CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the Edwin Noel Pennebaker Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

CONSOLIDATED COPPERMINES CORPORATION MEMORANDUM

FROM John Hope, Chief Geologist CITY Nogales, Arizona

TO E. N. Pennebaker, Consulting Geologist DATE August 16, 1951

SUBJECT SUMMARY OF DRILLING CONDITIONS AND HISTORY OF ALL HOLES DRILLED ON SAFFORD PROJECT.

On your request, a summary is hereby presented of the drilling history for each hole drilled to date on the Safford Project. Special emphasis is given to the present condition of the hole, its ability to hold a 500 foot column of water, the location of casing and any deflection wedges, and the possibilities of reentering the holes for geophysical work or possible deepening. These data are given as follows for each hole in order of their being drilled:

Churn Drill Hole S-1:

Started:	September 22, 1949
Completed:	October 13, 1949
Depth:	615 feet (abandoned)
Hole Size:	14" dia. to 10 feet 12" dia. to 255 feet 10" dia. to 615 feet
Casing:	No casing required. Only 10 feet of 14" collar pipe set.
Hole Condition:	Deepening of hole or geophysical work probably impossible since 3 feet of 8" drill stem was left in bottom of hole. Would hold moderate column of water.

Churn Drill Hole S-2:

Started:	October 15, 1949
Completed:	November 23, 1949 (912 feet)
Depth:	912 feet (churn drilling impossible. Hole deepened by diamond drilling)
Hole Size:	12" dia. to 2½ feet 10" dia. to 235 feet 8¼" dia. to 912 feet
Casing:	No casing required. Only 2½ feet of 12" collar pipe set.
Hole Condition:	At about 880 feet, hole took off on open fracture. Was shot numerous times in an attempt to straighten same. Would not hold water at 912 feet. Churn drilling abandoned at that point and hole deepened by diamond drilling. See diamond drill hole SD-2 for continuation.

RECEIVED
SEP 9 - 1951
E. N. PENNEBAKER

CONSOLIDATED COPPERMINES CORPORATION MEMORANDUM

FROM John Hope, Chief Geologist CITY Nogales, Arizona

TO E. N. Pennebaker, Consulting Geologist DATE August 16, 1951

SUBJECT SUMMARY OF DRILLING CONDITIONS AND HISTORY OF ALL HOLES DRILLED ON SAFFORD PROJECT.

Diamond Drill Hole SD-2:

Started:	December 2, 1949
Completed:	January 19, 1950
Depth:	1134 feet
Hole Size:	To 912 feet, see S-2 above BX to 1134 feet
Casing:	0 to 2½ feet, 14" collar pipe 0 to 130 feet, BX casing 130 to 898 feet, 2½" I.D. pipe
Casing Left in Hole:	838 to 898 feet - 2½" I.D. pipe Also 20 feet BX casing reported left in hole, location of this is uncertain.
Hole Condition:	Hole is open to 1134 feet but will not hold water. Could be deepened by running AX casing and continuing AX.

Diamond Drill Hole SD-4:

Started:	February 6, 1950
Completed:	February 18, 1950
Depth:	587 feet
Hole Size:	3½" to 6 feet NX to 383 feet BX to 587 feet
Casing:	0 to 5.5 feet - 3" pipe 0 to 383 feet - BX casing
Casing Left in Hole:	0 to 5.5 feet - 3" pipe 253 to 383 feet - BX casing
Hole Condition:	Hole is open to about 570 feet. Was drilled to 587 feet, then cemented because of water loss. None of this cement was drilled out. Hole would probably hold about 300 foot column of water. Could be deepened BX size.

Diamond Drill Hole SD-4A:

Started:	February 23, 1950
Completed:	March 18, 1950

CONSOLIDATED COPPERMINES CORPORATION MEMORANDUM

FROM John Hope, Chief Geologist CITY Nogales, Arizona

TO E. N. Pennebaker, Consulting Geologist DATE August 16, 1951

SUBJECT SUMMARY OF DRILLING CONDITIONS AND HISTORY OF ALL HOLES DRILLED ON SAFFORD PROJECT.

Depth:	892 feet
Hole Size:	3½" to 3 feet NX to 221.1 feet BX to 892.0 feet
Casing:	0 to 3 feet - 3" pipe 0 to 221 feet - BX casing
Casing Left in Hole:	0 to 3 feet - 3" pipe 71 to 221 feet - BX casing
Hole Condition:	Hole open to 892 feet. Hole will hold 500 foot column of water. Could be deepened BX size.

Diamond Drill Hole SD-6:

Started:	May 12, 1950
Completed:	September 23, 1950
Depth:	1630 feet
Hole Size:	3½" to 9 feet NX to 171 feet BX to 1630 feet
Deflection Wedges and Obstructions:	At 293 feet, rods and core barrel were accidentally cemented in hole. Rods were recovered to 240 feet, leaving the hole plugged with rods and cement between 240 and 293 feet. Deflection wedge was set at 238 feet and the hole diverted beginning at 228 feet. (See "Hole Condition" for additional obstruction)
Casing:	0 to 9 feet - 3" pipe 0 to 171 feet - BX casing
Casing Left in hole:	0 to 9 feet - 3" pipe 0 to 171 feet - BX casing
Hole Condition:	Hole is plugged at 230 feet, caused by above mentioned deflection wedge. Driller advises that he passed A rods thru obstruction but could not pass BX tools. Did not retry passing A rods but this might be possible. If this can be done, hole could be deepened by setting A rods to bottom of hole and over-reaming obstruction out using AX casing and casing bit. Then set AX casing to bottom of hole and continuing AX hole.

FROM John Hope, Chief Geologist CITY Nogales, Arizona

TO E. N. Pennebaker, Consulting Geologist DATE August 16, 1951

SUBJECT SUMMARY OF DRILLING CONDITIONS AND HISTORY OF ALL HOLES DRILLED ON SAFFORD PROJECT.

For geophysical work, it may prove possible to pass EX plastic casing thru obstruction.

Except for this obstruction, the hole is in good condition to the bottom and would hold a 500 foot column of water.

Diamond Drill Hole SD-7:

Started:	October 9, 1950
Completed:	January 11, 1951
Depth:	1930 feet
Hole Size:	3½" to 18 feet NX to 347 feet BX to 1930 feet
Casing:	0 to 18 feet - NX casing 0 to 347 feet - BX casing
Casing Left in Hole:	0 to 18 feet - NX casing 0 to 347 feet - BX casing (No attempt was made to recover casing because of possible geophysical work)
Hole Condition:	Hole is open to 1930 in good condition and will hold 500 foot column of water. Could be deepened BX size by larger rig.

Diamond Drill Hole SD-8:

Started:	January 22, 1951
Completed:	May 10, 1951
Depth:	1880.8 feet
Hole Size:	3½" to 31 feet NX to 320 feet BX to 675 feet AX to 1880.8 feet
Casing:	0 to 31 feet - 3½" pipe (?) 0 to 320 feet - BX casing 0 to 675 feet - AX casing
Casing Left in Hole:	0 to 31 feet - 3" pipe 250 to 320 feet - BX casing 25 to 675 feet - AX casing (no attempt was made to recover additional AX casing because of possible geophysical work)

CONSOLIDATED COPPERMINES CORPORATION MEMORANDUM

FROM John Hope, Chief Geologist CITY Nogales, Arizona

TO E. N. Pennebaker, Consulting Geologist DATE August 16, 1951

SUBJECT SUMMARY OF DRILLING CONDITIONS AND HISTORY OF ALL HOLES DRILLED ON SAFFORD PROJECT.

Hole Condition: Hole is open to 1880.8 feet in good condition and will hold 500 foot column of water. Could be deepened AX size by larger rig.

Diamond Drill Hole SD-10: (To date)

Started:	May 21, 1951
Depth to date:	742 feet
Hole Size:	3½" to 8 feet NX to 360 feet BX to 742 feet
Casing:	0 to 8 feet - 3" pipe 0 to 360 feet - BX casing
Hole Condition:	BX tools were mudded in at 666 feet. Rods were recovered to 612 feet and a deflection wedge set at 609 feet. Hole was deflected and drilled to 774 feet where wedge came loose and new section of hole lost. Wedge was removed and the hole again deflected by rods at 612 feet and redrilled to 742 feet. At that point, a cave again sanded in or stuck the tools, but all rods have been removed and the core barrel milled out. At the date of this writing, only the last 12 inches of core barrel and the bit and shell remain to be removed to clear the hole. However, these are tight and attempts to pull them are, to date, unsuccessful. It has been recommended that the factory built wedge be used and the hole again deflected. Once the wedge is passed, the hole must be cased off because of swelling ground between 660 and 690 feet.

- - - - - - - - - - -

A diagram of each hole illustrating hole size, location of casing, and location of any obstruction will be prepared shortly to accompany this memorandum.

John Hope

John Hope

JH/hh

P. O. Box 1451
Nogales, Arizona
August 31, 1951

Mr. E. N. Pennebaker
P. O. Box 817
Scottsdale, Arizona

Dear Penny:

Please find enclosed three copies of the drill hole diagrams of the holes drilled to date on the Safford project. This is to accompany my memorandum regarding same of August 16th.

The hole sizes are shown together with any casing left in the holes and any obstructions that might prevent geophysical testing or deepening.

Best regards,

John

John Hope

JH/me
Encls.

cc - Mr. A. J. O'Connor(w/encl.)
Mr. J. Frank Sharp(w/encl.)

RECEIVED
SEP 9 - 1951
E. N. PENNEBAKER

SD #10

774' - 983' (209') Qtz porphyry. Granular silic - veinlets + specks limonite alter a mixture of Cc & Py. Quality of capping is good
Good veinlet structure

983 - 1006 Diorite. Veinlets FeO_{2-3} alter Py + Cc. Some ox chl.
Rather abt green chlor.
Quality capping - good to fair
Good veinlet structure

1006' - 1154' Diorite - Good veinlets
Ox. cc & py. Some Fe_2O_3 alter chlorite, some green chlorite
Assay auer. ± 0.40% (sledge assay)

1154' - 1276' Diorite? Partly ox with scattered sulphs. Mostly py (ox sulphs. Ox. moderate
Assay core ± 0.25 Cu. Py in gray qtz veinlets - Gn about half oxidized -

1276 - 1449' Heavy silic - Dior or qtz porph? Dense silic. Fair number of veinlets with dense gray qtz + pyrite. Only a little Cc. Gn. all sulphs.

At bottom very dense silic numerous tight thin veinlets with py

RECEIVED
JUN 23 1951
E. N. PENNEBAKER

June 22, 1951
P. O. Box 1451
Nogales, Arizona

Mr. E. N. Pennebaker
P. O. Box 817
Scottsdale, Arizona

Dear Penny:

Please find enclosed a copy of the new claim map of the Safford project. The different property groups are shown in various colors.

The discovery work is still being done on the Milo Nos. 5, 6, 11, 12, 13, 14, 15, 16, and 17 claims. However, they are shown as "perfected" since this work will be completed within a short time.

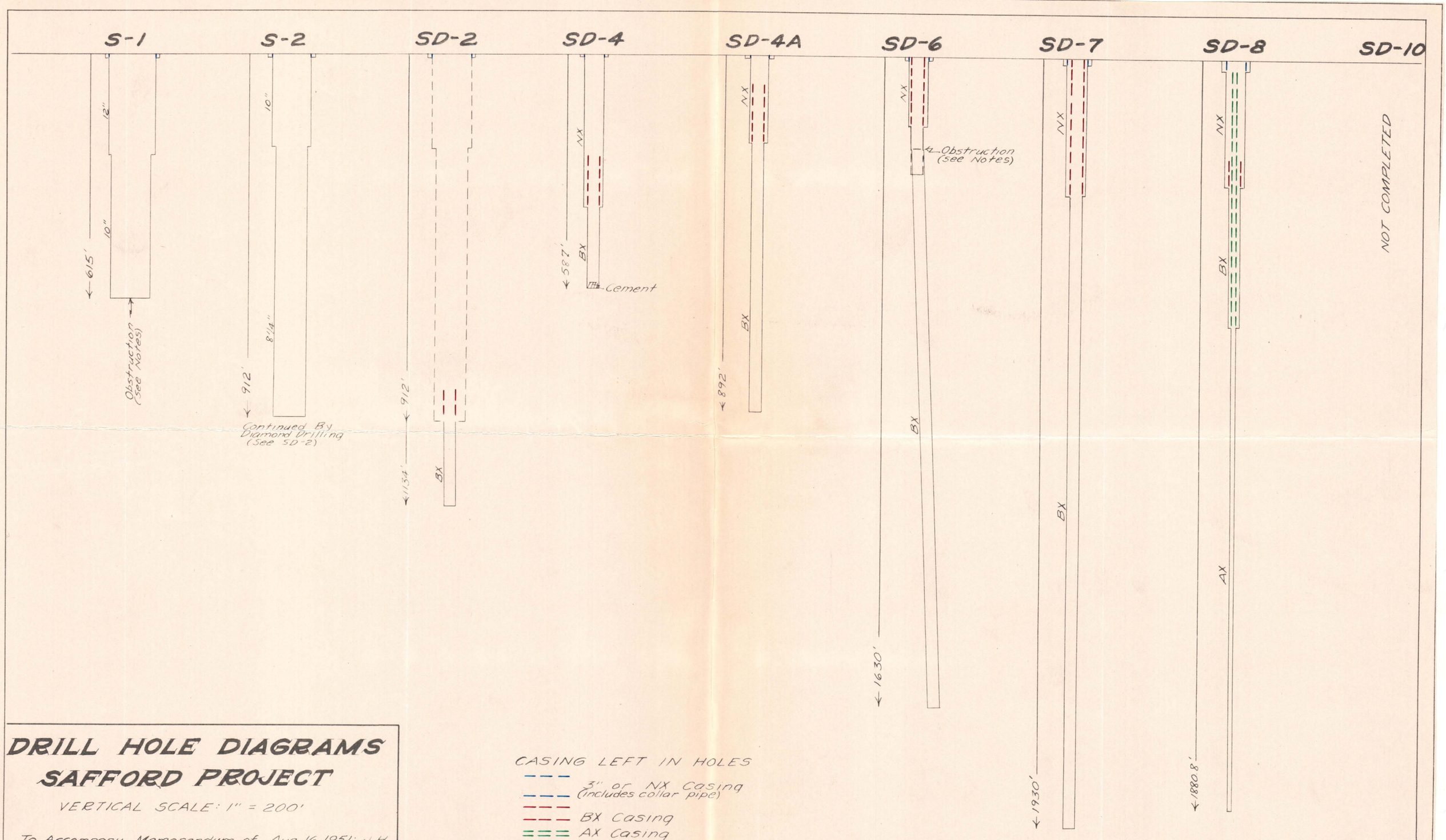
You will note that the date of location is given in red ink for each of Coppermines' claims.

Best regards,

John

John Hope

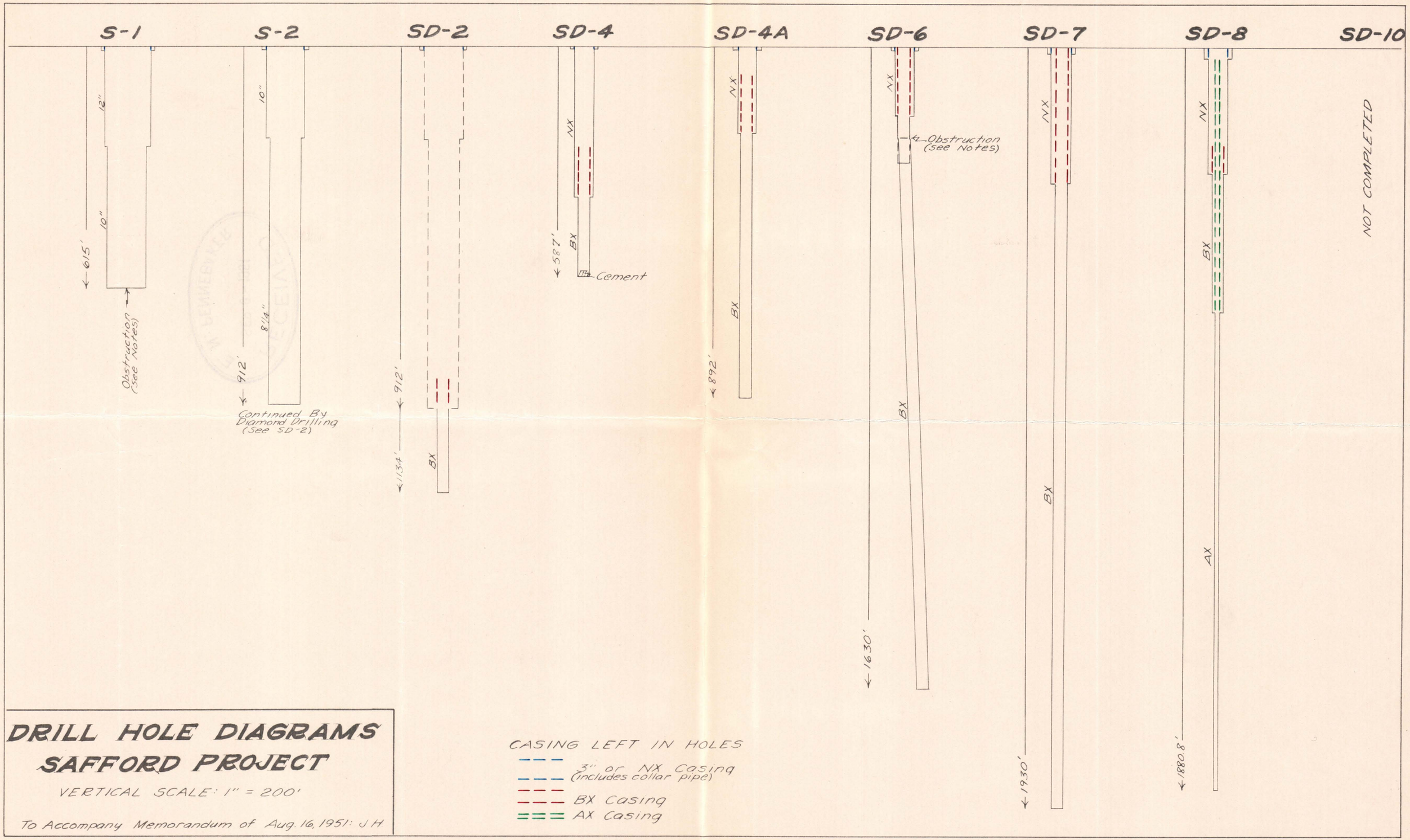
JH/me
Encl.
cc - Mr. Chester D. Tripp (w/encl.)
Mr. Thomas G. Moore (w/encl.)
Mr. A. J. O'Connor (w/encl.)



