISTOSE QUARTZITE AND SCHIST UP TO SEVERAL INCHES THICK, DIP 60-70° TO CORE.
	X 107	150-155	.02	.04		5	68	
	X 106	155-158	.03	.04		3	43	

Hole No. 5-29

CALERA MINING COMPANY
BLACKBIRD DIVISION

DIAMOND DRILLING RECORD

Sheet No. 3
By
Date
Level

Hole No. 5-29 Mine
Location
Bearing Dip Length
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
	X105	158-162	.03	.05		4	30	QUARTZITE WITH NARROW ZONES OF SCHIST ABOUT 60° TO CORE.
	X104	162-167	1.25	4.21		5	44	IRREGULAR CHALCOPYRITE - COBALTITE - CHALCOCITE ? - QUARTZ - LIMONITE MINERALIZATION REPLACING SCHISTOSE QUARTZITE. MASSIVE MINERALIZATION 164-165'.
	X103	167-172	3.64	3.40		5	28	ALTERNATING ZONES OF SCHIST AND QUARTZITE PARTLY REPLACED BY COBALTITE - QUARTZ - CHALCOPYRITE MINERALIZATION, MOSTLY FROM 171-172'. FAULT AT 167'.
	X102	172-177	1.76	4.17		5	30	SAME AS ABOVE.
	X101	177-183	.18	.50		6	38	ALTERNATING ZONES OF SCHIST AND QUARTZITE SEVERAL INCHES WIDE WITH VERY MINOR CHALCOPYRITE, COBALTITE, AND CUPRITE. CHALCOCITE MINERALIZATION ALONG FRACTURES. FROM 181-183 ARE FRAGMENTS OF SOFT SCHIST AND FAULT GOUGE WITH SOME SECONDARY COPPER SULFIDES.
		183-195						
	X125	183-188	.98	1.11		5	34	QUARTZOSE SCHIST NEARLY PARALLEL WITH CORE. SOME IRREGULAR CHALCOPYRITE - QUARTZ MINERALIZATION AND MINOR CHALCOCITE. AFTER 191½ ARE ALTERNATING ZONES OF SCHIST AND QUARTZITE ABOUT 45° TO CORE.
	X124	188-195	.28	2.02		7	33	
	X123	195-199	.11	6.24		4	55	SCHISTOSE QUARTZITE ABOUT 70° TO CORE WITH QUARTZ - CHALCOCITE - CHALCOPYRITE MINERALIZATION MOSTLY 195-197'. FRACTURES IN ROCK FILLED WITH CHALCOCITE.
		199-210						
	X122	199-201	.05	.66		2	80	ALTERNATING ZONES OF QUARTZITE AND SCHIST ABOUT 60° TO CORE FROM 199 TO 204½'. QUARTZOSE SCHIST 204½-210.
	X121	201-203	.01	.11		2	85	
	X120	203-206½	.04	.09		3½	45	
	X119	206½-210	.24	.14		3½	17	
		210-218						
	X118	210-214	.04	.31		4	80	QUARTZITE WITH SCHIST ZONES UP TO SEVERAL INCHES WIDE. THE QUARTZITE IS SOMEWHAT BRECCIATED AFTER 214 WITH IRREGULAR CHALCOPYRITE - QUARTZ MINERALIZATION. SOME CHALCOCITE AT 211.
	X117	214-218	.03	1.95		4	35	

Hole No. 5-29

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 4

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-29 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C.R.	Geology and Remarks
	X 116	218-228	.05	1.02		10	50	SOMEWHAT BRECCIATED QUARTZITE WITH A FEW NARROW SCHIST ZONES MOSTLY AT LOW ANGLE TO THE CORE. SCATTERED QUARTZ-CHALCOPYRITE MINERALIZATION.
	X 115	228-234	.03	.26		6	83	QUARTZOSE SCHIST MOSTLY AT LOW ANGLE TO CORE. QUARTZITE, WITH MINOR CHALCOPYRITE 233-234.
	X 114	234-244	.04	1.14		10	13	SOMEWHAT BRECCIATED SCHISTOSE QUARTZITE WITH MINOR CHALCOPYRITE.
		244-251						SCHISTOSE QUARTZITE ABOUT 65° TO CORE.
	X 113	244-249	Tr	.05		5	36	
	X 112	249-251	Tr.	Tr.		2	25	

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 5

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-29 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
Feb. 1954	X51	8-13	.06	.31		5	SLUDGE	
	X52	13-18	.04	.19		5	" "	
	X53	18-23	.01	.06		5		
	X54	23-28	.01	.12		5		
	X55	28-33½	Tr.	.07		5½		
	X56	33½-37½	Tr.	.02		4		
	X57	37½-43	Tr.	.02		5½		
	X58	43-48	Tr.	.06		5		
	X59	48-54	Tr.	.15		6		
	X60	54-58½	Tr.	.14		4½		
	X61	58½-62	Tr.	.13		3½		
	X62	62-67	Tr.	.15		5		
	X63	67-72	Tr.	.12		5		
	X64	72-77	Tr.	.08		5		
	X65	77-85	Tr.	.08		8		
	X66	85-91	.01	.03		6		
	X67	91-96	Tr.	.02		5		
	X68	96-103	.01	.02		7		
	X69	103-108	Tr.	.02		5		
	X70	108-113	Tr.	.03		5		
	X71	113-118	Tr.	Tr.		5		
	X72	118-123	Tr.	.02		5		
	X73	123-128	.01	.19		5		
	X74	128-133	.04	.23		5		
	X75	133-138	.18	.49		5		
	X76	138-144½	.10	.48		6½		
	X77	144½-150	.04	.32		5½		
	X78	150-155	.02	.12		5		
	X79	155-158	.02	.14		3		
	X80	158-162	.38	.38		4		
	X81	162-167	1.40	3.29		5		
	X82	167-172	4.70	3.14		5		
	X83	172-177	.68	4.12		5		
	X84	177-183	.81	3.04		5		
	X85	183-188	.34	1.11		5		
	X86	188-195	.52	2.71		7		
	X87	195-201	.32	6.48		6		
	X88	201-206	.10	1.30		5		
	X89	206-210	.07	.49		4		
	X90	210-218	.05	1.72		8		
	X91	218-228	.04	1.06		10		

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 6

DIAMOND DRILLING RECORD

By

Date

Hole No. 5-29 Mine Level

Location

Bearing Dip Length

Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.	Ft	% C. R.	Geology and Remarks
[illegible]	X 92	228-234	.03	.64		6	[illegible]	
	X 93	234-239	.07	1.80		5		
	X 94	239-244	.05	.70		5		
	X 95	244-249	.05	.80		5		
	X 96	249-251	.05	.53		2		

Hole No. 5-29

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

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 29 1954

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March, 1954 Docket No. DMEA 3143 Contract No. IDM - E 645
Operator's Name Calera Mining Company Minerals Cobalt - Copper
Address Cobalt, Idaho
Contract Amount, $ 407,340.00 Government Participation: 70 % Amount, $ 285,138.00

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: Spiling	220.00	340.00	560.00			
Heavy Timber	—	199.50	199.50			WSM
Drilling Core Stage II	331.46	—	331.46			
~~Bulldozing~~ Trenching	1,098.72	—	1,098.72			
~~Crosscutting~~ Normal Timbering	77.00	590.10	667.10			
Drifting	390.89	3,340.29	3,731.18			
Framing	32.88	147.96	180.84			
(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 Stage II	78.00	63.00	141.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	2,228.95	4,680.85	6,909.80	2228.95	4680.85	6909.80

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

Date April 6, 1954 Payee Calera Mining Company

Per [signature] Title Vice 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:

$ 1560 27

Signature [signature]
(Authorized Certifying Officer)

Date 4/23/54 Vou. No. 1140
(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. E645 in accordance with the terms of the contract.

Signature /S/ Verdoz Johnson Title Mining Eng Date 4/20/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W Zoldok Title Mining Eng Date 4/21/54

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.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 29 1954

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 1954 Docket No. DMEA 3143 Contract No. IDM - E 645

Operator's Name Calera Mining Company Minerals Cobalt - Copper

Address Cobalt, Idaho

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	Ft.	390.89	11	3,731.18	105	35.535	6,000	$ 35.535
Crosscutting								
~~Raising~~ Normal Timbering	Ft.	77.00	11	667.10	95.3	7.00	5,000	7.00
~~Shaft~~ Heavy Timbering	Ft.	—	—	199.50	28.5	7.00	750	7.00
~~Winze~~ Spiling	Ft.	220.00	11	560.00	28.0	20.00	500	20.00
~~Drilling: Core~~ Framing	Sets	32.88	6	180.84	33.0	5.48	1,150	5.48
Assay ~~Churn~~ Stage II	Each	78.00	26	141.00	47	3.00	5,900	3.00
Drilling ~~Auger~~ Stage II (Core)	Ft.	331.46	98	331.46	98	3.3822	10,500	3.3822
~~Stripping~~								
Trenching	Hrs.	1,098.72	92.5	1,098.72	92.5	11.878	864	11.878
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		2,228.95		6,909.80				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$2,228.95		$ 6,909.80				

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 April 6, 1954 Operator Calera Mining Company

Per [signature] Title Vice 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)

32.88
220.
77.
390.89
11 | 720.77
65.52/ft

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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

April 6, 1954

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 29 1954

pch
8/17/55

Mr. A. E. Weissenborn
Executive Officer, Region II
D.M.E.A. Field Team
South 157 Howard
Spokane 4, Washington

Dear Mr. Weissenborn:

Re: Docket No. D.M.E.A. 3143
Contract No. IDM - E 645

During the month of March, the 7400 Drift was advanced 11 feet. Since the zone of faulting continued to be present in the heading, advancing of the drift was most difficult and necessitated the driving of spiling with each set of timber that was stood.

It was decided in the early part of the month to stop driving the drift and diamond drill at the face of the 7400 Drift North. One hole was drilled on the line of the drift in search of firmer rock. This was not charged to the D.M.E.A. account. A 70 foot hole drilled eastward from the drift and a 28 foot hole drilled westward from the drift did not intersect ore. A week poor coring ground was encountered in all three of the diamond drill holes.

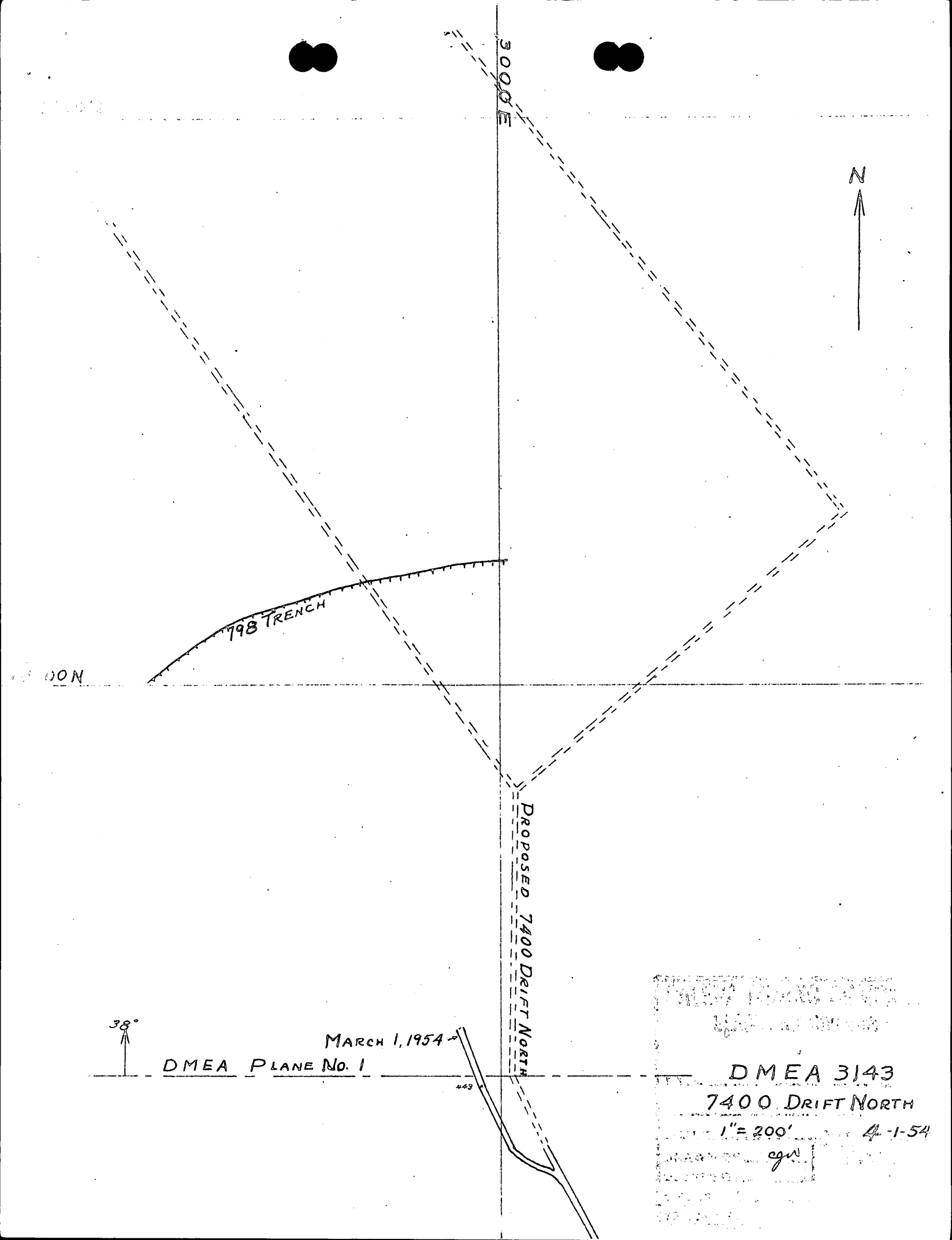
On March 9, surface trenching was started on the 798 Trench. As of April 1, approximately 600 feet of bed rock has been exposed. The average depth of overburden was found to be approximately 10 feet, and the maximum depth of overburden was found to be 20 feet. The trench intersected a favorable appearing mineralized zone containing many small pods of gossan. This exposed gossan is approximately 800 feet north of the 7400 Drift North face. The bulldozing operation for the month amounted to 92½ hours of work.

