1400E

4500

S.T. 100 - 4452

S.T. 200 - 4356

T.Q. 300 -4283

BEDDING FAULT

S.T. 300-EMP.400 - 4210

MESOZOIC BISBEE GROUP SHALES & SANDSTONES

BISBEE GROUP BLUE LS.

BISBEE GROUP LS CG & NOVACULITE

PALEOZOIC NACO LIMESTONE DOLOMITE MEMBER

A

PROPOSED DEEP DRILL HOLE STATION

SILVER THREAD SHAFT

S.T.400- T.Q.500 - 4118

A'

MESOZOIC BISBEE GROUP SHALES, SANDSTONES, & THIN LIMESTONES

S.T. 500 Intermediate - 4043

S.T.500 - 4018

4000

S.T. 600 - 3918

"DOWNTHROWN BLOCK"

SKIP SHAFT FISSURE AT -82.5°

SKIP SHAFT FISSURE AT -85°

TRANQUILITY FAULT AT -71°

3500

DOLOMITE MEMBER OF NACO LS.

BLACK LIMESTONE MEMBER OF NACO LS.

3000

SILVER THREAD DIKE AT -80°

BLACK LIMESTONE MEMBER OF NACO LS.

ORANGE DOLOMITE MEMBER OF NACO LS.

DDH A
-80°
1500

SECTION LOOKING N10°E

2500

1400E

DRAWING NUMBER
D.N. P. L. LOC.
2525 to 418 [illegible]

TOMBSTONE DEVELOPMENT COMPANY
TOMBSTONE DISTRICT, ARIZONA

VERTICAL SECTION A-A' OF PROPOSED SILVER THREAD DEEP DRILL HOLE - COLLAR AT 788S, 1515E, 4118, ON N80°W, -80°

FILE MAP	DRAWN BY: J.P.McDaniel DATE: 7-6-1954	SCALE: 1" = 100'

1400E

SILVER THREAD SHAFT

ST 100 ~ 4452

ST 200 ~ 4356

TQ 300 ~ 4283

S.T. 300-EMP400 ~ 4210

SILVERTHREAD DEEP DRILL HOLE LOCATION "A"

ST400 - TQ500 ~ 4118

ST 500I ~ 4043

ST500 ~ 4018

S.T. 600 ~ 3918

A

A'

Mesozoic Bisbee Group Shales

Bisbee Blue Ls

Ls cg and Novaculite

Paleozoic Naco Limestone

Dolomite Member

"DOWNTHROWN BLOCK"

SKIP SHAFT FISSURE AT -82.5°

TRANQUILITY FAULT AT -71°

Dolomite Member of Naco Ls

Black Limestone Member of Naco Ls

SILVER THREAD DIKE AT -80°

Black Limestone Member of Naco Ls

Orange Dolomite Member of Naco Ls.

-80°
1500'

1400E

4500

4000

3500

3000

2500

SECTION LOOKING N10°E

TOMBSTONE DEVELOPMENT COMPANY
TOMBSTONE DISTRICT, ARIZONA

VERTICAL SECTION A-A' OF PROPOSED SILVERTHREAD DEEP DRILL HOLE ~ COLLAR AT 788S, 1515E, ON N80°W

FILE MAP	DRAWN BY: J.P.McDaniel DATE: 7-6-1954	SCALE: 1" = 100'

2542-0-418-AF-516A6

1400E

SILVER THREAD SHAFT

TRANQUILITY SHAFT

4500

S.T. 100 - 4452

S.T. 200 - 4356

T.Q. 300 - 4283

S.T. 300 - EMP. 400 - 4210

S.T. 400 - T.Q. 500 - 4118

S.T. 500 - 4018

S.T. 600 - 3918

4000

3500

3000

2500

B

B'

BISBEE GROUP SHALES

NOVAC. & LS CG

BLUE LS

MESOZOIC BISBEE GROUP SHALES, SANDSTONES & THIN LIMESTONES

NACO LIMESTONE

DOLOMITE MEMBER

EMPIRE ANTICLINE

"DOWNTHROWN BLOCK"

SKIP SHAFT FISSURE AT - 82.5°

TRANQUILITY FAULT AT - 71°

SILVER THREAD DIKE AT - 80°

NACO LIMESTONE

BLACK LIMESTONE MEMBER

ORANGE DOLOMITE MEMBER

DDH B
-80°
1500

SECTION LOOKING N 21°W

TOMBSTONE DEVELOPMENT COMPANY
TOMBSTONE DISTRICT, ARIZONA

VERTICAL SECTION B-B' OF PROPOSED SILVER THREAD DEEP DRILL HOLE - COLLAR AT 788S, 1515E, 4118, ON S69°W, - 80°

FILE MAP	DRAWN BY: J.P.McDaniel DATE: 7-6-1954	SCALE: 1" = 100'

2554

400

500

600

4100

700

800

3700

3300

2900

2500

Westside Shaft

Bisbee Sh and Ss.

Blue Ls

Novaculite

Ls Cg

Proposed DDH Sta

Cretaceous

Quartzite

Unconformity

Pennsylvanian Naco Ls or White Ls. - Dolomite member

Paleozoic

Boss Dike

Positions of West Side Vein assuming maximum (-85°), least (-80°) and -82°, dip known above 800 level

Westside Vein -80° dip

Westside Vein -82° dip

Westside Vein -85° dip

Dolomite Member

Black Ls Member

DDH -84°, 1500'

Black Ls Member

Orange Dolomite Member

TOMBSTONE DEVELOPMENT CO.
TOMBSTONE DISTRICT, ARIZ.

VERTICAL SECTION ON N65°W.
LOOKING NE, THROUGH -913S, -515W
~~PROPOSED~~ WESTSIDE AREA
DEEP DIAMOND DRILLHOLE

Scale: 1" = 100'

Drawn by J.P.M. May 25, 1954

DDH No. 6
@ Sta 40.5 601

DRAWING NUMBER

D. N	R	P	LOC.
2	C	AP	

4-8

400

500

600

4100

700

800

3700

3300

2900

Westside Shaft

Bisbee Shand Gs.

Blue Le

Novaculite

Le Cg

Proposed DDH Sta

Cretaceous

Quartzite

Unconformity

Pennsylvanian Naco Le - Dolomite member or White LS.

Paleozoic

Boss Dike

Positions of West Side Vein assuming maximum (-85°), least (-80°) and -82°, dip known above 800 level

Westside Vein -80° dip

Westside Vein -82° dip

Westside Vein -85° dip

Dolomite Member

Black Le Member

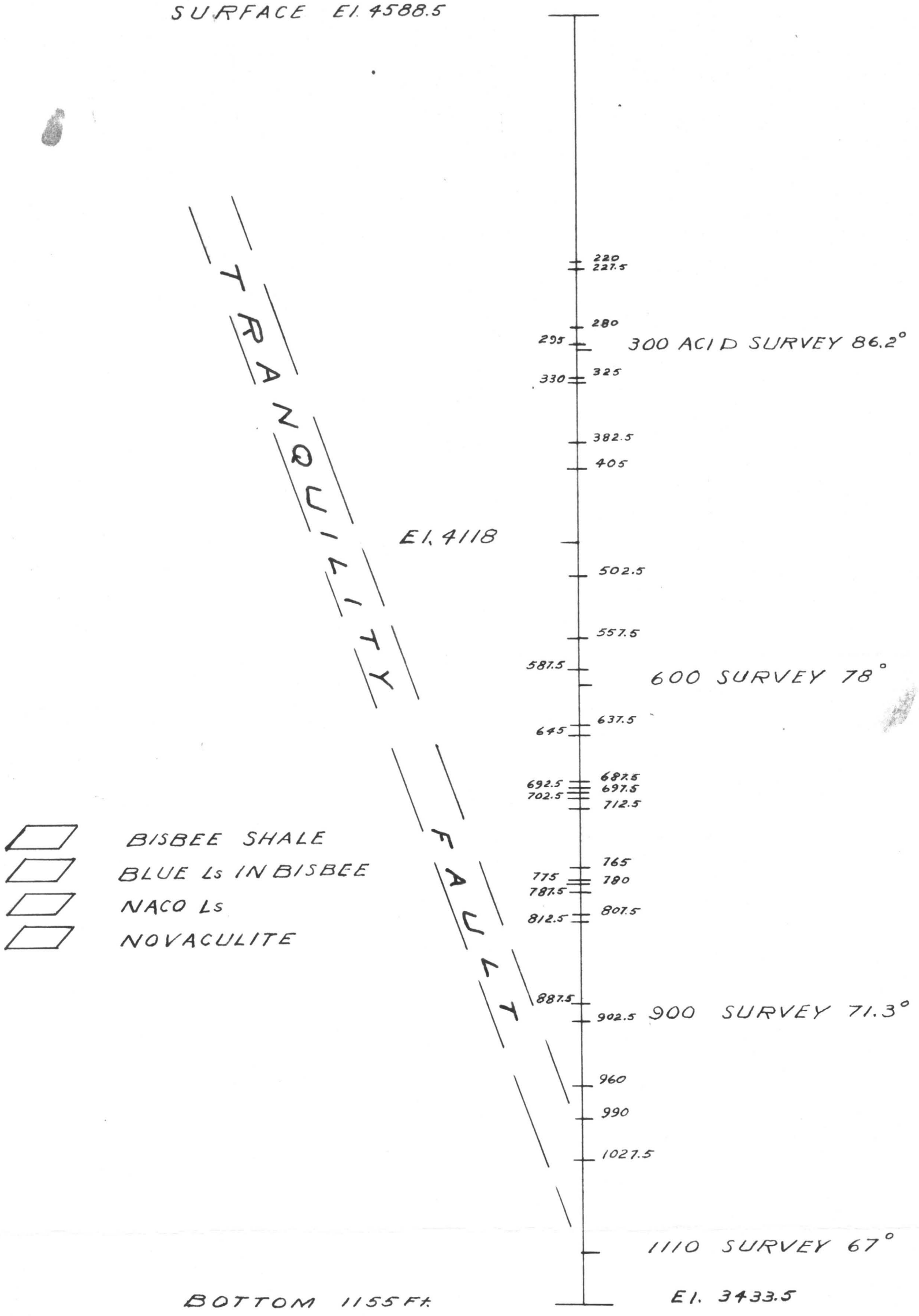
DDH -84° 1500'