DRILL HOLE DIAGRAMS
SAFFORD PROJECT

VERTICAL SCALE: 1" = 200'

To Accompany Memorandum of Aug. 16, 1951: J H

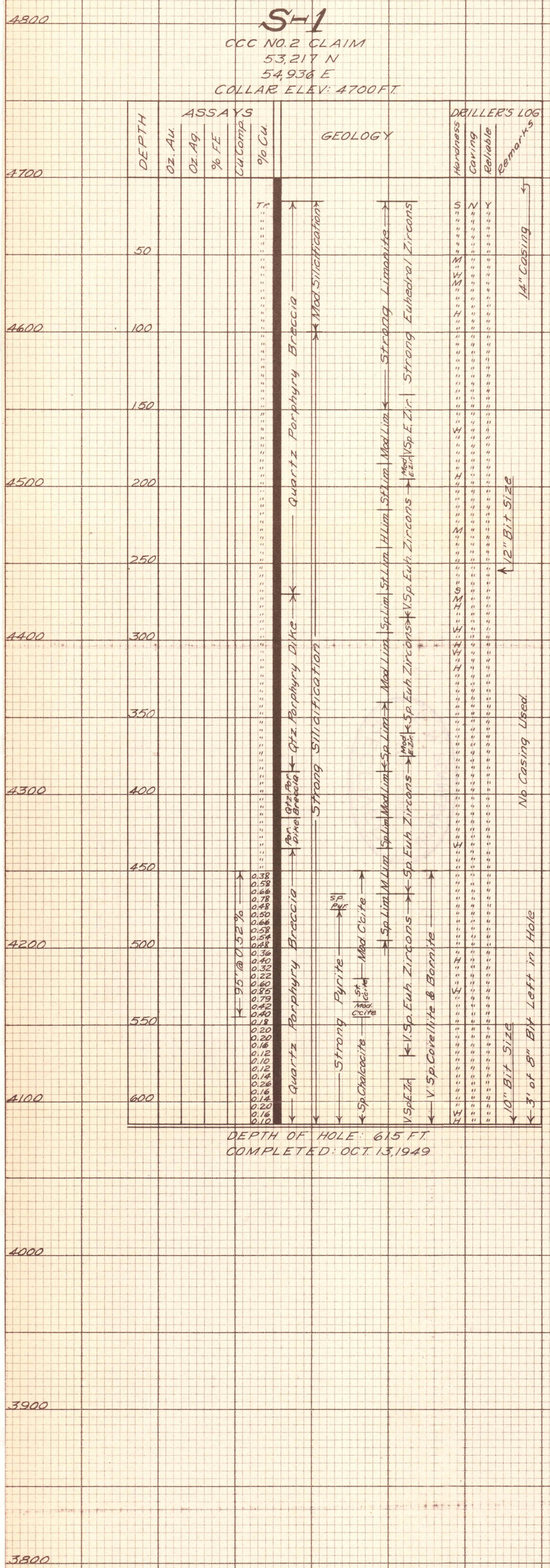


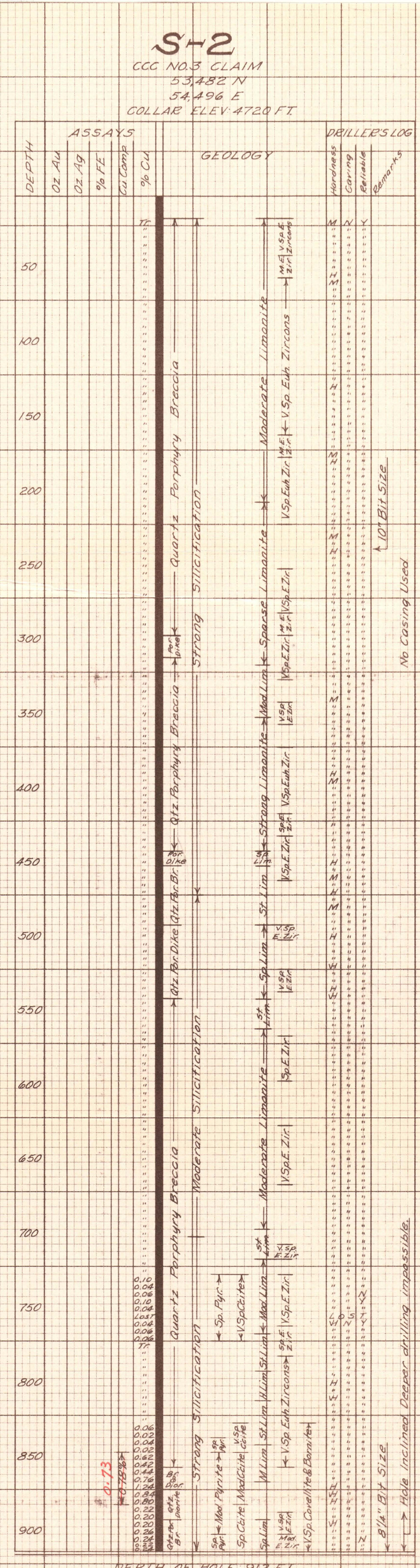
DRILL HOLE DIAGRAMS
SAFFORD PROJECT

VERTICAL SCALE: 1" = 200'

To Accompany Memorandum of Aug. 16, 1951: J H

RECEIVED
SEP 9 - 1951
E. N. PENNEBAKER





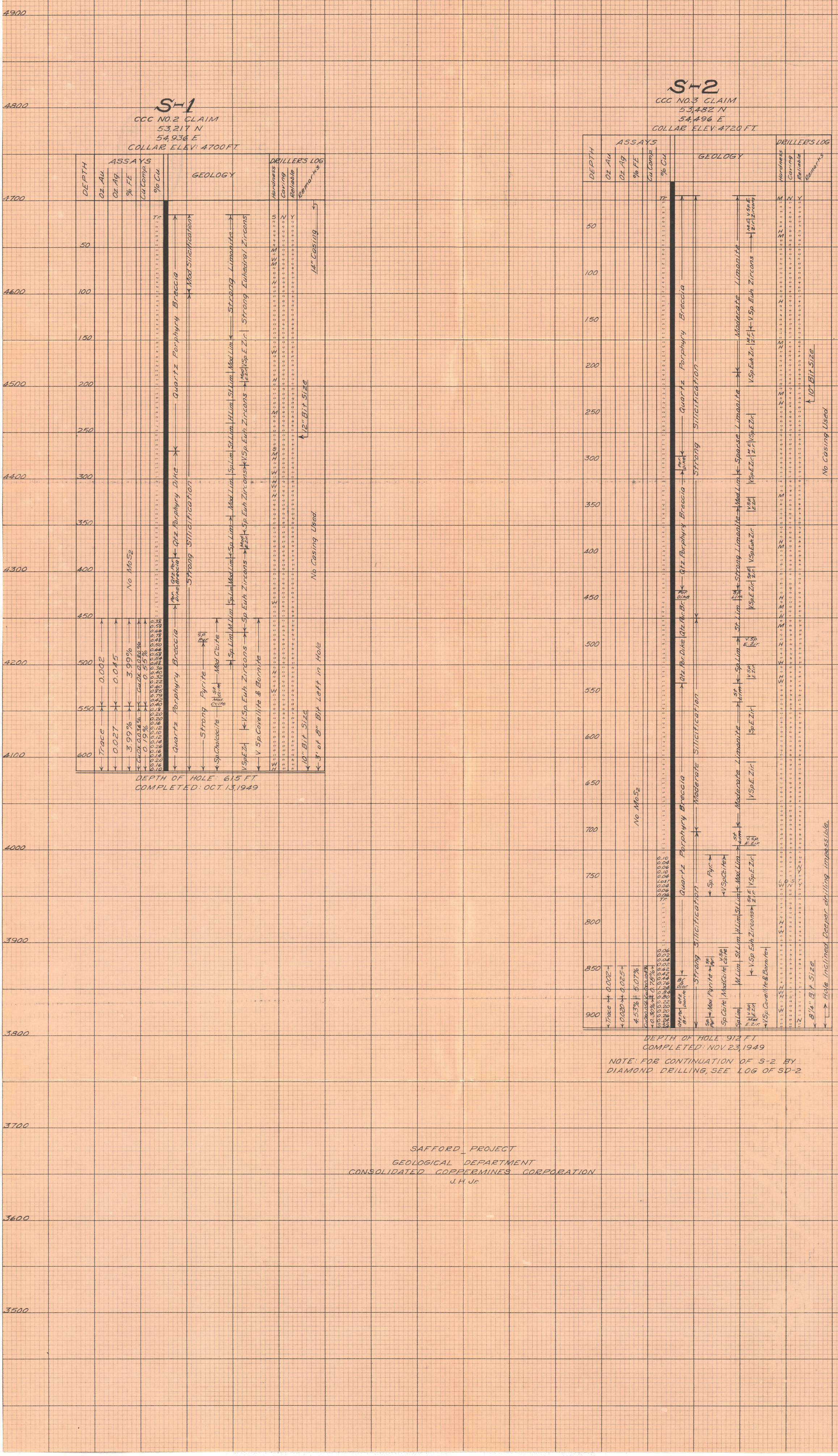
NOTE: FOR CONTINUATION OF S-2 BY DIAMOND DRILLING, SEE LOG OF SD-2

SAFFORD PROJECT
GEOLOGICAL DEPARTMENT
CONSOLIDATED COPPERMINES CORPORATION
J. H. Jr.

RECEIVED
FEB 28 1950
E. N. PENNEBAKER

Logs Of Safford Churn Drill
Holes 5-1 & 5-2

RECEIVED
FEB 28 1950
F. N. PENNEBAKER


S-1
CCC NO.2 CLAIM
53,217 N
54,936 E
COLLAR ELEV: 4700 FT.
DEPTH
ASSAYS
Oz. Au.
Oz. Ag.
% FE
Cu. Comp.
% Cu.
GEOLOGY
DRILLER'S LOG
Hardness
Caving
Reliable
Remarks
Quartz Porphyry Breccia
Mod. Silicification
Strong Limonite
Strong Euhedral Zircons
Quartz Porphyry Dike
Strong Silicification
Qtz. Porphyry Breccia
Por. Dike
Strong Pyrite
Sp. Chalcocite
Mod. Calcite
Sp. Euh. Zircons
V. Sp. Corellite & Bornite
No MoS2
No Casing Used
14" Casing
12" Bit Size
10" Bit Size
3' of 8" Bit Left in Hole
DEPTH OF HOLE: 615 FT.
COMPLETED: OCT. 13, 1949
S-2
CCC NO.3 CLAIM
53,482 N
54,496 E
COLLAR ELEV: 4720 FT.
Quartz Porphyry Breccia
Moderate Silicification
Moderate Limonite
Sparse Limonite
Strong Limonite
Strong Silicification
Sp. Euh. Zircons
V. Sp. Euh. Zircons
Sp. Pyr.
V. Sp. Chalcocite
Mod. Pyrite
Sp. Calcite
Mod. Calcite
V. Sp. Corellite & Bornite
No MoS2
No Casing Used
10" Bit Size
8 1/4" Bit Size
Hole Inclined Deeper drilling impossible.
DEPTH OF HOLE: 912 FT.
COMPLETED: NOV. 23, 1949
NOTE: FOR CONTINUATION OF S-2 BY DIAMOND DRILLING, SEE LOG OF SD-2.
SAFFORD PROJECT
GEOLOGICAL DEPARTMENT
CONSOLIDATED COPPERMINES CORPORATION
J. H. Jr.

LOG 5-1 & 5-2

RECEIVED
APR 1 - 1950
E. N. PENNEBAKER

SHEET No. 1

DIAMOND DRILL HOLE

SD-7

STAR No. 19 CLAIM
55,127 N
55,620 E
COLLAR ELEV. : 4902 FEET

INCLINATION : VERTICAL

BEARING : ——

Column headings printed on the sheet: THEOR. WT. OF CORE | ACTUAL WT. OF CORE | % REC. BY WEIGHT | FEET CORE RECOVERY | % CORE REC. BY FEET | CORE ASSAYS: % CU., CU. COMP., OZ. AU., OZ. AG., % FE., % CU. OX. | THEOR. WT. OF SLUDGE | ACTUAL WT. OF SLUDGE X FACTOR | % MOISTURE OF SLUDGE | DRY WT. OF SLUDGE X FACTOR | % SLUDGE RECOVERY | SLUDGE ASSAYS: % CU., CU. COMP., OZ. AU., OZ. AG., % FE., % CU. OX | DEPTH | CORRECTED ASSAYS: % CU. OX, % FE., OZ. AG., OZ. AU., CU. COMP., % CU. | GEOLOGY | DRILLER'S LOG: BIT SIZE, CASING, CEMENT, REMARKS

Depth	Feet Core Recovery	% Core Rec. by Feet	Dry Wt. of Sludge X Factor	% Sludge Recovery	Sludge % Cu.	Corrected % Cu. Ox	Corrected % Cu.
18.0							
23.0	3.6	72.0				'	
28.0	4.1	82.0				'	
33.0	3.6	72.0				+	
38.0	3.7	74.0				+	
42.0	4.8	120.0				+	
48.0	4.9	81.2				+	
51.5	1.7	48.6				+	
53.8	1.8	78.3				+	
57.0	2.8	87.5				+	
60.3	3.2	97.0				+	
63.5	3.7	115.6				+	
69.0	4.8	87.3				+	
74.0	3.7	74.0				+	
78.0	2.7	67.5				+	
81.7	3.0	81.1				'	
86.5	4.1	85.4				(+)	
89.8	3.4	103.0				(+)	
96.1	5.9	93.7				+	
99.3	2.4	75.0				+	
101.0	1.5	88.2				+	
112.0			65.6	75.5	Tr	+	Tr
120.0			66.3	104.9	Tr	+	Tr
126.0	4.7	78.3				'	
129.3	3.0	90.9				+	
133.7	4.4	100.0				+	
136.8	2.6	83.9				+	
141.8	4.5	90.0				+	
148.5	6.5	97.0				+	
153.0	4.1	91.1				'	
156.7	3.1	83.8				+	
161.0	3.6	83.7				+	
166.0	4.6	92.0				+	
170.6	4.1	89.1				+	
175.7	5.0	98.0				+	
179.7	3.8	95.0				'	
184.7	5.0	100.0				+	
188.0	3.1	93.9				+	
191.6	3.0	83.3				+	
196.6	4.1	82.0				+	
201.5	4.7	95.9				+	
207.0	3.4	61.8				+	
213.7	3.4	50.7				+	
217.7	2.5	62.5				+	
225.0	2.7	37.0				+	
229.9	1.4	28.6				+	
231.2	0.6	46.2				+	
235.7	3.9	86.7				+	
237.5	1.1	61.1				+	
240.3	2.2	78.6				+	
244.5	2.7	64.3				+	
246.2	2.3	95.8				+	
249.6	2.1	77.8				+	
254.5	2.1	42.9				+	
259.8	2.3	43.4				+	
265.7	1.9	32.2				+	
270.6	3.3	67.3				+	
275.0	2.6	59.1				'	
279.1	2.8	68.3				'	
287.0	4.3	54.4				'	
293.4	2.1	32.8				'	
295.4	1.9	95.0				'	
302.0	1.5	22.7				'	
305.6	1.2	33.3				'	
309.5	3.1	79.5				'	
313.0	2.7	77.1				'	
315.4	0.9	37.5				'	
321.0	3.3	58.9				'	
323.0	2.2	110.0				'	
327.2	2.2	52.4				'	
330.3	2.8	90.3				'	
336.8	3.5	53.8				+	
341.7	5.6	114.3				+	
345.4	2.6	70.3				(+)	
347.0	1.4	87.5				(+)	
355.0	1.9	23.8				'	
365.0			40.7	84.8	Tr.	'	Tr
375.0			46.3	94.4	Tr.	'	Tr
387.7	4.6	36.2				'	
395.2	1.7	22.7				'	
400.4	5.1	98.1				+	
404.0	3.4	94.4				+	
409.0	2.9	58.0				+	
411.5	2.6	104.0				+	
416.7	3.5	67.3				+	
421.7	4.7	94.0				'	
425.4	2.2	59.5				+	
433.8	5.7	67.9				+	
440.4	4.1	62.1				+	
445.5	1.6	31.4				+	
450.6	1.4	27.5				'	
454.5	1.3	32.5				+	
465.5	3.4	31.2				'	
469.0	2.6	74.3				'	
471.0	1.0	50.0				+	
477.7	4.9	73.1				+	
482.4	2.8	59.6				+	
485.0	1.9	73.1				+	
489.8	2.3	47.9				'	
493.2	1.3	38.2				'	
501.7	3.0	35.3				'	
504.6	1.2	41.4				+	
511.3	2.7	40.3				+	
527.0	3.0	19.1				+	
542.0	0.9	6.0				+	
545.3	1.4	42.4				+	
550.0	1.6	34.0				+	
560.0	0.9	9.0	37.3	81.1	Tr.	+	Tr
566.8	1.4	20.6	32.2	112.3	Tr.	+	Tr
572.5	3.2	56.1	23.2	116.0	Tr	+	Tr
577.0	2.9	64.4	18.7	138.3	Tr.	+	Tr
582.0	4.4	88.0	10.9	78.3	Tr.	+	Tr
586.0	4.0	100.0	11.6	115.9	Tr.	+	Tr
592.4	2.9	45.3	16.1	68.0	Tr.	'	Tr
597.3	4.6	93.9	14.2	109.5	Tr.	+	Tr
604.3	6.0	85.7	14.8	74.8	Tr.	+	Tr
608.3	2.5	62.5	15.5	115.0	Tr.	'	Tr
614.6	4.4	69.8	19.3	95.6	Tr.	+	Tr
618.1	3.1	88.6	10.9	113.3	Tr.	'	Tr
622.0	2.1	53.8	14.8	107.1	Tr	+	Tr
630.0			29.6	77.0	Tr.	+	Tr
642.0	4.4	62.0	47.6	82.7	Tr	+	Tr
647.0			11.6	83.3	Tr.	'	Tr
657.0	2.6	65.0	46.4	96.5	Tr	'	Tr

Handwritten beside 175.7–191.6 and 240.3–254.5: In Frac

GEOLOGY (intervals, top to bottom):

ALLUV. (to 18.0)

QUARTZ PORPHYRY BRECCIA

MODERATE SILICIFICATION — STRONG SILICIFICATION — MOD. SILICIFICATION — STRONG SILICIFICATION — MODERATE SILICIFICATION — STRONG SILICIFICATION — MOD. SILIC.