Very truly yours,

CALERA MINING COMPANY
BLACKBIRD DIVISION

E. R. Douglas, Manager

ERD:ac


3000E
N
798 TRENCH
00N
PROPOSED 7400 DRIFT NORTH
38°
MARCH 1, 1954
DMEA PLANE No. 1
443
DMEA 3143
7400 DRIFT NORTH
1" = 200'
4-1-54
cgw

D.M.E.A. #3143
Contract IDM - E 645

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1
By R. E. Cribbs
Date March, 1954

DIAMOND DRILLING RECORD

Hole No. U-74-28 Mine Blackbird Level 7400
Location 7400 Drift North
Bearing Dip Length 70
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From — To	Assay Value % Co.	% Cu.	Oz. Au.		% C.R.	Geology and Remarks
3-29-54	X19	0 - 5½	Tr.	.02		5½	24	BX Small fragments of hard schistose quartzite.
	X20	5½ - 11	.04	.22		5½	11	AX Mostly gouge with small amount of solid brown schistose dike.
		11 - 70						Schistose quartzite.
	X21	11 - 18	.01	.02		7	7	
	X22	18 - 70	.03	.05		52	3	
				Sludge				
	X7	18 - 23	.05	.23		5		All sludge is greenish and granular and is probably mostly caved material.
	X8	23 - 26	.04	.21		3		
	X9	26 - 30	.07	.72		4		
	X10	30 - 35	.05	.24		5		
	X11	35 - 39	.03	.23		4		
	X12	39 - 44	.06	.35		5		
	X13	44 - 49	.04	.29		5		
	X14	49 - 53	.03	.21		4		
	X15	53 - 56	.07	.26		3		
	X16	56 - 60	.03	.10		4		
	X17	60 - 65	.03	.12		5		
	X18	65 - 70	.02	.13		5		

D.M.E.A. #3143
Contract IDM - E 645

CALERA MINING COMPANY
BLACKBIRD DIVISION

Sheet No. 1

DIAMOND DRILLING RECORD

By R. E. Cribbs
Date March, 1954

Hole No. U-74-29 Mine Blackbird Level 7400
Location 7400 Drift North
Bearing Dip Length 28
Latitude of Collar Departure of Collar Elevation

Date	Sample No.	Depth From - To	Assay Value % Co.	% Cu.	Oz. Au.	Ft.	% C.R.	Geology and Remarks
3-29-54	X4	0 - 3	.21	.29		3	27	BX Schistose quartzite perpendicular to core. Minor sulfides. Core is firm.
	X5	3 - 12	.01	.33		9	37	AX Same.
	X6	12 - 21	.04	.04		9	61	First foot of core is brown schistose dike. Last foot of core consists of small pieces of hard schistose quartzite. The core in between consists of ground up dike material with a few small pieces of schistose quartzite.
	--	21 - 28				7	0	No Core.
				Sludge				
	X1	3 - 10	.02	.07		7		Green with minor brown sludge
	X2	18 - 23	.03	.02		5		Mostly brown.
	X3	23 - 28	.04	Tr.		5		Mostly brown.

ASSAY RECORD

CALERA MINING CO.

Chute Sect. _____ Level 7400

DMEA # 3143 Working 7400 DRIFT NORTH

MARCH, 1954

Date	Sample Number	Location From	Location To	Kind	Wth.	% Co	% Cu	Oz. Au		REMARKS
3/1/54	26,702	A4431	107-110	Muck	3	06	15			
3/2	26713	+110	113	"	3	03	29			
3/3	26720	+113	115½		2½	04	05			
3/6	26752	+115½	118		2½	07	25			

Form M-[illegible]4 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of February, 1954 Docket No. DMEA 3143 Contract No. Idm-E645
Operator's Name Calera Mining Company Minerals Cobalt-Copper
Address Cobalt, Idaho
Contract Amount, $ 407,340.00 Government Participation: 70% Amount, $ 285,138.00

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~~ Spaling Contracts: Short Form				340.00		340.00
Drilling Normal timbering				590.10		590.10
Bulldozing Heavy "				199.50		199.50
Crosscutting						
Drifting	4,680.85	-	4,680.85	3340.29		3340.29
Framing				147.96		147.96
(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				63.00		63.00
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	4,680.85		4,680.85	4680.85	—	4680.85

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

Date March 3, 1954 Payee Calera Mining Company

Per [signature] Title Vice 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:

$ 3276.60

Signature [signature] (Authorized Certifying Officer)

Date 3/17/54 Vou. No. 1116
(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. E645 in accordance with the terms of the contract.

Signature /s/ Verdo Z Johnson Title Mining Engr Date 3/16/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /s/ Stephen W Zoldok Title Mining Engr Date 3/16/54

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.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of February 1954 Docket No. DMEA 3143 Contract No. Idm-E645
Operator's Name Calera Mining Company Minerals Cobalt & Copper
Address Cobalt, Idaho

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Ft.	3,340.29	94	3,340.29	94	35.535	6000	$35.535
Crosscutting								
~~Raising~~ Normal Timbering	Ft.	590.10	84.3	590.10	84.3	7.00	5000	7.00
~~Shafts~~ Heavy Timbering	Ft.	199.50	28.5	199.50	28.5	7.00	750	7.00
Winzes Spiling	Ft.	340.00	17.0	340.00	17.0	20.00	500	20.00
~~Drilling: Core~~ Framing	Sets	147.96	27.	147.96	27.	5.48	1150	5.48
Assay ~~Churn~~ Stage II	Ea.	63.00	21	63.00	21	3.00	5900	3.00
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		4,680.85		4,680.85				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		4,680.85		4,680.85				

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 March 3, 1954 Operator Calera Mining Company

Per [signature] Title Vice 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 83-38475

CALERA MINING COMPANY

BLACKBIRD DIVISION

COBALT, IDAHO

March 4, 1954

Mr. A. E. Weissenborn
Executive Officer, Region II
D.M.E.A. Field Team
South 157 Howard
Spokane 4, Washington

Dear Mr. Weissenborn:

Re: Docket No. D.M.E.A. 3143
Contract No. IDM - E 645

During the month of February, the 7400 Drift North was advanced 94 feet in waste. At approximately 15 feet past the D.M.E.A. boundary, a large north striking fault was encountered, and west of this fault very bad ground was found that consisted of sheared and faulted schistose quartzite and altered dike material. Standing of drift timber was started at 10 feet past the D.M.E.A. line. To date, 27 sets have been stood, consisting of 38.8 feet of normal drift timbering, and 17.0 feet of spiling, making a total of 84.3 feet of drift timbered during the month.

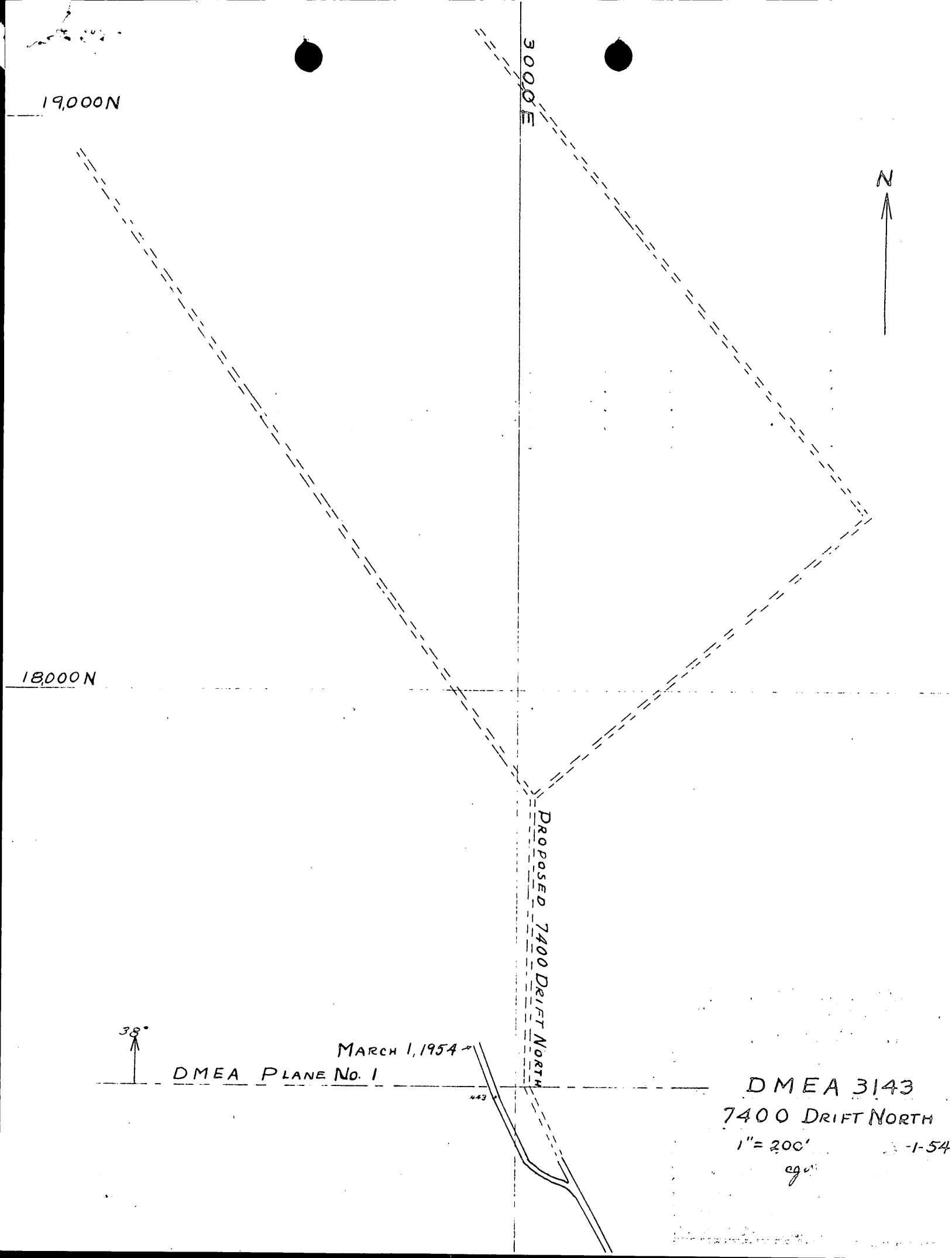
The work was started in this heading on a two-shift basis; then on February 8, three shifts were started and continued throughout the month.

Very truly yours,

CALERA MINING COMPANY
BLACKBIRD DIVISION

E. B. Douglas, Manager

EBD:ac

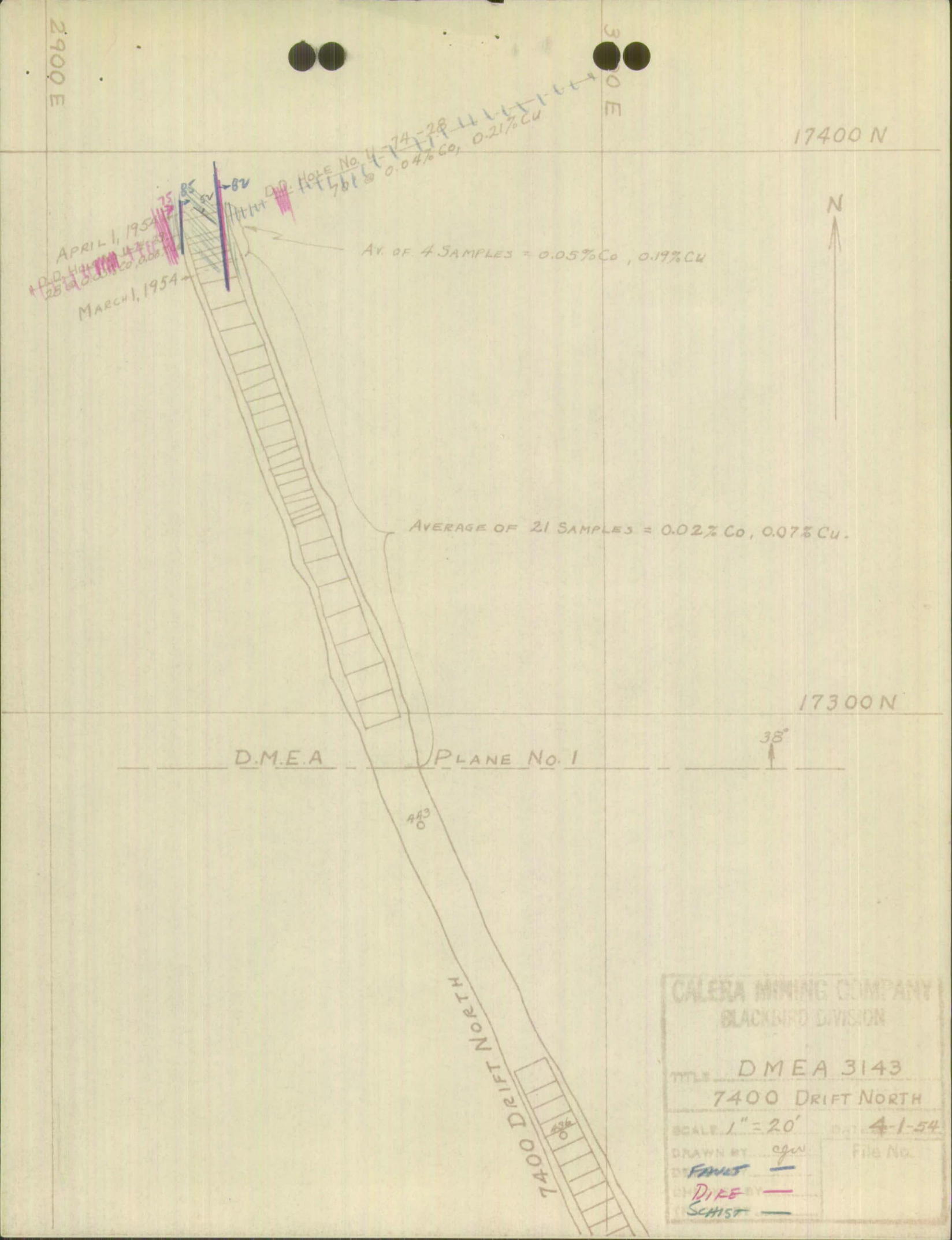

19,000N
18,000N
300,0E
N
PROPOSED 7400 DRIFT NORTH
38°
MARCH 1, 1954
DMEA PLANE No. 1
443
DMEA 3143
7400 DRIFT NORTH
1" = 200'
-1-54
cgu