TOMBSTONE DEVELOPMENT CO.
TOMBSTONE DISTRICT, ARIZ.
VERTICAL SECTION ON N65°W,
LOOKING NE, THROUGH -913S, -515W
~~PROPOSED~~ WESTSIDE AREA
DEEP DIAMOND DRILLHOLE
Scale: 1" = 100'
Drawn by J.P.M. May 25, 1954

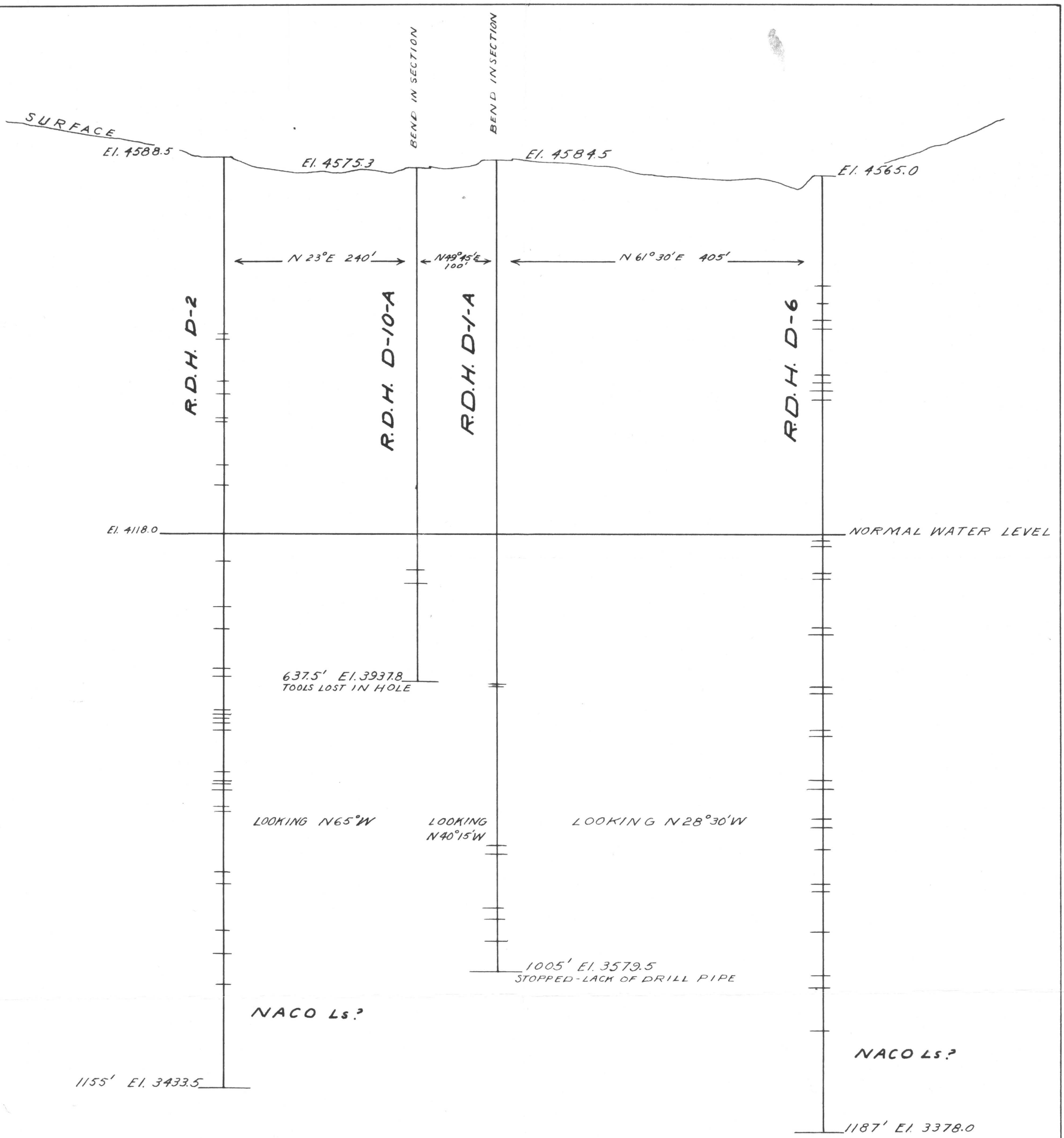
#6

TDC 5/25/54

Drilling X-sec.



TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
SECTION OF SURFACE 4¾" ROTARY HOLE D-2
COLLAR LOCATION 1363S 1095.5E
DRILLED BY G.S.I. DALLAS TEXAS
LOOKING N60°E
1 IN = 100 FT.
OCT. 27 1954 D.H.



TOMBSTONE DEVELOPEMENT CO.

TOMBSTONE ARIZONA

SECTION OF SURFACE HOLES G.S.I. DRILLED

D-2, D-1-A AND D-6 ARE 4¾ IN.

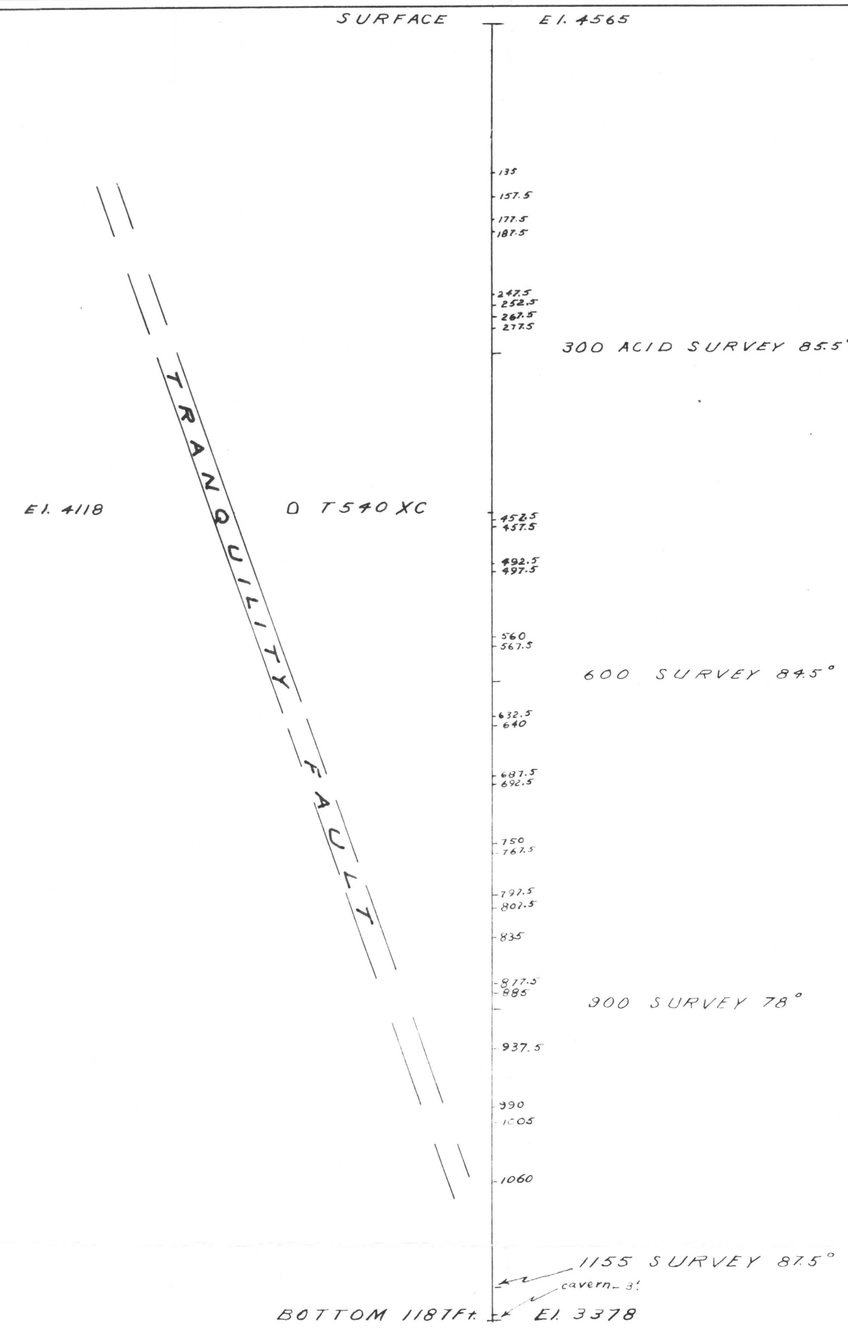
D-10-A IS 6¼ IN. ALL DRILLED BY ROTARY RIG

START AUG 17 — COMPLETED OCT. 25 1954

1 IN = 100 Ft.

OCT. 28 1954 D.H.

2545-0-418-AF-S16B1



TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
SECTION OF SURFACE 4¾" ROTARY HOLE D-6
COLLAR LOCATION 875S 1620E
DRILLED BY G.S.I. DALLAS TEXAS
LOOKING N 50° E
1 IN = 100 Ft.
OCT. 12 1954 D.H.

SURFACE 4584.5

300FT. ACID SURVEY 81°

T540 XC 4118 D

TRANQUILITY FAULT 71°

SAMPLING STARTED 560FT. EI. 4024.5

600FT. ACID SURVEY 89°

THIN Ls. (2 FT. Ls.?) 642FT.

Ls. (6FT. Ls?) 847-857FT.

900FT. ACID SURVEY 87.5°

932FT. DRILLED SOFT - FAULT? →

Ls. (10FT. Ls?) 922-935FT.

BOTTOM 1005FT. EI. 3579.5

Ls. (50FT. Ls?) 965-1005FT.

TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
SECTION OF SURFACE 4¾" ROTARY HOLE D-1-A

COLLAR LOCATION -1075.7S + 1266.2E
DRILLED BY G.S.I. OF DALLAS TEXAS
LOOKING N50°E 1 IN = 100FT.
SEPT. 30 1954 D.H.