V. SP. LIMON. — SP. LIMON. — MOD. LIM. — ST. LIM. — SPARSE LIMONITE — MOD. LIMON. — SP. LIM. — M. LIM — ST. LIM — SP. LIMONITE — MODERATE LIMONITE — SP. LIMON. — MODERATE LIMONITE — SPARSE LIMONITE — V. SP. LIM. — SPARSE LIMONITE

V. SP. CHALCOCITE LIMON. — SPARSE Cc. LIM. — ST. Cc. L. — SPARSE CHALCOCITE LIM. — MOD. CHALCOCITE LIMON. — ST. Cc. L. — V. SP. Cc. L. — MODERATE CHALCOCITE LIMONITE — SP. Cc. LIMON. — ST. Cc. LIM. — MOD. Cc. LIM. — SPARSE CHALCOCITE LIMONITE — MOD. Cc. L. — SP. CHALCOCITE LIMON. — V. SP. CHALCOCITE LIMONITE — SP. CHALCOCITE LIMONITE — MOD.

MODERATE KAOLINITE — SPARSE KAOLINITE — MODERATE KAOLINITE — SPARSE KAOLINITE — MODERATE KAOLINITE — SP. KAOL. — KAOLINITE — MODERATE KAOLINITE — SP. KAOL. — MOD. KAOL.

SPARSE SERICITE — MOD. SERICITE — SPARSE SERICITE — MODERATE SERICITE — SERICITE — SPARSE SERICITE — MOD. SER.

V. SP. CHL. — SPARSE CHLORITE — V. SP. CHLORITE — SPARSE CHLORITE — VERY SPARSE CHLORITE — SPARSE CHLORITE — VERY SPARSE CHLORITE — SP. CHL.

V. Sp. Eu Zr — VERY SPARSE EUHEDRAL ZIRCON — VERY SPARSE EUHEDRAL ZIRCON — VERY SPARSE

DRILLER'S LOG: NX — BX — BX; Non-coring Bit; Non-coring Bit; Non-coring Bit; INCLINATION - 90°

SEE SHEET No. 2

GEOLOGICAL DEPARTMENT
CONSOLIDATED COPPERMINES CORPORATION

SHEET No. 2

DIAMOND DRILL HOLE

SD-7

STAR No. 19 CLAIM
55,127 N
55,620 E

INCLINATION : VERTICAL

COLLAR ELEV. : 4902 FEET.

BEARING : ——

THEOR. WT. OF CORE	ACTUAL WT. OF CORE	% REC. BY WEIGHT	FEET CORE RECOVERY	% CORE REC. BY FEET	CORE ASSAYS % CU.	CU. COMP.	OZ. AU.	OZ. AG.	% FE	% CU OX.	THEOR. WT. OF SLUDGE	ACTUAL WT OF SLUDGE X FACTOR	% MOISTURE OF SLUDGE	DRY WT. OF SLUDGE X FACTOR	% SLUDGE RECOVERY	SLUDGE ASSAYS % CU.	CU. COMP.	OZ. AU.	OZ. AG.	% FE.	% CU. OX.	DEPTH	CORRECTED ASSAYS % CU. OX.	% FE	OZ. AG.	OZ. AU.	CU. COMP.	% CU.
														14.2	98.3	Tr.						660.0						Tr.
			2.6	65.0										14.2	106.8	Tr.						664.0						Tr.
			4.5	88.2										14.8	104.8	Tr.						669.1						Tr.
			2.4	53.2										15.5	95.9	Tr.						673.6						Tr.
			4.6	90.2										12.9	92.8	Tr						678.7						Tr
			2.1	55.1										9.0	67.0	Tr						682.5						Tr
			4.9	98.0										12.9	100.9	Tr						687.5						Tr
			4.9	92.5										16.1	113.2	Tr						692.8						Tr
			3.4	50.7										29.6	121.3	Tr						699.5						Tr
			5.1	78.5										17.4	89.1	Tr						706.0						Tr
			1.8	26.1										24.5	84.6	Tr						712.9						Tr
			5.1	100.0										14.2	110.9	Tr						718.0						Tr
			4.7	94.0										12.9	97.7	Tr						723.0						Tr
			3.9	78.0										16.5	111.3	0.06						728.0						0.06
			5.1	98.1										14.8	111.7	0.08						733.2						0.08
			4.9	96.1										15.5	116.3	0.06						738.3						0.06
			1.9	57.6										14.2	122.4	0.10						741.6						0.10
			4.7	92.2										9.0	65.7	0.12						746.7						0.12
			8.1	94.2										11.6	51.0	0.16						755.3						0.16
			4.8	71.6										19.3	91.1	0.54						762.0						0.54
			6.3	87.5										18.0	89.7	0.60						769.2						0.60
			7.9	95.2										19.3	89.2	0.72						777.5						0.72
			3.9	102.6										11.6	122.0	0.36						781.3						0.36
			6.5	84.4										21.9	99.5	0.64						789.0						0.64
			2.5	78.1										12.9	133.8	0.68						792.2						0.68
			3.0	65.2										7.1	46.6	0.34						796.8						0.34
			4.6	100.0										7.7	66.2	0.14						801.4						0.14
			5.0	82.0										10.3	57.7	0.16						807.5						0.16
			9.4	100.0										32.8	139.8	0.16						816.9						0.16
			4.1	80.4										11.6	77.0	0.12						822.0						0.12
			7.6	95.0										13.5	64.5	0.06						830.0						0.06
			6.0	92.3										16.1	92.3	0.14						836.5						0.14
			3.7	77.1										12.9	88.8	0.10						841.3						0.10
			7.3	90.1										10.3	46.6	0.10						849.4						0.10
			3.8	73.1										16.7	103.8	0.46						854.6						0.46
			9.9	97.1										20.6	78.5	0.74						864.8						0.74
			8.1	93.1										20.6	88.3	0.60						873.5						0.60
			9.7	95.1										14.2	53.0	0.44						883.7						0.44
			8.1	94.2										14.2	62.3	0.56						892.3						0.56
			5.4	94.7										3.1	20.6	0.38						898.0						0.38
8.0	87.0	3.2	80.0	0.66										6.2	52.4	0.50						902.0						0.66
20.0	86.2	9.7	96.0	1.04										19.0	72.5	0.44						912.1						1.04
20.1	84.9	9.7	94.2	0.96										16.4	60.3	0.46						922.4						0.96
12.3	87.6	5.6	91.8	1.02										10.3	65.2	1.18						928.5						1.02
21.3	91.7	9.8	97.0	0.84										6.2	24.9	0.46						938.6						0.84
18.2	98.9	7.8	97.5	0.90										22.6	111.8	0.88						946.6						0.90
														42.5	63.6	1.14						960.0						1.14
														41.0	85.5	0.96						970.0						0.96
22.0	95.7	9.8	98.0	0.80										15.4	60.3	0.80						980.0						0.80
21.2	92.2	9.6	95.0	0.84										18.9	71.8	0.90						990.1						0.84
21.9	92.4	10.0	97.1	0.96										18.5	69.6	1.10						1000.4						0.96
6.5	70.7	2.9	72.5	1.10										11.8	92.8	1.12						1004.4						1.10
21.8	84.3	9.9	96.1	0.82										16.9	63.1	0.92						1014.7						0.82
20.0	89.0	9.1	93.8	0.80										16.9	66.1	1.24						1024.4						0.80
12.2	82.5	5.4	87.1	0.52										10.8	62.0	0.60						1030.6						0.52
19.1	90.1	8.5	92.4	0.44										15.4	62.4	0.26						1039.8						0.44
7.6	63.5	3.3	63.5	0.24										10.3	59.0	0.20						1045.0						0.24
		4.5	86.6											10.3	70.2	0.22						1050.2						0.22
		6.6	95.6											11.8	65.7	0.34						1057.1						0.34
		2.3	95.8											7.2	115.0	0.36						1059.5						0.36
		2.9	87.9											7.2	78.2	0.46						1062.8						0.46
		2.6	83.8											4.1	32.2	0.34						1065.9						0.34
		2.4	63.1											1.0	8.0							1069.7						
		2.7	67.5											1.0	7.9	0.38						1073.7						0.38
														33.8	62.4	0.88						1085.0						0.88
		1.1	22.4											7.2	34.2	0.40						1089.9						0.40
														73.8	102.4	0.38						1105.0						0.38
		2.7	55.2											9.7	56.2	0.13						1109.9						0.13
														65.6	90.5	0.15						1125.0						0.15
		8.0	78.5											18.5	60.2	0.26						1135.2						0.26
														65.6	92.4	0.65						1150.0						0.65
		4.8	92.3											10.8	77.7	0.57						1155.2						0.57
														51.8	71.2	0.43						1170.0						0.43
		6.2	80.5											14.9	66.1	0.25						1177.7						0.25
														44.6	52.4	0.48						1195.0						0.48
		5.1	78.4											12.3	61.5	0.48						1201.5						0.48
														17.4	56.3	0.49						1210.0						0.49
		6.3	79.8											17.4	73.0	0.39						1218.0						0.39
														67.7	82.8	0.62						1235.0						0.62
		1.8	40.0											17.4	99.7	0.45						1239.5						0.45
														39.3	52.8	0.39						1255.0						0.39
		2.2	39.2											6.2	28.2	0.28						1260.6						0.28
														48.2	69.7	0.37						1275.0						0.37
		0.9	21.9											3.6	20.4	0.33						1279.1						0.33
														91.8	120.2	0.33						1295.0						0.33
		0.8	23.5											9.2	63.7	0.36						1298.4						0.36
														67.7	84.9	0.27						1315.0						0.27
		1.4	27.4											10.8	50.8	0.25						1320.1						0.25
														28.7	40.2	0.31						1335.0						0.31
		1.9	27.9											17.4	61.5	0.29						1341.8						0.29
														33.8	38.7	0.31						1360.0						0.31
		3.4	51.6											14.4	60.3	0.43						1366.6						0.43
														47.2	73.4	0.48						1380.0						0.48
		1.0	27.7											7.2	49.2	0.43						1383.6						0.43
														58.4	74.3	0.32						1400.0						0.32
		1.1	12.2											17.9	44.1	0.24						1409.0						0.24
														69.7	90.8	0.27						1425.0						0.27
		1.3	27.1											3.1	15.3	0.32						1429.8						0.32
														51.8	70.5	0.24						1445.0						0.24
		1.5	30.0											7.7	37.4	0.48						1450.0						0.48
														58.4	81.0	0.27						1465.0						0.27
		3.1	54.3											7.7	37.9	0.50						1470.7						0.50
														39.0	57.6	0.34						1485.0						0.34
		1.5	28.3											20.0	90.8	0.36						1490.3						0.36
														47.7	67.5	0.37						1505.0						0.37
		3.3	64.7											10.8	63.5	0.29						1510.1						0.29
														22.0	46.0	0.31						1520.0						0.31
		2.3	45.1											10.3	53.4	0.20						1525.1						0.20
														20.5	43.2	0.23						1535.0						0.23
		0.9	45.0											6.2	82.0	0.24						1537.0						0.24
														60.5	70.0	0.22						1555.0						0.22
		1.8	31.0											18.5	77.8	0.25						1560.8						0.25
														26.7	60.6	0.25						1570.0						0.25
		1.4	38.8											7.7	54.4	0.26						1573.6						0.26
														42.0	53.3	0.28						1590.0						0.28
		3.3	73.3											4.1	29.2	0.31						1594.5						0.31
		2.5	31.2											10.8	33.0	0.25						1602.5						0.25
														26.1	31.1	0.25						1620.0						0.25
		3.7	45.1											28.2	91.4	0.29						1628.2						0.29
														72.2	89.5	0.38						1645.0						0.38
		4.1	55.4											15.4	58.7	0.31						1652.4						0.31
														84.5	100.0	0.42						1670.0						0.42
		4.2	84.0											25.6	178.4	0.34						1675.0						0.34
														84.7	117.7	0.34						1690.0						0.34
		7.5	76.5											28.7	96.3	0.52						1699.8						0.52

GEOLOGY

MOD. SILICIFICATION — MOD. Cc. L. — ST. Cc. L. — LIMON. — MOD. KAOLINITE — MOD. SERICITE

STRONG SILICIFICATION — LIMONITE — MOD. CHALCOCITE — LIM. — VERY SPARSE CU. OX. & SIL. — MODERATE KAOLIN. — SPARSE SERICITE — CHLORITE

H. SILIC. — SPARSE — CHALCOCITE — MODERATE CU. OX. AND SILIC. — V. SP. KAOL. — SPARSE KAOL. — V. SP. SER. — SPARSE

STRONG SILICIFICATION — V. SP. LIM. — V. SP. Cc. LIMON. — SPARSE — V. SP. CU. OX & SIL. — SPARSE KAOLINITE — SPARSE SERICITE — MOD. CHLORITE — ZIRCON

STRONG SILICIFICATION — SP. LIMONITE — SP. Cc. LIMON. — MOD. CU. OX. AND SILICATES — SPARSE KAOLINITE — SPARSE — V. SP. CHLOR. — EUHEDRAL

HEAVY SILICIFICATION — SPARSE LIMONITE — V. SP. Cc. LIM. — STRONG CU. OXIDES & SILICATES — VERY SPARSE KAOLINITE — SERICITE — VERY SPARSE

EX. HEAV. SIL. — VERY SPARSE LIMONITE — CHALCOCITE LIMONITE — SP. CU. OX. & SIL. — VERY SPARSE — VERY SPARSE CHLORITE

QUARTZ PORPHYRY BRECCIA — HEAVY SILIC. — HEAVY SILICIFICATION — VERY SPARSE LIMONITE — SPARSE CHALCOCITE LIMONITE — MODERATE COPPER OXIDES AND SILICATES — SPARSE KAOLINITE — SPARSE SERICITE — VERY SPARSE CHLORITE — ZIRCON

STRONG SILIC. — SP. LIMON. — SPARSE — MOD. CU. OX. AND SIL. — MOD. KAOLINITE — SP. SER. — SPARSE

STRONG SILIC. — V. SP. LIMON. — V. SP. Cc. LIMONITE — SP. CU. OX & SIL. — VERY SP. EUHED. ZIRCON

VERY SPARSE CHALCOCITE LIMONITE — SPARSE COPPER OXIDES AND SILICATES — VERY SPARSE KAOLINITE — SPARSE CHLORITE — VERY SPARSE EUHEDRAL ZIRCON

MODERATE CHLORITE

DRILLER'S LOG

BIT SIZE — CASING — CEMENT — REMARKS

NON-CORING BIT USED

INCLINATION - 90°

NON-CORING BIT USED

BX

INCLINATION - 85 1/2°

ALTERNATE RUNS MADE WITH NON-CORING BIT

SEE SHEET No. 3

GEOLOGICAL DEPARTMENT
CONSOLIDATED COPPERMINES CORPORATION.

SHEET No. 3

DIAMOND DRILL HOLE

SD-7

STAR No. 19 CLAIM.

55,127 N.
55,620 E.