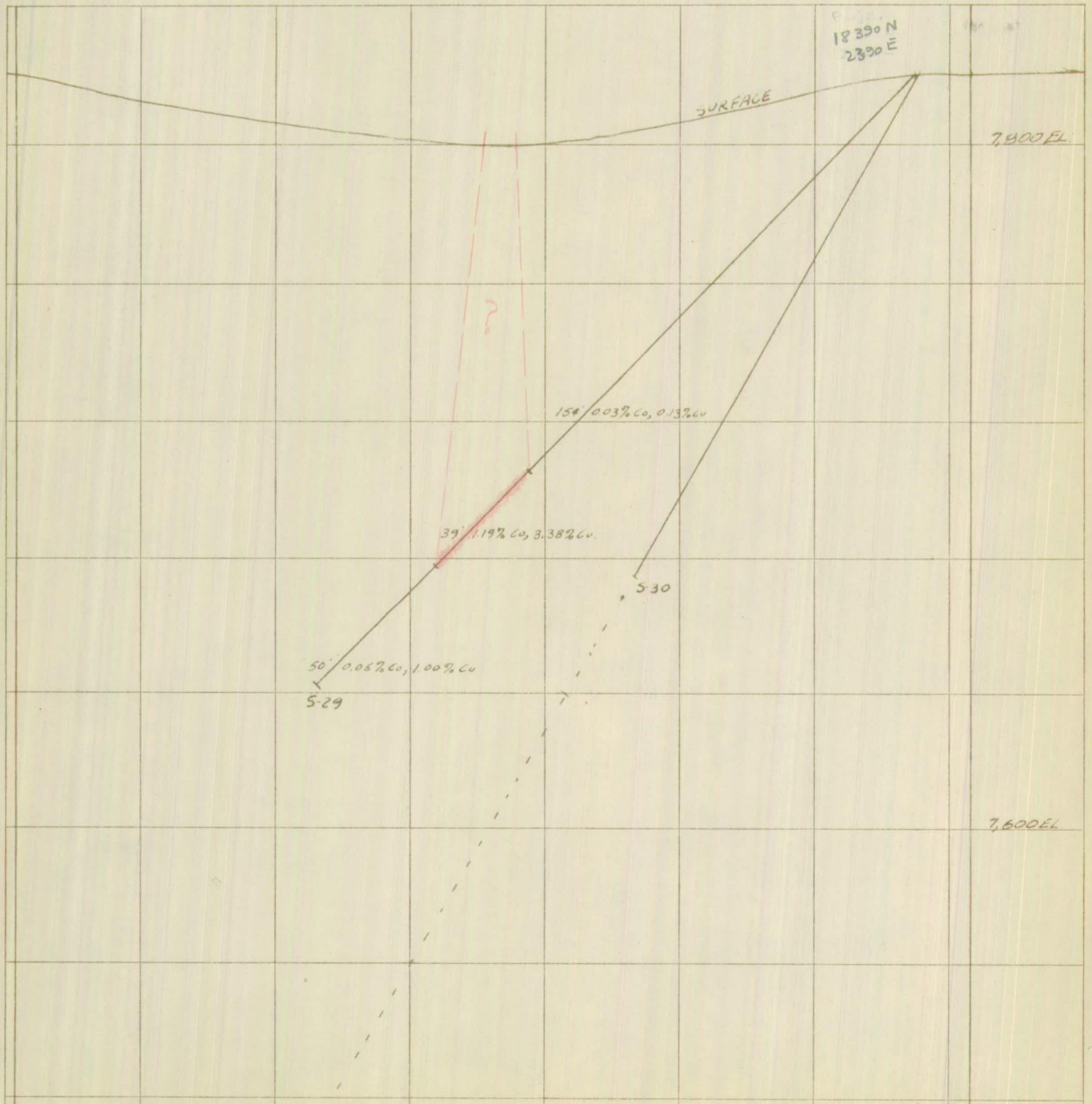
D.VEA 3,43

7400 ± 0.1FT

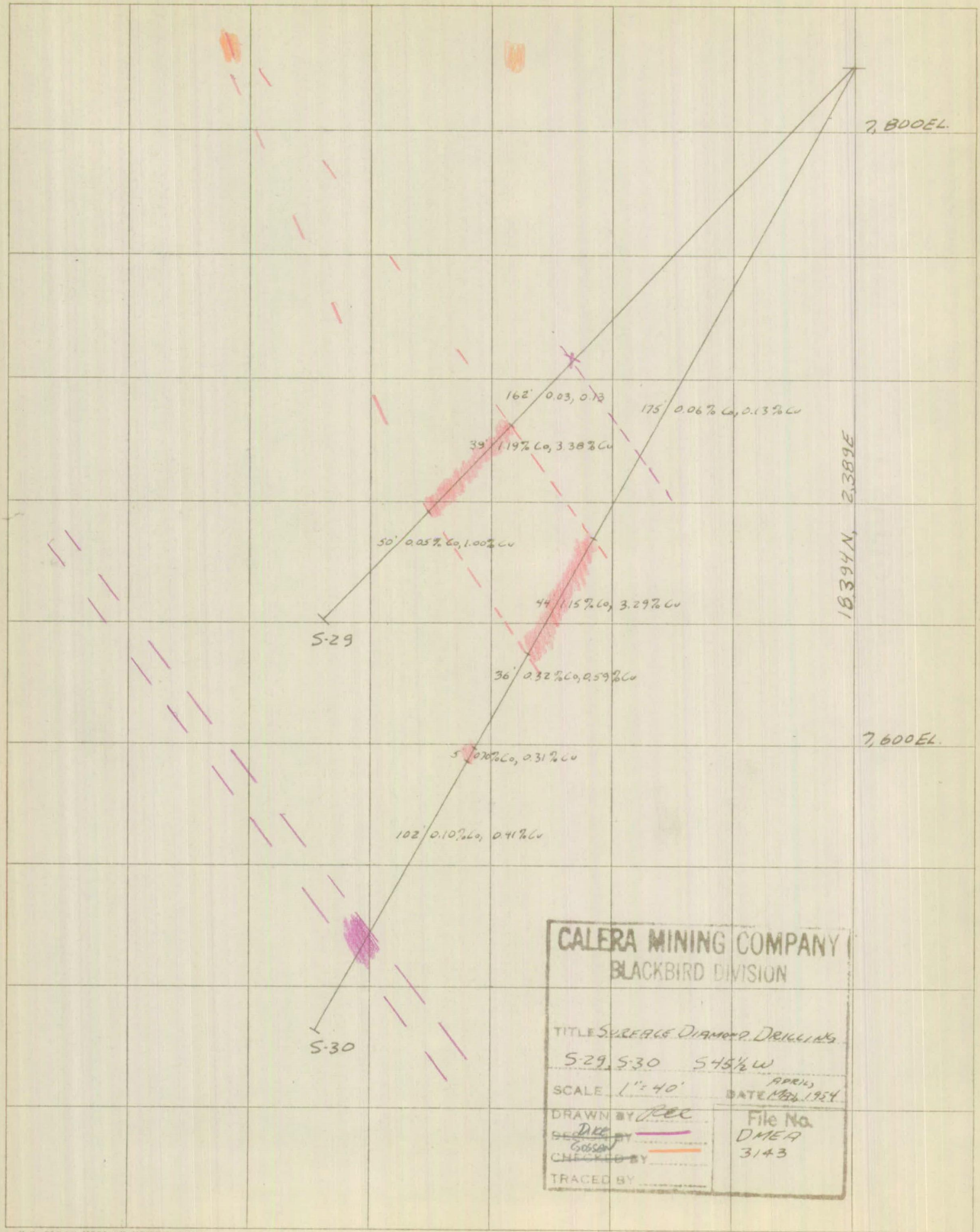
FEB, 1954

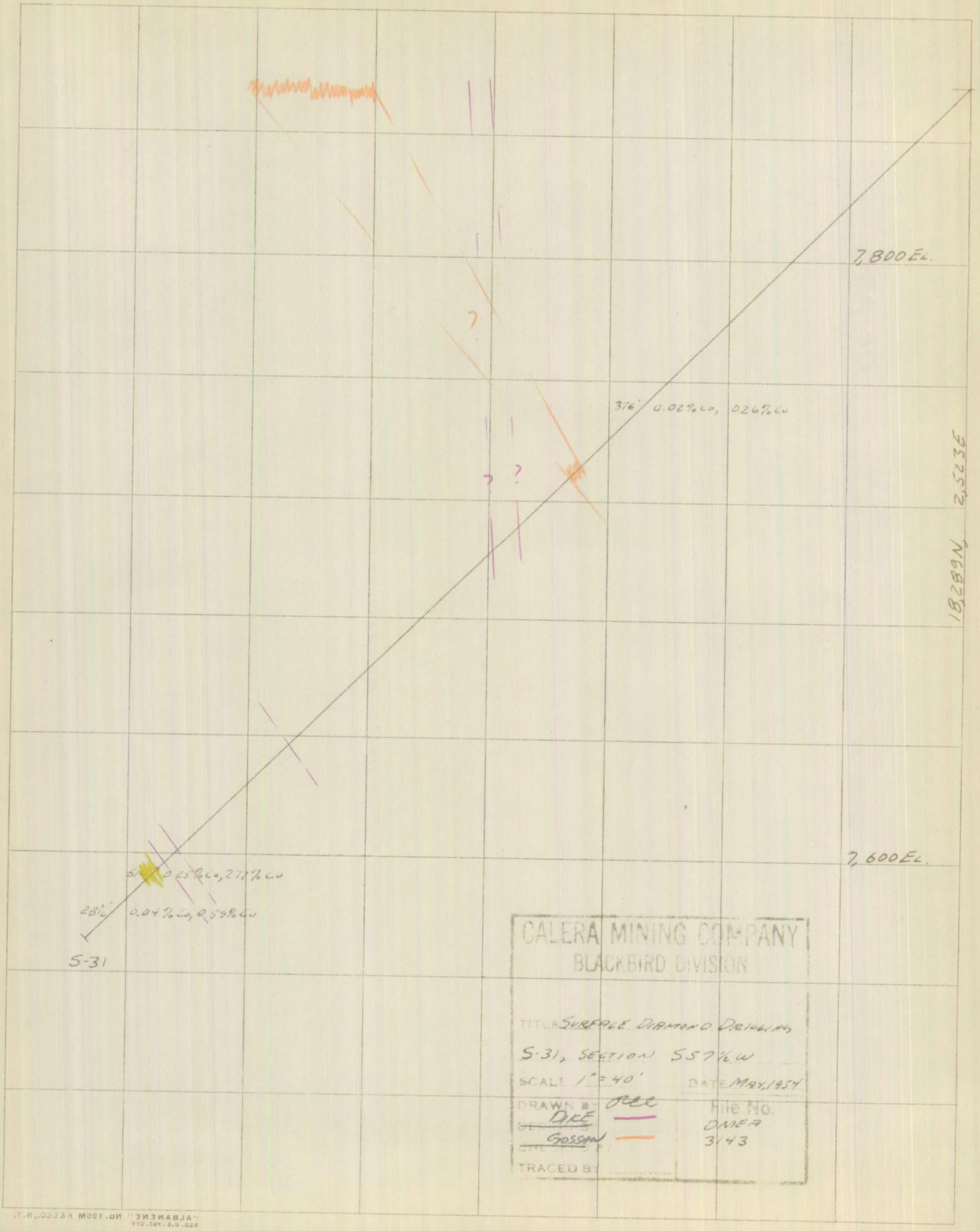
DATE	SAMPLE NUMBER	LOCATION FROM	LOCATION TO	KIND	WTH.	%CO	%CU
2/2/54	25713	Δ+36½	- 76½	MUCK	4½	03	04
2/3	26211	" +76½	- 86	"	4½	01	10
2/3	26212	" +86	- 96	"	10	01	Tr.
2/4	25726	" +96	104	"	8	01	04
2/4	25721	+104	100½	"	2½	02	04
2/5	26263	" -100½	Δ44½ +49	"	4	Tr	03
2/6	26280	Δ443+49	-56		7	02	17
2/10	26326	" +56	63	"	7	04	07
2/11	26049	" +63	70½	"	7½	Tr	Tr.
2/12	25851	" +70½	- 76	"	5½	03	Tr
2/15	25850	" +76	- 80½	"	4½	03	08
2/16	26357	" +80½	82	"	1½	03	13
2/17	26370	" +82	85	"	3	03	33
2/18	26406	" +85	88½	"	3½	03	11
2/19	26425	" +88½	- 90½	"	2	09	07
2/20	26509	" +90½	-92½	"	2	01	Tr.
2/22	26526	" +93½	-96	"	2½	03	07
2/23	26536	" +96	99½	"	3½	01	03
2/24	26621	+99½	-101½	"	2	03	19
2/25	26628	+101½	-103½	"	2	04	16
2/26	26637	+103½	-107	"	3½	05	13


2900 E
3000 E
17400 N
17300 N
N
APRIL 1, 1954
MARCH 1, 1954
D.D. HOLE No. 4-74-28
0.04% Co, 0.21% Cu
AV. OF 4 SAMPLES = 0.05% Co, 0.19% Cu
AVERAGE OF 21 SAMPLES = 0.02% Co, 0.07% Cu.
D.M.E.A PLANE No. 1
38°
7400 DRIFT NORTH
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE DMEA 3143
7400 DRIFT NORTH
SCALE 1" = 20'
DATE 4-1-54
DRAWN BY cgw
File No.
FAULT
DIKE
SCHIST