SURFACE 4584.5

300FT. ACID SURVEY 81°

T540XC 4118 D

TRANQUILITY FAULT 71°

SAMPLING STARTED 560FT. EI. 4024.5

600FT. ACID SURVEY 89°

THIN Ls. (2FT. Ls.?) 642FT.

Ls. (6FT. Ls?) 847-857FT.

900FT. ACID SURVEY 87.5°

932FT. DRILLED SOFT - FAULT? →

Ls. (10FT. Ls?) 922-935FT.

BOTTOM 1005FT. EI. 3579.5

Ls. (50FT. Ls?) 965-1005FT.

TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
SECTION OF SURFACE 4¾" ROTARY HOLE D-1-A
COLLAR LOCATION -1075.7S + 1266.2E
DRILLED BY G.S.I. OF DALLAS TEXAS
LOOKING N50°E 1 IN = 100FT.
SEPT. 30 1954 D.H.

SURFACE 4584.5

300FT. ACID SURVEY 81°

T540 XC 4118 D
TRANQUILITY FAULT 71°

600FT. ACID SURVEY 89°

900FT. ACID SURVEY 87.5°

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BOTTOM 1005FT. EL. 3579.5

SAMPLING STARTED 560FT. EL. 4024.5

THIN Ls. (2FT. Ls.?) 642FT.

Ls. (6FT. Ls?) 847-857FT.

Ls. (10FT. Ls?) 922-935FT.

Ls. (50FT. Ls?) 965-1005FT.

TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
SECTION OF SURFACE 4¾" ROTARY HOLE D-1-A
COLLAR LOCATION -1075.7S + 1266.2E
DRILLED BY G.S.I. OF DALLAS TEXAS
LOOKING N50°E 1 IN = 100FT.
SEPT. 30 1954 D.H.

2528-0-418-AF-516A6

TDC 9/30/54

TOMBSTONE DEVELOPMENT CO.
Tombstone, Arizona.

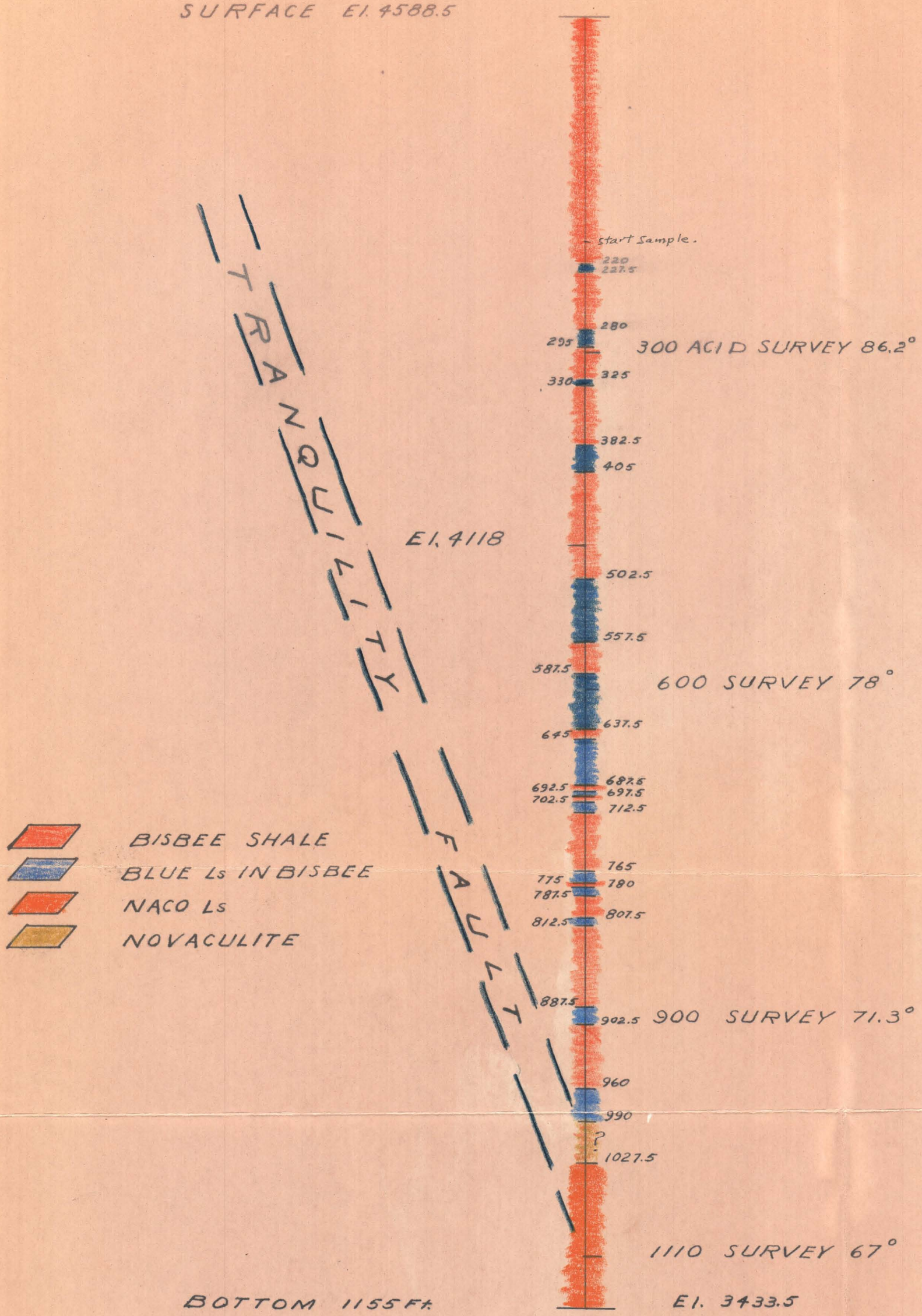
SECTION OF SURFACE 4-3/4" ROTARY HOLE D-1-A
Collar Location - 1075.7 S - 1266.2 E
Drilled by G.S.I. of Dallas, Texas
Looking N. 50° E

Scale: 1" = 100'
Dated: Sept. 30, 1954 D. H.

4-1

(15)

SURFACE EL. 4588.5



BOTTOM 1155 Ft.

TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
SECTION OF SURFACE 4¾" ROTARY HOLE D-2

COLLAR LOCATION 1363S 1095.5E

DRILLED BY G.S.I. DALLAS TEXAS

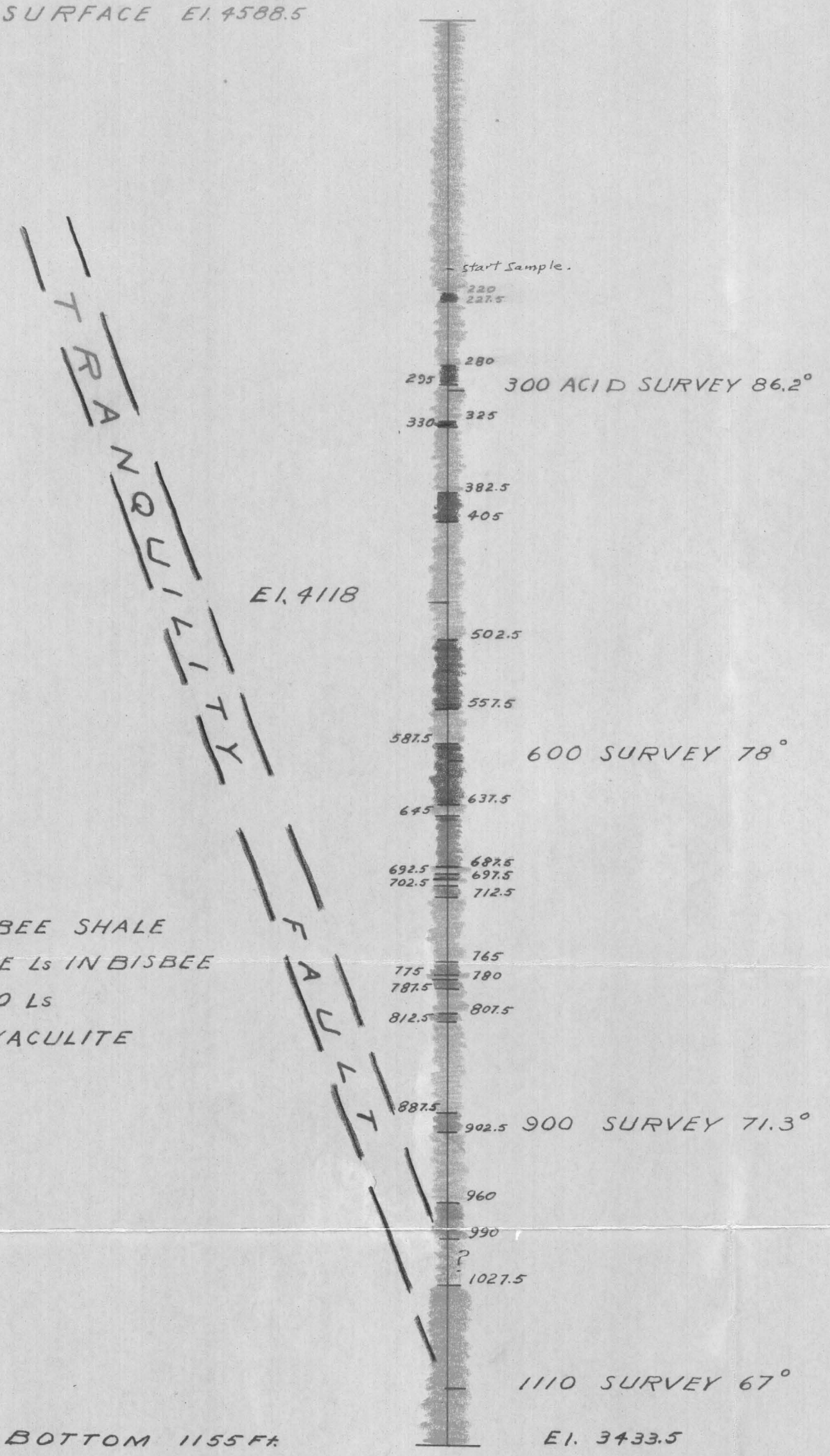
LOOKING N60°E

1 IN = 100 Ft.

OCT. 27 1954 D.H.