INCLINATION: VERTICAL — COLLAR ELEV: 4902 FEET. — BEARING: ——

THEOR. WT. OF CORE	ACTUAL WT OF CORE	% REC. BY WEIGHT	FEET CORE RECOVERY	% CORE REC BY FEET.	CORE ASSAYS % CU.	CU. COMP.	OZ. AU	OZ. AG.	% FE	% CU. OX.	THEOR. WT. OF SLUDGE	ACTUAL WT. OF SLUDGE X FACTOR	% MOISTURE OF SLUDGE	DRY WT. OF SLUDGE X FACTOR.	% SLUDGE RECOVERY	SLUDGE ASSAYS % CU.	CU. COMP.	OZ. AU.	OZ. AG.	% FE.	% CU. OX.	DEPTH	CORRECTED ASSAYS % CU. OX.	% FE	OZ. AG.	OZ. AU.	CU. COMP.	% CU.	GEOLOGY	BIT SIZE	CASING	CEMENT	DRILLER'S LOG REMARKS
														58.4	80.0	0.52				+	1715.0	+					0.52	QTZ. PORPH. BRECCIA				Non-coring Bit
			9.2	93.8										13.3	51.2	0.53				+	1724.8	+					0.53	H. SILIC. EX H. SILIC.				
														34.9	47.8	0.43				+	1740.0	+					0.43	V. SP. LIMONITE				
			7.0	82.3										12.3	49.8	0.58				+	1748.5	+					0.58	V. SP. Cc. LIMON.				
			9.7	96.0										15.2	57.8	0.46				+	1758.6	+					0.46	MOD. CU. OX. & SILIC.				
			7.8	92.8										12.3	54.9	0.46				+	1767.0	+					0.46	V. SP. KAOLINITE				
			1.5	75.0										4.1	66.5	0.70				+	1769.0	+					0.70	MOD. CHLORITE				
			4.3	93.5										9.5	78.1	0.54				+	1773.6	+					0.54	VERY SP. BIOTITE				
														40.5	51.5	0.61					1790.0						0.61					
			6.8	73.2										16.2	55.9	1.03					1799.3						1.03					
														26.9	35.8	0.91					1815.0						0.91					
			6.2	75.6										12.8	51.1	0.82					1823.2						0.82		BX			
														28.7	35.6	0.53					1840.0						0.53					
			1.0	32.2										9.2	73.5	0.72					1843.1						0.72					
														77.9	73.5	0.32					1860.0						0.32					
			9.9	97.0										↓	↓	↓					1870.2											
														37.4	52.7	0.30					1885.0						0.30					
			10.1	95.3										16.6	60.1	0.17					1895.6						0.17					
														40.2	58.1	0.12					1910.0						0.12					
			3.1	58.5										6.7	40.0	0.12					1915.3						0.12					
														46.7	66.3	0.12					1930.0						0.12					

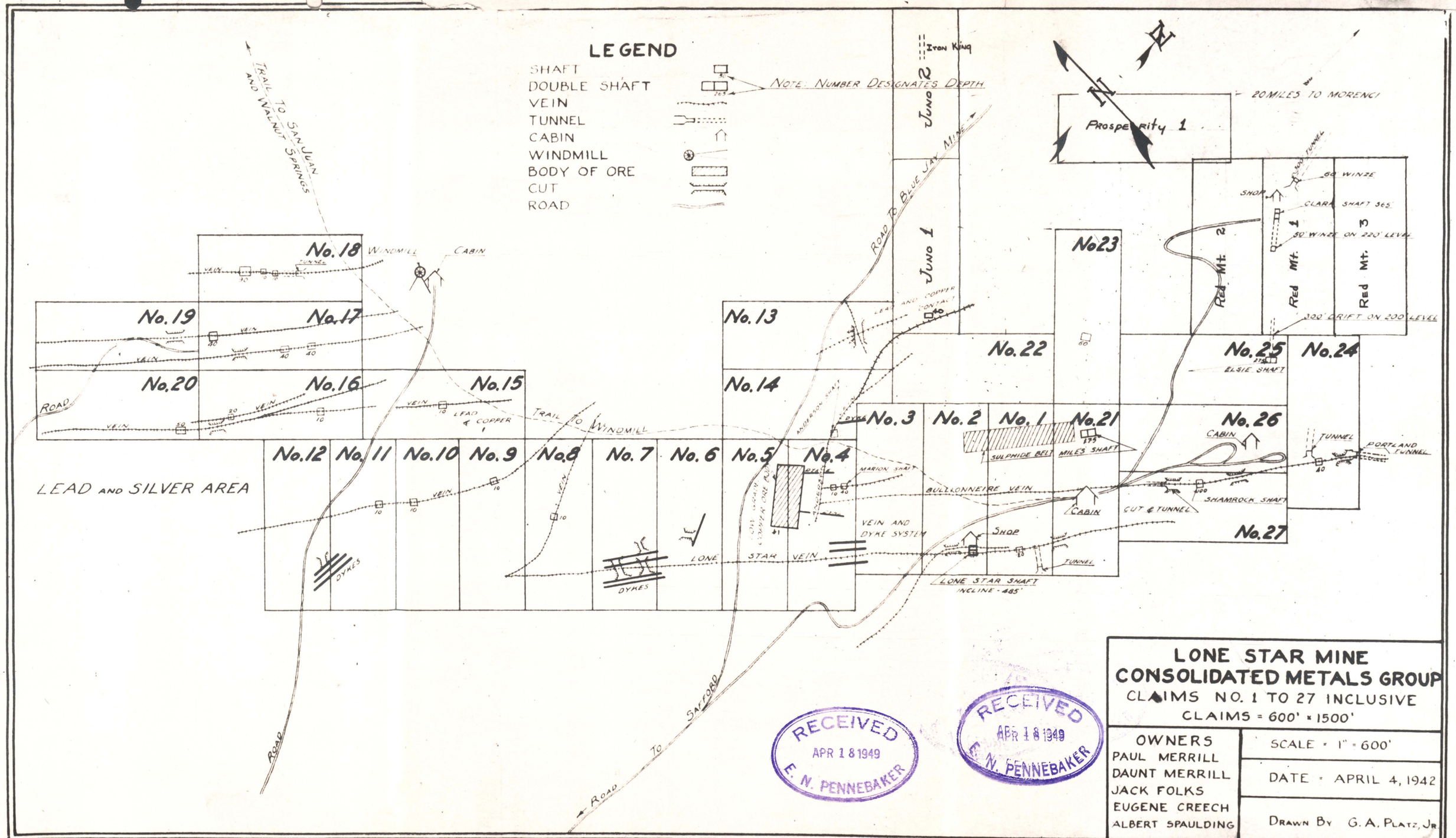
DEPTH OF HOLE 1930.0 FEET.
COMPLETED: JANUARY 16 1951.

GEOLOGICAL DEPARTMENT,
CONSOLIDATED COPPERMINES CORPORATION.

NOTE: SLUDGE RECOVERY CALCULATED BY LONGYEAR METHOD.

INCLINATION - 83°
ALTERNATE RUNS MADE WITH NON-CORING BITS.

SAFFORD
S. D. #7



LONE STAR MINE
CONSOLIDATED METALS GROUP
CLAIMS NO. 1 TO 27 INCLUSIVE

CLAIMS = 600' × 1500'

OWNERS	
PAUL MERRILL	SCALE = 1" = 600'
DAUNT MERRILL	DATE = APRIL 4, 1942
JACK FOLKS	
EUGENE CREECH	
ALBERT SPAULDING	DRAWN BY G. A. PLATZ, JR

RECEIVED APR 18 1949 E. N. PENNEBAKER
RECEIVED APR 18 1949 E. N. PENNEBAKER

DIAMOND DRILL HOLE

SD-4A

RED MOUNTAIN NO 2 CLAIM

54 140 N
53 610 E

COLLAR ELEV. 4770 FEET

BEARING: N35°E

INCLINATION: -55°

COMPLETED: MARCH 18, 1950

DEPTH OF HOLE 802.2 FT

CONSOLIDATED COPPERMINES CORPORATION

GEOLOGICAL DEPARTMENT

Note: Sludge recovery is based on recovery of cuttings or granular ring only. Cuttings and unrecovered core not considered.

2.3 lbs. per foot

3.9 lbs. per foot

2.5 lbs. per foot

4.0 lbs. per foot

Trace MoS_2

NOTE: these are combined assays, no sludge samples were taken

Depth	Core Assays % Cu	Cu Comp.	% Fe	Oz. Au	Oz. Ag	% Cu Ox.	Sludge Assays % Cu	Cu Comp.	% Fe	Oz. Au	Oz. Ag	Corrected Assays % Cu Ox.	Oz. Ag	Oz. Au	% Fe	Cu Comp.	% Cu
2.5												0.032%					
10.7												0.013					
14.7												Trace					
19.0												5.56%					
23.5												0.23%					
28.0																	
32.5																	
37.0																	
41.5																	
46.0																	
50.5																	
55.0																	
59.5																	
64.0																	
68.5																	
73.0																	
77.5																	
82.0																	
86.5																	
91.0																	
95.5																	
100.0																	
104.5																	
109.0																	
113.5																	
118.0																	
122.5																	
127.0																	
131.5																	
136.0																	
140.5																	
145.0																	
149.5																	
154.0																	
158.5																	
163.0																	
167.5																	
172.0																	
176.5																	
181.0																	
185.5																	
190.0																	
194.5																	
199.0																	
203.5																	
208.0																	
212.5																	
217.0																	
221.5																	
226.0																	
230.5																	
235.0																	
239.5																	
244.0																	
248.5																	
253.0																	
257.5																	
262.0																	
266.5																	
271.0																	
275.5																	
280.0																	
284.5																	
289.0																	
293.5																	
298.0																	
302.5																	
307.0																	
311.5																	
316.0																	
320.5																	
325.0																	
329.5																	
334.0																	
338.5																	
343.0																	
347.5																	
352.0																	
356.5																	
361.0																	
365.5																	
370.0																	
374.5																	
379.0																	
383.5																	
388.0																	
392.5																	
397.0																	
401.5																	
406.0																	
410.5																	
415.0																	
419.5																	
424.0																	
428.5																	
433.0																	
437.5																	
442.0																	
446.5																	
451.0																	
455.5																	
460.0																	
464.5																	
469.0																	
473.5																	
478.0																	
482.5																	
487.0																	
491.5																	
496.0																	
500.5																	
505.0																	
509.5																	
514.0																	
518.5																	
523.0																	
527.5																	
532.0																	
536.5																	
541.0																	
545.5																	
550.0																	
554.5																	
559.0																	
563.5																	
568.0																	
572.5																	
577.0																	
581.5																	
586.0																	
590.5																	
595.0																	
599.5																	
604.0																	
608.5																	
613.0																	
617.5																	
622.0																	
626.5																	
631.0																	
635.5																	
640.0																	
644.5																	
649.0																	
653.5																	
658.0																	
662.5																	
667.0																	
671.5																	
676.0																	
680.5																	
685.0																	
689.5																	
694.0																	
698.5																	
703.0																	
707.5																	
712.0																	
716.5																	
721.0																	
725.5																	
730.0																	
734.5																	
739.0																	
743.5																	
748.0																	
752.5																	
757.0																	
761.5																	
766.0																	
770.5																	
775.0																	
779.5																	
784.0																	
788.5																	
793.0																	
797.5																	
802.2																	

Geology: Quartz Diorite; Sp. Silic.; St. Silicification; Sp. pyr.; Sparse pyrite; Sp. Chlorite; V.Sp. Limonite; Mod. Kaol.; Sparse Kaolin; Sparse Sericite; Mod. Chlor.; Sparse Chlorite; V.Sp. Mn.; V.Sp. Euh. Zir.; Qtz. Por. Brec.; Quartz Diorite; V.Sp. Silic.; Mod. Chlorite; Sp. Chlorite; Sp. epidote; Qtz. Diorite; Quartz Porphyry Breccia; Mod. Silic.; St. Silicification; St. Limonite; Mod. Kaol.; Strong Kaolin; Sparse Sericite; BX

Drillers Log: Bit Size: N X; Casing: BX CASING; Cement: ---; Remarks: 150 feet BX Casing left in hole

RECEIVED
JUN 26 1950
F. N. PENNEBAKER

Log 50-4

DIAMOND DRILL HOLE

SD-4

54,136.42 N
53,599.77 E
COLLAR ELEV. 4770 FEET

INCLINATION: VERTICAL

BEARING: —

Theor. Wt. of Core: 3.9 lbs. per foot (12.0–383.1); 2.3 lbs. per foot (383.1–587.0)

Theor. Wt. of Sludge: 4.0 lbs. per foot (12.0–383.1); 2.5 lbs. per foot (383.1–587.0)

Depth	Actual Wt. of Core	% Rec. By Weight	Feet Core Recovered	% Core Recovery	Core % Cu.	Actual Wt. of Sludge	% Moisture of Sludge	Dry Wt. of Sludge	% Sludge Recovery	Sludge % Cu.	Corrected % Cu.
12.0			2.5	—							
20.0			1.6	20							
27.0			3.3	47							
40.0			4.7	36							
54.0			9.8	70							
64.0			7.6	76							
74.0			10.0	100							
85.0			9.6	87							
96.0			9.6	87							
107.0			9.9	90							
116.0			8.6	96							
125.0			7.6	85							
133.0			7.1	88							
143.0			8.7	87							
154.0			9.5	86							
164.0			10.0	100							
172.0			7.2	90							
182.0			9.8	98							
192.0			8.8	88							
202.0			9.4	94							
212.0			7.9	79							
222.0			8.8	88							
227.0			4.8	96							
233.4			5.2	81							
240.3			6.7	93							
241.8			1.6	91							
246.7			4.6	93							
253.2			4.8	74							
263.7			8.8	84							
270.0			5.6	88							
273.0			2.1	70							
275.8			2.4	87							
277.1			0.7	53							
282.6			3.7	67							
287.1			2.2	49							
296.8			2.9	30							
305.5			8.1	93							
313.5			6.5	81							
322.0			7.0	82							
326.0			3.3	83							
337.2			5.6	50							
341.5			3.1	72							
351.5	33.0	85	8.6	86	0.06						0.06
364.3	36.4	73	8.4	65	2.27						2.27
370.0	20.6	92	5.0	88	2.18						2.18
373.0	9.0	77	2.6	87	0.28						0.28
383.1	42.5	108	10.0	100	1.85						1.85
393.0	26.5	116	9.2	92	0.12	4.2	22.0	3.3	13	0.22	0.12
403.0	19.3	84	9.2	92	0.12	4.0	34.0	2.6	10	0.24	0.12
413.0	22.5	98	10.0	100	0.06	3.2	27.5	2.3	9	0.16	0.06
420.8	15.4	86	6.7	86	0.06	5.2	27.5	3.8	20	0.12	0.06
427.6	15.4	99	6.7	98	0.41	1.9	27.0	1.4	8	0.18	0.41
434.8	13.0	78	5.5	77	0.12	5.4	19.0	4.4	24	0.18	0.12
443.6	13.8	68	5.3	60	0.10	1.4	24.0	1.1	6	0.10	0.10
453.6	19.6	85	8.8	88	0.06	4.1	27.0	3.0	12	0.10	0.06
457.4	2.1	24	1.1	29	0.04	↓	↓	↓	↓	↓	0.04
467.4	18.5	80	9.5	95	0.06	5.8	32.0	3.9	11	0.08	0.06
473.8	14.2	96	5.2	82	0.04	5.3	19.0	4.3	27	0.06	0.04
483.8	23.6	103	10.0	100	0.08	2.8	22.0	2.2	9	0.08	0.08
493.5	21.8	98	9.4	96	0.06	19.0	26.0	14.1	58	0.06	0.06
503.6	22.2	96	10.0	100	0.06	5.1	24.0	3.9	15	0.06	0.06
512.5	18.8	92	8.3	92	0.10	3.2	21.0	2.5	11	0.06	0.10
522.3	18.4	81	8.7	89	0.06	3.5	24.0	2.7	11	0.04	0.06
526.0	7.0	82	3.3	90	0.06	↓	↓	↓	↓	↓	0.06
530.4	7.5	74	4.5	102	0.08	9.1	9.0	8.3	41	0.04	0.08
532.9	3.8	66	1.8	72	0.06	↓	↓	↓	↓	↓	0.06
535.8	2.8	42	1.5	51	0.06	↓	↓	↓	↓	↓	0.06
542.6	15.2	97	6.8	100	0.04	7.2	15.5	6.1	20	0.06	0.04
546.3	10.3	121	3.8	100	0.04	7.2	22.0	5.6	61	0.04	0.04
553.1	8.9	57	6.0	88	0.14	5.1	21.5	4.0	24	0.04	0.14
557.3	7.4	76	3.7	90	0.06						0.06
564.8	9.0	52	7.0	92	0.12	5.7	22.5	4.4	23	0.04	0.12
568.8	6.0	65	2.6	66	0.10	2.5	24.0	1.9	19	0.06	0.10
570.3	6.7	194	2.3	148	0.32						0.32
575.0	6.5	60	3.3	66	0.30	5.1	23.0	3.9	33	0.12	0.30
584.6	21.5	97	9.3	97	0.06						0.06
587.0	3.0	54	1.4	58	0.06						0.06

Core %Cu.Ox.: 364.3 – 0.66; 370.0 – 0.14; 373.0 – 0.05; 383.1 – 0.25

Core Assays (composites)

Interval	Cu.Comp	% Fe	Oz. Au.	Oz. Ag.	% Cu.Ox.
351.5–383.1	1.69%	6.26%	0.002	0.035	
383.1–443.6	0.18%	5.51%	Trace	0.010	0.030%
443.6–587.0	0.13%	4.97%	Trace	0.030	0.030%

Sludge Assays: % Cu., Cu.Comp, % Fe, Oz. Au., Oz. Ag.