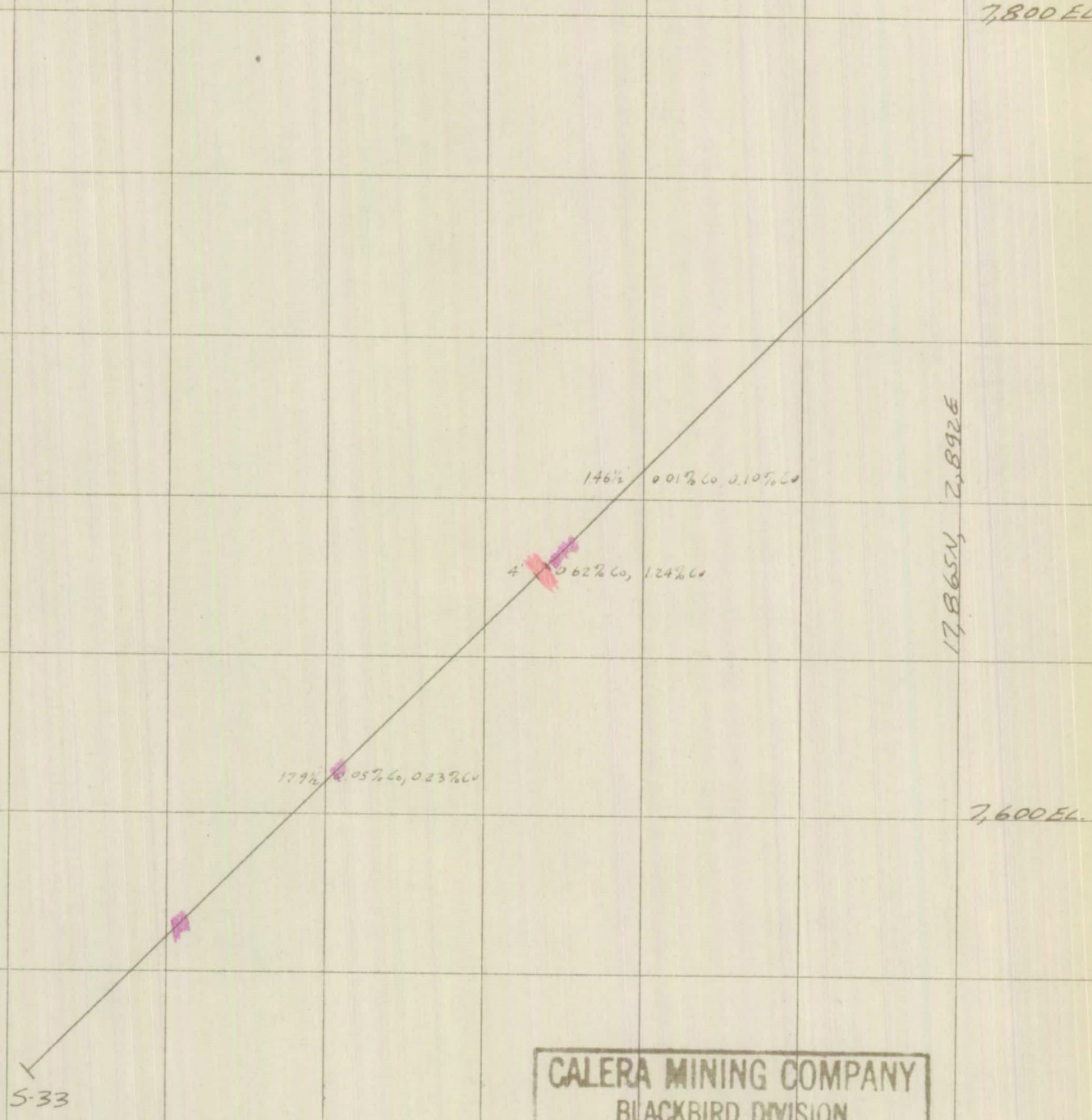
CALERA MINING CO.
DMEA 3143
SECTION S45W NASE OF
SURFACE DIAMOND DRILL HOLES S-29, S-30
APRIL, 1954
SCALE 1" = 40'


7,800EL.
162' 0.03, 0.18
175' 0.06% Co, 0.13% Cu
39' 1.19% Co, 3.38% Cu
50' 0.05% Co, 1.00% Cu
44' 1.15% Co, 3.29% Cu
S-29
36' 0.32% Co, 0.59% Cu
7,600EL.
5' 0.70% Co, 0.31% Cu
102' 0.10% Co, 0.41% Cu
S-30
18,394N, 2,389E
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE DIAMOND DRILLING
S-29, S-30 S 45½ W
SCALE 1" = 40'
DATE APRIL 1954
DRAWN BY JEC
DKE
GOSSON
TRACED BY
File No.
DMEA
3143


7,800 EL.
3'6" 0.02% Co, 0.26% Cu
2,523 E
18,289 N
7,600 EL.
5' 0.25% Co, 2.17% Cu
28½' 0.04% Co, 0.59% Cu
S-31
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE DIAMOND DRILLING
S-31, SECTION 557½ W
SCALE 1" = 40'
DATE MAY, 1954
DRAWN BY DKE
DKE
Gossom
File No.
OMEA
3143
TRACED BY

CALERA MINING COMPANY
BLACKBIRD DIVISION

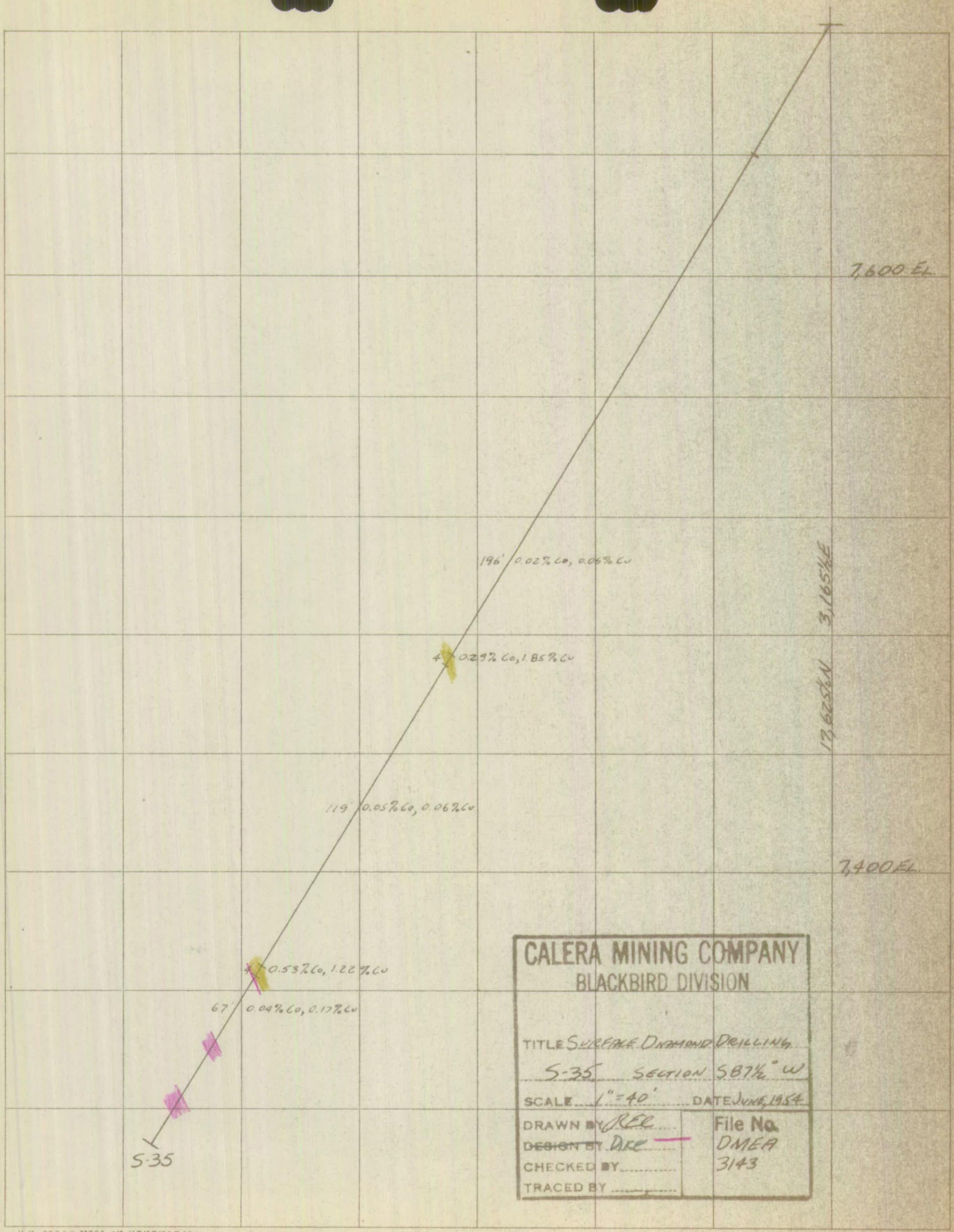
TITLE Surface Diamond Drilling
S-32 Section S 71½° W
SCALE 1"=40' DATE May, 1954
DRAWN BY J. Pike
DESIGN BY Dike
CHECKED BY Gossan
TRACED BY
File No. DMEA 3143

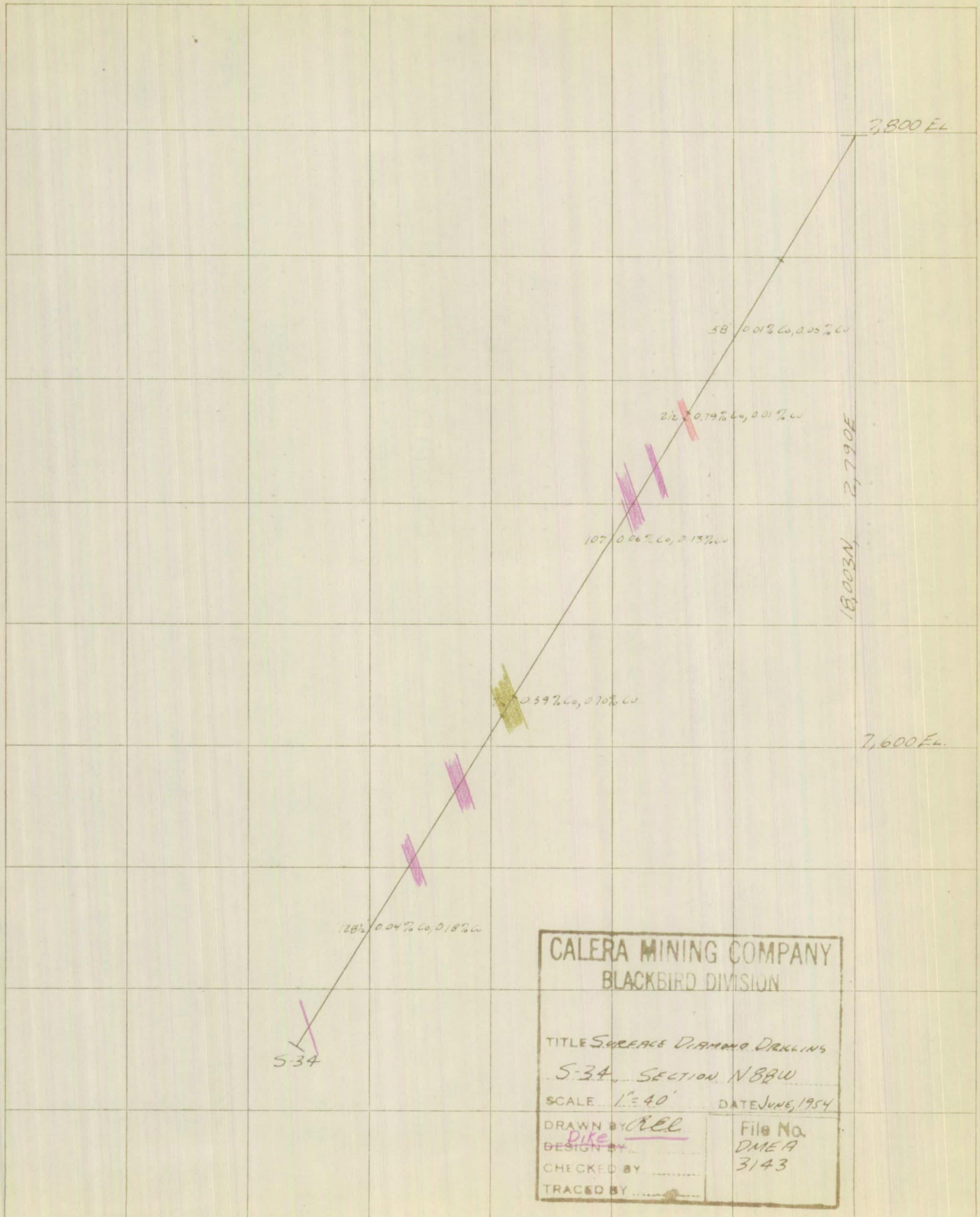


CALERA MINING COMPANY
BLACKBIRD DIVISION

TITLE Surface Diamond Drilling
S-33, Section N89W
SCALE 1" = 40' DATE May, 1954
DRAWN BY Per
~~DESIGN BY~~ Dike
CHECKED BY
TRACED BY

File No.
DMEA
3143


7,600 EL
196' 0.02% Co, 0.06% Cu
3,165 ft E
4' 0.29% Co, 1.85% Cu
17,625 ft N
119' 0.05% Co, 0.06% Cu
7,400 EL
4' 0.53% Co, 1.22% Cu
67' 0.04% Co, 0.17% Cu
S-35
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE DIAMOND DRILLING
S-35 SECTION S87½° W
SCALE 1" = 40' DATE JUNE, 1954
DRAWN BY REL
DESIGN BY DRC
CHECKED BY
TRACED BY
File No.
DMEA
3143