2526-0-418-HF-516A6

SURFACE EL. 4588.5



TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
SECTION OF SURFACE 4¾" ROTARY HOLE D-2
COLLAR LOCATION 1363S 1095.5E
DRILLED BY G.S.I. DALLAS TEXAS
LOOKING N60°E
1 IN = 100 Ft.
OCT. 27 1954 D.H.

2526-0-418-HF-516A6

RESISTIVITY - ρ_a - (ohm-Meters)

500
400
300
200
100
0

300 400 500

NEWMONT EXPLORATION - TOMBSTONE
SURFACE DRILL HOLE D-2-A
PULSE PROFILES

T = 3.0 Secs. Two Array t = 1.0 Sec.

Oct.-Nov. 1954

Legend
a = 10' ——x——
a = 35' - - - o - - -
a = 85' -·-·-o-·-·-

PULSE - V_s/V_p - (Secs x 10^{-3})

28
26
24
22
20
18
16
14
12
10
8
6
4
2
0

Var. Shale	Calcar.	Var. Shale	C.	Variagated Shale	Calcareous	Variegated Shale	Calcareous	Var. Sh

300 400 500

KEUFFEL & ESSER CO.
NEW YORK
CROSS SECTION 10 X 10 TO THE HALF INCH
100% RAG PAPER
MADE IN U.S.A.

600 700 800 900

Var. Shale	Calcar.	NO SAMP.	Calcar.	V.Sh.	Calcareous	V.S.	C.	V.S.	C.	Var. Shale	C.	V.S.	C.	V. Shale	C.	Variegated Shale	Calc.

600 700 800 900

TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10 TO THE HALF INCH
100% RAG PAPER
MADE IN U.S.A.

KEUFFEL & ESSER CO.
NEW YORK

900

1000

1100

500

400

300

200

100

0

28

26

24

22

20

18

16

14

12

10

8

6

4

2

0

Bottom, 1155'

Variegated Shale	Calc.	Var. Shale	Calc.	Var. Shale	N A C O ? ?
	900			1000	1100

TRADE STANDARD MARK
Reg. U.S. Pat. Off.
CROSS SECTION 10 X 10 TO THE HALF INCH
100% RAG PAPER
MADE IN U.S.A.

KEUFFEL & ESSER CO.
NEW YORK

SEARCH LINES

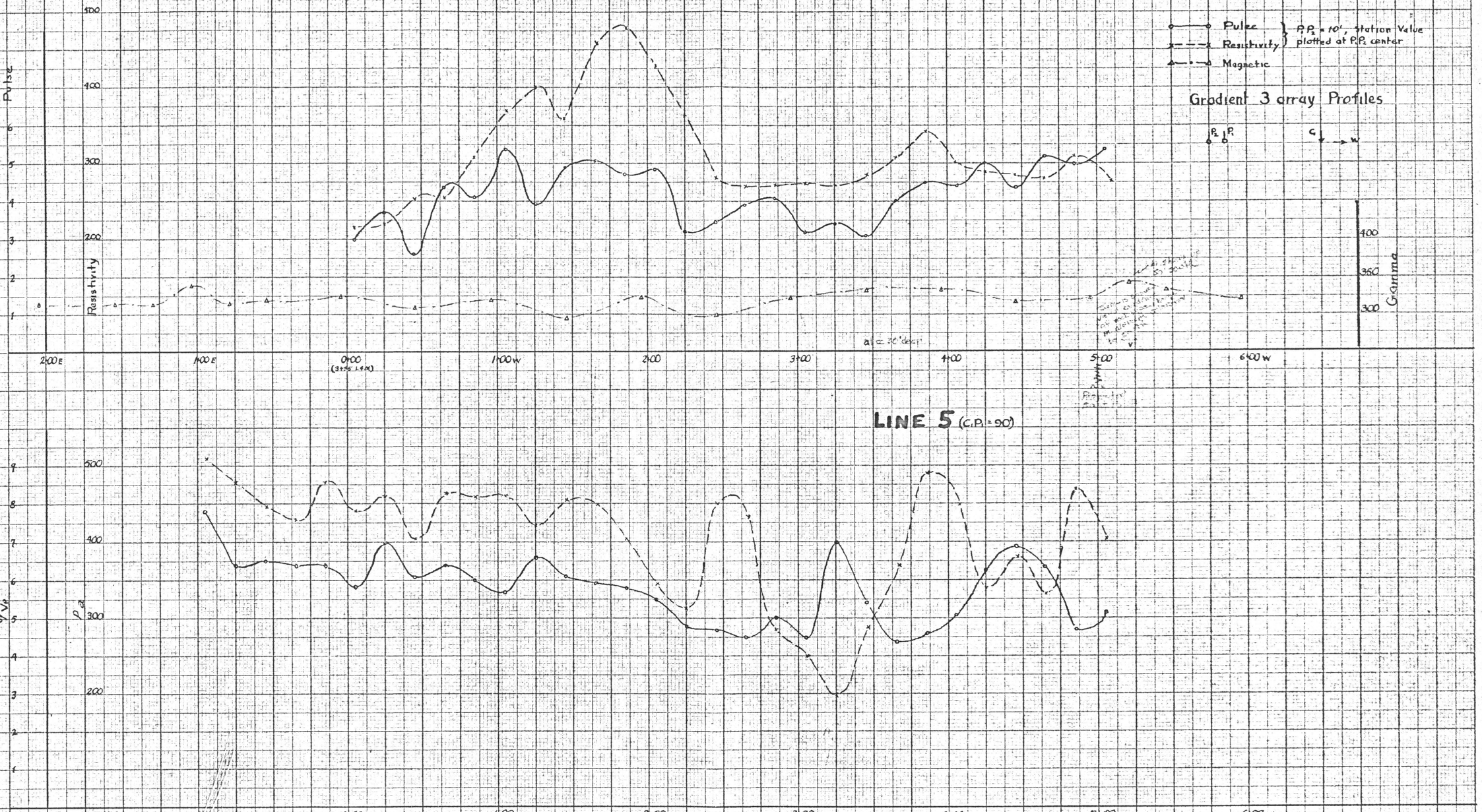
EAST FAULT PROBLEM
TOMBSTONE PROJECT

LINE 4 (C.P.=90')

Legend

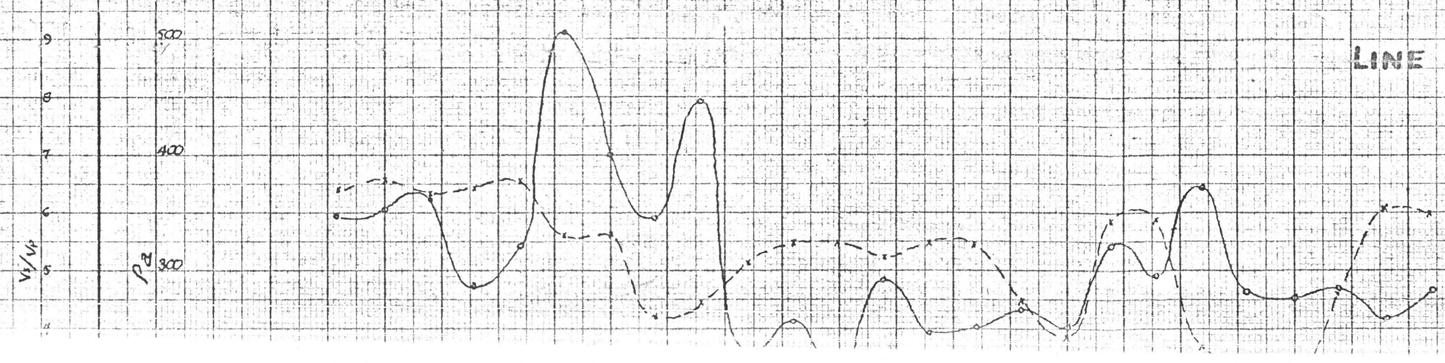
Pulse
Resistivity
Magnetic
} P_1P_2 = 10', station value plotted at P_1P_2 center

Gradient 3 array Profiles



LINE 5 (C.P.=90)

LINE 5 (C.P.=210)



KEUFFEL & ESSER CO.
NEW YORK
CROSS SECTION 10 X 10 TO THE HALF INCH
MADE IN U.S.A.

Pulse
Resistivity
Magnetic
P_1P_2 = 10', station Value plotted at P_1P_2 center

Gradient 3 array Profiles

P_1 P_2 C W

Pulse
Resistivity
Gamma

2+00 E | 1+00 E | 0+00 (3+55 L+M) | 1+00 W | 2+00 | 3+00 | 4+00 | 5+00 | 6+00 W

LINE 5 (C.P. = 90)