Corrected Assays

Interval	% Cu.Ox.	Oz. Ag.	Oz. Au.	% Fe	Cu.Comp
351.5–383.1	0.336%	0.035	0.002	6.26%	1.69%
383.1–443.6	0.030%	0.010	Trace	5.51%	0.18%
443.6–587.0	0.030%	0.030	Trace	4.97%	0.13%

No MoS2

Geology

Qtz. Por. Breccia — Qtz. Diorite — Quartz Porphyry Breccia
Sparse Silicification — Moderate Silicification — St. Silic. — Mod. Silic. — Heav. Silic. — St. Silic. — Heav. Silic. — St. Silic. — Heav. Sil. — St. Silic. — Mod. Silicification — Sp. Silic.
Sp. Pyrite — M. Pyr. — Mod. Pyrite — Sparse Pyrite — M. Pyr. — Mod. Pyr. — Sp. Pyr. — Sp. Pyr.
V. Sp. Cclte. — Very Sparse Chalcocite — V. Sp. Ccite — St. Ccite — V. Sp. Cu. Ox. — V. Sp. Cu. Ox.
Very Sparse Limonite — Sp. Limonite — Mod. Lim. — Sp. Limonite — Mod. Lim. — Sp. Limonite — Moderate Limonite — Sp. Lim. — St. Lim. — Mod. Limonite — St. Lim.
Sp. Kaolinite — Mod. Kaol. — Strong Kaolinite — Sp. Kaol. — Mod. Kaolinite — Sp. Kaolinite — Mod. Kaol. — Sp. Kaol. — Sparse Kaolinite
Mod. Sclte. — Sp. Sclte. — Mod. Sclte. — Sp. Sclte. — Sp. Sclte. — Moderate Sericite — Sp. Sclte. — Mod. Sclte. — Sp. Sclte. — Sp. Sclte.
Sparse Chlorite — Sp. Chlor. — Sp. Chlor.
V. Sp. Euh. Zir. — V. Sp. Euh. Zir. — V. Sp. Euhedral Zircons — V. Sp. Euh. Zir. — V. Sp. Euh. Zir. — V. Sp. Euh. Zircons
V. Sp. Cu. Sil.

Driller's Log

Bit Size: NX (12.0–383.1); BX (383.1–587.0)
Casing: BX CASING
Cement
Remarks: Lost H2O; Lost H2O; Lost H2O

140' BX Casing left in hole.

DEPTH OF HOLE: 587.0 Ft.
COMPLETED: FEBRUARY 18, 1950
CLAIM: RED MOUNTAIN NO. 2

GEOLOGICAL DEPARTMENT
CONSOLIDATED COPPERMINES CORPORATION

LOG SD-4

RECEIVED
APR 1 - 1950
F. N. PENNEBAKER

DIAMOND DRILL HOLE

SD-4-A

RED MOUNTAIN NO. 2 CLAIM

54,140 N

53,610 E

INCLINATION: -55°

COLLAR ELEV: 4770 FEET

BEARING: N35°E

Theor. Wt. of Core	Actual Wt. of Core	% Rec. by Weight	Feet Core Recovered	% Core Recovery	% Cu	Cu Comp.	% Fe	Oz. Au	Oz. Ag	% Cu Ox.	Theor. Wt. of Sludge	Actual Wt. of Sludge	% Moisture of Sludge	Dry Wt. of Sludge	% Sludge Recovery	% Cu	Cu Comp.	% Fe	Oz. Au	Oz. Ag	DEPTH	% Cu Ox.	Oz. Ag	Oz. Au	% Fe	Cu Comp.	% Cu
3.9 lbs. per foot			4.8	58.6							4.0 lbs. per foot										2.5						
			1.2	30.0																	10.7						
			2.5	22.1																	14.7						
			2.2	29.4																	26.0						
			9.8	98.0																	33.5						
			9.8	93.4																	43.5						
			9.3	79.5																	54.0						
			9.4	89.5																	65.2						
			8.0	79.2																	75.6						
			8.9	82.8																	85.7						
			4.2	91.3																	96.5						
			8.5	73.2																	101.1						
			3.9	30.7																	112.7						
			3.2	61.5																	125.4						
			5.0	90.9																	130.6						
			6.9	69.0																	136.1						
			3.1	30.7																	146.1						
			8.3	79.9																	156.2						
			4.5	90.0																	166.6						
			9.1	90.1																	171.6						
			9.4	90.0																	181.7						
			6.0	75.0																	192.6						
			5.2	94.5																	200.6						
			3.7	88.1																	206.1						
			5.2	48.1																	210.3						
			4.0	55.5																	221.1						
			0.7	10.3																	228.3						
			1.6	53.4																	235.1						
			4.5	81.7																	238.1						
			1.5	14.5																	243.6						
			3.1	49.1																	253.9						
			6.1	59.1																	260.2						
			2.3	49.9																	270.5						
			1.0	33.3																	275.3						
			1.9	24.6																	278.2						
			6.7	88.1																	286.0						
			1.3	26.5																	293.6						
			0.9	13.6																	297.3						
			0.9	21.4																	303.3						
			1.7	27.0																	307.5						
			3.0	32.3																	313.8						
			4.0	39.2																	323.1						
			4.7	49.5																	333.3						
			1.2	60.0																	343.0						
			1.3	10.7																	345.0						
			1.3	18.6																	357.0						
			3.3	33.0																	364.2						
			1.5	16.0																	374.2						
			4.3	41.8																	383.6						
			2.4	23.3																	393.9						
			2.2	41.4																	404.2						
			2.5	38.5																	409.5						
			2.5	25.0																	416.0						
			2.7	27.0																	426.0						
			7.0	68.0																	436.0						
			3.0	35.3																	446.3						
			3.2	32.0																	464.2						
			1.7	16.3																	474.2						
			2.7	47.4																	484.6						
			3.1	26.3																	499.1						
			5.0	74.7																	510.7						
																					516.0						
	9.3	49.0	5.5	66.6	Tr.							18.6	0.0	18.6	74.4						524.2						Tr.
	21.0	91.3	10.0	100.0	"							23.3	25.0	17.5	70.0						534.3						"
	12.0	51.2	5.8	56.9	"							42.0	24.0	31.9	124						544.5						"
	13.2	79.0	6.6	79.5	"							32.6	23.5	25.1	100						551.8						"
	16.9	93.0	7.7	97.5	"							27.2	20.5	21.7	86.8	Tr.					559.7						"
	3.7	80.5	1.8	78.4	"							27.2	20.5	21.7	86.8						561.7						"
	18.9	100.0	8.1	98.8	"							33.2	0.0	33.2	133						569.9						"
	8.2	83.5	3.7	90.2	"							33.2	0.0	33.2	133						574.0						"
	20.0	87.0	8.7	87.0	"							44.5	24.0	33.8	135						584.0						"
	25.2	101.0	10.0	92.5	"							Lost									594.8						"
	24.9	118.0	10.0	109.0	"							13.0	21.5	10.2	40.7						604.0						"
	12.8	97.6	5.4	94.7	"							7.7	23.0	6.0	24.0						609.7						"
	10.4	85.5	4.4	65.6	"							7.7	23.0	6.0	24.0						615.0						"
	8.8	95.6	4.1	103.0	"							15.7	19.0	12.7	50.8						619.0						"
	8.6	93.5	4.0	100.0	"							15.7	19.0	12.7	50.8	Tr.					623.0						"
	22.3	96.2	9.8	97.0	"							45.0	24.0	34.2	137						633.1						"
	18.0	106.0	7.2	97.4	"							21.0	0.0	21.0	84.0						640.5						"
	15.9	96.0	6.5	90.3	"							21.0	0.0	21.0	84.0						647.7						"
	23.1	100.0	9.9	98.0	"							23.0	0.0	23.0	92.0						657.8						"
	24.9	103.0	10.0	95.2	"							23.0	0.0	23.0	92.0						668.3						"
	26.4	108.0	10.0	96.1	0.08							24.0	22.5	18.6	74.4						678.7						0.08
	23.2	110.0	9.6	100.0	0.44							28.0	0.0	28.0	112						688.3						0.44
	18.3	84.5	8.4	89.4	0.06							Lost				.08					697.7						0.06
	6.1	62.0	2.8	65.1	0.04							72.0	41.5	42.0	168						702.0						0.04
	14.4	96.5	6.4	98.5	0.04							54.0	58.5	22.4	89.5						708.5						0.04
	6.7	38.7	3.2	31.7	0.06							45.0	58.6	18.6	212						718.6						0.06
	10.5	73.5	4.5	70.3	0.53							60.0	65.0	21.0	135	0.33					724.8						0.53
	2.2	36.8	1.4	53.9	0.16							36.0	60.5	14.2	218	0.10					727.4						0.16
	15.9	80.5	6.9	73.4	0.08							61.0	70.6	18.0	83.7	0.08					736.0						0.08
	9.6	89.0	4.2	89.4	0.06							37.0	64.5	13.0	110	0.06					740.7						0.06
	7.5	93.0	3.2	91.5	0.06							23.0	68.4	7.3	83.5	0.06					744.2						0.06
	10.2	98.5	4.0	88.8	0.04							36.0	71.5	10.2	90.7	0.08					748.7						0.04
	9.0	90.0	3.9	90.6	0.10							37.0	74.4	9.5	88.5	0.08					753.0						0.10
	12.9	92.0	5.6	91.8	0.48							32.0	75.0	8.0	52.5	0.34					759.1						0.48
	22.1	95.4	9.0	88.6	0.51							52.0	70.9	15.2	60.7	0.50					769.2						0.51
	7.8	54.2	3.5	57.3	0.58							36.0	63.6	13.1	83.8	0.48					775.5						0.58
	16.0	71.4	6.7	65.6	1.25							27.0	68.5	40.0	165	0.92					785.2						1.25
	18.2	90.5	7.5	86.2	1.08							50.0	54.4	22.8	100.0	1.28					794.0						1.08
	12.9	79.0	5.9	83.1	0.29							43.0	72.5	11.8	77.4	0.62					801.1						0.29
	12.7	102.0	5.6	104.0	0.26							40.0	69.4	12.2	90.5	0.68					806.5						0.26
	4.4	38.2	2.2	44.0	0.14							60.0	68.2	19.0	152	0.45					811.5						0.14
	23.0	97.5	9.0	97.6	0.16							54.0	61.3	20.9	83.5	0.25					821.2						0.16
	24.7	105.0	9.3	90.7	0.20							59.0	63.5	21.5	82.7	0.18					831.5						0.20
	21.7	99.2	7.2	75.8	0.14							36.0	61.3	13.9	58.4	0.16					841.0						0.14
	18.1	92.6	7.3	85.4	0.12							80.0	54.0	36.8	173	0.10					849.5						0.12
	22.7	99.4	8.8	92.6	0.14							75.0	51.8	36.1	152	0.12					859.0						0.14
	9.6	95.0	3.7	84.0	0.54							50.0	65.8	17.1	155	0.24					863.4						0.54
	5.9	95.0	2.5	92.5	0.12							Lost									866.1						0.12
	18.0	98.0	8.0	100.0	0.16							53.0	61.6	20.3	101	0.18					874.1						0.16
	8.0	80.0	3.5	79.5	0.26							52.0	67.3	18.0	164	0.19					878.5						0.26
	9.0	93.0	4.0	95.3	0.39							27.0	65.4	9.3	88.5	0.25					882.7						0.39
	8.2	26.5	4.1	43.1	0.24							174	57.7	74.0	321	0.20					892.2						0.24

Trace MoS_2

Trace MoS_2

0.76% 5.94% Trace 0.033 0.040%

0.57% 3.99% .002 .028 .088%

1.13% 3.66% .002 .051 .296%

0.23% 5.56% Trace 0.013 0.032%

0.040% 0.033 Trace 5.94% 0.16%

.088% .028 .002 3.99% 0.57%

.296% .051 .002 3.66% 1.13%

0.032% 0.013 Trace 5.56% 0.23%

NOTE: these are combined assays, 10' sludge samples were taken

GEOLOGY

St. Silicification; Quartz Porphyry Breccia; Quartz Diorite; Qtz. Por. Brec.; Sp. Silicification; Sparse pyrite; Sp. Silic.; Sp. Lim.; Mod. Lim.; St. Lim.; Sp. Lim.; Mod. Lim.; Sparse Kaolin; Strong Kaolin; Sparse Sericite; Mod. Kaol.; St. Kaol.; Mod. Chlor.; Sp. Chlor.; Sparse epidote; Sp. Sericite; Mod. Chlorite; Sparse Chlorite; Sparse Kaolin; Sparse Sericite; Mod. Kaol.; Mod. Chlor.

DRILLER'S LOG

Bit Size; Casing; Cement; Remarks

NX; BX CASING; BX

150 feet BX Casing left in hole

DEPTH OF HOLE: 892.2 FT

COMPLETED: MARCH 18, 1950

GEOLOGICAL DEPARTMENT

CONSOLIDATED COPPERMINES CORPORATION

RECEIVED
SEP 20 1950
F. N. PENNEBAKER

L04-SD-4A

DIAMOND DRILL HOLE

SD-2

CCC NO.3 CLAIM

NOTE: THIS HOLE IS THE CONTINUATION OF CHURN DRILL HOLE S-2. SEE THAT LOG.

53,482 N

54,496 E

COLLAR ELEV. S-2: 4720'

COLLAR ELEV. SD-2: 3808'

INCLINATION: VERTICAL

BEARING: –

Theor. Wt. of Core: 2.30 LBS/FT — Theor. Wt. of Sludge: 2.50 LB/FT.

Depth	Actual Wt. of Core	% Rec. By Wt.	Feet Core Recovered	% Core Recovery	% Cu.	Actual Wt. of Sludge	% Moisture of Sludge	Dry Wt. of Sludge	% Sludge Recovery	Sludge % Cu.
909.5										
914.5	11.0	96	5.0	100	0.22					
916.3	3.5	87	1.75	96	0.14					
918.9	5.25	91	2.50	97	0.28					
925.5	14.5	96	6.58	100	0.20	13.0	5.3	12.31	75	0.16
934.8	19.63	92	9.33	100	0.18					
943.8	15.75	76	9.00	100	0.46					
953.9	23.19	100	10.08	100	0.72	4.0	7.7	3.69	14	0.20
965.0	23.38	100	10.08	91	0.08	2.75	26.3	2.03	7	0.18
975.0	23.0	97	9.83	98	0.10					
985.0	24.63	101	10.08	101	0.48					
993.5	17.69	95	8.08	95	0.12					
998.0	5.5	80	3.08	69	0.06					
1002.5	8.5	95	3.92	87	0.64	6.5	55.6	2.88	26	0.06
1006.0	6.0	80	3.25	92	0.08					
1016.2	22.5	96	10.17	99	0.28					
1021.6	8.5	69	4.58	86	0.06					
1031.8	21.75	93	9.42	92	0.34					
1038.8	11.0	68	5.00	71	0.16					
1044.3	6.33	50	2.67	49	0.16					
1048.3	7.75	84	3.67	92	0.28					
1053.5	6.5	57	3.08	60	0.10					
1057.0	5.75	72	2.58	74	0.12					
1062.3	8.63	71	3.92	74	0.06					
1066.9	3.5	33	1.92	42	0.06					
1072.4	3.12	25	1.58	29	0.28					
1077.4	2.75	25	1.33	27	0.50					
1082.7	2.75	22	1.67	32	0.06					
1086.7	2.25	25	1.25	31	0.06					
1091.7	2.06	18	1.25	25	0.08					
1097.7	4.12	30	2.17	36	0.04					
1103.0	11.12	91	5.00	94	0.04					
1110.0	5.12	32	2.58	37	0.03					
1120.0	20.5	89	9.6	96	0.54					
1127.0	13.4	83	5.9	84	0.04					
1134.0	2.4	15	1.25	18	0.04					

Core Assays / Corrected Assays (composite intervals):

Interval	Cu. Comp.	% Fe	Oz. Au	Oz. Ag	% Cu. Ox.
909.5 – 953.9	0.31%	5.29	Trace	0.022	0.050%
953.9 – 1002.5	0.28%	5.07	Trace	0.033	0.040%
1002.5 – 1048.3	0.23%	3.89	0.002	0.137	0.040%
1048.3 – 1134.0	0.17%	4.86	Trace	0.013	0.032%

Sludge Assays: % Cu. | Cu. Comp. | % Fe | Oz. Au | Oz. Ag

GEOLOGY

- Quartz Porphyry Breccia — Quartz Diorite
- Strong Silicification — Mod. Silicification — Sp. Silic.
- Sp. Pyrite — Mod. Pyrite — Sp. Pyrite — Mod. Pyr. — Sp. Pyr. — Mod. Pyrite — St.-Mod. Pyr.
- V.Sp. C'cite — Mod. C'cite — V.Sp. C'cite — Mod. C'cite — V.Sp. C'cite — Mod. C'cite — V.Sp. C'cite — Sp. C'cite — V.Sp. Chalcocite — Sp. C'cite — Trace Chalcocite
- V.Sp. C'pyr. — V.Sp. C'pyr. — V.Sp. C'pyr. — V.Sp. C'pyr. — V.Sp. C'pyr. — V.Sp. C'pyr.
- Very Sparse Covellite
- Mod. Limonite — V.Sp. Lim. — V.Sp. Lim. — Mod.-St. Limonite — Sp. Lim.
- Sp. Kaolinite — Sp. Kaol.
- Sparse Chlorite — V.Sp. Chlorite
- Sp. Ser. — V.Sp. Ser. — Sparse Sericite — Sparse Sericite — Very Sparse Sericite
- Very Sparse Euhedral Zircons

DRILLER'S LOG

- Bit Size: BX
- Casing: 898' 2½" I.D. Pipe Set To Collar Hole; 60' 2½" Pipe left in hole; 20' BX Casing left in hole
- Cement
- Remarks: Fast Drilling — Slow Drilling; Water Recovery Poor

DEPTH OF HOLE: 1134 FT.