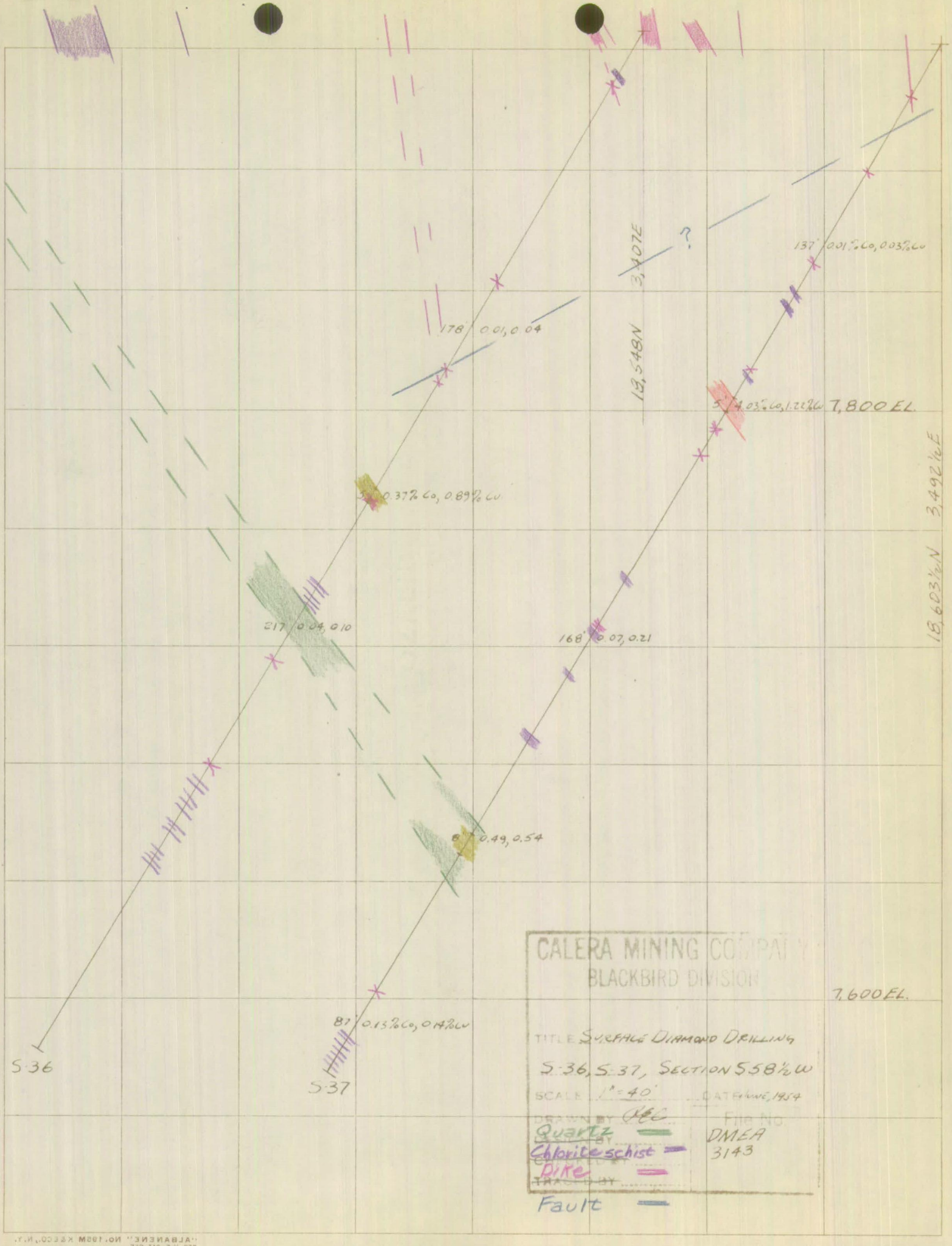
CALERA MINING COMPANY
BLACKBIRD DIVISION

TITLE Surface Diamond Drilling
S-34, Section N88W

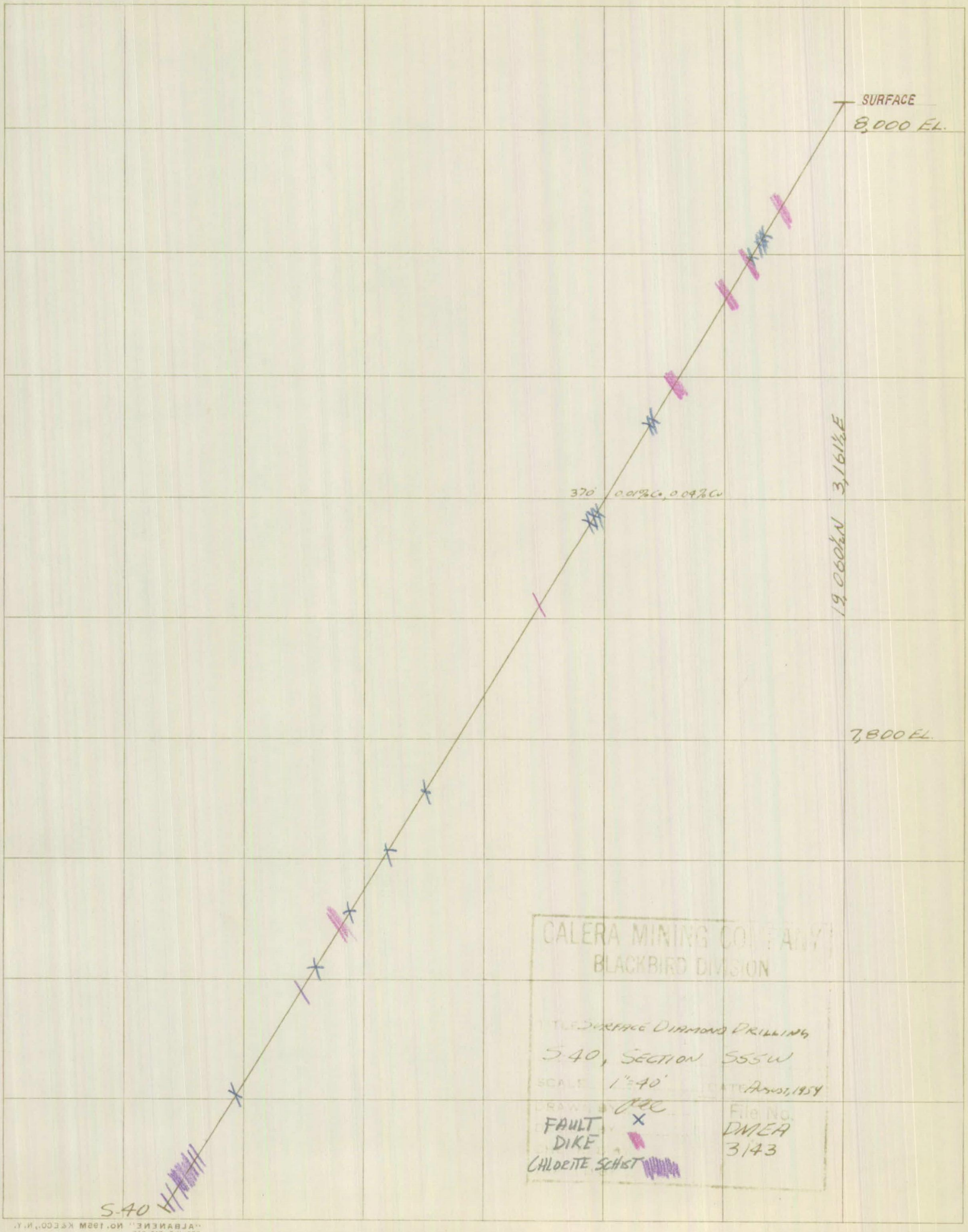
SCALE 1" = 40' DATE June, 1954

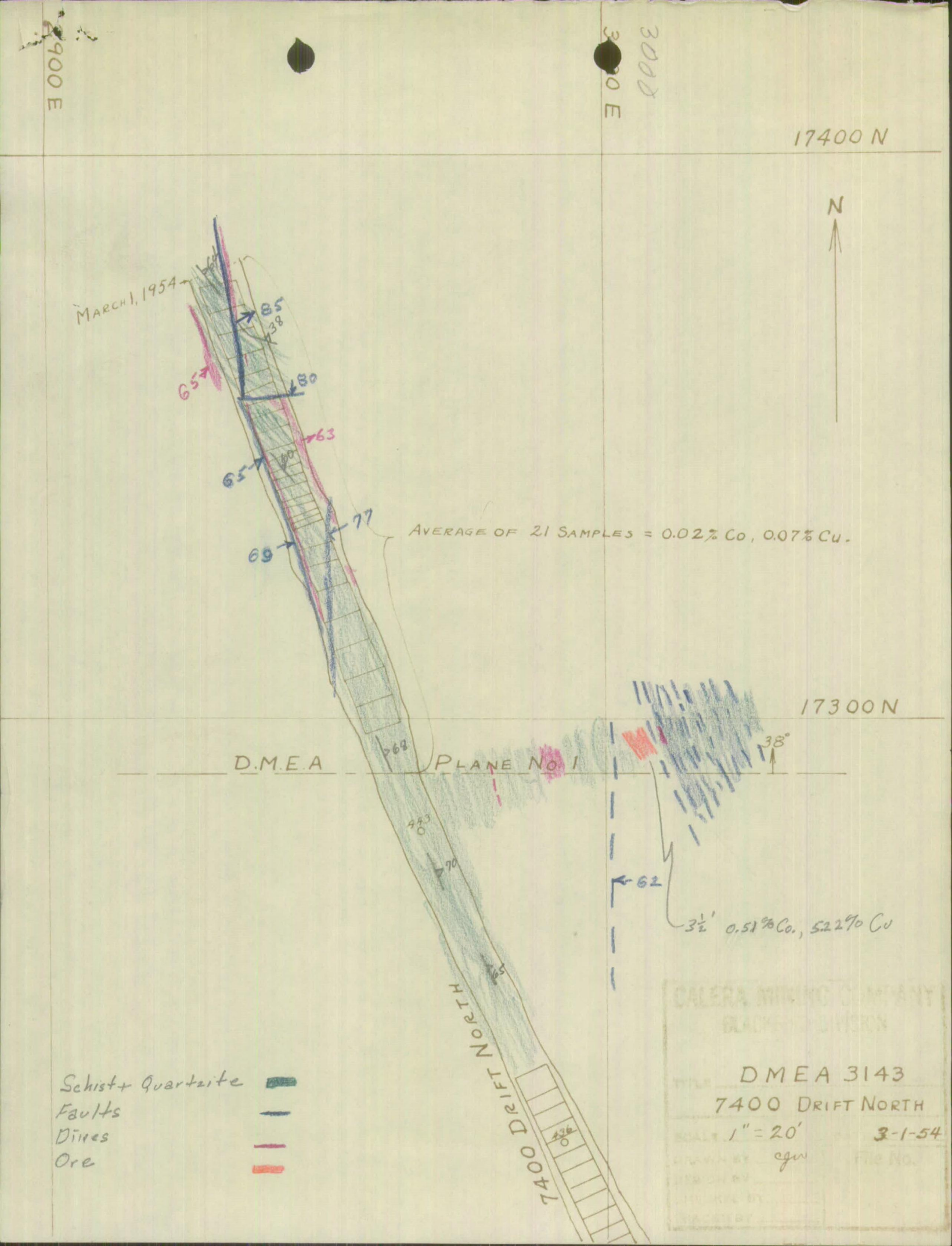
DRAWN BY REL
~~DESIGN BY~~ Dike
CHECKED BY
TRACED BY