V_2/V_1
P_2

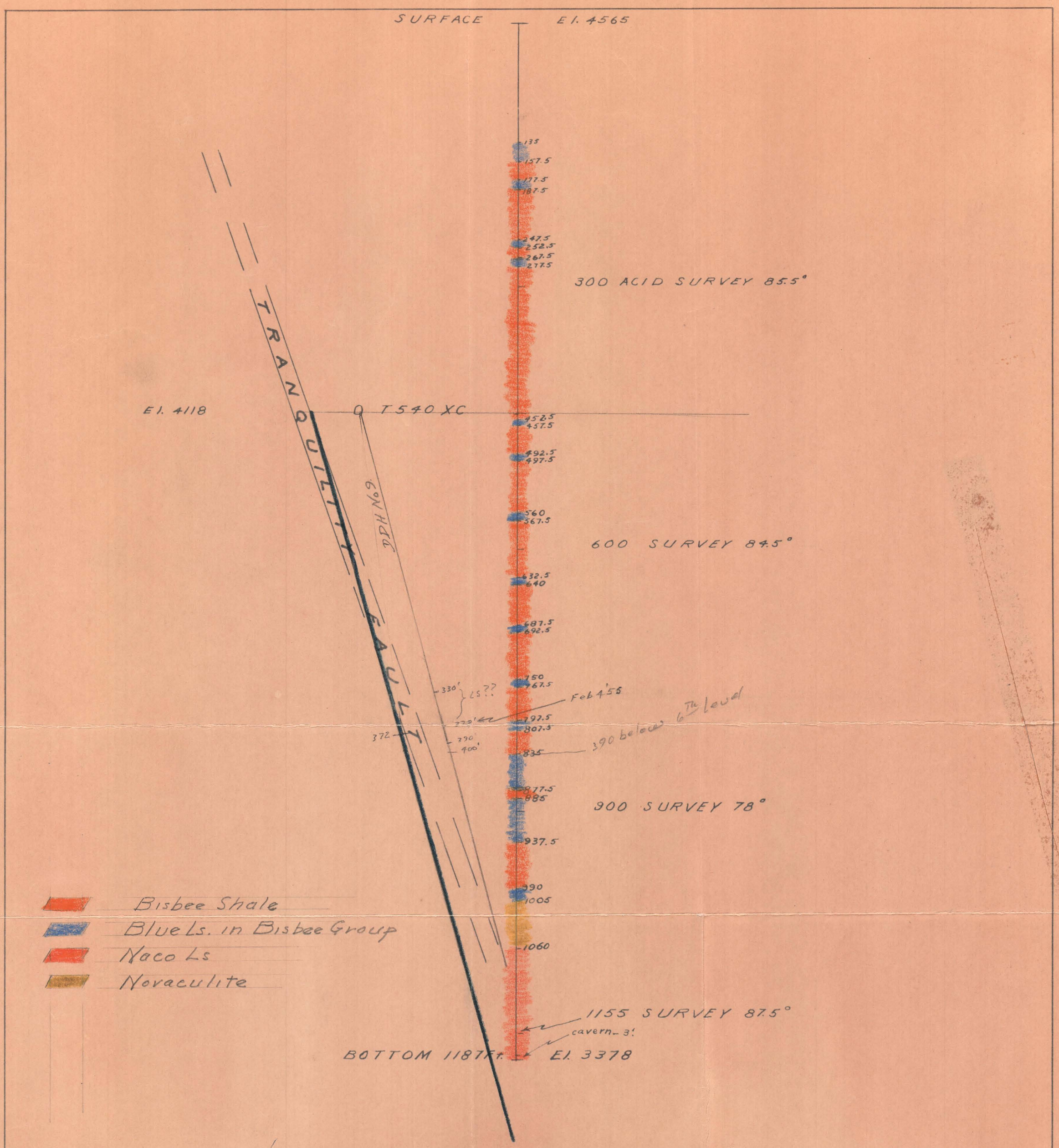
0+00 | 1+00 | 2+00 | 3+00 | 4+00 | 5+00 | 6+00 W

LINE 5 (C.P. = 210)

V_2/V_1
P_2

1+00 E | 0+00 | 1+00 | 2+00 | 3+00 | 4+00 | 5+00 | 6+00 W

TRADE STANDARD MADE
GROSS SECTION 10 X 10 TO THE HALF INCH
100% RAG PAPER
MADE IN U.S.A.
KEUFFEL & ESSER CO.
NEW YORK

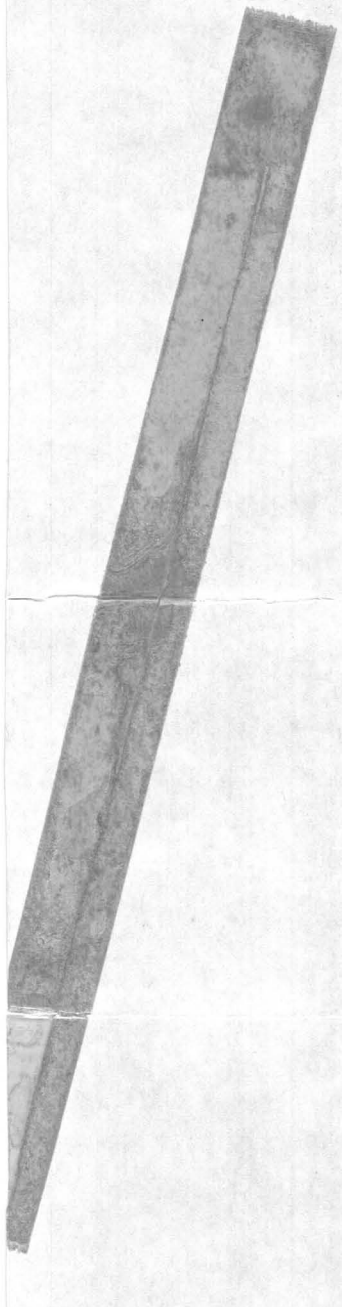


TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
SECTION OF SURFACE 4¾" ROTARY HOLE D-6
COLLAR LOCATION 875S 1620E
DRILLED BY G.S.I. DALLAS TEXAS
LOOKING N 50° E
1 IN = 100 Ft.
OCT. 12 1954 D.H.

Folio 4-3

2527-0-418-AF-516A6

TDC 10/12/54



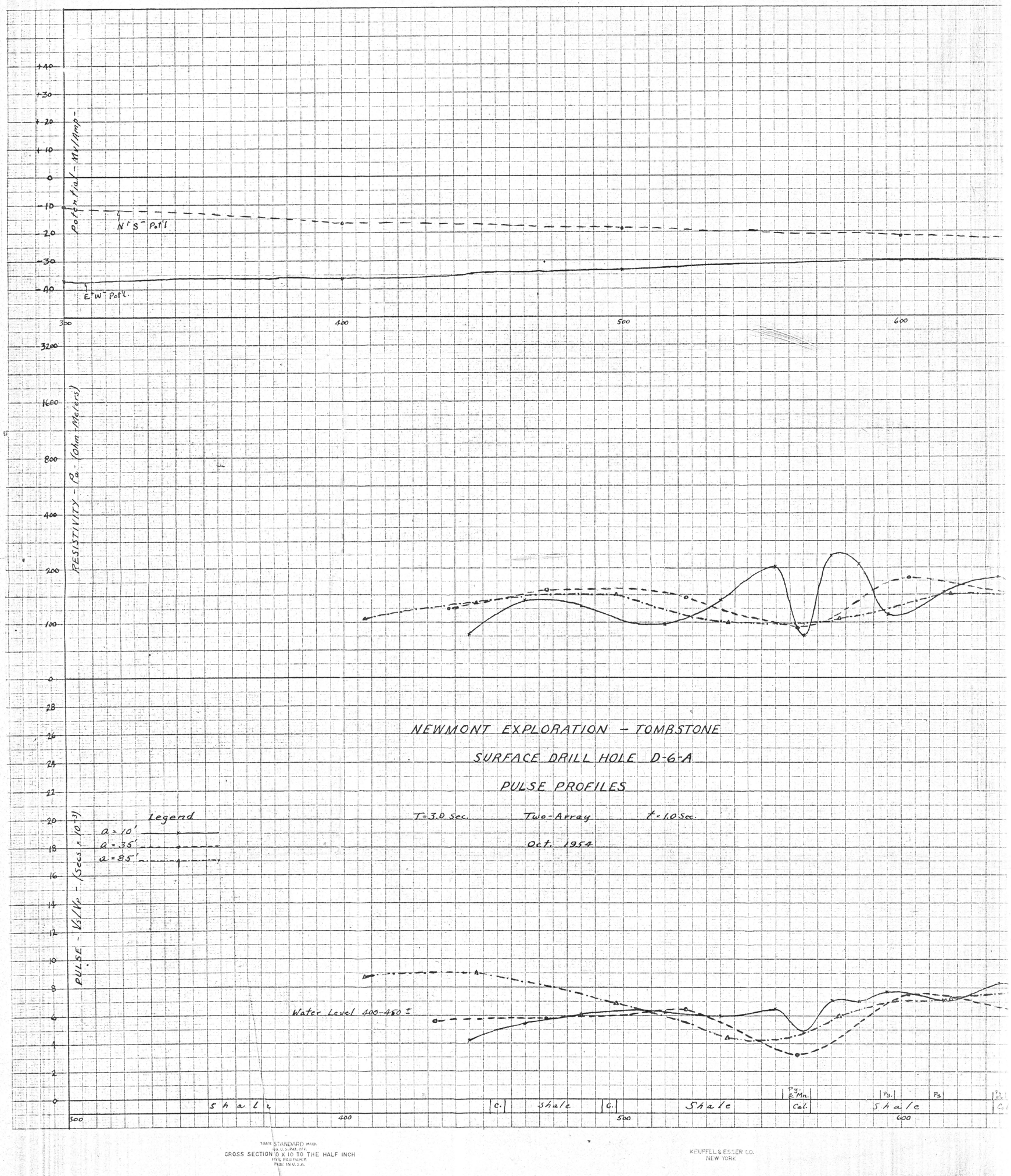
TOMBSTONE DEVELOPMENT CO.
Tombstone, Arizona.

SECTION OF SURFACE 4-3/4" ROTARY HOLE D-6
Collar Location 875 S 1620 E
Drilled by G.S.I., Dallas, Texas
Looking N 50° E

Scale: 1" = 100'
Oct. 12, 1954 D. H.

4-3

(10)



TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10 TO THE HALF INCH
10% RAG PAPER
MADE IN U.S.A.
KEUFFEL & ESSER CO.
NEW YORK

600

700

800

900

Py.	Py.	Py. Mn.	Py.	Py.	Py.	Py.	Py.	Py.	Min.?
Shale		Cal. Shale	C.	Shale	Calc.	Shale	Calc.	Shale	Pyrite & Manf. (?) Calcareous Oxides (?)	S	Calcareous

TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10 TO THE HALF INCH
100% RAG PAPER
MADE IN U.S.A.