COMPLETED: JANUARY 18, 1950

GEOLOGICAL DEPARTMENT

CONSOLIDATED COPPERMINES CORPORATION

LOG SD-2

RECEIVED
APR 1 - 1950
E. N. PENNEBAKER

SHEET NO. 1

DIAMOND DRILL HOLE

SD-6

STAR NO. 22 CLAIM
54,698 N
56,193 E
COLLAR ELEV: 4832 FEET

INCLINATION: VERTICAL

BEARING: —

Column headings: THEOR WT. OF CORE | ACTUAL WT. OF CORE | % REC. BY WEIGHT | FEET CORE RECOVERY | % CORE REC BY FEET | CORE ASSAYS: % Cu., Cu. Comp, Oz Au, Oz Ag, % Fe, % Cu.Ox | THEOR WT. OF SLUDGE | ACTUAL WT. OF SLUDGE X FACTOR | % MOISTURE OF SLUDGE | DRY WT. OF SLUDGE X FACTOR | % SLUDGE RECOVERY | SLUDGE ASSAYS: % Cu, Cu. Comp, Oz Au, Oz Ag, % Fe, % Cu.Ox | DEPTH | CORRECTED ASSAYS: % Cu.Ox, % Fe, Oz Ag, Oz Au, Cu. Comp, % Cu | GEOLOGY | DRILLER'S LOG: Bit Size, Casing, Cement, Remarks

Theor. wt. of core: 3.9 lbs/ft (to 170.8); 2.3 lbs/ft (below). Theor. wt. of sludge: 4.0 lbs/ft (to 170.8); 2.5 lbs/ft (below).

Depth	Feet Core Recovery	% Core Rec by Feet	Dry Wt. of Sludge x Factor	% Sludge Recovery	Corrected % Cu.Ox
9.0					·
11.5	0.7	28.0			·
21.0	1.7	7.5			·
30.2	0.9	10.0			·
37.6	1.1	15.0			·
40.1	0.8	31.0			·
41.7	0.9	56.0			·
44.2	1.7	48.5			·
53.9	1.4	16.0			·
63.5	0.6	6.0			·
73.9	0.7	7.0			·
79.5	0.5	9.0			·
85.1	3.6	64.0			+
92.5	0.7	9.0			+
97.0	1.5	33.0			+
100.2	2.0	61.5			+
104.6	2.4	54.5			+
111.7	4.1	58.0			⊕
120.1	5.5	65.5	50.0	103.7	⊕
126.1	0.7	11.0	50.0	109.7	⊕⊕
130.2	0.4	10.0	34.4	112.2	⊕
134.0	2.6	68.5	31.2	156.2	·
137.6	1.5	41.6	18.7	83.2	·
141.1	3.5	100.0	28.1	200.0	·
147.2	2.1	36.0	53.1	133.9	·
150.0	2.7	96.4	12.5	106.8	·
153.4	2.2	64.7	37.5	203.0	·
158.0	2.5	54.3	37.5	141.5	·
166.0	3.2	40.0	106.2	260.6	+
170.8	4.0	83.3	93.7	427.0	·
175.8	2.7	54.0	12.5	70.3	·
177.0	2.8	100.0	12.5	178.0	·
181.8	2.6	54.2	12.5	73.3	·
187.2	2.2	40.8	25.0	119.8	·
192.4	1.2	25.0	12.5	54.4	·
209.0	1.0	6.0			·
216.0	0.5	7.2			·
219.0	1.0	33.3	21.8	181.6	·
222.1	0.7	22.6	16.6	125.0	·
229.5	0.3	4.1	17.2	49.5	·
239.5	0.8	8.0	53.1	111.7	·
249.7	1.8	15.0	56.3	124.0	·
255.3	1.2	21.5	32.8	135.8	·
265.7	1.4	13.5	68.7	146.2	·
275.4	1.4	14.5	60.9	182.2	+
281.2	3.7	63.8	31.2	106.2	+
290.0	2.6	29.6	46.9	129.3	·
293.2	1.2	37.5	18.7	148.5	+
302.0	2.4	27.2	40.6	113.3	+
305.7	2.3	62.1	21.8	174.9	·
309.2	1.0	2.8	26.5	159.3	+?
314.9	1.8	31.5	43.7	187.5	+ ·
322.4	4.8	64.0	37.5	151.0	+
326.3	3.8	97.3	25.0	250.0	·
332.4	5.7	93.5	31.2	192.0	·
336.3	1.9	48.7	21.8	152.0	· Poor
344.0	6.7	87.0	26.5	111.0	·
346.1	1.5	71.3	12.5	191.5	·
352.5	3.8	59.3	21.8	99.1	·
362.3	7.2	73.5	40.6	133.2	·
369.6	6.9	94.5	18.7	96.8	+
371.5	1.9	100.0	18.7	391.7	+
374.0	2.4	96.0	12.5	193.0	+
381.1	3.6	50.7	40.6	156.5	+
383.2	1.6	76.1	15.5	242.0	+
384.8	1.4	87.4	12.5	280.0	+
386.5	1.4	82.3			+
389.1	2.0	76.8	12.5	159.0	+ +
391.3	2.2	100.0	15.5	281.9	+ +
393.2	1.0	52.6	12.5	183.0	+ +
395.6	1.8	75.0	12.5	169.0	+ +
397.8	1.3	59.0	12.5	166.7	+ +
399.0	1.2	100.0	10.9	151.4	+ +
408.7	9.9	102.1	25.0	103.1	+ +
412.5	4.6	121.0	18.7	196.7	+ +
415.1	1.5	57.7	12.5	138.3	+ +
421.4	5.8	92.0	18.7	111.2	+ +
424.0	2.3	88.5	18.7	149.3	+ +
427.2	0.2	6.2	20.3	136.2	+ +
429.6	3.8	158.3	18.7	220.0	+ +
432.0	1.8	75.0	17.1	214.0	+ +
433.2	0.6	50.0	12.5	285.0	+ +
435.5	3.3	143.7	13.3	230.6	+ +
438.5	0.8	26.6	10.9	86.8	+ +
442.9	5.0	113.5			+ +
448.1	4.4	84.6			+ +
452.2	3.8	92.7			+ +
455.5	2.7	81.8	13.3	137.2	+ +
458.4	0.9	31.0	11.6	97.9	+ +
460.4	1.5	75.0			+ +
462.2	1.8	100.0	13.3	299.6	+ +
467.4	4.7	90.4	11.6	81.7	+ +
469.7	1.1	47.8	13.3	201.5	+ +
472.0	1.8	78.2	9.9	143.3	+ +
476.2	3.9	92.8	13.3	119.9	+ +
478.9	1.7	63.0	11.6	128.8	+ +
482.0	2.4	77.4	14.9	158.5	+ +
487.8	3.5	60.3	21.6	106.0	+ +
489.6	1.0	55.5	16.6	261.0	+ +
494.5	3.4	69.4	18.3	116.3	+ +
498.1	3.6	100.0	13.3	102.5	+ +
499.3	0.8	66.7	11.6	299.4	+ +
506.0	2.9	43.3	24.9	97.6	+ +
510.8	0.4	8.3	23.2	104.8	+ +
514.9	2.7	65.8	16.6	123.5	+ +
518.3	3.2	94.0	14.9	167.3	+ +
523.5	2.9	55.8	19.9	109.0	+ +
528.5	3.7	74.0	16.6	107.2	+ +
530.2	0.9	52.9	9.9	164.7	+ +
533.1	2.7	93.1	6.6	85.6	+ +
536.9	1.7	44.7	13.3	93.0	+ +
539.0	1.3	61.8	13.3	218.5	+ +
544.0	5.0	100.0	13.3	106.4	+
546.2	1.6	72.7	11.6	169.3	+
548.0	1.4	77.7	5.0	91.5	+
551.1	2.3	74.2	8.3	87.5	+
553.6	2.7	108.0	10.0	154.0	+
557.6	2.5	67.5	15.0	112.8	+
560.6	1.2	40.0	15.0	129.0	+ +
563.0	1.1	45.8	10.0	111.0	+
564.5	0.5	33.3	10.0	99.7	+
571.1	3.0	53.6	23.2	98.2	+
573.4	0.9	39.1	6.6	73.7	+
576.7	2.7	81.8	14.9	143.8	+
579.7	1.8	60.0	10.0	65.3	+

Annotation (85.1–104.6, red): ? Spotted Sericite

GEOLOGY (intervals marked on the log):

- Sparse Silic. — Mod Silic. — Strong Silicification — Mod Silic. — Quartz Porphyry Breccia — Strong Silicification
- Sp. Limonite — Mod Lim — St. Limonite — Mod Lim — Sparse Limonite — Moderate Limonite — Sparse Limonite — Very Sparse Cc. Limonite — Sp. to Mod Cc Lim.
- St. Chalcocite Limonite — Mod Cc Lim. — Sp. Cc. Limonite — St. Cc. Limonite — Sparse Cc. Limonite — Very Sparse Chalcocite Limonite
- Sparse Cu Oxides & Silicates — Very Sparse Cu Oxides & Silicates At Intervals
- Strong Kaolinite — Moderate To Strong Kaolinite - Feldspars Kaolinized
- Strong Sericite — Sparse Sericite — Moderate Sericite — Strong Sericite
- Allophane Veinlets
- Sp. Epidote
- Very Sparse Euhedral Zircons — Very Sparse Euhedral Zircons — V. Sp. Euh. Zir.

DRILLER'S LOG:

- Bit Size: NX; BX
- Casing: BX
- Rods Cemented In Hole
- Hole Deflected
- INCLINATION TEST 1½° off vertical

FOR CONTINUATION OF SD-6
SEE SHEET NO. 2

GEOLOGICAL DEPARTMENT
CONSOLIDATED COPPERMINES CORPORATION

SHEET NO. 2

DIAMOND DRILL HOLE

SD-6

"CONTINUATION"

Theor. Wt. of Core	Actual Wt. of Core	% Rec. by Weight	Feet Core Recovery	% Core Rec. by Feet	Core Assays % Cu	Core Assays % Cu Ox.	Theor. Wt. of Sludge	Dry Wt. of Sludge X Factor	% Sludge Recovery	Sludge Assays % Cu	Sludge Assays % Cu Ox.	Depth	Corrected Assays % Cu Ox.	Corrected Assays % Cu (Calculated)
			4.6	95.8				13.3	104.7			584.5		
			2.9	76.3				11.6	100.0			588.3		
			4.5	90.0				13.3	97.8			593.3		
			2.8	81.2				11.6	114.8			596.5		
			3.4	49.2				14.9	97.5			603.4		
			3.0	85.7				13.3	124.6			606.9		
			1.6	69.5				9.9	138.0			609.2		
			2.1	52.5				18.3	128.0			613.2		
			2.1	75.0				9.9	115.9			616.0		
			1.6	72.7				9.9	156.9			618.2		
			1.6	80.0				13.3	224.2			620.2		
			3.0	71.4				16.6	124.0			624.4		
			4.6	86.7				19.9	130.1			629.7		
			4.4	84.7				18.3	123.8			634.9		
			1.0	71.4				13.3	301.0			636.3		
			2.4	88.8				13.3	178.0			639.0		
			4.3	86.0				9.9	70.8			644.0		
			6.5	81.2				21.6	91.5			652.0		
			0.9	45.0				8.3	138.4			654.0		
			1.1	15.7				28.3	91.7			661.0		
			0.5	22.7				11.6	124.2			663.2		
			0.8	44.4				5.8	74.3			665.0		
			1.3	81.2				6.7	141.7			666.6		
			2.1	75.0				7.5	98.5			669.4		
			2.0	100.0				6.7	132.2			671.4		
			1.5	68.1				4.9	70.0			673.6		
			1.8	75.0				6.7	89.5			676.0		
			0.9	56.2				6.7	118.2			677.6		
			1.1	52.5				9.1	120.7			679.7		
			3.3	82.5				13.3	117.2			683.7		
			2.3	82.1				9.9	118.3			686.5		
			1.4	63.6				9.1	122.2			688.7		
			1.5	78.9				6.7	117.3			690.6		
			5.0	98.0				9.9	66.0			695.7		
			1.5	55.5				8.3	98.0			698.4		
			1.4	87.5				4.9	112.3			700.0		
			3.9	78.0				11.6	81.7			705.0		
			3.1	79.5				13.3	121.0			708.9		
			3.0	69.8				13.3	101.3			713.2		
			2.3	56.1				13.3	92.3			717.3		
			1.1	45.7				8.3	94.5			719.7		
			2.2	110.0				6.7	133.0			721.7		
			1.7	36.9				13.3	73.3			726.3		
			1.4	26.9				9.9	46.0			731.5		
			0.8	27.6				13.3	111.2			734.4		
			10.3	98.1				20.7	77.8			744.9		
			3.0	65.2				3.3	21.8			749.5		
			4.9	90.7				9.9	68.4			754.9		
			1.7	50.0				7.5	60.2			758.3		
			1.5	45.9				6.7	51.3			761.5		
			4.8	94.1				9.9	74.2			766.6		
			4.4	89.7				7.5	61.1			771.5		
			4.9	98.0				8.3	66.3			776.5		
			3.2	94.1				5.8	64.8			779.9		
			0.6	46.2				3.3	68.8			781.2		
			2.4	52.2				7.5	46.7			785.8		
			1.9	45.2				10.8	74.7			790.0		
			4.5	76.3				14.1	78.5			795.9		
			1.8	60.0	0.16			8.3	89.8			798.9		0.16
2.3 lbs./ft.	2.3	13.0	1.4	18.2	0.11	0.04	2.5 lbs./ft.	21.6	63.9	0.16	0.04	806.6	0.04	0.11
	5.5	82.5	2.8	96.5	0.13	0.03		5.8	78.0	0.11	0.03	809.5	0.03	0.13
	7.6	94.4	3.6	102.8	0.10	0.03		6.7	76.0	0.13	0.03	813.0	0.03	0.10
	6.3	68.5	2.9	72.4	0.09	0.04		6.7	53.0	0.10	0.04	817.0	0.04	0.09
			2.3	57.4	0.23	0.02		9.1	65.5	0.14	0.03	821.0	0.02	0.23
			2.6	46.4	0.22	0.04		9.1	43.7	0.22	0.04	826.6	0.04	0.22
			4.7	81.5	0.28	0.04		0.8	7.1			832.3	0.04	0.28
			4.9	104.2	0.31	0.06		7.5	63.9	0.26	0.06	837.0	0.06	0.31
			4.7	72.3	0.50	0.06		14.1	69.0	0.29	0.06	843.5	0.06	0.50
	21.0	87.8	10.0	96.1	0.18	0.13		19.9	74.0	0.53	0.13	853.9	0.13	0.18
	20.0	86.1	9.5	94.0	0.10	0.02		20.8	78.0	0.23	0.03	864.0	0.02	0.10
	21.5	93.5	10.0	100.0	0.44	Tr.		16.6	66.4	0.14	Tr.	874.0	Tr.	0.44
	17.3	92.9	7.5	92.5	0.17	0.06		14.1	65.5	0.41	0.07	882.1	0.06	0.17
	4.0	49.7	2.1	60.0	0.63	0.02		6.7	55.5	0.25	0.04	885.6	0.02	0.63
	22.0	95.7	9.9	99.0	0.60	0.18		14.9	59.3	0.51	0.18	895.6	0.18	0.60
	22.4	97.4	10.0	100.0	1.11	0.17		14.1	57.2	0.66	0.18	905.6	0.17	1.11
	22.5	95.9	10.1	99.0	0.80	0.65		14.9	58.2	1.06	0.54	915.8	0.65	0.80
	22.5	95.9	10.0	98.0	1.04	0.64		12.5	48.0	0.64	0.42	926.0	0.64	1.04
	18.7	91.4	8.5	95.4	0.90	0.81		21.0	90.2	0.66	0.40	934.9	0.81	0.90
	22.5	99.8	9.8	100.0	0.59	0.17		6.3	25.2	1.01	0.31	944.7	0.17	0.59
	23.1	98.5	10.0	98.0	0.59	0.13		19.3	74.1	0.72	0.16	954.9	0.13	0.59
	17.5	93.9	8.1	100.0	0.57	0.15		16.5	81.4	0.58	0.17	963.0	0.15	0.57
	9.3	68.5	4.6	77.9	0.36	0.10		12.4	69.8	0.33	0.10	968.9	0.10	0.36
	5.1	40.3	3.0	54.5	0.22	0.05		12.4	63.9	0.28	0.07	974.4	0.05	0.22
	2.6	56.5	1.5	75.0	0.24	0.07		4.8	78.2	0.26	0.07	976.4	0.07	0.24
	3.6	60.2	1.9	73.0	0.40	0.10		7.6	93.2	0.36	0.09	979.0	0.10	0.40
	4.7	56.8	2.1	58.3	0.27	0.07		8.9	71.6	0.48	0.11	982.6	0.07	0.27
	1.8	35.6	0.9	40.9	0.52	0.11		6.9	81.0	0.56	0.12	984.8	0.11	0.52
	4.4	59.8	2.4	75.0	0.38	0.07		6.9	69.8	0.38	0.07	988.0	0.07	0.38
	5.8	84.1	2.7	90.0	0.53	0.10		7.6	92.3	0.46	0.10	991.0	0.10	0.53
	7.3	70.5	3.4	75.5	0.69	0.13		7.6	55.0	0.68	0.12	995.5	0.13	0.69
	12.5	54.3	6.0	60.0	0.61	0.12		13.8	40.2	0.56	0.11	1005.5	0.12	0.61
	8.8	76.5	4.8	96.0	0.45	0.10		8.9	68.0	0.51	0.10	1010.5	0.10	0.45
	4.6	62.5	2.3	71.8	0.46	0.10		6.2	61.4	0.43	0.09	1013.7	0.10	0.46
	3.5	54.3	1.9	67.8	0.38	0.08		4.8	53.1	0.50	0.10	1016.5	0.08	0.38
	10.4	87.0	4.8	92.3	0.46	0.10		9.6	68.9	0.47	0.10	1021.7	0.10	0.46
	8.1	81.9	4.0	93.0	0.57	0.11		8.3	66.1	0.49	0.10	1026.0	0.11	0.57
	7.0	62.1	2.5	51.0	0.39	0.08		9.6	58.1	0.35	0.08	1030.9	0.08	0.39
	7.2	74.5	2.9	69.0	0.96	0.22		11.3	87.1	0.57	0.18	1035.1	0.22	0.96
	7.5	75.8	3.7	86.0	0.70	0.20		8.4	63.8	0.66	0.20	1039.4	0.20	0.70
	9.4	90.8	3.0	66.6	0.51	0.11		6.3	51.7	0.47	0.10	1043.9	0.11	0.51
	8.0	87.0	3.6	90.0	0.38	0.07		8.4	75.0	0.44	0.08	1047.9	0.07	0.38
	5.7	77.5	2.8	87.5	0.44	0.08		5.6	57.9	0.48	0.09	1051.1	0.08	0.44
	3.5	72.4	1.5	71.4	0.49	0.11		4.9	74.3	0.51	0.11	1053.2	0.11	0.49
	5.3	82.2	2.5	89.2	0.38	0.08		5.6	68.7	0.41	0.09	1056.0	0.08	0.38
	3.4	67.3	1.4	63.6	0.47	0.10		5.6	78.1	0.64	0.13	1058.2	0.10	0.47
	11.0	93.8	5.0	98.0	0.58	0.11		7.0	51.8	0.53	0.14	1063.3	0.11	0.58
	7.1	65.7	3.4	72.3	0.43	0.09		21.1	83.3	0.44	0.10	1071.0	0.09	0.43
	10.6	65.8	5.0	71.4	0.28	0.07		11.9	51.7	0.34	0.06	1078.0	0.07	0.28
	7.8	75.4	3.7	82.2	0.22	0.05		6.3	45.6	0.28	0.05	1082.5	0.05	0.22
	6.4	59.2	3.3	70.2	0.28	0.06		9.8	60.6	0.29	0.05	1087.2	0.06	0.28
	7.4	57.4	3.8	67.8	0.22	0.04		9.8	50.3	0.25	0.04	1092.8	0.04	0.22
	1.0	15.4	0.5	17.8	0.22	0.04		6.3	50.5	0.29	0.05	1095.6	0.04	0.22
	5.5	58.3	2.8	68.2	0.14	0.03		14.8	104.3	0.14	0.03	1099.7	0.03	0.14
	6.0	76.7	3.0	88.0	0.14	0.03		6.3	60.9	0.19	0.03	1103.1	0.03	0.14
	7.9	79.9	4.2	97.6	0.17	0.03		9.1	71.3	0.23	0.04	1107.4	0.03	0.17
	5.1	51.6	2.7	62.7	0.29	0.04		1.4	9.0	0.16	0.03	1111.7	0.04	0.29
	4.9	54.6	2.4	61.5	0.37	0.07		1.4	10.1	0.47	0.11	1115.6	0.07	0.37
	7.6	66.1	3.6	72.0	0.44	0.09		10.3	62.8	0.52	0.12	1120.6	0.09	0.44
	1.7	24.6	1.1	36.6	0.16	0.03		7.7	60.7	0.22	0.04	1123.6	0.03	0.16
	2.0	18.9	1.2	26.1	0.30	0.05		11.9	59.2	0.24	0.04	1128.2	0.05	0.30
	3.5	26.2	2.1	36.2	0.47	0.09		10.5	43.2	0.63	0.11	1134.0	0.09	0.47
	4.7	26.2	2.7	34.6	0.23	0.03		16.9	51.7	0.28	0.04	1141.8	0.03	0.23
	2.0	2.09	1.5	35.7				5.7	31.4	0.23	0.03	1146.0	0.03	0.23
			1.1	17.2				14.8	52.4	0.23	0.03	1152.4	0.03	0.23
			1.3	46.4				13.4	127.9	0.25	0.03	1155.2	0.03	0.25