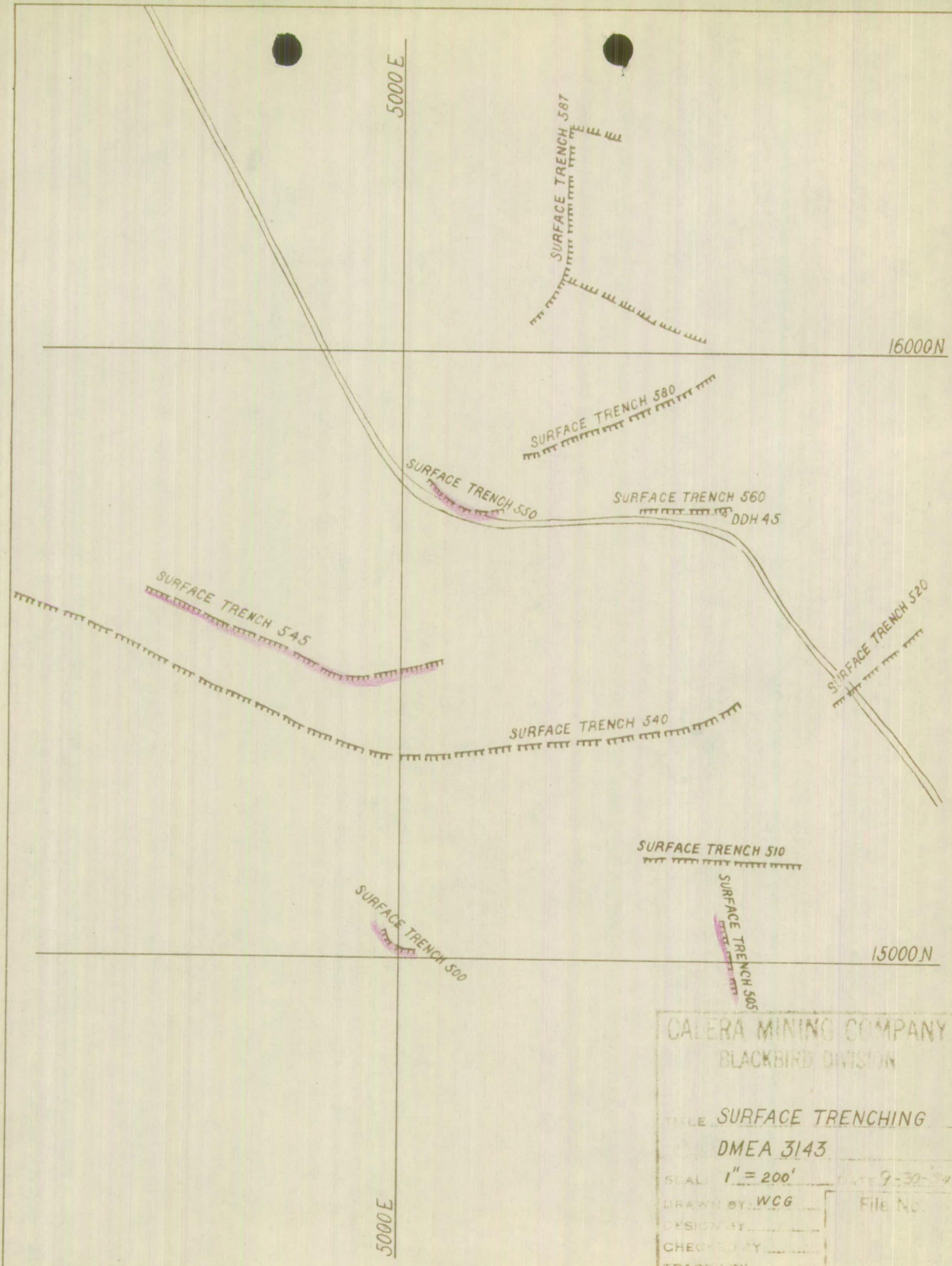
File No.
DME A
3143

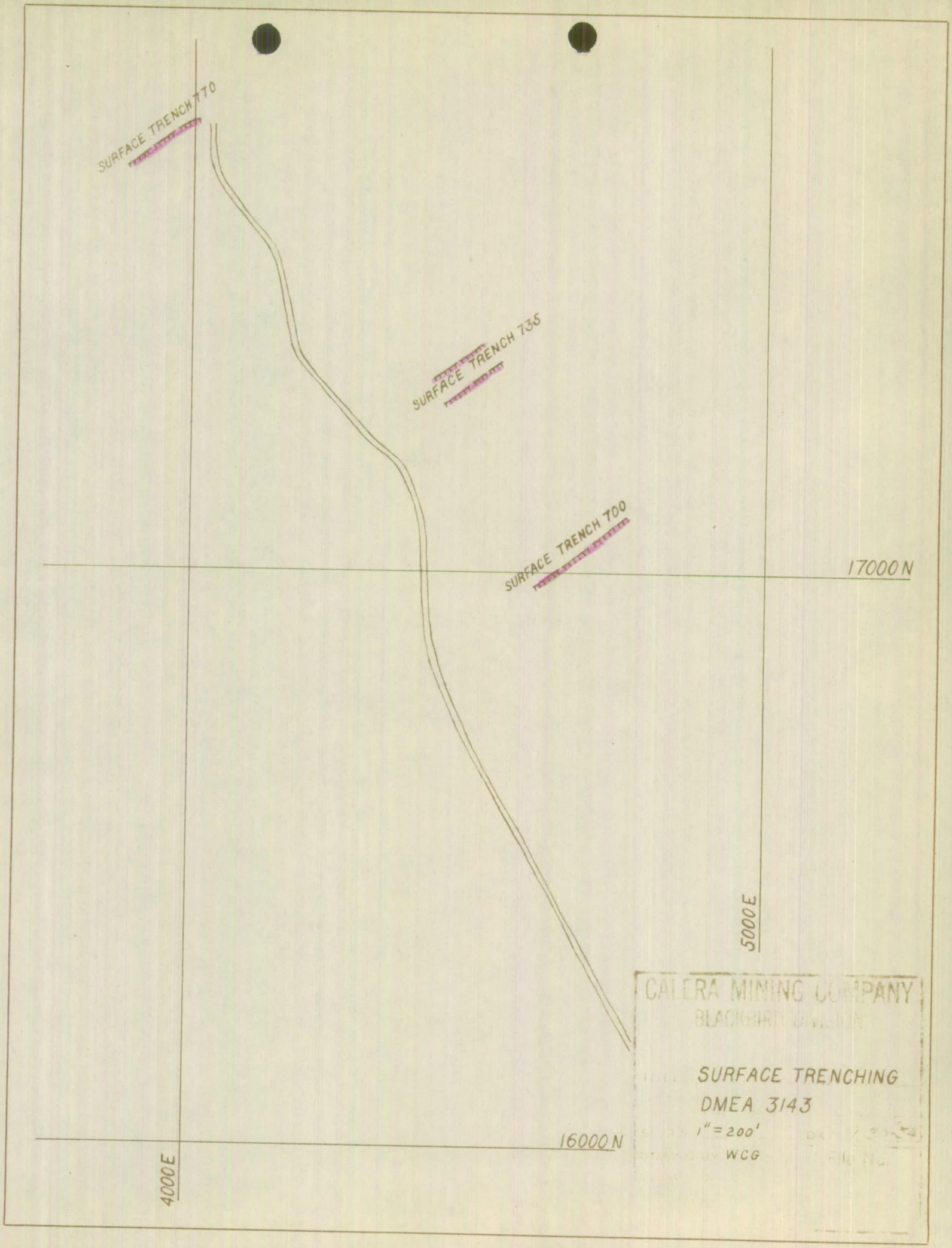

137' 0.01% Co, 0.03% Cu
178' 0.01, 0.04
3,407E
?
18,548N
5' 4.03% Co, 1.22% Cu
7,800 EL.
3,492½E
5' 0.37% Co, 0.89% Cu
18,603½N
217' 0.04, 0.10
168' 0.07, 0.21
8' 0.49, 0.54
7,600 EL.
8' 0.13% Co, 0.14% Cu
S-36
S-37
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE DIAMOND DRILLING
S-36, S-37, SECTION 558½W
SCALE 1" = 40'
DATE June, 1954
DRAWN BY
File No.
DMEA 3143
Quartz
Chlorite schist
Dike
Fault

SURFACE
181' 0.01, 0.08
50' 0.05%Co, 0.14%Co
S-38
18,764'N, 3,197E
322' 0.01%Co, 0.16%Co
2.45%, 2.08%Co
0.01%Co, 0.04%Co
S-39
18,852'N 3,390E
7,800 EL
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE DIAMOND DRILLING
S-38, S-39, SECTION S67W
SCALE 1" = 40'
DATE JULY, 1954
DRAWN BY RCC
File No.
DMEA
3143
FAULT
DIKE
CHLORITE SCHIST
MINERALIZATION


SURFACE
8,000 EL.
370' 0.01%Co, 0.04%Cu
19,000'N 3,161'E
7,800 EL.
S-40
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE DIAMOND DRILLING
S-40, SECTION 555W
SCALE 1"=40'
DATE AUGUST, 1954
DRAWN BY RRC
FAULT
DIKE
CHLORITE SCHIST
File No.
DMEA
3143


900 E
3000
17400 N
N
MARCH 1, 1954
85
38
80
65
63
65
60
77
69
AVERAGE OF 21 SAMPLES = 0.02% Co, 0.07% Cu.
17300 N
38°
D.M.E.A
PLANE NO. 1
68
483
70
62
3½' 0.51% Co., 5.22% Cu
65
7400 DRIFT NORTH
436
Schist + Quartzite
Faults
Dikes
Ore
CALERA MINING COMPANY
DMEA 3143
7400 DRIFT NORTH
1" = 20'
3-1-54
cgw


5000 E
SURFACE TRENCH 587
16000 N
SURFACE TRENCH 580
SURFACE TRENCH 550
SURFACE TRENCH 560
DDH 45
SURFACE TRENCH 545
SURFACE TRENCH 520
SURFACE TRENCH 540
SURFACE TRENCH 510
SURFACE TRENCH 500
SURFACE TRENCH 505
15000 N
5000 E
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE TRENCHING
DMEA 3143
SCALE 1" = 200'
DATE 9-30-84
DRAWN BY WCG
DESIGNED BY
CHECKED BY
TRACED BY
File No.

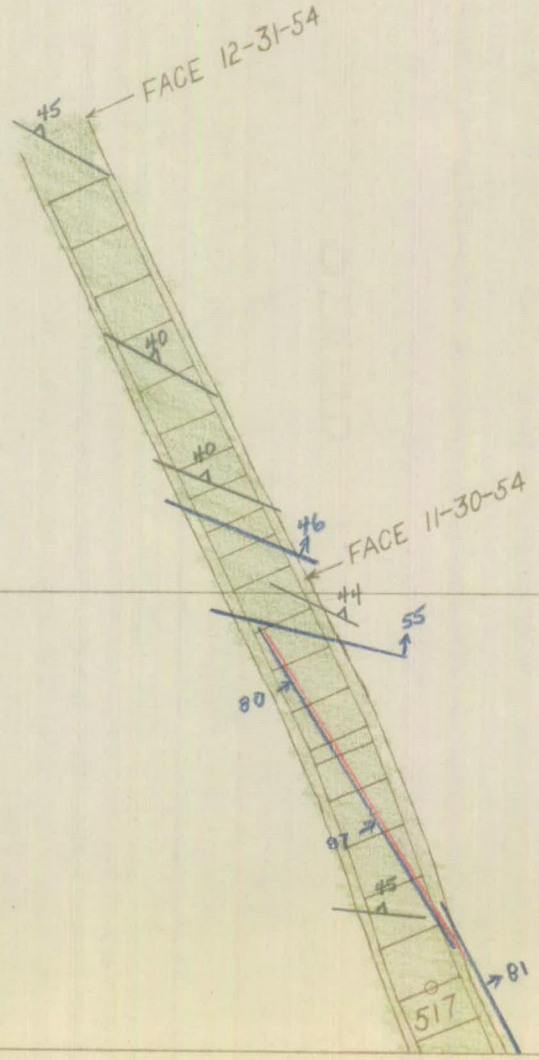

SURFACE TRENCH 770
SURFACE TRENCH 735
SURFACE TRENCH 700
17000 N
16000 N
4000 E
5000 E
CALERA MINING COMPANY
BLACKBIRD
SURFACE TRENCHING
DMEA 3143
1" = 200'
WCG

3000 E

LEGEND

ORE	
MINERALIZATION	
DIKE	
SCHIST	
FAULT	

17900 N



17800 N

CALERA MINING COMPANY
BLACKBIRD DIVISION

TITLE 7400 DRIFT NORTH

D.M.E.A. 3143

SCALE 1" = 20'

DATE 12/31

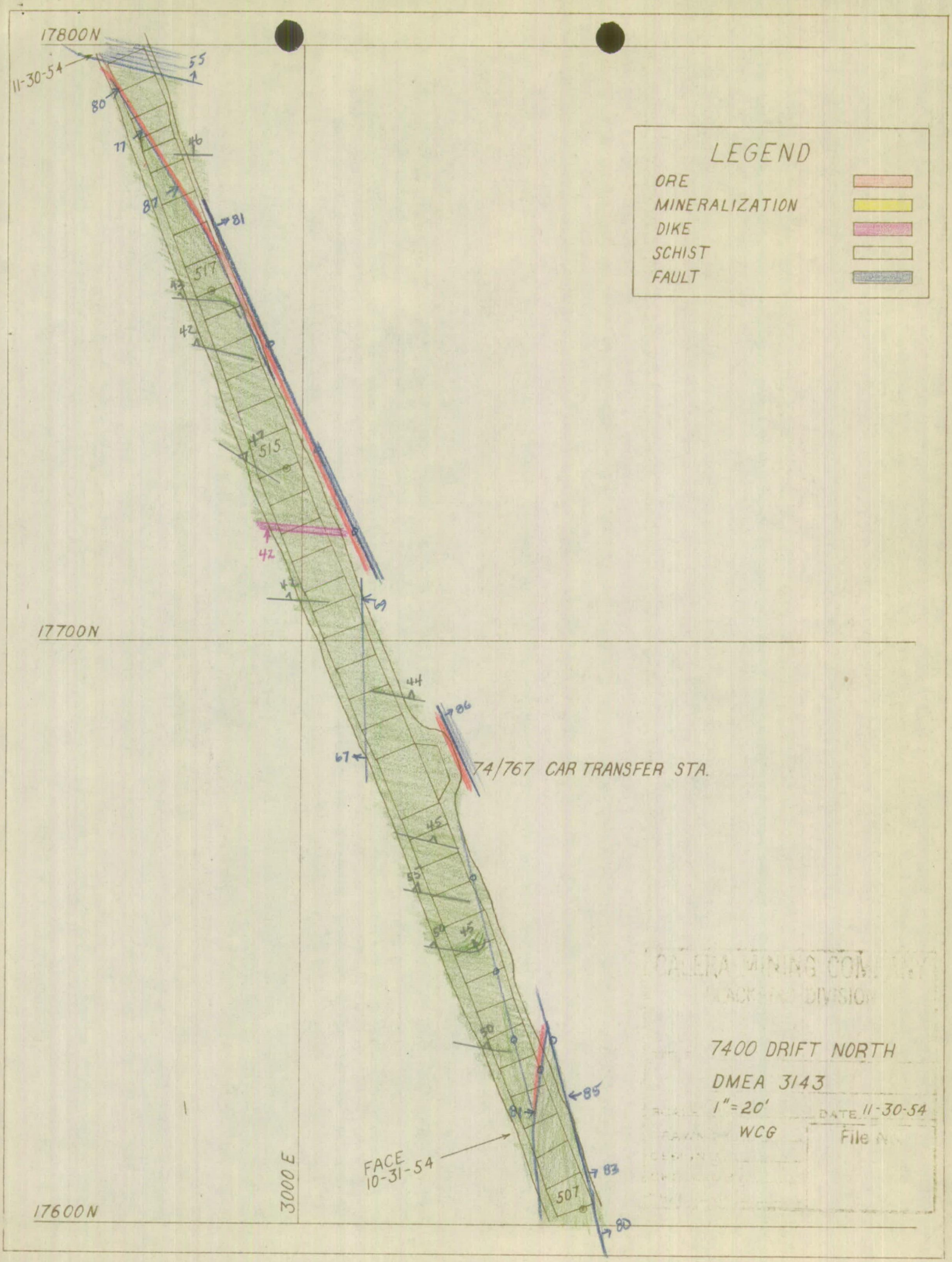
DRAWN BY W.G.

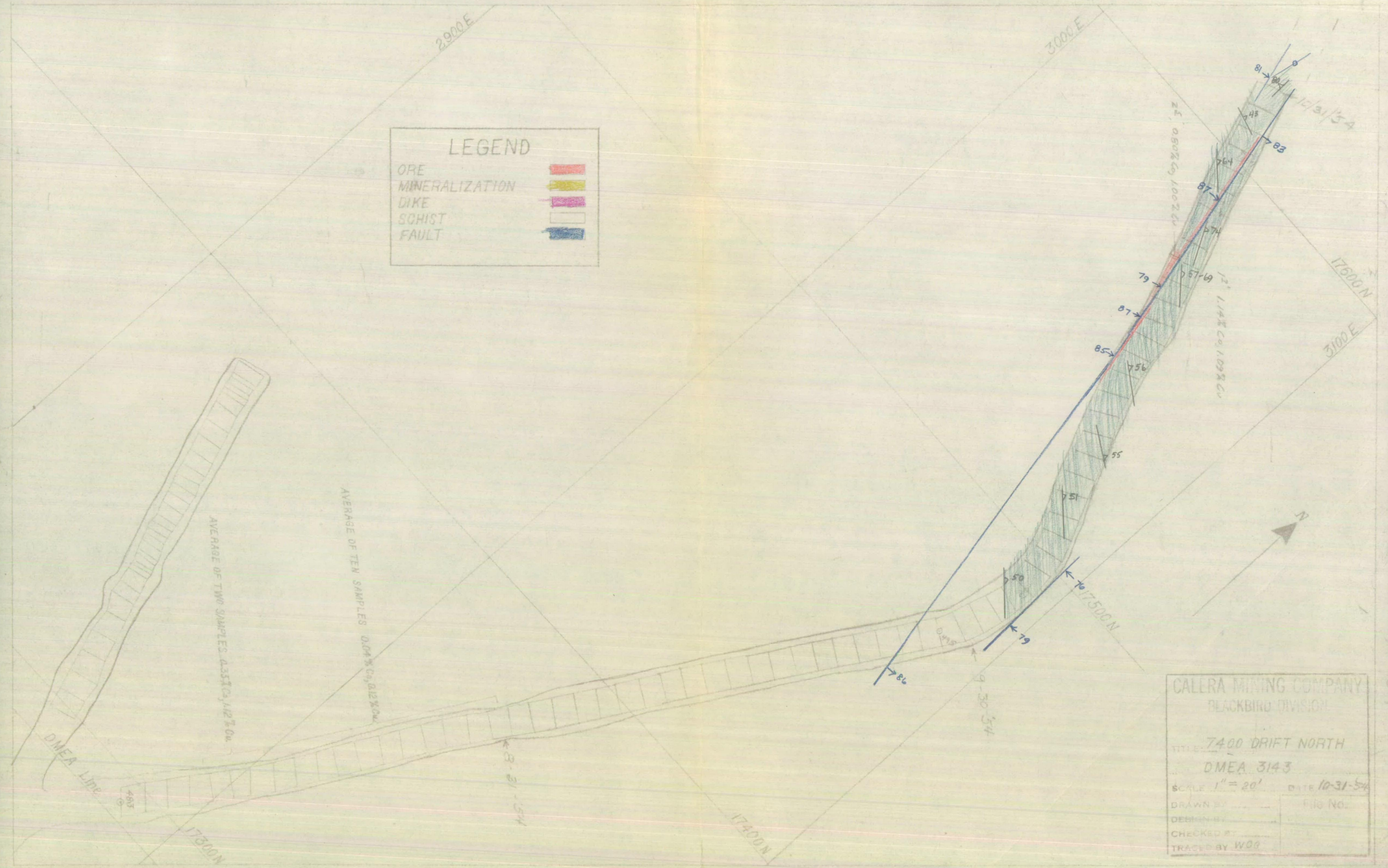
File No.