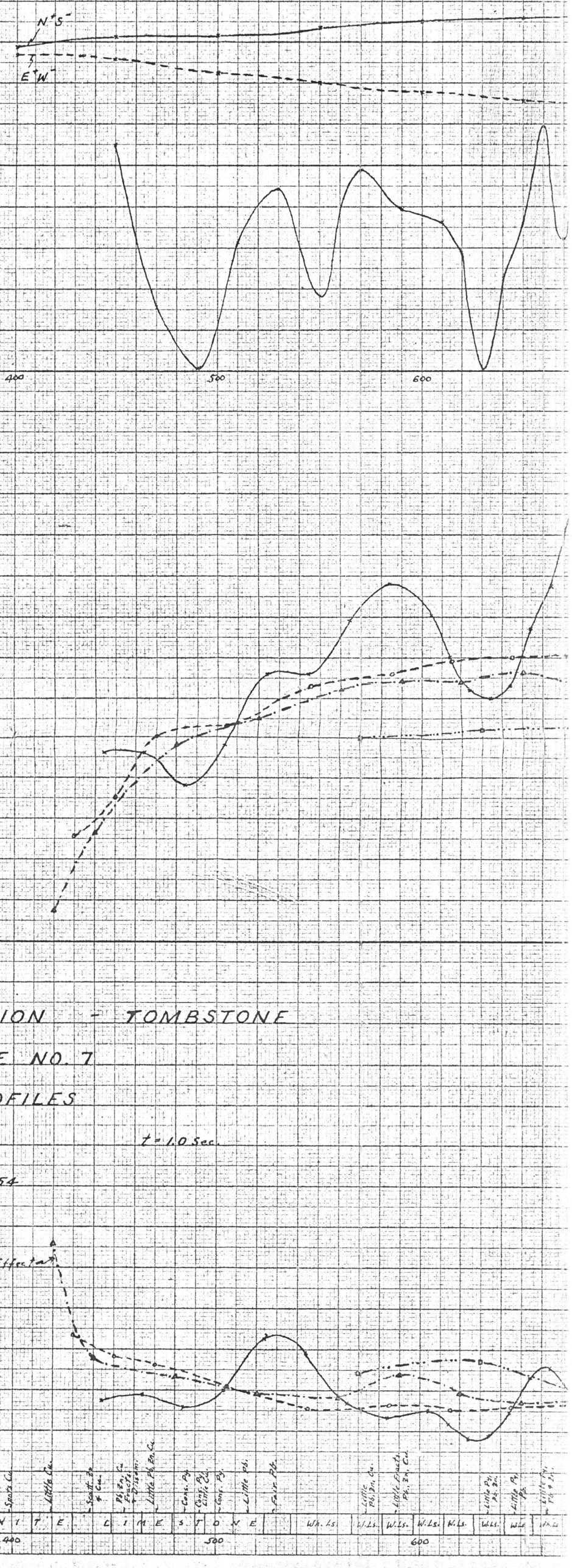
KEUFFEL & ESSER CO.
NEW YORK

TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10 TO THE HALF INCH
100% RAG PAPER
MADE IN U.S.A.

KEUFFEL & ESSER CO.
NEW YORK

Newmont 12/54

Single Point Azimuth
Potential Only
Pulse Unobtainable



NEWMONT EXPLORATION - TOMBSTONE

DRILL HOLE NO. 7

PULSE PROFILES

T = 3.0 Sec. Two-Array t = 1.0 Sec.

December 1954

TRADE STANDARD MARK REG. U.S. PAT. OFF.

KEUFFEL & ESSER CO.

N "S"

E "W"

0 500 600 700 800 900 1000

ON - TOMBSTONE

NO. 7

FILES

t = 1.0 Sec.

Scale

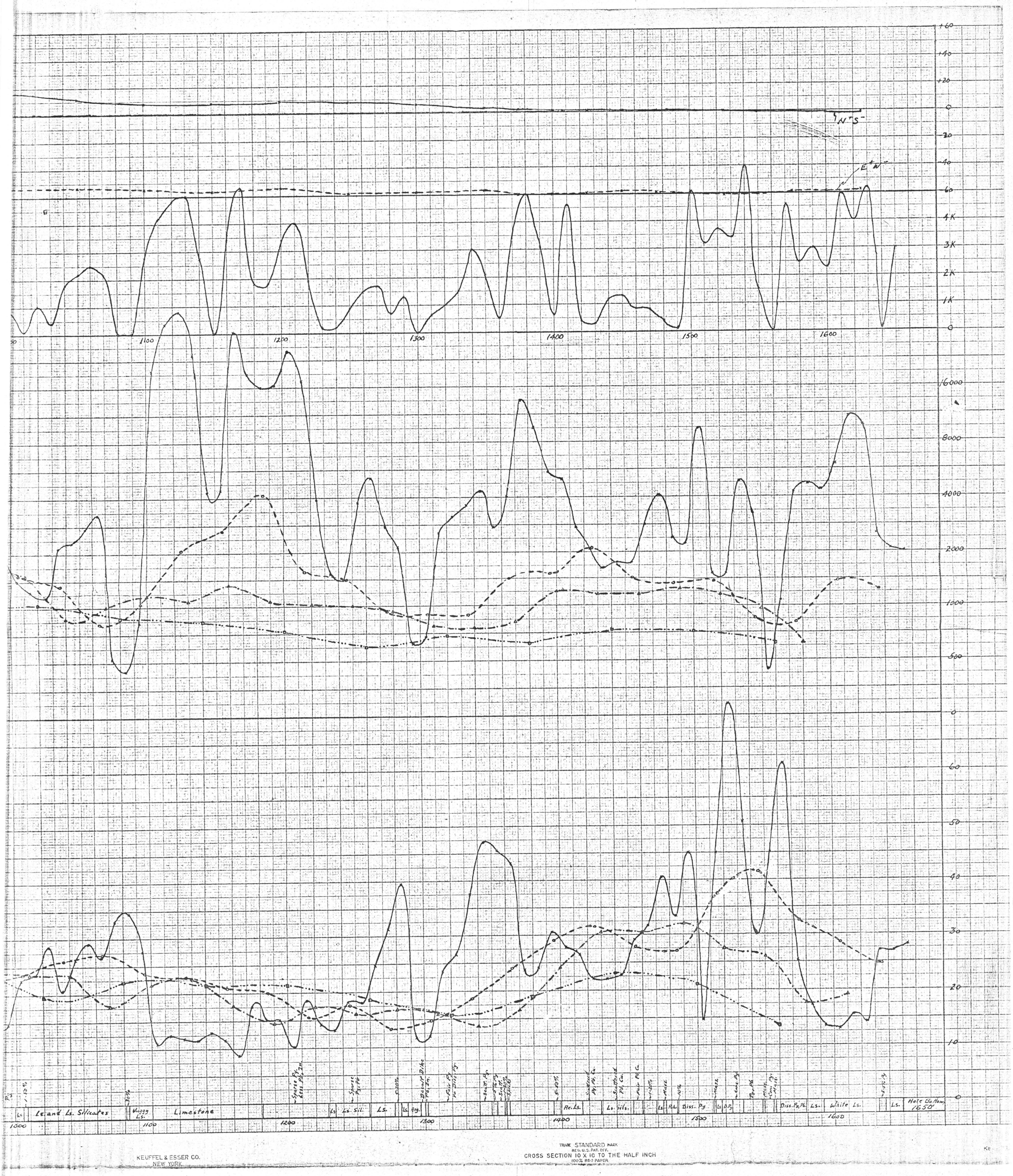
Scott Co. | Little Co. | Scott Br. & Co. | Pb. Zn. Co. & Pb. Zn. Co. | Little Pb. Ba. Co. | Cons. Pb. | Little Pb. Co. | Cons. Pb. | Little Pb. | Fair Pb.

T. T. E. | L I M E S T O N E | Wh. Ls. | W. Ls. | Little Pb. Zn. Co. | Little Pb. Zn. Cd. | W. Ls. | W. Ls. | W. Ls. | Little Pb. Zn. Co. | Little Pb. Pb. | Little Pb. Zn. & Zn. | Little Pb. | Some Dis. Pb. | Lg. Sparg Pb. & Disc. Sp. | Small Zn. Pb. | W. Ls. | Cavity | Scott. Pb. Co. Pb. Zn. | Cons. Pb. Fair Pb. Co. | Pb. Cu. bands | Wh. Ls. | Wh. Ls. | Stringent Pb. Sparing Co. | Recr. Ls. | Good Pb. Co. | Ls. | Recryst. Ls. | Sparce Pb. Pb. + Zn. | Sparce Pb. | Some Pb. | Some Pb. | Ls. and Ls. Silicad

400 500 600 700 800 900 1000

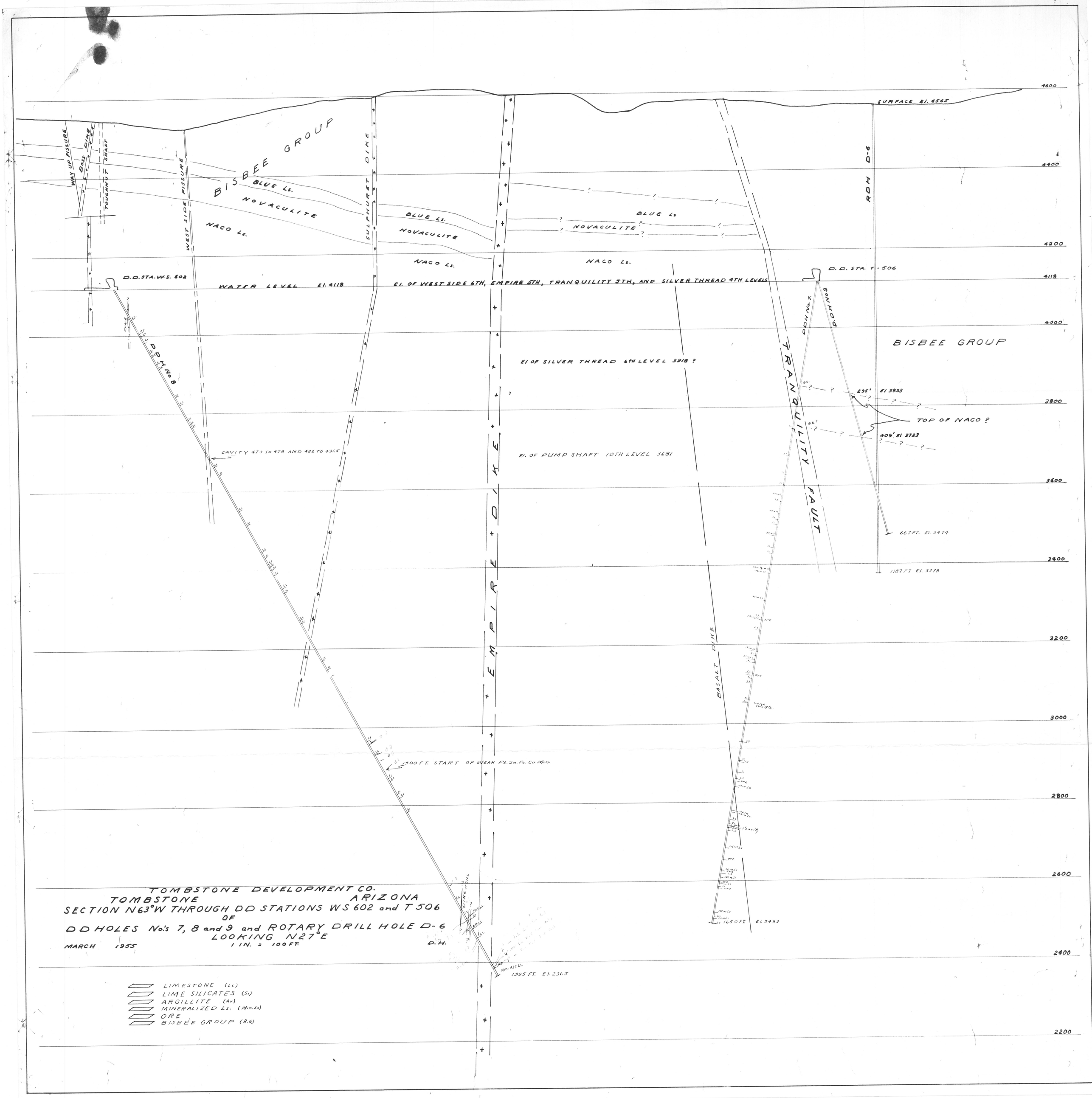
KEUFFEL & ESSER CO.

TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10 TO THE HALF INCH

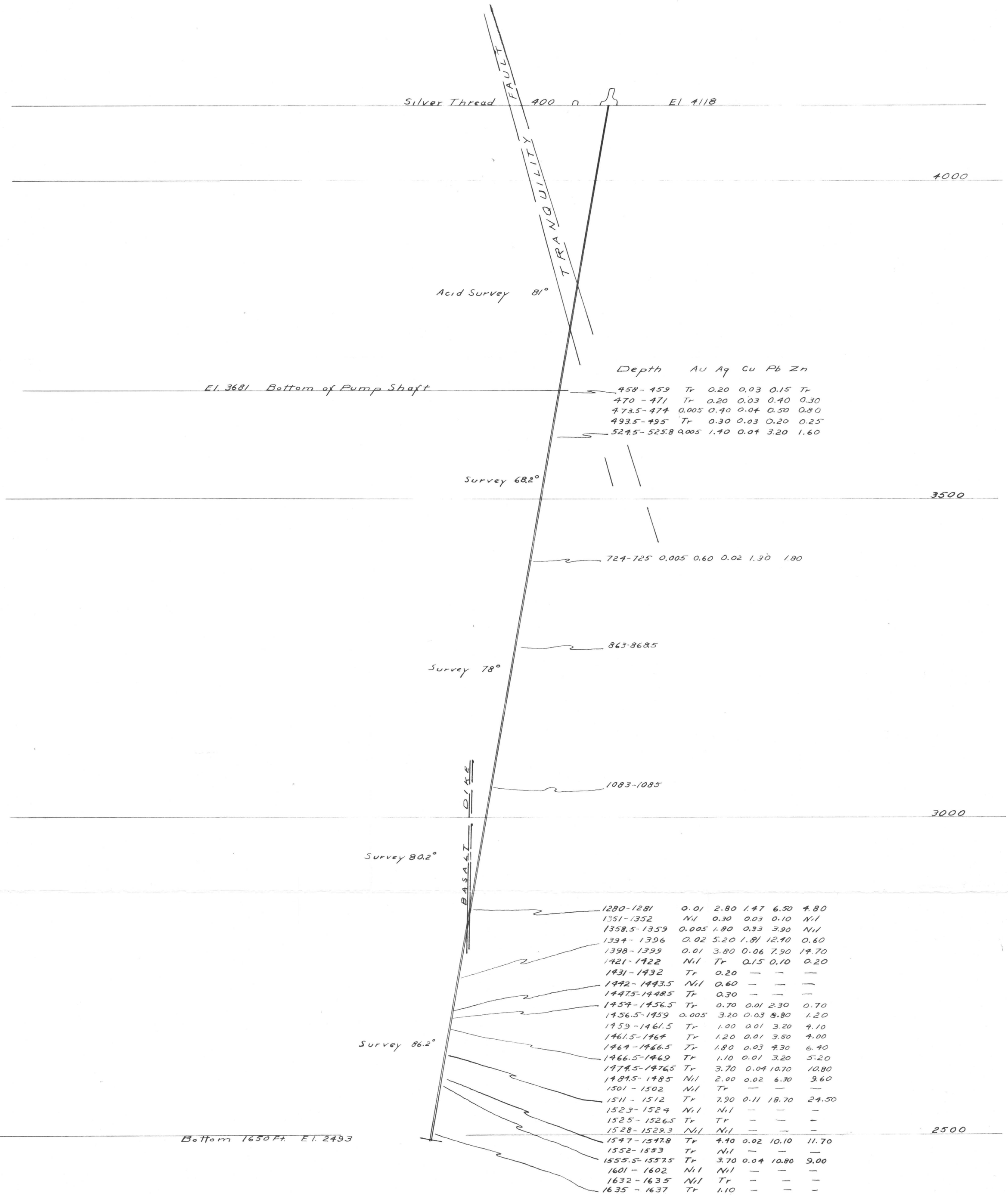


KEUFFEL & ESSER CO.
NEW YORK

TRADE STANDARD MARK
REG. U.S. PAT. OFF.
CROSS SECTION 10 X 10 TO THE HALF INCH
100% RAG PAPER



TOMBSTONE DEVELOPMENT CO.
TOMBSTONE ARIZONA
SECTION N63°W THROUGH DD STATIONS WS 602 and T 506
OF
DD HOLES No's 7, 8 and 9 and ROTARY DRILL HOLE D-6
LOOKING N27°E
MARCH 1955
1 IN. = 100 FT.
D.H.
LIMESTONE (Ls)
LIME SILICATES (Si)
ARGILLITE (Ar)
MINERALIZED Ls. (Min.Ls)
ORE
BISBEE GROUP (B.G)
BISBEE GROUP
BLUE Ls.
NOVACULITE
NACO Ls.
WAY UP FISSURE
BOSS DIKE
TOUGHNUT SHAFT
WEST SIDE FISSURE
SULPHURET DIKE
EMPIRE DIKE
TRANQUILITY FAULT
BASALT DIKE
RDH D-6
SURFACE El. 4565
D.D. STA. W.S. 602
D.D. STA. T-506
WATER LEVEL El. 4118
El. OF WEST SIDE 6TH, EMPIRE 5TH, TRANQUILITY 5TH, AND SILVER THREAD 4TH LEVELS
El OF SILVER THREAD 6TH LEVEL 3918 ?
El. OF PUMP SHAFT 10TH LEVEL 3681
DDH No 8
DDH No. 7
DDH No 9
CAVITY 473 TO 478 AND 482 TO 491.5
1400 FT. START OF WEAK Pb. Zn. Fe. Cu. Min.
295' El 3833
409' El 3723
TOP OF NACO ?
667 FT. El. 3474
1187 FT El. 3378
1650 FT. El. 2493
1995 FT. El. 2365
4600
4400
4200
4118
4000
3800
3600
3400
3200
3000
2800
2600
2400
2200

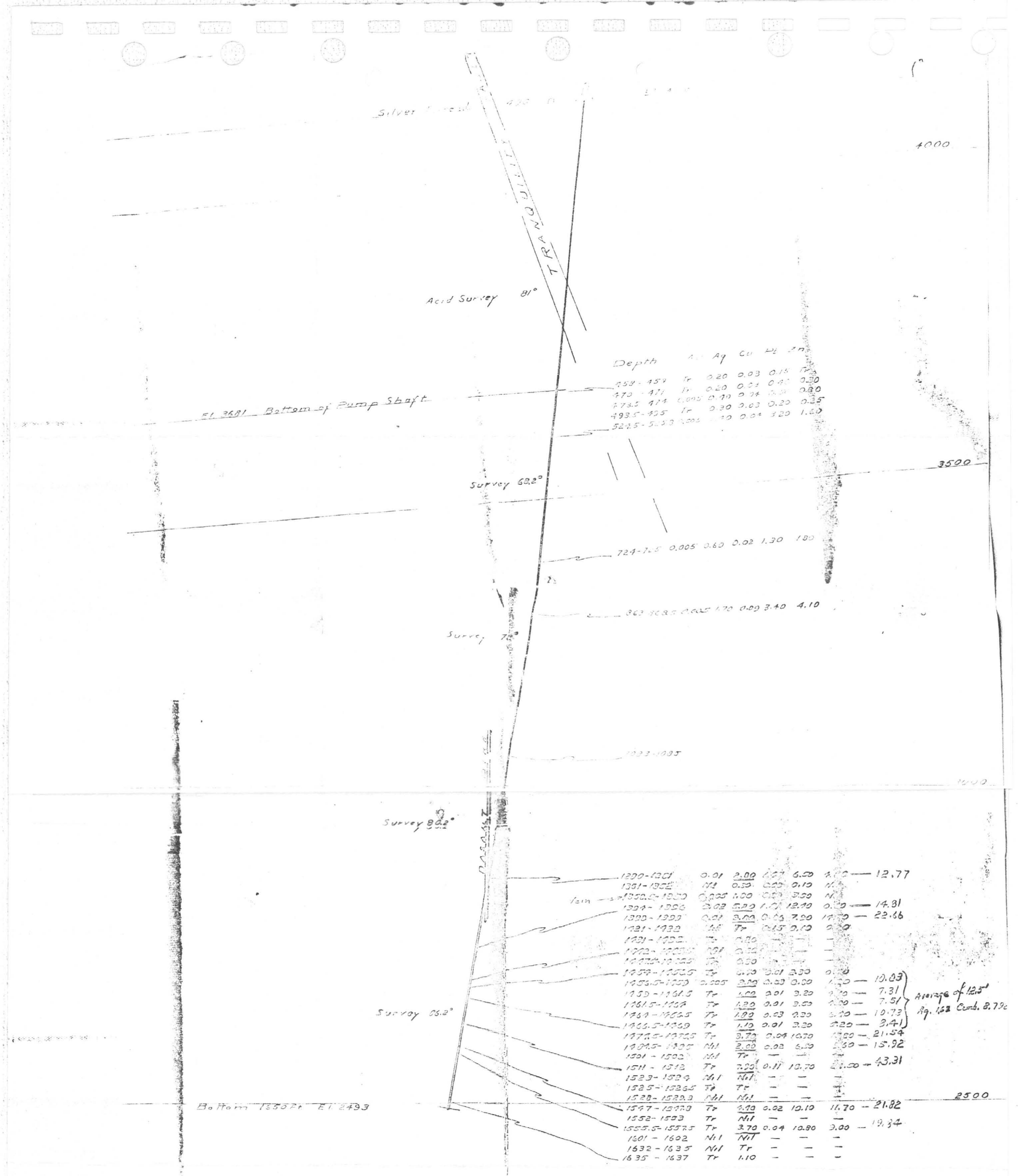


TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
ASSAY MAP OF D.D. HOLE NO. T.
COLLAR LOCATION - D.D. STATION T-506
788 S, 1515 E
BEARING N80°W DIP -80°

DEC. 31 1954 D.H.