Calculated:
- 86.7' @ 0.24%
- 77.4' @ 0.78%
- 108' @ 0.48%
- 40.7' @ 0.22%
- 22.3' @ 0.37
- 21.2' @ 0.23

GEOLOGY
- Quartz Porphyry Breccia
- Quartz Porphyry Breccia With Diorite Fragments
- Quartz Porphyry Breccia
- Qtz. Por. Breccia & Diorite Frags. / And. Porph.
- Silicification — Strong Silicification — Sp. Silic. — Strong Silicification
- Limonite — Sparse Limonite — V. Sp. Lim. — Sparse Limonite — Mod. Lim. — Sparse Limonite — St. Lim. — Sp. Lim. — Mod. Lim. — Sp. Lim. — V. Sp. Limonite
- Very Sp. Cc. Limonite — Sp. Cc. Lim. — V. Sp. Cc. Limonite — Mod. Cc. Limonite — V. Sp. Cc. Limonite — Sp. Cc. Lim. — St. Cc. Lim. — Mod. Cc. Lim. — Mod. Cc. Lim. — Sp. Cc. Lim. — Sparse Cc. Limonite — Mod. Cc. Lim. — V. Sp. Cc. Lim. — Sparse Cc. Limonite — Sp. Cc. Limonite — Mod. Cc. Lim. — Very Sparse Cc. Limonite
- Very Sparse Cu Oxides & Silicates — Sp. Cu. Ox. & Sil. — V. Sp. Cu. Ox. & Silicates — Sp. Cu. Ox. & Silicates — St. Cu. Ox. & Sil. — Sp. Cu. Ox. & Silicates — St. Cu. Ox. — Sparse Cu. Oxides & Silicates — Moderate Cu. Oxides & Silicates — Sparse Cu. Oxides & Silicates
- Feldspars Kaolinized — Sparse Kaolinite - Feldspars Kaolinized — St. Kaol. — Moderate Kaolinite
- Strong Sericite — Sparse Sericite — St. Sericite — Sp. Sericite — Mod. Ser. — Sparse Sericite — Moderate Sericite
- Sp. Epidote
- V. Euh. Zir. — V. Sp. Euh. Zir. — V. Sp. Euh. Zir. — V. Sp. Euh. Zir. — Very Sparse Euhedral Zircons

DRILLER'S LOG (Bit Size / Casing / Cement / Remarks): BX

FOR CONTINUATION OF SD-6
SEE SHEET NO. 3

GEOLOGICAL DEPARTMENT
CONSOLIDATED COPPERMINES CORPORATION

KEUFFEL & ESSER CO. NEW YORK
CROSS SECTION 10 X 10 STANDARD

SHEET NO.3

DIAMOND DRILL HOLE

SD-6

"CONTINUATION"

THEOR. WT. OF CORE	ACTUAL WT. OF CORE	% REC. BY WEIGHT	FEET CORE RECOVERY	% CORE REC. BY FEET	CORE ASSAYS % Cu.	Cu. Comp.	Oz. Au	Oz. Ag.	% Fe	% Cu. Ox.	THEOR. WT. OF SLUDGE	ACTUAL WT. OF SLUDGE	% MOISTURE OF SLUDGE	DRY WT. OF SLUDGE X FACTOR	% SLUDGE RECOVERY	SLUDGE ASSAYS % Cu.	Cu. Comp.	Oz. Au	Oz. Ag.	% Fe	% Cu Ox	DEPTH	CORRECTED ASSAYS % Cu. Ox.	% Fe	Oz. Ag.	Oz. Au	Cu. Comp.	% Cu.
			1.7	43.6										8.4	57.1	0.20					0.03	1159.1	0.03	+				0.20
			0.8	38.1										7.7	93.8	0.23					0.03	1161.2	0.03	+				0.23
			3.2	65.3										10.5	65.2	0.23					0.03	1166.1	0.03	+				0.23
			3.1	51.7										11.2	52.0	0.27					0.04	1172.1	0.04	+				0.27
			2.4	85.7										8.4	106.8	0.22					0.03	1174.9	0.03	+				0.22
			3.3	62.3										11.2	72.9	0.33					0.04	1180.2	0.04	+				0.33
			3.5	81.4										7.7	61.2	0.35					0.04	1184.5	0.04	+				0.35
			3.9	52.0										30.2	111.8	0.48					0.05	1192.0	0.05	+				0.48
			4.8	58.5										26.7	94.7	0.42					+ 0.06	1200.2	0.05	+				0.42
			3.7	49.3										30.9	112.3	0.52					+ 0.05	1207.7	0.05	+				0.52
			2.2	28.2										12.0	36.9	0.44					+ 0.05	1215.5	0.05	+				0.44
														48.5	69.7	0.25					0.04	1230.0	0.04	+				0.25
			4.2	58.3										24.6	98.6	0.39					0.05	1237.2	0.05	+				0.39
														63.3	74.1	0.47					0.07	1255.0	0.07	+				0.47
			2.3	41.1										15.5	71.6	0.29					0.04	1260.6	0.04	+				0.29
														57.0	82.4	0.53					0.13	1275.0	0.13	+				0.53
			3.9	78.0										9.8	65.5	0.28					0.07	1280.0	0.07	+				0.28
														43.6	90.8	0.28					+ 0.05	1290.0	0.05	+				0.28
			3.3	64.7										7.0	41.7	0.28					+ 0.04	1295.1	0.04	+				0.28
														66.8	93.4	0.23					0.04	1310.0	0.04	+				0.23
			6.0	72.3										15.5	59.3	0.22					0.04	1318.3	0.04	+				0.22
														72.4	90.3	0.59					0.06	1335.0	0.06					0.59
			2.5	40.9										11.2	47.8	0.53					0.06	1341.1	0.06					0.53
														60.5	90.6	0.32					0.04	1355.0	0.04					0.32
			10.2	98.1										17.6	66.4	0.25					0.03	1365.4	0.03					0.25
			6.1	70.1										18.9	68.3	0.35					0.04	1374.1	0.04					0.35
														68.9	90.3	0.40					0.04	1390.0	0.04					0.40
			2.7	60.0										9.8	63.9	0.40					0.04	1394.5	0.04					0.40
														63.2	85.0	0.39					0.04	1410.0	0.04					0.39
			6.5	78.3										12.7	50.7	0.44					0.04	1418.3	0.04					0.44
														64.7	80.7	0.38					0.04	1435.0	0.04					0.38
			10.0	95.2										20.4	77.1	0.37					0.04	1445.5	0.04					0.37
														47.8	68.7	0.32					0.03	1460.0	0.03					0.32
			10.1	97.1										21.0	78.6	0.29					0.03	1470.4	0.03					0.29
														61.1	87.3	0.31					0.03	1485.0	0.03					0.31
			4.5	60.0										8.4	32.9	0.40					0.04	1492.5	0.04					0.40
														75.9	90.4	0.45					0.04	1510.0	0.04					0.45
			1.3	43.3										6.3	55.5	0.39					0.04	1513.0	0.04					0.39
														45.0	55.1	0.37					0.04	1530.0	0.04					0.37
			3.3	73.3										4.9	35.0	0.23					0.03	1534.5	0.03					0.23
														33.0	44.4	0.26					0.03	1550.0	0.03					0.26
			2.4	68.6										4.9	43.7	0.29					0.03	1553.5	0.03					0.29
														48.5	61.3	0.23					0.03	1570.0	0.03					0.23
			1.0	38.5										5.6	55.5	0.17					0.02	1572.6	0.02					0.17
														62.6	74.9	0.21					0.03	1590.0	0.03					0.21
			2.4	63.2										7.7	60.7	0.42					0.04	1593.8	0.04					0.42
														35.1	45.2	0.31					0.03	1610.0	0.03					0.31
			2.3	60.5										6.3	49.0	0.30					0.03	1613.8	0.03					0.30
														53.4	68.7	0.36					0.03	1630.0	0.03					0.36

2.3 lbs/ft.

2.5 lbs/ft.

GEOLOGY

Grayish-Purple Andesite Porphyry (Malachite) Strong Silicification

Partly Par. Br. 13% Sp. Sulphides

V. Sparse Limonite

V. Sparse Chalcocite Limonite

V.Sp.Cu.Ox & Sil.

Sp. Euh. Zir.

Sparse Kaolinite

Moderate Sericite

Sp. Euh. Zircons

Very Sparse Limonite

Sparse Limonite

Tr. Cc. Lim.

Sparse Copper Oxides & Silicates

Mod. Kaolinite

Mod. Ser. | St. Sor.

BX

Sparse Limonite

V. Sp. Malachite

V. Sp. Sericite

Moderate Biotite

DRILLER'S LOG

Bit Size

Casing

Cement

Remarks

Caving

Hole abandoned. Deflection wedge plugged hole at 230 feet.

Alternate runs made with non-coring bits

DEPTH OF HOLE: 1630.0 FEET

COMPLETED: SEPTEMBER 23, 1950

NOTE:

1. Sludge recoveries calculated by the "Longyear" method.
2. Core assays are used for "Corrected Assays" when reliable and available. When not reliable or when not assayed, sludge assays are used.

J.H.Jr.

GEOLOGICAL DEPARTMENT

CONSOLIDATED COPPERMINES CORPORATION

SAFFORD D.D. HOLE

SD-6

SD #8

SHEET 1

DIAMOND DRILL HOLE

SD-8

STAR No. 23 CLAIM
54,684 N.
57,112 E
COLLAR ELEV. 4,692.0'

INCLINATION: VERTICAL

STARTED: 1-22-51

BEARING: ——

Feet Core Recovery	% Core Rec by Feet	Dry Wt. of Sludge x Factor	% Sludge Recovery	Sludge Assays % Cu	Depth	Corrected Assays % Cu
					25.0	
10.5	35.0				55.0	
1.8	32.7				60.5	
1.0	40.0				63.0	
1.3	32.5				67.0	
1.0	25.0				71.0	
2.9	55.7				76.2	
1.9	50.0				80.0	
2.8	82.4				83.4	
2.4	70.6				86.8	
2.0	45.4				91.2	
1.4	38.9				94.8	
1.9	26.0				102.1	
1.3	81.2				103.7	
2.7	81.8				107.0	
2.5	64.1				110.9	
1.8	69.2				113.5	
1.9	63.4				116.5	
1.7	60.7				119.3	
1.5	55.6				122.0	
1.8	47.4				125.8	
0.6	19.4				128.9	
1.4	27.4				134.0	
0.5	9.4				139.3	
4.9	70.0				146.2	
6.0	85.7				153.2	
1.7	51.5				156.5	
1.8	72.0				159.0	
3.2	49.2				165.5	
4.8	75.0				171.9	
1.0	14.9				178.6	
3.4	62.9				184.0	
4.7	64.4				191.3	
0.9	21.3				196.0	
2.6	36.1				203.2	
2.2	62.8				206.7	
1.9	52.8				210.3	
2.8	71.8				214.2	
1.6	48.5				217.5	
2.7	81.8				220.8	
2.6	40.0				227.3	
0.4	66.7				227.9	
3.4	75.5				232.4	
2.7	71.1				236.2	
1.0	17.9				241.8	
0.8	16.0				246.8	
0.3	9.4			Tr	250.0	Tr
2.1	23.1			Tr	259.1	Tr
2.0	31.7			Tr	265.4	Tr
1.3	36.1			Tr	269.0	Tr
5.0	96.1			Tr	274.2	Tr
7.5	92.6			Tr	282.3	Tr
0.4	13.8			Tr	285.2	Tr
2.9	87.8			Tr	288.5	Tr
3.1	77.5			Tr	292.5	Tr
1.4	35.9			Tr	296.4	Tr
3.8	67.8			Tr	302.0	Tr
3.2	54.2			Tr	307.9	Tr
2.3	63.8			Tr	311.5	Tr
4.9	57.6			Tr	320.0	Tr
1.7	25.4				326.7	
0.2	3.1				333.1	
2.5	36.8				339.9	
1.3	12.9	28.7	63.2	0.02	350.0	0.02
0.4	6.7	12.8	46.4	0.02	356.0	0.02
1.3	35.1	13.3	92.2	0.03	359.7	0.03
2.0	18.3	45.1	95.6	0.02	370.6	0.02
1.8	18.2	47.7	110.1	0.02	380.5	0.02
1.1	11.4	37.4	85.0	0.03	390.2	0.03
3.4	34.7	43.1	109.9	0.03	400.0	0.03
4.8	63.2	20.0	78.7	0.03	407.6	0.03
1.2	31.8	19.5	126.0	0.04	411.4	0.04
3.2	33.3	32.8	84.3	0.03	421.0	0.03
1.2	12.6	41.0	95.7	0.03	430.5	0.03
9.4	92.1	18.5	68.2	0.04	440.7	0.04
8.6	83.5	24.6	83.0	0.04	451.0	0.04
5.3	57.0	25.1	77.4	0.05	460.3	0.05
1.5	27.2	16.9	73.7	0.05	465.8	0.05
9.4	96.9	14.9	59.5	0.07	475.5	0.07
4.0	75.5	12.8	78.6	0.06	480.8	0.06
2.0	37.0	22.0	103.1	0.12	486.2	0.12
2.3	23.0	28.2	66.0	0.08	496.2	0.08
1.4	13.7	36.4	79.8	0.10	506.4	0.10
2.1	50.0	23.1	150.5	0.10	510.6	0.10
5.0	76.9	63.0	320.0	0.08	517.1	0.08
0.7	41.1	43.1	660.0	0.07	518.8	0.07
4.5	44.5	134.3	352.0	0.06	528.9	0.06
4.5	44.5	104.6	274.0	0.06	539.0	0.06
5.7	52.3	128.1	326.0	0.05	549.9	0.05
1.6	16.9	90.2	215.0	0.05	559.4	0.05
1.7	23.0	121.0	373.0	0.06	566.8	0.06
4.6	65.7	102.5	445.0	0.05	573.8	0.05
4.2	58.3	154.8	621.0	0.07	581.0	0.07
7.5	104.0	169.1	940.0	0.08	588.2	0.08
1.4	66.7	114.8	1670.0	0.08	590.3	0.08
3.4	81.0	133.0	1080.0	0.10	594.5	0.10
3.2	53.3	114.8	536.0	0.11	600.5	0.11
3.1	72.1	11.3	117.9	0.11	604.8	0.11
5.1	72.9	30.5	201.0	0.07	611.8	0.07
5.0	87.8	26.1	224.2	0.08	617.5	0.08
4.9	68.1	42.0	255.8	0.09	624.7	0.09
3.5	92.1	16.4	216.7	0.09	628.5	0.09
4.4	67.7	13.8	92.7	0.08	635.0	0.08
5.3	70.7	28.7	169.9	0.10	642.5	0.10
3.4	68.0	7.7	67.5	0.10	647.5	0.10
3.3	38.8	9.7	43.4	0.10	656.0	0.10
1.0	11.1	93.3	348.5	0.09	665.0	0.09
2.7	28.1	56.4	212.5	0.09	674.6	0.09
2.8	25.7	52.8	169.2	0.13	685.5	0.13
1.1	21.2				690.7	
2.3	69.7				694.0	
0.5	45.5				695.1	
1.6	47.1				698.5	
2.9	44.6				705.0	
3.4	32.4				715.5	
1.6	15.2				726.0	
3.0	30.3	14.9	54.9	0.04	735.9	0.04
1.7	19.8	16.4	66.7	0.11	744.5	0.11
10.3	89.5	13.8	59.4	0.05	756.0	0.05
8.2	56.5	22.6	62.4	0.05	770.5	0.05
6.6	48.9	28.7	84.8	0.03	784.0	0.03
10.3	88.0	20.0	83.9	0.03	795.7	0.03
10.1	98.0	16.4	82.9	0.04	806.0	0.04
6.9	53.5	22.6	71.2	0.03	818.9	0.03
8.4	66.6	17.9	61.7	0.04	831.5	0.04