DESIGN BY

CHECKED BY

TRACED BY


17800N
11-30-54
55
80
77
46
87
81
517
43
42
47
515
42
47
69
17700N
44
86
67
74/767 CAR TRANSFER STA.
45
55
50
45
50
85
81
83
507
80
FACE
10-31-54
3000 E
17600N
LEGEND
ORE
MINERALIZATION
DIKE
SCHIST
FAULT
7400 DRIFT NORTH
DMEA 3143
1" = 20'
WCG
DATE 11-30-54
File

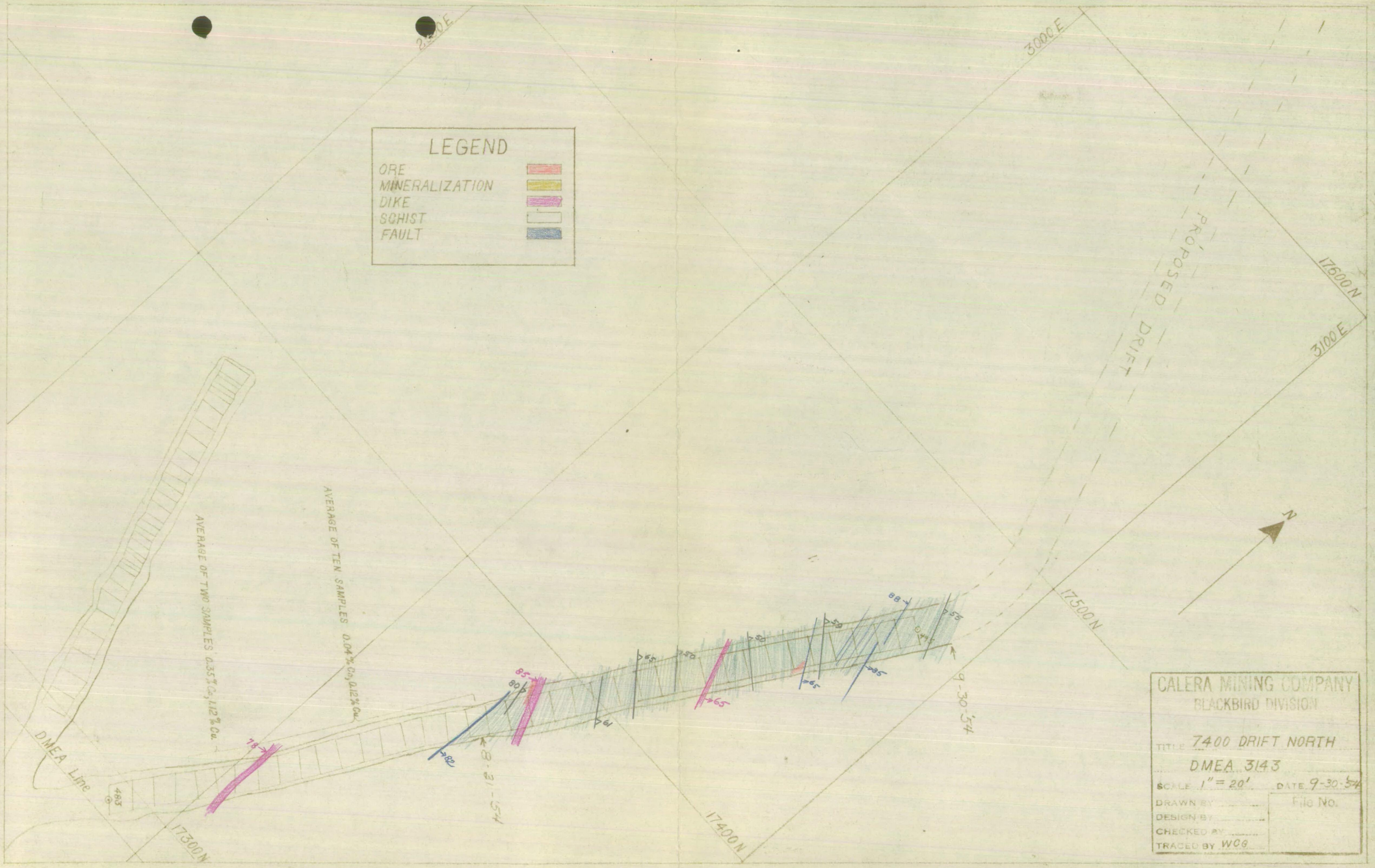


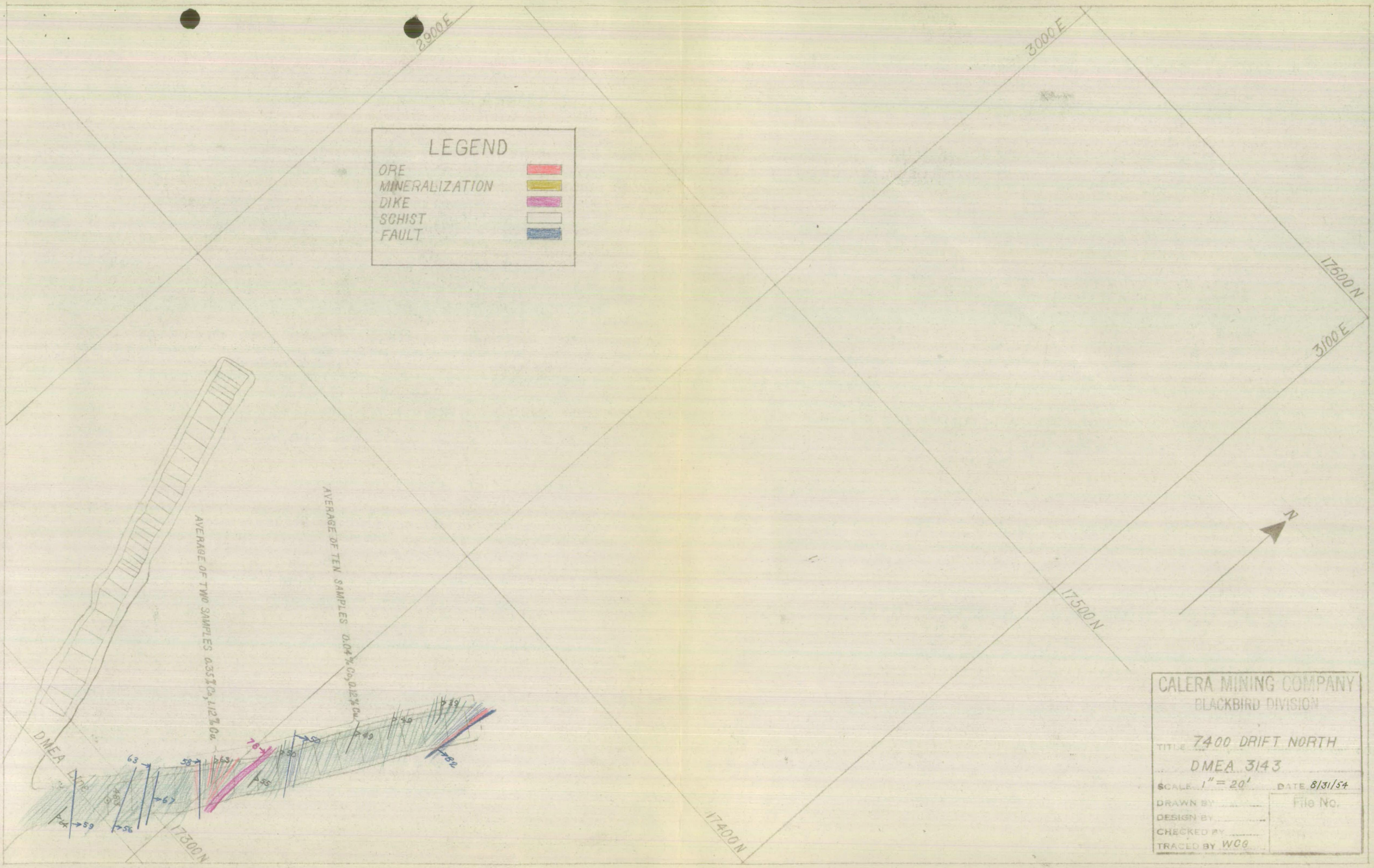
CALERA MINING COMPANY
BLACKBIRD DIVISION

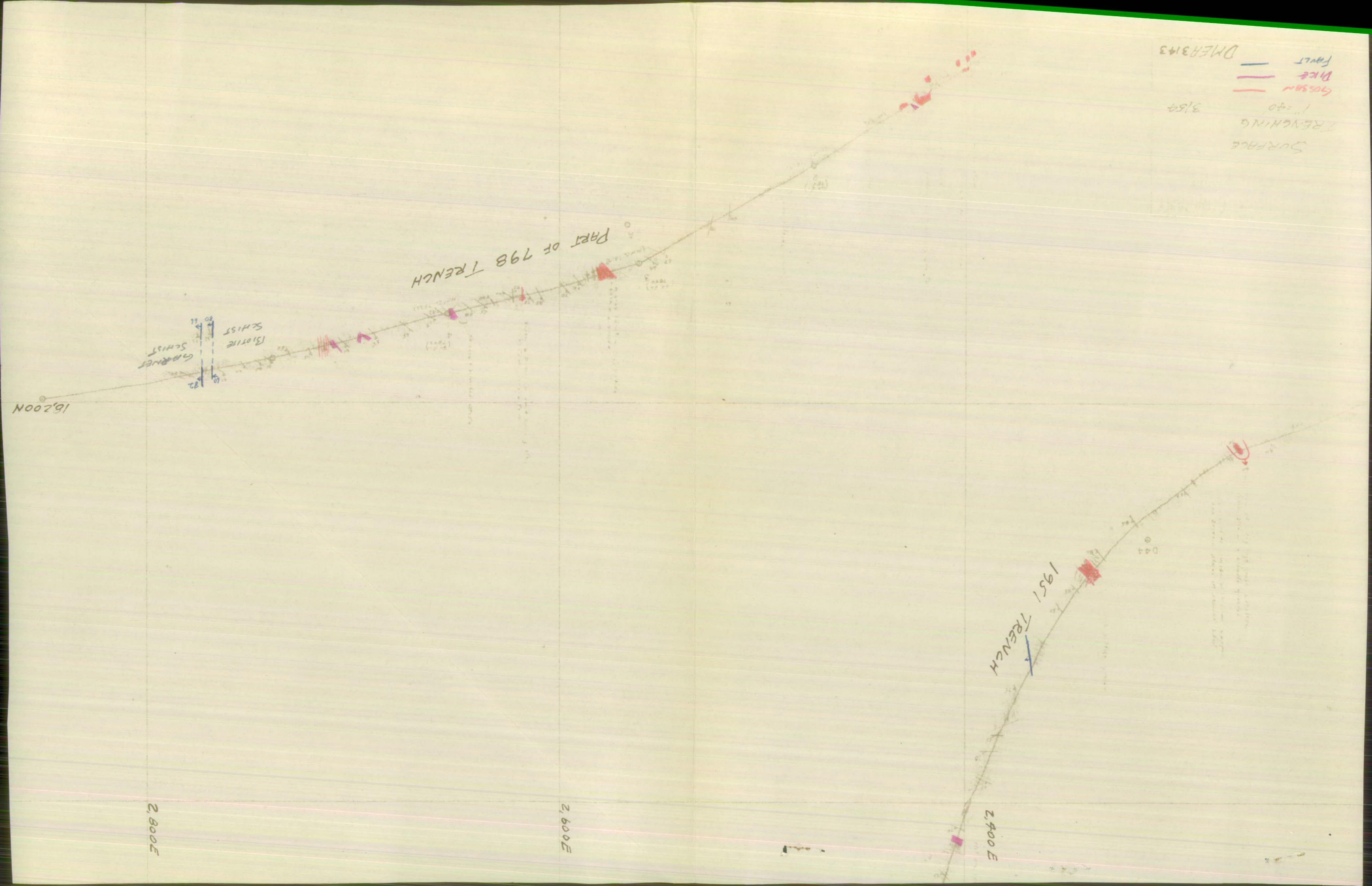
TITLE: 7400 DRIFT NORTH
DMEA 3143

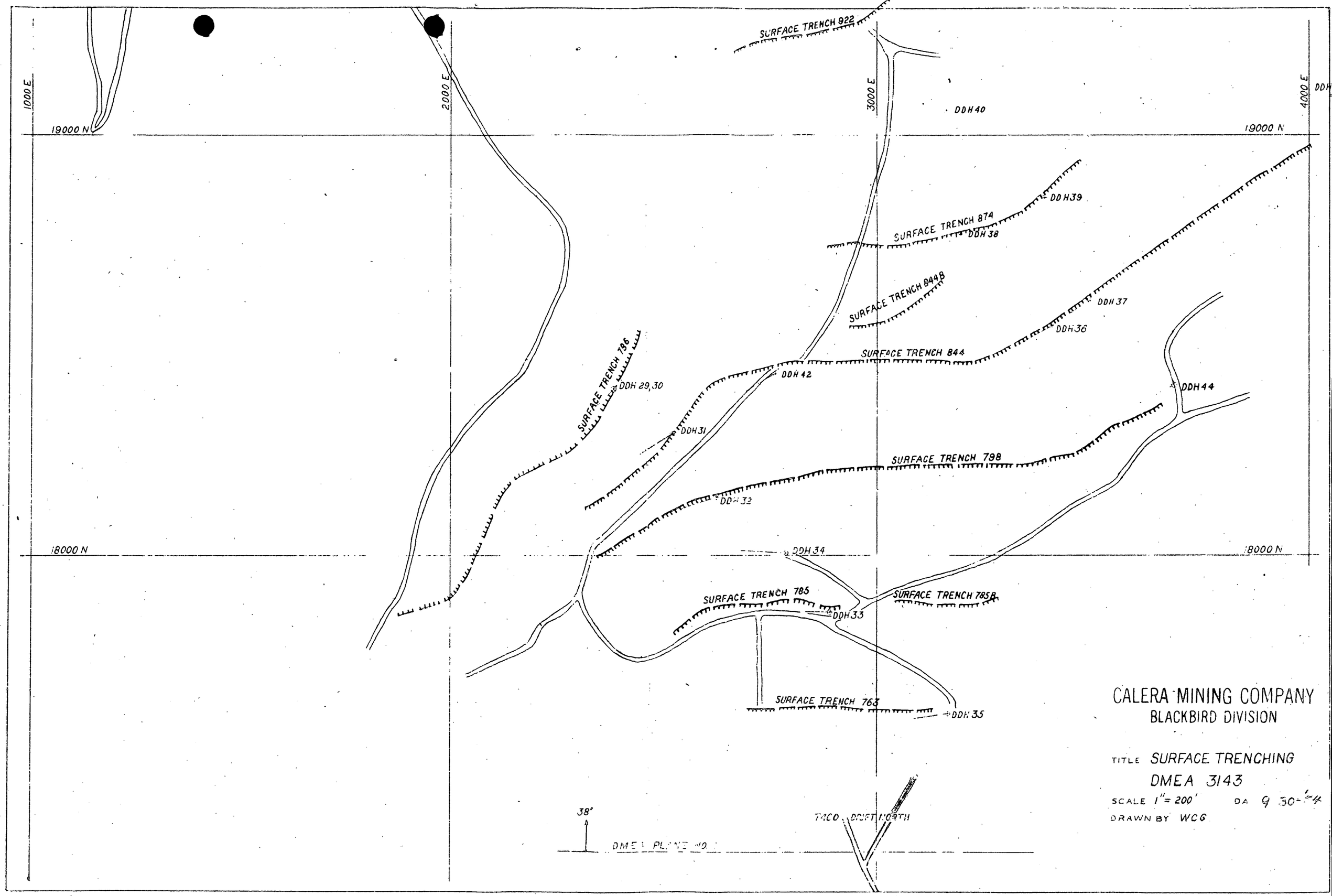
SCALE 1" = 20' DATE 10-31-54
DRAWN BY
DESIGN BY
CHECKED BY
TRACED BY WOO
File No.

Mf-104 p
Dmea 3143
Adm. C 645-
October, 1954


2,300 E
3000 E
3100 E
17600 N
17500 N
17400 N
17300 N
LEGEND
ORE
MINERALIZATION
DIKE
SCHIST
FAULT
PROPOSED DRIFT
AVERAGE OF TWO SAMPLES 0.35% Co, 1.12% Cu.
AVERAGE OF TEN SAMPLES 0.04% Co, 0.12% Cu.
DMEA Line
483
78
82
85
80
61
65
50
50
65
59
88
56
35
8-31-54
9-30-54
N
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE 7400 DRIFT NORTH
DMEA 3143
SCALE 1" = 20'
DATE 9-30-54
DRAWN BY
DESIGN BY
CHECKED BY
TRACED BY WCG
File No.


2900 E
3000 E
3100 E
17600 N
17500 N
17400 N
17300 N
LEGEND
ORE
MINERALIZATION
DIKE
SCHIST
FAULT
N
AVERAGE OF TWO SAMPLES 0.35% Co, 1.12% Cu
AVERAGE OF TEN SAMPLES 0.04% Co, 0.12% Cu
DMEA Line
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE 7400 DRIFT NORTH
DMEA 3143
SCALE 1" = 20'
DATE 8/31/54
DRAWN BY
DESIGN BY
CHECKED BY
TRACED BY WCG
File No.


2,800E
2,600E
2,400E
16,200N
16,200N
1951 TRENCH
PART OF 1988 TRENCH
Chromite Schist
Biotite Schist
SURFACE
TRENCHING
1" = 40'
3/84
Gossan
Pyrite
Fault
DMEA3143


1000 E
2000 E
3000 E
4000 E
19000 N
18000 N
SURFACE TRENCH 922
DDH40