[redacted]

2543-0-418-AF-516B1

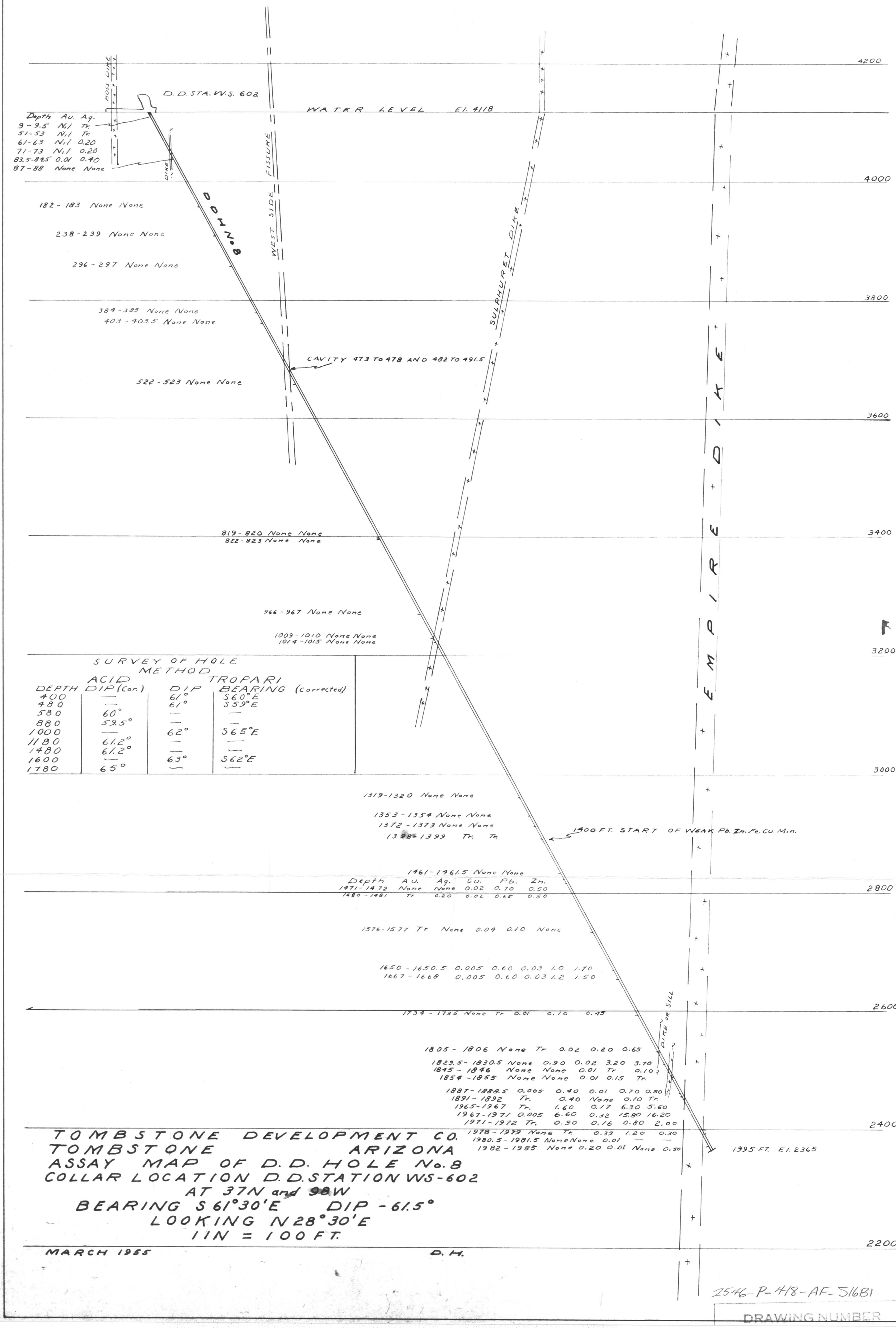


TOMBSTONE DEVELOPEMENT CO.
TOMBSTONE ARIZONA
ASSAY MAP OF D.D. HOLE NO. 7.
COLLAR LOCATION - D.D. STATION T-506
738 S, 1515 E
BEARING N 30° W DIP -30°

DEC. 21 1915

D.H.

182

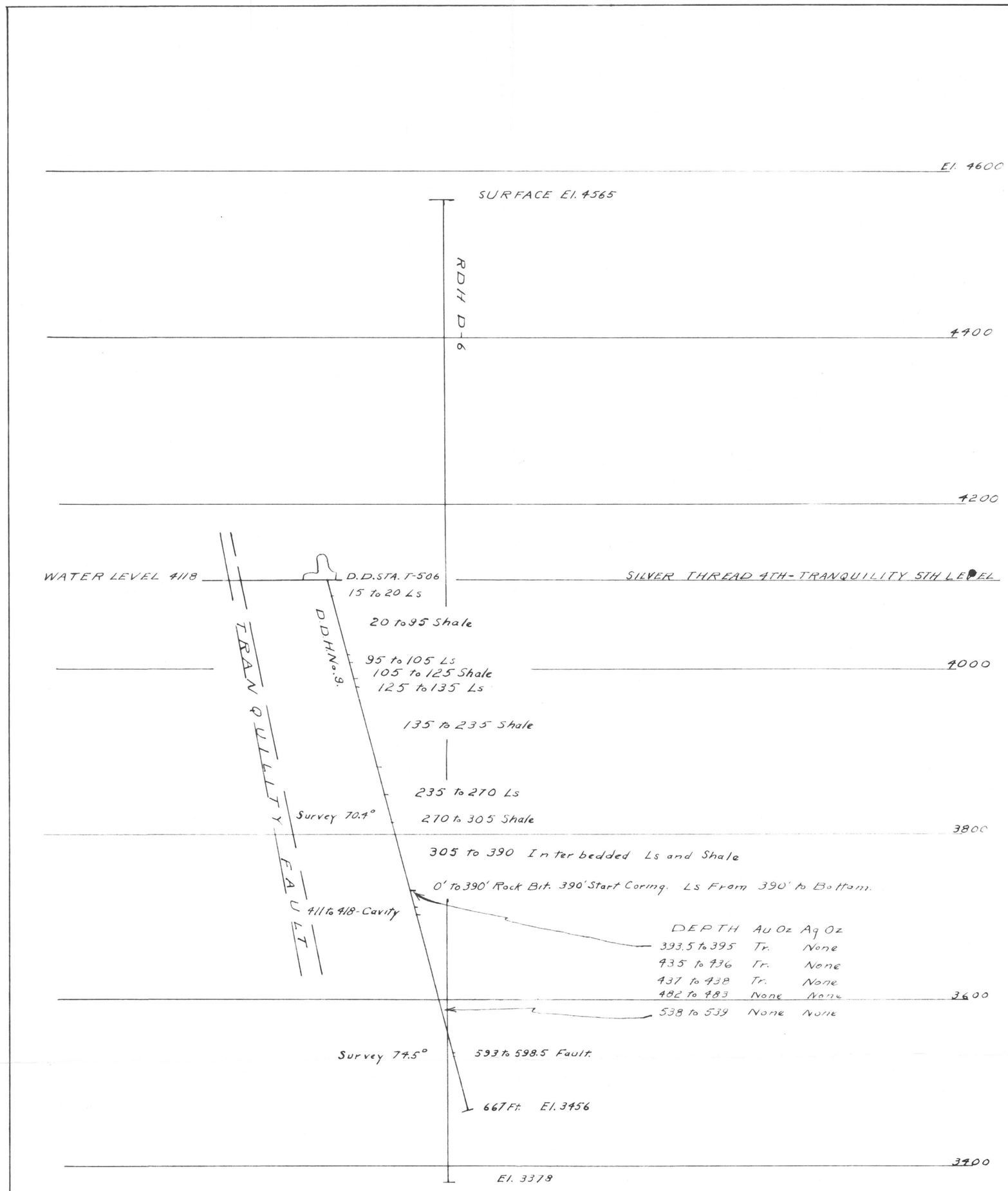


TOMBSTONE DEVELOPMENT CO.
TOMBSTONE ARIZONA
ASSAY MAP OF D. D. HOLE No. 8
COLLAR LOCATION D.D. STATION WS-602
AT 37N and 98W
BEARING S 61°30'E DIP - 61.5°
LOOKING N 28°30'E
1IN = 100 FT.

MARCH 1955 D. H.

2546-P-418-AF-51681

DRAWING NUMBER



TOMBSTONE DEVELOPMENT CO.
TOMBSTONE ARIZONA
SECTION OF DRILL HOLE NO. 9
COLLAR LOCATION — D. D. STATION T-506
788S 1515E
BEARING S50°E DIP - 75°
LOOKING N50°E

FEB. 22 1955

D. H.

2544-0-418-AF-S1681