Other column headers (no entries): Theor. Wt. of Core; Actual Wt. of Core; % Rec. by Weight; Core Assays (% Cu., Cu Comp., Oz. Au., Oz. Ag, % Fe, % Cu Ox.); Theor. Wt. of Sludge; Actual Wt. of Sludge x Factor; % Moisture of Sludge; Sludge Assays (Cu Comp., Oz Au, Oz Ag, % Fe, % Cu Ox); Corrected Assays (% Cu Ox, % Fe, Oz Ag, Oz Au, Cu Comp.).

Theor. Wt. of Core: 3.9 lbs/ft (to 320.0); 2.3 lbs/ft (to 600.5); 1.1 lbs/ft (to 831.5)

Theor. Wt. of Sludge: 4.0 lbs/ft (to 320.0); 2.5 lbs/ft (to 600.5); 2.0 lbs/ft (to 831.5)

Sludge Cu Comp.: Trace (250.0–320.0); 0.05 (339.9–588.2); 0.10 (590.3–685.5); 0.04 (726.0–831.5)

GEOLOGY: Alluvium; Vesicular Basalt; Moderate Iddingsite; Sp. Basaltic Hornblende; Sp. Iddingsite; Tuff and Tuffaceous Breccia; Quartz Porphyry Breccia; Sp. Silicification; Moderate Silicification; Heavy Limonite; Strong Limonite; Moderate Limonite; M. C'cite Limon; St. Ccl; Strong Chalcocite Limonite; Strong Kaolinite; Sparse Sericite; Mod. Kaol.; Mod. Ser.; St. Kaol.; Sp. Sericite; V. Sp. Euh. Zircon; V. Sp. Euhedral Zircon; Sp. Zircon; And. Porph.; qpb; Very Sparse Copper Oxides and Silicates; Sp. Kaolinite; Sparse Limonite; Sp. C'cite Limon.; Very Sparse Euhedral Zircon; Mod. Kaol.; Qtz. Porph. Breccia; M. Silic; St. Silic; M. Lim.; Sp. Limon.; M. Ccl; V. Sp. Ccl; M. Kaol.; Sp. Kaol.; Sp. Ser.; V. Sp. Ser.

DRILLER'S LOG

Bit Size: NX; BX; AX; BX; AX

Remarks: Hole Caved; Left 70' BX Casing in Hole; Left 650' AX Casing in Hole; Hole Caved; INCL: 90°; Hole Caved-Heavy Sand

SEE SHEET 2

SHEET 2

DIAMOND DRILL HOLE

SD-8

STAR No. 23 CLAIM
54,684 N
57,112 E
COLLAR ELEV. 4692.0

INCLINATION: VERTICAL

BEARING: ——

THEOR. WT. OF CORE	ACTUAL WT. OF CORE	% REC. BY WEIGHT	FEET CORE RECOVERY	% CORE REC. BY FEET	CORE ASSAYS % CU	CU COMP.	OZ AU	OZ AG	% FE	% CU OX.	THEOR. WT. OF SLUDGE	ACTUAL WT. OF SLUDGE X FACTOR	% MOISTURE OF SLUDGE	DRY WT. OF SLUDGE X FACTOR	% SLUDGE RECOVERY	SLUDGE ASSAYS % CU	CU COMP.	OZ AU	OZ AG	% FE	% CU OX.	DEPTH	CORRECTED ASSAYS % CU OX.	% FE	OZ AG	OZ AU	CU COMP.	% CU
			8.6	66.1										15.4	51.3	0.03						844.5						0.03
			3.5	31.0										13.3	43.1	0.04						855.8						0.04
			3.9	24.1										17.9	39.4	0.06						872.0						0.06
			0.8	11.4										13.8	66.4	0.05						879.0						0.05
			4.5	30.2										25.1	61.5	0.12						893.9						0.12
			1.0	9.0										26.7	80.5	0.21						905.0						0.21
			1.0	6.0										24.6	48.6	0.14						921.7						0.14
			0.9	6.3										18.5	43.0	0.12						935.9						0.12
			2.2	16.7										9.7	27.9	0.13						947.9						0.13
			2.7	38.0										10.3	55.0	0.21						955.0						0.21
			3.2	27.8										13.3	41.8	0.09						966.5						0.09
			1.1	14.5										10.3	46.2	0.16						974.1						0.16
			5.1	98.1										3.1	31.0	0.54						979.3						0.54
			1.7	45.9										3.1	32.8	0.39						983.0						0.39
			9.4	96.9										5.1	27.2	0.83						992.7						0.83
			7.0	94.6										5.1	35.2	0.45						1000.1						0.45
			1.4	63.6										2.1	41.0	0.16						1002.3						0.16
			9.1	92.8										7.2	37.1	0.19						1012.1						0.19
			6.4	63.4										7.7	32.8	0.25						1022.2						0.25
			2.5	22.5										18.5	58.9	0.24						1033.3						0.24
			9.7	95.1										13.3	66.6	0.25						1043.5						0.25
			7.4	101.3										2.6	18.7	0.23						1050.8						0.23
			3.0	50.0										10.8	72.0	0.21						1056.8						0.21
			2.5	25.8										7.7	28.4	0.25						1066.5						0.25
			9.8	95.1										12.3	60.9	1.29						1076.8						1.29
			9.6	91.4										10.8	51.4	0.49						1087.3						0.49
			9.0	79.7										7.2	29.8	0.43						1098.6						0.43
			3.6	73.5										4.6	42.3	0.14						1103.5						0.14
			0.3	9.4										7.7	80.4	0.11						1106.7						0.11
			2.3	63.9										7.2	85.8	0.19						1110.3						0.19
			10.0	96.1										6.7	33.2	0.14						1120.7						0.14
			8.3	94.4										3.6	20.9	0.30						1129.5						0.30
			4.0	85.2										2.6	26.6	0.26						1134.2						0.26
			6.6	82.5										6.2	36.7	0.21						1142.2						0.21
			9.9	100.0										10.8	57.4	0.60						1152.1						0.60
			1.1	10.9										13.3	43.3	0.46						1162.2						0.46
			8.0	84.2										10.3	51.8	0.71						1171.7						0.71
			2.6	36.8										10.8	59.7	0.34						1178.5						0.34
			9.0	96.8										12.3	68.8	0.95						1187.8						0.95
			10.0	99.0										11.8	61.2	0.68						1197.9						0.68
			10.1	98.0										11.8	59.8	0.53						1208.2						0.53
			9.9	98.0										14.4	74.3	0.40						1218.3						0.40
			7.7	100.0										9.7	66.3	0.40						1226.0						0.40
			3.0	73.2										5.1	55.4	0.20						1230.1						0.20
			5.9	61.5										15.9	70.2	0.29						1239.7						0.29
			7.2	64.9										17.9	69.5	0.25						1250.8						0.25
			10.2	100.0										13.3	68.7	0.19						1261.0						0.19
			3.8	54.3										12.8	74.6	0.18						1268.0						0.18
			1.1	14.3										13.3	59.0	0.30						1275.7						0.30
			8.6	83.5										9.7	44.8	0.92						1286.0						0.92
			2.4	24.0										11.3	40.3	0.40						1296.0						0.40
			4.5	50.0										10.3	45.8	0.28						1305.0						0.28
			9.4	92.2										10.8	53.2	0.25						1315.2						0.25
			7.2	67.9										10.3	42.6	0.52						1325.8						0.52
			8.8	87.1										2.6	12.6	0.73						1335.9						0.73
			8.5	84.1										8.2	38.8	1.10						1346.0						1.10
10.12	9.56	94.4	8.9	96.4	0.75									8.7	45.9	0.68						1355.2						
5.61	4.44	79.1	4.2	82.4	1.27									1.5	12.7	1.03						1360.3						
5.72	4.13	72.4	4.6	88.5	0.54									3.1	25.9	0.55						1365.5						
7.92	6.19	78.1	6.6	91.7	1.22									5.1	31.6	0.93						1372.7						
3.30	1.13	34.2	1.3	43.3	0.34									1.0	12.3	1.54						1375.7						
2.86	1.75	61.2	1.8	69.3	0.22									2.1	33.2	0.47						1378.3						
3.52	1.56	44.3	1.4	43.7	0.09									1.0	12.0	0.26						1381.5						
8.58	4.75	55.3	4.9	62.8	1.59									3.1	16.0	1.40						1389.3						
7.15	4.06	56.8	4.3	66.1	0.86									4.1	25.4	1.03						1395.8						
2.97	1.81	60.9	1.8	66.6	0.36									1.0	15.2	0.49						1398.5						
7.15	4.56	63.8	5.1	78.5	0.93									5.6	35.9	0.66						1405.0						
10.23	6.00	58.6	4.5	48.4	0.39									16.4	71.7	0.49						1414.3						
11.77	3.69	31.4	3.5	32.7	0.09									14.9	50.5	0.59						1425.0						
8.58	4.94	57.6	4.7	60.3	1.03									8.2	42.5	0.57						1432.8						
6.60	5.31	80.5	4.3	71.7	0.91									13.8	104.0	0.78						1438.8						
7.92	1.88	23.7	2.0	27.8	0.79									4.8	23.5	0.90						1446.0						
10.56	9.50	90.0	8.8	91.7	2.24									5.7	28.1	1.37						1455.6						
2.97	2.38	80.1	2.3	85.2	0.39									2.5	41.7	0.55						1458.3						
11.99	10.94	91.2	9.9	90.8	0.46									5.2	22.7	0.47						1469.2						
5.28	1.94	36.7	1.9	39.6	0.27									4.0	30.8	0.32						1474.0						
7.92	7.44	93.9	6.8	94.5	0.27									4.8	32.6	0.34						1481.2						
4.07	1.69	41.5	1.6	43.2	0.21									0.2	2.0	0.29						1484.2						
6.93	3.94	56.9	3.7	58.7	0.43									4.8	30.7	0.62						1491.2						
10.89	10.06	92.4	9.1	91.9	0.47									5.9	28.8	0.54						1501.1						
12.21	10.81	88.5	9.4	84.7	0.74									6.1	25.8	0.73						1512.2						
10.78	2.88	26.5	2.6	26.5	1.88									5.7	20.7	0.82						1522.0						
10.67	7.19	67.4	6.5	67.0	0.68									7.5	32.7	0.67						1531.7						
11.44	11.13	97.4	9.2	88.5	0.78									9.5	45.0	0.68						1542.0						
8.91	7.06	79.1	6.9	85.2	1.49									4.1	22.7	1.19						1550.2						
8.36	7.31	87.4	6.4	84.3	0.56									3.9	24.0	0.55						1557.8						
11.33	11.06	97.4	9.5	92.2	0.86									5.9	28.2	0.87						1568.1						
5.06	3.56	70.4	2.7	58.7	1.08									3.0	28.0	0.59						1572.7						
10.67	7.25	68.7	6.3	65.0	0.42									6.8	29.8	0.64						1582.4						
5.94	4.94	83.1	4.2	77.8	0.63									2.7	22.8	0.69						1587.8						
8.58	6.69	78.0	5.6	71.8	0.69									4.3	24.8	0.73						1595.6						
9.46	8.25	87.2	8.0	92.0	0.37									3.9	21.2	0.44						1604.2						
5.28	4.06	77.4	3.9	81.3	0.13									3.9	36.1	0.30						1609.0						
7.70	4.31	56.0	4.2	60.0	0.29									5.0	28.8	0.25						1616.0						
9.46	1.19	12.6	1.3	15.1	0.11									11.8	46.3	0.27						1624.6						
12.54	1.19	9.2	1.1	9.6	0.18									14.7	41.8	0.45						1636.0						
10.89	6.06	55.7	5.9	59.6	0.60									9.3	37.7	0.51						1645.9						
6.49	0.56	8.6	0.5	8.5	0.33									6.3	35.5	0.62						1651.8						
10.34	6.13	59.3	5.9	62.8	0.43									6.8	29.5	0.46						1661.2						
5.28	3.31	62.6	3.2	66.6	0.38									4.8	41.5	0.39						1666.0						
3.52	1.00	28.4	0.8	25.0	0.29									2.3	25.8	0.47						1669.2						
12.54	3.13	24.9	3.4	29.8	2.16									7.5	23.2	1.67						1680.6						
12.54	5.44	43.3	5.2	45.6	0.66									9.5	31.8	0.54						1692.0						
15.40	0.63	4.1	0.6	4.3	0.16									17.2	40.1	0.71						1706.0						
10.78	5.06	47.0	4.9	50.0	1.00									9.5	38.5	0.58						1715.8						
2.75	1.19	43.3	1.6	64.0	0.16									2.5	38.2	0.64						1718.3						
8.03	2.06	25.6	2.4	32.9	0.12									7.5	36.4	0.41						1725.6						
11.22	1.31	11.7	1.0	9.8	0.13									7.9	26.1	0.15						1735.8						
1.65	1.00	60.6	0.8	53.3	0.23									1.4	38.5	0.29						1737.3						
14.08	6.25	44.3	6.1	47.6	0.34									10.4	31.1	0.24						1750.1						
11.99	1.81	15.1	2.1	19.3	0.10									11.8	37.0	0.18						1761.0						
12.65	4.81	38.0	4.5	39.1	0.11									9.5	30.8	0.12						1772.5						
11.33	1.69	14.9	1.6	15.5	0.05									7.9	26.1	0.11						1782.8						
13.42	2.94	21.9	3.4	27.9	0.03									15.9	45.6	0.12						1795.0						
12.76	10.75	92.1	9.8	84.5	0.05									6.1	25.6	0.11						1806.6						
9.46	6.31	66.7	6.0	69.8	0.07									5.0	24.6	0.09						1815.2						
8.58	5.19	60.5	4.4	56.4	0.07									4.5	23.6	0.11						1823.0						
12.87	6.00	46.6	4.6	39.3	0.05									10.9	36.0	0.12						1834.7						
4.95	3.19	64.5	3.4	75.5	0.05									3.0	29.1	0.13						1839.2						
4.73	3.00	63.2	3.4	79.0	0.05									2.3	22.8	0.12						1843.5						
4.95	1.69	33.1	2.0	44.4	0.07									3.4	33.7	0.14						1848.0						
8.25	5.50	66.6	4.9	65.4	0.06									6.6	37.1	0.12						1855.5						
10.34	1.69	16.3	1.6	17.0	0.08									12.9	47.0	0.16						1864.9						
12.21	5.44	44.5	5.1	45.9	0.07									11.6	40.1	0.15						1876.0						
5.28	2.50	47.3	2.4	50.0	0.07									4.3	34.8	0.15						1880.8						

GEOLOGY

DRILLER'S LOG: BIT SIZE | CASING | CEMENT | REMARKS

DEPTH OF HOLE: 1880.8 FEET.
COMPLETED: 5/10/51

GEOLOGICAL DEPARTMENT,
CONSOLIDATED COPPERMINES CORPORATION

NOTE:
All Sludge Recoveries Calculated by Longyear Method.