DDH39
SURFACE TRENCH 874
DDH38
SURFACE TRENCH 844B
DDH37
DDH36
SURFACE TRENCH 844
DDH42
DDH44
SURFACE TRENCH 786
DDH29,30
DDH31
SURFACE TRENCH 798
DDH32
DDH34
SURFACE TRENCH 785
SURFACE TRENCH 785B
DDH33
SURFACE TRENCH 763
DDH35
38°
TACO DRIFT NORTH
DMEA PLANE NO.
CALERA MINING COMPANY
BLACKBIRD DIVISION
TITLE SURFACE TRENCHING
DMEA 3143
SCALE 1" = 200'
DA 9 30-54
DRAWN BY WCG

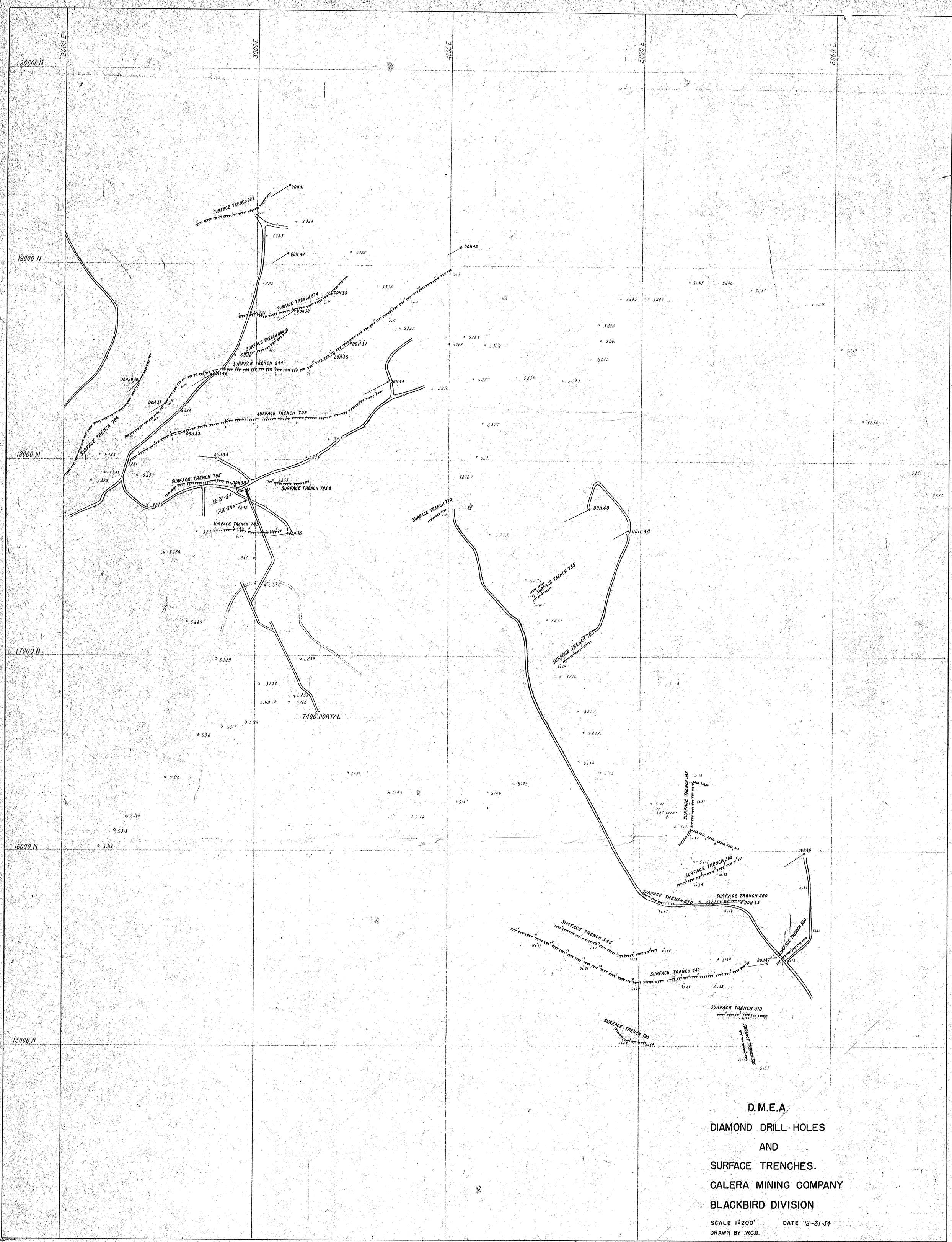
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS

EXPLORATION ADMINISTRATION

WASHINGTON 25, D. C.

OFFICIAL BUSINESS



D.M.E.A.

DIAMOND DRILL HOLES

AND

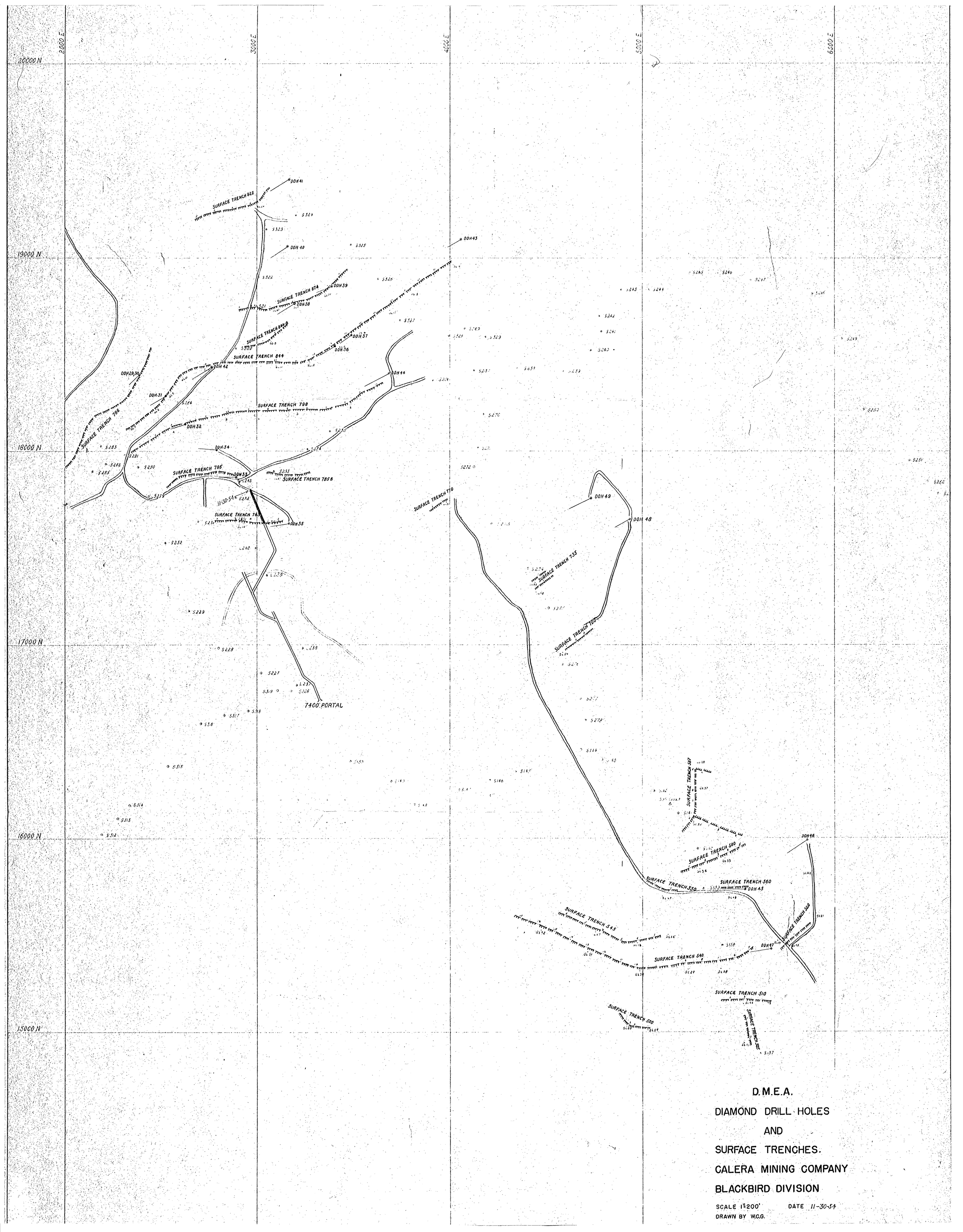
SURFACE TRENCHES.

CALERA MINING COMPANY

BLACKBIRD DIVISION

SCALE 1" = 200' DATE 12-31-54

DRAWN BY W.C.G.



D.M.E.A.

DIAMOND DRILL HOLES

AND

SURFACE TRENCHES.

CALERA MINING COMPANY

BLACKBIRD DIVISION

SCALE 1"=200' DATE 11-30-54

DRAWN BY W.C.G.

2000 E
3000 E
4000 E
5000 E
6000 E
7000 E
8000 E
20000 N
19000 N
18000 N
17000 N
16000 N
15000 N
14000 N
13000 N
12000 N
SURFACE TRENCH 922
DDH 41
DDH 40
DDH 43
SURFACE TRENCH 874
DDH 39
DDH 38
SURFACE TRENCH 849
DDH 37
DDH 36
SURFACE TRENCH 844
DDH 42
DDH 44
DDH 29
DDH 31
SURFACE TRENCH 798
SURFACE TRENCH 786
DDH 30
DDH 34
SURFACE TRENCH 785
DDH 33
SURFACE TRENCH 785B
SURFACE TRENCH 765
DDH 35
SURFACE TRENCH 770
DDH 48
SURFACE TRENCH 735
SURFACE TRENCH 700
7400 PORTAL
SURFACE TRENCH 660
DDH 46
SURFACE TRENCH 560
SURFACE TRENCH 550
SURFACE TRENCH 560
DDH 45
SURFACE TRENCH 524
SURFACE TRENCH 545
DDH 47
SURFACE TRENCH 510
SURFACE TRENCH 510
SURFACE TRENCH 510
SURFACE TRENCH 510
DIAMOND DRILL HOLES
AND
DMEA SURFACE TRENCHES
CALERA MINING COMPANY
BLACKBIRD DIVISION
SCALE 1" = 200'
DATE OCT. 31, 1954
DRAWN BY JCG